

SpaceX Falcon 9 first stage Landing Prediction

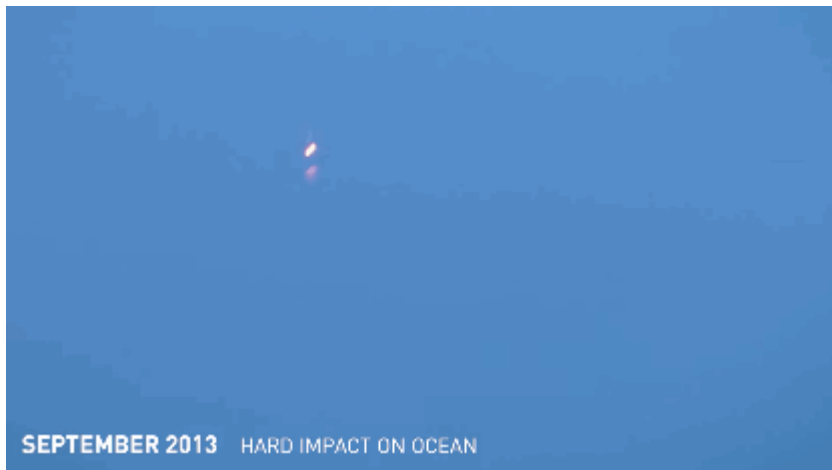
Lab 1: Collecting the data

Estimated time needed: **45** minutes

In this capstone, we will predict if the Falcon 9 first stage will land successfully. SpaceX advertises Falcon 9 rocket launches on its website with a cost of 62 million dollars; other providers cost upward of 165 million dollars each, much of the savings is because SpaceX can reuse the first stage. Therefore if we can determine if the first stage will land, we can determine the cost of a launch. This information can be used if an alternate company wants to bid against SpaceX for a rocket launch. In this lab, you will collect and make sure the data is in the correct format from an API. The following is an example of a successful and launch.



Several examples of an unsuccessful landing are shown here:



Most unsuccessful landings are planned. Space X performs a controlled landing in the oceans.

Objectives

In this lab, you will make a get request to the SpaceX API. You will also do some basic data wrangling and formatting.

- Request to the SpaceX API
- Clean the requested data

Import Libraries and Define Auxiliary Functions

We will import the following libraries into the lab

```
In [1]: # Requests allows us to make HTTP requests which we will use to get data from an
import requests
# Pandas is a software library written for the Python programming language for d
import pandas as pd
# NumPy is a library for the Python programming language, adding support for Lar
import numpy as np
# Datetime is a library that allows us to represent dates
import datetime

# Setting this option will print all columns of a dataframe
pd.set_option('display.max_columns', None)
# Setting this option will print all of the data in a feature
pd.set_option('display.max_colwidth', None)
```

Below we will define a series of helper functions that will help us use the API to extract information using identification numbers in the launch data.

From the `rocket` column we would like to learn the booster name.

```
In [2]: # Takes the dataset and uses the rocket column to call the API and append the da
def getBoosterVersion(data):
```

```

for x in data['rocket']:
    if x:
        response = requests.get("https://api.spacexdata.com/v4/rockets/"+str(x))
        BoosterVersion.append(response['name'])

```

From the `launchpad` we would like to know the name of the launch site being used, the longitude, and the latitude.

```

In [3]: # Takes the dataset and uses the launchpad column to call the API and append the
def getLaunchSite(data):
    for x in data['launchpad']:
        if x:
            response = requests.get("https://api.spacexdata.com/v4/launchpads/"+str(x))
            Longitude.append(response['longitude'])
            Latitude.append(response['latitude'])
            LaunchSite.append(response['name'])

```

From the `payload` we would like to learn the mass of the payload and the orbit that it is going to.

```

In [4]: # Takes the dataset and uses the payloads column to call the API and append the
def getPayloadData(data):
    for load in data['payloads']:
        if load:
            response = requests.get("https://api.spacexdata.com/v4/payloads/"+load)
            PayloadMass.append(response['mass_kg'])
            Orbit.append(response['orbit'])

```

From `cores` we would like to learn the outcome of the landing, the type of the landing, number of flights with that core, whether gridfins were used, whether the core is reused, whether legs were used, the landing pad used, the block of the core which is a number used to separate version of cores, the number of times this specific core has been reused, and the serial of the core.

```

In [5]: # Takes the dataset and uses the cores column to call the API and append the data
def getCoreData(data):
    for core in data['cores']:
        if core['core'] != None:
            response = requests.get("https://api.spacexdata.com/v4/cores/"+core['core'])
            Block.append(response['block'])
            ReusedCount.append(response['reuse_count'])
            Serial.append(response['serial'])
        else:
            Block.append(None)
            ReusedCount.append(None)
            Serial.append(None)
        Outcome.append(str(core['landing_success'])+' '+str(core['landing_type']))
        Flights.append(core['flight'])
        GridFins.append(core['gridfins'])
        Reused.append(core['reused'])
        Legs.append(core['legs'])
        LandingPad.append(core['landpad'])

```

Now let's start requesting rocket launch data from SpaceX API with the following URL:

```
In [6]: spacex_url="https://api.spacexdata.com/v4/launches/past"
```

```
In [7]: response = requests.get(spacex_url)
```

Check the content of the response

```
In [8]: print(response.content)
```

```
b'[{ "fairings": { "reused": false, "recovery_attempt": false, "recovered": false, "ships": [] }, "links": { "patch": { "small": "https://images2.imgbox.com/94/f2/NN6Ph45r_o.png", "large": "https://images2.imgbox.com/5b/02/QcxHUb5V_o.png" }, "reddit": { "campaign": null, "launch": null, "media": null, "recovery": null }, "flickr": { "small": [], "original": [] }, "presskit": null, "webcast": "https://www.youtube.com/watch?v=0a_00nJ_Y88", "youtube_id": "0a_00nJ_Y88", "article": "https://www.space.com/2196-spacex-inaugural-falcon-1-rocket-lost-launch.html", "wikipedia": "https://en.wikipedia.org/wiki/DemoSat", "static_fire_date_utc": "2006-03-17T00:00:00.000Z", "static_fire_date_unix": 1142553600, "net": false, "window": 0, "rocket": "5e9d0d95eda69955f709d1eb", "success": false, "failures": [ { "time": 33, "altitude": null, "reason": "merlin engine failure" } ], "details": "Engine failure at 33 seconds and loss of vehicle", "crew": [], "ships": [], "capsules": [], "payloads": [ "5eb0e4b5b6c3bb0006eeb1e1" ], "launchpad": "5e9e4502f5090995de566f86", "flight_number": 1, "name": "FalconSat", "date_utc": "2006-03-24T22:30:00.000Z", "date_unix": 1143239400, "date_local": "2006-03-25T10:30:00+12:00", "date_precision": "hour", "upcoming": false, "cores": [ { "core": "5e9e289df35918033d3b2623", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null } ], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cd9ffd86e000604b32a", { "fairings": { "reused": false, "recovery_attempt": false, "recovered": false, "ships": [] }, "links": { "patch": { "small": "https://images2.imgbox.com/f9/4a/ZboXReNb_o.png", "large": "https://images2.imgbox.com/80/a2/bkWotCIS_o.png" }, "reddit": { "campaign": null, "launch": null, "media": null, "recovery": null }, "flickr": { "small": [], "original": [] }, "presskit": null, "webcast": "https://www.youtube.com/watch?v=Lk4zQ2wP-Nc", "youtube_id": "Lk4zQ2wP-Nc", "article": "https://www.space.com/3590-spacex-falcon-1-rocket-fails-reach-orbit.html", "wikipedia": "https://en.wikipedia.org/wiki/DemoSat", "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": 0, "rocket": "5e9d0d95eda69955f709d1eb", "success": false, "failures": [ { "time": 301, "altitude": 289, "reason": "harmonic oscillation leading to premature engine shutdown" } ], "details": "Successful first stage burn and transition to second stage, maximum altitude 289 km, Premature engine shutdown at T+7 min 30 s, Failed to reach orbit, Failed to recover first stage", "crew": [], "ships": [], "capsules": [], "payloads": [ "5eb0e4b6b6c3bb0006eeb1e2" ], "launchpad": "5e9e4502f5090995de566f86", "flight_number": 2, "name": "DemoSat", "date_utc": "2007-03-21T01:10:00.000Z", "date_unix": 1174439400, "date_local": "2007-03-21T13:10:00+12:00", "date_precision": "hour", "upcoming": false, "cores": [ { "core": "5e9e289ef35918416a3b2624", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null } ], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cdaffd86e000604b32b", { "fairings": { "reused": false, "recovery_attempt": false, "recovered": false, "ships": [] }, "links": { "patch": { "small": "https://images2.imgbox.com/6c/cb/na1tzHs_o.png", "large": "https://images2.imgbox.com/4a/80/k1oAkY0k_o.png" }, "reddit": { "campaign": null, "launch": null, "media": null, "recovery": null }, "flickr": { "small": [], "original": [] }, "presskit": null, "webcast": "https://www.youtube.com/watch?v=v0w9p3U8860", "youtube_id": "v0w9p3U8860", "article": "http://www.spacex.com/news/2013/02/11/falcon-1-flight-3-mission-summary", "wikipedia": "https://en.wikipedia.org/wiki/Trailblazer_(satellite)", "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": 0, "rocket": "5e9d0d95eda69955f709d1eb", "success": false, "failures": [ { "time": 140, "altitude": 35, "reason": "residual stage-1 thrust led to collision between stage 1 and stage 2" } ], "details": "Residual stage 1 thrust led to collision between stage 1 and stage 2", "crew": [], "ships": [], "capsules": [], "payloads": [ "5eb0e4b6b6c3bb0006eeb1e3", "5eb0e4b6b6c3bb0006eeb1e4" ], "launchpad": "5e9e4502f5090995de566f86", "flight_number": 3, "name": "Trailblazer", "date_utc": "2008-08-03T03:34:00.000Z", "date_unix": 1217734440, "date_local": "2008-08-03T15:34:00+12:00", "date_precision": "hour", "upcoming": false, "cores": [ { "core": "5e9e289ef3591814873b2625", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null } ], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cdbfffd86e000604b32c", { "fairings": { "reused": false, "recovery_attempt": false, "recovered": false, "ships": [] }, "links": { "patch": { "small": "https://images2.imgbox.com/95/39/sRqN7rsv_o.png", "large": "https://images2.imgbox.com/a3/99/qswRYzE8_o.png" }, "reddit": { "campaign": null, "launch": null, "media": null, "recovery": null }, "flickr": { "small": [], "original": [] }, "presskit": null, "we
```

bcast": "https://www.youtube.com/watch?v=dLQ2tZEH6G0", "youtube_id": "dLQ2tZEH6G0", "article": "https://en.wikipedia.org/wiki/Ratsat", "wikipedia": "https://en.wikipedia.org/wiki/Ratsat", "static_fire_date_utc": "2008-09-20T00:00:00.000Z", "static_fire_date_unix": 1221868800, "net": false, "window": 0, "rocket": "5e9d0d95eda69955f709d1eb", "success": true, "failures": [], "details": "Ratsat was carried to orbit on the first successful orbital launch of any privately funded and developed, liquid-propelled carrier rocket, the SpaceX Falcon 1", "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4b7b6c3bb0006eeb1e5"], "launchpad": "5e9e4502f5090995de566f86", "flight_number": 4, "name": "RatSat", "date_utc": "2008-09-28T23:15:00.000Z", "date_unix": 1222643700, "date_local": "2008-09-28T11:15:00+12:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e289ef3591855dc3b2626", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cddfdd86e000604b32d", {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/ab/5a/Pequxd5d_o.png", "large": "https://images2.imgbox.com/92/e4/7Cf6MLY0_o.png"}, "reddit": {"campaign": null, "launch": null, "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": "http://www.spacex.com/press/2012/12/19/spacexs-falcon-1-successfully-delivers-razaksat-satellite-orbit", "webcast": "https://www.youtube.com/watch?v=yTaIDooC80g", "youtube_id": "yTaIDooC80g", "article": "http://www.spacex.com/news/2013/02/12/falcon-1-flight-5", "wikipedia": "https://en.wikipedia.org/wiki/RazakSAT", "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": 0, "rocket": "5e9d0d95eda69955f709d1eb", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4b7b6c3bb0006eeb1e6"], "launchpad": "5e9e4502f5090995de566f86", "flight_number": 5, "name": "RazakSat", "date_utc": "2009-07-13T03:35:00.000Z", "date_unix": 1247456100, "date_local": "2009-07-13T15:35:00+12:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e289ef359184f103b2627", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cdcffd86e000604b32e", {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/73/7f/u7BKqv2C_o.png", "large": "https://images2.imgbox.com/66/b4/8KZsjbt4_o.png"}, "reddit": {"campaign": null, "launch": null, "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": "http://forum.nasaspacelights.com/index.php?action=dlattach;topic=21869.0;attach=230821", "webcast": "https://www.youtube.com/watch?v=nxSxgBKlYws", "youtube_id": "nxSxgBKlYws", "article": "http://www.spacex.com/news/2013/02/12/falcon-9-flight-1", "wikipedia": "https://en.wikipedia.org/wiki/Dragon_Spacecraft_Qualification_Unit", "static_fire_date_utc": "2010-03-13T00:00:00.000Z", "static_fire_date_unix": 1268438400, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4b7b6c3bb0006eeb1e7"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 6, "name": "Falcon 9 Test Flight", "date_utc": "2010-06-04T18:45:00.000Z", "date_unix": 1275677100, "date_local": "2010-06-04T14:45:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e289ef359185f2b3b2628", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cddfdd86e000604b32f", {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/fa/dc/FOUDQ0Sn_o.png", "large": "https://images2.imgbox.com/04/6e/knigvWD_o.png"}, "reddit": {"campaign": null, "launch": null, "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": "http://www.spacex.com/files/downloads/cots1-20101206.pdf", "webcast": "https://www.youtube.com/watch?v=cdLITgWKe_0", "youtube_id": "cdLITgWKe_0", "article": "https://en.wikipedia.org/wiki/SpaceX_COTS_Demo_Flight_1", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_COTS_Demo_Flight_1", "static_fire_date_utc": "2010-12-04T00:00:00.000Z", "static_fire_date_unix": 1291420800, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": ["5ea6ed2d080df4000697c901"], "capsules": ["5e9e2c5bf35918ed873b2664"], "payloads": ["5eb0e4b9b6c3bb0006eeb1e8", "5eb0e4b9b6c3bb0006eeb1e9"], "launchpad": "5e9e4501f509094ba4566f84", "flight_num

ber":7,"name":"COTS 1","date_utc":"2010-12-08T15:43:00.000Z","date_unix":1291822980,"date_local":"2010-12-08T11:43:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ef35918187c3b2629","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cdeffd86e000604b330"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/c5/f4/XfLVgba0_o.png","large":"https://images2.imgbox.com/94/8d/YnZ1SLsT_o.png"},"reddit":{"campaign":null,"launch":null,"media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":"https://www.nasa.gov/pdf/649910main_cots2_presskit_051412.pdf","webcast":"https://www.youtube.com/watch?v=tpQzDbAY7yI","youtube_id":"tpQzDbAY7yI","article":"https://en.wikipedia.org/wiki/Dragon_C2%2B","wikipedia":"https://en.wikipedia.org/wiki/Dragon_C2%2B"},"static_fire_date_utc":"2012-04-30T00:00:00.000Z","static_fire_date_unix":1335744000,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Launch was scrubbed on first attempt, second launch attempt was successful","crew":[],"ships":["5ea6ed2d080df4000697c901"],"capsules":["5e9e2c5bf3591882af3b2665"],"payloads":["5eb0e4bab6c3bb0006eeb1ea"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":8,"name":"COTS 2","date_utc":"2012-05-22T07:44:00.000Z","date_unix":1335944640,"date_local":"2012-05-22T03:44:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ef35918f39c3b262a","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cdfffd86e000604b331"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/3e/91/hlGik49a_o.png","large":"https://images2.imgbox.com/fb/42/0V9JgYQS_o.png"},"reddit":{"campaign":null,"launch":null,"media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":"https://www.nasa.gov/pdf/694166main_SpaceXCRS-1PressKit.pdf","webcast":"https://www.youtube.com/watch?v=-Vk3hiV_zXU","youtube_id":"-Vk3hiV_zXU","article":"https://www.nasa.gov/mission_pages/station/main/spacex-crs1-target.html","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRs-1"},"static_fire_date_utc":"2012-09-29T00:00:00.000Z","static_fire_date_unix":1348876800,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"CRS-1 successful, but the secondary payload was inserted into abnormally low orbit and lost due to Falcon 9 boost stage engine failure, ISS visiting vehicle safety rules, and the primary payload owner's contractual right to decline a second ignition of the second stage under some conditions.","crew":[],"ships":["5ea6ed2d080df4000697c902"],"capsules":["5e9e2c5bf3591835983b2666"],"payloads":["5eb0e4bab6c3bb0006eeb1eb","5eb0e4bab6c3bb0006eeb1ec"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":9,"name":"CRS-1","date_utc":"2012-10-08T00:35:00.000Z","date_unix":1349656500,"date_local":"2012-10-08T20:35:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ff3591821a73b262b","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87ce0fffd86e000604b332"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/bd/fe/lXUYKL28_o.png","large":"https://images2.imgbox.com/bc/c5/fHN3m8KV_o.png"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/space/comments/19gm5f/live_coverage_spacex_crs2_launch_to_the_iss/c8nvah4","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":"https://www.nasa.gov/sites/default/files/files/Orb2_PRESS_KIT.pdf","webcast":"https://www.youtube.com/watch?v=ik0ElK15kW4","youtube_id":"ik0ElK15kW4","article":"https://en.wikipedia.org/wiki/SpaceX_CRs-2","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRs-2"},"static_fire_date_utc":"2013-02-25T18:30:00.000Z","static_fire_date_unix":1361817000,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Last launch of the original Falcon 9 v1.0 launch vehicle","crew":[],"ships":["5ea6ed2d080df4000697c902"],"capsules":["5e9e2c5bf359189ef23b2667"],"payloads":["5eb0e4bbb6c3bb0006eeb1ed"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":10,"name":"CRS-2","date_utc":"2013-03-01T19:10:00.000Z","date_unix":1362165000,"date_local":"2013-03-01T15:10:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ff3591884e03b262c","flight":1,"gridfins":false,"legs":false,"reused":false,"lan

ding_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}, {"id":"5eb87ce1ffd86e000604b333"}, {"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]}, {"links":{"patch":{"small":"https://images2.imgbox.com/f8/27/XwZPEhTJ_o.png","large":"https://images2.imgbox.com/ae/62/D6SZleUG_o.png"},"reddit":{"campaign":null,"launch":"http://www.reddit.com/r/spacex/comments/1ndlay","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":"https://spaceflightnow.com/falcon9/006/UpgradedF9DemoMission_PressKit.pdf","webcast":"https://www.youtube.com/watch?v=uFefasS6bhc","youtube_id":"uFefasS6bhc","article":"http://www.parabolicarc.com/2013/09/29/falcon-9-launch-payloads-orbit-vandenberg/","wikipedia":"https://en.wikipedia.org/wiki/CASSIOPE"},"static_fire_date_utc":"2013-09-19T00:00:00.000Z","static_fire_date_unix":1379548800,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Commercial mission and first Falcon 9 v1.1 flight, with improved 13-tonne to LEO capacity. Following second-stage separation from the first stage, an attempt was made to perform an ocean touchdown test of the discarded booster vehicle. The test provided good test data on the experiment-its primary objective-but as the booster neared the ocean, aerodynamic forces caused an uncontrollable roll. The center engine, depleted of fuel by centrifugal force, shut down resulting in the impact and destruction of the vehicle."},"crew":[],"ships":["5ea6ed2d080df4000697c903"],"capsules":[],"payloads":["5eb0e4bbb6c3bb0006eeb1ee"],"launchpad":"5e9e4502f509092b78566f87","flight_number":11,"name":"CASSIOPE","date_utc":"2013-09-29T16:00:00.000Z","date_unix":1380470400,"date_local":"2013-09-29T09:00:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ff359180ae23b262d","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":true,"landing_success":false,"landing_type":"Ocean","landpad":null}], {"id":"5eb87ce1ffd86e000604b334"}, {"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]}, {"links":{"patch":{"small":"https://images2.imgbox.com/4e/f8/rqu7XWMF_o.png","large":"https://images2.imgbox.com/41/b7/H6vprzuB_o.png"},"reddit":{"campaign":null,"launch":"http://www.reddit.com/r/spacex/comments/1ryy1n","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":"http://www.spacex.com/sites/spacex/files/spacex_ses-8launch_presskit.pdf","webcast":"https://www.youtube.com/watch?v=aAj5xapImEs","youtube_id":"aAj5xapImEs","article":"https://www.nasaspaceflight.com/2013/12/spacex-falcon-9-v1-1-milestone-ses-8-launch/","wikipedia":"https://en.wikipedia.org/wiki/SES-8"},"static_fire_date_utc":"2013-11-22T06:26:00.000Z","static_fire_date_unix":1385101560,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First GTO launch for Falcon 9","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4bbb6c3bb0006eeb1ee"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":12,"name":"SES-8","date_utc":"2013-12-03T22:41:00.000Z","date_unix":1386110460,"date_local":"2013-12-03T18:41:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ff35918862c3b262e","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}], {"id":"5eb87ce2ffd86e000604b335"}, {"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]}, {"links":{"patch":{"small":"https://images2.imgbox.com/5c/20/AsqTXJD C_o.png","large":"https://images2.imgbox.com/f5/fa/JvLWfNZz_o.png"},"reddit":{"campaign":null,"launch":"http://www.reddit.com/r/spacex/comments/1ujoc0","media":null,"recovery":null},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/8617/16789019815_f99a165dc5_o.jpg","https://farm8.staticflickr.com/7619/16763151866_35a0a4d8e1_o.jpg","https://farm9.staticflickr.com/8569/16169086873_4d8829832e_o.png"]},"presskit":"http://www.spacex.com/sites/spacex/files/spacex_thaicom6_presskit.pdf","webcast":"https://www.youtube.com/watch?v=AnSNRzMEmCU","youtube_id":"AnSNRzMEmCU","article":"http://spacenews.com/38959spacex-delivers-thaicom-6-satellite-to-orbit/","wikipedia":"https://en.wikipedia.org/wiki/Thaicom_6"},"static_fire_date_utc":"2013-12-28T00:00:00.000Z","static_fire_date_unix":1388188800,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Second GTO launch for Falcon 9. The USAF evaluated launch data from this flight as part of a separate certification program for SpaceX to qualify

to fly U.S. military payloads and found that the Thaicom 6 launch had \\\"unacceptable fuel reserves at engine cutoff of the stage 2 second burnoff\\\"\", \"crew\": [], \"ships\": [], \"capsules\": [], \"payloads\": [\"5eb0e4bbb6c3bb0006eeb1f0\"], \"launchpad\": \"5e9e4501f509094ba4566f84\", \"flight_number\": 13, \"name\": \"Thaicom 6\", \"date_utc\": \"2014-01-06T18:06:00.000Z\", \"date_unix\": 1389031560, \"date_local\": \"2014-01-06T14:06:00-04:00\", \"date_precision\": \"hour\", \"upcoming\": false, \"cores\": [{\"core\": \"5e9e289ff3591878603b262f\", \"flight\": 1, \"gridfins\": false, \"legs\": false, \"reused\": false, \"landing_attempt\": false, \"landing_success\": null, \"landing_type\": null, \"landpad\": null}], \"auto_update\": true, \"tbd\": false, \"launch_library_id\": null, \"id\": \"5eb87ce3ffd86e000604b336\"}, {\"fairings\": null, \"links\": {\"patch\": {\"small\": \"https://images2.imgbox.com/ae/3c/yVvE2vVh_o.png\", \"large\": \"https://images2.imgbox.com/82/c7/bbs0gt88_o.png\"}, \"reddit\": {\"campaign\": null, \"launch\": \"http://www.reddit.com/r/spacex/comments/22zo8c\", \"media\": null, \"recovery\": null}, \"flickr\": {\"small\": [], \"original\": [\"https://farm8.staticflickr.com/7615/16670240949_8d43db0e36_o.jpg\", \"https://farm9.staticflickr.com/8597/16856369125_e97cd30ef7_o.jpg\", \"https://farm8.staticflickr.com/7586/16166732954_9338dc859c_o.jpg\", \"https://farm8.staticflickr.com/7603/16855223522_462da54e84_o.jpg\", \"https://farm8.staticflickr.com/7618/16234010894_e1210ec300_o.jpg\", \"https://farm8.staticflickr.com/7617/16855338881_69542a2fa9_o.jpg\"]}, \"presskit\": \"http://www.spacex.com/sites/spacex/files/spacexcrs-3_presskit_042014.pdf\", \"webcast\": \"https://www.youtube.com/watch?v=Od-lON4bTyQ\", \"youtube_id\": \"Od-lON4bTyQ\", \"article\": \"https://newatlas.com/crs-3-launch-spacex/31671/\", \"wikipedia\": \"https://en.wikipedia.org/wiki/SpaceX_CRS-3\"}, \"static_fire_date_utc\": \"2014-03-08T00:00:00.000Z\", \"static_fire_date_unix\": 1394236800, \"net\": false, \"window\": 0, \"rocket\": \"5e9d0d95eda69973a809d1ec\", \"success\": true, \"failures\": [], \"details\": \"Following second-stage separation, SpaceX conducted a second controlled-descent test of the discarded booster vehicle and achieved the first successful controlled ocean touchdown of a liquid-rocket-engine orbital booster. Following touchdown the first stage tipped over as expected and was destroyed. This was the first Falcon 9 booster to fly with extensible landing legs and the first Dragon mission with the Falcon 9 v1.1 launch vehicle.\"}, {\"crew\": [], \"ships\": [\"5ea6ed2d080df4000697c902\"], \"capsules\": [\"5e9e2c5bf3591859a63b2668\"], \"payloads\": [\"5eb0e4bbb6c3bb0006eeb1f1\"], \"launchpad\": \"5e9e4501f509094ba4566f84\", \"flight_number\": 14, \"name\": \"CRS-3\", \"date_utc\": \"2014-04-18T19:25:00.000Z\", \"date_unix\": 1397849100, \"date_local\": \"2014-04-18T15:25:00-04:00\", \"date_precision\": \"hour\", \"upcoming\": false, \"cores\": [{\"core\": \"5e9e289ff3591829343b2630\", \"flight\": 1, \"gridfins\": false, \"legs\": true, \"reused\": false, \"landing_attempt\": true, \"landing_success\": true, \"landing_type\": \"Ocean\", \"landpad\": null}], \"auto_update\": true, \"tbd\": false, \"launch_library_id\": null, \"id\": \"5eb87ce4ffd86e000604b337\"}, {\"fairings\": {\"reuse_d\": false, \"recovery_attempt\": false, \"recovered\": false, \"ships\": []}, \"links\": {\"patch\": {\"small\": \"https://images2.imgbox.com/a4/44/YWAUBkOe_o.png\", \"large\": \"https://images2.imgbox.com/fd/41/FUnfqHHH_o.png\"}, \"reddit\": {\"campaign\": null, \"launch\": \"http://www.reddit.com/r/spacex/comments/2aany2\", \"media\": null, \"recovery\": null}, \"flickr\": {\"small\": [], \"original\": [\"https://farm8.staticflickr.com/7585/16602893909_1181317089_o.jpg\", \"https://farm9.staticflickr.com/8747/16581738577_83e0690136_o.png\", \"https://farm8.staticflickr.com/7285/16581736047_6fd536ab11_o.jpg\", \"https://farm8.staticflickr.com/7597/16789021675_35f0148f78_o.jpg\", \"https://farm8.staticflickr.com/7631/16236321533_829ae07b42_o.jpg\", \"https://farm9.staticflickr.com/8726/16830422056_26c2265bbc_o.jpg\", \"https://farm9.staticflickr.com/8591/16670149079_33d6cc3631_o.jpg\"]}, \"presskit\": \"http://www.spacex.com/sites/spacex/files/spacex_orbcomm_presskit_final.pdf\", \"webcast\": \"https://www.youtube.com/watch?v=lbHnSu-DLR4\", \"youtube_id\": \"lbHnSu-DLR4\", \"article\": \"https://www.orbcomm.com/en/networks/satellite/orbcomm-og2\", \"wikipedia\": \"https://en.wikipedia.org/wiki/Falcon_9_flight_10\"}, \"static_fire_date_utc\": \"2015-12-19T04:57:00.000Z\", \"static_fire_date_unix\": 1450501020, \"net\": false, \"window\": 0, \"rocket\": \"5e9d0d95eda69973a809d1ec\", \"success\": true, \"failures\": [], \"details\": \"Total payload mass was 1,316 kg (2,901 lb) : 6 satellites weighing 172 kg each, plus two 142-kg mass simulators. This was the second Falcon 9 booster equipped with landing legs. Following second-stage separation, SpaceX conducted a controlled-descent test of the first stage, which successfully decelerated from \\xc2\\xa0hypersonic velocity in the upper atmosphere, made reentry and landing burns, deployed its legs and touched down on the ocean surface. As with the previous mission, the first stage then tipped over as expected and was not recovered.\"}, {\"cr

```
ew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4bcb6c3bb0006eeb1f2"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 15, "name": "OG-2 Mission 1", "date_utc": "2014-07-14T15:15:00.000Z", "date_unix": 1405350900, "date_local": "2014-07-14T11:15:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a0f3591870a63b2631", "flight": 1, "gridfins": false, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "Ocean", "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87ce4ffd86e000604b338"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/dd/4d/szidadu8_o.png", "large": "https://images2.imgbox.com/60/3f/hwK01Qce_o.png"}, "reddit": {"campaign": null, "launch": "http://www.reddit.com/r/spacex/comments/2fenrv", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://farm9.staticflickr.com/8638/16855192031_962f7b1113_o.jpg", "https://farm8.staticflickr.com/7603/16648925347_769a6009c7_o.jpg", "https://farm9.staticflickr.com/8687/16789027675_cde1bd098a_o.jpg", "https://farm8.staticflickr.com/7629/16668638138_7acf13cfb5_o.jpg", "https://farm8.staticflickr.com/7281/16668845950_7680146525_o.jpg", "https://farm8.staticflickr.com/7626/16233865484_10d9925b5d_o.jpg"]}, "presskit": "https://spaceflightnow.com/falcon9/011/presskit.pdf", "webcast": "https://www.youtube.com/watch?v=essrkMGlw5s", "youtube_id": "essrkMGlw5s", "article": "http://spacenews.com/41497spacex-launches-first-of-two-satellites-for-asiasat/", "wikipedia": "https://en.wikipedia.org/wiki/AsiaSat_8"}, "static_fire_date_utc": "2014-07-31T23:35:15.000Z", "static_fire_date_unix": 1406849715, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4bcb6c3bb0006eeb1f3"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 16, "name": "AsiaSat 8", "date_utc": "2014-08-05T08:00:00.000Z", "date_unix": 1407225600, "date_local": "2014-08-05T04:00:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a0f359186e2e3b2632", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87ce5ffd86e000604b339"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/d4/ea/jdJqr6He_o.png", "large": "https://images2.imgbox.com/5a/f0/b3TgnmVr_o.png"}, "reddit": {"campaign": null, "launch": "http://www.reddit.com/r/spacex/comments/2fenrv", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://farm8.staticflickr.com/7604/16169087563_0e3559ab5b_o.jpg", "https://farm9.staticflickr.com/8742/16233828644_96738200b2_o.jpg", "https://farm8.staticflickr.com/7645/16601443698_e70315d1ed_o.jpg", "https://farm9.staticflickr.com/8730/16830335046_5f017c17be_o.jpg", "https://farm9.staticflickr.com/8637/16855040322_57671ab8eb_o.jpg"]}, "presskit": "https://www.spaceflightnow.com/falcon9/012/presskit.pdf", "webcast": "https://www.youtube.com/watch?v=39ninsyTRk8", "youtube_id": "39ninsyTRk8", "article": "https://www.space.com/27052-spacex-launches-asiasat6-satellite.html", "wikipedia": "https://en.wikipedia.org/wiki/AsiaSat_6"}, "static_fire_date_utc": "2014-08-22T23:51:18.000Z", "static_fire_date_unix": 1408751478, "net": false, "window": 7200, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4bcb6c3bb0006eeb1f4"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 17, "name": "AsiaSat 6", "date_utc": "2014-09-07T05:00:00.000Z", "date_unix": 1410066000, "date_local": "2014-09-07T01:00:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a0f35918b1bc3b2633", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87ce6ffd86e000604b33a"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/7b/fb/Mm0LdwGY_o.png", "large": "https://images2.imgbox.com/21/13/ps1yJZFD_o.png"}, "reddit": {"campaign": null, "launch": "http://www.reddit.com/r/spacex/comments/2grxer", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://farm8.staticflickr.com/7608/16661753958_9f61f777e7_o.jpg", "https://farm9.staticflickr.com/8593/16763199166_38ba2cafc8_o.jpg", "https://farm9.staticflickr.com/8655/16789074175_ba03989359_o.png", "https://farm9.staticflickr.com/8659/16166761954_ebc2a72b2a_o.jpg", "https://farm9.staticflickr.com/8620/16642025217_a6852b9499_o.jpg"]}, "presskit": "https://www.nasa.gov/sites/default/files/files/
```

SpaceX_NASA_CRS-4_PressKit.pdf", "webcast": "https://www.youtube.com/watch?v=7YkCh7uOw1Y", "youtube_id": "7YkCh7uOw1Y", "article": "https://www.nasa.gov/press/2014/september/nasa-cargo-launches-to-space-station-aboard-spacex-resupply-mission-0", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-4", "static_fire_date_utc": "2014-09-17T00:00:00.000Z", "static_fire_date_unix": 1410912000, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": ["5ea6ed2d080df4000697c902"], "capsules": ["5e9e2c5bf3591880643b2669"], "payloads": ["5eb0e4bcb6c3bb0006eeb1f5"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 18, "name": "CRS-4", "date_utc": "2014-09-21T05:52:00.000Z", "date_unix": 1411278720, "date_local": "2014-09-21T01:52:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a0f359184a683b2634", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": true, "landing_success": false, "landing_type": "Ocean", "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87ce7ffd86e000604b33b"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/df/53/3Ik1KR2O_o.png", "large": "https://images2.imgbox.com/ed/f3/MdEzr8rE_o.png"}, "reddit": {"campaign": null, "launch": "http://www.reddit.com/r/spacex/comments/2rrdha", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://farm9.staticflickr.com/8666/16511391418_bb5cbbdb71_o.jpg", "https://farm9.staticflickr.com/8612/16848173281_035bdc6009_o.jpg", "https://farm9.staticflickr.com/8571/16699496805_bf39747618_o.jpg", "https://farm9.staticflickr.com/8650/16699496705_187e4e53fd_o.jpg", "https://farm9.staticflickr.com/8663/16077174554_370937efbe_o.jpg", "https://farm9.staticflickr.com/8638/16512101410_83763eb9ea_o.jpg", "https://farm9.staticflickr.com/8653/16077173984_17885d4bea_o.jpg", "https://farm8.staticflickr.com/7635/16848159582_40c0f9d25f_o.jpg"]}}, "presskit": "http://www.spacex.com/sites/spacex/files/spacex_nasa_crs-5_presskit.pdf", "webcast": "https://www.youtube.com/watch?v=p7x-SumbynI", "youtube_id": "p7x-SumbynI", "article": "https://spaceflightnow.com/2015/01/10/dragon-successfully-launched-rocket-recovery-demo-crash-lands/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-5", "static_fire_date_utc": "2014-12-19T00:00:00.000Z", "static_fire_date_unix": 1418947200, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Following second stage separation, SpaceX performed a test flight which attempted to return the first stage of the Falcon 9 through the atmosphere and land it on an approximately 90-by-50-meter (300 ft x 160 ft) floating platform-called the autonomous spaceport drone ship. Many of the test objectives were achieved, including precision control of the rocket's descent to land on the platform at a specific point in the Atlantic ocean, and a large amount of test data was obtained from the first use of grid fin control surfaces used for more precise reentry positioning. The grid fin control system ran out of hydraulic fluid a minute before landing and the landing itself resulted in a crash.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed2f080df4000697c90f", "5ea6ed30080df4000697c912"], "capsules": ["5e9e2c5bf35918165f3b266a"], "payloads": ["5eb0e4bdb6c3bb0006eeb1f6"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 19, "name": "CRS-5", "date_utc": "2015-01-10T09:47:00.000Z", "date_unix": 1420883220, "date_local": "2015-01-10T05:47:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a0f359187a3c3b2635", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": false, "landing_type": "ASDS", "landpad": "5e9e3032383ecb761634e7cb"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87ce8ffd86e000604b33c"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/bc/a6/uDYvXvql_o.png", "large": "https://images2.imgbox.com/30/47/WmtGcjW8_o.png"}, "reddit": {"campaign": null, "launch": "http://www.reddit.com/r/spacex/comments/2vj9e", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://farm9.staticflickr.com/8619/16511407538_9a25c5d8c6_o.jpg", "https://farm9.staticflickr.com/8665/16697946612_1284e952b0_o.jpg", "https://farm9.staticflickr.com/8570/16698990475_16524a93de_o.jpg", "https://farm9.staticflickr.com/8681/16512864259_e849e496b1_o.jpg", "https://farm9.staticflickr.com/8637/16079045013_1f0fab9b54_o.jpg", "https://farm9.staticflickr.com/8601/16512864369_2bb896c344_o.jpg", "https://farm9.staticflickr.com/8646/16697693861_a038331e0a_o.jpg", "https://farm9.staticflickr.com/8680/16511407248_093635a243_o.jpg", "https://farm9.staticflic

kr.com/8654/16511594820_451f194d53_o.jpg", "https://farm9.staticflickr.com/8603/16673054016_472fb42a20_o.jpg"]}, "presskit": "http://www.spacex.com/press/2015/02/11/dscovr-launch-update", "webcast": "https://www.youtube.com/watch?v=OvHJSIKP0Hg", "youtube_id": "OvHJSIKP0Hg", "article": "https://spaceflightnow.com/2015/02/12/space-weather-observatory-blasts-off-after-17-year-wait/", "wikipedia": "https://en.wikipedia.org/wiki/Deep_Space_Climate_Observatory"}, "static_fire_date_utc": "2015-01-31T00:00:00.000Z", "static_fire_date_unix": 1422662400, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "First launch under USAF's OSP 3 launch contract. First SpaceX launch to put a satellite to an orbit with an orbital altitude many times the distance to the Moon: Sun-Earth libration point L1. The first stage made a test flight descent to an over-ocean landing within 10 m (33 ft) of its intended target.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c"], "capsules": [], "payloads": ["5eb0e4bdb6c3bb0006eeb1f7"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 20, "name": "DSCOVr", "date_utc": "2015-02-11T23:03:00.000Z", "date_unix": 1423695780, "date_local": "2015-02-11T19:03:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a0f3591885be3b2636", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "Ocean", "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87ceaffd86e000604b33d"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/2b/65/8Hd65fHz_o.png", "large": "https://images2.imgbox.com/3f/c9/ZczpJ97M_o.png"}, "reddit": {"campaign": null, "launch": "http://www.reddit.com/r/spacex/comments/2x81fc", "media": "https://www.reddit.com/r/spacex/comments/2xumx", "recovery": null}, "flickr": {"small": [], "original": ["https://farm9.staticflickr.com/8749/16788442562_ed460c2d9e_o.jpg", "https://farm9.staticflickr.com/8586/16510243060_48d6a9b1f6_o.jpg", "https://farm9.staticflickr.com/8641/16490359747_c043b8c61a_o.jpg", "https://farm9.staticflickr.com/8636/16510241270_ca83157509_o.jpg", "https://farm8.staticflickr.com/7618/16601658850_13b826e705_o.jpg", "https://farm9.staticflickr.com/8617/16510041628_883af57512_o.jpg"]}}, "presskit": "http://www.spacex.com/sites/spacex/files/abs-eutelsatfactsheet.pdf", "webcast": "https://www.youtube.com/watch?v=mN7lyaCBzT8", "youtube_id": "mN7lyaCBzT8", "article": "http://www.space.com/28702-spacex-rocket-launches-satellites-video.html", "wikipedia": "https://en.wikipedia.org/wiki/ABS-3A"}, {"static_fire_date_utc": "2015-02-25T19:10:00.000Z", "static_fire_date_unix": 1424891400, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "The launch was Boeing's first-ever conjoined launch of a lighter-weight dual-commsat stack that was specifically designed to take advantage of the lower-cost SpaceX Falcon 9 launch vehicle. Per satellite, launch costs were less than \$30 million. The ABS satellite reached its final destination ahead of schedule and started operations on September 10.", "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4bdb6c3bb0006eeb1f8", "5eb0e4bdb6c3bb0006eeb1f9"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 21, "name": "ABS-3A / Eutelsat 115W B", "date_utc": "2015-03-02T03:50:00.000Z", "date_unix": 1425268200, "date_local": "2015-03-02T23:50:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a0f35918c0893b2637", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87ceaffd86e000604b33e"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/75/39/TJU6xWM5_o.png", "large": "https://images2.imgbox.com/c7/02/2XvCh1yD_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/32jnyd", "media": "https://www.reddit.com/r/spacex/comments/32lw5y", "recovery": null}, "flickr": {"small": [], "original": ["https://farm8.staticflickr.com/7624/17170624642_e5949d160e_o.jpg", "https://farm8.staticflickr.com/7708/17170624402_f6de506461_o.jpg", "https://farm8.staticflickr.com/7658/17170624462_2efc977fee_o.jpg", "https://farm8.staticflickr.com/7611/17171659711_42597fefed_o.jpg", "https://farm9.staticflickr.com/8774/17170624412_7091dbd04a_o.jpg"]}}, "presskit": "https://www.nasa.gov/sites/default/files/files/SpaceX_NASA_CRS-6_PressKit.pdf", "webcast": "https://www.youtube.com/watch?v=csVpa25iqH0", "youtube_id": "csVpa25iqH0", "article": "https://spaceflightnow.com/2015/04/14/falcon-9-successfully-launches-descends-to-off-balance-landing/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_NASA_CRS-6_PressKit"}]

ia.org/wiki/SpaceX_CRS-6"}, {"static_fire_date_utc": "2015-04-11T00:00:00.000Z", "static_fire_date_unix": 1428710400, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Following the first-stage boost, SpaceX attempted a controlled-descent test of the first stage. The first stage contacted the ship, but soon tipped over due to excess lateral velocity caused by a stuck throttle valve resulting in a later-than-intended downthrottle.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed2f080df4000697c90f", "5ea6ed30080df4000697c912"], "capsules": ["5e9e2c5cf359188bfb3b266b"], "payloads": ["5eb0e4bdb6c3bb0006eeb1fa"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 22, "name": "CRS-6", "date_utc": "2015-04-14T20:10:00.000Z", "date_unix": 1429042200, "date_local": "2015-04-14T16:10:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a1f359186d533b2638", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": false, "landing_type": "ASDS", "landpad": "5e9e3032383ecb761634e7cb"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cecffd86e000604b33f"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/a6/9b/IzWT1pYC_o.png", "large": "https://images2.imgbox.com/a1/dc/grsyEfA5_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/33xqcj", "media": "https://www.reddit.com/r/spacex/comments/3439s3", "recovery": null}, "flickr": {"small": [], "original": ["https://farm8.staticflickr.com/7695/17138865668_18dcce7072_o.jpg", "https://farm8.staticflickr.com/7677/16706406093_61a8f9c2f8_o.jpg", "https://farm8.staticflickr.com/7691/17324793792_2dd13ea3f3_o.jpg", "https://farm8.staticflickr.com/7691/17139094400_b94ce1ff56_o.jpg", "https://farm9.staticflickr.com/8739/17140415959_38b5ee8bc6_o.jpg", "https://farm8.staticflickr.com/7735/16704192574_e3a0a6fac2_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/space_xthalesfactsheet_final.pdf", "webcast": "https://www.youtube.com/watch?v=nBwAYTogj4", "youtube_id": "nBwAYTogj4", "article": "https://spaceflightnow.com/2015/04/28/falcon-9-rocket-powers-into-space-with-satellite-for-turkmenistan/", "wikipedia": "https://en.wikipedia.org/wiki/T%C3%BCrkmen%C3%84lem_52%C2%B0E_/MonacoSAT"}, {"static_fire_date_utc": "2015-04-22T11:11:00.000Z", "static_fire_date_unix": 1429701060, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4beb6c3bb0006eeb1fb"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 23, "name": "T\u00d7c3\u00d7bcrkmen\u00d7c3\u00d7x84lem 52\u00d7c2\u00d7xb0E / MonacoSAT", "date_utc": "2015-04-27T23:03:00.000Z", "date_unix": 1430175780, "date_local": "2015-04-27T19:03:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a1f35918233f3b2639", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cedffd86e000604b340"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/53/12/gFtcOQuX_o.png", "large": "https://images2.imgbox.com/7a/51/NfgiMpar_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/3b27hk", "media": "https://www.reddit.com/r/spacex/comments/3berj3", "recovery": null}, "flickr": {"small": [], "original": ["https://farm1.staticflickr.com/344/19045370790_f20f29cd8d_o.jpg", "https://farm1.staticflickr.com/287/18999110808_6e153fed64_o.jpg"]}, "presskit": "https://www.nasa.gov/sites/default/files/atoms/files/spacex_nasa_crs-7_presskit.pdf", "webcast": "https://www.youtube.com/watch?v=PuNymhcTtSQ", "youtube_id": "PuNymhcTtSQ", "article": "https://spaceflightnow.com/2015/06/28/falcon-9-rocket-destroyed-in-launch-mishap/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-7"}, {"static_fire_date_utc": "2015-06-26T05:00:00.000Z", "static_fire_date_unix": 1435294800, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": false, "failures": [{"time": 139, "altitude": 40, "reason": "helium tank overpressure led to the second stage LOX tank explosion"}], "details": "Launch performance was nominal until an overpressure incident in the second-stage LOX tank, leading to vehicle breakup at T+150 seconds. The Dragon capsule survived the explosion but was lost upon splashdown because its software did not contain provisions for parachute deployment on launch vehicle failure.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c"], "capsules": ["5e9e2c5cf35918407d3b266c"], "payloads": ["5eb0e4beb6c3bb0006eeb1fc"], "launchpad": "5e9e4501f509094ba4566f84"}]

9094ba4566f84", "flight_number": 24, "name": "CRS-7", "date_utc": "2015-06-28T14:21:00.000Z", "date_unix": 1435501260, "date_local": "2015-06-28T10:21:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a1f35918683c3b263a", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": null, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cefffd86e000604b341"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/6a/7e/J7IQfBqg_o.png", "large": "https://images2.imgbox.com/99/d4/0aIlpFpw_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/3xgxh5", "media": "https://www.reddit.com/r/spacex/comments/3xm83h/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm2.staticflickr.com/1648/23827554109_837b21739e_o.jpg", "https://farm1.staticflickr.com/597/23802553412_d41e4dcc64_o.jpg", "https://farm6.staticflickr.com/5806/23802550622_9ff8c90098_o.jpg", "https://farm1.staticflickr.com/571/23604164970_2a1a2366e4_o.jpg", "https://farm6.staticflickr.com/5773/23271687254_5e64d726ba_o.jpg", "https://farm6.staticflickr.com/5766/23526044959_5bfe74bc88_o.jpg", "https://farm6.staticflickr.com/5723/23785609832_83038751d1_o.jpg", "https://farm1.staticflickr.com/715/23833499336_d3fde6a25a_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/spacex_orbcomm_press_kit_final2.pdf", "webcast": "https://www.youtube.com/watch?v=05bTbVbe4e4", "youtube_id": "05bTbVbe4e4", "article": "https://spaceflightnow.com/2015/12/22/round-trip-rocket-flight-gives-space-x-a-trifecta-of-successes/", "wikipedia": "https://en.wikipedia.org/wiki/Falcon_9_flight_20"}, {"static_fire_date_utc": "2015-12-19T00:09:00.000Z", "static_fire_date_unix": 1450483740, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Total payload mass was 2,034 kg (4,484 lb) : 11 satellites weighing 172 kg each, plus a 142-kg mass simulator. This was the first launch of the upgraded v1.1 variant (later called Falcon 9 Full Thrust), with a 30 percent power increase. Orbcomm had originally agreed to be the third flight of the enhanced-thrust rocket, but the change to the maiden flight position was announced in October 2015. SpaceX received a permit from the FAA to land the booster on solid ground at Cape Canaveral, and succeeded.", "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4beb6c3bb0006eeb1fd"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 25, "name": "OG-2 Mission 2", "date_utc": "2015-12-22T01:29:00.000Z", "date_unix": 1450747740, "date_local": "2015-12-22T21:29:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a1f3591867753b263b", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cefffd86e000604b342"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/8a/44/PSksEBjD_o.png", "large": "https://images2.imgbox.com/d9/c9/57iowDgW_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/417weg", "media": "https://www.reddit.com/r/spacex/comments/41cvdm", "recovery": null}, "flickr": {"small": [], "original": ["https://farm2.staticflickr.com/1460/24382360351_9b1f2fcabc_o.jpg", "https://farm2.staticflickr.com/1669/24423604506_27d3c4548b_o.jpg", "https://farm2.staticflickr.com/1618/24151425850_1cb6040569_o.jpg", "https://farm2.staticflickr.com/1622/24127012370_07edc62046_o.jpg", "https://farm2.staticflickr.com/1508/24127011190_92ef932c96_o.jpg", "https://farm2.staticflickr.com/1591/23778325594_08231286fc_o.jpg", "https://farm2.staticflickr.com/1542/24038722499_34c10216a3_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/spacex_jason3_press_kit.pdf", "webcast": "https://www.youtube.com/watch?v=ivdKRJzl6y0", "youtube_id": "ivdKRJzl6y0", "article": "https://spaceflightnow.com/2016/01/18/satellite-launched-to-measure-motions-of-the-oceans/", "wikipedia": "https://en.wikipedia.org/wiki/Jason-3"}, {"static_fire_date_utc": "2016-01-11T18:42:00.000Z", "static_fire_date_unix": 1452537720, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "First launch of NASA and NOAA joint science mission under the NLS II launch contract (not related to NASA CRS or USAF OSP3 contracts). Last launch of the original Falcon 9 v1.1 launch vehicle. The Jason-3 satellite was successfully deployed to target orbit. SpaceX again attempted a recovery of the first stage booster by landing on an autonomous drone ship; this time located i

n the Pacific Ocean. The first stage did achieve a soft-landing on the ship, but a lockout on one of the landing legs failed to latch, so that the booster fell over and exploded.", "crew": [], "ships": ["5ea6ed2f080df4000697c910", "5ea6ed30080df4000697c912", "5ea6ed30080df4000697c914"], "capsules": [], "payloads": ["5eb0e4beb6c3bb0006eeb1fe"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 26, "name": "Jason 3", "date_utc": "2016-01-17T15:42:00.000Z", "date_unix": 1453045320, "date_local": "2016-01-17T08:42:00-07:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a1f3591842fa3b263c", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": false, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cf0ffd86e000604b343"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/7f/15/rjv54Es5_o.png", "large": "https://images2.imgbox.com/c9/7f/EQ1g4Iv2_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/48u4yq", "media": "https://www.reddit.com/r/spacex/comments/472k8c", "recovery": null}, "flickr": {"small": [], "original": ["https://farm2.staticflickr.com/1623/25395662282_942fd68ba3_o.jpg", "https://farm2.staticflickr.com/1458/25395661442_bfd783f18a_o.jpg", "https://farm2.staticflickr.com/1641/25421381351_38390bcb8e_o.jpg", "https://farm2.staticflickr.com/1616/25514167315_b19b0a4365_o.jpg", "https://farm2.staticflickr.com/1482/24883160354_b03cefd416_o.jpg", "https://farm2.staticflickr.com/1653/25420915781_8fc648b4a4_o.jpg", "https://farm2.staticflickr.com/1610/25486858116_9c06dfea59_o.jpg", "https://farm2.staticflickr.com/1617/25168697841_00dfff89bb_o.jpg", "https://farm2.staticflickr.com/1533/24631230904_83b1624807_o.jpg", "https://farm2.staticflickr.com/1627/25145624551_1b8743116f_o.jpg", "https://farm2.staticflickr.com/1622/25120540712_7fcla5ed72_o.jpg", "https://farm2.staticflickr.com/1550/24585667074_aa712b13a8_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/spacex_ses9_press_kit_final.pdf", "webcast": "https://www.youtube.com/watch?v=muDPSy07-A0", "youtube_id": "muDPSy07-A0", "article": "https://spaceflightnow.com/2016/03/05/tv-broadcasting-satellite-finally-launched-on-falcon-9/", "wikipedia": "https://en.wikipedia.org/wiki/SES-9"}, "static_fire_date_utc": "2016-10-02T14:11:00.000Z", "static_fire_date_unix": 1475417460, "net": false, "window": 5400, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Second launch of the enhanced Falcon 9 Full Thrust launch vehicle. Following the launch, SpaceX attempted an experimental landing test to a drone ship, although a successful landing was not expected because launch mass exceeded previously indicated limit for a GTO there was little fuel left. As predicted, booster recovery failed: the spent first stage \\\"landed hard\\\", but the controlled-descent, atmospheric re-entry and navigation to the drone ship were successful and returned significant test data on bringing back high-energy Falcon 9s.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4beb6c3bb0006eeb1ff"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 27, "name": "SES-9", "date_utc": "2016-03-04T23:35:00.000Z", "date_unix": 1457134500, "date_local": "2016-03-04T19:35:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a1f359188def3b263d", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": false, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cf2ffd86e000604b344"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/72/1e/mA23xHqe_o.png", "large": "https://images2.imgbox.com/36/d8/RyPKsTpC_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/4dtoly", "media": "https://www.reddit.com/r/spacex/comments/4dtpxn", "recovery": "https://www.reddit.com/r/spacex/comments/4ee2zy"}, "flickr": {"small": [], "original": ["https://farm2.staticflickr.com/1633/25788014884_6a3f9ae183_o.jpg", "https://farm2.staticflickr.com/1650/26300505022_8b8b9035e8_o.jpg", "https://farm2.staticflickr.com/1486/25787998624_3ca213be1e_o.jpg", "https://farm2.staticflickr.com/1450/26326628031_e1b08ec0b3_o.jpg", "https://farm2.staticflickr.com/1670/26239020092_05e5e4c538_o.jpg", "https://farm2.staticflickr.com/1709/26305479266_76b4d01caf_o.jpg", "https://farm2.staticflickr.com/1645/26239017922_28c7ac50e0_o.jpg", "https://farm2.staticflickr.com/1559/26288402056_6c5997ce66_o.jpg", "https://farm2.staticflickr.com/1449/25709481274_60f8c77358_o.jpg", "https://farm2.staticflickr.com/1"]

671/26217360302_b66c3e384e_o.jpg", "https://farm2.staticflickr.com/1704/2628382205_6_838c1103b9_o.jpg", "https://farm2.staticflickr.com/1508/26217345472_118767c608_o.jpg", "https://farm2.staticflickr.com/1495/25916886442_821a152917_o.jpg"]}, "preskit": "http://www.spacex.com/sites/spacex/files/spacex_crs8_press_kit.pdf", "webcast": "https://www.youtube.com/watch?v=7pUAYdjne5M", "youtube_id": "7pUAYdjne5M", "article": "https://spaceflightnow.com/2016/04/08/spacex-lands-rocket-on-floating-platform-after-station-resupply-launch/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-8", "static_fire_date_utc": "2016-04-05T00:00:00.000Z", "static_fire_date_unix": 1459814400, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Dragon carried over 1500 kg of supplies and delivered (stowed in its trunk) the inflatable Bigelow Expandable Activity Module (BEAM) to the ISS for two years of in-orbit tests. The rocket's first stage landed smoothly on SpaceX's autonomous spaceport drone ship 9 minutes after liftoff, making this the first ever successful landing of a rocket booster on a ship at sea as part of an orbital launch. The first stage B1021 was later also the first orbital booster to be used again, when launching SES-10 on March 30, 2017.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed30080df4000697c912", "5ea6ed30080df4000697c913"], "capsules": ["5e9e2c5cf3591885d43b266d"], "payloads": ["5eb0e4bfb6c3bb0006eeb200"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 28, "name": "CRS-8", "date_utc": "2016-04-08T20:43:00.000Z", "date_unix": 1460148180, "date_local": "2016-04-08T16:43:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a2f359182d0b3b263e", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cf3fffd86e000604b345"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false}, "ships": [], "links": {"patch": {"small": "https://images2.imgbox.com/7a/90/Zdo2mijx_o.png", "large": "https://images2.imgbox.com/2a/47/az2sxGIB_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/4gyh8z", "launch": "https://www.reddit.com/r/spacex/comments/4htenu", "media": "https://www.reddit.com/r/spacex/comments/4htg2g", "recovery": "https://www.reddit.com/r/spacex/comments/4ihp1p"}, "flickr": {"small": [], "original": ["https://farm8.staticflickr.com/7340/27044931232_7b755276ec_o.jpg", "https://farm8.staticflickr.com/7444/27028105566_1d3413daa7_o.jpg", "https://farm8.staticflickr.com/7597/26778141961_e3bd237942_o.jpg", "https://farm8.staticflickr.com/7079/26778141661_559b48ac80_o.jpg", "https://farm8.staticflickr.com/7682/26778141401_c437b04b74_o.jpg", "https://farm8.staticflickr.com/7706/26751237322_ceb6d56235_o.jpg", "https://farm8.staticflickr.com/7677/26809210466_fc55835f3c_o.jpg", "https://farm8.staticflickr.com/7085/26809208046_d77bd31fd0_o.jpg", "https://farm8.staticflickr.com/7103/26809207316_cdc7d582e6_o.jpg"]}}, "presskit": "http://www.spacex.com/sites/spacex/files/spacex_jcsat_press_kit_final.pdf", "webcast": "https://www.youtube.com/watch?v=L0bMeDj76ig", "youtube_id": "L0bMeDj76ig", "article": "https://spaceflightnow.com/2016/05/06/falcon-9-succeeds-in-middle-of-the-night-launch/", "wikipedia": "https://en.wikipedia.org/wiki/JCSAT-2B", "static_fire_date_utc": "2016-05-01T21:32:00.000Z", "static_fire_date_unix": 1462138320, "net": false, "window": 7200, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Launched the JCSAT 14 communications satellite for Tokyo-based SKY Perfect JSAT Corp. JCSAT 14 will support data networks, television broadcasts and mobile communications users in Japan, East Asia, Russia, Oceania, Hawaii and other Pacific islands. This was the first time a booster successfully landed after a GTO mission.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c"], "capsules": [], "payloads": ["5eb0e4bfb6c3bb0006eeb201"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 29, "name": "JCSAT-2B", "date_utc": "2016-05-06T05:21:00.000Z", "date_unix": 1462512060, "date_local": "2016-05-06T01:21:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a2f35918077b3b263f", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cf3fffd86e000604b346"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false}, "ships": [], "links": {"patch": {"small": "https://images2.imgbox.com/fa/f2/iR1eKXrX_o.png", "large": "https://images2.imgbox.com/84/d

c/Qp0wk7j1_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/4hjjz4k", "launch": "https://www.reddit.com/r/spacex/comments/4l9uou", "media": "https://www.reddit.com/r/spacex/comments/4l4af1", "recovery": "https://www.reddit.com/r/spacex/comments/4l2y6"}, "flickr": {"small": [], "original": ["https://farm8.staticflickr.com/7420/26814484893_13059e4b39_o.jpg", "https://farm8.staticflickr.com/7321/26812794884_bf91665325_o.jpg", "https://farm8.staticflickr.com/7337/26812792104_9323121f0b_o.jpg", "https://farm8.staticflickr.com/7376/27421461715_5640d2b87a_o.jpg", "https://farm8.staticflickr.com/7717/26812758364_74569b4327_o.jpg", "https://farm8.staticflickr.com/7742/27294263035_9b43bd141c_o.jpg", "https://farm8.staticflickr.com/7252/27294262435_c534cc4351_o.jpg", "https://farm8.staticflickr.com/7698/27294261525_82c4b7e604_o.jpg", "https://farm8.staticflickr.com/7045/27259828166_9e32061cc9_o.jpg", "https://farm8.staticflickr.com/7013/27259827316_c2f7507b3d_o.jpg", "https://farm8.staticflickr.com/7211/27182485331_ed2414a947_o.jpg", "https://farm8.staticflickr.com/7740/27182481921_0d7a759736_o.jpg", "https://farm8.staticflickr.com/7315/26645036414_39736db559_o.jpg"]}], "presskit": "http://www.spacex.com/sites/spacex/files/spacex_thaicom_8_press_kit.pdf", "webcast": "https://www.youtube.com/watch?v=zBYC4f79iXc", "youtube_id": "zBYC4f79iXc", "article": "https://spaceflightnow.com/2016/05/27/spacex-logs-successful-late-afternoon-launch-for-thaicom/", "wikipedia": "https://en.wikipedia.org/wiki/Thaicom_8", "static_fire_date_utc": "2016-05-25T00:00:00.000Z", "static_fire_date_unix": 1464134400, "net": false, "window": 7200, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Manufactured by Orbital ATK, the 3,100-kilogram (6,800 lb) Thaicom 8 communications satellite will serve Thailand, India and Africa from the 78.5° East geostationary location. It is equipped with 24 active Ku-band transponders.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4bfb6c3bb0006eeb202"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 30, "name": "Thaicom 8", "date_utc": "2016-05-27T21:39:00.000Z", "date_unix": 1464385140, "date_local": "2016-05-27T17:39:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a2f3591845c73b2640", "flight": 1, "gridfins": true, "legs": true, "reuse": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "launchpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cf6ffd86e000604b347"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/36/a4/J5gJWxuC_o.png", "large": "https://images2.imgbox.com/c6/d2/MIC8sIE4_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/4ksdy3", "launch": "https://www.reddit.com/r/spacex/comments/4o5u6r", "media": "https://www.reddit.com/r/spacex/comments/4o5j6o", "recovery": "https://www.reddit.com/r/spacex/comments/4on75l"}, "flickr": {"small": [], "original": ["https://farm8.staticflickr.com/7088/27661326426_ce3c3f320d_o.jpg", "https://farm8.staticflickr.com/7698/27661325446_affb08be24_o.jpg", "https://farm8.staticflickr.com/7733/27661322976_073466e80c_o.jpg", "https://farm8.staticflickr.com/7218/27661320706_4c16f3b76b_o.jpg", "https://farm8.staticflickr.com/7340/27661315686_6dcb2ce6f9_o.jpg", "https://farm8.staticflickr.com/7656/27661313956_e1ac9650b9_o.jpg", "https://farm8.staticflickr.com/7616/27661312516_640764f8fd_o.jpg", "https://farm8.staticflickr.com/7413/27078893234_0142dd80f0_o.jpg", "https://farm8.staticflickr.com/7334/27078889924_8819fd55ea_o.jpg"]}], "presskit": "https://drive.google.com/open?id=0BwA3a65ef10vMGpJSlpDNHhjelu", "webcast": "https://www.youtube.com/watch?v=gLNmtUEvI5A", "youtube_id": "gLNmtUEvI5A", "article": "https://spaceflightnow.com/2016/06/15/spacex-successfully-fires-satellites-into-orbit-but-loses-booster-on-landing/", "wikipedia": "https://en.wikipedia.org/wiki/ABS_(satellite_operator)", "static_fire_date_utc": "2016-06-13T15:03:00.000Z", "static_fire_date_unix": 1465830180, "net": false, "window": 2700, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "One year after pioneering this technique on flight 16, Falcon again launched two Boeing 702SP gridded ion thruster satellites in a dual-stack configuration, with the two customers sharing the rocket and mission costs. First stage landing attempt on drone ship failed on landing due to low thrust on one of the three landing engines.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4bfb6c3bb0006eeb203", "5eb0e4bfb6c3bb0006eeb204"], "launchpad": "5e9e4501f509094

ba4566f84","flight_number":31,"name":"ABS-2A / Eutelsat 117W B","date_utc":"2016-06-15T14:29:00.000Z","date_unix":1466000940,"date_local":"2016-06-15T10:29:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a2f359184f403b2641","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":false,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cf8ffd86e000604b348"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/bb/0d/aLsm9QDC_o.png","large":"https://images2.imgbox.com/56/af/b7fNzZGo_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/4ksedl","launch":"https://www.reddit.com/r/spacex/comments/4t2umd/","media":"https://www.reddit.com/r/spacex/comments/4tayth","recovery":"https://www.reddit.com/r/spacex/comments/4znsvo"},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/8819/27776240293_fcbf8c4a0a_o.jpg","https://farm8.staticflickr.com/7720/27776237513_038971797c_o.jpg","https://farm8.staticflickr.com/7594/27776235133_d794ce01f4_o.jpg","https://farm8.staticflickr.com/7759/27776229243_a0674e590f_o.jpg","https://farm8.staticflickr.com/7512/27776228443_6652c6baea_o.jpg","https://farm9.staticflickr.com/8038/27776218453_34112abbc1_o.jpg","https://farm8.staticflickr.com/7636/27776215913_3f9f1b05df_o.jpg","https://farm8.staticflickr.com/7740/28358960896_9785456101_o.jpg","https://farm8.staticflickr.com/7488/27776206663_262526ba5f_o.jpg","https://farm8.staticflickr.com/7656/28358955546_ce55d65e16_o.jpg","https://farm8.staticflickr.com/7467/27776204693_68b4ed82c9_o.jpg","https://farm8.staticflickr.com/7693/28348649546_0a54b1aa44_o.jpg","https://farm8.staticflickr.com/7540/28291786662_5e2e874576_o.jpg"]},"presskit":"https://drive.google.com/open?id=0BwA3a65ef10vM0JpSXdDUUJMRVkJ","webcast":"https://www.youtube.com/watch?v=ThIdCuSsJh8","youtube_id":"ThIdCuSsJh8","article":"https://spaceflightnow.com/2016/07/18/spacex-sends-supplies-to-space-station-lands-another-falcon-rocket/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-9"},"static_fire_date_utc":"2016-07-16T02:31:47.000Z","static_fire_date_unix":1468636307,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Among other cargo, an International Docking Adapter (IDA-2) was carried to the ISS. This mission had a successful first-stage landing at Cape Canaveral.*Including the reusable Dragon Capsule, total payload to orbit was 6457 kg."},"crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c","5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf359183bb73b266e"],"payloads":["5eb0e4c0b6c3bb0006eeb205"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":32,"name":"CRS-9","date_utc":"2016-07-18T04:45:00.000Z","date_unix":1468817100,"date_local":"2016-07-18T00:45:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a2f359187f273b2642","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTL","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cf9ffd86e000604b349"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/22/cc/DjPcsMhb_o.png","large":"https://images2.imgbox.com/0b/3e/aQpLZQht_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/4pv6ws","launch":"https://www.reddit.com/r/spacex/comments/4xi7uq","media":"https://www.reddit.com/r/spacex/comments/4xkdfj","recovery":"https://www.reddit.com/r/spacex/comments/4y5xd1"},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/8699/28965678292_17533229f3_o.jpg","https://farm9.staticflickr.com/8173/28453337463_b9d11eeb4c_o.jpg","https://farm8.staticflickr.com/7793/28453335533_3f5a0a5760_o.jpg","https://farm9.staticflickr.com/8784/28938085496_74b3fd0527_o.jpg","https://farm9.staticflickr.com/8337/28969742675_15f78369a1_o.jpg","https://farm9.staticflickr.com/8691/28353012603_ab83b6f5aa_o.jpg","https://farm9.staticflickr.com/8078/28351782813_58ca783e51_o.jpg"]},"presskit":"https://drive.google.com/open?id=0BwA3a65ef10vb0FkYnE5dElZRLU","webcast":"https://www.youtube.com/watch?v=QZTCE00gvLo","youtube_id":"QZTCE00gvLo","article":"https://spaceflightnow.com/2016/08/14/falcon-9-rocket-launches-japanese-satellite-then-nails-bullseye-landing/","wikipedia":"https://en.wikipedia.org/wiki/JCSAT-16"},"static_fire_date_utc":"2016-08-11T04:01:00.000Z","static_fire_date_unix":1470888060,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First attempt to touch down from a ballistic trajectory using a sin

gle-engine landing burn. All previous landings from a ballistic trajectory had fired three engines on the landing-burn, which provided more braking force, but subjected the vehicle to greater structural stresses. The single-engine landing burn takes more time and fuel, but puts less stress on the vehicle.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4c1b6c3bb0006eeb206"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 33, "name": "JCSAT-16", "date_utc": "2016-08-14T05:26:00.000Z", "date_unix": 1471152360, "date_local": "2016-08-14T01:26:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a2f35918b8243b2643", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cfaffd86e000604b34a"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": [], "links": {"patch": {"small": "https://images2.imgbox.com/0d/5b/8X01C3ov_o.png", "large": "https://images2.imgbox.com/ff/19/KCI4DVla_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/4pv7j1", "launch": null, "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://www.youtube.com/watch?v=_BgJEXQkjNQ", "youtube_id": "_BgJEXQkjNQ", "article": "https://spaceflightnow.com/2016/09/01/spacex-rocket-and-israeli-satellite-destroyed-in-launch-pad-explosion/", "wikipedia": "https://en.wikipedia.org/wiki/Amos-6"}, "static_fire_date_utc": "2016-09-01T13:07:00.000Z", "static_fire_date_unix": 1472735220, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": false, "failures": [{"time": -165180, "altitude": 0, "reason": "buckled liner in several of the COPV tanks, causing perforations that allowed liquid and/or solid oxygen to accumulate underneath the lining, which was ignited by friction."}], "details": "The rocket and Amos-6 payload were lost in a launch pad explosion on September 1, 2016 during propellant fill prior to a static fire test. The pad was clear of personnel and there were no injuries.", "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4c1b6c3bb0006eeb207"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 34, "name": "Amos-6", "date_utc": "2016-09-01T13:07:00.000Z", "date_unix": 1472735220, "date_local": "2016-09-01T09:07:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a2f359187ee83b2644", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": null, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cfcfffd86e000604b34b"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": [], "links": {"patch": {"small": "https://images2.imgbox.com/89/2a/bkI6LN0R_o.png", "large": "https://images2.imgbox.com/24/c3/9MKjvOdD_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/5dii6z", "launch": "https://www.reddit.com/r/spacex/comments/5nsaqm", "media": "https://www.reddit.com/r/spacex/comments/5nsico", "recovery": "https://www.reddit.com/r/spacex/comments/5oe9kk"}, "flickr": {"small": [], "original": ["https://farm1.staticflickr.com/658/32394688795_55a9873ea7_o.jpg", "https://farm1.staticflickr.com/506/32394688095_a3339f3c6d_o.jpg", "https://farm1.staticflickr.com/745/32394687645_63ae2b4740_o.jpg", "https://farm1.staticflickr.com/318/31548291014_e3a30abca8_o.jpg", "https://farm1.staticflickr.com/670/32351549066_e9cffe8d2b_o.jpg", "https://farm6.staticflickr.com/5518/31579784413_83aeac560a_o.jpg", "https://farm6.staticflickr.com/5556/32312421135_22c197c156_o.jpg", "https://farm1.staticflickr.com/529/32312420015_5d2403a847_o.jpg", "https://farm1.staticflickr.com/435/32312417695_19c0e50c4b_o.jpg", "https://farm1.staticflickr.com/735/32312416415_b90892af0a_o.jpg", "https://farm1.staticflickr.com/293/32312415025_cae16d1994_o.jpg", "https://farm1.staticflickr.com/738/31467130724_92e02c9524_o.jpg", "https://farm1.staticflickr.com/464/31467130374_9f7a7d380e_o.jpg", "https://farm1.staticflickr.com/581/31467129424_bac77d594a_o.jpg", "https://farm1.staticflickr.com/380/32308163845_c1731a4b1f_o.jpg", "https://farm1.staticflickr.com/447/31450835954_72ed10a19e_o.jpg", "https://farm1.staticflickr.com/507/31450834974_b8a3f4aca5_o.jpg"]}, "presskit": "https://drive.google.com/open?id=0BwA3a65ef10vZC1aU3FuM1Qzale", "webcast": "https://www.youtube.com/watch?v=7WimRhydggg", "youtube_id": "7WimRhydggg", "article": "https://spaceflightnow.com/2017/01/14/spacex-resumes-flights-with-on-target-launch-for-iridium/", "wikipedia": "https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generation_constellation"}, "stat

ic_fire_date_utc":"2017-01-05T19:40:00.000Z","static_fire_date_unix":1483645200,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Return-to-flight mission after the loss of Amos-6 in September 2016. Iridium NEXT will replace the original Iridium constellation, launched in the late 1990s. Each Falcon mission will carry 10 satellites, with a goal to complete deployment of the 66 plus 9 spare satellite constellation by mid 2018. The first two Iridium qualification units were supposed to ride a Dnepr rocket in April 2016 but were delayed, so Iridium decided to qualify the first batch of 10 satellites instead.", "crew":[],"ships":["5ea6ed2f080df4000697c910","5ea6ed30080df4000697c912","5ea6ed30080df4000697c915"],"capsules":[],"payloads":["5eb0e4c2b6c3bb0006eeb208"],"launchpad":"5e9e4502f509092b78566f87","flight_number":35,"name":"Iridium NEXT Mission 1","date_utc":"2017-01-14T17:54:00.000Z","date_unix":1484416440,"date_local":"2017-01-14T10:54:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f359189e3a3b2645","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cfdffdf86e000604b34c"}, {"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/11/eb/qqrhHFhv_o.png","large":"https://images2.imgbox.com/ea/43/D4tA0WaM_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/5n2eqx","launch":"https://www.reddit.com/r/spacex/comments/5uw4bh","media":"https://www.reddit.com/r/spacex/comments/5uoy8o","recovery":"https://www.reddit.com/r/spacex/comments/609aq4"},"flickr":{"small":[],"original":["https://farm3.staticflickr.com/2815/32761844973_d2e8d76e9c_o.jpg","https://farm4.staticflickr.com/3878/32761843663_8e366494f4_o.jpg","https://farm3.staticflickr.com/2790/32852846842_6f1f7b26b9_o.jpg","https://farm3.staticflickr.com/2295/32852845662_e7ae0daf4a_o.jpg","https://farm4.staticflickr.com/3888/33000639155_2a6e2bb23d_o.jpg","https://farm1.staticflickr.com/405/33000638185_b4ec7c7b93_o.jpg","https://farm1.staticflickr.com/574/32874779241_9f463de901_o.jpg","https://farm4.staticflickr.com/3710/32153433074_96337a54db_o.jpg","https://farm1.staticflickr.com/327/32153432924_09dd1482d8_o.jpg","https://farm3.staticflickr.com/2881/32183025803_36bf976b9e_o.jpg","https://farm3.staticflickr.com/2362/32183025493_2a37b4e22c_o.jpg","https://farm1.staticflickr.com/504/32178458813_ff47f61bb9_o.jpg","https://farm1.staticflickr.com/265/32176806823_879ccc5da0_o.jpg","https://farm1.staticflickr.com/401/32866357531_69c6d289ed_o.jpg","https://farm3.staticflickr.com/2105/32945170805_553d45ca56_o.jpg","https://farm4.staticflickr.com/3865/32945170225_58129f00dc_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/crs10presskitfinal.pdf","webcast":"https://www.youtube.com/watch?v=giNhaEzv_PI","youtube_id":"giNhaEzv_PI","article":"https://spaceflightnow.com/2017/02/19/historic-launch-pad-back-in-service-with-thundering-blastoff-by-spacex/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-10"},"static_fire_date_utc":"2017-02-12T21:30:00.000Z","static_fire_date_unix":1486935000,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First Falcon 9 flight from the historic LC-39A launchpad at Kennedy Space Center, carrying supplies and materials to support dozens of science and research investigations scheduled during ISS Expeditions 50 and 51. The first stage returned to launch site and landed at LZ-1.", "crew":[],"ships":["5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf359185d753b266f"],"payloads":["5eb0e4c3b6c3bb0006eeb209"],"launchpad":"5e9e4502f509094188566f88","flight_number":36,"name":"CRS-10","date_utc":"2017-02-19T14:39:00.000Z","date_unix":1487515140,"date_local":"2017-02-19T10:39:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591829dc3b2646","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cfeffdf86e000604b34d"}, {"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/56/9d/gvzAqLFg_o.png","large":"https://images2.imgbox.com/52/a0/z8Dwflcz_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/5n2e10/echostar_23_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/5z8dkm/welcome_to_the_rspacex_echostar23_official_launch/","media":"https://www.reddit.com/r/spacex/comments/5z8if6/rspacex_echostar_23_media_thread_videos_image

```
s/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm4.staticflickr.com/3819/33094074350_ae56bd5c73_o.jpg", "https://farm3.staticflickr.com/2935/33094073720_92234ddaee_o.jpg", "https://farm1.staticflickr.com/768/33094072690_31a85e82ba_o.jpg", "https://farm3.staticflickr.com/2876/33094072100_546090a4f3_o.jpg", "https://farm3.staticflickr.com/2860/32626053254_d702922d87_o.jpg", "https://farm3.staticflickr.com/2904/32654666113_ba833971e0_o.jpg", "https://farm1.staticflickr.com/677/32654665263_751d29ded1_o.jpg", "https://farm3.staticflickr.com/2936/33299697331_09313ac49d_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/echo_starxxiiifinal.pdf", "webcast": "https://www.youtube.com/watch?v=lZmqbL-hz7U", "youtube_id": "lZmqbL-hz7U", "article": "http://spacenews.com/spacex-launches-echostar-23/", "wikipedia": "https://en.wikipedia.org/wiki/EchoStar#Satellite_fleet", "static_fire_date_utc": "2017-03-09T23:00:00.000Z", "static_fire_date_unix": 1489100400, "net": false, "window": 9000, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Communications satellite for EchoStar Corp. EchoStar XXIII, based on a spare platform from the cancelled CMBStar 1 satellite program, will provide direct-to-home television broadcast services over Brazil. There was no attempt at a first-stage recovery so this rocket did not have landing legs or grid fins.", "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4c3b6c3bb0006eeb20a"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 37, "name": "EchoStar 23", "date_utc": "2017-03-16T06:00:00.000Z", "date_unix": 1489644000, "date_local": "2017-03-16T02:00:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f3591878473b2647", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cfeffd86e000604b34e"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false}, "ships": [], "links": {"patch": {"small": "https://images2.imgbox.com/d0/c4/DFQ5TdPz_o.png", "large": "https://images2.imgbox.com/9c/cf/tRe9z6t8_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/5sjrjz/ses10_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/62aqi7/rspacex_ses10_oficial_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/62aqad/rspacex_ses10_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/634gmr/b1021ses10_recovery_thread/"}, "flickr": {"small": [], "original": ["https://farm1.staticflickr.com/601/33026465643_462ef7a2cb_o.jpg", "https://farm3.staticflickr.com/2850/32996438264_b79ca3664b_o.jpg", "https://farm4.staticflickr.com/3956/32996437434_4dab1ae8e3_o.jpg", "https://farm4.staticflickr.com/3831/32996435084_6c5662caca_o.jpg", "https://farm4.staticflickr.com/3775/32915200224_b6ecfabd7e_o.jpg", "https://farm4.staticflickr.com/3886/32915199874_b826eac153_o.jpg", "https://farm3.staticflickr.com/2842/32915199514_6c44178e87_o.jpg", "https://farm4.staticflickr.com/3771/32915198904_2df85aed05_o.jpg", "https://farm4.staticflickr.com/3668/32915198334_d2fa2f16ab_o.jpg", "https://farm4.staticflickr.com/3955/32915197674_24d6e27cf5_o.jpg", "https://farm4.staticflickr.com/3830/33616913981_f04b6e2351_o.jpg", "https://farm4.staticflickr.com/3819/33616913111_e699b48d66_o.jpg", "https://farm4.staticflickr.com/3835/33361035860_c57ed61239_o.jpg", "https://farm4.staticflickr.com/3783/33361035200_bfb797d38f_o.jpg", "https://farm4.staticflickr.com/3698/33611796351_54d5a6d65a_o.jpg", "https://farm3.staticflickr.com/2857/33611795531_82cc2d8789_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/finals10presskit.pdf", "webcast": "https://www.youtube.com/watch?v=xsZSXav4wI8", "youtube_id": "xsZSXav4wI8", "article": "https://spaceflightnow.com/2017/03/31/spacex-flies-rocket-for-second-time-in-historic-test-of-cost-cutting-technology/", "wikipedia": "https://en.wikipedia.org/wiki/SES-10"}, "static_fire_date_utc": "2017-03-27T18:00:00.000Z", "static_fire_date_unix": 1490637600, "net": false, "window": 9000, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "First payload to fly on a reused first stage, B1021, previously launched with CRS-8, which also landed a second time. In what is also a first, the payload fairing remained intact after a successful splashdown achieved with thrusters and a steerable parachute.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4c3b6c3bb0006eeb20b"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 38, "name": "SES-10", "date_utc": "2017-03-30T22:27:00.000Z", "date_unix": 1490912820, "date_local": "2017-03-30T18:27:00-04:00", "date_precision": "hou
```

r", "upcoming": false, "cores": [{"core": "5e9e28a2f359182d0b3b263e", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d00ffd86e000604b34f"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/e5/2d/IZB4g6Ra_o.png", "large": "https://images2.imgbox.com/9d/76/kMetaHqz_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/601ykx", "launch": "https://www.reddit.com/r/spacex/comments/68bn8y/", "media": "https://www.reddit.com/r/spacex/comments/68bp1i", "recovery": null}, "flickr": {"small": [], "original": ["https://farm3.staticflickr.com/2922/33578359423_4169ac8f98_o.jpg", "https://farm3.staticflickr.com/2900/33578357343_85c247ebce_o.jpg", "https://farm5.staticflickr.com/4166/34006001860_8c45f28e69_o.jpg", "https://farm5.staticflickr.com/4166/34005999880_77684dba4b_o.jpg", "https://farm3.staticflickr.com/2934/34005998140_c77076b6fb_o.jpg", "https://farm5.staticflickr.com/4191/34005996220_fe9e4342d3_o.jpg", "https://farm3.staticflickr.com/2883/33575654563_699c544776_o.jpg", "https://farm3.staticflickr.com/2902/33575652913_0dece34db4_o.jpg", "https://farm5.staticflickr.com/4163/33575651063_24e05826c5_o.jpg", "https://farm3.staticflickr.com/2876/33994851620_fabd14770f_o.jpg", "https://farm3.staticflickr.com/2832/33973172140_b370b79c51_o.jpg", "https://farm3.staticflickr.com/2874/34357262105_11b417bea2_o.jpg", "https://farm5.staticflickr.com/4158/34357260545_16870a94ba_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/nrol76presskit.pdf", "webcast": "https://www.youtube.com/watch?v=EzQpkQ1etdA", "youtube_id": "EzQpkQ1etdA", "article": "https://techcrunch.com/2017/05/01/spacex-successfully-launches-nrol-76-u-s-military-satellite/", "wikipedia": "https://en.wikipedia.org/wiki/List_of_NRO_launches"}, {"static_fire_date_utc": "2017-04-25T19:02:00.000Z", "static_fire_date_unix": 1493146920, "net": false, "window": 7200, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "First launch under SpaceX's certification for national security space missions, which allows SpaceX to contract launch services for classified payloads. Second-stage speed and altitude telemetry were omitted from the launch webcast, which displayed first-stage telemetry instead, with continuous tracking of the booster from liftoff to landing for the first time.", "crew": [], "ships": ["5ea6ed2f080df4000697c90c"], "capsules": [], "payloads": ["5eb0e4c3b6c3bb0006eeb20c"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 39, "name": "NROL-76", "date_utc": "2017-05-01T11:15:00.000Z", "date_unix": 1493637300, "date_local": "2017-05-01T07:15:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f3591811f83b2648", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d01ffd86e000604b350"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/ab/8d/fUpriAbI_o.png", "large": "https://images2.imgbox.com/5b/f7/30l0xVXG_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/64kguj/", "launch": "https://www.reddit.com/r/spacex/comments/6b88hz/", "media": "https://www.reddit.com/r/spacex/comments/6bcf8j/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4174/33859521334_d75fa367d5_o.jpg", "https://farm5.staticflickr.com/4158/33859520764_5bb7a7daf6_o.jpg", "https://farm5.staticflickr.com/4182/33859520404_a9c78c971d_o.jpg", "https://farm5.staticflickr.com/4157/34556140711_f404943340_o.jpg", "https://farm5.staticflickr.com/4179/34556139821_b2d6255e07_o.jpg", "https://farm5.staticflickr.com/4187/34684981395_2f93965492_o.jpg", "https://farm5.staticflickr.com/4155/34684980875_77b745158a_o.jpg", "https://farm5.staticflickr.com/4183/34296430820_8d3a42c0d7_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/inmarsat5f4presskit_final.pdf", "webcast": "https://www.youtube.com/watch?v=ynMYE64IEKs", "youtube_id": "ynMYE64IEKs", "article": "https://www.space.com/36852-spacex-launches-inmarsat-5-f4-satellite.html", "wikipedia": "https://en.wikipedia.org/wiki/Inmarsat#Satellites"}, {"static_fire_date_utc": "2017-05-11T16:45:00.000Z", "static_fire_date_unix": 1494521100, "net": false, "window": 2940, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "At 6,070 kg this was the heaviest payload launched to GTO by a Falcon 9 rocket. The launch was originally scheduled for the Falcon Heavy, but performance improvements allowed the mission to be carried

out by an expendable Falcon 9 instead.", "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4c3b6c3bb0006eeb20d"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 40, "name": "Inmarsat-5 F4", "date_utc": "2017-05-15T23:21:00.000Z", "date_unix": 1494890460, "date_local": "2017-05-15T19:21:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f359186f3f3b2649", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d01ffd86e000604b351", {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/54/45/VoihQAY3_o.png", "large": "https://images2.imgbox.com/2d/39/EAkUxxPk_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/68ul58/", "launch": "https://www.reddit.com/r/spacex/comments/6ektk/", "media": "https://www.reddit.com/r/spacex/comments/6emlzl/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4210/34696326760_cee662ef1f_o.jpg", "https://farm5.staticflickr.com/4279/34239858024_64795724c9_o.jpg", "https://farm5.staticflickr.com/4250/35043398436_3ceaa0098a_o.jpg", "https://farm5.staticflickr.com/4223/34272083563_f52e5bffff_o.jpg", "https://farm5.staticflickr.com/4219/34918571502_7cf66854f7_o.jpg", "https://farm5.staticflickr.com/4252/34918568732_4efe0885de_o.jpg", "https://farm5.staticflickr.com/4264/34272065153_cfd8899f3e_o.jpg", "https://farm5.staticflickr.com/4284/34948230531_e76b7560c9_o.jpg", "https://farm5.staticflickr.com/4280/35078830875_afbd41c675_o.jpg", "https://farm5.staticflickr.com/4280/34268361083_71fc70ff1a_o.jpg", "https://farm5.staticflickr.com/4199/35038651646_93d0339269_o.jpg", "https://farm5.staticflickr.com/4227/34223076793_4abe7e74d6_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/crs11presskit.pdf", "webcast": "https://www.youtube.com/watch?v=JuZBOUMsYws", "youtube_id": "JuZBOUMsYws", "article": "https://spaceflightnow.com/2017/06/03/reused-dragon-cargo-capsule-launched-on-journey-to-space-station/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-11"}, "static_fire_date_utc": "2017-05-28T16:00:00.000Z", "static_fire_date_unix": 1495987200, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission delivered the Neutron Star Interior Composition Explorer (NICER) to the ISS, along with the MUSES Earth imaging platform and ROSA solar array. For the first time, this mission launched a refurbished Dragon capsule, serial number C106 which first flew in September 2014 on the CRS-4 mission. Originally scheduled to launch on June 1, but was scrubbed due to inclement weather.", "crew": [], "ships": ["5ea6ed30080df4000697c912"], "capsules": ["5e9e2c5bf3591880643b2669"], "payloads": ["5eb0e4c4b6c3bb0006eeb20e"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 41, "name": "CRS-11", "date_utc": "2017-06-03T21:07:00.000Z", "date_unix": 1496524020, "date_local": "2017-06-03T17:07:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f3591856803b264a", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "RTL S", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d03ffd86e000604b352", {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/fa/1b/3vvXwAf9_o.png", "large": "https://images2.imgbox.com/e2/f3/RZJ7ET73_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/69hhkm/bulgariasat1_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/6isph2/welcome_to_the_rspacex_bulgariasat1_official/", "media": "https://www.reddit.com/r/spacex/comments/6iuj1z/rspacex_bulgariasat1_media_thread_videos_images/", "recovery": "https://www.reddit.com/r/spacex/comments/6k3kop/b10292_bulgariasat1_recovery_thread/"}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4216/35496028185_ac5456195f_o.jpg", "https://farm5.staticflickr.com/4278/35496027525_9ab9d90417_o.jpg", "https://farm5.staticflickr.com/4277/35496026875_fd25c46934_o.jpg", "https://farm5.staticflickr.com/4257/35496026065_02fe65754b_o.jpg", "https://farm5.staticflickr.com/4289/35491530485_5a4d0f39ae_o.jpg", "https://farm5.staticflickr.com/4279/35491529875_1e35ee0a1e_o.jpg", "https://farm5.staticflickr.com/4230/34681559323_53f05581ca_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/bulgariasat1presskit.pdf", "webcast": "https://www.youtube.com/watch?v=Y8mLi-rRTh8", "youtube_id": "Y8mLi-rRTh8", "article": "https://en.wikipedia.org/wiki/BulgariaSat-1", "wikipedia": "https://en.wikipedia.org/wiki/BulgariaSat-1"}, "static_fire_date_utc": "2017-06-15T22:25:00.000Z", "static_fire_date_unix": 1497384000, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission delivered the Neutron Star Interior Composition Explorer (NICER) to the ISS, along with the MUSES Earth imaging platform and ROSA solar array. For the first time, this mission launched a refurbished Dragon capsule, serial number C106 which first flew in September 2014 on the CRS-4 mission. Originally scheduled to launch on June 1, but was scrubbed due to inclement weather."}]

re_date_unix":1497565500,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Second time a booster will be reuse d: Second flight of B1029 after the Iridium mission of January 2017. The satellit e will be the first commercial Bulgarian-owned communications satellite and it wi ll provide television broadcasts and other communications services over southeast Europe.", "crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90 b","5ea6ed2f080df4000697c90c","5ea6ed30080df4000697c913"],"capsules":[],"payload s":["5eb0e4c4b6c3bb0006eeb20f"],"launchpad":"5e9e4502f509094188566f88","flight_nu mber":42,"name":"BulgariaSat-1","date_utc":"2017-06-23T19:10:00.000Z","date_uni x":1498245000,"date_local":"2017-06-23T15:10:00-04:00","date_precision":"hour","u pcoming":false,"cores":[{"core":"5e9e28a3f359189e3a3b2645","flight":2,"gridfins": true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"lan ding_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d04ffd86e000604b353"}, {"fairings": {"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links": {"patch":{"small":"https://images2.imgbox.com/dc/51/LrdAbm5y_o.png","large":"http s://images2.imgbox.com/84/18/ahmKQNIj_o.png"},"reddit":{"campaign":"https://www.r eddit.com/r/spacex/comments/6bp4fj/","launch":"https://www.reddit.com/r/spacex/co mments/6j767ti/","media":"https://www.reddit.com/r/spacex/comments/6j7va6/","recov ery":"https://www.reddit.com/r/spacex/comments/6k16ho/"},"flickr":{"small":[],"or iginal":["https://farm5.staticflickr.com/4162/34868729603_c75aa126b5_o.jpg","http s://farm5.staticflickr.com/4256/35618496935_5049a27240_o.jpg","https://farm5.stat icflickr.com/4138/35231792310_377477e626_o.jpg","https://farm5.staticflickr.com/4 005/35231791780_dd15335d5e_o.jpg","https://farm5.staticflickr.com/4289/3537145026 2_bb9c682ace_o.jpg","https://farm5.staticflickr.com/4263/35499710806_f9179bea0e_ o.jpg","https://farm5.staticflickr.com/4256/35533873795_eb04895a60_o.jpg","http s://farm5.staticflickr.com/4217/35533872755_900b3e8977_o.jpg"]},"presskit":"htt p://www.spacex.com/sites/spacex/files/iridium2presskit.pdf","webcast":"https://ww w.youtube.com/watch?v=7tIwZg8F9b8","youtube_id":"7tIwZg8F9b8","article":"https:// www.space.com/37304-liftoff-spacex-second-launch-three-days.html","wikipedia":"ht tps://en.wikipedia.org/wiki/Iridium_satellite_constellation"},"static_fire_date_u tc":"2017-06-20T22:10:00.000Z","static_fire_date_unix":1497996600,"net":false,"wi ndow":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"detail s":"First flight with titanium grid fins to improve control authority and better cope with heat during re-entry.", "crew":[],"ships":["5ea6ed2f080df4000697c910","5 ea6ed2f080df4000697c911","5ea6ed30080df4000697c912"],"capsules":[],"payloads":["5 eb0e4c4b6c3bb0006eeb210"],"launchpad":"5e9e4502f509092b78566f87","flight_number": 43,"name":"Iridium NEXT Mission 2","date_utc":"2017-06-25T20:25:00.000Z","date_un ix":1498422300,"date_local":"2017-06-25T13:25:00-07:00","date_precision":"hou r","upcoming":false,"cores":[{"core":"5e9e28a3f3591801cf3b264b","flight":1,"gridf ins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":tru e,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":tru e,"tbd":false,"launch_library_id":null,"id":"5eb87d05ffd86e000604b354"}, {"fairing s":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"link s":{"patch":{"small":"https://images2.imgbox.com/8f/a2/46UURVaD_o.png","large":"h ttps://images2.imgbox.com/14/bd/jSZymxYh_o.png"},"reddit":{"campaign":"https://ww w.reddit.com/r/spacex/comments/6fw4yy/","launch":"https://www.reddit.com/r/space x/comments/6kt2re/","media":"https://www.reddit.com/r/spacex/comments/6kt3fe/","r ecovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4 063/35758875505_a8559a6226_o.jpg","https://farm5.staticflickr.com/4025/3575887435 5_5075298440_o.jpg","https://farm5.staticflickr.com/4235/35359372730_df7c79797b_ o.jpg","https://farm5.staticflickr.com/4014/35359371840_239a658872_o.jpg","http s://farm5.staticflickr.com/4002/35577536822_679c68862d_o.jpg","https://farm5.stat icflickr.com/4259/34868730393_b778d81a71_o.jpg","https://farm5.staticflickr.com/4 162/34868729603_c75aa126b5_o.jpg"]},"presskit":"http://www.spacex.com/sites/space x/files/intelsat35epresskit.pdf","webcast":"https://www.youtube.com/watch?v=MIHVP Cj25Z0","youtube_id":"MIHVPCj25Z0","article":"https://spaceflightnow.com/2017/07/ 06/spacex-delivers-for-intelsat-on-heavyweight-falcon-9-mission/","wikipedia":"ht tps://en.wikipedia.org/wiki/Intelsat_35e"},"static_fire_date_utc":"2017-06-29T00: 30:00.000Z","static_fire_date_unix":1498696200,"net":false,"window":3480,"rocke

t":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Due to the constraints of sending a heavy satellite (~6,000 kg) to GTO, the rocket will fly in its expendable configuration and the first-stage booster will not be recovered.", "crew":[],"ships":[],"capsules":["5eb0e4c4b6c3bb0006eeb211"],"launchpad":"5e9e4502f509094188566f88","flight_number":44,"name":"Intelsat 35e","date_utc":"2017-07-05T23:35:00.000Z","date_unix":1499297700,"date_local":"2017-07-05T19:35:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591850cc3b264c","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}], "auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d06ffd86e000604b355"}, {"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/ee/85/dtsb0s0E_o.png","large":"https://images2.imgbox.com/9c/f7/BNIV5kBE_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/6mrga2/crs12_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/6tfcio/welcome_to_the_rspacex_crs12_official_launch/","media":"https://www.reddit.com/r/spacex/comments/6th2nf/rspacex_crs12_media_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4352/36438808381_733603843d_o.jpg","https://farm5.staticflickr.com/4434/35760634184_f75457493b_o.jpg","https://farm5.staticflickr.com/4418/35741466074_327e9d0a80_o.jpg","https://farm5.staticflickr.com/4414/35741465934_db82541cf3_o.jpg","https://farm5.staticflickr.com/4384/35741465854_e264864537_o.jpg","https://farm5.staticflickr.com/4333/35741465714_d0a8800533_o.jpg","https://farm5.staticflickr.com/4397/35741465464_1d49cc1cae_o.jpg","https://farm5.staticflickr.com/4354/35762350653_d94b2b5b07_o.jpg","https://farm5.staticflickr.com/4353/36571921725_2a0be4ec58_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/crs12presskit.pdf","webcast":"https://www.youtube.com/watch?v=vLxWsYx8dbo","youtube_id":"vLxWsYx8dbo","article":"https://spaceflightnow.com/2017/08/17/photos-falcon-9-rocket-soars-into-space-lands-back-at-cape-canaveral/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-12"},"static_fire_date_utc":"2017-08-10T13:10:00.000Z","static_fire_date_unix":1502370600,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Dragon is expected to carry 2,349 kg (5,179 lb) of pressurized mass and 961 kg (2,119 lb) unpressurized. The external payload manifested for this flight is the CREAM cosmic-ray detector. First flight of the Falcon 9 Block 4 upgrade. Last flight of a newly-built Dragon capsule; further missions will use refurbished spacecraft.", "crew":[],"ships":["5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf3591869b63b2670"],"payloads":["5eb0e4c4b6c3bb0006eeb212"],"launchpad":"5e9e4502f509094188566f88","flight_number":45,"name":"CRS-12","date_utc":"2017-08-14T16:31:00.000Z","date_unix":1502728260,"date_local":"2017-08-14T12:31:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591884ee3b264d","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}], "auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d07ffd86e000604b356"}, {"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/fd/09/Z1wlUv4U_o.png","large":"https://images2.imgbox.com/5e/95/HIEaJlQ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/6o98st","launch":"https://www.reddit.com/r/spacex/comments/6vihs1/welcome_to_the_rspacex_formosat5_official_launch/","media":"https://www.reddit.com/r/spacex/comments/6vhwil/rspacex_formosat5_media_thread_videos_images_gifs/","recovery":"https://www.reddit.com/r/spacex/comments/6wk653/b1038_recovery_thread/"},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4434/36075361533_54b3b937dd_o.jpg","https://farm5.staticflickr.com/4428/36884090115_ced8a80f14_o.jpg","https://farm5.staticflickr.com/4393/36073897213_6746d2a8b2_o.jpg","https://farm5.staticflickr.com/4341/36073878143_45c3ef0b93_o.jpg","https://farm5.staticflickr.com/4369/35978284213_e12e5743ab_o.jpg","https://farm5.staticflickr.com/4394/35978283413_145ba2ca2f_o.jpg","https://farm5.staticflickr.com/4340/35978282703_5dff70fb19_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/formosat5presskit.pdf","webcast":"https://www.youtube.com/watch?v=J4u3ZN2g_MI","youtube_id":"J4u3ZN2g_MI","article":"https://spaceflightnow.com/2017/08/25/taiwanese-satellite-rides-spacex-rocket-into-orbit/","wikipedia":"https://en.wikipedia.org/wiki/Formosat-

5"}, {"static_fire_date_utc": "2017-08-24T18:50:00.000Z", "static_fire_date_unix": 1503600600, "net": false, "window": 2520, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Formosat-5 is an Earth observation satellite of the Taiwanese space agency. The SHERPA space tug by Spaceflight Industries was removed from the cargo manifest of this mission. The satellite has a mass of only 475 kg.", "crew": [], "ships": ["5ea6ed2e080df4000697c905", "5ea6ed2f080df4000697c910"], "capsules": [], "payloads": ["5eb0e4c4b6c3bb0006eeb213"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 46, "name": "FormoSat-5", "date_utc": "2017-08-24T18:50:00.000Z", "date_unix": 1503600600, "date_local": "2017-08-24T11:50:00-07:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a4f359182d843b264e", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d08ffd86e000604b357"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/12/7c/p8btH0CD_o.png", "large": "https://images2.imgbox.com/32/61/cX8Z1EJQ_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/6u6q1t/x37b_otv5_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/6ygmf1/rspacex_x37b_otv5_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/6yih4g/rspacex_x37b_otv5_media_thread_videos_images_gifs/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4411/37087809715_08a6d9904d_o.jpg", "https://farm5.staticflickr.com/4384/37087808315_4dc9575d1b_o.jpg", "https://farm5.staticflickr.com/4363/36251815974_8b996dbbfb_o.jpg", "https://farm5.staticflickr.com/4374/36251814644_1a469f63ee_o.jpg", "https://farm5.staticflickr.com/4388/36251812554_006501315f_o.jpg", "https://farm5.staticflickr.com/4355/36250895284_8c24cb4232_o.jpg", "https://farm5.staticflickr.com/4342/36689886890_99709e6934_o.jpg", "https://farm5.staticflickr.com/4364/36689885100_c3c427c6bf_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/otv5_presskit.pdf", "webcast": "https://www.youtube.com/watch?v=9M6Zvi-fFv4", "youtube_id": "9M6Zvi-fFv4", "article": "https://spaceflightnow.com/2017/09/07/spacex-beats-hurricane-with-smooth-launch-of-militarys-x-37b-spaceplane/", "wikipedia": "https://en.wikipedia.org/wiki/Boeing_X-37"}, {"static_fire_date_utc": "2017-08-31T20:30:00.000Z", "static_fire_date_unix": 1504211400, "net": false, "window": 18300, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Notable because Boeing is the primary contractor of the X-37B, which has until now been launched by ULA, a SpaceX competitor and Boeing partnership. Second flight of the Falcon 9 Block 4 upgrade.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b"], "capsules": [], "payloads": ["5eb0e4c5b6c3bb0006eeb214"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 47, "name": "Boeing X-37B OTV-5", "date_utc": "2017-09-07T13:50:00.000Z", "date_unix": 1504792200, "date_local": "2017-09-07T09:50:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a4f3591845123b264f", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d09ffd86e000604b358"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/fb/5b/LNVLRI Tr_o.png", "large": "https://images2.imgbox.com/48/d4/MKsibD8N_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/6ygwxx/iridium_next_constellation_mission_3_launch/", "launch": "https://www.reddit.com/r/spacex/comments/753e0m/iridium_next_mission_3_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/755m2z/rspacex_iridium3_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/75z823/b10411_recovery_thread/"}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4509/37610550066_b56bc5d743_o.jpg", "https://farm5.staticflickr.com/4487/37610548356_1b7d30001e_o.jpg", "https://farm5.staticflickr.com/4514/37610547696_9114038d60_o.jpg", "https://farm5.staticflickr.com/4483/37610547226_01d19395a3_o.jpg", "https://farm5.staticflickr.com/4504/36984625383_d7707548ec_o.jpg", "https://farm5.staticflickr.com/4505/36984623903_7bb6643649_o.jpg", "https://farm5.staticflickr.com/4445/36984622463_6f9b21929c_o.jpg", "https://farm5.staticflickr.com/4471/36944884234_92ddc7fb39_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/iridium3presskit.pdf"}

f","webcast":"https://www.youtube.com/watch?v=SB4N4xF2B2w&feature=youtu.be","youtube_id":"SB4N4xF2B2w","article":"https://spaceflightnow.com/2017/10/09/spacex-launch-adds-another-10-satellites-to-iridium-next-fleet/","wikipedia":"https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generation_constellation"},"static_fire_date_utc":"2017-10-05T13:31:00.000Z","static_fire_date_unix":1507210260,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Third of eight missions to launch Iridium's second generation constellation from VAFB","crew":[],"ships":["5ea6ed2e080df4000697c905","5ea6ed2f080df4000697c910"],"capsules":[],"payloads":["5eb0e4c5b6c3bb0006eeb215"],"launchpad":"5e9e4502f509092b78566f87","flight_number":48,"name":"Iridium NEXT Mission 3","date_utc":"2017-10-09T12:37:00.000Z","date_unix":1507552620,"date_local":"2017-10-09T05:37:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591843103b2650","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d0affd86e000604b359"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[],"links":{"patch":{"small":"https://images2.imgbox.com/bc/d3/Yd5qpPd9_o.png","large":"https://images2.imgbox.com/dd/c6/Qns2WYDQ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/6yvn64/ses11echostar_105_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/75bw7p/ses11echostar105_official_launch_discussions/","media":"https://www.reddit.com/r/spacex/comments/75pgu5/rspacex_ses11_media_thread_videos_images_gifs/","recovery":"https://www.reddit.com/r/spacex/comments/76fqz1/b10312_recovery_thread/"},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4471/37388002420_b86680c3af_o.jpg","https://farm5.staticflickr.com/4497/37388002170_a267280534_o.jpg","https://farm5.staticflickr.com/4455/37388001730_0869279a8d_o.jpg","https://farm5.staticflickr.com/4465/36975195443_b98ed0fb24_o.jpg","https://farm5.staticflickr.com/4499/36975194993_8548a53c60_o.jpg","https://farm5.staticflickr.com/4482/36975194613_15bb109059_o.jpg","https://farm5.staticflickr.com/4453/36975194233_5f8f45c686_o.jpg"]}}},"presskit":"http://www.spacex.com/sites/spacex/files/echostar105ses11presskit.pdf","webcast":"https://www.youtube.com/watch?v=iv1zeGSvhIw","youtube_id":"iv1zeGSvhIw","article":"https://spaceflightnow.com/2017/10/12/video-falcon-9-rocket-lifts-off-with-joint-satellite-for-ses-echostar/","wikipedia":"https://en.wikipedia.org/wiki/List_of_SES_satellites"},"static_fire_date_utc":"2017-10-02T20:30:00.000Z","static_fire_date_unix":1506976200,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Nineteenth comsat to GTO, also the fourth satellite launched for SES and second for Echostar. Third time a first stage booster will be reused.", "crew":[],"ships":["5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90d","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4c5b6c3bb0006eeb216"],"launchpad":"5e9e4502f509094188566f88","flight_number":49,"name":"SES-11 / Echostar 105","date_utc":"2017-10-11T22:53:00.000Z","date_unix":1507762380,"date_local":"2017-10-11T18:53:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591829dc3b2646","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d0cffd86e000604b35a"}, {"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/bb/fa/vNIBt1Sn_o.png","large":"https://images2.imgbox.com/d6/8d/iv3VDTkX_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/73ttkd/koreasat_5a_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/79iuvb/rspacex_koreasat_5a_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/79lmdu/rspacex_koreasat5a_media_thread_videos_images/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4477/38056454431_a5f40f9fd7_o.jpg","https://farm5.staticflickr.com/4455/26280153979_b8016a829f_o.jpg","https://farm5.staticflickr.com/4459/38056455051_79ef2b949a_o.jpg","https://farm5.staticflickr.com/4466/26280153539_ecbc2b3fa9_o.jpg","https://farm5.staticflickr.com/4482/26280154209_bf08d76361_o.jpg","https://farm5.staticflickr.com/4493/38056455211_a4565a9cee_o.jpg"]}}},"presskit":"http://www.spacex.com/sites/spacex/files/koreasat5apr

esskit.pdf", "webcast": "https://www.youtube.com/watch?v=RujH14vhLxA", "youtube_id": "RujH14vhLxA", "article": "https://spaceflightnow.com/2017/10/30/spacex-launches-and-lands-third-rocket-in-three-weeks/", "wikipedia": "https://en.wikipedia.org/wiki/Koreasat_5A"}, {"static_fire_date_utc": "2017-10-26T16:00:00.000Z", "static_fire_date_unix": 1509033600, "net": false, "window": 8640, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "KoreaSat 5A is a Ku-band satellite capable of providing communication services from East Africa and Central Asia to southern India, Southeast Asia, the Philippines, Guam, Korea, and Japan. The satellite will be placed in GEO at 113° East Longitude, and will provide services ranging from broadband internet to broadcasting services and maritime communications.", "crew": [], "ships": ["5ea6ed2f080df4000697c90d", "5ea6ed2e080df4000697c908", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4c5b6c3bb0006e6eb217"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 50, "name": "KoreaSat 5A", "date_utc": "2017-10-30T19:34:00.000Z", "date_unix": 1509392040, "date_local": "2017-10-30T15:34:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a4f359185cc03b2651", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "launchpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d0dfffd86e000604b35b"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/84/42/Ejb9KhGR_o.png", "large": "https://images2.imgbox.com/54/4f/CeMcU6RG_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/7bxg5a/crs13_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/7j725w/rspacex_crs13_official_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/7j6oxz/rspacex_crs13_media_thread_videos_images_gifs/"}, "recovery": null, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4591/38372264594_8140bd943d_o.png", "https://farm5.staticflickr.com/4546/39051469552_13703e6b2e_o.jpg", "https://farm5.staticflickr.com/4682/39051469662_55c55150c0_o.jpg", "https://farm5.staticflickr.com/4565/25215551218_2597838c1a_o.jpg", "https://farm5.staticflickr.com/4680/39051469812_b6f802fc9d_o.jpg", "https://farm5.staticflickr.com/4517/27304331429_59b9d6c1d4_o.jpg"]}}, "presskit": "http://www.spacex.com/sites/spacex/files/crs13presskit12_11.pdf", "webcast": "https://www.youtube.com/watch?v=OPHbqY9LHCs", "youtube_id": "OPHbqY9LHCs", "article": "https://spaceflightnow.com/2017/12/15/spacexs-50th-falcon-rocket-launch-kicks-off-station-resupply-mission/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-13"}, {"static_fire_date_utc": "2017-12-06T20:00:00.000Z", "static_fire_date_unix": 1512590400, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Will reuse the Dragon capsule previously flown on CRS-6 and will reuse the booster from CRS-11.", "crew": [], "ships": ["5ea6ed30080df4000697c912"], "capsules": ["5e9e2c5cf359188bfb3b266b"], "payloads": ["5eb0e4c5b6c3bb0006e6eb218"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 51, "name": "CRS-13", "date_utc": "2017-12-15T15:36:00.000Z", "date_unix": 1513352160, "date_local": "2017-12-15T10:36:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f3591856803b264a", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "launchpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d0efffd86e000604b35c"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/85/43/6VSgldk0_o.png", "large": "https://images2.imgbox.com/5f/d4/wAoAmyxK_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/7cgts7/iridium_next_constellation_mission_4_launch/", "launch": "https://www.reddit.com/r/spacex/comments/7li8y2/rspacex_iridium_next_4_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/7litv2/rspacex_iridium4_media_thread_videos_images_gifs/"}, "recovery": null, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4695/25557986177_2d315f4c11_o.jpg", "https://farm5.staticflickr.com/4735/25377631178_d28e0a9141_o.jpg", "https://farm5.staticflickr.com/4733/25377628928_a79bb43a31_o.jpg", "https://farm5.staticflickr.com/4732/25377628288_361f551d34_o.jpg", "https://farm5.staticflickr.com/4598/39244105581_eeb76c8ed2_o.jpg", "https://farm5.staticflickr.com/4728/24381830217_a49ae2100f_o.jpg"]}}, "presskit": "http://www.spacex.com/sites/spacex/files/iridium4presskit.pdf", "webcast": "https://www.youtube.com/watch?v=wtdjCwo6d3Q", "youtube_id": "wtdjCwo6d3Q"}]

d3Q", "article": "https://spaceflightnow.com/2017/12/23/spacex-launch-dazzles-delivering-10-more-satellites-for-iridium/", "wikipedia": "https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generation_constellation"}, "static_fire_date_utc": "2017-12-17T21:00:00.000Z", "static_fire_date_unix": 1513544400, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Reusing the booster first used on Iridium-2, but will be flying expendable.", "crew": [], "ships": ["5ea6ed2e080df4000697c908"], "capsules": [], "payloads": ["5eb0e4c6b6c3bb0006eeb219"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 52, "name": "Iridium NEXT Mission 4", "date_utc": "2017-12-23T01:27:23.000Z", "date_unix": 1513992443, "date_local": "2017-12-22T17:27:23-08:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f3591801cf3b264b", "flight": 2, "gridfins": true, "legs": false, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "Ocean", "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d0fffd86e000604b35d", {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/dc/7b/8HuZoJQU_o.png", "large": "https://images2.imgbox.com/4f/0d/UudW8zZK_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/7895bo/zuma_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/7oqjff0/rspacex_zuma_official_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/7orksl/rspacex_zuma_media_thread_videos_images_gifs/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4751/39557026242_384d287045_o.jpg", "https://farm5.staticflickr.com/4674/39556549372_810396618d_o.jpg", "https://farm5.staticflickr.com/4661/39556548902_f66c7be90d_o.jpg", "https://farm5.staticflickr.com/4607/39585580001_8b21846eab_o.jpg", "https://farm5.staticflickr.com/4754/39585578201_a67ab9b9a8_o.jpg", "https://farm5.staticflickr.com/4603/39585575631_216cc035f4_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/zumapresskit.pdf", "webcast": "https://www.youtube.com/watch?v=0PWu3BRxn60", "youtube_id": "0PWu3BRxn60", "article": "https://spaceflightnow.com/2018/01/08/spacex-kicks-off-ambitious-2018-schedule-with-launch-for-u-s-government/", "wikipedia": "https://en.wikipedia.org/wiki/Zuma_(satellite)"}, "static_fire_date_utc": "2017-11-11T23:00:00.000Z", "static_fire_date_unix": 1510441200, "net": false, "window": 7200, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Originally planned for mid-November 2017, the mission was delayed due to test results from the fairing of another customer. First-stage booster will attempt landing at LZ-1", "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4c6b6c3bb0006eeb21a"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 53, "name": "ZUMA", "date_utc": "2018-01-08T01:00:00.000Z", "date_unix": 1515373200, "date_local": "2018-01-07T20:00:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a4f35918345e3b2652", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d10fffd86e000604b35e", {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/e0/b5/G8QLLURL_o.png", "large": "https://images2.imgbox.com/3b/6b/ovK7nExS_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/7olw86/govsat1_ses16_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/7tvtbh/rspacex_govsat1_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/7tzzwy/rspacex_govsat1_media_thread_videos_images_gifs/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4721/40026315981_f16a7cd32a_o.jpg", "https://farm5.staticflickr.com/4708/40026316291_0b3aef9d8d_o.jpg", "https://farm5.staticflickr.com/4652/39128355655_3eefa0d583_o.jpg", "https://farm5.staticflickr.com/4741/39128355825_7c4166dbbe_o.jpg", "https://farm5.staticflickr.com/4609/39128355355_17381fc00e_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/govsat1presskit.pdf", "webcast": "https://www.youtube.com/watch?v=ScYUA51-POQ", "youtube_id": "ScYUA51-POQ", "article": "https://spaceflightnow.com/2018/01/31/spacex-rocket-flies-on-60th-anniversary-of-first-u-s-satellite-launch/", "wikipedia": "https://en.wikipedia.org/wiki/List_of_SES_satellites#SES_Fleet"}, "static_fire_date_utc": "2018-01-26T15:27:00.000Z", "static_fire_date_unix": 1516980420, "net": false, "window": 8460, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Reused booster f

rom the classified NROL-76 mission in May 2017. Following a successful experiment al ocean landing that used three engines, the booster unexpectedly remained intact; Elon Musk stated in a tweet that SpaceX will attempt to tow the booster to shore.", "crew": [], "ships": ["5ea6ed2f080df4000697c90b"], "capsules": [], "payloads": ["5eb0e4c6b6c3bb0006eeb21b"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 54, "name": "SES-16 / GovSat-1", "date_utc": "2018-01-31T21:25:00.000Z", "date_unix": 1517433900, "date_local": "2018-01-31T16:25:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f3591811f83b2648", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "Ocean", "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d11ffd86e000604b35f"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/cd/48/NVrODg2G_o.png", "large": "https://images2.imgbox.com/97/11/mjn87zBs_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/7hj03/falcon_heavy_demo_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/7vg63x/rspacex_falcon_heavy_test_flight_official_launch/", "media": "https://www.reddit.com/r/spacex/comments/7vmtm/rspacex_falcon_heavy_test_flight_media_thread/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4745/40110304192_b0165b7785_o.jpg", "https://farm5.staticflickr.com/4676/40110297852_6173e5cae6_o.jpg", "https://farm5.staticflickr.com/4615/40143096241_0324643b5e_o.jpg", "https://farm5.staticflickr.com/4702/40110298232_4e9c412936_o.jpg", "https://farm5.staticflickr.com/4610/39337245575_41d760caef_o.jpg", "https://farm5.staticflickr.com/4654/25254688767_59603ff06c_o.jpg", "https://farm5.staticflickr.com/4627/40126462801_d54b4f00be_o.jpg", "https://farm5.staticflickr.com/4760/40126462231_cdf00ef431_o.jpg", "https://farm5.staticflickr.com/4655/40202121122_5d29cfe2ac_o.jpg", "https://farm5.staticflickr.com/4631/39337245145_5f5630a66a_o.jpg", "https://farm5.staticflickr.com/4650/40126461851_14b93ec9d7_o.jpg", "https://farm5.staticflickr.com/4711/40126461411_b1ed283d45_o.jpg", "https://farm5.staticflickr.com/4696/40126460511_7b5cc64871_o.jpg", "https://farm5.staticflickr.com/4589/38583831555_9ae89f5c10_o.jpg", "https://farm5.staticflickr.com/4682/38583829815_e01509d1a7_o.jpg", "https://farm5.staticflickr.com/4731/39225582801_80594d5d91_o.jpg", "https://farm5.staticflickr.com/4641/39225582421_7aa0c65851_o.jpg", "https://farm5.staticflickr.com/4643/27449864329_d2424bc280_o.jpg", "https://farm5.staticflickr.com/4681/39225582171_137a4c75e7_o.jpg", "https://farm5.staticflickr.com/4644/39225582351_ac6aba2533_o.jpg", "https://farm5.staticflickr.com/4587/27449863849_709e135a98_o.jpg"]}], "presskit": "http://www.spacex.com/sites/spacex/files/falconheavypresskit_v1.pdf", "webcast": "https://www.youtube.com/watch?v=wbSwFU6tY1c", "youtube_id": "wbSwFU6tY1c", "article": "https://spaceflightnow.com/2018/02/07/spacex-debuts-worlds-most-powerful-rocket-sends-tesla-toward-the-asteroid-belt/", "wikipedia": "https://en.wikipedia.org/wiki/Elon_Musk%27s_Tesla_Roadster"}, {"static_fire_date_utc": "2018-01-24T17:30:00.000Z", "static_fire_date_unix": 1516815000, "net": false, "window": 9000, "rocket": "5e9d0d95eda69974db09d1ed", "success": true, "failures": [], "details": "The launch was a success, and the side boosters landed simultaneously at adjacent ground pads. Drone ship landing of the central core failed. Final burn to heliocentric mars-earth orbit was successful after the second stage and payload passed through the Van Allen belts.", "crew": [], "ships": ["5ea6ed2f080df4000697c90c", "5ea6ed2f080df4000697c90d", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4c6b6c3bb0006eeb21c"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 55, "name": "Falcon Heavy Test Flight", "date_utc": "2018-02-06T20:45:00.000Z", "date_unix": 1517949900, "date_local": "2018-02-06T15:45:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f359187f703b2653", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": false, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}, {"core": "5e9e28a2f359187f273b2642", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTL", "landpad": "5e9e3032383ecb90a834e7c8"}, {"core": "5e9e28a2f3591845c73b2640", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTL", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d13ffd86e000604b360"}, {"fairings": {"reused": false, "recovery_attempt": true, "recovered": false, "ship

s":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/a4/ac/cC7w8EJz_o.png","large":"https://images2.imgbox.com/c9/fa/61ZcEua3_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/7qnflk/paz_microsat2a_2b_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/7y0grt/rspacex_paz_official_launch_discussion_updates/","media":"https://www.reddit.com/r/spacex/comments/7zdvop/rspacex_paz_media_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4768/25557986627_f3cc243afb_o.jpg","https://farm5.staticflickr.com/4631/25557986367_6339dd8f1d_o.jpg","https://farm5.staticflickr.com/4650/25557987937_585c15c34d_o.jpg","https://farm5.staticflickr.com/4695/39718494114_6523797470_o.jpg","https://farm5.staticflickr.com/4655/39533211685_5e0ceb78ef_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/paz_press_kit_2.21.pdf","webcast":"https://www.youtube.com/watch?v=-p-PToD2URA","youtube_id":"-p-PToD2URA","article":"https://spaceflightnow.com/2018/02/22/recycled-spacex-rocket-boosts-paz-radar-satellite-first-starlink-testbeds-into-orbit/","wikipedia":"https://en.wikipedia.org/wiki/Paz_(satellite)","static_fire_date_utc":"2018-02-11T18:23:00.000Z","static_fire_date_unix":1518373380,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First flight with fairing 2.0. Will also carry two SpaceX test satellites for the upcoming Starlink constellation.","crew":[],"ships":["5ea6ed2e080df4000697c908"],"capsules":[],"payloads":["5eb0e4c6b6c3bb0006eeb21d","5eb0e4c6b6c3bb0006eeb21e"],"launchpad":"5e9e4502f509092b78566f87","flight_number":56,"name":"Paz / Starlink Demo","date_utc":"2018-02-22T14:17:00.000Z","date_unix":1519309020,"date_local":"2018-02-22T06:17:00-08:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f359182d843b264e","flight":2,"gridfins":true,"legs":false,"reused":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d14ffd86e000604b361"},"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[],"links":{"patch":{"small":"https://images2.imgbox.com/53/b7/HHAY8Wkp_o.png","large":"https://images2.imgbox.com/66/4e/eQQSQRxp_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/7r5pyn/hispasat_30w6_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/7r5pyn/hispasat_30w6_launch_campaign_thread/","media":"https://www.reddit.com/r/spacex/comments/825asx/rspacex_hispasat_30w6_media_thread_videos_images/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4753/25790223907_36e7b59efa_o.jpg","https://farm5.staticflickr.com/4666/38850799080_e17426795c_o.jpg","https://farm5.staticflickr.com/4758/40660917561_daa8efea04_o.jpg","https://farm5.staticflickr.com/4622/39951085264_b5deeed6c9_o.jpg","https://farm5.staticflickr.com/4772/39951085474_77be77c227_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/hispasat30w6_presskit.pdf","webcast":"https://www.youtube.com/watch?v=Kpfrp-GMKKM","youtube_id":"Kpfrp-GMKKM","article":"https://spaceflightnow.com/2018/03/06/hefty-hispasat-satellite-rides-spacex-rocket-into-orbit/","wikipedia":"https://en.wikipedia.org/wiki/Hispasat_30W-6"},"static_fire_date_utc":"2018-02-21T03:46:00.000Z","static_fire_date_unix":1519184760,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Launched with landing legs and titanium grid fins. Did not attempt a landing due to unfavorable weather conditions in the recovery area\'.","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4c7b6c3bb0006eeb21f"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":57,"name":"Hispasat 30W-6","date_utc":"2018-03-06T05:33:00.000Z","date_unix":1520314380,"date_local":"2018-03-06T00:33:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f359186cb73b2654","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d15ffd86e000604b362"},"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/55/c6/8sNQh2b6_o.png","large":"https://images2.imgbox.com/23/bc/mq59502o_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/82njj5/iridium_next_constellation_mission_5_launch/","launch":"https://www.reddit.com/r/spacex/comments/88184i/rspacex_iridium_next_5_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/88114

```
l/rspacex_iridium5_media_thread_videos_images_gifs/", "recovery": null}, {"flickr": {"small": [], "original": ["https://farm1.staticflickr.com/791/40227113515_da97986607_o.jpg", "https://farm1.staticflickr.com/788/27248936158_2eaf1a98b3_o.jpg", "https://farm1.staticflickr.com/864/40227112595_c34a1cf8d1_o.jpg", "https://farm1.staticflickr.com/806/41121608121_8f0b886f9d_o.jpg", "https://farm1.staticflickr.com/809/41121608541_cdfec6a849_o.jpg", "https://farm1.staticflickr.com/822/40227112875_ec3c5df585_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/iridium-5_press_kit_2018.pdf", "webcast": "https://www.youtube.com/watch?v=mp0TW8vkCLg", "youtube_id": "mp0TW8vkCLg", "article": "https://spaceflightnow.com/2018/03/30/iridium-messaging-network-gets-another-boost-from-spacex/", "wikipedia": "https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generation_constellation"}, {"static_fire_date_utc": "2018-03-25T12:23:00.000Z", "static_fire_date_unix": 1521980580, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Fifth Iridium NEXT mission to deploy ten Iridium NEXT satellites. Reused booster from third Iridium flight, and although controlled descent was performed, the booster was expended into the ocean. SpaceX planned a second recovery attempt of one half of the fairing using the specially modified boat Mr. St even. However, the fairing's parafoil twisted during the recovery, which led to water impact at high speed", "crew": [], "ships": ["5ea6ed2e080df4000697c908"], "capsules": [], "payloads": ["5eb0e4c7b6c3bb0006eeb220"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 58, "name": "Iridium NEXT Mission 5", "date_utc": "2018-03-30T14:13:51.000Z", "date_unix": 1522419231, "date_local": "2018-03-30T07:13:51-08:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a4f3591843103b2650", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d16ffd86e000604b363"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/49/e8/6Tmdhw1q_o.png", "large": "https://images2.imgbox.com/28/c4/dc3rQbGy_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/82op7a/crs14_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/88s8a7/rspacex_crs14_official_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/88152i/rspacex_crs14_media_thread_videos_images_gifs/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm1.staticflickr.com/819/26326005987_c3aec29db5_o.jpg", "https://farm1.staticflickr.com/791/40303273215_4926c917c4_o.jpg", "https://farm1.staticflickr.com/867/26326007227_39e71e6775_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/crs-14presskit2018.pdf", "webcast": "https://www.youtube.com/watch?v=BPQHG-LevZM", "youtube_id": "BPQHG-LevZM", "article": "https://spaceflightnow.com/2018/04/02/spacex-supply-ship-departs-cape-canaveral-for-space-station/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-14"}, {"static_fire_date_utc": "2018-03-28T15:52:00.000Z", "static_fire_date_unix": 1522252320, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "The launch used a refurbished booster (from CRS-12) for the 11th time, and a refurbished capsule (C110 from CRS-8) for the third time. External payloads include a materials research platform MISSE-FF phase 3 of the Robotic Refueling Mission TSIS, heliophysics sensor several crystallization experiments, and the RemoveDebris spacecraft aimed at space junk removal. The booster was expended in order to test a new landing profile.", "crew": [], "ships": ["5ea6ed30080df4000697c912"], "capsules": ["5e9e2c5cf3591885d43b266d"], "payloads": ["5eb0e4c7b6c3bb0006eeb221"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 59, "name": "CRS-14", "date_utc": "2018-04-02T20:30:41.000Z", "date_unix": 1522701041, "date_local": "2018-04-02T16:30:41-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a4f3591884ee3b264d", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d16ffd86e000604b364"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/4d/55/TQjhUrc7_o.png", "large": "https://images2.imgbox.com/22/84/wfppRwXb_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/88146q/tess_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/8cm61o/rspacex_tess_official_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/commen
```


ts/8cmzop/rspacex_tess_media_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm1.staticflickr.com/799/27684194488_0d9a703c1c_o.jpg","https://farm1.staticflickr.com/854/41512967372_0c37360126_o.jpg","https://farm1.staticflickr.com/832/41512968122_20c2e31de3_o.jpg","https://farm1.staticflickr.com/803/27684194678_c1ccd0680b_o.jpg","https://farm1.staticflickr.com/902/41512967962_74913ef5b0_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/tesspresskitfinal417.pdf","webcast":"https://www.youtube.com/watch?v=aY-0uBIYYKk","youtube_id":"aY-0uBIYYKk","article":"https://spaceflightnow.com/2018/04/19/all-sky-surveyor-launched-from-cape-canaveral-on-the-hunt-for-exoplanets/","wikipedia":"https://en.wikipedia.org/wiki/Transiting_Exoplanet_Survey_Satellite"},"static_fire_date_utc":"2018-04-11T18:30:00.000Z","static_fire_date_unix":1523471400,"net":false,"window":30,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Part of the Explorers program, this space telescope is intended for wide-field search of exoplanets transiting nearby stars. It is the first NASA high priority science mission launched by SpaceX. It was the first time SpaceX launched a scientific satellite not primarily intended for Earth observations. The second stage placed it into a high-Earth elliptical orbit, after which the satellite's own booster will perform complex maneuvers including a lunar flyby, and over the course of two months, reach a stable, 2:1 resonant orbit with the Moon. In January 2018, SpaceX received NASA's Launch Services Program Category 2 certification of its Falcon 9 'Full Thrust', certification which is required for launching medium risk missions like TESS. It was the last launch of a new Block 4 booster, and marked the 24th successful recovery of the booster. An experimental water landing was performed in order to attempt fairing recovery.", "crew":[], "ships":["5ea6ed2e080df4000697c90a","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90d","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4c7b6c3bb0006eeb222"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":60,"name":"TESS","date_utc":"2018-04-18T22:51:00.000Z","date_unix":1524091860,"date_local":"2018-04-18T18:51:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f35918863d3b2655","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","launchpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d18ffd86e000604b365"}, {"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/97/bf/G9sPBnrg_o.png","large":"https://images2.imgbox.com/8e/80/QIE1XB30_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8624iq/bangabandhu1_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/8ia091/rspacex_bangabandhu1_official_launch_discussion","media":"https://www.reddit.com/r/spacex/comments/8ia5bu/rspacex_bangabandhu1_media_thread_videos_images/","recovery":"https://www.reddit.com/r/spacex/comments/8j6moa/bangabandhu1_block_5_recovery_thread/"},"flickr":{"small":[],"original":["https://farm1.staticflickr.com/903/28197547888_dd697d8147_o.jpg","https://farm1.staticflickr.com/823/42025498712_8ec531950f_o.jpg","https://farm1.staticflickr.com/975/28197546158_880e466fb6_o.jpg","https://farm1.staticflickr.com/823/27200014957_940f3720bb_o.jpg","https://farm1.staticflickr.com/945/42025498442_0b7b91d561_o.jpg","https://farm1.staticflickr.com/967/42025498972_8720104d8a_o.jpg","https://farm1.staticflickr.com/954/42025499162_8a0ef7feaa_o.jpg","https://farm1.staticflickr.com/911/42025499722_47d3433d65_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/bangabandhupresskit51118.pdf","webcast":"https://www.youtube.com/watch?v=rQEqKZ7CJlk","youtube_id":"rQEqKZ7CJlk","article":"https://spaceflightnow.com/2018/05/11/spacex-debuts-an-improved-human-rated-model-of-the-falcon-9-rockets/","wikipedia":"https://en.wikipedia.org/wiki/Bangabandhu-1"},"static_fire_date_utc":"2018-05-04T23:25:00.000Z","static_fire_date_unix":1525476300,"net":false,"window":7620,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First launch of a Block V first stage.", "crew":[], "ships":["5ea6ed2e080df4000697c90a","5ea6ed2f080df4000697c90b","5ea6ed30080df4000697c913","5ea6ed30080df4000697c916"],"capsules":[],"payloads":["5eb0e4c7b6c3bb0006eeb223"],"launchpad":"5e9e4502f509094188566f88","flight_number":61,"name":"Bangabandhu-1","date_utc":"2018-05-11T20:14:00.000Z","date_unix":1526069640,"date_local":"2018-05-11T16:14:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f359182

```
t":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}},{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d19ffd86e000604b366"}},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"http://images2.imgbox.com/c8/01/ijWT6oSs_o.png","large":"https://images2.imgbox.com/e9/61/9dF2ELMJ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8ffsgl/iridium6_gracefo_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/8kyk5a/rspacex_iridium_next_6_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/8l9tfz/rspacex_iridium6_gracefo_media_thread_videos/","recovery":null},"flickr":{"small":[],"original":["http://farm1.staticflickr.com/897/42290934301_4c6ac431c8_o.jpg","https://farm1.staticflickr.com/831/42290933051_510176c9da_o.jpg","https://farm1.staticflickr.com/882/42290932011_a522b43015_o.jpg","https://farm1.staticflickr.com/947/42290930761_4bf7b607b1_o.jpg","https://farm1.staticflickr.com/982/42290930181_0117ab0dfb_o.jpg","https://farm1.staticflickr.com/955/42244412292_e787538fc5_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/iridium6presskit2018521.pdf","webcast":"https://www.youtube.com/watch?v=I_0GgKfwCSk","youtube_id":"I_0GgKfwCSk","article":"https://spaceflightnow.com/2018/05/22/rideshare-launch-by-spacex-serves-commercial-and-scientific-customers/","wikipedia":"https://en.wikipedia.org/wiki/Gravity_Recovery_and_Climate_Experiment"},"static_fire_date_utc":"2018-05-18T20:16:00.000Z","static_fire_date_unix":1526674560,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec"},"success":true,"failures":[],"details":"GFZ arranged a rideshare of GRACE-FO on a Falcon 9 with Iridium following the cancellation of their Dnepr launch contract in 2015. Iridium CEO Matt Desch disclosed in September 2017 that GRACE-FO would be launched on the sixth Iridium NEXT mission. The booster reuse turnaround was a record 4.5 months between flights."},"crew":[],"ships":["5ea6ed2e080df4000697c908"],"capsules":[],"payloads":["5eb0e4c7b6c3bb0006eeb224","5eb0e4c8b6c3bb0006eeb225"],"launchpad":"5e9e4502f509092b78566f87","flight_number":62,"name":"Iridium NEXT Mission 6","date_utc":"2018-05-22T19:47:58.000Z","date_unix":1527018478,"date_local":"2018-05-22T12:47:58-08:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f35918345e3b2652"},"flight":2,"gridfins":true,"legs":false,"reused":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d1affd86e000604b367"}},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[],"links":{"patch":{"small":"https://images2.imgbox.com/fa/c4/37mkd4wY_o.png","large":"https://images2.imgbox.com/9f/0c/0KIBJmFe_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8jv0ed/ses12_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/8o9woj/rspacex_ses12_official_launch_discussion_updates/","media":"https://www.reddit.com/r/spacex/comments/8oa3k4/rspacex_ses12_media_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm2.staticflickr.com/1752/41664024035_14c81a25e3_o.jpg","https://farm2.staticflickr.com/1731/27695627527_d9d5bca0ae_o.jpg","https://farm2.staticflickr.com/1735/27695627327_ed66c7282c_o.jpg","https://farm2.staticflickr.com/1752/27695627417_38ea7d7acf_o.jpg","https://farm2.staticflickr.com/1733/41664023935_e9e8120690_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/ses-12missionpress_kit_6.2.18.pdf","webcast":"https://www.youtube.com/watch?v=2hcM5hqQ45s","youtube_id":"2hcM5hqQ45s","article":"https://spaceflightnow.com/2018/06/04/multi-mission-telecom-craft-launched-by-spacex-for-ses/","wikipedia":"https://en.wikipedia.org/wiki/SES-12"},"static_fire_date_utc":"2018-05-25T01:48:00.000Z","static_fire_date_unix":1527212880,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec"},"success":true,"failures":[],"details":"SES-12, the replacement satellite for NSS-6, was successfully launched and deployed on June 4th, completing SpaceX's eleventh flight of 2018. According to SES Luxembourg, The SES-12 satellite will expand SES's capabilities to provide direct-to-home (DTH) broadcasting, VSAT, Mobility and High Throughput Satellite (HTS) data connectivity services in the Middle East and the Asia-Pacific region, including rapidly growing markets such as India and Indonesia. [SES-12] will be co-located with SES-8","crew":[],"ships":["5ea6ed2e080df4000697c90a"],"capsules":[],"payloads":["5eb0e4c8b6c3bb0006eeb226"],"launchpad":"5e9e4502f509092b78566f87","flight_number":63,"name":"SES-12 Mission","date_utc":"2018-06-04T00:00:00.000Z","date_unix":1527888000,"date_local":"2018-06-04T00:00:00-04:00","date_precision":"second","upcoming":false,"cores":[{"core":"5e9e28a4f35918345e3b2652"},"flight":3,"gridfins":true,"legs":false,"reused":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d1bffd86e000604b368"}},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"http://images2.imgbox.com/c8/01/ijWT6oSs_o.png","large":"https://images2.imgbox.com/e9/61/9dF2ELMJ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8ffsgl/iridium6_gracefo_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/8kyk5a/rspacex_iridium_next_6_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/8l9tfz/rspacex_iridium6_gracefo_media_thread_videos/","recovery":null},"flickr":{"small":[],"original":["http://farm1.staticflickr.com/897/42290934301_4c6ac431c8_o.jpg","https://farm1.staticflickr.com/831/42290933051_510176c9da_o.jpg","https://farm1.staticflickr.com/882/42290932011_a522b43015_o.jpg","https://farm1.staticflickr.com/947/42290930761_4bf7b607b1_o.jpg","https://farm1.staticflickr.com/982/42290930181_0117ab0dfb_o.jpg","https://farm1.staticflickr.com/955/42244412292_e787538fc5_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/iridium6presskit2018521.pdf","webcast":"https://www.youtube.com/watch?v=I_0GgKfwCSk","youtube_id":"I_0GgKfwCSk","article":"https://spaceflightnow.com/2018/05/22/rideshare-launch-by-spacex-serves-commercial-and-scientific-customers/","wikipedia":"https://en.wikipedia.org/wiki/Gravity_Recovery_and_Climate_Experiment"},"static_fire_date_utc":"2018-05-18T20:16:00.000Z","static_fire_date_unix":1526674560,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec"},"success":true,"failures":[],"details":"GFZ arranged a rideshare of GRACE-FO on a Falcon 9 with Iridium following the cancellation of their Dnepr launch contract in 2015. Iridium CEO Matt Desch disclosed in September 2017 that GRACE-FO would be launched on the sixth Iridium NEXT mission. The booster reuse turnaround was a record 4.5 months between flights."},"crew":[],"ships":["5ea6ed2e080df4000697c908"],"capsules":[],"payloads":["5eb0e4c7b6c3bb0006eeb224","5eb0e4c8b6c3bb0006eeb225"],"launchpad":"5e9e4502f509092b78566f87","flight_number":62,"name":"Iridium NEXT Mission 6","date_utc":"2018-05-22T19:47:58.000Z","date_unix":1527018478,"date_local":"2018-05-22T12:47:58-08:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f35918345e3b2652"},"flight":2,"gridfins":true,"legs":false,"reused":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d1affd86e000604b367"}},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[],"links":{"patch":{"small":"https://images2.imgbox.com/fa/c4/37mkd4wY_o.png","large":"https://images2.imgbox.com/9f/0c/0KIBJmFe_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8jv0ed/ses12_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/8o9woj/rspacex_ses12_official_launch_discussion_updates/","media":"https://www.reddit.com/r/spacex/comments/8oa3k4/rspacex_ses12_media_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm2.staticflickr.com/1752/41664024035_14c81a25e3_o.jpg","https://farm2.staticflickr.com/1731/27695627527_d9d5bca0ae_o.jpg","https://farm2.staticflickr.com/1735/27695627327_ed66c7282c_o.jpg","https://farm2.staticflickr.com/1752/27695627417_38ea7d7acf_o.jpg","https://farm2.staticflickr.com/1733/41664023935_e9e8120690_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/ses-12missionpress_kit_6.2.18.pdf","webcast":"https://www.youtube.com/watch?v=2hcM5hqQ45s","youtube_id":"2hcM5hqQ45s","article":"https://spaceflightnow.com/2018/06/04/multi-mission-telecom-craft-launched-by-spacex-for-ses/","wikipedia":"https://en.wikipedia.org/wiki/SES-12"},"static_fire_date_utc":"2018-05-25T01:48:00.000Z","static_fire_date_unix":1527212880,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec"},"success":true,"failures":[],"details":"SES-12, the replacement satellite for NSS-6, was successfully launched and deployed on June 4th, completing SpaceX's eleventh flight of 2018. According to SES Luxembourg, The SES-12 satellite will expand SES's capabilities to provide direct-to-home (DTH) broadcasting, VSAT, Mobility and High Throughput Satellite (HTS) data connectivity services in the Middle East and the Asia-Pacific region, including rapidly growing markets such as India and Indonesia. [SES-12] will be co-located with SES-8","crew":[],"ships":["5ea6ed2e080df4000697c90a"],"capsules":[],"payloads":["5eb0e4c8b6c3bb0006eeb226"],"launchpad":"5e9e4502f509092b78566f87","flight_number":63,"name":"SES-12 Mission","date_utc":"2018-06-04T00:00:00.000Z","date_unix":1527888000,"date_local":"2018-06-04T00:00:00-04:00","date_precision":"second","upcoming":false,"cores":[{"core":"5e9e28a4f35918345e3b2652"},"flight":3,"gridfins":true,"legs":false,"reused":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd
```

d":"5e9e4501f509094ba4566f84","flight_number":63,"name":"SES-12","date_utc":"2018-06-04T04:45:00.000Z","date_unix":1528087500,"date_local":"2018-06-04T00:45:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591845123b264f","flight":2,"gridfins":false,"legs":false,"reused":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d1bffd86e000604b368"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/b3/12/t63UKas5_o.png","large":"https://images2.imgbox.com/15/3c/W0LEnrZx_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8pua1m/crs15_launch_campaign_thread/", "launch":"https://www.reddit.com/r/spacex/comments/8ugo3l/rspacex_crs15_official_launch_discussion_updates","media":"https://www.reddit.com/r/spacex/comments/8ujcwo/rspacex_crs15_media_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm1.staticflickr.com/836/42374725204_dae09db889_o.jpg","https://farm2.staticflickr.com/1781/41281636860_71dca92ab4_o.jpg","https://farm2.staticflickr.com/1829/42374725534_325e676d19_o.jpg","https://farm2.staticflickr.com/1810/42374724974_e50b050403_o.jpg","https://farm1.staticflickr.com/843/41281636620_437528bd1f_o.jpg","https://farm2.staticflickr.com/1790/41281637670_f6a6a2cf6c_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/crs15presskit.pdf","webcast":"https://www.youtube.com/watch?v=ycMagB1s8XM","youtube_id":"ycMagB1s8XM","article":"https://spaceflightnow.com/2018/06/29/spacex-launches-ai-enabled-robot-companion-vegetation-monitor-to-space-station/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-15"},"static_fire_date_utc":"2018-06-23T21:30:00.000Z","static_fire_date_unix":1529789400,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Payload included MISSE-FF 2, ECOSTRESS, and a Latching End Effector. The refurbished booster featured a record 2.5 months period turnaround from its original launch of the TESS satellite \xe2\x80\x94 the fastest previous was 4.5 months. This was the last commercial flight of a Block 4 booster, which was expended into the Atlantic without landing legs and grid fins."},"crew":[],"ships":["5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf359183bb73b266e"],"payloads":["5eb0e4c8b6c3bb0006eeb227"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":64,"name":"CRS-15","date_utc":"2018-06-29T09:42:00.000Z","date_unix":1530265320,"date_local":"2018-06-29T05:42:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f35918863d3b2655","flight":2,"gridfins":false,"legs":false,"reused":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d1cffd86e000604b369"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/2b/de/2CF8Q4Bq_o.png","large":"https://images2.imgbox.com/c0/d8/Jt7Es9az_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8w19yg/telstar_19v_launch_campaign_thread/", "launch":"https://www.reddit.com/r/spacex/comments/90p1a6/rspacex_telstar_19v_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/90oxrr/rspacex_telstar_19v_media_thread_videos_images/","recovery":null},"flickr":{"small":[],"original":["https://farm1.staticflickr.com/856/28684550147_49802752b3_o.jpg","https://farm1.staticflickr.com/927/28684552447_956a9744f1_o.jpg","https://farm2.staticflickr.com/1828/29700007298_8ac5891d2c_o.jpg","https://farm1.staticflickr.com/914/29700004918_31ed7b73ef_o.jpg","https://farm1.staticflickr.com/844/29700002748_3047e50a0a_o.jpg","https://farm2.staticflickr.com/1786/29700000688_2514cd3cbb_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/telstar19vantagepresskit.pdf","webcast":"https://www.youtube.com/watch?v=xybp6zLaGx4","youtube_id":"xybp6zLaGx4","article":"https://spaceflightnow.com/2018/07/22/spacex-delivers-for-telesat-with-successful-early-morning-launch/","wikipedia":"https://en.wikipedia.org/wiki/Telstar_19V"},"static_fire_date_utc":"2018-07-18T21:00:00.000Z","static_fire_date_unix":1531947600,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SSL-manufactured communications satellite intended to be placed at 63\xc2\xbd West over the Americas. At 7,075 kg, it became the heaviest commercial communications satellite ever launched."},"crew":[],"ships":["5ea6ed2e080df4000697c90a","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90d","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4c8b6c3bb0006eeb228"],"launchpad":"5e9e4501f509094ba4566f84"}

4","flight_number":65,"name":"Telstar 19V","date_utc":"2018-07-22T05:50:00.000Z","date_unix":1532238600,"date_local":"2018-07-22T01:50:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f359181eed3b2657","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d1effd86e000604b36a"}, {"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/b4/96/LRfRepk0_o.png","large":"https://images2.imgbox.com/e6/10/oZPCNx0m_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8v4wcm/iridium_next_constellation_mission_7_launch/","launch":"https://www.reddit.com/r/spacex/comments/91i1ru/rspacex_iridium_next_7_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/91gx44/rspacex_iridium_next_constellation_mission_7/","recovery":null},"flickr":{"small":[],"original":["https://farm1.staticflickr.com/934/41868222930_0a850d30dc_o.jpg","https://farm1.staticflickr.com/852/41868222500_2ff5f6e5f9_o.jpg","https://farm1.staticflickr.com/929/28787338307_7c0cfce99a_o.jpg","https://farm1.staticflickr.com/928/28787338507_3be74590d2_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/iridium7_press_kit_7_24.pdf","webcast":"https://www.youtube.com/watch?v=vsDknmK30C0","youtube_id":"vsDknmK30C0","article":"https://spaceflightnow.com/2018/07/25/spacexs-second-launch-in-three-days-lofts-10-more-iridium-satellites/","wikipedia":"https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generation_constellation"},"static_fire_date_utc":"2018-07-20T21:08:00.000Z","static_fire_date_unix":1532120880,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX's fourteenth flight of 2018 and seventh of eight launches in a half-a-billion-dollar contract with Iridium. Will use a Block 5 first stage, to be recovered in the Pacific Ocean. Only one mission will be left for Iridium, with 10 more satellites. First attempt to recover a Fairing with the upgraded net. Fairing recovery was not successful."},"crew":[],"ships":["5ea6ed2f080df4000697c910","5ea6ed2e080df4000697c908","5ea6ed30080df4000697c912","5ea6ed30080df4000697c914"],"capsules":[],"payloads":["5eb0e4c9b6c3bb0006eeb229"],"launchpad":"5e9e4502f509092b78566f87","flight_number":66,"name":"Iridium NEXT Mission 7","date_utc":"2018-07-25T11:39:26.000Z","date_unix":1532518766,"date_local":"2018-07-25T04:39:26-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591809c03b2658","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d1fffd86e000604b36b"}, {"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[],"links":{"patch":{"small":"https://images2.imgbox.com/46/b2/NUQmyHR4_o.png","large":"https://images2.imgbox.com/9e/eb/uGUYOYfZ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/91gwfg/merah_putih_telkom4_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/9539nr/rspacex_merah_putih_telkom4_official_launch/","media":"https://www.reddit.com/r/spacex/comments/94zr0b/rspacex_merah_putih_media_thread_videos_images/","recovery":null},"flickr":{"small":[],"original":["https://farm2.staticflickr.com/1798/43862495212_8fe1688c4b_o.jpg","https://farm1.staticflickr.com/935/43006330655_f1623a3fa1_o.jpg","https://farm1.staticflickr.com/938/28974313177_d16381ff5f_o.jpg","https://farm2.staticflickr.com/1780/43006334045_fb7b4a8714_o.jpg","https://farm1.staticflickr.com/929/28974335747_ffd87ff274_o.jpg","https://farm1.staticflickr.com/930/30041972208_f735b9690b_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/merahputihpresskit.pdf","webcast":"https://www.youtube.com/watch?v=FjfQNBVv2IY","youtube_id":"FjfQNBVv2IY","article":"https://spaceflightnow.com/2018/08/07/indonesian-communications-satellite-deployed-in-orbit-by-spacex/","wikipedia":"https://en.wikipedia.org/wiki/Telkom_Indonesia"},"static_fire_date_utc":"2018-08-02T15:53:00.000Z","static_fire_date_unix":1533225180,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX's fifteenth flight of 2018 launched the Merah Putih (also known as Telkom-4) geostationary communications satellite for Telkom Indonesia. It marked the first reuse of any Block 5 first stage; the booster B1046 had previously launched Bangabandhu-1. The stage was recovered and is expected to become the

first Falcon 9 booster to fly three missions.", "crew": [], "ships": ["5ea6ed2f080df4000697c90d", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4c9b6c3bb0006eeb22a"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 67, "name": "Merah Putih", "date_utc": "2018-08-07T05:18:00.000Z", "date_unix": 1533619080, "date_local": "2018-08-07T01:18:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f359182b023b2656", "flight": 2, "gridfins": true, "legs": true, "reuse": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d20ffd86e000604b36c"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/55/54/73EXeMfo_o.png", "large": "https://images2.imgbox.com/fd/59/nv3Ih3Am_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/95cte4/telstar_18v_apstar_5c_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/9e7bmq/rspacex_telstar_18v_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/9ebkqw/rspacex_telstar_18v_media_thread_videos_images/", "recovery": "https://www.reddit.com/r/spacex/comments/9erx1h/telstar_18_vantage_recovery_thread/"}, "flickr": {"small": [], "original": ["https://farm2.staticflickr.com/1878/43690848045_492ef182dd_o.jpg", "https://farm2.staticflickr.com/1856/43881229604_6d42e838b6_o.jpg", "https://farm2.staticflickr.com/1852/43881223704_93777e34af_o.jpg", "https://farm2.staticflickr.com/1841/43881217094_558b7b214e_o.jpg", "https://farm2.staticflickr.com/1869/43881193934_423ef8c86_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/telstar18vantagepresskit.pdf", "webcast": "https://www.youtube.com/watch?v=Apw3xqwsG1U", "youtube_id": "Apw3xqwsG1U", "article": "https://spaceflightnow.com/2018/09/10/spacex-teleat-achieve-repeat-success-with-midnight-hour-launch/", "wikipedia": "https://en.wikipedia.org/wiki/Telstar_18V"}, "static_fire_date_utc": "2018-09-05T07:21:00.000Z", "static_fire_date_unix": 1536132060, "net": false, "window": 14400, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's sixteenth flight of 2018 launched the Telstar 18v GEO communication satellite for Telesat, the second launch for the canadian company in a few months. The first stage was a new Falcon 9 V1.2 Block 5 which was successfully recovered on OCISLY.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90d", "5ea6ed2f080df4000697c90b"], "capsules": [], "payloads": ["5eb0e4c9b6c3bb0006eeb22b"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 68, "name": "Telstar 18V", "date_utc": "2018-09-10T04:45:00.000Z", "date_unix": 1536554700, "date_local": "2018-09-10T00:45:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591833b13b2659", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d22ffd86e000604b36d"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/cb/41/RQIY0BjQ_o.png", "large": "https://images2.imgbox.com/df/2c/DsfygPln_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/9fwj9o/saocom_1a_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/9lazvr/rspacex_saocom_1a_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/9m3ly5/rspacex_saocom_1a_media_thread_videos_images_gifs/", "recovery": null}, "flickr": {"small": [], "original": ["https://farm2.staticflickr.com/1940/44262177535_9582184d3f_o.jpg", "https://farm2.staticflickr.com/1917/30234800687_fd94fde151_o.jpg", "https://farm2.staticflickr.com/1951/30234801997_b5a65426ca_o.jpg", "https://farm2.staticflickr.com/1910/44262169525_e4c6b27299_o.jpg", "https://farm2.staticflickr.com/1923/44451125454_8d26929d0b_o.jpg", "https://farm2.staticflickr.com/1914/44262170545_22fe55d4bb_o.jpg", "https://farm2.staticflickr.com/1934/44262166295_3f84597f09_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/saocom1apresskit.pdf", "webcast": "https://www.youtube.com/watch?v=vr_C6LQ7mHc", "youtube_id": "vr_C6LQ7mHc", "article": "https://spaceflightnow.com/2018/10/08/spacex-aces-first-rocket-landing-in-california-after-launching-argentine-satellite/", "wikipedia": "https://en.wikipedia.org/wiki/SAOCOM"}, "static_fire_date_utc": "2018-10-02T21:00:00.000Z", "static_fire_date_unix": 1538514000, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's seventeenth flight of 2018 was the first launch of the Saocom Earth observation sa

tellite constellation of the Argentine Space Agency CONAE. The second launch of SAOCOM 1B will happen in 2019. This flight marked the first RTLS launch out of Vandenberg, with a landing on the concrete pad at SLC-4W, very close to the launch pad.

`"crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4c9b6c3bb0006eeb22c"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 69, "name": "SAOCOM 1A", "date_utc": "2018-10-08T02:22:00.000Z", "date_unix": 1538965320, "date_local": "2018-10-07T19:22:00-07:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591809c03b2658", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb554034e7c9"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d23ffd86e000604b36e"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/ad/40/oCtCFYf1_o.png", "large": "https://images2.imgbox.com/7c/8a/j6Hu3TqR_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/9p82jt/eshail_2_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/9x9w9v/rspacex_eshail_2_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/9xaa76/rspacex_eshail_2_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/9xmpa7/eshail_2_recovery_thread/"}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4834/32040174268_b71d703417_o.jpg", "https://farm5.staticflickr.com/4810/32040174058_a65fa64e85_o.jpg", "https://farm5.staticflickr.com/4814/32040173268_0ab571e7bc_o.jpg", "https://farm5.staticflickr.com/4899/32040173568_bb5c991565_o.jpg", "https://farm5.staticflickr.com/4875/32040173278_b5578ba6be_o.jpg", "https://farm5.staticflickr.com/4862/32040173928_afdfb09939_o.jpg", "https://farm5.staticflickr.com/4888/32040173048_b2b29c020f_o.jpg", "https://farm5.staticflickr.com/4808/32248947038_dd1cf9e8c3_o.jpg", "https://farm5.staticflickr.com/4887/31180979107_da6a935c20_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/eshail-2_mission_press_kit_11_14_2018.pdf", "webcast": "https://www.youtube.com/watch?v=PhTbzc-BqKs&feature=youtu.be", "youtube_id": "PhTbzc-BqKs", "article": "https://spaceflightnow.com/2018/11/15/spacex-launches-qatars-eshail-2-communications-satellite/", "wikipedia": "https://en.wikipedia.org/wiki/Es%27hailSat"}, "static_fire_date_utc": "2018-11-12T18:13:00.000Z", "static_fire_date_unix": 1542046380, "net": false, "window": 6180, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's eighteenth flight of 2018 was its first for Es'hailSat. Es'hail-2 is a communications satellite delivering television and internet to Qatar and the surrounding region. It was launched into a geostationary transfer orbit from LC-39A at Kennedy Space Center. The booster landed on OCISLY."}, {"crew": [], "ships": ["5ea6ed2f080df4000697c90d", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4c9b6c3bb0006eeb22d"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 70, "name": "Es'hail 2", "date_utc": "2018-11-15T15:46:00.000Z", "date_unix": 1542314760, "date_local": "2018-11-15T15:46:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f359181eed3b2657", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d24ffd86e000604b36f"}, {"fairings": {"reused": false, "recovery_attempt": true, "recovered": false, "ships": ["5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/48/3b/Lg1Qc4uX_o.png", "large": "https://images2.imgbox.com/3e/87/xYszAJQc_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/9raysi/ssoa_launch_campaign_thread", "launch": "https://www.reddit.com/r/spacex/comments/a0vjff/rspacex_ssoa_official_launch_discussion_updates/", "media": "https://old.reddit.com/r/spacex/comments/a0wylf/rspacex_ssoa_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/a2tjoe/ssoa_recovery_thread/"}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4875/45257565145_d53757e0b2_o.jpg", "https://farm5.staticflickr.com/4839/45257565835_4fd6f3e895_o.jpg", "https://farm5.staticflickr.com/4822/45257566865_9c9d34a7ca_o.jpg", "https://farm5.staticflickr.com/4821/45257568225_186c8431cf_o.jpg", "https://farm5.staticflickr.com/4885/45257569445_1d74a601df_o.jpg", "https://farm5.staticflickr.com/4869/45257570925_8eae9a0888_o.jpg", "https://farm5.staticflickr.com/4842/31338804427_2e4dcda6e7_o.jpg", "https://farm5.staticflickr.com/4894/46227271292_2eee9af3eb_o.jpg", "https://farm5.stat`

icflickr.com/4870/44460659210_de634098ac_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/ssoa_press_kit.pdf", "webcast": "https://www.youtube.com/watch?v=Wq8kS6UoOrQ", "youtube_id": "Wq8kS6UoOrQ", "article": "https://spaceflightnow.com/2018/12/03/spacex-launches-swarm-of-satellites-re-flies-rocket-for-third-time/", "wikipedia": "https://en.wikipedia.org/wiki/Spaceflight_Industries"}, "static_fire_date_utc": "2018-11-15T21:55:00.000Z", "static_fire_date_unix": 1542318900, "net": false, "window": 1680, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's nineteenth flight of 2018 will fly SSO-A: SmallSat Express out of Vandenberg SLC-4E for Spaceflight. SSO-A is a rideshare to sun synchronous low earth orbit consisting of 64 individual microsatellites and cubesats. It is also likely to be the third flight of core B1046 which previously flew Bangabandhu-1 and Merah Putih. If this happens it will be the first time a Falcon 9 has flown more than two missions. ", "crew": [], "ships": ["5ea6ed2f080df4000697c910", "5ea6ed30080df4000697c912", "5ea6ed30080df4000697c914", "5ea6ed2e080df4000697c908"], "capsules": [], "payloads": ["5eb0e4c9b6c3bb0006eeb22e"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 71, "name": "SSO-A", "date_utc": "2018-12-03T18:34:00.000Z", "date_unix": 1543861920, "date_local": "2018-12-03T10:34:00-08:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f359182b023b2656", "flight": 3, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d25ffd86e000604b370"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/f0/a6/oNKZP5Hu_o.png", "large": "https://images2.imgbox.com/ee/c6/MkvXHhu1_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/9z7i4j/crs16_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/a2oubw/rspacex_crs16_official_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/a2uojp/rspacex_crs16_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/a3n3vm/crs16_emergency_recovery_thread/"}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4835/45473442624_69ee8bee45_o.jpg", "https://farm5.staticflickr.com/4903/45473443604_0d668c31da_o.jpg", "https://farm5.staticflickr.com/4858/45473444314_413a344dcb_o.jpg", "https://farm5.staticflickr.com/4856/45473445134_d9384878f8_o.jpg", "https://farm5.staticflickr.com/4840/45473446114_7d5e5d6fe2_o.jpg"]}}, "presskit": "https://www.spacex.com/sites/spacex/files/crs16_press_kit_12_4.pdf", "webcast": "https://www.youtube.com/watch?v=Esh1jHT9oTA", "youtube_id": "Esh1jHT9oTA", "article": "https://spaceflightnow.com/2018/12/05/spacex-falcon-9-boosts-dragon-cargo-ship-to-orbit-first-stage-misses-landing-target/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-16"}, "static_fire_date_utc": "2018-11-30T19:57:00.000Z", "static_fire_date_unix": 1543607820, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's 16th Crew Resupply Mission on behalf of NASA, with a total of 20 contracted flights. This will bring essential supplies to the International Space Station using SpaceX's reusable Dragon spacecraft. The Falcon 9 will launch from SLC-40 at Cape Canaveral Air Force Station. During the landing of the first stage, a grid fin hydraulic pump stalled, causing the core to enter an uncontrolled roll, and resulting in a (successful) water landing.", "crew": [], "ships": ["5ea6ed2f080df4000697c90b"], "capsules": ["5e9e2c5cf359185d753b266f"], "payloads": ["5eb0e4cab6c3bb0006eeb22f"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 72, "name": "CRS-16", "date_utc": "2018-12-05T18:16:00.000Z", "date_unix": 1544033760, "date_local": "2018-12-05T13:16:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f359185c603b265a", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": false, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d26ffd86e000604b371"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/3c/2f/tL7xDUD6_o.png", "large": "https://images2.imgbox.com/f9/31/MGTnAfur_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/a4516o/gps_iii2_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/a71wyn/rspacex_gps_iii2_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/a73kz5/rspacex_gps_iii2_media_thread_videos_images_gifs/", "recovery": null}, "flickr": {"small":

```
[{"original":["https://farm5.staticflickr.com/4864/45715171884_f1dd88c058_o.jpg","https://farm8.staticflickr.com/7926/45525648155_32fdab17a5_o.jpg","https://farm8.staticflickr.com/7876/45525649035_ba60162fe0_o.jpg","https://farm8.staticflickr.com/7853/45525649825_e6d35415e1_o.jpg"],"presskit":"https://www.spacex.com/sites/spacex/files/gps_iii_press_kit.pdf","webcast":"https://youtu.be/yRiLPoy_Mzc","youtube_id":"yRiLPoy_Mzc","article":"https://spaceflightnow.com/2018/12/23/spacex-closes-out-year-with-successful-gps-satellite-launch/","wikipedia":"https://en.wikipedia.org/wiki/GPS_Block_IIIA"},"static_fire_date_utc":"2018-12-13T21:24:00.000Z","static_fire_date_unix":1544736240,"net":false,"window":1560,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX's twenty-first flight of 2018 launched the first of the new GPS III satellites (Block IIIA) for the United States Air Force and was SpaceX's first EELV mission. The spacecraft was delivered to a MEO transfer orbit from SLC-40 at Cape Canaveral Air Force Station. This mission was the first to fly with the redesigned COPV on the first stage (B1054) as well as the second. The booster was expended.","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4cab6c3bb0006eeb230"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":73,"name":"GPS III SV01","date_utc":"2018-12-23T13:51:00.000Z","date_unix":1545573060,"date_local":"2018-12-23T08:51:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918513b3b265b","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d27ffd86e000604b372"},"fairings":{"reused":false,"recovery_attempt":false,"recovered":null,"ships":[],"links":{"patch":{"small":"https://images2.imgbox.com/75/cb/DMVc5j8b_o.png","large":"https://images2.imgbox.com/d7/f9/861bfh4Q_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/a699fh/iridium_next_constellation_mission_8_launch/","launch":"https://www.reddit.com/r/spacex/comments/aemq2i/rspacex_iridium_next_8_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/aeoxve/rspacex_iridium_next_8_media_thread_videos_images/","recovery":"https://www.reddit.com/r/spacex/comments/aewp4r/iridium_8_recovery_thread/"},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4866/39745612523_14270b4b9d_o.jpg","https://farm8.staticflickr.com/7833/39745612923_21aa442350_o.jpg","https://farm5.staticflickr.com/4881/39745613173_e99b09c000_o.jpg","https://farm8.staticflickr.com/7882/39745613513_6cdd4581af_o.jpg","https://farm8.staticflickr.com/7807/39745613733_1a7b70e54a_o.jpg","https://farm5.staticflickr.com/4891/39745614053_43855205bc_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/iridium8presskit.pdf","webcast":"https://youtu.be/VshdafZvwrg","youtube_id":"VshdafZvwrg","article":"https://spaceflightnow.com/2019/01/11/spacex-begins-2019-with-eighth-and-final-for-upgraded-iridium-network/","wikipedia":"https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generation_constellation"},"static_fire_date_utc":"2019-01-06T13:51:00.000Z","static_fire_date_unix":1546782660,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX's first flight of 2019 will be the eighth and final launch of its planned Iridium flights. Delivering 10 satellites to low earth orbit, this brings the total up to 75 and completes the Iridium NEXT constellation. This mission launches from SLC-4E at Vandenberg AFB. The booster is expected to land on JRTI.","crew":[],"ships":["5ea6ed2f080df4000697c910","5ea6ed30080df4000697c912","5ea6ed30080df4000697c914"],"capsules":[],"payloads":["5eb0e4cab6c3bb0006eeb231"],"launchpad":"5e9e4502f509092b78566f87","flight_number":74,"name":"Iridium NEXT Mission 8","date_utc":"2019-01-11T15:31:00.000Z","date_unix":1547220660,"date_local":"2019-01-11T07:31:00-08:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591833b13b2659","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d28ffd86e000604b373"},"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[],"links":{"patch":{"small":"https://images2.imgbox.com/06/bc/5KvLN0mH_o.png","large":"https://images2.imgbox.com/4d/63/oBLNSPKL_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/afxyrd/nusantara_satu_launch_campaign_thread/","launch":"https://www.reddit.com/r/s
```


pacex/comments/assxjz/rspacex_psnvi_official_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/at5mu8/rspacex_psn6_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/atbmp3/psnvi_recovery_discussion_updates_thread/", "flickr": {"small": [], "original": ["https://farm8.staticflickr.com/7800/47173936271_b8ddb5bc5b_o.jpg", "https://farm8.staticflickr.com/7821/47121969172_37428a280e_o.jpg", "https://farm8.staticflickr.com/7923/47173936181_c0bf7a22a6_o.jpg", "https://farm8.staticflickr.com/7829/46259779115_8982c2c8c2_o.jpg", "https://farm8.staticflickr.com/7889/46259778995_68130be69d_o.jpg", "https://farm8.staticflickr.com/7895/47130341432_3772641a68_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/nusantara_satu_press_kit.pdf", "webcast": "https://www.youtube.com/watch?v=XS0E35aYJcU", "youtube_id": "XS0E35aYJcU", "article": "https://spaceflightnow.com/2019/02/22/israeli-moon-lander-hitches-ride-on-spacex-launch-with-indonesian-comsat/", "wikipedia": "https://en.wikipedia.org/wiki/PT_Pasifik_Satelit_Nusantara", "static_fire_date_utc": "2019-02-18T17:03:00.000Z", "static_fire_date_unix": 1550509380, "net": false, "window": 1920, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX will launch this rideshare to GTO for Space Systems Loral (SSL). The primary payload for this mission is Nusantara Satu, a communications satellite built by SSL for the private Indonesian company PT Pasifik Satelit Nusantara (PSN). Spaceflight Industries' GTO-1 mission consists of two secondary payloads. One of those is Beresheet, the lunar lander built by the Israeli non-profit organization, SpaceIL. Beresheet will make its own way to the moon from GTO. The other secondary is Air Force Research Lab's (Space Situational Awareness) S5 mission, which hitches a ride to GEO aboard Nusantara Satu. This mission launches from SLC-40 at Cape Canaveral AFS. The booster is expected to land on OCISLY.", "crew": [], "ships": ["5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4cab6c3bb0006eeb232", "5eb0e4cab6c3bb0006eeb233", "5eb0e4cab6c3bb0006eeb234"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 75, "name": "Nusantara Satu (PSN-6) / S5 / Beresheet", "date_utc": "2019-02-22T01:45:00.000Z", "date_unix": 1550799900, "date_local": "2019-02-21T20:45:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591809c03b2658", "flight": 3, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d2affd86e000604b374", {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null}, "ships": [], "links": {"patch": {"small": "https://images2.imgbox.com/59/a8/q5IEqs0J_o.png", "large": "https://images2.imgbox.com/ee/a6/x4AyUIc3_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/a65clm/dm1_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/av1asz/rspacex_cctcap_demo_mission_1_official_launch/", "media": "https://www.reddit.com/r/spacex/comments/aw6g7j/rspacex_cctcap_demo_mission_1_media_thread_videos/", "recovery": "https://www.reddit.com/r/spacex/comments/awo5lf/cctcap_demo_mission_1_official_booster_recovery/"}, "flickr": {"small": [], "original": ["https://farm8.staticflickr.com/7899/39684491043_f0289164bd_o.jpg", "https://farm8.staticflickr.com/7804/39684490433_70337aa4e5_o.jpg", "https://farm8.staticflickr.com/7826/32774791628_e2234480db_o.jpg", "https://farm5.staticflickr.com/4882/39684490143_7df3838d2c_o.jpg", "https://farm8.staticflickr.com/7851/46535572784_7eb295968e_o.jpg", "https://farm8.staticflickr.com/7826/46535572564_a022f9c43a_o.jpg", "https://farm8.staticflickr.com/7889/40294395933_f429c12e83_o.jpg", "https://farm8.staticflickr.com/7914/40294395873_0a328f2d87_o.jpg", "https://farm8.staticflickr.com/7866/46535572294_22499c1223_o.jpg", "https://farm8.staticflickr.com/7850/46535573034_03da10f899_o.jpg", "https://farm8.staticflickr.com/7848/46535572664_316c466742_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/crew_demo-1_press_kit.pdf", "webcast": "https://youtu.be/2ZL0tb0ZYhE", "youtube_id": "2ZL0tb0ZYhE", "article": "https://spaceflightnow.com/2019/03/02/spacex-launches-first-crew-dragon-ferry-ship/", "wikipedia": "https://en.wikipedia.org/wiki/SpX-DM1"}, "static_fire_date_utc": "2019-01-24T19:03:00.000Z", "static_fire_date_unix": 1548356580, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Demonstration Mission 1 (DM-1) will launch Dragon 2 as part of NASA's Commercial Crew Transportation Capability program. This mission will demonstrate Dragon 2, and Falcon 9 in its configuration for crewed missions. DM-1 will launch from LC-39A at Kennedy Space Cent

er, likely carrying some cargo to the International Space Station. The booster is expected to land on OCISLY.", "crew": [], "ships": ["5ea6ed30080df4000697c913"], "capsules": ["5e9e2c5df35918b1063b2671"], "payloads": ["5eb0e4cbb6c3bb0006eeb235"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 76, "name": "CCTCap Demo Mission 1", "date_utc": "2019-03-02T07:45:00.000Z", "date_unix": 1551512700, "date_local": "2019-03-02T02:45:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f35918c0803b265c", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d2bffd86e000604b375"}, {"fairings": {"reused": false, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2f080df4000697c90c"]}, "links": {"patch": {"small": "https://images2.imgbox.com/14/18/JxCyAHXk_o.png", "large": "https://images2.imgbox.com/9f/c3/GvLfWIfg_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/b0kscl/arabsat6a_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/basm9y/rspacex_arabsat6a_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/bbh9a/rspacex_arabsat6a_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/bcecao/fh_arabsat_6a_center_core_recovery_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/7911/32652060737_4be1171d4a_o.jpg", "https://live.staticflickr.com/7807/40628442293_9643eaf670_o.jpg", "https://live.staticflickr.com/7804/40628440983_4da5d76cc7_o.jpg", "https://live.staticflickr.com/7856/40628439793_27927d11de_o.jpg", "https://live.staticflickr.com/7919/40628438523_c597eabff1_o.jpg", "https://live.staticflickr.com/7834/40628437283_84088aca75_o.jpg", "https://live.staticflickr.com/7856/40628435833_a1bcde59db_o.jpg", "https://live.staticflickr.com/7809/40628435153_17c05d3b5e_o.jpg", "https://live.staticflickr.com/7885/40628434483_3545598b82_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/arabsat-6a_press_kit.pdf", "webcast": "https://youtu.be/TXMGU2d8c8g", "youtube_id": "TXMGU2d8c8g", "article": "https://spaceflightnow.com/2019/04/11/spacexs-falcon-heavy-successful-in-commercial-debut/", "wikipedia": "https://en.wikipedia.org/wiki/Arabsat-6A"}, "static_fire_date_utc": "2019-04-05T09:57:00.000Z", "static_fire_date_unix": 1554458220, "net": false, "window": 7020, "rocket": "5e9d0d95eda69974db09d1ed", "success": true, "failures": [], "details": "SpaceX will launch Arabsat 6A to a geostationary transfer orbit from SLC-39A, KSC. The satellite is a geostationary telecommunications satellite built by Lockheed Martin for the Saudi Arabian company Arabsat. This will be the first operational flight of Falcon Heavy, and also the first Block 5 Falcon Heavy. All three cores will be new Block 5 cores. The side cores are expected to land at LZ-1 and LZ-2, and the center core is expected to land on OCISLY.", "crew": [], "ships": ["5ea6ed2f080df4000697c90e", "5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90b", "5ea6ed2e080df4000697c909", "5ea6ed2f080df4000697c90c"], "capsules": [], "payloads": ["5eb0e4cbb6c3bb0006eeb236"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 77, "name": "ArabSat 6A", "date_utc": "2019-04-11T22:35:00.000Z", "date_unix": 1555022100, "date_local": "2019-04-11T18:35:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f3591897453b265f", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}, {"core": "5e9e28a6f359183c413b265d", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}, {"core": "5e9e28a6f359188fd53b265e", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb90a834e7c8"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d2dffd86e000604b376"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/97/8e/YbVKIUZB_o.png", "large": "https://images2.imgbox.com/0d/05/zH7YqLRe_o.png"}, "reddit": {"campaign": "https://new.reddit.com/r/spacex/comments/bd2l28/crs17_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/bjsn0v/rspacex_crs17_official_launch_discussion_updates", "media": "https://www.reddit.com/r/spacex/comments/bkc4d5/rspacex_crs17_media_thread_videos_images_gifs", "recovery": "https://www.reddit.com/r/spacex/comments/bjy7p5/rspacex_crs17_recovery_discussion_updates_thread"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/46856594435_206c773b5a_o.jpg", "https://live.staticflickr.com/65535/4"]

7720639872_284e49381d_o.jpg", "https://live.staticflickr.com/65535/46856594755_88f1b22e50_o.jpg", "https://live.staticflickr.com/65535/47720639542_1b7c1a71b0_o.jpg", "https://live.staticflickr.com/65535/47720639732_e04b2a9ed7_o.jpg", "https://live.staticflickr.com/65535/32829382467_087d024428_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/crs-17_press_kit.pdf", "webcast": "https://youtube.com/watch?v=AQFhX5TvP0M", "youtube_id": "AQFhX5TvP0M", "article": "https://spaceflightnow.com/2019/05/04/spacex-launches-space-station-resupply-mission-lands-rocket-on-drone-ship/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-17", "static_fire_date_utc": "2019-04-27T07:23:00.000Z", "static_fire_date_unix": 1556349780, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's 17th Commercial Resupply Services mission for NASA out of a total of 20 contracted flights, this mission brings essential supplies to the International Space Station using SpaceX's reusable Dragon 1 spacecraft. The external payloads for this mission include Orbital Carbon Observatory 3 and Space Test Program-Houston 6. The Falcon 9 launches from SLC-40 at Cape Canaveral AFS. The booster was expected to land at LZ-1, however, due to the ongoing investigation and clean-up following the Crew Dragon testing incident, it is likely to land on OCISLY instead.\\n", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90e", "5ea6ed2f080df4000697c90b"], "capsules": ["5e9e2c5cf3591869b63b2670"], "payloads": ["5eb0e4cbb6c3bb0006eeb237"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 78, "name": "CRS-17", "date_utc": "2019-05-04T06:48:00.000Z", "date_unix": 1556952480, "date_local": "2019-05-04T02:48:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591809313b2660", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d2effd86e000604b377"}, {"fairings": {"reused": false, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2f080df4000697c90c"]}], "links": {"patch": {"small": "https://images2.imgbox.com/79/ec/TOE2PBjQ_o.png", "large": "https://images2.imgbox.com/39/aa/5of7buxK_o.png"}, "reddit": {"campaign": "https://www.reddit.com/comments/bjybr1", "launch": "https://www.reddit.com/r/spacex/comments/brfbic/rspacex_starlink_official_launch_discussion", "media": "https://www.reddit.com/r/spacex/comments/bp0479/rspacex_starlink_media_thread_videos_images_gifs", "recovery": "https://www.reddit.com/r/spacex/comments/bsaljm/rspacex_starlink_b10493_recovery_discussion_and"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/47926143711_4a0b2680bf_o.jpg", "https://live.staticflickr.com/65535/47926136902_d8ce35223d_o.jpg", "https://live.staticflickr.com/65535/47926144123_2a828b66d5_o.jpg", "https://live.staticflickr.com/65535/47926137127_ef58152b6b_o.jpg", "https://live.staticflickr.com/65535/47926137017_e6d86fa820_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/starlink_press_kit.pdf", "webcast": "https://www.youtube.com/watch?v=riBaVeDTEWI", "youtube_id": "riBaVeDTEWI", "article": "https://spaceflightnow.com/2019/05/24/spacexs-first-60-starlink-broadband-satellites-deployed-in-orbit", "wikipedia": "https://en.wikipedia.org/wiki/Starlink_(satellite_constellation)", "static_fire_date_utc": "2019-05-13T20:06:00.000Z", "static_fire_date_unix": 1557777960, "net": false, "window": 9000, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX will launch dozens of Starlink demonstration satellites from SLC-40, Cape Canaveral AFS. Starlink is a low Earth orbit broadband internet constellation developed and owned by SpaceX which will eventually consist of nearly 12 000 satellites and will provide low latency internet service to ground terminals around the world. Two prototype satellites, Microsats 2a and 2b, were launched from Vandenberg AFB in February 2018. The booster for this mission will land on OCISLY.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90c", "5ea6ed2f080df4000697c90e", "5ea6ed2f080df4000697c90b", "5ea6ed2e080df4000697c909"], "capsules": [], "payloads": ["5eb0e4cbb6c3bb0006eeb238"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 79, "name": "Starlink v0.9", "date_utc": "2019-05-24T02:30:00.000Z", "date_unix": 1558665000, "date_local": "2019-05-23T22:30:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591833b13b2659", "flight": 3, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d30fffd86e000604b378"}, {"fairings":

```
{
  "reused": false,
  "recovery_attempt": false,
  "recovered": null,
  "ships": [],
  "links": {
    "patch": {
      "small": "https://images2.imgbox.com/39/af/ygmjLYhv_o.png",
      "large": "https://images2.imgbox.com/03/18/xlkSHLy1_o.png"
    },
    "reddit": {
      "campaign": "https://www.reddit.com/r/spacex/comments/buq487/radarsat_constellation_launch_campaign_thread",
      "launch": "https://www.reddit.com/r/spacex/comments/byp69f/rspacex_radarsat_constellation_official_launch",
      "media": null,
      "recovery": null,
      "flickr": {
        "small": [],
        "original": [
          "https://live.staticflickr.com/65535/48052269657_71764b0fb3_o.jpg",
          "https://live.staticflickr.com/65535/48052269617_34447619f0_o.jpg",
          "https://live.staticflickr.com/65535/48052224858_20ea2a411e_o.jpg",
          "https://live.staticflickr.com/65535/48052269562_325c117b81_o.jpg",
          "https://live.staticflickr.com/65535/48052182461_a419db6b84_o.jpg",
          "https://live.staticflickr.com/65535/48052224733_f89f1dd046_o.jpg"
        ]
      },
      "presskit": "https://www.spacex.com/sites/spacex/files/radarsat_constellation_mission_press_kit.pdf",
      "webcast": "https://youtu.be/8A2nJd9Urk8",
      "youtube_id": "8A2nJd9Urk8",
      "article": "https://spaceflightnow.com/2019/06/12/three-canadian-radar-surveillance-satellites-ride-spacex-rocket-into-orbit/",
      "wikipedia": "https://en.wikipedia.org/wiki/RADARSAT_Constellation",
      "static_fire_date_utc": "2019-06-08T08:39:00.000Z",
      "static_fire_date_unix": 1559983140,
      "net": false,
      "window": 780,
      "rocket": "5e9d0d95eda69973a809d1ec",
      "success": true,
      "failures": [],
      "details": "SpaceX is launching the three satellite RADARSAT Constellation Mission into Sun Synchronous orbit from SLC-4E, VAFB. The RCM spacecraft are synthetic aperture radar (SAR) Earth observation satellites built by the Canadian space company, MDA, for the Canadian Space Agency. This mission was delayed when the originally slated booster failed to land after CRS-16. The booster is expected to return to LZ-4.",
      "crew": [],
      "ships": [],
      "capsules": [],
      "payloads": [
        "5eb0e4ccb6c3bb0006eeb239"
      ],
      "launchpad": "5e9e4502f509092b78566f87",
      "flight_number": 80,
      "name": "RADARSAT Constellation",
      "date_utc": "2019-06-12T14:17:00.000Z",
      "date_unix": 1560349020,
      "date_local": "2019-06-12T07:17:00-07:00",
      "date_precision": "hour",
      "upcoming": false,
      "cores": [
        {
          "core": "5e9e28a6f35918c0803b265c",
          "flight": 2,
          "gridfins": true,
          "legs": true,
          "reused": true,
          "landing_attempt": true,
          "landing_success": true,
          "landing_type": "RTLS",
          "landpad": "5e9e3032383ecb554034e7c9"
        }
      ],
      "auto_update": true,
      "tbd": false,
      "launch_library_id": null,
      "id": "5eb87d31ffd86e000604b379",
      "fairings": [
        {
          "reused": false,
          "recovery_attempt": true,
          "recovered": true,
          "ships": [
            "5ea6ed2e080df4000697c908"
          ],
          "links": {
            "patch": {
              "small": "https://images2.imgbox.com/b0/90/fA4QaCAi_o.png",
              "large": "https://images2.imgbox.com/81/9e/p6AaiJwj_o.png"
            },
            "reddit": {
              "campaign": "https://www.reddit.com/r/spacex/comments/bw6aa8/stp2_launch_campaign_thread/",
              "launch": "https://www.reddit.com/r/spacex/comments/c40a29/rspacex_stp2_official_launch_discussion_updates",
              "media": "https://www.reddit.com/r/spacex/comments/c4ng3a/rspacex_stp2_media_thread_videos_images_gifs",
              "recovery": null,
              "flickr": {
                "small": [],
                "original": [
                  "https://live.staticflickr.com/65535/48129211778_83c1769305_o.jpg",
                  "https://live.staticflickr.com/65535/48129211908_8390c775b0_o.jpg",
                  "https://live.staticflickr.com/65535/48129182836_fd53e5646b_o.jpg",
                  "https://live.staticflickr.com/65535/48129269897_22d854be5c_o.jpg",
                  "https://live.staticflickr.com/65535/48129182631_572051790c_o.jpg",
                  "https://live.staticflickr.com/65535/48129211693_d23b0287f1_o.jpg",
                  "https://live.staticflickr.com/65535/48129269942_eb9b5c25bc_o.jpg"
                ]
              },
              "presskit": "https://www.spacex.com/sites/spacex/files/stp-2_press_kit.pdf",
              "webcast": "https://youtu.be/WxH4CAIhtiQ",
              "youtube_id": "WxH4CAIhtiQ",
              "article": "https://spaceflightnow.com/2019/06/25/falcon-heavy-launches-on-military-led-rideshare-mission-boat-catches-fairing",
              "wikipedia": "https://en.wikipedia.org/wiki/Space_Test_Program",
              "static_fire_date_utc": "2019-06-19T21:52:00.000Z",
              "static_fire_date_unix": 1560981120,
              "net": false,
              "window": 14400,
              "rocket": "5e9d0d95eda69974db09d1ed",
              "success": true,
              "failures": [],
              "details": "Space Test Program 2 is a rideshare managed by the U.S. Air Force Space and Missile Systems Center (SMC), launching from LC-39A, KSC. Most of the spacecraft will be delivered into low Earth orbit (LEO) in two deployment sequences separated by a second stage burn. These LEO payloads include the six Taiwan and United States owned COSMIC-2 microsatellites, the Planetary Society's LightSail-B demonstrator cubesat, and others. The third and final deployment will be the Air Force Research Lab's DSX spacecraft, which will be delivered to a medium Earth orbit (MEO). This mission will reuse the side cores from Arabsat 6A, which will return to LZ-1, and LZ-2. The new center core will boost back to land on OCI SLY less than 40 km from the launch site.",
              "crew": [],
              "ships": [
                "5ea6ed30080df40006"
              ]
            }
          ]
        }
      ]
    }
  ]
}
```

97c913", "5ea6ed2f080df4000697c90b", "5ea6ed2e080df4000697c909", "5ea6ed2e080df4000697c908", "5ea6ed2f080df4000697c90e"], "capsules": [], "payloads": ["5eb0e4ccb6c3bb0006eeb23a", "5eb0e4ccb6c3bb0006eeb23b", "5eb0e4ccb6c3bb0006eeb23c", "5eb0e4ccb6c3bb0006eeb23d", "5eb0e4ccb6c3bb0006eeb23e", "5eb0e4cddb6c3bb0006eeb23f", "5eb0e4cddb6c3bb0006eeb240", "5eb0e4cddb6c3bb0006eeb241", "5eb0e4cddb6c3bb0006eeb242", "5eb0e4cddb6c3bb0006eeb243", "5eb0e4cddb6c3bb0006eeb244", "5eb0e4cddb6c3bb0006eeb245", "5eb0e4ceb6c3bb0006eeb246", "5eb0e4ceb6c3bb0006eeb247", "5eb0e4ceb6c3bb0006eeb248", "5eb0e4ceb6c3bb0006eeb249"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 81, "name": "STP-2", "date_utc": "2019-06-25T03:30:00.000Z", "date_unix": 1561433400, "date_local": "2019-06-24T23:30:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591878063b2661", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": false, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}, {"core": "5e9e28a6f359183c413b265d", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}, {"core": "5e9e28a6f359188fd53b265e", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb90a834e7c8"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d35ffd86e000604b37a"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/f1/70/USGBp3Dy_o.png", "large": "https://images2.imgbox.com/79/a5/ZdV48VwO_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/c8k6g5/crs18_launch_campaign_thread", "launch": "https://www.reddit.com/r/spacex/comments/ch2ml7/rspacex_crs18_official_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/chbr8i/rspacex_crs18_media_thread_videos_images_gifs/", "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/48380511527_190682b573_o.jpg", "https://live.staticflickr.com/65535/48380370691_7b0757a4d3_o.jpg", "https://live.staticflickr.com/65535/48380511492_51db1bf984_o.jpg", "https://live.staticflickr.com/65535/48380370626_a5d264c637_o.jpg", "https://live.staticflickr.com/65535/48380511427_97db52a9e3_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/crs-18_press_kit.pdf", "webcast": "https://youtu.be/SIgrxVuP5jk", "youtube_id": "SIgrxVuP5jk", "article": "https://spaceflightnow.com/2019/07/25/new-docking-port-spacesuit-and-supplies-en-route-to-space-station/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-18"}, "static_fire_date_utc": "2019-07-19T15:31:00.000Z", "static_fire_date_unix": 1563550260, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's 18th Commercial Resupply Services mission out of a total of 20 such contracted flights for NASA, this launch will deliver essential supplies to the International Space Station using the reusable Dragon 1 cargo spacecraft. The external payload for this mission is International Docking Adapter 3, replacing IDA-1 lost in SpaceX's CRS-7 launch failure. This mission will launch from SLC-40 at Cape Canaveral AFS on a Falcon 9, and the first-stage booster is expected to land back at CCAFS LZ-1.", "crew": [], "ships": [], "capsules": ["5e9e2c5cf359188bfb3b266b"], "payloads": ["5eb0e4ceb6c3bb0006eeb24a"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 82, "name": "CRS-18", "date_utc": "2019-07-25T22:01:00.000Z", "date_unix": 1564092060, "date_local": "2019-07-25T18:01:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591809313b2660", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d36ffd86e000604b37b"}, {"fairings": {"reused": false, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/65/c2/MMGkhdcA_o.png", "large": "https://images2.imgbox.com/9e/6f/oaYZfAoF_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/cjaawx/amos17_launch_campaign_thread", "launch": "https://www.reddit.com/r/spacex/comments/cmcdgn/rspacex_amos17_official_launch_discussion_updates", "media": "https://www.reddit.com/r/spacex/comments/cmppne/rspacex_amos17_media_thread_videos_images_gifs", "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/48478269312_58dd3dc446_o.jpg", "https://live.staticflickr.com/65535/48478269747_353dcb2e62_o.jpg", "https://live.staticflickr.com/65535/48478119901_2de0441026_o.jpg", "https://live.staticflickr.com/65535/48478120646_ab72c2c6c3_o.jpg", "https://live.stati

cflickr.com/65535/48478120031_5aae1f6131_o.jpg", "https://live.staticflickr.com/65535/48478269442_08479bed36_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/amos-17_mission_press_kit_8_6_2019.pdf", "webcast": "https://youtu.be/fZh82-WcCuo", "youtube_id": "fZh82-WcCuo", "article": "https://spaceflightnow.com/2019/08/07/spacex-launches-israeli-owned-telecom-satellite/", "wikipedia": "https://en.wikipedia.org/wiki/Spacecom"}, "static_fire_date_utc": "2019-08-01T00:00:00.000Z", "static_fire_date_unix": 1564617600, "net": false, "window": 5280, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX will launch Boeing built Amos-17, a geostationary communications satellite for Israeli company Spacecom. The satellite will be delivered to GTO from KSC LC-39A or possibly CCAFS SLC-40, and will replace the defunct Amos-5 at 17\\xc2\\xb0 E. Amos-17 carries multi-band high throughput and regional beams servicing Africa, Europe and the Middle East. The cost of this launch is covered for Spacecom by SpaceX credit following the Amos-6 incident. A recovery of the booster for this mission is not expected.", "crew": [], "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c909"], "capsules": [], "payloads": ["5eb0e4cfb6c3bb0006eeb24b"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 83, "name": "Amos-17", "date_utc": "2019-08-06T22:52:00.000Z", "date_unix": 1565131920, "date_local": "2019-08-06T18:52:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f359181eed3b2657", "flight": 3, "gridfins": false, "legs": false, "reused": true, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d37ffd86e000604b37c"}, {"fairings": {"reused": true, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/61/a6/1MnnbXIF_o.png", "large": "https://images2.imgbox.com/3a/d1/R1MaGiiV_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/dgqcb6/2nd_starlink_mission_launch_campaign_thread", "launch": "https://www.reddit.com/r/spacex/comments/du07rt/rspacex_starlink1_official_launch_discussion", "media": "https://www.reddit.com/r/spacex/comments/durx53/rspacex_starlink1_media_thread_videos_images", "recovery": "https://www.reddit.com/r/spacex/comments/du1duu/starlink1_booster_and_fairing_recovery_discussion"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49051988851_0b422e1603_o.jpg", "https://live.staticflickr.com/65535/49051988746_1a97e38ca8_o.jpg", "https://live.staticflickr.com/65535/49052201452_c3b01e37f0_o.jpg", "https://live.staticflickr.com/65535/49051988636_3714a78787_o.jpg", "https://live.staticflickr.com/65535/49051477088_d86104481d_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/starlink_press_kit_nov2019.pdf", "webcast": "https://youtu.be/pIDuv0Ta0XQ", "youtube_id": "pIDuv0Ta0XQ", "article": "https://spaceflightnow.com/2019/11/11/successful-launch-continues-deployment-of-spacexs-starlink-network", "wikipedia": "https://en.wikipedia.org/wiki/Starlink_(satellite_constellation)"}, "static_fire_date_utc": "2019-11-11T12:08:00.000Z", "static_fire_date_unix": 1573474080, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the first batch of Starlink version 1.0 satellites, from SLC-40, Cape Canaveral AFS. They are expected to contribute to the 550 km x 53\\xc2\\xb0 shell. It is the second Starlink launch overall. Starlink is a low Earth orbit broadband internet constellation developed and owned by SpaceX which will eventually consist of nearly 12 000 satellites and will provide low latency internet service to ground terminals around the world. The booster for this mission is expected to land on OCISLY.", "crew": [], "ships": ["5ea6ed2e080df4000697c908", "5ea6ed30080df4000697c913", "5ea6ed2e080df4000697c909", "5ea6ed2f080df4000697c90d"], "capsules": [], "payloads": ["5eb0e4cfb6c3bb0006eeb24c"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 84, "name": "Starlink-1", "date_utc": "2019-11-11T14:56:00.000Z", "date_unix": 1573484160, "date_local": "2019-11-11T09:56:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591809c03b2658", "flight": 4, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d39ffd86e000604b37d"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/5d/26/ZP75I11j_o.png", "large": "https://images2.imgbox.com/6e/76/jVcSQg0K_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/e0upb3/crs19_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/e5r8hj/rspacex_crs19_of

ficial_launch_discussion_updates", "media": "https://www.reddit.com/r/spacex/comments/e6ln0m/rspacex_crs19_media_thread_videos_images_gifs", "recovery": "https://www.reddit.com/r/spacex/comments/e6lbzy/rspacex_crs19_booster_recovery_discussion_updates"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49178460143_e3ae2bd506_o.jpg", "https://live.staticflickr.com/65535/49178954221_8544835325_o.jpg", "https://live.staticflickr.com/65535/49179161792_9f1801a963_o.jpg", "https://live.staticflickr.com/65535/49178460368_62eb945db8_o.jpg", "https://live.staticflickr.com/65535/49184948561_ce20b38bc6_o.jpg", "https://live.staticflickr.com/65535/49185149122_00a7fa573d_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/crs-19_mission_press_kit.pdf", "webcast": "https://youtu.be/-aoAGdYXp_4", "youtube_id": "-aoAGdYXp_4", "article": "https://spaceflightnow.com/2019/12/05/dragon-soars-on-research-and-resupply-flight-to-international-space-station", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-19", "static_fire_date_utc": "2019-11-26T17:04:00.000Z", "static_fire_date_unix": 1574787840, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's 19th Crew Resupply Mission on behalf of NASA with a total of 20 contracted flights, this mission brings essential supplies to the International Space Station using SpaceX's reusable Dragon spacecraft. The external payloads for this mission include the Hyperspectral Imager Suite and a lithium-ion battery. Falcon 9 and Dragon will launch from SLC-40, Cape Canaveral AFS. The mission will be complete with return and recovery of the Dragon capsule and down cargo.", "crew": [], "ships": ["5ea6ed2f080df4000697c90d"], "capsules": ["5e9e2c5bf3591880643b2669"], "payloads": ["5eb0e4cfb6c3bb0006eeb24d"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 85, "name": "CRS-19", "date_utc": "2019-12-05T17:29:23.000Z", "date_unix": 1575566963, "date_local": "2019-12-05T12:29:23-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f359187afd3b2662", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d39ffd86e000604b37e"}, {"fairings": {"reuse": false, "recovery_attempt": true, "recovered": false, "ships": ["5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/2c/03/fMLdgNQ4_o.png", "large": "https://images2.imgbox.com/73/e2/4I30s6n7_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/e5w6i8/jcsat18kacific1_launch_campaign_thread", "launch": "https://www.reddit.com/r/spacex/comments/ebfr9t/rspacex_jcsat18kacific1_official_launch", "media": "https://www.reddit.com/r/spacex/comments/ebn4g5/rspacex_jcsat18kacific1_media_thread_videos", "recovery": "https://www.reddit.com/r/spacex/comments/ec48p3/jcsat_18kacific1_recovery_discussion_and_updates"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49235364922_e55ceb61be_o.jpg", "https://live.staticflickr.com/65535/49235136806_e5a3774904_o.jpg", "https://live.staticflickr.com/65535/49235137056_585dc050e7_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/jcsat18kacific1_mission_press_kit.pdf", "webcast": "https://youtu.be/sbXgZg9JmkI", "youtube_id": "sbXgZg9JmkI", "article": "https://spaceflightnow.com/2019/12/17/startup-launches-broadband-satellite-on-spacex-rocket-to-connect-pacific-islands", "wikipedia": "https://en.wikipedia.org/wiki/JSAT_(satellite_constellation)", "static_fire_date_utc": "2019-12-13T12:34:00.000Z", "static_fire_date_unix": 1576240440, "net": false, "window": 5280, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX will launch the Boeing built dual payload satellite to geostationary transfer orbit from XXXX. JCSat 18 is a mobile broadband communications payload built for Sky Perfect JSAT Corporation of Japan and will service Asia Pacific. Kacific 1 is a high throughput broadband internet payload built for Kacific Broadband Satellites and will service certain high demand areas of Southeast Asia and the Pacific. Both payloads share a single chassis. The booster for this mission is expected to land on OCISLY.", "crew": [], "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907", "5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90d"], "capsules": [], "payloads": ["5eb0e4cfb6c3bb0006eeb24e"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 86, "name": "JCSat 18 / Kacific 1", "date_utc": "2019-12-17T00:10:00.000Z", "date_unix": 1576541400, "date_local": "2019-12-16T19:10:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591809313b2660", "flight": 3, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true}

e,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d3bffd86e000604b37f"},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/36/f5/B08U2KHW_o.png","large":"https://images2.imgbox.com/69/c7/G444jTFk_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/efqnvq/starlink2_launch_campaign_thread","launch":"https://www.reddit.com/r/spacex/comments/eko0hr/rspacex_starlink2_official_launch_discussion","media":"https://www.reddit.com/r/spacex/comments/ekyzbz/rspacex_starlink2_media_thread_videos_images_gifs","recovery":"https://www.reddit.com/r/spacex/comments/elgp5k/rspacex_starlink_l2_recovery_discussion_updates"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/49346907238_b27507e4d9_o.jpg","https://live.staticflickr.com/65535/49347368761_f4e45bd38a_o.jpg","https://live.staticflickr.com/65535/49347368406_8f9ac1fe2a_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/starlink_press_kit_jan2020.pdf","webcast":"https://youtu.be/HwyXo6T7jC4","youtube_id":"HwyXo6T7jC4","article":"https://spaceflightnow.com/2020/01/07/spacex-launches-more-starlink-satellites-tests-design-change-for-astronomers","wikipedia":"https://en.wikipedia.org/wiki/Starlink_(satellite_constellation)","static_fire_date_utc":"2020-01-04T11:45:00.000Z","static_fire_date_unix":1578138300,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission will launch the second batch of Starlink version 1.0 satellites, from SLC-40, Cape Canaveral AFS. They are expected to contribute to the 550 km x 53\\xc2\\xb0 she ll. It is the third Starlink launch overall. Starlink is a low Earth orbit broadband and internet constellation developed and owned by SpaceX which will eventually consist of nearly 12 000 satellites and will provide low latency internet service to ground terminals around the world. The booster for this mission is expected to land on OCISLY."},"crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed30080df4000697c913","5ea6ed2e080df4000697c909","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90d"],"capsules":[],"payloads":["5eb0e4c6b6c3bb0006eeb24f"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":87,"name":"Starlink-2","date_utc":"2020-01-07T02:19:00.000Z","date_unix":1578363540,"date_local":"2020-01-06T21:19:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591833b13b2659","flight":4,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d3cffd86e000604b380"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[],"links":{"patch":{"small":"https://images2.imgbox.com/c0/9d/SJYvC4hT_o.png","large":"https://images2.imgbox.com/19/df/IH0nVnSr_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/ek7eny/in_flight_abort_test_launch_campaign_thread","launch":"https://www.reddit.com/r/spacex/comments/eq24ap/rspacex_inflight_abort_test_official_launch","media":"https://www.reddit.com/r/spacex/comments/eq7pg4/rspacex_inflight_abort_test_media_thread_videos/","recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/49421605028_b7ba890f0e_o.jpg","https://live.staticflickr.com/65535/49422067976_cda2b8f021_o.jpg","https://live.staticflickr.com/65535/49422067876_13ed519fe6_o.jpg","https://live.staticflickr.com/65535/49421604803_0093a5d2cb_o.jpg","https://live.staticflickr.com/65535/49422294602_0d5e7d8e82_o.jpg","https://live.staticflickr.com/65535/49422068111_2ed613b19b_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/in-flight_abort_test_press_kit.pdf","webcast":"https://youtu.be/mhrkdHshb3E","youtube_id":"mhrkdHshb3E","article":"https://spaceflightnow.com/2020/01/19/spacex-aces-final-major-test-before-first-crew-mission","wikipedia":"https://en.wikipedia.org/wiki/Commercial_Crew_Development"},"static_fire_date_utc":"2020-01-11T09:42:00.000Z","static_fire_date_unix":1578735720,"net":false,"window":14400,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch a Crew Dragon capsule from LC-39A, KSC on a fully fueled Falcon 9 rocket and then trigger the launch escape system during the period of maximum dynamic pressure. As part of NASA's Commercial Crew Integrated Capability program (CCiCap) this test will contribute valuable data to help validate Crew Dragon and its launch abort system. The Crew Dragon will be recovered by GO Searcher after splashdown in the Atlantic Ocean. This flight does not go to orbit. The booster an

d upper stage are expected to break up following capsule separation and there will be no landing attempt.", "crew": [], "ships": ["5ea6ed2f080df4000697c90c"], "capsules": ["5e9e2c5df359184c9a3b2672"], "payloads": ["5eb0e4d0b6c3bb0006eeb250"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 88, "name": "Crew Dragon In Flight Abort Test", "date_utc": "2020-01-19T14:00:00.000Z", "date_unix": 1579442400, "date_local": "2020-01-19T09:00:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f359182b023b2656", "flight": 4, "gridfins": false, "legs": false, "reused": true, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d3dff86e000604b381", {"fairings": {"reused": false, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/3a/c6/ueu9Acdh_o.png", "large": "https://images2.imgbox.com/1c/55/xNcIOR8Z_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/eof5pr/starlink3_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/eudve3/rspacex_starlink_3_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/evjdw3/rspacex_starlink3_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/evnyi7/rspacex_starlink3_recovery_discussion_updates/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49461673512_f4e01c8b27_o.jpg", "https://live.staticflickr.com/65535/49461673792_b1804c2a2b_o.jpg", "https://live.staticflickr.com/65535/49461673707_cb7fc4a3a8_o.jpg", "https://live.staticflickr.com/65535/49461673552_65cc294f82_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/starlink_press_kit_jan272020.pdf", "webcast": "https://youtu.be/1KmbDCiL7MU", "youtube_id": "1KmbDCiL7MU", "article": "https://spaceflightnow.com/2020/01/29/spacex-boosts-60-more-starlink-satellites-into-orbit-after-weather-delays/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_Starlink"}, "static_fire_date_utc": "2020-01-20T13:17:00.000Z", "static_fire_date_unix": 1579526220, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the third batch of Starlink version 1.0 satellites, from SLC-40, Cape Canaveral AFS. It is the fourth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on OCISLY.", "crew": [], "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907", "5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90d"], "capsules": [], "payloads": ["5eb0e4d0b6c3bb0006eeb251"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 89, "name": "Starlink-3", "date_utc": "2020-01-29T14:06:00.000Z", "date_unix": 1580306760, "date_local": "2020-01-29T09:06:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f35918c0803b265c", "flight": 3, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d3dff86e000604b382", {"fairings": {"reused": false, "recovery_attempt": true, "recovered": false, "ships": ["5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/4f/07/GJWgTmKM_o.png", "large": "https://images2.imgbox.com/90/7c/MlD6s04z_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/ex0il1m/starlink4_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/f4d8sg/rspacex_starlink4_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/f56mb4/rspacex_starlink4_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/f5es7j/rspacex_starlink4_recovery_discussion_updates/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49549022017_18738a2552_o.jpg", "https://live.staticflickr.com/65535/49548795221_edd6dc7ef6_o.jpg", "https://live.staticflickr.com/65535/49548795401_93ef80caf5_o.jpg", "https://live.staticflickr.com/65535/49549022057_d4dbd6a492_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/fifth_starlink_press_kit.pdf", "webcast": "https://youtu.be/8xeX62mLcf8", "youtube_id": "8xeX62mLcf8", "article": "https://spaceflightnow.com/2020/02/17/spacex-delivers-more-starlink-satellites-to-orbit-booster-misses-drone-ship-landing/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_Starlink"}, "static_fire_date_utc": "2020-02-14T08:31:00.000Z", "static_fire_date_unix": 1581669060, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the fifth batch of Starlink version 1.0 satellites, from SLC-40, Cape Canaveral AFS. It is the fifth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on OCISLY."}]

launch the fourth batch of Starlink version 1.0 satellites, from SLC-40, Cape Canaveral AFS. It is the fifth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on OCISLY.

Y.", "crew": [], "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907", "5ea6ed2f080df4000697c90b", "5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90d"], "capsules": [], "payloads": ["5eb0e4d0b6c3bb0006eeb252"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 90, "name": "Starlink-4", "date_utc": "2020-02-17T15:05:55.000Z", "date_unix": 1581951955, "date_local": "2020-02-17T10:05:55-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591809313b2660", "flight": 4, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": false, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d41ffd86e000604b383"}, {"fairings": {"links": {"patch": {"small": "https://images2.imgbox.com/9b/93/k1hCBIG8_o.png", "large": "https://images2.imgbox.com/dd/50/KsiuGQL4_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/ezn6n0/crs20_launch_campaign_thread", "launch": "https://www.reddit.com/r/spacex/comments/fe8pcj/rspacex_crs20_official_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/fes64p/rspacex_crs20_media_thread_videos_images_gifs/", "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49635401403_96f9c322dc_o.jpg", "https://live.staticflickr.com/65535/49636202657_e81210a3ca_o.jpg", "https://live.staticflickr.com/65535/49636202572_8831c5a917_o.jpg", "https://live.staticflickr.com/65535/49635401423_e0bef3e82f_o.jpg", "https://live.staticflickr.com/65535/49635985086_660be7062f_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/crs-20_mission_press_kit.pdf", "webcast": "https://youtu.be/1MkcWK2PnsU", "youtube_id": "1MkcWK2PnsU", "article": "https://spaceflightnow.com/2020/03/07/late-night-launch-of-spacex-cargo-ship-marks-end-of-an-era/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-20"}, "static_fire_date_utc": "2020-03-01T10:20:00.000Z", "static_fire_date_unix": 1583058000, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's 20th and final Crew Resupply Mission under the original NASA CRS contract, this mission brings essential supplies to the International Space Station using SpaceX's reusable Dragon spacecraft. It is the last scheduled flight of a Dragon 1 capsule. (CRS-21 and up under the new Commercial Resupply Services 2 contract will use Dragon 2.) The external payload for this mission is the Bartolomeo ISS external payload hosting platform. Falcon 9 and Dragon will launch from SLC-40, Cape Canaveral Air Force Station and the booster will land at LZ-1. The mission will be complete with return and recovery of the Dragon capsule and down cargo.", "crew": [], "ships": [], "capsules": ["5e9e2c5cf359185d753b266f"], "payloads": ["5eb0e4d0b6c3bb0006eeb253"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 91, "name": "CRS-20", "date_utc": "2020-03-07T04:50:31.000Z", "date_unix": 1583556631, "date_local": "2020-03-06T23:50:31-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f359187afd3b2662", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d42ffd86e000604b384"}, {"fairings": {"reused": true, "recovery_attempt": true, "recovered": false, "ships": ["5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/dc/14/DLlaYbmf_o.png", "large": "https://images2.imgbox.com/e4/fd/2NPlCwzs_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/f8awv0/starlink5_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/fhymy3/rspacex_starlink_5_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/fizrn1/rspacex_starlink5_media_thread_videos_images_gifs/", "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49673373182_93a517e140_o.jpg", "https://live.staticflickr.com/65535/49672551378_fabc17ef6f_o.jpg", "https://live.staticflickr.com/65535/49672551303_564ce21658_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/sixth_starlink_press_kit.pdf", "webcast": "https://youtu.be/I4sMhHbHYXM", "youtube_id": "I4sMhHbHYXM", "article": "https://spaceflightnow.com/2020/03/18/falcon-9-rocket-overcomes-engine-failure-to-deploy-starlink-satellite/s/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc":

c": "2020-03-13T18:37:00.000Z", "static_fire_date_unix": 1584124620, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "The sixth Starlink launch overall and the fifth operational batch of Starlink satellites will launch into orbit aboard a Falcon 9 rocket. This mission is expected to deploy all sixty satellites into an elliptical orbit about fifteen minutes into flight. In the weeks following launch the satellites are expected to utilize their onboard ion thrusters to raise their orbits to 550 km in three groups of 20, making use of precession rates to separate themselves into three planes. The booster will land on a drone ship approximately 628 km downrange.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90d"], "capsules": [], "payloads": ["5eb0e4d0b6c3bb0006eeb254"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 92, "name": "Starlink-5", "date_utc": "2020-03-18T12:16:00.000Z", "date_unix": 1584533760, "date_local": "2020-03-18T08:16:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591809c03b2658", "flight": 5, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": false, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d43ffd86e000604b385"}, {"fairings": {"reused": true, "recovery_attempt": false, "recovered": null, "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2f080df4000697c90d"]}, "links": {"patch": {"small": "https://images2.imgbox.com/ef/36/h10Ds3kT_o.png", "large": "https://images2.imgbox.com/ab/12/2cQPNTCZ_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/fxkc7k/starlink6_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/g5jmx0/rspacex_starlink_6_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/g5fqka/rspacex_starlink6_media_thread_photographer/", "recovery": "https://www.reddit.com/r/spacex/comments/g6kztd/rspacex_starlink_v1_l6_recovery_discussion/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49673373182_93a517e140_o.jpg", "https://live.staticflickr.com/65535/49672551378_fabc17ef6f_o.jpg", "https://live.staticflickr.com/65535/49672551303_564ce21658_o.jpg", "https://live.staticflickr.com/65535/49806771628_fef13c852d_o.jpg", "https://live.staticflickr.com/65535/49807633862_e5abcb41a6_o.jpg"]}, "presskit": "https://www.spacex.com/sites/spacex/files/seventh_starlink_mission_overview.pdf", "webcast": "https://youtu.be/wSgeOI7pwFI", "youtube_id": "wSgeOI7pwFI", "article": "https://spaceflightnow.com/2020/04/22/spacexs-starlink-network-surpasses-400-satellite-mark-after-successful-launch/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": "2020-04-17T11:48:00.000Z", "static_fire_date_unix": 1587687810, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the sixth batch of operational Starlink satellites, which are expected to be version 1.0, from SLC-40, Cape Canaveral AFS. It is the seventh Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on OCISLY.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907", "5ee68c683c228f36bd5809b5"], "capsules": [], "payloads": ["5eb0e4d1b6c3bb0006eeb255"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 93, "name": "Starlink-6", "date_utc": "2020-04-22T19:30:00.000Z", "date_unix": 1587583800, "date_local": "2020-04-22T15:30:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f35918c0803b265c", "flight": 4, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d44ffd86e000604b386"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/48/a8/LTqq80rE_o.png", "large": "https://images2.imgbox.com/e3/b7/DeT7QTkx_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/fjff6rr/dm2_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/glwz6n/rspacex_cctcap_demonstration_mission_2_general", "media": "https://www.reddit.com/r/spacex/comments/gp1gf5/rspacex_dm2_media_thread_photographer_contest/", "recovery": "https://www.reddit.com/r/spacex/comments/gu5gkd/cctcap_demonstration_mission_2_stage_1_recovery/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49927519643_b43cd4c44_o.jpg", "https://live.staticflickr.com/65535/49927519588_8a39a3994f_o.jpg", "https://live.staticflickr.com/65535/49928343022_6fb33cbd9c_o.jpg", "https://li

ve.staticflickr.com/65535/49934168858_cacb00d790_o.jpg", "https://live.staticflickr.com/65535/49934682271_fd6a31becc_o.jpg", "https://live.staticflickr.com/65535/49956109906_f88d815772_o.jpg", "https://live.staticflickr.com/65535/49956109706_cffa847208_o.jpg", "https://live.staticflickr.com/65535/49956109671_859b323ede_o.jpg", "https://live.staticflickr.com/65535/49955609618_4cca01d581_o.jpg", "https://live.staticflickr.com/65535/49956396622_975c116b71_o.jpg", "https://live.staticflickr.com/65535/49955609378_9b77e5c771_o.jpg", "https://live.staticflickr.com/65535/49956396262_ef41c1d9b0_o.jpg"]}, "presskit": "https://www.nasa.gov/sites/default/files/atoms/files/commercialcrew_press_kit.pdf", "webcast": "https://youtu.be/xY96v00IcK4", "youtube_id": "xY96v00IcK4", "article": "https://spaceflightnow.com/2020/05/30/nasa-astronauts-launch-from-us-soil-for-first-time-in-nine-years/", "wikipedia": "https://en.wikipedia.org/wiki/Crew_Dragon_Demo-2", "static_fire_date_utc": "2020-05-22T17:39:00.000Z", "static_fire_date_unix": 1590169140, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX will launch the second demonstration mission of its Crew Dragon vehicle as part of NASA's Commercial Crew Transportation Capability Program (CCTCap), carrying two NASA astronauts to the International Space Station. Barring unexpected developments, this mission will be the first crewed flight to launch from the United States since the end of the Space Shuttle program in 2011. DM-2 demonstrates the Falcon 9 and Crew Dragon's ability to safely transport crew to the space station and back to Earth and it is the last major milestone for certification of Crew Dragon. Initially the mission duration was planned to be no longer than two weeks, however NASA has been considering an extension to as much as six weeks or three months. The astronauts have been undergoing additional training for the possible longer mission.", "crew": ["5ebf1a6e23a9a60006e03a7a", "5ebf1b7323a9a60006e03a7b"], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed2e080df4000697c909", "5ea6ed2f080df4000697c90d"], "capsules": ["5e9e2c5df359188aba3b2676"], "payloads": ["5eb0e4d1b6c3bb0006eeb257"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 94, "name": "CCTCap Demo Mission 2", "date_utc": "2020-05-30T19:22:00.000Z", "date_unix": 1590866520, "date_local": "2020-05-30T15:22:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d46ffd86e000604b388"}, {"fairings": {"reused": false, "recovery_attempt": true, "recovered": null, "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907"]}, "links": {"patch": {"small": "https://images2.imgbox.com/14/8a/x2EqeeM4_o.png", "large": "https://images2.imgbox.com/f4/9a/sUj3vEI3_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/gamcbr/starlink7_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/gkfe30/rspacex_starlink_7_official_launch_discussion/", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49971196871_a0462d0084_o.jpg", "https://live.staticflickr.com/65535/49970682603_e6333945ee_o.jpg"]}, "presskit": "https://spacetime machine.com/assets/press_kits/185.pdf", "webcast": "https://youtu.be/y4xBFHjkUvw", "youtube_id": "y4xBFHjkUvw", "article": "https://spaceflightnow.com/2020/06/04/spacex-sets-new-mark-in-rocket-reuse-10-years-after-first-falcon-9-launch/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": "2020-05-13T11:11:00.000Z", "static_fire_date_unix": 1589368260, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the seventh batch of operational Starlink satellites, which are expected to be version 1.0, from SLC-40, Cape Canaveral AFS. It is the eighth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on JRTI on its first mission since arriving at Port Canaveral.", "crew": [], "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907", "5ee68c683c228f36bd5809b5"], "capsules": [], "payloads": ["5eb0e4d1b6c3bb0006eeb256"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 95, "name": "Starlink-7", "date_utc": "2020-06-04T01:25:00.000Z", "date_unix": 1591233900, "date_local": "2020-06-03T21:25:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591833b13b2659", "flight": 5, "gridfins": true, "legs": true, "reuse

d":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d45ffd86e000604b387"},{"fairings":{"reused":true,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/f2/ab/jxHngBd5_o.png","large":"https://images2.imgbox.com/ba/aa/6rusTkQw_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/gwbr4t/starlink8_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/h7gqlc/rspacex_starlink8_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/h842qk/rspacex_starlink8_media_thread_photographer/","recovery":"https://www.reddit.com/r/spacex/comments/h8sx6q/starlink8_recovery_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50009748327_93e52a451f_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/8riKQXChPGg","youtube_id":"8riKQXChPGg","article":"https://spaceflightnow.com/2020/06/13/starlink-satellite-deployments-continue-with-successful-falcon-9-launch/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission will launch the eighth batch of operational Starlink satellites, which are expected to be version 1.0, from SLC-40, Cape Canaveral AFS. It is the ninth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. This mission includes rideshare payloads, SkySats 16-18, on top of the Starlink stack. The booster for this mission is expected to land an ASDS."},"crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ea6ed2f080df4000697c90b"],"capsules":[],"payloads":["5eb0e4d1b6c3bb0006eeb258"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":96,"name":"Starlink-8 & SkySat 16-18","date_utc":"2020-06-13T09:21:00.000Z","date_unix":1592040060,"date_local":"2020-06-13T05:21:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f359187afd3b2662","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb6bb234e7ca"}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d46ffd86e000604b389"},{"fairings":{"reused":null,"recovery_attempt":true,"recovered":true,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/1f/83/TEXnegNL_o.png","large":"https://images2.imgbox.com/14/95/yd34FANN_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/gzeshn/gps_iii_sv03_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/hi5hit/rspacex_gps_iii_sv03_columbus_official_launch/","media":"https://www.reddit.com/r/spacex/comments/hiq0vd/rspacex_gps_iii_sv03_media_thread_photographer/","recovery":"https://www.reddit.com/r/spacex/comments/hjendd/gps_iii_sv03_recovery_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50065947228_804efe6117_o.jpg","https://live.staticflickr.com/65535/50065947263_e1a6ea1e22_o.jpg","https://live.staticflickr.com/65535/50065947218_88ef29951a_o.jpg","https://live.staticflickr.com/65535/50066762457_8c92090037_o.jpg","https://live.staticflickr.com/65535/50085443052_9f6b843a02_o.jpg","https://live.staticflickr.com/65535/50085211776_588bed76f0_o.jpg","https://live.staticflickr.com/65535/50084627433_89d8915596_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/6zr0nfG3Xy4","youtube_id":"6zr0nfG3Xy4","article":"https://spaceflightnow.com/2020/06/30/spacex-launches-its-first-mission-for-u-s-space-force/","wikipedia":"https://en.wikipedia.org/wiki/GPS_Block_III"},"static_fire_date_utc":"2020-06-25T09:48:00.000Z","static_fire_date_unix":1593078480,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch GPS Block III Space Vehicle 03 from SLC-40, Cape Canaveral AFS aboard a Falcon 9. GPS III is owned and operated by the US Air Force and produced by Lockheed Martin. This is the third GPS III satellite and the second launched by SpaceX. The satellite will be delivered into a MEO transfer orbit. The booster for this mission is expected to land on an ASDS."},"crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4d2b6c3bb0006eeb25c"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":97,"name":"GPS III SV03 (Columbus)","date_utc":"2020-06-30T19:55:00.000Z","date_unix":1593546900,"date_local":"2020-06-30T15:55:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5ef670f10059c33cee4a826c","flight":}

```
1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}, {"auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d4affd86e000604b38b"}, {"fairings": {"reused": null, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907"]}, "links": {"patch": {"small": "https://images2.imgbox.com/c3/19/YmxxZMLw_o.png", "large": "https://images2.imgbox.com/d4/0b/QdfjLsV3_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/hkbhqo/anasisii_launch_campaign_thread", "launch": "https://www.reddit.com/r/spacex/comments/hu6sci/rspacex_anasisii_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/hun4pv/rspacex_anasisii_media_thread_photographer_contest/", "recovery": "https://www.reddit.com/r/spacex/comments/hvgjk9/anasisii_recovery_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/50136967628_eda99b6353_o.jpg", "https://live.staticflickr.com/65535/50137510881_4618ba6c84_o.jpg", "https://live.staticflickr.com/65535/50136967553_elac93fab0_o.jpg", "https://live.staticflickr.com/65535/50136967658_9347d7c575_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/TshvZlQ7le8", "youtube_id": "TshvZlQ7le8", "article": "https://spaceflightnow.com/2020/07/20/spacex-delivers-south-koreas-first-military-satellite-into-on-target-orbit/", "wikipedia": null}, {"static_fire_date_utc": "2020-07-11T17:58:00.000Z", "static_fire_date_unix": 1594490280, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX will launch ANASIS-II, a South Korean geostationary military communication satellite from LC-39A, Kennedy Space Center. It will be South Korea's first dedicated military communications satellite. Falcon 9 will deliver the satellite to a geostationary transfer orbit. The booster is expected to land downrange on an ASDS.", "crew": [], "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907", "5ea6ed2f080df4000697c90b"], "capsules": [], "payloads": ["5eb0e4d2b6c3bb0006eeb25b"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 98, "name": "ANASIS-II", "date_utc": "2020-07-20T21:30:00.000Z", "date_unix": 1595280600, "date_local": "2020-07-20T17:30:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}, {"auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d50ffd86e000604b394"}, {"fairings": {"reused": null, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907"]}, "links": {"patch": {"small": "https://images2.imgbox.com/ac/ad/FhIfqkTq_o.png", "large": "https://images2.imgbox.com/2f/4f/Mk46ah9f_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/h8mold/starlink9_launch_campaign_thread", "launch": "https://www.reddit.com/r/spacex/comments/i4ozw3/rspacex_starlink9_launch_discussion_updates", "media": "https://www.reddit.com/r/spacex/comments/hg499n/rspacex_starlink9_media_thread_photographer/", "recovery": "https://www.reddit.com/r/spacex/comments/i5smhk/starlink_9blacksky_recovery_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/50198901143_0bb53a499e_o.jpg", "https://live.staticflickr.com/65535/50199448011_35d0e9c8bf_o.jpg", "https://live.staticflickr.com/65535/50199715777_eca6f41d25_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/KU6KogxG5BE", "youtube_id": "KU6KogxG5BE", "article": "https://spaceflightnow.com/2020/08/07/spacex-closes-out-busy-week-with-launch-of-more-starlink-satellites/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, {"static_fire_date_utc": "2020-06-24T18:18:00.000Z", "static_fire_date_unix": 1593022680, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the ninth batch of operational Starlink satellites, which are expected to be version 1.0, from LC-39A, Kennedy Space Center. It is the tenth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. This mission includes a rideshare of two BlackSky satellites on top of the Starlink stack. The booster for this mission is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907", "5ea6ed30080df4000697c913", "5ee68c683c228f36bd5809b5"], "capsules": [], "payloads": ["5ed9858b1f30554030d45c3e", "5ee522e32f1f3d474c758123"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 99, "name": "Starlink-9 (v1.0) & BlackSky Global 5-6", "date_utc": "2020-08-07T05:12:00.000Z", "date_unix": 159677712
```

0,"date_local":"2020-08-07T01:12:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918c0803b265c","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5ed9819a1f30554030d45c29"},{"fairings":{"reuse_d":true,"recovery_attempt":true,"recovered":true,"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/64/b3/CIqV9XMZ_o.png","large":"https://images2.imgbox.com/17/e3/Zxklw0kr_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/i63bst/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/ibacxz/rspacex_starlink10_launch_discussion_updates/","media":"https://www.reddit.com/r/spacex/comments/ic46fw/starlink10_recovery_updates_discussion_thread/","recovery":"https://www.reddit.com/r/spacex/comments/ic46fw/starlink10_recovery_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50241845831_9a7412e81d_o.jpg","https://live.staticflickr.com/65535/50242057637_ea4f98d517_o.jpg","https://live.staticflickr.com/65535/50242057682_6084977bf7_o.jpg","https://live.staticflickr.com/65535/50242057677_e96fbd46e6_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/jTMJK7wb0rM","youtube_id":"jTMJK7wb0rM","article":"https://spaceflightnow.com/2020/08/18/spacex-adds-more-satellites-to-ever-growing-starlink-network/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":"2020-08-17T10:00:00.000Z","static_fire_date_unix":1597658400,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission will launch the tenth batch of operational Starlink satellites, which are expected to be version 1.0, from LC-39A, Kennedy Space Center. It is the eleventh Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. This mission includes rideshare payloads, SkySats 19-21, on top of the Starlink stack. The booster for this mission is expected to land on an ASDS."},"crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ee68c683c228f36bd5809b5","5ea6ed2f080df4000697c90b","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5ed9859f1f30554030d45c3f"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":100,"name":"Starlink-10 (v1.0) & SkySat 19-21","date_utc":"2020-08-18T14:31:00.000Z","date_unix":1597761060,"date_local":"2020-08-18T10:31:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591833b13b2659","flight":6,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5ed981d91f30554030d45c2a"},{"fairings":{"reuse_d":null,"recovery_attempt":true,"recovered":true,"ships":["5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/ff/20/EcENG8MX_o.png","large":"https://images2.imgbox.com/97/0a/h6UEgv3Y_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/ffoz5r/saocom_1b_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/iiwlch/rspacex_saocom_1b_launch_discussion_updates_thread/","media":"https://www.reddit.com/r/spacex/comments/ij8mxf/rspacex_starlink11_saocom_1b_media_thread/","recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50291453997_aa715950e7_o.jpg","https://live.staticflickr.com/65535/50291306296_85b6ff12a2_o.jpg","https://live.staticflickr.com/65535/50291306061_2f9e350a85_o.jpg","https://live.staticflickr.com/65535/50291306216_4fd44c261e_o.jpg","https://live.staticflickr.com/65535/50291306346_136d3dce7b_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/P-gLOsDjE3E","youtube_id":"P-gLOsDjE3E","article":"https://spaceflightnow.com/2020/08/31/spacex-launches-first-polar-orbit-mission-from-florida-in-decades/","wikipedia":"https://en.wikipedia.org/wiki/SAOCOM"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX's Falcon 9 will launch the second of the two satellite SAOCOM 1 satellites into a sun-synchronous polar orbit from SLC-40, Cape Canaveral AFS. SAOCOM 1B is a synthetic aperture radar Earth observation satellite to support disaster management. The SAOCOM spacecraft are operated by CONAE, the Argentinian National Space Activities Commission, and are built by INVAP. This mission is also expected to include rideshare payload

ds Sequoia, and GNOMES-1. This will be the first polar launch from the Space Coast in 60 years. The launch azimuth will be southward and the booster will land at LZ-1.", "crew": [], "ships": ["5ea6ed2e080df4000697c907"], "capsules": [], "payloads": ["5eb0e4d1b6c3bb0006eeb259"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 101, "name": "SAOCOM 1B, GNOMES-1, Tyvak-0172", "date_utc": "2020-08-30T23:18:00.000Z", "date_unix": 1598829480, "date_local": "2020-08-30T19:18:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f359187afd3b2662", "flight": 4, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d47ffd86e000604b38a"}, {"fairings": {"reused": null, "recovery_attempt": true, "recovered": null, "ships": ["5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/38/09/yStzn5Er_o.png", "large": "https://images2.imgbox.com/83/11/smudwRMI_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/i63bst/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/iip8h3/rspacex_starlink11_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/ij8mxf/rspacex_starlink11_saocom_1b_media_thread/", "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/_j4xR7LMCGY", "youtube_id": "_j4xR7LMCGY", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the eleventh batch of operational Starlink satellites, which are expected to be version 1.0, from SLC-40, Cape Canaveral Air Force Station. It is the twelfth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2f080df4000697c90b", "5ee68c683c228f36bd5809b5"], "capsules": [], "payloads": ["5ef6a4600059c33cee4a829e"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 102, "name": "Starlink-11 (v1.0)", "date_utc": "2020-09-03T12:46:00.000Z", "date_unix": 1599137160, "date_local": "2020-09-03T08:46:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5ef6a1e90059c33cee4a828a"}, {"fairings": {"reused": true, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2e080df4000697c907", "5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/3b/c3/kd7H9FTQ_o.png", "large": "https://images2.imgbox.com/79/1f/hBdiixIW_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/i63bst/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/iu0vtg/rspacex_starlink12_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/iudifm/rspacex_starlink12_media_thread_photographer/", "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/50428228397_6151927733_o.jpg", "https://live.staticflickr.com/65535/50427359318_67b3397892_o.jpg", "https://live.staticflickr.com/65535/50428050591_36defbe958_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/UZkaE_9zwQQ", "youtube_id": "UZkaE_9zwQQ", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the twelfth batch of operational Starlink satellites, which are expected to be version 1.0, from SLC-40, Cape Canaveral Air Force Station. It is the thirteenth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c910", "5ea6ed2e080df4000697c907", "5ea6ed2e080df4000697c908", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5ef6a48e0059c33cee4a829f"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 103, "name": "Starlink-12 (v1.0)", "date_utc": "2020-10-06T11:29:00.000Z", "date_unix": 1601983740, "date_local": "2020-10-06T07:29:00-04:00", "date_precision": "hour", "upcoming": false, "core

s": [{"core": "5e9e28a7f3591817f23b2663", "flight": 3, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5ef6a2090059c33cee4a828b"}, {"fairings": {"reused": true, "recovery_attempt": true, "recovered": null, "ships": ["5ea6ed2e080df4000697c907", "5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/1d/5c/Eg5Xi1XY_o.png", "large": "https://images2.imgbox.com/42/26/UbDMepRy_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/i63bst/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/jctq9/rspacex_starlink13_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/jdgsm2/rspacex_starlink13_media_thread_photographer/", "recovery": "https://www.reddit.com/r/spacex/comments/jdgppl/starlink13_recovery_updates_discussion_thread/"}}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/50500804918_eb1187e1b2_o.jpg", "https://live.staticflickr.com/65535/50501674637_f16f528728_o.jpg", "https://live.staticflickr.com/65535/50501515611_2a3753bed1_o.jpg", "https://live.staticflickr.com/65535/50501674632_0d5276b1b5_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/UM8CDDAmp98", "youtube_id": "UM8CDDAmp98", "article": "https://spaceflightnow.com/2020/10/18/spacex-launches-another-batch-of-starlink-satellites/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, {"static_fire_date_utc": "2020-10-17T05:23:00.000Z", "static_fire_date_unix": 1602912180, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the thirteenth batch of operational Starlink satellites, which are expected to be version 1.0, from LC-39A, Kennedy Space Center. It is the fourteenth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90b", "5ee68c683c228f36bd5809b5", "5ea6ed2e080df4000697c907", "5ea6ed2e080df4000697c908"], "capsules": [], "payloads": ["5ef6a4d50059c33cee4a82a1"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 104, "name": "Starlink-13 (v1.0)", "date_utc": "2020-10-18T12:25:00.000Z", "date_unix": 1603023900, "date_local": "2020-10-18T08:25:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f35918c0803b265c", "flight": 6, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5ef6a2bf0059c33cee4a828c"}, {"fairings": {"reused": false, "recovery_attempt": true, "recovered": null, "ships": ["5ea6ed2e080df4000697c907", "5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/65/e5/GS6w5gPI_o.png", "large": "https://images2.imgbox.com/21/50/iOx9Tpuy_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/i63bst/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/jetth8/rspacex_starlink14_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/comments/jhchwun/rspacex_starlink14_media_thread_photographer/", "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/2gbVgTxLgN0", "youtube_id": "2gbVgTxLgN0", "article": "https://spaceflightnow.com/2020/10/24/spacex-adds-another-60-satellites-to-starlink-network/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, {"static_fire_date_utc": "2020-10-21T12:55:00.000Z", "static_fire_date_unix": 1603284900, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission will launch the fourteenth batch of operational Starlink satellites, which are expected to be version 1.0, from SLC-40, Kennedy Space Center. It is the fifteenth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on JRTI.", "crew": [], "ships": ["5ea6ed2f080df4000697c910", "5ea6ed2f080df4000697c90b", "5ea6ed2e080df4000697c907", "5ea6ed2e080df4000697c908"], "capsules": [], "payloads": ["5ef6a4ea0059c33cee4a82a2"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 105, "name": "Starlink-14 (v1.0)", "date_utc": "2020-10-24T15:31:00.000Z", "date_unix": 1603553460, "date_local": "2020-10-24T11:31:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "flight": 3, "gridfins": true, "legs": true, "reuse

d":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5ef6a2e70059c33cee4a8293"},{"fairings":{"reused":null,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/5e/b7/Kn4Vn6nM_o.png","large":"https://images2.imgbox.com/c8/f5/tRqtdHD6_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/io0swm/gps_iii_sv04_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/jobxn2/rspacex_gps_iii_sv04_sacagawea_official_launch/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50611865511_2299e11860_o.jpg","https://live.staticflickr.com/65535/5061118958_448d239fe1_o.jpg","https://live.staticflickr.com/65535/50611979827_48811d2ea6_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/wuFXF5YKR1M","youtube_id":"wuFXF5YKR1M","article":"https://spaceflightnow.com/2020/11/06/spacex-launches-gps-navigation-satellite-from-cape-canaveral/","wikipedia":"https://en.wikipedia.org/wiki/GPS_Block_III"},"static_fire_date_utc":"2020-09-25T05:42:00.000Z","static_fire_date_unix":1601012520,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch GPS Block III Space Vehicle 04 from SLC-40, Cape Canaveral AFS aboard a Falcon 9. GPS III is owned and operated by the US Air Force and produced by Lockheed Martin. This will be the fourth GPS III satellite launched and the third launched by SpaceX. The satellite will be delivered into a MEO transfer orbit. The booster for this mission will land on an ASDS.",{"crew":[],"ships":["5ea6ed30080df4000697c913","5ee68c683c228f36bd5809b5","5ea6ed2e080df4000697c907"],"capsules":[],"payloads":["5eb0e4d2b6c3bb0006eeb25e"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":106,"name":"GPS III SV04 (Sacagawea)","date_utc":"2020-11-05T23:24:00.000Z","date_unix":1604618640,"date_local":"2020-11-05T18:24:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c5440622a633027900a0","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d4cfff86e000604b38d"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/98/cc/UJd0SS73_o.png","large":"https://images2.imgbox.com/03/3d/LzQWXPfy_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/iwb8bl/crew1_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/ju7fxv/rspacex_crew1_official_launch_coast_docking/","media":"https://www.reddit.com/r/spacex/comments/judv0r/rspacex_crew1_media_thread_photographer_contest/","recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50618376646_8f52c31fc4_o.jpg","https://live.staticflickr.com/65535/50618376731_43ddaab1b8_o.jpg","https://live.staticflickr.com/65535/50618376671_ba4e60af7c_o.jpg","https://live.staticflickr.com/65535/50618376351_ecfdee4ab2_o.jpg","https://live.staticflickr.com/65535/50618727917_01e579c4d9_o.jpg","https://live.staticflickr.com/65535/50618355216_2872d1fe98_o.jpg","https://live.staticflickr.com/65535/50618354801_ff3e722884_o.jpg","https://live.staticflickr.com/65535/50618463487_41642939a4_o.jpg","https://live.staticflickr.com/65535/50617619613_5630422345_o.jpg","https://live.staticflickr.com/65535/50617619668_d680d7319c_o.jpg","https://live.staticflickr.com/65535/50617625523_a7484e0abf_o.jpg","https://live.staticflickr.com/65535/50618469202_fa86f88ab3_o.jpg","https://live.staticflickr.com/65535/50617625183_8554412cee_o.jpg","https://live.staticflickr.com/65535/50618470472_fb8e6507d7_o.jpg","https://live.staticflickr.com/65535/50617626838_c0c71de1f7_o.jpg","https://live.staticflickr.com/65535/50617626738_aa3997aeea_o.jpg","https://live.staticflickr.com/65535/50617626408_fb0bba0f89_o.jpg","https://live.staticflickr.com/65535/51158778650_9b8d555c1e_o.jpg","https://live.staticflickr.com/65535/51158458619_9b74f6a3d0_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/bnChQbxLkkI","youtube_id":"bnChQbxLkkI","article":"https://spaceflightnow.com/2020/11/16/astronauts-ride-spacex-crew-capsule-in-landmark-launch-for-commercial-spaceflight/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_Crew-1"},"static_fire_date_utc":"2020-11-11T16:17:00.000Z","static_fire_date_unix":1605111420,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch the first operational mission of its Crew Dragon vehicle as part of NASA's Commercial Crew Transportation Capability Program (CCtCap),

carrying 3 NASA astronauts and 1 JAXA astronaut to the International Space Station. This mission will be the second crewed flight to launch from the United States since the end of the Space Shuttle program in 2011.

"crew":["5f7f1543bf32c864a529b23e","5f7f158bbf32c864a529b23f","5f7f15d5bf32c864a529b240","5f7f1614bf32c864a529b241"],"ships":["5ea6ed2f080df4000697c910","5ee68c683c228f36bd5809b5","5ea6ed2f080df4000697c90c","5ea6ed2e080df4000697c909","5ea6ed2f080df4000697c90b"],"capsules":["5f6f99fddcdf403df379709"],"payloads":["5eb0e4d2b6c3bb0006eeb25f"],"launchpad":"5e9e4502f509094188566f88","flight_number":107,"name":"Crew-1","date_utc":"2020-11-16T00:27:00.000Z","date_unix":1605486420,"date_local":"2020-11-15T19:27:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c53d0622a6330279009f","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d4dffd86e000604b38e"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/96/40/667HXq7w_o.png","large":"https://images2.imgbox.com/26/73/pypHB1GD_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jkk93v/sentinel6_michael_freilich_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/jxsche/rspacex_sentinel6_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/jyd67q/rspacex_sentinel6_media_thread_photographer/","recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50630802488_8cc373728e_o.jpg","https://live.staticflickr.com/65535/50631642722_3af8131c6f_o.jpg","https://live.staticflickr.com/65535/50631544171_66bd43eaa9_o.jpg","https://live.staticflickr.com/65535/50631543966_e8035d5cca_o.jpg","https://live.staticflickr.com/65535/50631643257_c214ceee7b_o.jpg","https://live.staticflickr.com/65535/50631643917_cb7db291d0_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/aVFPzTDCihQ","youtube_id":"aVFPzTDCihQ","article":"https://spaceflightnow.com/2020/11/21/international-satellite-launches-to-extend-measurements-off-sea-level-rise/","wikipedia":"https://en.wikipedia.org/wiki/Copernicus_Sentinel-6"},"static_fire_date_utc":"2020-11-17T13:17:00.000Z","static_fire_date_unix":1605619020,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch Sentinel-6 Michael Freilich into low Earth orbit for NASA, NOAA, ESA, and the European Organization for the Exploitation of Meteorological Satellites aboard a Falcon 9 from SLC-4E, Vandenberg Air Force Station. Sentinel-6(A) is an ocean observation satellite providing radar ocean surface altimetry data and also atmospheric temperature profiles as a secondary mission. The booster for this mission is will land at LZ-4."},"crew":[],"ships":[],"capsules":[],"payloads":["5ed9867c1f30554030d45c40"],"launchpad":"5e9e4502f509092b78566f87","flight_number":108,"name":"Sentinel-6 Michael Freilich","date_utc":"2020-11-21T17:17:00.000Z","date_unix":1605979020,"date_local":"2020-11-21T09:17:00-08:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c54a0622a633027900a1","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb554034e7c9"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5ed983aa1f30554030d45c31"},{"fairings":{"reused":true,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/54/00/20goVF1S_o.png","large":"https://images2.imgbox.com/4a/e7/h403ivFa_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/jxyodz/rspacex_starlink15_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/k0mom0/starlink15_media_thread_photographer_contest/","recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50644831893_bb40b60827_o.jpg","https://live.staticflickr.com/65535/50645580736_44af27257f_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/J442-ti-Dhg","youtube_id":"J442-ti-Dhg","article":"https://spaceflightnow.com/2020/11/25/spacex-launches-60-more-starlink-satellites-on-100th-falcon-9-flight/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":"2020-11-21T16:31:00.000Z","static_fire_date_unix":1605976260,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission will launch the fifteenth batch of operational Sta

link satellites, which are version 1.0, from SLC-40, Cape Canaveral Air Force Station. It will be the sixteenth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90c", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90d", "5ea6ed2e080df4000697c907"], "capsules": [], "payloads": ["5fb95c263a88ae63c9546044"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 109, "name": "Starlink-15 (v1.0)", "date_utc": "2020-11-25T02:13:00.000Z", "date_unix": 1606270380, "date_local": "2020-11-24T21:13:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591833b13b2659", "flight": 7, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5fb95b3f3a88ae63c954603c"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/a2/a0/cHJWYFCo_o.png", "large": "https://images2.imgbox.com/dd/53/W10Rog1y_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jw8bfe/crs21_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/k6my16/rspacex_crs21_official_launch_discussion_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/50689254612_db8bc87d2c_o.jpg", "https://live.staticflickr.com/65535/50689254712_98ef758c81_o.jpg", "https://live.staticflickr.com/65535/50689254512_bb44826694_o.jpg", "https://live.staticflickr.com/65535/50689254642_ba6b08d142_o.jpg", "https://live.staticflickr.com/65535/50689254552_1d9f91a963_o.jpg"]}, "presskit": "https://www.nasa.gov/sites/default/files/atoms/files/spacex_crs-21_mision_overview_high_res.pdf", "webcast": "https://youtu.be/4xJAGFR_N-c", "youtube_id": "4xJAGFR_N-c", "article": "https://spaceflightnow.com/2020/12/06/spacex-launches-first-in-new-line-of-upgraded-space-station-cargo-ships/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-21"}, "static_fire_date_utc": "2020-12-03T13:45:00.000Z", "static_fire_date_unix": 1607003100, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's 21st ISS resupply mission on behalf of NASA and the first under the CRS-2 contract, this mission brings essential supplies to the International Space Station using the cargo variant of SpaceX's Dragon 2 spacecraft. The external payload for this mission is the Nanoracks Bishop Airlock. Falcon 9 and Dragon launch from LC-39A, Kennedy Space Center and the booster is expected to land on an ASDS. The mission will be complete with return and recovery of the Dragon capsule and down cargo.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90d"], "capsules": ["5fb95b3f3a88ae63c9546044"], "payloads": ["5eb0e4d3b6c3bb0006eeb262"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 110, "name": "CRS-21", "date_utc": "2020-12-06T16:17:00.000Z", "date_unix": 1607271420, "date_local": "2020-12-06T11:17:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight": 4, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d4effd86e000604b391"}, {"fairings": {"reused": true, "recovery_attempt": true, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/a9/be/43FhrPoq_o.png", "large": "https://images2.imgbox.com/17/34/WgRl7YFh_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/k51p7b/sxm7_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/kaizok/rspacex_sxm7_official_launch_discussion_updates/", "media": "https://www.reddit.com/r/spacex/comments/kcev8p/sxm7_media_thread_photographer_contest/", "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/50715254423_3cb2a8ff9c_o.jpg", "https://live.staticflickr.com/65535/50715992426_bf43a8f872_o.jpg", "https://live.staticflickr.com/65535/50716071077_5a5bc00af9_o.jpg", "https://live.staticflickr.com/65535/50716071167_100d6f7092_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/C0raGXFb1lo", "youtube_id": "C0raGXFb1lo", "article": "https://spaceflightnow.com/2020/12/13/siriusxm-satellite-rides-spacex-rocket-into-orbit/", "wikipedia": "https://en.wikipedia.org/wiki/Sirius_XM#Satellites"}, "static_fire_date_utc": "2020-12-03T13:45:00.000Z", "static_fire_date_unix": 1607003100, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's 21st ISS resupply mission on behalf of NASA and the first under the CRS-2 contract, this mission brings essential supplies to the International Space Station using the cargo variant of SpaceX's Dragon 2 spacecraft. The external payload for this mission is the Nanoracks Bishop Airlock. Falcon 9 and Dragon launch from LC-39A, Kennedy Space Center and the booster is expected to land on an ASDS. The mission will be complete with return and recovery of the Dragon capsule and down cargo."}]

```

date_utc": "2020-12-07T23:00:00.000Z", "static_fire_date_unix": 1607382000, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX will launch the first of two next generation high power S-band broadcast satellites for SiriusXM. The spacecraft will be delivered into a geostationary transfer orbit and the booster will be recovered downrange. The spacecraft is built by Space Systems Loral (SSL) on the SSL 1300 platform and includes two solar arrays producing 20kW, and an unfurlable antenna dish. SXM-7 will replace XM-3 in geostationary orbit.", "crew": [], "ships": ["5ea6ed2f080df4000697c910", "5ee68c683c228f36bd5809b5", "5ea6ed2f080df4000697c90c"], "capsules": [], "payloads": ["5eb0e4d2b6c3bb0006eeb25d"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 111, "name": "SXM-7", "date_utc": "2020-12-13T17:30:00.000Z", "date_unix": 1607880600, "date_local": "2020-12-13T12:30:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f35918c0803b265c", "flight": 7, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d4bffd86e000604b38c"}, {"fairings": {"reuse": false, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2f080df4000697c90c"]}, "links": {"patch": {"small": "https://images2.imgbox.com/25/01/sBErNO7T_o.jpg", "large": "https://images2.imgbox.com/be/b5/tGnEI6rY_o.jpg"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/j7qqbg/nro1108_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/ke9pmg/rspacex_nrol108_official_launch_discussion/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/50740257483_0f550f6a25_o.jpg", "https://live.staticflickr.com/65535/50740993291_57ef3f881b_o.jpg", "https://live.staticflickr.com/65535/50740257263_b41b843e85_o.jpg", "https://live.staticflickr.com/65535/50740993211_dc00af6dbb_o.jpg", "https://live.staticflickr.com/65535/50740257078_e46a6462df_o.jpg", "https://live.staticflickr.com/65535/50741096702_2a152bdf13_o.jpg", "https://live.staticflickr.com/65535/50740257323_e3e49fa2c6_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/90eVwaFBkfE", "youtube_id": "90eVwaFBkfE", "article": "https://spaceflightnow.com/2020/12/19/spacex-closes-out-record-year-of-launches-from-floridas-space-coast/", "wikipedia": "https://en.wikipedia.org/wiki/National_Reconnaissance_Office"}, {"static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX will launch NROL-108 for the National Reconnaissance Office aboard a Falcon 9 from SLC-40, Cape Canaveral Air Force Station. The booster for this mission is expected to land at LZ-1.", "crew": [], "ships": ["5ea6ed2f080df4000697c90c", "5ea6ed2e080df4000697c908"], "capsules": [], "payloads": ["5f839ac7818d8b59f5740d48"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 112, "name": "NROL-108", "date_utc": "2020-12-19T14:00:00.000Z", "date_unix": 1608386400, "date_local": "2020-12-19T09:00:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f359187afd3b2662", "flight": 5, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5f8399fb818d8b59f5740d43"}, {"fairings": {"reused": true, "recovery_attempt": true, "recovered": null, "ships": ["5ea6ed2e080df4000697c907", "5ea6ed2e080df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/a4/9a/8KhFejXx_o.png", "large": "https://images2.imgbox.com/aa/a6/hE0kWqix_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/kawyb4/t%C3%BCrksat_5a_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/ksagr9/rspacex_t%C3%BCrksat_5a_official_launch_discussion/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/50814482042_476d87b020_o.jpg", "https://live.staticflickr.com/65535/50813630408_d98c2215f8_o.jpg", "https://live.staticflickr.com/65535/50814379121_8834b5362d_o.jpg", "https://live.staticflickr.com/65535/50814379056_f032a23955_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/9I0UYXVqIn8", "youtube_id": "9I0UYXVqIn8", "article": "https://spaceflightnow.com/2021/01/08/spacex-deploys-turkish-satellite-in-first-launch-of-2021/", "wikipedia": "https://en.wikipedia.org/wiki/T%C3%BCrksat_5A"}, {"static_fire_date_utc": null, "static

```

```
c_fire_date_unix":null,"net":false,"window":17820,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch the first of two next generation satellites on contract for T\xc3\xbcrcrsat. T\xc3\xbcrcrsat 5A is a Ku-band broadcast satellite built by Airbus Defense and Space and based on the Electric Orbit Raising version of the Eurostar E3000 platform. This spacecraft will be delivered into a transfer orbit and will then raise itself to its operational 31\xc2\xba East geostationary orbit to serve Turkey, the Middle East, Europe, North Africa and South Africa. The booster for this mission will be recovered downrange via ASDS.", "crew":[],"ships":["5ea6ed2f080df4000697c90d","5ea6ed2f080df4000697c910","5ea6ed2e080df4000697c907","5ea6ed2e080df4000697c908"],"capsules":[],"payloads":["5eb0e4d3b6c3bb0006eeb264"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":113,"name":"Turksat 5A","date_utc":"2021-01-08T02:15:00.000Z","date_unix":1610072100,"date_local":"2021-01-07T21:15:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5ef670f10059c33cee4a826c","flight":4,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d4fffd86e000604b393"}, {"fairings":{"reused":true,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed2e080df4000697c907","5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/a6/d3/bPczm8gQ_o.png","large":"https://images2.imgbox.com/2b/28/fZnNbGqX_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/kz969o/rspacex_starlink16_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/l1b5q8/starlink16_media_thread_photographer_contest/","recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50855737853_4d290519b4_o.jpg","https://live.staticflickr.com/65535/50856457401_5fd05cddd1_o.jpg","https://live.staticflickr.com/65535/50855737933_bcc65bdf8b_o.jpg","https://live.staticflickr.com/65535/50856551642_5190c59ec1_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/84Nct_Q9Lqw","youtube_id":"84Nct_Q9Lqw","article":"https://spaceflightnow.com/2021/01/20/spacex-sets-new-rocket-reuse-records-with-successful-starlink-launch/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission launches the sixteenth batch of operational Starlink satellites, which are version 1.0, from SLC-40 or LC-39A. It is the seventeenth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew":[],"ships":["5ea6ed2e080df4000697c907","5ea6ed2e080df4000697c908","5ea6ed2f080df4000697c910","5ea6ed2f080df4000697c90d","5ea6ed2f080df4000697c90b"],"capsules":[],"payloads":["5fbfedba54ceb10a5664c813"],"launchpad":"5e9e4502f509094188566f88","flight_number":114,"name":"Starlink-16 (v1.0)","date_utc":"2021-01-20T13:02:00.000Z","date_unix":1611147720,"date_local":"2021-01-20T08:02:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918c0803b265c","flight":8,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5fbfecce54ceb10a5664c80a"}, {"fairings":{"reused":false,"recovery_attempt":true,"recovered":true,"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/58/70/eapAog9v_o.png","large":"https://images2.imgbox.com/82/9a/fzsUst0u_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/kt5gds/transporter1_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/l210i3/rspacex_transporter1_official_launch_discussion/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50870343533_e815eb30c4_o.jpg","https://live.staticflickr.com/65535/50871151292_af114a3f9e_o.jpg","https://live.staticflickr.com/65535/50871053741_59a1dbb6cc_o.jpg","https://live.staticflickr.com/65535/50871053696_cd01a7e092_o.jpg","https://live.staticflickr.com/65535/50870343763_1b1ac55eae_o.jpg"]},"presskit":null
```

1,"webcast":"https://youtu.be/ScHI1cbkUv4","youtube_id":"ScHI1cbkUv4","article":"https://spaceflightnow.com/2021/01/24/spacex-launches-record-setting-rideshare-mission-with-143-small-satellites/","wikipedia":null,"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":2520,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch a dedicated rideshare mission from SLC-40 or LC-39A. The spacecraft will be delivered into a sun-synchronous orbit. The booster for this mission is expected to land on an ASDS.", "crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed2f080df4000697c90c","5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907"],"capsules":[],"payloads":["5fd3871a7faea57d297c86c6"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":115,"name":"Transporter-1","date_utc":"2021-01-24T15:00:00.000Z","date_unix":1611500400,"date_local":"2021-01-24T10:00:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591817f23b2663","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5fd386aa7faea57d297c86c1"}, {"fairings":{"reused":true,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/81/af/UT6K0E53_o.png","large":"https://images2.imgbox.com/6b/53/ZqAxQPPhS_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/lbjuok/rspacex_starlink18_official_launch_discussion/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50908787351_5733229c09_o.jpg","https://live.staticflickr.com/65535/50908092893_d254477be0_o.jpg","https://live.staticflickr.com/65535/50908092833_4cb5833fb9_o.jpg","https://live.staticflickr.com/65535/50908787221_9cf383a2b4_o.jpg","https://live.staticflickr.com/65535/50908787166_8dde2e29bd_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/fe6HBw1y6bA","youtube_id":"fe6HBw1y6bA","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission launches the eighteenth batch of operational Starlink satellites, which are version 1.0, from SLC-40. It is the nineteenth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew":[],"ships":["5ea6ed30080df4000697c913","601742b20c87b90be7bb7e86","5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ea6ed2f080df4000697c90b"],"capsules":[],"payloads":["5ff655769257f579ee3a6c64"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":116,"name":"Starlink-18 (v1.0)","date_utc":"2021-02-04T06:19:00.000Z","date_unix":1612419540,"date_local":"2021-02-04T01:19:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5ef670f10059c33cee4a826c","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":"f31702e8-6353-4c9a-932c-5bd104717500","id":"5ff6554f9257f579ee3a6c5f"}, {"fairings":{"reused":null,"recovery_attempt":true,"recovered":true,"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/fa/01/EAdAKWgq_o.png","large":"https://images2.imgbox.com/ec/c1/ex40h2Xp_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/ljkh7l/rspacex_starlink19_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/lkwl1g/starlink19_media_thread_photographer_contest/","recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50949943433_87e3002307_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/L0dkyV09Zso","youtube_id":"L0dkyV09Zso","article":"https://spaceflightnow.com/2021/02/16/spacex-successfully-deploys-60-more-starlink-satellites-but-loses-booster-on-descent/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":"2021-02-13T18:17:00.000Z","static_fire_date_unix":1613240220,"net":false,"win

dow":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission launches the eighteenth batch of operational Starlink satellites, which are version 1.0, from SLC-40. It is the nineteenth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew":[], "ships":["5ea6ed30080df4000697c913"], "capsules":[], "payloads":["600f9bc08f798e2a4d5f97a4"], "launchpad":"5e9e4501f509094ba4566f84", "flight_number":117, "name":"Starlink-19 (v1.0)", "date_utc":"2021-02-16T03:59:00.000Z", "date_unix":1613447940, "date_local":"2021-02-15T22:59:00-05:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"5e9e28a7f359187afd3b2662"}, {"flight":6, "gridfins":true, "legs":true, "reused":true, "landing_attempt":true, "landing_success":false, "landing_type":"ASDS", "landpad":"5e9e3032383ecb6bb234e7ca"}], "auto_update":true, "tbd":false, "launch_library_id":"985f1cc1-82c1-4a89-b2cc-e9dc91829a0e", "id":"600f9a5e8f798e2a4d5f979c"}, {"fairings":{"reused":null, "recovery_attempt":null, "recovered":null, "ships":[], "links":{"patch":{"small":"https://images2.imgbox.com/ba/a9/Q6APoE8C_o.png", "large":"https://images2.imgbox.com/29/6c/mQwxR0KQ_o.png"}, "reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch":"https://www.reddit.com/r/spacex/comments/l8qsz3/rspacex_starlink17_official_launch_discussion/", "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr":{"small":[], "original":["https://live.staticflickr.com/65535/51004598206_9779f08338_o.jpg", "https://live.staticflickr.com/65535/51004598196_b2059799f4_o.jpg"]}, "presskit":null, "webcast":"https://youtu.be/d5DzoKuhdNk", "youtube_id":"d5DzoKuhdNk", "article":"https://spaceflightnow.com/2021/03/04/spacex-sticks-75th-falcon-rocket-landing-after-launching-60-more-starlink-satellites/", "wikipedia":"https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc":"2021-02-24T12:25:00.000Z", "static_fire_date_unix":1614169500, "net":false, "window":null, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":"This mission launches the sixteenth batch of operational Starlink satellites, which are version 1.0, from LC-39A. It is the eighteenth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew":[], "ships":["5ea6ed2f080df4000697c90d", "5ea6ed30080df4000697c913"], "capsules":[], "payloads":["5fbfedc654ceb10a5664c814"], "launchpad":"5e9e4502f509094188566f88", "flight_number":118, "name":"Starlink-17 (v1.0)", "date_utc":"2021-03-04T08:24:00.000Z", "date_unix":1614846240, "date_local":"2021-03-04T03:24:00-05:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"5e9e28a5f3591833b13b2659"}, {"flight":8, "gridfins":true, "legs":true, "reused":true, "landing_attempt":true, "landing_success":true, "landing_type":"ASDS", "landpad":"5e9e3032383ecb6bb234e7ca"}], "auto_update":true, "tbd":false, "launch_library_id":"dfd4f0e0-0ab4-494d-bd88-1b93b934b269", "id":"5fbfecfe54ceb10a5664c80b"}, {"fairings":{"reused":true, "recovery_attempt":true, "recovered":true, "ships":["5ea6ed2e080df4000697c909", "5ea6ed2f080df4000697c90c"]}, "links":{"patch":{"small":"https://images2.imgbox.com/df/ea/lre39tFr_o.png", "large":"https://images2.imgbox.com/38/db/moPRrpCB_o.png"}, "reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch":"https://www.reddit.com/r/spacex/comments/m0yww5/rspacex_starlink20_official_launch_discussion/", "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr":{"small":[], "original":["https://live.staticflickr.com/65535/51027544097_799f5baccc_o.jpg", "https://live.staticflickr.com/65535/51027443336_3e7486be6f_o.jpg", "https://live.staticflickr.com/65535/51027443321_9a59458d39_o.jpg"]}, "presskit":null, "webcast":"https://youtu.be/U4sWbTfrzj8", "youtube_id":"U4sWbTfrzj8", "article":"https://spaceflightnow.com/2021/03/11/spacex-adds-more-satellites-to-starlink-internet-fleet/", "wikipedia":"https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc":"2021-03-09T23:00:00.000Z", "static_fire_date_unix":1615330800, "net":false, "window":null, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":"This mission launches the 20th batch of operational Starlink satellites, which are version 1.0, from LC-39A or SLC-40. It is the 21st Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The boost

ter is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed2f080df4000697c910", "5ee68c683c228f36bd5809b5", "5ea6ed2e080df4000697c909", "5ea6ed2f080df4000697c90c"], "capsules": [], "payloads": ["600f9bcb8f798e2a4d5f97a5"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 119, "name": "Starlink-20 (v1.0)", "date_utc": "2021-03-11T08:13:00.000Z", "date_unix": 1615450380, "date_local": "2021-03-11T03:13:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight": 6, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "134eb787-244e-4131-8b03-c9fbd0a11efc", "id": "600f9a718f798e2a4d5f979d", {"fairings": {"reused": true, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2e080df4000697c909", "5ea6ed2f080df4000697c90c"]}}, "links": {"patch": {"small": "https://images2.imgbox.com/a0/1a/BLRGLyNe_o.png", "large": "https://images2.imgbox.com/a0/db/7LwA6xV9_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/m4e377/rspacex_starlink21_launch_discussion_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51036945097_9fc94fa9a9_o.jpg", "https://live.staticflickr.com/65535/51036945067_ce0d5b3c0b_o.jpg", "https://live.staticflickr.com/65535/51036945027_47c96d71d1_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/JKf45ATgATc", "youtube_id": "JKf45ATgATc", "article": "https://spaceflightnow.com/2021/03/14/spacex-extends-its-own-rocket-reuse-record-on-starlink-launch/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission launches the 21st batch of operational Starlink satellites, which are version 1.0, from LC-39A or SLC-40. It is the 22nd Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed2e080df4000697c909", "5ea6ed2f080df4000697c90c", "5ea6ed2f080df4000697c90d", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["600f9bd88f798e2a4d5f97a6"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 120, "name": "Starlink-21 (v1.0)", "date_utc": "2021-03-14T10:01:00.000Z", "date_unix": 1615716060, "date_local": "2021-03-14T06:01:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f35918c0803b265c", "flight": 9, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "896d876d-e834-4810-8a5e-44d6b6a42630", "id": "600f9a8d8f798e2a4d5f979e", {"fairings": {"reused": null, "recovery_attempt": true, "recovered": true, "ships": ["6059166413f40e27e8af34b6", "5ea6ed2f080df4000697c90b"]}}, "links": {"patch": {"small": "https://images2.imgbox.com/f3/0d/E2I1NJs2_o.png", "large": "https://images2.imgbox.com/68/e1/XpScXeJQ_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/maqmd0/rspacex_starlink22_launch_discussion_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/a15czI9B91c", "youtube_id": "a15czI9B91c", "article": "https://spaceflightnow.com/2021/03/24/spacex-launches-25th-mission-to-build-out-starlink-internet-network/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission launches the 22nd batch of operational Starlink satellites, which are version 1.0, from or SLC-40. It is the 23rd Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew": [], "ships": ["5ee68c683c228f36bd5809b5", "5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90b", "6059166413f40e27e8af34b6"], "capsules": [], "payloads": ["60428afbc041c16716f73cdd"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 121, "name": "Starlink-22 (v1.0)", "date_utc": "2021-03-24T08:28:00.000Z", "date_unix": 1616574480, "date_local": "2021-03-2

4T04:28:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "flight": 6, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "ec03fe36-fe2a-4e43-8e10-d07d5349f1de", "id": "60428aafc041c16716f73cd7"}, {"fairings": {"reuse_d": true, "recovery_attempt": true, "recovered": null, "ships": [{"6059166413f40e27e8af34b6", "5ea6ed2f080df4000697c90b", "5ea6ed2e080df4000697c908"}], "links": {"patch": {"small": "https://images2.imgbox.com/b7/ca/KRGYS6pm_o.png", "large": "https://images2.imgbox.com/10/23/NARQHPzA_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/mlitqf/rspacex_starlink23_launch_discussion_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51101836837_8671b88722_o.jpg", "https://live.staticflickr.com/65535/51101836832_e151d33d66_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/Uy9Jn-3vuPs", "youtube_id": "Uy9Jn-3vuPs", "article": "https://spaceflightnow.com/2021/04/07/spacex-launches-its-100th-mission-from-floridas-space-coast/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission launches the 23rd batch of operational Starlink satellites, which are version 1.0, from SLC-40 or LC-39A. It is the 24th Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew": [], "ships": [{"5ea6ed30080df4000697c913", "5ee68c683c228f36bd5809b5", "5ea6ed2f080df4000697c90b"}], "capsules": [], "payloads": [{"60428b02c041c16716f73cde"}], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 122, "name": "Starlink-23 (v1.0)", "date_utc": "2021-04-07T16:34:00.000Z", "date_unix": 1617813240, "date_local": "2021-04-07T12:34:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight": 7, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "385455f4-067e-4c24-9937-ca8283ed3307", "id": "60428ac4c041c16716f73cd8"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/c4/ee/2m9k8HLW_o.png", "large": "https://images2.imgbox.com/cf/e3/b0i2QZU1_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/lrx7ez/crew2_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/mvcst9/rspacex_crew2_launch_discussion_updates_thread/", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51136761295_edb4d3ba1d_o.jpg", "https://live.staticflickr.com/65535/51135652706_3e8448193d_o.jpg", "https://live.staticflickr.com/65535/51135865043_3ee9818a56_o.jpg", "https://live.staticflickr.com/65535/51136428854_4723547f5a_o.jpg", "https://live.staticflickr.com/65535/51134975562_ca678d7e2f_o.jpg", "https://live.staticflickr.com/65535/51135650561_0bd04e5a56_o.jpg", "https://live.staticflickr.com/65535/51135650711_f65e45739d_o.jpg", "https://live.staticflickr.com/65535/51136428874_30a1912bc6_o.jpg", "https://live.staticflickr.com/65535/51135650696_80bb4d0047_o.jpg", "https://live.staticflickr.com/65535/51135650641_f8c77b5420_o.jpg", "https://live.staticflickr.com/65535/51136428829_2b995a79bc_o.jpg", "https://live.staticflickr.com/65535/51135650621_187bc9fa5b_o.jpg", "https://live.staticflickr.com/65535/51135324597_816d0bc217_o.jpg", "https://live.staticflickr.com/65535/51135997286_1b5a4452f0_o.jpg", "https://live.staticflickr.com/65535/51136428899_eb329865d1_o.jpg", "https://live.staticflickr.com/65535/51136428909_d4d6cf76ae_o.jpg", "https://live.staticflickr.com/65535/51136761220_9a2e6dbaf6_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/lW07SN3YoLI", "youtube_id": "lW07SN3YoLI", "article": "https://spaceflightnow.com/2021/04/23/spacex-launches-astronauts-on-refurbished-capsule-and-flight-proven-rocket/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_Crew-2"}, "static_fire_date_utc": "2021-04-17T11:01:00.000Z", "static_fire_date_unix": 1618657260, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX launches the second operational mission of its Crew Dragon vehicle as part of NASA's Commercial Crew Program, carrying NASA astronauts Shane Kimbrough, Megan McArthur, Thomas Pesquet"}]

uet, and Akihiko Hoshide to the International Space Station. The Falcon 9 and Crew Dragon lift off from LC-39A, Kennedy Space Center. Both the booster and the capsule have flown previously, each a first for a commercial crew flight. The booster for this mission is expected to land on an ASDS. The mission will be complete with the safe return of the astronauts to Earth.", "crew": ["5fe3ba5fb3467846b3242188", "5fe3bb01b3467846b3242189", "5fe3bc3db3467846b324218b", "5fe3bc8ab3467846b324218c"], "ships": ["5ea6ed2e080df4000697c909", "5ea6ed30080df4000697c913"], "capsules": ["5e9e2c5df359188aba3b2676"], "payloads": ["5fe3b3adb3467846b3242173"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 123, "name": "Crew-2", "date_utc": "2021-04-23T09:49:00.000Z", "date_unix": 1619171340, "date_local": "2021-04-23T05:49:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c53d0622a6330279009f", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "32dcb5ad-7609-4fc0-8094-768ee5c2ebe0", "id": "5fe3af58b3467846b324215f", {"fairings": {"reused": false, "recovery_attempt": true, "recovered": true, "ships": ["6059166413f40e27e8af34b6"]}, "links": {"patch": {"small": "https://images2.imgbox.com/cd/30/UYfjAmuT_o.png", "large": "https://images2.imgbox.com/2e/a8/bvzKCiwf_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/mzol0k/rspacex_starlink24_launch_discussion_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51146838376_4667d78231_o.jpg", "https://live.staticflickr.com/65535/51147622479_d027e09727_o.jpg", "https://live.staticflickr.com/65535/51147949685_975bd6b4ee_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/RBxkRKZ34yo", "youtube_id": "RBxkRKZ34yo", "article": "https://spaceflightnow.com/2021/04/29/spacex-launches-60-more-starlink-spacecraft-fcc-clears-spacex-to-fly-satellites-at-lower-altitudes/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission launches the 24th batch of operational Starlink satellites, which are version 1.0, from LC-39A or SLC-40. It is the 25th Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed2f080df4000697c910", "5ea6ed2f080df4000697c90d", "5ee68c683c228f36bd5809b5", "6059166413f40e27e8af34b6"], "capsules": [], "payloads": ["605b4be3aa5433645e37d046"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 124, "name": "Starlink-24 (v1.0)", "date_utc": "2021-04-29T03:44:00.000Z", "date_unix": 1619667840, "date_local": "2021-04-28T23:44:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "flight": 7, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "fbd23c86-89d0-4d3f-b5fb-5d7165d05cca", "id": "605b4b6aaa5433645e37d03f", {"fairings": {"reused": true, "recovery_attempt": true, "recovered": true, "ships": ["6059166413f40e27e8af34b6"]}, "links": {"patch": {"small": "https://images2.imgbox.com/33/03/aHKx9cu1_o.png", "large": "https://images2.imgbox.com/8e/e0/wOt6ZecV_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/n3z0aa/rspacex_starlink25_launch_discussion_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/xp1_JnG7rcg", "youtube_id": "xp1_JnG7rcg", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": "2021-05-03T05:00:00.000Z", "static_fire_date_unix": 1620018000, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission launches the 25th batch of operational Starlink satellites, which are version 1.0, from LC-39A. It is the 26th Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on OCISLY.", "crew": [], "ships": ["608c1a06cf7f3d6152666ad4", "5ea6ed30"]

080df4000697c913", "6059166413f40e27e8af34b6"], "capsules": [], "payloads": ["605b4befaa5433645e37d047"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 125, "name": "Starlink-25 (v1.0)", "date_utc": "2021-05-04T19:01:00.000Z", "date_unix": 1620154860, "date_local": "2021-05-04T15:01:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591833b13b2659", "flight": 9, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "1ecc82c0-c5c8-41f0-aa58-b50a3b839ae0", "id": "605b4b7daa5433645e37d040"}, {"fairings": {"reused": true, "recovery_attempt": true, "recovered": true}, "ships": ["6059166413f40e27e8af34b6"], "links": {"patch": {"small": "https://images2.imgbox.com/ad/eb/pq1vQuoW_o.png", "large": "https://images2.imgbox.com/97/83/Y1Qj9iUC_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/n7ju15/rspacex_starlink27_launch_discussion_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/", "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/J71s2KmkSrc", "youtube_id": "J71s2KmkSrc", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission launches the 26th batch of operational Starlink satellites, which are version 1.0, from SLC-40. It is the 27th Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ee68c683c228f36bd5809b5", "6059166413f40e27e8af34b6"], "capsules": [], "payloads": ["6079bd5e9a06446e8c61bf7c"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 126, "name": "Starlink-27 (v1.0)", "date_utc": "2021-05-09T06:42:00.000Z", "date_unix": 1620542520, "date_local": "2021-05-09T02:42:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f35918c0803b265c", "flight": 10, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "e5085f22-208b-4b28-b66c-fd4bd9df90e7", "id": "6079bd1c9a06446e8c61bf76"}, {"fairings": {"reused": true, "recovery_attempt": true, "recovered": null}, "ships": ["6059166413f40e27e8af34b6"], "links": {"patch": {"small": "https://images2.imgbox.com/b5/8a/KeiGEz4f_o.png", "large": "https://images2.imgbox.com/f6/28/amlU5JWP_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/ncfexu/rspacex_starlink26_launch_discussion_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/", "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51171344450_6a3f0e08b9_o.jpg", "https://live.staticflickr.com/65535/51170251791_9b36fba5b7_o.jpg", "https://live.staticflickr.com/65535/51185653708_86840b1672_o.jpg", "https://live.staticflickr.com/65535/51185653723_7bd9ecab87_o.jpg", "https://live.staticflickr.com/65535/51186506630_1a47a43787_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/tdgg_qwj-hI", "youtube_id": "tdgg_qwj-hI", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "This mission launches the 27th batch of operational Starlink satellites, which are version 1.0, from LC-39A or SLC-40. It is the 28th Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "6059166413f40e27e8af34b6", "608c1a06cf7f3d6152666ad4", "5ea6ed2f080df4000697c90b"], "capsules": [], "payloads": ["605b4bfcaa5433645e37d048", "609f48374a12e4692eae4667", "609f49c64a12e4692eae4668"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 127, "name": "Starlink-26 (v1.0) + Capella-6 + Tyvak-0130", "date_utc": "2021-05-15T22:54:00.000Z", "date_unix": 1621119240, "date_local": "2021-05-15T18:54:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight": 8, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true

e,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}], "auto_update":true, "tbd":false, "launch_library_id":"c32d1f5e-2dd9-4b55-ac8b-3eb8c4a4e955", "id":"605b4b95aa5433645e37d041"}, {"fairings":{"reused":true, "recovery_attempt":true, "recovered":true, "ships":["5ea6ed2e080df4000697c909", "5ea6ed2f080df4000697c90c"]}, "links":{"patch":{"small":"https://images2.imgbox.com/28/ee/Bchywpgu_o.png", "large":"https://images2.imgbox.com/06/09/908F8uzV_o.png"}, "reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch":"https://www.reddit.com/r/spacex/comments/nkxg4s/rspacex_starlink28_launch_discussion_and_updates/", "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr":{"small":[], "original":["https://live.staticflickr.com/65535/51225270061_42bc3abb43_o.jpg", "https://live.staticflickr.com/65535/51226036719_584d141279_o.jpg", "https://live.staticflickr.com/65535/51225480623_5ef7d3957a_o.jpg"]}, "presskit":null, "webcast":"https://youtu.be/xRu-ekesDyY", "youtube_id":"xRu-ekesDyY", "article":"https://spaceflightnow.com/2021/05/26/first-phase-of-spacexs-starlink-network-nears-completion-with-falcon-9-launch/", "wikipedia":"https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":0, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":"This mission launches the 28th batch of operational Starlink satellites, which were version 1.0, from SLC-40. It was the 29th Starlink launch overall. The satellites plan to be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on ASDS JRTI.", "crew":[], "ships":["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697c90c", "5ee68c683c228f36bd5809b5", "5ea6ed2f080df4000697c90b", "5ea6ed2e080df4000697c909"], "capsules":[], "payloads":["6079bd679a06446e8c61bf7d"], "launchpad":"5e9e4501f509094ba4566f84", "flight_number":128, "name":"Starlink-28 (v1.0)", "date_utc":"2021-05-26T18:59:00.000Z", "date_unix":1622055540, "date_local":"2021-05-26T14:59:00-04:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"5f57c54a0622a633027900a1", "flight":2, "gridfins":true, "legs":true, "reused":true, "landing_attempt":true, "landing_success":true, "landing_type":"ASDS", "landpad":"5e9e3033383ecbb9e534e7cc"}], "auto_update":true, "tbd":false, "launch_library_id":"fb25ecf0-fb51-4b5e-b678-105f6ba4c06e", "id":"6079bd399a06446e8c61bf77"}, {"fairings":null, "links":{"patch":{"small":"https://images2.imgbox.com/aa/a8/HhwYIXoB_o.png", "large":"https://images2.imgbox.com/16/32/9Z7btrQF_o.png"}, "reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/nhztq5/crs22_launch_campaign_thread/", "launch":"https://www.reddit.com/r/spacex/comments/nqgojc/rspacex_crs22_launch_docking_discussion_updates/", "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr":{"small":[], "original":["https://live.staticflickr.com/65535/51225482033_086576f2cd_o.jpg", "https://live.staticflickr.com/65535/51226340205_9c3ac87b8e_o.jpg", "https://live.staticflickr.com/65535/51224563112_61d493b775_o.jpg", "https://live.staticflickr.com/65535/51224563062_95bf029b80_o.jpg", "https://live.staticflickr.com/65535/51225271661_49315dc688_o.jpg", "https://live.staticflickr.com/65535/51226340225_27df994080_o.jpg", "https://live.staticflickr.com/65535/51224563102_d07c630ef5_o.jpg", "https://live.staticflickr.com/65535/51225482053_1fe7157f74_o.jpg", "https://live.staticflickr.com/65535/51226038164_304c347347_o.jpg"]}, "presskit":null, "webcast":"https://youtu.be/QXf9mRWbXDM", "youtube_id":"QXf9mRWbXDM", "article":"https://spaceflightnow.com/2021/06/03/spacex-supply-ship-launches-on-mission-to-begin-upgrading-space-station-electrical-grid/", "wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-22"}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":0, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":"SpaceX's 22nd ISS resupply mission on behalf of NASA, this mission sends essential supplies to the International Space Station using the cargo variant of SpaceX's Dragon 2 spacecraft. The external payload for this mission is the first pair of ISS Roll Out Solar Arrays. Falcon 9 and Dragon launch from LC-39A, Kennedy Space Center and the booster is expected to land on an ASDS. The mission will be complete with splashdown and recovery of the capsule and down cargo.", "crew":[], "ships":["5ea6ed2f080df4000697c90b", "608c1a06cf7f3d6152666ad4", "5ea6ed30080df4000697c913"], "capsules":["60b803421f83cc1e59f1644d"], "payloads":["5fe3b642b3467846b324217b"], "launchpad":"5e9e4502f509094188566f88", "flight_number":129, "name":"CRS-22 & IROSA", "date_u

tc": "2021-06-03T17:29:00.000Z", "date_unix": 1622741340, "date_local": "2021-06-03T13:29:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "60b80011f83cc1e59f16438", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "89a150ea-6e4b-489f-853c-3603ae684611", "id": "5fe3af84b3467846b3242161"}, {"fairings": {"reuse": false, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2f080df4000697c90b", "5ea6ed2e080df4000697c909"]}, "links": {"patch": {"small": "https://images2.imgbox.com/9a/f0/UV16cZ6e_o.png", "large": "https://images2.imgbox.com/98/c3/8McdwgVu_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/n91lxw/sxm8_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/nss9br/rspacex_sxm8_launch_discussion_and_updates_thread/", "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/bgtDRR2F2wA", "youtube_id": "bgtDRR2F2wA", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Sirius_XM#Satellites"}, "static_fire_date_utc": "2021-06-03T06:32:00.000Z", "static_fire_date_unix": 1622701920, "net": false, "window": 5940, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX launches the second of two next generation satellites for SiriusXM from SLC-40, Cape Canaveral Space Force Station. The spacecraft will be delivered into a sub-synchronous geostationary transfer orbit and will replace XM-4 in geostationary orbit. The booster for this mission will land on an ASDS.", "crew": [], "ships": ["5ee68c683c228f36bd5809b5", "5ea6ed2f080df4000697c910", "5ea6ed2f080df4000697c90b", "5ea6ed2e080df4000697c909"], "capsules": [], "payloads": ["5fe3b57db3467846b324217a"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 130, "name": "SXM-8", "date_utc": "2021-06-06T04:26:00.000Z", "date_unix": 1622953560, "date_local": "2021-06-06T00:26:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c53d0622a6330279009f", "flight": 3, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "edaf9a8d-d67c-4e0e-8452-a37b111581d5", "id": "5fe3af6db3467846b3242160"}, {"fairings": {"reused": false, "recovery_attempt": true, "recovered": true, "ships": ["60c8c7a45d4819007ea69871"]}, "links": {"patch": {"small": "https://images2.imgbox.com/d0/66/bCRsHNSZ_o.png", "large": "https://images2.imgbox.com/2f/6f/ebFS9FDJ_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/nuud0l/gps_iii_sv05_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/o0gcq/rspacex_gps_iii_sv05_launch_discussion_and/", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51254829184_e6e1d0d79c_o.jpg", "https://live.staticflickr.com/65535/51253353892_de82b01e23_o.jpg", "https://live.staticflickr.com/65535/51254285968_288383ce6e_o.jpg", "https://live.staticflickr.com/65535/51254829154_3c5980c086_o.jpg", "https://live.staticflickr.com/65535/51253353882_e59ea4df4f_o.jpg", "https://live.staticflickr.com/65535/51254829139_ca68c19689_o.jpg", "https://live.staticflickr.com/65535/51262926489_9fbce20e9c_o.jpg", "https://live.staticflickr.com/65535/51262926469_974292477d_o.jpg", "https://live.staticflickr.com/65535/51262179176_e4302db116_o.jpg", "https://live.staticflickr.com/65535/51263224735_3210fb7499_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/QJXxVtp3KqI", "youtube_id": "QJXxVtp3KqI", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/GPS_Block_III"}, "static_fire_date_utc": "2021-06-13T19:30:00.000Z", "static_fire_date_unix": 1623612600, "net": false, "window": 900, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's fourth GPS III launch will use the first stage from the previous GPS mission. This will be the first time a National Security Space Launch has flown on a flight proven booster. Falcon 9 will launch from SLC-40, Cape Canaveral and the booster will land downrange on a drone ship. GPS III is the third generation of the U.S. Space Force's NAVSTAR Global Positioning System satellites, developed by Lockheed Martin. The GPS III constellation will feature a cross-linked command and control architecture, allowing the entire GPS constellation to be updated simultaneously from a single ground station. A new spot beam capability for enhanced military coverage and increased resistance to hostile jamming will be incorporated.", "crew": [], "ships": ["60c8c7a45d4819007ea69871", "5ee68c683c228f36bd5809b5", "5ea6ed2f080df4000697c910"], "capsules": [], "payloads": ["5eb0e4d2b6c3bb0006eeb261"], "launchpad": "5e9e4501f509094ba456"}]

6f84", "flight_number": 131, "name": "GPS III SV05", "date_utc": "2021-06-17T16:09:00.000Z", "date_unix": 1623946140, "date_local": "2021-06-17T12:09:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c5440622a633027900a0", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "110c808a-a091-47ab-8532-4fa058c1de7a", "id": "5eb87d4effd86e000604b390", {"fairings": {"reused": true, "recovery_attempt": true, "recovered": true, "ships": ["60c8c7a45d4819007ea69871"]}, "links": {"patch": {"small": "https://images2.imgbox.com/a9/3e/L2EqHznO_o.png", "large": "https://images2.imgbox.com/96/8c/4H0qLFoZ_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/nz7rai/transporter2_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/o9ki7u/rspacex_transporter2_launch_discussion_and/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51283430951_a9e5a41141_o.jpg", "https://live.staticflickr.com/65535/51283430936_3852120bbe_o.jpg", "https://live.staticflickr.com/65535/51283604493_d1a088b7c9_o.jpg", "https://live.staticflickr.com/65535/51284454795_591717faee_o.jpg", "https://live.staticflickr.com/65535/51284454810_9fdd0e8db4_o.jpg", "https://live.staticflickr.com/65535/51283604443_6d92fe1231_o.jpg", "https://live.staticflickr.com/65535/51283604428_b24ebf1b5f_o.jpg", "https://live.staticflickr.com/65535/51283604438_7202e2a388_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/sSiuW1HcGjA", "youtube_id": "sSiuW1HcGjA", "article": null, "wikipedia": null}, {"static_fire_date_utc": "2021-06-22T15:24:00.000Z", "static_fire_date_unix": 1624375440, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Falcon 9 launches to sun-synchronous polar orbit from Florida as part of SpaceX's Rideshare program dedicated to smallsat customers. The mission lifts off from SLC-40, Cape Canaveral on a southward azimuth and performs a dogleg maneuver. The booster for this mission is expected to return to LZ-1 based on FCC communications filings. This rideshare takes approximately 90 satellites and hosted payloads into orbit on a variety of deployers including three free-flying spacecraft which dispense their customers' satellites after separation from the SpaceX stack.", "crew": [], "ships": ["60c8c7a45d4819007ea69871"], "capsules": [], "payloads": ["608ac397eb3e50044e3630e7"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 132, "name": "Transporter-2", "date_utc": "2021-06-30T19:31:00.000Z", "date_unix": 1625081460, "date_local": "2021-06-30T15:31:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "flight": 8, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": "5d248abe-17ef-43ce-9c04-aef33af40520", "id": "600f9b6d8f798e2a4d5f979f", {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/23/8a/eyj3lHJk_o.png", "large": "https://images2.imgbox.com/fd/60/g7jacgTb_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/p67i27/crs23_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/pcj0ao/rspacex_crs23_launch_docking_discussion_updates/", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51411435986_82d7088b61_o.jpg", "https://live.staticflickr.com/65535/51411702573_de10cdbc06_o.jpg", "https://live.staticflickr.com/65535/51411435116_ac7b3cc3d1_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/x-KiDqxAMU0", "youtube_id": "x-KiDqxAMU0", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-23", "static_fire_date_utc": "2021-08-26T02:49:00.000Z", "static_fire_date_unix": 1629946140, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "SpaceX's 23rd ISS resupply mission on behalf of NASA, this mission brings essential supplies to the International Space Station using the cargo variant of SpaceX's Dragon 2 spacecraft. Cargo includes several science experiments. The booster for this mission is expected to land on an ASDS. The mission will be complete with return and recovery of the Dragon capsule and down cargo.", "crew": [], "ships": ["5ea6ed2d080df4000697c904"], "capsules": [], "payloads": ["5fe3c4f2b3467846b3242193"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 133, "name": "CRS-23", "date_utc": "2021-08-29T07:14:00.000Z", "date_unix": 1630221240, "d

```
ate_local":"2021-08-29T03:14:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c53d0622a6330279009f","flight":4,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"13386512-85bb-4c93-a9b0-f5eac05f4e4f","id":"5fe3b11eb3467846b324216c"},{"fairings":{"reused":true,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/cb/ef/u7G0lbfj4_o.png","large":"https://images2.imgbox.com/a3/55/7K6zEOT2_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/pmn0xm/rspacex_starlink21_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51474853666_be4615e186_o.jpg","https://live.staticflickr.com/65535/51475097383_dcf9002e9c_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/4372QYiPZB4","youtube_id":"4372QYiPZB4","article":"https://spaceflightnow.com/2021/09/14/spacex-launches-first-full-batch-of-laser-equipped-starlink-satellites/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":"2021-09-02T17:29:00.000Z","static_fire_date_unix":1630603740,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":["5ea6ed30080df4000697c913"],"capsules":[],"payloads":["60e3bf3373359e1e20335c3c"],"launchpad":"5e9e4502f509092b78566f87","flight_number":134,"name":"Starlink 2-1 (v1.5)","date_utc":"2021-09-14T03:55:00.000Z","date_unix":1631591700,"date_local":"2021-09-13T20:55:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591833b13b2659","flight":10,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":"6b9f9fe6-7f94-498b-a664-7c9e42dbe76d","id":"60e3bf0d73359e1e20335c37"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/bb/2f/jMnSSQHM_o.png","large":"https://images2.imgbox.com/eb/36/ZJnCO6hc_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/pc1fq7/inspiration4_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/po651k/rspacex_inspiration4_launch_discussion_updates/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/3pv01sSq44w","youtube_id":"3pv01sSq44w","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Inspiration4"},"static_fire_date_utc":"2021-09-13T07:07:00.000Z","static_fire_date_unix":1631516820,"net":false,"window":18000,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Inspiration4 is the world's first all-civilian mission to space. The mission will be commanded by Jared Isaacman, the 37-year-old founder and Chief Executive Officer of Shift4 Payments and an accomplished pilot and adventurer. Inspiration4 will leave Earth from Kennedy Space Center's historic Launch Complex 39A, the embarkation point for Apollo and Space Shuttle missions, and travel across a low earth orbit on a multi-day journey that will continually eclipse more than 90% of the earth's population. Named in recognition of the four-person crew that will raise awareness and funds for St. Jude Children's Research Hospital, this milestone represents a new era for human spaceflight and exploration.", "crew":["607a3a5f5a906a44023e0870","607a3ab45a906a44023e0872","607b48375a906a44023e08b8","607b48da5a906a44023e08b9"],"ships":["5ea6ed2f080df4000697c910","5ee68c683c228f36bd5809b5","614251b711a64135defb3654"],"capsules":["5f6f99fddcdf403df379709"],"payloads":["607a382f5a906a44023e0867"],"launchpad":"5e9e4502f509094188566f88","flight_number":135,"name":"Inspiration4","date_utc":"2021-09-16T00:02:00.000Z","date_unix":1631750520,"date_local":"2021-09-15T20:02:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c5440622a633027900a0","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"621d64e6-0513-45dc-8ffa-c9fd56518398","id":"607a37565a906a44023e0866"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/5a/2f/w3woVyro_o.png","large":"https://images2.imgbox.com/80/34/J7R0sgsi_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/q8r52a/c
```



```
rew3_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/qij6f4/rspacex_crew3_launch_discussion_updates_thread/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51673353699_e3da266245_o.jpg","https://live.staticflickr.com/65535/51673548360_64354b760f_o.jpg","https://live.staticflickr.com/65535/51672676881_3b88410a96_o.jpg","https://live.staticflickr.com/65535/51673548330_7acc53d2fb_o.jpg","https://live.staticflickr.com/65535/51671874407_4f56a87855_o.jpg","https://live.staticflickr.com/65535/51672676961_36371a6a76_o.jpg","https://live.staticflickr.com/65535/51672915563_7f5b373701_o.jpg","https://live.staticflickr.com/65535/51672915633_947e35cabc_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/WZvtrnFItNs","youtube_id":"WZvtrnFItNs","article":"https://spaceflightnow.com/2021/11/11/spacex-debuts-new-dragon-capsule-in-launch-to-the-international-space-station/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_Crew-3"},"static_fire_date_utc":"2021-10-28T05:46:00.000Z","static_fire_date_unix":1635399960,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch the third operational mission of its Crew Dragon vehicle as part of NASA's Commercial Crew Program, carrying four astronauts to the International Space Station, including 1 international partner This mission will fly on a new capsule and a once used booster. The booster will land downrange on a drone ship. The Crew-2 mission returns from the space station in November.","crew":["5fe3c587b3467846b3242198","5fe3c5beb3467846b3242199","5fe3c5f6b3467846b324219a","60c4b5ad4e041c0b356db393"],"ships":["5ea6ed2d080df4000697c904","5ee68c683c228f36bd5809b5","614251b711a64135defb3654","5ea6ed2f080df4000697c90c","5ea6ed2e080df4000697c909"],"capsules":["617c05591bad2c661a6e2909"],"payloads":["5fe3b3bab3467846b3242174"],"launchpad":"5e9e4502f509094188566f88","flight_number":136,"name":"Crew-3","date_utc":"2021-11-11T02:03:00.000Z","date_unix":1636596180,"date_local":"2021-11-10T21:03:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"60b800111f83cc1e59f16438","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"0d779392-1a36-4c1e-b0b8-ec11e3031ee6","id":"5fe3b15eb3467846b324216d"},"fairings":{"reused":null,"recovery_attempt":true,"recovered":true,"ships":["618fad7e563d69573ed8caa9"]},"links":{"patch":{"small":"https://images2.imgbox.com/f1/38/HYBzPrio_o.png","large":"https://images2.imgbox.com/c9/b7/R0e1MkGD_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/qro60o/rspacex_starlink_41_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51676939646_1a12780e54_o.jpg","https://live.staticflickr.com/65535/51677186188_e03e87ae8e_o.jpg","https://live.staticflickr.com/65535/51676136297_0bbb893f44_o.jpg","https://live.staticflickr.com/65535/51677822295_87c2ee94b1_o.jpg","https://live.staticflickr.com/65535/51677186098_12c8f54593_o.jpg","https://live.staticflickr.com/65535/51676136282_5118fa42ef_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/AtmtP4vouSY","youtube_id":"AtmtP4vouSY","article":"https://spaceflightnow.com/2021/11/13/spacex-launch-starts-deployment-of-new-starlink-orbital-shell/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":["5ea6ed2f080df4000697c910","618fad7e563d69573ed8caa9"],"capsules":[],"payloads":["618fabf0563d69573ed8caa6"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":137,"name":"Starlink 4-1 (v1.5)","date_utc":"2021-11-13T12:40:00.000Z","date_unix":1636807200,"date_local":"2021-11-13T07:40:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591817f23b2663","flight":9,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"618faad2563d69573ed8ca9d"},"fairings":{"reused":null,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed30080df4000697c912"]},"links":{"patch":{"small":"https://images2.imgbox.com/5a/fa/fhZj1ebN_o.png","large":"https://images2.imgbox.com/57/b8/7pGrT5cb_o.png"},"reddit":{"campaign":"https://www.r
```

eddit.com/r/spacex/comments/qu8s5a/dart_launch_campaign_thread/", "launch": "http
s://www.reddit.com/r/spacex/comments/r0dn3a/rspacex_dart_launch_discussion_and_up
dates_thread/", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["ht
tps://live.staticflickr.com/65535/51702654584_13a4b39655_o.jpg", "https://live.sta
ticflickr.com/65535/51702261963_ec86519bce_o.jpg", "https://live.staticflickr.com/
65535/51702654544_c4b0a727c3_o.jpg", "https://live.staticflickr.com/65535/51702654
514_c379940fa3_o.jpg", "https://live.staticflickr.com/65535/51702654339_7c40563d73
_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/XKRf6-NcMqI", "youtube_i
d": "XKRf6-NcMqI", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Double
_Asteroid_Redirection_Test", "static_fire_date_utc": "2021-11-19T20:20:00.000Z", "s
tatic_fire_date_unix": 1637353200, "net": false, "window": null, "rocket": "5e9d0d95eda6
9973a809d1ec", "success": true, "failures": [], "details": "NASA's Double Asteroid Red
irect Test (DART) will demonstrate the use of a kinetic impactor to alter an aste
roid's trajectory, an intervention that could be used in the future to prevent d
evastating Earth impacts. The target system consists of Didymos, 780 meters in di
ameter, and its moonlet Dimorphos, 160 meters. The DART spacecraft will intercept
the double asteroid, using autonomous guidance to crash into the smaller one. Mov
ing at about 6 km/s, the transferred momentum should alter Dimorphos's 12 hour o
rbital period around its companion by several minutes. The mission tests several
technologies, including the Small-body Maneuvering Autonomous Real-Time Navigatio
n (SMART Nav) used to differentiate and steer toward the target body and Roll-Out
Solar Arrays (ROSA) with Transformational Solar Array concentrators. NASA's
Evolutionary Xenon Thruster Commercial (NEXT) ion
engine will also be demonstrated, although the spacecraft's primary propulsion i
s hydrazine thrusters. DART should arrive at Didymos in late September 2022, when
it is about 11 million kilometers from Earth. Ten days before impact, the Italian
Space Agency's cubesat LICIACube will be deployed to observe the collision and e
jecta with its two cameras. Earth-based telescopes will be used to measure the al
tered orbit.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "5ea6ed2f080df4000697
c90b", "5ea6ed30080df4000697c912"], "capsules": [], "payloads": ["5fe3c4a6b3467846b324
2192"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 138, "name": "DAR
T", "date_utc": "2021-11-24T06:20:00.000Z", "date_unix": 1637734800, "date_local": "202
1-11-23T22:20:00-08:00", "date_precision": "hour", "upcoming": false, "cores": [{"cor
e": "5f57c54a0622a633027900a1", "flight": 2, "gridfins": true, "legs": true, "reused": tru
e, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpa
d": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_i
d": "c4b2f90e-3385-4cbe-a89f-fc5f57da1bfb", "id": "5fe3b107b3467846b324216b"}, {"fair
ings": {"reused": null, "recovery_attempt": true, "recovered": null, "ships": ["618fad7e5
63d69573ed8caa9"]}, "links": {"patch": {"small": "https://images2.imgbox.com/fc/e7/es
vHlHwA_o.png", "large": "https://images2.imgbox.com/91/15/2LRaHihk_o.png"}}, "reddi
t": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_
discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comm
ents/r79osa/spacex_starlink_43_launch_discussion_and_updates/", "media": null, "reco
very": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_disc
ussion_thread/"}}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/
65535/51732172914_4efa7d5210_o.jpg", "https://live.staticflickr.com/65535/51730706
247_4b5bf2899f_o.jpg", "https://live.staticflickr.com/65535/51732172879_4ce91546ed
_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/594TbXriaAk", "youtube_i
d": "594TbXriaAk", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Starli
nk", "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "windo
w": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "detail
s": null, "crew": [], "ships": ["5ea6ed2d080df4000697c904", "618fad7e563d69573ed8caa
9", "5ee68c683c228f36bd5809b5"], "capsules": [], "payloads": ["6161d0f26db1a92bfba8535
5"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 139, "name": "Starlink 4
-3 (v1.5)", "date_utc": "2021-12-01T23:20:00.000Z", "date_unix": 1638400800, "date_loc
al": "2021-12-01T18:20:00-05:00", "date_precision": "hour", "upcoming": false, "cores":
[{"core": "5ef670f10059c33cee4a826c", "flight": 9, "gridfins": true, "legs": true, "reuse
d": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "land
pad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_
id": "56db9abd-41b8-41a3-9d6d-88e52460682b", "id": "6161c94c6db1a92bfba85349"}, {"fair

rings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/75/ac/qogMzpf1_o.png","large":"https://images2.imgbox.com/29/60/zFjdRVpC_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/r7chh2/ixpe_launch_campaign_thread/","launch":null,"media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51736587581_c944959eaa_o.jpg","https://live.staticflickr.com/65535/51737479675_63a2074244_o.jpg","https://live.staticflickr.com/65535/51737234364_b43ca3ea26_o.jpg","https://live.staticflickr.com/65535/51735767097_6126fe3138_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/CpmHsN5GUn8","youtube_id":"CpmHsN5GUn8","article":null,"wikipedia":"https://en.wikipedia.org/wiki/IXPE"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["61c1f395a4a2462678cbf46e"],"launchpad":"5e9e4502f509094188566f88","flight_number":140,"name":"IXPE","date_utc":"2021-12-09T06:00:00.000Z","date_unix":1639029600,"date_local":"2021-12-09T01:00:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c53d0622a6330279009f","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"dfb2cc3b-8cd8-41b6-a83a-22b2a742ba4b","id":"6161c88d6db1a92bfba85348"},"fairings":{"reuse_d":null,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed30080df4000697c912"]},"links":{"patch":{"small":"https://images2.imgbox.com/1d/2f/Z0V6iIoM_o.png","large":"https://images2.imgbox.com/0a/63/DSii5T55_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/rhvacp/rspacex_starlink_44_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51756013766_f664db8097_o.jpg","https://live.staticflickr.com/65535/51756656374_59ca8efbab_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/q4Ed3EBx90s","youtube_id":"q4Ed3EBx90s","article":"https://spaceflightnow.com/2021/12/18/spacex-launches-starlink-satellites-from-california-on-unusual-coast-hugging-trajectory/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":"2021-12-17T08:31:00.000Z","static_fire_date_unix":1639729860,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"The mission consists in launching 52 Starlink v1.5 satellites to Shell number 4 at 53.2°xc2°xb0. This is unusual as the mission is launching from Vandenberg as these missions usually launch from the East Coast."},"crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed30080df4000697c912","5ea6ed2f080df4000697c90b"]},"capsules":[],"payloads":["61bbac16437241381bf70632"],"launchpad":"5e9e4502f509092b78566f87","flight_number":141,"name":"Starlink 4-4 (v1.5)","date_utc":"2021-12-18T12:41:40.000Z","date_unix":1639831300,"date_local":"2021-12-18T12:41:40-08:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918c0803b265c","flight":11,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":false,"tbd":false,"launch_library_id":"0d4b0c0f-3d72-4cb2-b596-dc526ad178a6","id":"61bba806437241381bf7061e"},"fairings":{"reused":null,"recovery_attempt":true,"recovered":null,"ships":["618fad7e563d69573ed8caa9"]},"links":{"patch":{"small":"https://images2.imgbox.com/9d/c9/rmVWqnDr_o.png","large":"https://images2.imgbox.com/e4/6b/fZQllIZ8_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/rfim89/t%C3%BCrksat_5b_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/rja5u0/rspacex_t%C3%BCrksat_5b_launch_discussion_and_updates/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/JBGjE9_aosc","youtube_id":"JBGjE9_aosc","article":"https://spaceflightnow.com/2021/12/19/spacex-two-for-two-in-companys-first-falcon-9-launch-doubleheader/","wikipedia":"https://en.wikipedia.org/wiki/T%C3%BCrksat_5B"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"The T\xc3\xbcrcsat 5B communication satellite, which its construction work continues at Airbus Defense and Space's facilities in Toulouse,

France, will soon be sent to the Cape Canaveral Space Launch Station located in Florida, United States. The satellite will be launched into space onboard the Falcon 9 rocket following pre-launch preparations. With an estimated in-orbit lifetime of 30 years and the aim of securing Turkey's orbital and frequency rights, Türksat 5B will be launched into an orbital slot at 42 degrees East. With 12 kW power, Türksat 5B will provide TV broadcasting and data communication services over a wide coverage area that reaches the entire Middle East, the Persian Gulf, the Red Sea, the Mediterranean, North Africa, East Africa, South Africa and Nigeria. Apart from that, the satellite will also provide customized services for airlines and commercial ship operators around the world thanks to the fact that it operates in Ka-Band.

```
{
  "crew": [],
  "ships": ["618fad7e563d69573ed8caa9", "5ee68c683c228f36bd5809b5"],
  "capsules": [],
  "payloads": ["5fe3c080b3467846b3242190"],
  "launchpad": "5e9e4501f509094ba4566f84",
  "flight_number": 142,
  "name": "Türksat 5B",
  "date_utc": "2021-12-19T03:58:00.000Z",
  "date_unix": 1639886280,
  "date_local": "2021-12-18T22:58:00-05:00",
  "date_precision": "hour",
  "upcoming": false,
  "cores": [
    {
      "core": "60b800111f83cc1e59f16438",
      "flight": 3,
      "gridfins": true,
      "legs": true,
      "reuse": true,
      "landing_attempt": true,
      "landing_success": true,
      "landing_type": "ASDS",
      "landpad": "5e9e3033383ecb075134e7cd"
    }
  ],
  "auto_update": false,
  "tbd": false,
  "launch_library_id": "16d0c02e-0bb1-45d5-a3f5-7c4ff6cf6de1",
  "id": "5fe3afc1b3467846b3242164",
  "fairings": null,
  "links": {
    "patch": {
      "small": "https://images2.imgbox.com/fe/c3/yV1LnAUT_o.png",
      "large": "https://images2.imgbox.com/37/fd/AiNV3ldU_o.png"
    },
    "reddit": {
      "campaign": "https://www.reddit.com/r/spacex/comments/rfisc2/crs24_launch_campaign_thread/",
      "launch": "https://www.reddit.com/r/spacex/comments/rktygs/rspacex_crs24_launch_discussion_and_updates_thread/",
      "media": null,
      "recovery": null
    },
    "flickr": {
      "small": [],
      "original": []
    },
    "presskit": null,
    "webcast": "https://youtu.be/gEv6HLHYhWo",
    "youtube_id": "gEv6HLHYhWo",
    "article": "https://spaceflightnow.com/2021/12/21/spacex-cargo-flight-sets-record-for-most-orbital-launches-from-space-coast-in-a-year/",
    "wikipedia": null
  },
  "static_fire_date_utc": null,
  "static_fire_date_unix": null,
  "net": false,
  "window": 0,
  "rocket": "5e9d0d95eda69973a809d1ec",
  "success": true,
  "failures": [],
  "details": "SpaceX's 24th ISS resupply mission on behalf of NASA, this mission brings essential supplies to the International Space Station using the cargo variant of SpaceX's Dragon 2 spacecraft. Cargo includes several science experiments. The booster for this mission is expected to land on an ASDS. The mission will be complete with return and recovery of the Dragon capsule and down cargo."
}
```

```
{
  "crew": [],
  "ships": ["5ea6ed2f080df4000697c910", "614251b711a64135defb3654"],
  "capsules": ["60b803421f83cc1e59f1644d"],
  "payloads": ["6161d22a6db1a92bfba85357"],
  "launchpad": "5e9e4502f509094188566f88",
  "flight_number": 143,
  "name": "CRS-24",
  "date_utc": "2021-12-21T10:06:00.000Z",
  "date_unix": 1640081160,
  "date_local": "2021-12-21T05:06:00-05:00",
  "date_precision": "hour",
  "upcoming": false,
  "cores": [
    {
      "core": "61c1ef45a4a2462678cbf45d",
      "flight": 1,
      "gridfins": true,
      "legs": true,
      "reused": false,
      "landing_attempt": true,
      "landing_success": true,
      "landing_type": "ASDS",
      "landpad": "5e9e3033383ecbb9e534e7cc"
    }
  ],
  "auto_update": true,
  "tbd": false,
  "launch_library_id": "878ba32c-5e93-4d2b-95c3-24b60c8b05e7",
  "id": "6161d2006db1a92bfba85356",
  "fairings": {
    "reused": null,
    "recovery_attempt": true,
    "recovered": null
  },
  "ships": ["614251b711a64135defb3654"],
  "links": {
    "patch": {
      "small": "https://images2.imgbox.com/8e/e9/MJG9yylu_o.png",
      "large": "https://images2.imgbox.com/e3/1b/r7u0e6SM_o.png"
    },
    "reddit": {
      "campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/",
      "launch": "https://www.reddit.com/r/spacex/comments/rwukw5/rspacex_starlink_45_launch_discussion_and_updates/",
      "media": null,
      "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"
    },
    "flickr": {
      "small": [],
      "original": [
        "https://live.staticflickr.com/65535/51804559341_730da65003_o.jpg",
        "https://live.staticflickr.com/65535/51804671583_7a1137dd05_o.jpg",
        "https://live.staticflickr.com/65535/51804914844_ee0cd2c3c0_o.jpg"
      ]
    },
    "presskit": null,
    "webcast": "https://youtu.be/4_ePBpwMhns",
    "youtube_id": "4_ePBpwMhns",
    "article": "https://spaceflightnow.com/2022/01/06/spacex-deploys-49-more-starlink-satellites-in-first-launch-of-2022/",
    "wikipedia": "https://en.wikipedia.org/wiki/Starlink"
  },
  "static_fire_date_utc": null,
  "static_fire_date_unix": null,
  "net": false,
  "window": null,
  "rocket": "5e9d0d95eda69973a809d1ec",
  "success": true,
  "failures": [],
  "details": null,
  "crew": [],
  "ships": ["614251b711a64135defb3654", "5ea6ed2d080df4000697c904"],
  "capsules": [],
  "payloads": ["61d5ece4f88e4c5fc91f1ebb"],
  "launchpad": "5e9e4502f5"
}
```

09094188566f88", "flight_number": 144, "name": "Starlink 4-5 (v1.5)", "date_utc": "2022-01-06T21:49:00.000Z", "date_unix": 1641505740, "date_local": "2022-01-06T16:49:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c5440622a633027900a0", "flight": 4, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "3ddb1934-2b57-489b-b5d2-31d4990604eb", "id": "61d5eca1f88e4c5fc91f1eb7", {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/d4/7b/iDjUz9US_o.png", "large": "https://images2.imgbox.com/94/be/MVwoNNDy_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/s04tw9/transporter3_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/s23yav/rspacex_transporter3_launch_discussion_and/", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51818737408_435196f856_o.jpg", "https://live.staticflickr.com/65535/51819334315_a542f60ca7_o.jpg", "https://live.staticflickr.com/65535/51818737428_c969752259_o.jpg", "https://live.staticflickr.com/65535/51818622981_a51f8e400e_o.jpg", "https://live.staticflickr.com/65535/51818962544_6dc5873faf_o.jpg", "https://live.staticflickr.com/65535/51818737463_ab81867074_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/mFBeuSAvhUQ", "youtube_id": "mFBeuSAvhUQ", "article": "https://spaceflightnow.com/2022/01/13/spacex-launches-105-customer-satellites-on-third-transporter-rideshare-mission/", "wikipedia": null}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["6175aaacefa4314085aa9c56"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 145, "name": "Transporter-3", "date_utc": "2022-01-13T15:25:00.000Z", "date_unix": 1642087500, "date_local": "2022-01-13T10:25:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight": 10, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": "c660df6f-7e33-4c90-a0f5-b27c8cb4c974", "id": "61bf3e31cd5ab50b0d936345", {"fairings": {"reused": null, "recovery_attempt": true, "recovered": null, "ships": ["614251b711a64135defb3654"]}, "links": {"patch": {"small": "https://images2.imgbox.com/5f/23/CAKj0nIZ_o.png", "large": "https://images2.imgbox.com/d6/57/1HqOmlpH_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": null, "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51830117595_12bfa3bf5d_o.jpg", "https://live.staticflickr.com/65535/51828440767_8ce8e10d30_o.jpg", "https://live.staticflickr.com/65535/51829734974_ddfe778a46_o.jpg", "https://live.staticflickr.com/65535/51829734959_d68fa43e2a_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/Yov854ZT1lg", "youtube_id": "Yov854ZT1lg", "article": "https://spaceflightnow.com/2022/01/19/spacex-launches-2000th-starlink-satellite/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": ["5ea6ed2d080df4000697c904", "614251b711a64135defb3654"], "capsules": [], "payloads": ["61e05516be8d8b66799018d4"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 146, "name": "Starlink 4-6 (v1.5)", "date_utc": "2022-01-19T00:04:00.000Z", "date_unix": 1642550640, "date_local": "2022-01-18T19:04:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "flight": 10, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "50ac28f2-024f-442f-837d-dab8107304ec", "id": "61e048bbbe8d8b66799018d0", {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/69/be/Y0sIJj6f_o.png", "large": "https://images2.imgbox.com/ea/26/DjPDzbZl_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/sarr7x/rspacex_csg2_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/sdtz77/rspacex_csg2_launch_discussion_and_updates_thread/", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://live.

staticflickr.com/65535/51856205295_4ec1c21ce3_o.jpg", "https://live.staticflickr.com/65535/51854587612_b30f28ede1_o.jpg", "https://live.staticflickr.com/65535/51855875789_b27465e1f2_o.jpg", "https://live.staticflickr.com/65535/51855546836_710848417a_o.jpg", "https://live.staticflickr.com/65535/51855627363_c927574ce4_o.jpg", "https://live.staticflickr.com/65535/51854587577_cfe014f0e9_o.jpg", "https://live.staticflickr.com/65535/51855875759_a4cdc29fbf_o.jpg", "https://live.staticflickr.com/65535/51855546821_7900aed52d_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/AbFoi68L-GQ", "youtube_id": "AbFoi68L-GQ", "article": "https://spaceflightnow.com/2022/02/01/italian-radar-satellite-rides-spacex-rocket-into-polar-orbit/", "wikipedia": null, "static_fire_date_utc": "2022-01-23T21:22:00.000Z", "static_fire_date_unix": 1642972920, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Falcon 9 launches to sun-synchronous polar orbit from Florida as part of CSG-2 Mission. The mission lifts off from SLC-40, Cape Canaveral on a southward azimuth and performs a dogleg maneuver. The booster for this mission is expected to return to LZ-1 based on FCC communications filings", "crew": [], "ships": [], "capsules": [], "payloads": ["6161d3a06db1a92bfb8535a"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 147, "name": "CSG-2", "date_utc": "2022-01-31T23:11:12.000Z", "date_unix": 1643670672, "date_local": "2022-01-31T18:11:12-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f359183c413b265d", "flight": 3, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "launch_library_id": "5e9e3032383ecb267a34e7c7"}], "auto_update": false, "tbd": false, "launch_library_id": "23229c2b-abb7-4b94-b624-981a9adc88d2", "id": "6161d32d6db1a92bfb85359", {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/a8/17/lVuBZTIF_o.png", "large": "https://images2.imgbox.com/4c/7a/USlZa8r3_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/si3o0y/rspacex_nrol87_launch_discussion_and_updates/", "media": null, "recovery": null}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51860158413_2ebc4d47a4_o.jpg", "https://live.staticflickr.com/65535/51860412009_2e15b59fbf_o.jpg", "https://live.staticflickr.com/65535/51860158508_793bf779eb_o.jpg", "https://live.staticflickr.com/65535/51860411994_584cab0598_o.jpg", "https://live.staticflickr.com/65535/51859123422_603c610574_o.jpg", "https://live.staticflickr.com/65535/51859122897_637e67a312_o.jpg", "https://live.staticflickr.com/65535/51860730685_c8c7f0561e_o.jpg", "https://live.staticflickr.com/65535/51859123052_cc5640ef1a_o.jpg", "https://live.staticflickr.com/65535/51860412119_8926453a27_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/bVk8XyjhTKo", "youtube_id": "bVk8XyjhTKo", "article": "https://spaceflightnow.com/2022/02/02/spacex-launches-classified-nro-satellite-from-vandenberg-space-force-base/", "wikipedia": null, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["6175aaacefa4314085aa9c56"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 148, "name": "NROL-87", "date_utc": "2022-02-02T20:18:00.000Z", "date_unix": 1643833080, "date_local": "2022-02-02T12:18:00-08:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "61fae5947aa67176fe3e0e1e", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "launch_library_id": "5e9e3032383ecb554034e7c9"}], "auto_update": true, "tbd": false, "launch_library_id": "2e650790-ff3e-434a-b028-a6a1a13cfc94", "id": "607a34e35a906a44023e085e", {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/1c/c9/KfwNHab1_o.png", "large": "https://images2.imgbox.com/fa/2d/9bZKP4Lb_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/sfr8l0/rspacex_starlink_47_launch_discussion_and_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51869166852_83ed7030ff_o.jpg", "https://live.staticflickr.com/65535/51870446979_a7af58c55a_o.jpg", "https://live.staticflickr.com/65535/51870446669_f94575721f_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/UY3fZ6PwuUY", "youtube_id": "UY3fZ6PwuUY", "article": "https://spaceflightnow.com/2022/02/03/spacex-launches-third-falcon-9-rocket"}}

-mission-in-three-days/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["61e05520be8d8b66799018d5"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 149, "name": "Starlink 4-7 (v1.5)", "date_utc": "2022-02-03T18:13:00.000Z", "date_unix": 1643911980, "date_local": "2022-02-03T13:13:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c53d0622a6330279009f", "flight": 6, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "de39dd1a-0f72-4afd-a6b9-1b848b246071", "id": "61e048ffbe8d8b66799018d1"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/97/24/8byKYtz1_o.png", "large": "https://images2.imgbox.com/d0/84/kfEJRH1j_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/sx92uf/rspacex_starlink_48_launch_discussion_and_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51897183392_ecee950c6f_o.jpg", "https://live.staticflickr.com/65535/51898142206_9dd9dd27e1_o.jpg", "https://live.staticflickr.com/65535/51897183382_6f6dcf0fb8_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/eiKOMCRymsw", "youtube_id": "eiKOMCRymsw", "article": "https://spaceflightnow.com/2022/02/21/spacex-adds-46-more-satellites-to-starlink-fleet/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["61fc02e1e0dc5662b76489b4"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 150, "name": "Starlink 4-8 (v1.5)", "date_utc": "2022-02-21T14:44:00.000Z", "date_unix": 1645454640, "date_local": "2022-02-21T09:44:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight": 11, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "398e713f-5daa-4fb9-a70a-0b8654baf5d1", "id": "61fc01dae0dc5662b76489a7"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/4d/6a/0h3QT4JI_o.png", "large": "https://images2.imgbox.com/e7/37/bWXhCJ8i_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/t0yksi/rspacex_starlink_411_launch_discussion_and/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51903390122_fc0acab37a_o.jpg", "https://live.staticflickr.com/65535/51904998190_f8f347c995_o.jpg", "https://live.staticflickr.com/65535/51904679574_588b01b22d_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/nnV0fK0zXHE", "youtube_id": "nnV0fK0zXHE", "article": "https://spaceflightnow.com/2022/02/25/spacex-deploys-another-batch-of-starlink-satellites/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["61fc0334e0dc5662b76489b5"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 151, "name": "Starlink 4-11 (v1.5)", "date_utc": "2022-02-25T17:12:00.000Z", "date_unix": 1645809120, "date_local": "2022-02-25T09:12:00-08:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c54a0622a633027900a1", "flight": 4, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "b7b24770-f9dd-40eb-adad-da95e917e55d", "id": "61fc0203e0dc5662b76489a8"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/cd/cf/dbAM1D7F_o.png", "large": "https://images2.imgbox.com/75/11/KTRZPYiQ_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/s

tarlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/t5lzm9/rspacex_starlink_49_launch_discussion_and_update_s/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/", "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51924631989_4e0b26f306_o.jpg", "https://live.staticflickr.com/65535/51924934610_296c72bf67_o.jpg", "https://live.staticflickr.com/65535/51924933910_9627ae096e_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/ypb2sDdUkRo", "youtube_id": "ypb2sDdUkRo", "article": "https://spaceflightnow.com/2022/03/03/after-another-starlink-mission-spacex-on-pace-for-one-launch-per-week-this-year/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink", "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["61fc0379e0dc5662b76489b6"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 152, "name": "Starlink 4-9 (v1.5)", "date_utc": "2022-03-03T14:35:00.000Z", "date_unix": 1646318100, "date_local": "2022-03-03T09:35:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "flight": 11, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "861795c5-e694-4d3e-b22f-a356a31cd5d8", "id": "61fc0224e0dc5662b76489ab", {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/82/8f/qKGTi0s6_o.png", "large": "https://images2.imgbox.com/16/33/3M4qJ6Fz_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/t9la7r/rspacex_starlink_410_launch_discussion_and/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51928220502_1a44139be7_o.jpg", "https://live.staticflickr.com/65535/51929288928_46decee5db_o.jpg", "https://live.staticflickr.com/65535/51929537589_f03fb8c20a_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/uqAppamdGyo", "youtube_id": "uqAppamdGyo", "article": "https://spaceflightnow.com/2022/03/09/spacex-broomstick-launches-40th-starlink-mission/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink", "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["61fc0382e0dc5662b76489b7"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 153, "name": "Starlink 4-10 (v1.5)", "date_utc": "2022-03-09T13:45:00.000Z", "date_unix": 1646833500, "date_local": "2022-03-09T08:45:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f359183c413b265d", "flight": 4, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "d8c7fbeb-6a32-42dc-8c24-f1c632adc8b5", "id": "61fc0243e0dc5662b76489ae", {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/d6/34/IPiyyiUF_o.png", "large": "https://images2.imgbox.com/4e/d5/Mvzpbdfg_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": null, "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/51947052831_3b1599cd70_o.jpg", "https://live.staticflickr.com/65535/51946071252_b51d6839e9_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/0giA6VZOICs", "youtube_id": "0giA6VZOICs", "article": "https://spaceflightnow.com/2022/03/19/spacex-stretches-rocket-reuse-record-with-another-starlink-launch/", "wikipedia": "https://en.wikipedia.org/wiki/Starlink", "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["623491e5f051102e1fcedac9"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 154, "name": "Starlink 4-12 (v1.5)", "date_utc": "2022-03-19T03:24:00.000Z", "date_unix": 1647660240, "date_local": "2022-03-18T23:24:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f35918c0803b265c", "flight": 12, "gridfin

s":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"},"auto_update":true,"tbd":false,"launch_library_id":"72188aca-810d-40b9-887d-43040614dd2c","id":"6234908cf051102e1fcedac4"},"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/6f/96/DdGNFAIf_o.png","large":"https://images2.imgbox.com/cb/68/qmxOMk8e_o.png"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/tt5n43/rspacex_transporter4_launch_discussion_and/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51981688502_0584ac5658_o.jpg","https://live.staticflickr.com/65535/51982975529_3e1610767a_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/4NqSoHnkKEM","youtube_id":"4NqSoHnkKEM","article":"https://spaceflightnow.com/2022/04/01/forty-payloads-ride-into-orbit-on-spacex-falcon-9-rocket/","wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["6243af62af52800c6e919260"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":155,"name":"Transporter-4","date_utc":"2022-04-01T16:24:00.000Z","date_unix":1648830240,"date_local":"2022-04-01T12:24:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c53d0622a6330279009f","flight":7,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"},"auto_update":true,"tbd":false,"launch_library_id":"335acce9-a35c-436c-9a22-a2505f20957f","id":"6243ad8baf52800c6e919252"},"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/16/33/EAmegdSP_o.png","large":"https://images2.imgbox.com/27/1c/FaWQjihE_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/t3ez79/axiom1_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/tyd866/rspacex_axiom1_launch_discussion_and_updates/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51991997860_fa865513ec_o.jpg","https://live.staticflickr.com/65535/51991997845_85b28ce575_o.jpg","https://live.staticflickr.com/65535/51990441472_e16a9f15ff_o.jpg","https://live.staticflickr.com/65535/51991440466_17111d73b6_o.jpg","https://live.staticflickr.com/65535/51991498488_037537ba40_o.jpg","https://live.staticflickr.com/65535/51991498473_0e62ee3c34_o.jpg","https://live.staticflickr.com/65535/51991440451_209bac2fac_o.jpg","https://live.staticflickr.com/65535/5199197825_345544ff0a_o.jpg","https://live.staticflickr.com/65535/51990441502_7dfa987137_o.jpg","https://live.staticflickr.com/65535/51990441532_e9d53093c6_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/5nLk_Vqp7nw","youtube_id":"5nLk_Vqp7nw","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Axiom_Mission_1"},"static_fire_date_utc":"2022-04-06T19:13:00.000Z","static_fire_date_unix":1649272380,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Axiom Mission 1 (or Ax-1) is a planned SpaceX Crew Dragon mission to the International Space Station (ISS), operated by SpaceX on behalf of Axiom Space. The flight will launch no earlier than 31 March 2022 and send four people to the ISS for an eight-day stay","crew":["61eefc9c9eb1064137a1bd77","61eefcf89eb1064137a1bd79","61eefd5b9eb1064137a1bd7a","61eefdbf9eb1064137a1bd7b"],"ships":["5ea6ed2e080df4000697c909"],"capsules":["5e9e2c5df359188aba3b2676"],"payloads":["61eefb129eb1064137a1bd74"],"launchpad":"5e9e4502f509094188566f88","flight_number":156,"name":"Ax-1","date_utc":"2022-04-08T15:17:00.000Z","date_unix":1649431020,"date_local":"2022-04-08T11:17:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c5440622a633027900a0","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"},"auto_update":true,"tbd":false,"launch_library_id":"a3eeb03b-a209-4255-91b5-772dc0d2150e","id":"61eefaa89eb1064137a1bd73"},"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/2b/af/nPQ6NwKM_o.png","large":"https://images2.imgbox.com/aa/64/aThfTk9s_o.png"},"reddit":{"campaign":null,"launch":null,"media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/52013376989_395092fa4c_o.jpg","https://live.staticflickr.com/65535/52013130121_da63eebec_o.jpg","https://live.staticflickr.com/65535/52013376694_cea1bb1c0b_o.jpg"]},"presskit":null,"webcast":"http

s://youtu.be/mMcmf1g4qSA", "youtube_id": "mMcmf1g4qSA", "article": "https://spaceflightnow.com/2022/04/17/spacex-launches-and-lands-rocket-on-mission-for-national-reconnaissance-office/", "wikipedia": "https://en.wikipedia.org/wiki/National_Reconnaissance_Office"}, {"static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["6243b036af52800c6e919262"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 157, "name": "NR0L-85", "date_utc": "2022-04-17T13:13:00.000Z", "date_unix": 1650201180, "date_local": "2022-04-17T06:13:00-07:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "61fae5947aa67176fe3e0e1e", "flight": 2, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb554034e7c9"}], "auto_update": true, "tbd": false, "launch_library_id": "42932355-c450-4250-a885-2d2709fd7cfc", "id": "6243adcaaf52800c6e919254"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/60/36/ReA4NxNK_o.png", "large": "https://images2.imgbox.com/77/16/dxET2a6z_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/u8hpux/rspacex_starlink_414_launch_discussion_and/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/s6yBwQSrtFY", "youtube_id": "s6yBwQSrtFY", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, {"static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": ["618fad7e563d69573ed8caa9"], "capsules": [], "payloads": ["6243af9faf52800c6e919261"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 158, "name": "Starlink 4-14 (v1.5)", "date_utc": "2022-04-21T15:16:00.000Z", "date_unix": 1650554160, "date_local": "2022-04-21T11:16:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "flight": 12, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "2c5447d7-36c5-40fd-88de-47ed6b258bdb", "id": "6243ada6af52800c6e919253"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/22/94/l0GVr2r2_o.png", "large": "https://images2.imgbox.com/8f/ce/drbrg4Ky_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/u6d5na/rspacex_crew4_campaign_launch_discussion_updates/", "launch": null, "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/orN0PaqQECs", "youtube_id": "orN0PaqQECs", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_Crew-4"}, {"static_fire_date_utc": "2022-04-20T14:12:00.000Z", "static_fire_date_unix": 1650463920, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": ["6243bc5baf52800c6e919276", "6243bcdcaf52800c6e919277", "6243bd7baf52800c6e919278", "6243bdf8af52800c6e919279"], "ships": ["614251b711a64135defb3654"], "capsules": ["62615d180ec008379be596f1"], "payloads": ["6243b1cdaf52800c6e919265"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 159, "name": "Crew-4", "date_utc": "2022-04-27T07:52:00.000Z", "date_unix": 1651045920, "date_local": "2022-04-27T03:52:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "60b800111f83cc1e59f16438", "flight": 4, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "d786d8fc-862b-45bf-8f7b-9ad862883f67", "id": "6243ade2af52800c6e919255"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/f2/ba/8LU026uP_o.png", "large": "https://images2.imgbox.com/17/93/FKLG0iaH_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": null, "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/skNrXnubpwA", "youtube_id": "skNrXnubpwA", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Starlink"}, {"static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "ro

cket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["62582aa55988f159024b964d"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 160, "name": "Starlink 4-16 (v1.5)", "date_utc": "2022-04-29T21:27:00.000Z", "date_unix": 1651267620, "date_local": "2022-04-29T17:27:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c5440622a633027900a0", "flight": 6, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "b79a9332-4c0c-42a2-a59b-aafcd5d4721d", "id": "62582a6f5988f159024b964b"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/1c/64/JbkoahWh_o.png", "large": "https://images2.imgbox.com/c3/f5/xpg9K0hk_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/uj5ina/rspacex_starlink_417_launch_discussion_and/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/KzpVUXxdc68", "youtube_id": "KzpVUXxdc68", "article": null, "wikipedia": null}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["62582aad5988f159024b964e"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 161, "name": "Starlink 4-17 (v1.5)", "date_utc": "2022-05-06T09:42:00.000Z", "date_unix": 1651830120, "date_local": "2022-05-06T05:42:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight": 12, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "4f25c927-6a49-4472-814f-4f1a20d93604", "id": "62582a855988f159024b964c"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/46/a4/j5tV5LLx_o.png", "large": "https://images2.imgbox.com/45/88/6grEBZra_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": null, "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/bG6AwvGPd-E", "youtube_id": "bG6AwvGPd-E", "article": null, "wikipedia": null}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["625829d75988f159024b9649"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 162, "name": "Starlink 4-13 (v1.5)", "date_utc": "2022-05-13T22:07:00.000Z", "date_unix": 1652479620, "date_local": "2022-05-13T15:07:00-07:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c54a0622a633027900a1", "flight": 5, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "0bc91464-1d61-4545-95c8-01040dc5eec9", "id": "6258290d5988f159024b9644"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/45/9f/Na8zs6V4_o.png", "large": "https://images2.imgbox.com/13/f0/tUIAS2tH_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/upk6t3/rspacex_starlink_415_launch_discussion_and/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/nFDkWl2Hmh8", "youtube_id": "nFDkWl2Hmh8", "article": null, "wikipedia": null}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["625829cf5988f159024b9648"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 163, "name": "Starlink 4-15 (v1.5)", "date_utc": "2022-05-14T20:40:00.000Z", "date_unix": 1652560800, "date_local": "2022-05-14T16:40:00-04:00", "date_precision": "hour", "upcoming": false, "core

s": [{"core": "627843db57b51b752c5c5a54", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "b418d984-a9d1-4fa3-953d-c684a079714c", "id": "625828f25988f159024b9643"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/b8/49/OVeV3xJg_o.png", "large": "https://images2.imgbox.com/60/48/jFYGyCf9_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/urv8l4/rspacex_starlink_418_launch_discussion_and/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/dQTgX40R-IQ", "youtube_id": "dQTgX40R-IQ", "article": null, "wikipedia": null}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["62615ee40ec008379be596fd"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 164, "name": "Starlink 4-18 (v1.5)", "date_utc": "2022-05-18T10:40:00.000Z", "date_unix": 1652870400, "date_local": "2022-05-18T06:40:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f359183c413b265d", "flight": 5, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "27795b91-eb0e-43f1-898b-a23d9ff332db", "id": "62615ebc0ec008379be596fa"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/fc/73/QpGKqpV_o.png", "large": "https://images2.imgbox.com/a1/0b/Hj2nGHdQ_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/uxafkb/rspacex_transporter5_launch_discussion_and/", "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/KHt3MyimuqU", "youtube_id": "KHt3MyimuqU", "article": null, "wikipedia": null}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["6243b39daf52800c6e919267"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 165, "name": "Transporter-5", "date_utc": "2022-05-25T18:27:00.000Z", "date_unix": 1653503220, "date_local": "2022-05-25T14:27:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c53d0622a6330279009f", "flight": 8, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": "949421ac-3802-499b-b383-d8274de7e147", "id": "6243ae24af52800c6e919258"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/6d/f7/ZJKXRNzL_o.png", "large": "https://images2.imgbox.com/32/10/Mb5CLqt8_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/v7hxph/rspacex_nilesat_301_launch_discussion_and_updates/", "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/UpCZu89zb5Y", "youtube_id": "UpCZu89zb5Y", "article": null, "wikipedia": "https://en.wikipedia.org/wiki/Nilesat"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["6243b286af52800c6e919266"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 166, "name": "Nilesat-301", "date_utc": "2022-06-08T21:04:00.000Z", "date_unix": 1654722240, "date_local": "2022-06-08T17:04:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c5440622a633027900a0", "flight": 7, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "62fb58f6-1d43-4b24-862f-6ac5bee5f723", "id": "6243ae0aaf52800c6e919257"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/ea/40/slQKbK6Y_o.png", "large": "https://images2.imgbox.com/24/85/xcpbppqZ_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discuss

ion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/vd
ue2y/rspacex_starlink_419_launch_discussion_and/", "media": null, "recovery": "http
s://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thre
ad/", "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu
be/oCN-BMU9-hM", "youtube_id": "oCN-BMU9-hM", "article": null, "wikipedia": null}, {"st
atic_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": nul
l, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": nul
l, "crew": [], "ships": [], "capsules": [], "payloads": ["6278484e57b51b752c5c5a63"], "lau
nchpad": "5e9e4502f509094188566f88", "flight_number": 167, "name": "Starlink 4-19 (v1.
5)", "date_utc": "2022-06-01T17:08:50.000Z", "date_unix": 1654103330, "date_local": "20
22-06-01T13:08:50-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"cor
e": "5ef670f10059c33cee4a826c", "flight": 13, "gridfins": true, "legs": true, "reused": tr
ue, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpa
d": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_i
d": "179789f0-9380-4182-8ea2-676504c2f890", "id": "6278481757b51b752c5c5a5f"}, {"fair
ings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "link
s": {"patch": {"small": "https://images2.imgbox.com/c4/49/D1B0f2cg_o.png", "large": "h
ttps://images2.imgbox.com/9e/a6/Vc7LrFG8_o.png"}, "reddit": {"campaign": null, "launc
h": "https://www.reddit.com/r/spacex/comments/vf0x9v/rspacex_sarah1_launch_discuss
ion_and_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/commen
ts/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "origin
al": []}, "presskit": null, "webcast": "https://youtu.be/lCX-KUCn4A4", "youtube_id": "lC
X-KUCn4A4", "article": null, "wikipedia": null}, {"static_fire_date_utc": null, "static_f
ire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1e
c", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules":
[], "payloads": ["5fe3b2abb3467846b3242172"], "launchpad": "5e9e4502f509092b78566f8
7", "flight_number": 168, "name": "SARah 1", "date_utc": "2022-06-18T14:19:00.000Z", "da
te_unix": 1655561940, "date_local": "2022-06-18T07:19:00-07:00", "date_precision": "ho
ur", "upcoming": false, "cores": [{"core": "61fae5947aa67176fe3e0e1e", "flight": 3, "grid
fins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": tru
e, "landing_type": "RTLS", "landpad": "5e9e3032383ecb554034e7c9"}], "auto_update": tru
e, "tbd": false, "launch_library_id": "4ca945f6-981f-4ee9-8a79-f1204b785f8c", "id": "5f
e3af43b3467846b324215e"}, {"fairings": {"reused": null, "recovery_attempt": null, "reco
vered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/8b/
bd/1cZPPs46_o.png", "large": "https://images2.imgbox.com/3c/8b/Ck10na0s_o.png"}, "re
ddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/vfcq6f/
rspacex_globalstar_fm15_launch_discussion_and/", "media": null, "recovery": null}, "fl
ickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/94cC
lvOFWH4", "youtube_id": "94cClvOFWH4", "article": null, "wikipedia": "https://en.wikipe
dia.org/wiki/Globalstar"}, {"static_fire_date_utc": null, "static_fire_date_unix": nul
l, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "f
ailures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["62adec
bcd26f4f711fa53848"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 16
9, "name": "Globalstar FM15", "date_utc": "2022-06-19T04:27:00.000Z", "date_unix": 1655
612820, "date_local": "2022-06-19T00:27:00-04:00", "date_precision": "hour", "upcomin
g": false, "cores": [{"core": "5f57c53d0622a6330279009f", "flight": 9, "gridfins": tru
e, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landin
g_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": fa
lse, "launch_library_id": "33223258-614c-449c-8af7-a9f75cc036b2", "id": "62a9f08b2041
3d2695d88711"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": nul
l, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/32/84/oJzvzmv
d_o.jpg", "large": "https://images2.imgbox.com/c8/1c/MnTYr160_o.jpg"}, "reddit": {"ca
mpaign": null, "launch": "https://www.reddit.com/r/spacex/comments/vnc3uu/rspacex_se
s22_launch_discussion_and_updates_thread/", "media": null, "recovery": null}, "flick
r": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/ZjUvXWg
2_fE", "youtube_id": "ZjUvXWg2_fE", "article": null, "wikipedia": null}, {"static_fire_da
te_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9
d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "shi
ps": [], "capsules": [], "payloads": ["6243b93caf52800c6e91926f"], "launchpad": "5e9e450
1f509094ba4566f84", "flight_number": 170, "name": "SES-22", "date_utc": "2022-06-29T21:

```
"date_unix":1656536640,"date_local":"2022-06-29T17:04:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"627843db57b51b752c5c5a54","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"86a3010e-f8ef-4b64-a029-f4f92829772d","id":"6243aea5af52800c6e91925c"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/b4/ad/i3KVeFRA_o.png","large":"https://images2.imgbox.com/4a/e6/kCnNdivV_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/vsz5s5/rspacex_starlink_421_launch_discussion_and_deployment_thread/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/u_A7xdnVl1M","youtube_id":"u_A7xdnVl1M","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["630bcc6d36448026ab01639"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":171,"name":"Starlink 4-21 (v1.5)","date_utc":"2022-07-07T13:11:00.000Z","date_unix":1657199460,"date_local":"2022-07-07T09:11:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591817f23b2663","flight":13,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"ac4ce8e1-fd76-4654-8809-5500ba792a8a","id":"62a9f0c920413d2695d88712"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/8a/bc/C3bBWQON_o.png","large":"https://images2.imgbox.com/e6/b5/PT6yjfOt_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/vvw9k/rspacex_starlink_31_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/_c738Z_zQR0","youtube_id":"_c738Z_zQR0","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":null,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["630bcc6d36448026ab0163a"],"launchpad":"5e9e4502f509092b78566f87","flight_number":172,"name":"Starlink 3-1 (v1.5)","date_utc":"2022-07-11T01:39:00.000Z","date_unix":1657503540,"date_local":"2022-07-10T18:39:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c54a0622a633027900a1","flight":6,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":"051c4c90-a89d-4a86-a77f-c7e22b9cb458","id":"62a9f0e320413d2695d88713"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/4a/8a/XVjJ2BKD_o.png","large":"https://images2.imgbox.com/80/e2/15AFwnRv_o.png"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/vyw3eo/rspacex_crs25_launch_discussion_and_updates_thread/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/mnowEqqMiFs","youtube_id":"mnowEqqMiFs","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["6243b835af52800c6e91926d"],"launchpad":"5e9e4502f509094188566f88","flight_number":173,"name":"CRS-25","date_utc":"2022-07-15T00:44:00.000Z","date_unix":1657845840,"date_local":"2022-07-14T20:44:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"60b800111f83cc1e59f16438","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"2773613e-58eb-4b99-8120-595c92aa3390","id":"6243ae40af52800c6e919259"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/4a/8a/XVjJ2BKD_o.png","large":"https://images2.imgbox.com/80/e2/15AFwnRv_o.png"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/vyw3eo/rspacex_crs25_launch_discussion_and_updates_thread/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/mnowEqqMiFs","youtube_id":"mnowEqqMiFs","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["6243b835af52800c6e91926d"],"launchpad":"5e9e4502f509094188566f88","flight_number":173,"name":"CRS-25","date_utc":"2022-07-15T00:44:00.000Z","date_unix":1657845840,"date_local":"2022-07-14T20:44:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"60b800111f83cc1e59f16438","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}]}
```

l":"https://images2.imgbox.com/ba/9b/INF3SG3k_o.png", "large":"https://images2.imgbox.com/32/8f/HPsvsuG9_o.png"}, "reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch":null, "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr":{"small":[], "original":[]}, "presskit":null, "webcast":"https://youtu.be/7VWcjgYfJ9U", "youtube_id":"7VWcjgYfJ9U", "article":null, "wikipedia":null}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":null, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":null, "crew":[], "ships":[], "capsules":[], "payloads":["630bce10d36448026ab0163b"], "launchpad":"5e9e4501f509094ba4566f84", "flight_number":174, "name":"Starlink 4-22 (v1.5)", "date_utc":"2022-07-17T14:50:00.000Z", "date_unix":1658069400, "date_local":"2022-07-17T10:50:00-04:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"5e9e28a6f35918c0803b265c", "flight":13, "gridfins":true, "legs":true, "reused":true, "landing_attempt":true, "landing_success":true, "landing_type":"ASDS", "landpad":"5e9e3033383ecbb9e534e7cc"}], "auto_update":true, "tbd":false, "launch_library_id":"84f9bbdd-0e2c-468e-b1d0-73d640745c13", "id":"62a9f0f820413d2695d88714"}, {"fairings":{"reused":null, "recovery_attempt":null, "recovered":null, "ships":[], "links":{"patch":{"small":"https://images2.imgbox.com/74/7b/F8vvXC49_o.png", "large":"https://images2.imgbox.com/a4/4e/55EPx43e_o.png"}, "reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch":null, "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/", "flickr":{"small":[], "original":[]}, "presskit":null, "webcast":"https://youtu.be/BuXdtORWrpq", "youtube_id":"BuXdtORWrpq", "article":null, "wikipedia":null}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":null, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":null, "crew":[], "ships":[], "capsules":[], "payloads":["630bce49d36448026ab0163c"], "launchpad":"5e9e4502f509092b78566f87", "flight_number":175, "name":"Starlink 3-2 (v1.5)", "date_utc":"2022-07-21T17:13:00.000Z", "date_unix":1658423580, "date_local":"2022-07-21T10:13:00-07:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"61fae5947aa67176fe3e0e1e", "flight":4, "gridfins":true, "legs":true, "reused":true, "landing_attempt":true, "landing_success":true, "landing_type":"ASDS", "landpad":"5e9e3032383ecb6bb234e7ca"}], "auto_update":true, "tbd":false, "launch_library_id":"4ddf282b-94a1-418e-b3f6-7d8e753fdfec", "id":"62a9f10b20413d2695d88715"}, {"fairings":{"reused":null, "recovery_attempt":null, "recovered":null, "ships":[], "links":{"patch":{"small":"https://images2.imgbox.com/8b/5a/zJ1W8QIE_o.png", "large":"https://images2.imgbox.com/d2/64/JxeOTPRl_o.png"}, "reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch":null, "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr":{"small":[], "original":[]}, "presskit":null, "webcast":null, "youtube_id":null, "article":null, "wikipedia":null}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":null, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":null, "crew":[], "ships":[], "capsules":[], "payloads":["630bce79d36448026ab0163d"], "launchpad":"5e9e4501f509094ba4566f84", "flight_number":176, "name":"Starlink 4-25 (v1.5)", "date_utc":"2022-07-24T00:00:00.000Z", "date_unix":1658620800, "date_local":"2022-07-23T20:00:00-04:00", "date_precision":"day", "upcoming":false, "cores":[{"core":"5f57c5440622a633027900a0", "flight":8, "gridfins":true, "legs":true, "reused":true, "landing_attempt":true, "landing_success":true, "landing_type":"ASDS", "landpad":"5e9e3033383ecb075134e7cd"}], "auto_update":true, "tbd":false, "launch_library_id":null, "id":"62a9f12820413d2695d88716"}, {"fairings":{"reused":null, "recovery_attempt":null, "recovered":null, "ships":[], "links":{"patch":{"small":"https://images2.imgbox.com/9a/11/gjRM9dTl_o.png", "large":"https://images2.imgbox.com/ca/23/Q8I8SwKv_o.png"}, "reddit":{"campaign":null, "launch":"https://www.reddit.com/r/spacex/comments/wfohz0/rspacex_kplo_launch_discussion_updates_thread/", "media":null, "recovery":null}, "flickr":{"small":[], "original":[]}, "presskit":null, "webcast":"https://youtu.be/rTrkHZji0_8", "youtube_id":"rTrkHZji0_8", "article":null, "wikipedia":null}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":null, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":null, "crew":[], "ships":[], "capsules":[], "payloads":["630bcfe1d364480

26ab01641"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 177, "name": "KP L0", "date_utc": "2022-08-04T23:08:00.000Z", "date_unix": 1659654480, "date_local": "2022-08-04T19:08:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a6f359183c413b265d", "flight": 6, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "75d7306e-1d76-4c0b-9dc4-98dee7b9af59", "id": "62a9f86420413d2695d88719"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/db/0c/Qrfi4lgd_o.png", "large": "https://images2.imgbox.com/6f/13/SnfNAbpz_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/wk8dua/rspacex_starlink_426_launch_discussion_and/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/ck5z0uMGz8s", "youtube_id": "ck5z0uMGz8s", "article": null, "wikipedia": null}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["630bcea1d36448026ab0163e"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 178, "name": "Starlink 4-26 (v1.5)", "date_utc": "2022-08-09T22:57:00.000Z", "date_unix": 1660085820, "date_local": "2022-08-09T18:57:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "627843db57b51b752c5c5a54", "flight": 3, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "a6b9deb4-f78d-4b57-8e47-98c5aea99d9e", "id": "62a9f8b320413d2695d8871b"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/d0/90/pKNXVgeG_o.png", "large": "https://images2.imgbox.com/33/50/ZK6KD7kE_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/wmgtiu/rspacex_starlink_33_launch_discussion_and_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/SU5FbiCbjiC", "youtube_id": "SU5FbiCbjiC", "article": null, "wikipedia": null}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["630bceb8d36448026ab01640"], "launchpad": "5e9e4502f509092b78566f87", "flight_number": 179, "name": "Starlink 3-3 (v1.5)", "date_utc": "2022-08-12T21:30:00.000Z", "date_unix": 1660339800, "date_local": "2022-08-12T14:30:00-07:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c53d0622a6330279009f", "flight": 10, "gridfins": true, "legs": true, "reused": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "4f2c5733-5019-4f7a-8403-15a1a270bf96", "id": "62f3b4ff0f55c50e192a4e6b"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/ba/c7/01spe4aF_o.png", "large": "https://images2.imgbox.com/d1/10/0u6LdCUH_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/wsde1t/rspacex_starlink_427_launch_discussion_and/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "https://youtu.be/M018DAaNd_E", "youtube_id": "M018DAaNd_E", "article": null, "wikipedia": null}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": null, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": [], "ships": [], "capsules": [], "payloads": ["630bceadd36448026ab0163f"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 180, "name": "Starlink 4-27 (v1.5)", "date_utc": "2022-08-19T19:24:00.000Z", "date_unix": 1660937040, "date_local": "2022-08-19T15:24:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5f57c5440622a633027900a0", "flight": 9, "gridfins": true, "legs":


```
true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}], "auto_update":true,"tbd":false,"launch_library_id":"4a114237-e8c5-4248-8d30-7a9026b86430","id":"62f3b5200f55c50e192a4e6c"}, {"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/12/42/5T8I9wZL_o.png","large":"https://images2.imgbox.com/f4/bc/5iJ5j1Ju_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":null,"media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/07RGJ04HRns","youtube_id":"07RGJ04HRns","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["631614d7ffc78f3b85670716"],"launchpad":"5e9e4502f509094188566f88","flight_number":181,"name":"Starlink 4-23 (v1.5)","date_utc":"2022-08-28T02:22:00.000Z","date_unix":1661653320,"date_local":"2022-08-27T22:22:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"61c1ef45a4a2462678cbf45d","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}], "auto_update":true,"tbd":false,"launch_library_id":"67158b3c-201d-4450-be8a-990010c05b40","id":"62f3b5290f55c50e192a4e6d"}, {"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/72/07/PtgYfiFT_o.png","large":"https://images2.imgbox.com/fc/18/97AKS1XR_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/x1t7gd/rspacex_starlink_34_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/zSJWK_pmXVw","youtube_id":"zSJWK_pmXVw","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["630f63bf18702d4844fb5391"],"launchpad":"5e9e4502f509092b78566f87","flight_number":182,"name":"Starlink 3-4 (v1.5)","date_utc":"2022-08-31T05:40:00.000Z","date_unix":1661924400,"date_local":"2022-08-30T22:40:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c54a0622a633027900a1","flight":7,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}], "auto_update":true,"tbd":false,"launch_library_id":"576b04d6-1962-4bda-b43f-0da4138d192d","id":"62f3b53a0f55c50e192a4e6f"}, {"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/dc/a0/erKL6HGq_o.png","large":"https://images2.imgbox.com/57/42/trORYoRc_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":null,"media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/NONM-xsKMSs","youtube_id":"NONM-xsKMSs","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["631614e9ffc78f3b85670717","631617fbffc78f3b8567071d"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":183,"name":"Starlink 4-20 (v1.5) & Sherpa LTC-2/Varuna-TDM","date_utc":"2022-09-05T02:09:00.000Z","date_unix":1662343740,"date_local":"2022-09-04T22:09:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f359183c413b265d","flight":7,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb9e534e7cc"}], "auto_update":true,"tbd":false,"launch_library_id":null,"id":"62f3b5330f55c50e192a4e6e"}, {"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/a9/9a/NXVKtZCE_o.png","large":"https://images2.imgbox.com/e3/cc/hN96PmST_o.png"},"red
```

```

dit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch":null, "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[], "original":[], "presskit":null, "webcast":null, "youtube_id":null, "article":null, "wikipedia":null}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":null, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":null, "crew":[], "ships":[], "capsules":[], "payloads":["63161610ffc78f3b85670718", "63161872ffc78f3b8567071e"], "launchpad":"5e9e4502f509094188566f88", "flight_number":184, "name":"Starlink 4-2 (v1.5) & Blue Walker 3", "date_utc":"2022-09-11T01:10:00.000Z", "date_unix":1662858600, "date_local":"2022-09-10T21:10:00-04:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"5e9e28a7f3591817f23b2663"}, {"flight":14, "gridfins":true, "legs":true, "reused":true, "landing_attempt":true, "landing_success":true, "landing_type":"ASDS", "landpad":"5e9e3033383ecb075134e7cd"}], "auto_update":true, "tbd":false, "launch_library_id":"992823ad-f843-4a4a-beca-882b8ce8773a", "id":"62a9f89a20413d2695d8871a"}, {"fairings":{"reused":null, "recovery_attempt":null, "recovered":null, "ships":[]}, "links":{"patch":{"small":"https://images2.imgbox.com/a9/9a/NXVktZCE_o.png", "large":"https://images2.imgbox.com/e3/cc/hN96PmST_o.png"}, "reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch":"https://www.reddit.com/r/spacex/comments/xd8vhj/rspacex_starlink_434_launch_discussion_and/", "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[], "original":[], "presskit":null, "webcast":"https://youtu.be/ZlQHF_yBkMQ", "youtube_id":"ZlQHF_yBkMQ", "article":null, "wikipedia":null}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":null, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":null, "crew":[], "ships":[], "capsules":[], "payloads":["63161699ffc78f3b85670719"], "launchpad":"5e9e4501f509094ba4566f84", "flight_number":185, "name":"Starlink 4-34 (v1.5)", "date_utc":"2022-09-17T01:05:00.000Z", "date_unix":1663376700, "date_local":"2022-09-16T21:05:00-04:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"60b800111f83cc1e59f16438"}, {"flight":6, "gridfins":true, "legs":true, "reused":true, "landing_attempt":true, "landing_success":true, "landing_type":"ASDS", "landpad":"5e9e3033383ecbb9e534e7cc"}], "auto_update":true, "tbd":false, "launch_library_id":"9ba04064-c329-40bf-b477-ff468d7d8058", "id":"63161329ffc78f3b8567070b"}, {"fairings":{"reused":null, "recovery_attempt":null, "recovered":null, "ships":[]}, "links":{"patch":{"small":"https://images2.imgbox.com/a9/9a/NXVktZCE_o.png", "large":"https://images2.imgbox.com/e3/cc/hN96PmST_o.png"}, "reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/", "launch":"https://www.reddit.com/r/spacex/comments/xn028t/rspacex_starlink_435_launch_discussion_and/", "media":null, "recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[], "original":[], "presskit":null, "webcast":"https://youtu.be/VVu2bSJJhgI", "youtube_id":"VVu2bSJJhgI", "article":null, "wikipedia":null}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":null, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "failures":[], "details":null, "crew":[], "ships":[], "capsules":[], "payloads":["631616a7ffc78f3b8567071a"], "launchpad":"5e9e4501f509094ba4566f84", "flight_number":186, "name":"Starlink 4-35 (v1.5)", "date_utc":"2022-09-24T23:30:00.000Z", "date_unix":1664062200, "date_local":"2022-09-24T19:30:00-04:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"627843d657b51b752c5c5a53"}, {"flight":4, "gridfins":true, "legs":true, "reused":true, "landing_attempt":true, "landing_success":true, "landing_type":"ASDS", "landpad":"5e9e3033383ecbb9e534e7cc"}], "auto_update":true, "tbd":false, "launch_library_id":"1c903b65-6667-4fd5-944d-296c5f13e01f", "id":"63161339ffc78f3b8567070c"}, {"fairings":null, "links":{"patch":{"small":"https://images2.imgbox.com/eb/d8/D1Yyp0w_o.png", "large":"https://images2.imgbox.com/33/2e/k6VE4iYl_o.png"}, "reddit":{"campaign":null, "launch":"https://www.reddit.com/r/spacex/comments/xvm76j/rspacex_crew5_launchcoast_docking_discussion_and/", "media":null, "recovery":null}, "flickr":{"small":[], "original":[], "presskit":null, "webcast":"https://youtu.be/5EwW8ZkArL4", "youtube_id":"5EwW8ZkArL4", "article":null, "wikipedia":"https://en.wikipedia.org/wiki/SpaceX_Crew-5"}, "static_fire_date_utc":null, "static_fire_date_unix":null, "net":false, "window":null, "rocket":

```

```
t":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":
["62dd7196202306255024d13c","62dd71c9202306255024d13d","62dd7210202306255024d13
e","62dd7253202306255024d13f"],"ships":[],"capsules":["617c05591bad2c661a6e290
9"],"payloads":["62dd73ed202306255024d145"],"launchpad":"5e9e4502f509094188566f8
8","flight_number":187,"name":"Crew-5","date_utc":"2022-10-05T16:00:00.000Z","dat
e_unix":1664985600,"date_local":"2022-10-05T12:00:00-04:00","date_precision":"hou
r","upcoming":false,"cores":[{"core":"633d9da635a71d1d9c66797b","flight":1,"gridf
ins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":tru
e,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":tru
e,"tbd":false,"launch_library_id":"f33d5ece-e825-4cd8-809f-1d4c72a2e0d3","id":"62
dd70d5202306255024d139"}]'
```

You should see the response contains massive information about SpaceX launches. Next, let's try to discover some more relevant information for this project.

Task 1: Request and parse the SpaceX launch data using the GET request

To make the requested JSON results more consistent, we will use the following static response object for this project:

```
In [23]: static_json_url='https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cl
```

We should see that the request was successfull with the 200 status response code

```
In [24]: response=requests.get(static_json_url)
```

```
In [25]: response.status_code
```

```
Out[25]: 200
```

Now we decode the response content as a Json using `.json()` and turn it into a Pandas dataframe using `.json_normalize()`

```
In [26]: # Use json_normalize meethod to convert the json result into a dataframe
pd.json_normalize(response.json())
```

Out[26]:

	static_fire_date_utc	static_fire_date_unix	tbd	net	window	
0	2006-03-17T00:00:00.000Z	1.142554e+09	False	False	0.0	5e9d0d95eda69955f7
1	None	NaN	False	False	0.0	5e9d0d95eda69955f7
2	None	NaN	False	False	0.0	5e9d0d95eda69955f7
3	2008-09-20T00:00:00.000Z	1.221869e+09	False	False	0.0	5e9d0d95eda69955f7
4	None	NaN	False	False	0.0	5e9d0d95eda69955f7

	static_fire_date_utc	static_fire_date_unix	tbd	net	window

102	None	NaN	False	False	0.0 5e9d0d95eda69973a8
103	2020-10-17T05:23:00.000Z	1.602912e+09	False	False	NaN 5e9d0d95eda69973a8

	static_fire_date_utc	static_fire_date_unix	tbd	net	window

	static_fire_date_utc	static_fire_date_unix	tbd	net	window
106	2020-11-11T16:17:00.000Z	1.605111e+09	False	False	NaN
					5e9d0d95eda69973a8

Using the dataframe `data` print the first 5 rows

```
In [27]: # Get the head of the dataframe
data = pd.json_normalize(response.json())
```

You will notice that a lot of the data are IDs. For example the rocket column has no information about the rocket just an identification number.

We will now use the API again to get information about the launches using the IDs given for each launch. Specifically we will be using columns `rocket`, `payloads`, `launchpad`, and `cores`.

```
In [28]: # Lets take a subset of our dataframe keeping only the features we want and the
data = data[['rocket', 'payloads', 'launchpad', 'cores', 'flight_number', 'date_

# We will remove rows with multiple cores because those are falcon rockets with
data = data[data['cores'].map(len)==1]
data = data[data['payloads'].map(len)==1]

# Since payloads and cores are lists of size 1 we will also extract the single v
data['cores'] = data['cores'].map(lambda x : x[0])
data['payloads'] = data['payloads'].map(lambda x : x[0])

# We also want to convert the date_utc to a datetime datatype and then extractin
data['date'] = pd.to_datetime(data['date_utc']).dt.date

# Using the date we will restrict the dates of the launches
data = data[data['date'] <= datetime.date(2020, 11, 13)]
```

- From the `rocket` we would like to learn the booster name
- From the `payload` we would like to learn the mass of the payload and the orbit that it is going to
- From the `launchpad` we would like to know the name of the launch site being used, the longitude, and the latitude.
- **From `cores` we would like to learn the outcome of the landing, the type of the landing, number of flights with that core, whether gridfins were used, whether the core is reused, whether legs were used, the landing pad used, the block of the core which is a number used to separate version of cores, the number of times this specific core has been reused, and the serial of the core.**

The data from these requests will be stored in lists and will be used to create a new dataframe.


```
In [29]: #Global variables
BoosterVersion = []
PayloadMass = []
Orbit = []
LaunchSite = []
Outcome = []
Flights = []
GridFins = []
Reused = []
Legs = []
LandingPad = []
Block = []
ReusedCount = []
Serial = []
Longitude = []
Latitude = []
```

These functions will apply the outputs globally to the above variables. Let's take a look at `BoosterVersion` variable. Before we apply `getBoosterVersion` the list is empty:

```
In [30]: BoosterVersion
```

```
Out[30]: []
```

Now, let's apply `getBoosterVersion` function method to get the booster version

```
In [31]: # Call getBoosterVersion
getBoosterVersion(data)
```

the list has now been update

```
In [32]: BoosterVersion[0:5]
```

```
Out[32]: ['Falcon 1', 'Falcon 1', 'Falcon 1', 'Falcon 1', 'Falcon 9']
```

we can apply the rest of the functions here:

```
In [33]: # Call getLaunchSite
getLaunchSite(data)
```

```
In [34]: # Call getPayloadData
getPayloadData(data)
```

```
In [35]: # Call getCoreData
getCoreData(data)
```

Finally let's construct our dataset using the data we have obtained. We combine the columns into a dictionary.

```
In [36]: launch_dict = {'FlightNumber': list(data['flight_number']),
                        'Date': list(data['date']),
                        'BoosterVersion':BoosterVersion,
                        'PayloadMass':PayloadMass,
                        'Orbit':Orbit,
                        'LaunchSite':LaunchSite,
```

```
'Outcome': Outcome,
'Flights': Flights,
'GridFins': GridFins,
'Reused': Reused,
'Legs': Legs,
'LandingPad': LandingPad,
'Block': Block,
'ReusedCount': ReusedCount,
'Serial': Serial,
'Longitude': Longitude,
'Latitude': Latitude}
```

Then, we need to create a Pandas data frame from the dictionary launch_dict.

```
In [37]: # Create a data from launch_dict
data_launch = pd.DataFrame.from_dict(launch_dict)
```

Show the summary of the dataframe

```
In [38]: # Show the head of the dataframe
data_launch.head()
```

```
Out[38]:
```

	FlightNumber	Date	BoosterVersion	PayloadMass	Orbit	LaunchSite	Outcome	Fli
0	1	2006-03-24	Falcon 1	20.0	LEO	Kwajalein Atoll	None None	
1	2	2007-03-21	Falcon 1	NaN	LEO	Kwajalein Atoll	None None	
2	4	2008-09-28	Falcon 1	165.0	LEO	Kwajalein Atoll	None None	
3	5	2009-07-13	Falcon 1	200.0	LEO	Kwajalein Atoll	None None	
4	6	2010-06-04	Falcon 9	NaN	LEO	CCSFS SLC 40	None None	

Task 2: Filter the dataframe to only include Falcon 9 launches

Finally we will remove the Falcon 1 launches keeping only the Falcon 9 launches. Filter the data dataframe using the `BoosterVersion` column to only keep the Falcon 9 launches. Save the filtered data to a new dataframe called `data_falcon9`.

```
In [39]: # Hint data['BoosterVersion']!='Falcon 1'
data_falcon9 = data_launch[data_launch['BoosterVersion'] != 'Falcon 1']
```

Now that we have removed some values we should reset the FlightNumber column

```
In [41]: data_falcon9.loc[:, 'FlightNumber'] = list(range(1, data_falcon9.shape[0]+1))
data_falcon9
```

```

/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages/pandas/core/indexing.py:1773: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
self._setitem_single_column(ilocs[0], value, pi)

```

Out[41]:

	FlightNumber	Date	BoosterVersion	PayloadMass	Orbit	LaunchSite	Outcome	F
4	1	2010-06-04	Falcon 9	NaN	LEO	CCSFS SLC 40	None	None
5	2	2012-05-22	Falcon 9	525.0	LEO	CCSFS SLC 40	None	None
6	3	2013-03-01	Falcon 9	677.0	ISS	CCSFS SLC 40	None	None
7	4	2013-09-29	Falcon 9	500.0	PO	VAFB SLC 4E	False	Ocean
8	5	2013-12-03	Falcon 9	3170.0	GTO	CCSFS SLC 40	None	None
...
89	86	2020-09-03	Falcon 9	15600.0	VLEO	KSC LC 39A	True	ASDS
90	87	2020-10-06	Falcon 9	15600.0	VLEO	KSC LC 39A	True	ASDS
91	88	2020-10-18	Falcon 9	15600.0	VLEO	KSC LC 39A	True	ASDS
92	89	2020-10-24	Falcon 9	15600.0	VLEO	CCSFS SLC 40	True	ASDS
93	90	2020-11-05	Falcon 9	3681.0	MEO	CCSFS SLC 40	True	ASDS

90 rows × 17 columns

Data Wrangling

We can see below that some of the rows are missing values in our dataset.

```
In [42]: data_falcon9.isnull().sum()
```

```
Out[42]: FlightNumber      0
         Date              0
         BoosterVersion    0
         PayloadMass       5
         Orbit             0
         LaunchSite        0
         Outcome           0
         Flights           0
         GridFins          0
         Reused            0
         Legs              0
         LandingPad        26
         Block             0
         ReusedCount       0
         Serial            0
         Longitude         0
         Latitude          0
         dtype: int64
```

Before we can continue we must deal with these missing values. The `LandingPad` column will retain `None` values to represent when landing pads were not used.

Task 3: Dealing with Missing Values

Calculate below the mean for the `PayloadMass` using the `.mean()`. Then use the mean and the `.replace()` function to replace `np.nan` values in the data with the mean you calculated.

```
In [43]: # Calculate the mean value of PayloadMass column
payload_mass_mean = data_falcon9['PayloadMass'].mean()
# Replace the np.nan values with its mean value
data_falcon9['PayloadMass'].replace(np.nan, payload_mass_mean, inplace = True)
data_falcon9.isnull().sum()
```

```
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages/pandas/core/generic.py:6619: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame
```

```
See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
return self._update_inplace(result)
```

```
Out[43]: FlightNumber      0
         Date              0
         BoosterVersion    0
         PayloadMass       0
         Orbit             0
         LaunchSite        0
         Outcome           0
         Flights           0
         GridFins          0
         Reused            0
         Legs              0
         LandingPad        26
         Block             0
         ReusedCount       0
         Serial            0
         Longitude         0
         Latitude          0
         dtype: int64
```

You should see the number of missing values of the `PayLoadMass` change to zero.

Now we should have no missing values in our dataset except for in `LandingPad` .

We can now export it to a **CSV** for the next section, but to make the answers consistent, in the next lab we will provide data in a pre-selected date range.

```
data_falcon9.to_csv('dataset_part_1.csv', index=False)
```

Authors

[Joseph Santarcangelo](#) has a PhD in Electrical Engineering, his research focused on using machine learning, signal processing, and computer vision to determine how videos impact human cognition. Joseph has been working for IBM since he completed his PhD.

Copyright ©IBM Corporation. All rights reserved.