



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 AP
import requests
# Pandas is a software library written for the Python programming language for data
import pandas as pd
# NumPy is a library for the Python programming language, adding support for large,
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 data
def getBoosterVersion(data):
    for x in data['rocket']:
        if x:
            response = requests.get("https://api.spacexdata.com/v4/rockets/"+str(x)).json()
            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 data
def getLaunchSite(data):
    for x in data['launchpad']:
        if x:
            response = requests.get("https://api.spacexdata.com/v4/launchpads/"+str(x)).json()
            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 data
def getPayloadData(data):
    for load in data['payloads']:
        if load:
            response = requests.get("https://api.spacexdata.com/v4/payloads/"+load).json()
            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']).json()
            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]: C
```

```

b' [{"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships":
[]}, "links": {"patch": {"small": "https://images2.imgbox.com/94/f2/NN6Ph45r_o.png", "lar
ge": "https://images2.imgbox.com/5b/02/QcxHUb5V_o.png"}, "reddit": {"campaign": null, "la
unch": null, "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "pressk
it": null, "webcast": "https://www.youtube.com/watch?v=0a_00nJ_Y88", "youtube_id": "0a_00
nJ_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, "wind
ow": 0, "rocket": "5e9d0d95eda69955f709d1eb", "success": false, "failures": [{"time": 33, "al
titude": null, "reason": "merlin engine failure"}], "details": "Engine failure at 33 seco
nds and loss of vehicle", "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4b5b6c
3bb0006eeb1e1"], "launchpad": "5e9e4502f5090995de566f86", "flight_number": 1, "name": "Fal
conSat", "date_utc": "2006-03-24T22:30:00.000Z", "date_unix": 1143239400, "date_local": "2
006-03-25T10:30:00+12:00", "date_precision": "hour", "upcoming": false, "cores": [{"cor
e": "5e9e289df35918033d3b2623", "flight": 1, "gridfins": false, "legs": false, "reused": fals
e, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": nul
l}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cd9ffd86e0006
04b32a"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "shi
ps": []}, "links": {"patch": {"small": "https://images2.imgbox.com/f9/4a/ZboXReNb_o.pn
g", "large": "https://images2.imgbox.com/80/a2/bkWoTcIS_o.png"}, "reddit": {"campaign": n
ull, "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-fail
s-reach-orbit.html", "wikipedia": "https://en.wikipedia.org/wiki/DemoSat"}, "static_fir
e_date_utc": null, "static_fire_date_unix": null, "net": false, "window": 0, "rocket": "5e9d0
d95eda69955f709d1eb", "success": false, "failures": [{"time": 301, "altitude": 289, "reaso
n": "harmonic oscillation leading to premature engine shutdown"}], "details": "Successf
ul first stage burn and transition to second stage, maximum altitude 289 km, Prematu
re engine shutdown at T+7 min 30 s, Failed to reach orbit, Failed to recover first s
tage", "crew": [], "ships": [], "capsules": [], "payloads": ["5eb0e4b6b6c3bb0006eeb1e2"], "la
unchpad": "5e9e4502f5090995de566f86", "flight_number": 2, "name": "DemoSat", "date_utc": "2
007-03-21T01:10:00.000Z", "date_unix": 1174439400, "date_local": "2007-03-21T13:10:00+1
2:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e289ef35918416a3
b2624", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": fal
se, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "t
bd": false, "launch_library_id": null, "id": "5eb87cdaffd86e000604b32b"}, {"fairings": {"re
used": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch":
{"small": "https://images2.imgbox.com/6c/cb/naItzhHs_o.png", "large": "https://images2.
imgbox.com/4a/80/k1oAkY0k_o.png"}, "reddit": {"campaign": null, "launch": null, "media": nu
ll, "recovery": null}, "flickr": {"small": [], "original": []}, "presskit": null, "webcast": "h
ttps://www.youtube.com/watch?v=v0w9p3U8860", "youtube_id": "v0w9p3U8860", "article": "ht
tp://www.spacex.com/news/2013/02/11/falcon-1-flight-3-mission-summary", "wikipedi
a": "https://en.wikipedia.org/wiki/Trailblazer_(satellite)"}, "static_fire_date_utc": n
ull, "static_fire_date_unix": null, "net": false, "window": 0, "rocket": "5e9d0d95eda69955f7
09d1eb", "success": false, "failures": [{"time": 140, "altitude": 35, "reason": "residual sta
ge-1 thrust led to collision between stage 1 and stage 2"}], "details": "Residual stag
e 1 thrust led to collision between stage 1 and stage 2", "crew": [], "ships": [], "capsu
les": [], "payloads": ["5eb0e4b6b6c3bb0006eeb1e3", "5eb0e4b6b6c3bb0006eeb1e4"], "launchpa
d": "5e9e4502f5090995de566f86", "flight_number": 3, "name": "Trailblazer", "date_utc": "200
8-08-03T03:34:00.000Z", "date_unix": 1217734440, "date_local": "2008-08-03T15:34:00+12:0
0", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e289ef3591814873b26
25", "flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attempt": fals
e, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tb
d": false, "launch_library_id": null, "id": "5eb87cdbffd86e000604b32c"}, {"fairings": {"reu
sed": 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, "webcast": "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": "5eb87cdbcffd86e000604b32d"}, {"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.nasaspaceflight.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": "5eb87cddffd86e000604b32f"}, {"fairings": null, "links": {"patch": {"small": "https://images2.imgbox.com/fa/dc/FOUDQ0Sn_o.png", "large": "https://images2.imgbox.com/04/6e/kniggvWD_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": 12

```

```

91420800,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,
"failures":[],"details":null,"crew":[],"ships":["5ea6ed2d080df4000697c901"],"capsules":
["5e9e2c5bf35918ed873b2664"],"payloads":["5eb0e4b9b6c3bb0006eeb1e8","5eb0e4b9b6c3bb0006eeb1e9"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":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":"5eb87ce0ffd86e000604b332"}, {"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=ik0ElKl5kW4","youtube_id":"ik0ElKl5kW4","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 origina

```

```

1 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, "landing_attempt": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": 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/CASSIOP E"}, "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}], "auto_update": true, "tbd": false, "launch_library_id": 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": ["5eb0e4bbb6c3bb0006eeb1ef"], "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}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87ce2ffd86e000604b335"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/5c/20/AsqTXJDC_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"]}, "pre

```



```

sskit":"http://www.spacex.com/sites/spacex/files/spacex_thaicom6_presskit.pdf","webc
ast":"https://www.youtube.com/watch?v=AnSNRzMEemCU","youtube_id":"AnSNRzMEemCU","artic
le":"http://spacenews.com/38959spacex-delivers-thaicom-6-satellite-to-orbit/","wikip
edia":"https://en.wikipedia.org/wiki/Thaicom_6"},"static_fire_date_utc":"2013-12-28T
00:00:00.000Z","static_fire_date_unix":1388188800,"net":false,"window":0,"rocket":"5
e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Second GTO launch f
or Falcon 9. The USAF evaluated launch data from this flight as part of a separate c
ertification program for SpaceX to qualify to fly U.S. military payloads and found t
hat the Thaicom 6 launch had \\\"unacceptable fuel reserves at engine cutoff of the s
tage 2 second burnoff\\\"","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4bbb6
c3bb0006eeb1f0"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":13,"name":"T
haicom 6","date_utc":"2014-01-06T18:06:00.000Z","date_unix":1389031560,"date_loca
l":"2014-01-06T14:06:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"c
ore":"5e9e289ff3591878603b262f","flight":1,"gridfins":false,"legs":false,"reused":fa
lse,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":nul
l}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87ce3ffd86e0006
04b336"},"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/ae/3
c/yVvE2vVh_o.png","large":"https://images2.imgbox.com/82/c7/bbs0gt88_o.png"},"reddi
t":{"campaign":null,"launch":"http://www.reddit.com/r/spacex/comments/22zo8c","medi
a":null,"recovery":null},"flickr":{"small":[],"original":["https://farm8.staticflick
r.com/7615/16670240949_8d43db0e36_o.jpg","https://farm9.staticflickr.com/8597/168563
69125_e97cd30ef7_o.jpg","https://farm8.staticflickr.com/7586/16166732954_9338dc859c_
o.jpg","https://farm8.staticflickr.com/7603/16855223522_462da54e84_o.jpg","https://f
arm8.staticflickr.com/7618/16234010894_e1210ec300_o.jpg","https://farm8.staticflick
r.com/7617/16855338881_69542a2fa9_o.jpg"]},"presskit":"http://www.spacex.com/sites/s
pacex/files/spacexcrs-3_presskit_042014.pdf","webcast":"https://www.youtube.com/watc
h?v=0d-lON4bTyQ","youtube_id":"0d-lON4bTyQ","article":"https://newatlas.com/crs-3-la
unch-spacex/31671/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-3"},"stati
c_fire_date_utc":"2014-03-08T00:00:00.000Z","static_fire_date_unix":1394236800,"ne
t":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":
[],"details":"Following second-stage separation, SpaceX conducted a second controlle
d-descent test of the discarded booster vehicle and achieved the first successful co
ntrolled ocean touchdown of a liquid-rocket-engine orbital booster. Following touchd
own the first stage tipped over as expected and was destroyed. This was the first Fa
lcon 9 booster to fly with extensible landing legs and the first Dragon mission with
the Falcon 9 v1.1 launch vehicle.","crew":[],"ships":["5ea6ed2d080df4000697c902"],"c
apsules":["5e9e2c5bf3591859a63b2668"],"payloads":["5eb0e4bbb6c3bb0006eeb1f1"],"launc
hpad":"5e9e4501f509094ba4566f84","flight_number":14,"name":"CRS-3","date_utc":"2014-
04-18T19:25:00.000Z","date_unix":1397849100,"date_local":"2014-04-18T15:25:00-04:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ff3591829343b26
30","flight":1,"gridfins":false,"legs":true,"reused":false,"landing_attempt":true,"l
anding_success":true,"landing_type":"Ocean","landpad":null}],"auto_update":true,"tb
d":false,"launch_library_id":null,"id":"5eb87ce4ffd86e000604b337"},"fairings":{"reu
sed":false,"recovery_attempt":false,"recovered":false,"ships":[],"links":{"patch":
{"small":"https://images2.imgbox.com/a4/44/YWAUBk0e_o.png","large":"https://images2.
imgbox.com/fd/41/FUnfqHHH_o.png"},"reddit":{"campaign":null,"launch":"http://www.red
dit.com/r/spacex/comments/2aany2","media":null,"recovery":null},"flickr":{"small":
[],"original":["https://farm8.staticflickr.com/7585/16602893909_1181317089_o.jpg","h
ttps://farm9.staticflickr.com/8747/16581738577_83e0690136_o.png","https://farm8.stat
icflickr.com/7285/16581736047_6fd536ab11_o.jpg","https://farm8.staticflickr.com/759
7/16789021675_35f0148f78_o.jpg","https://farm8.staticflickr.com/7631/16236321533_829
ae07b42_o.jpg","https://farm9.staticflickr.com/8726/16830422056_26c2265bbc_o.jpg","h
ttps://farm9.staticflickr.com/8591/16670149079_33d6cc3631_o.jpg"]},"presskit":"htt
p://www.spacex.com/sites/spacex/files/spacex_orbcomm_presskit_final.pdf","webcas
t":"https://www.youtube.com/watch?v=lbHnSu-DLR4","youtube_id":"lbHnSu-DLR4","articl
e":"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 hypersonic 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.", "crew": [], "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": "5e9e28a0f3

```

```

5918b1bc3b2633", "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=7YkCh7u0w1Y", "youtube_id":"7YkCh7u0w1Y", "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/53/3Ik1KR20_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_bb5cddb71_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":["5eb0e4bcb6c3bb0006eeb1f6"], "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":

```

```

s":false,"landing_type":"ASDS","landpad":"5e9e3032383ecb761634e7cb"}],{"auto_update":
true,"tbd":false,"launch_library_id":null,"id":"5eb87ce8ffd86e000604b33c"},{"fairing
s":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":
{"patch":{"small":"https://images2.imgbox.com/bc/a6/uDYvXvql_o.png","large":"http
s://images2.imgbox.com/30/47/WmtGcJw8_o.png"},"reddit":{"campaign":null,"launch":"ht
tp://www.reddit.com/r/spacex/comments/2vjm9e","media":null,"recovery":null},"flickr
r":{"small":[],"original":["https://farm9.staticflickr.com/8619/16511407538_9a25c5d8
c6_o.jpg","https://farm9.staticflickr.com/8665/16697946612_1284e952b0_o.jpg","http
s://farm9.staticflickr.com/8570/16698990475_16524a93de_o.jpg","https://farm9.staticf
lickr.com/8681/16512864259_e849e496b1_o.jpg","https://farm9.staticflickr.com/8637/16
079045013_1f0fab9b54_o.jpg","https://farm9.staticflickr.com/8601/16512864369_2bb896c
344_o.jpg","https://farm9.staticflickr.com/8646/16697693861_a038331e0a_o.jpg","http
s://farm9.staticflickr.com/8680/16511407248_093635a243_o.jpg","https://farm9.staticf
lickr.com/8654/16511594820_451f194d53_o.jpg","https://farm9.staticflickr.com/8603/16
673054016_472fb42a20_o.jpg"]},"presskit":"http://www.spacex.com/press/2015/02/11/dsc
ovr-launch-update","webcast":"https://www.youtube.com/watch?v=OvHJSIKP0Hg","youtube_
id":"OvHJSIKP0Hg","article":"https://spaceflightnow.com/2015/02/12/space-weather-obs
ervatory-blasts-off-after-17-year-wait/","wikipedia":"https://en.wikipedia.org/wiki/
Deep_Space_Climate_Observatory"},"static_fire_date_utc":"2015-01-31T00:00:00.000
Z","static_fire_date_unix":1422662400,"net":false,"window":0,"rocket":"5e9d0d95eda69
973a809d1ec","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 orbita
l altitude many times the distance to the Moon: Sun-Earth libration point L1. The fi
rst stage made a test flight descent to an over-ocean landing within 10 m (33 ft) of
its intended target.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df40
00697c90b","5ea6ed2f080df4000697c90c"],"capsules":[],"payloads":["5eb0e4bdb6c3bb0006
eeb1f7"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":20,"name":"DSCOV
R","date_utc":"2015-02-11T23:03:00.000Z","date_unix":1423695780,"date_local":"2015-0
2-11T19:03:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e
28a0f3591885be3b2636","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","lar
ge":"https://images2.imgbox.com/3f/c9/ZczpJ97M_o.png"},"reddit":{"campaign":null,"la
unch":"http://www.reddit.com/r/spacex/comments/2x81fc","media":"https://www.reddit.c
om/r/spacex/comments/2xmumx","recovery":null},"flickr":{"small":[],"original":["http
s://farm9.staticflickr.com/8749/16788442562_ed460c2d9e_o.jpg","https://farm9.staticf
lickr.com/8586/16510243060_48d6a9b1f6_o.jpg","https://farm9.staticflickr.com/8641/16
490359747_c043b8c61a_o.jpg","https://farm9.staticflickr.com/8636/16510241270_ca83157
509_o.jpg","https://farm8.staticflickr.com/7618/16601658850_13b826e705_o.jpg","http
s://farm9.staticflickr.com/8617/16510041628_883af57512_o.jpg"]},"presskit":"http://w
ww.spacex.com/sites/spacex/files/abs-eutelsatfactsheet.pdf","webcast":"https://www.y
outube.com/watch?v=mN7lyaCBzT8","youtube_id":"mN7lyaCBzT8","article":"https://www.sp
ace.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","stati
c_fire_date_unix":1424891400,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1
ec","success":true,"failures":[],"details":"The launch was Boeing's first-ever conj
oined launch of a lighter-weight dual-commsat stack that was specifically designed t
o take advantage of the lower-cost SpaceX Falcon 9 launch vehicle. Per satellite, la
unch costs were less than $30 million. The ABS satellite reached its final destinati
on ahead of schedule and started operations on September 10.","crew":[],"ships":
[],"capsules":["5eb0e4bdb6c3bb0006eeb1f8","5eb0e4bdb6c3bb0006eeb1f
9"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":21,"name":"ABS-3A / Eutel
sat 115W B","date_utc":"2015-03-02T03:50:00.000Z","date_unix":1425268200,"date_loca
l":"2015-03-02T23:50:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"c

```

```

ore": "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_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": ["5eb0e4bdbc63bb0006eeb1fa"], "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": {"reuse": 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/spacexthalesfactsheet_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\u00c3\u00bcrkmen\u00c3\u0084lem 52\u00c2\u00b0E / 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", "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-spacex-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": "RTL S", "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/c9/57io

```

```

WDgW_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/com
ments/417weg", "media": "https://www.reddit.com/r/spacex/comments/41cvdm", "recovery": n
ull}, "flickr": {"small": [], "original": ["https://farm2.staticflickr.com/1460/243823603
51_9b1f2fcabc_o.jpg", "https://farm2.staticflickr.com/1669/24423604506_27d3c4548b_o.j
pg", "https://farm2.staticflickr.com/1618/24151425850_1cb6040569_o.jpg", "https://farm
2.staticflickr.com/1622/24127012370_07edc62046_o.jpg", "https://farm2.staticflickr.co
m/1508/24127011190_92ef932c96_o.jpg", "https://farm2.staticflickr.com/1591/2377832559
4_08231286fc_o.jpg", "https://farm2.staticflickr.com/1542/24038722499_34c10216a3_o.jp
g"]}, "presskit": "http://www.spacex.com/sites/spacex/files/spacex_jason3_press_kit.pd
f", "webcast": "https://www.youtube.com/watch?v=ivdKRJzl6y0", "youtube_id": "ivdKRJzl6y
0", "article": "https://spaceflightnow.com/2016/01/18/satellite-launched-to-measure-mo
tions-of-the-oceans/", "wikipedia": "https://en.wikipedia.org/wiki/Jason-3"}, "static_f
ire_date_utc": "2016-01-11T18:42:00.000Z", "static_fire_date_unix": 1452537720, "net": fa
lse, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "det
ails": "First launch of NASA and NOAA joint science mission under the NLS II launch c
ontract (not related to NASA CRS or USAF OSP3 contracts). Last launch of the origina
l Falcon 9 v1.1 launch vehicle. The Jason-3 satellite was successfully deployed to t
arget orbit. SpaceX again attempted a recovery of the first stage booster by landing
on an autonomous drone ship; this time located in the Pacific Ocean. The first stage
did achieve a soft-landing on the ship, but a lockout on one of the landing legs fai
led to latch, so that the booster fell over and exploded.", "crew": [], "ships": ["5ea6e
d2f080df4000697c910", "5ea6ed30080df4000697c912", "5ea6ed30080df4000697c914"], "capsule
s": [], "payloads": ["5eb0e4beb6c3bb0006eeb1fe"], "launchpad": "5e9e4502f509092b78566f8
7", "flight_number": 26, "name": "Jason 3", "date_utc": "2016-01-17T15:42:00.000Z", "date_u
nix": 1453045320, "date_local": "2016-01-17T08:42:00-07:00", "date_precision": "hour", "up
coming": false, "cores": [{"core": "5e9e28a1f3591842fa3b263c", "flight": 1, "gridfins": tru
e, "legs": true, "reused": false, "landing_attempt": true, "landing_success": false, "landing
_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": fals
e, "launch_library_id": null, "id": "5eb87cf0fffd86e000604b343"}, {"fairings": {"reused": fa
lse, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"smal
l": "https://images2.imgbox.com/7f/15/rjv54Es5_o.png", "large": "https://images2.imgbo
x.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/472k
8c", "recovery": null}, "flickr": {"small": [], "original": ["https://farm2.staticflickr.co
m/1623/25395662282_942fd68ba3_o.jpg", "https://farm2.staticflickr.com/1458/2539566144
2_bfd783f18a_o.jpg", "https://farm2.staticflickr.com/1641/25421381351_38390bcb8e_o.jp
g", "https://farm2.staticflickr.com/1616/25514167315_b19b0a4365_o.jpg", "https://farm
2.staticflickr.com/1482/24883160354_b03cefd416_o.jpg", "https://farm2.staticflickr.co
m/1653/25420915781_8fc648b4a4_o.jpg", "https://farm2.staticflickr.com/1610/2548685811
6_9c06dfea59_o.jpg", "https://farm2.staticflickr.com/1617/25168697841_00dfff89bb_o.jp
g", "https://farm2.staticflickr.com/1533/24631230904_83b1624807_o.jpg", "https://farm
2.staticflickr.com/1627/25145624551_1b8743116f_o.jpg", "https://farm2.staticflickr.co
m/1622/25120540712_7fc1a5ed72_o.jpg", "https://farm2.staticflickr.com/1550/2458566707
4_aa712b13a8_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/spacex_se
s9_press_kit_final.pdf", "webcast": "https://www.youtube.com/watch?v=muDPSyO7-A0", "you
tube_id": "muDPSyO7-A0", "article": "https://spaceflightnow.com/2016/03/05/tv-broadcast
ing-satellite-finally-launched-on-falcon-9/", "wikipedia": "https://en.wikipedia.org/w
iki/SES-9"}, "static_fire_date_utc": "2016-10-02T14:11:00.000Z", "static_fire_date_uni
x": 1475417460, "net": false, "window": 5400, "rocket": "5e9d0d95eda69973a809d1ec", "succes
s": 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 predict
ed, booster recovery failed: the spent first stage \"landed hard\", but the contro
lled-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/1671/26217360302_b66c3e384e_o.jpg","https://farm2.staticflickr.com/1704/26283822056_838c1103b9_o.jpg","https://farm2.staticflickr.com/1508/26217345472_118767c608_o.jpg","https://farm2.staticflickr.com/1495/25916886442_821a152917_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/space_x_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":"5eb87cf3ffd86e000604b345"},{"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.c
```



```

om/7677/26809210466_fc55835f3c_o.jpg", "https://farm8.staticflickr.com/7085/268092080
46_d77bd31fd0_o.jpg", "https://farm8.staticflickr.com/7103/26809207316_cdc7d582e6_o.j
pg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/spacex_jcsat_press_kit_fi
nal.pdf", "webcast": "https://www.youtube.com/watch?v=L0bMeDj76ig", "youtube_id": "L0bMe
Dj76ig", "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 Per
fect JSAT Corp. JCSAT 14 will support data networks, television broadcasters and mob
ile communications users in Japan, East Asia, Russia, Oceania, Hawaii and other Paci
fic islands. This was the first time a booster successfully landed after a GT0 missi
on.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6e
d2f080df4000697c90c"], "capsules": [], "payloads": ["5eb0e4bfb6c3bb0006eeb201"], "launchp
ad": "5e9e4501f509094ba4566f84", "flight_number": 29, "name": "JCSAT-2B", "date_utc": "2016
-05-06T05:21:00.000Z", "date_unix": 1462512060, "date_local": "2016-05-06T01:21:00-04:0
0", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a2f35918077b3b26
3f", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "la
nding_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "au
to_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cf5fffd86e000604b34
6"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships":
[]}, "links": {"patch": {"small": "https://images2.imgbox.com/fa/f2/iR1eKXrX_o.png", "lar
ge": "https://images2.imgbox.com/84/dc/Qp0wk7j1_o.png"}, "reddit": {"campaign": "http
s://www.reddit.com/r/spacex/comments/4hjz4k", "launch": "https://www.reddit.com/r/spac
ex/comments/4l9uou", "media": "https://www.reddit.com/r/spacex/comments/4l4af1", "recov
ery": "https://www.reddit.com/r/spacex/comments/4lz2y6"}, "flickr": {"small": [], "origin
al": ["https://farm8.staticflickr.com/7420/26814484893_13059e4b39_o.jpg", "https://far
m8.staticflickr.com/7321/26812794884_bf91665325_o.jpg", "https://farm8.staticflickr.c
om/7337/26812792104_9323121f0b_o.jpg", "https://farm8.staticflickr.com/7376/274214617
15_5640d2b87a_o.jpg", "https://farm8.staticflickr.com/7717/26812758364_74569b4327_o.j
pg", "https://farm8.staticflickr.com/7742/27294263035_9b43bd141c_o.jpg", "https://farm
8.staticflickr.com/7252/27294262435_c534cc4351_o.jpg", "https://farm8.staticflickr.co
m/7698/27294261525_82c4b7e604_o.jpg", "https://farm8.staticflickr.com/7045/2725982816
6_9e32061cc9_o.jpg", "https://farm8.staticflickr.com/7013/27259827316_c2f7507b3d_o.jp
g", "https://farm8.staticflickr.com/7211/27182485331_ed2414a947_o.jpg", "https://farm
8.staticflickr.com/7740/27182481921_0d7a759736_o.jpg", "https://farm8.staticflickr.co
m/7315/26645036414_39736db559_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spac
ex/files/spacex_thaicom_8_press_kit.pdf", "webcast": "https://www.youtube.com/watch?v=z
BYC4f79iXc", "youtube_id": "zBYC4f79iXc", "article": "https://spaceflightnow.com/2016/0
5/27/spacex-logs-successful-late-afternoon-launch-for-thaicom/", "wikipedia": "http
s://en.wikipedia.org/wiki/Thaicom_8"}, "static_fire_date_utc": "2016-05-25T00:00:00.00
0Z", "static_fire_date_unix": 1464134400, "net": false, "window": 7200, "rocket": "5e9d0d95e
da69973a809d1ec", "success": true, "failures": [], "details": "Manufactured by Orbital AT
K, the 3,100-kilogram (6,800 lb) Thaicom 8 communications satellite will serve Thail
and, India and Africa from the 78.5\xc2\xba East geostationary location. It is equip
ped with 24 active Ku-band transponders.", "crew": [], "ships": ["5ea6ed2e080df4000697c9
06", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed30080df4000697c91
3"], "capsules": [], "payloads": ["5eb0e4bfb6c3bb0006eeb202"], "launchpad": "5e9e4501f5090
94ba4566f84", "flight_number": 30, "name": "Thaicom 8", "date_utc": "2016-05-27T21:39:00.0
00Z", "date_unix": 1464385140, "date_local": "2016-05-27T17:39:00-04:00", "date_precisio
n": "hour", "upcoming": false, "cores": [{"core": "5e9e28a2f3591845c73b2640", "flight": 1, "g
ridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": tr
ue, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": tru
e, "tbd": false, "launch_library_id": null, "id": "5eb87cf6fffd86e000604b347"}, {"fairings":
{"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"pat
ch": {"small": "https://images2.imgbox.com/36/a4/J5gJWxuC_o.png", "large": "https://imag

```

```

es2.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/4o5u6
r","media":"https://www.reddit.com/r/spacex/comments/4o5j6o","recovery":"https://ww
w.reddit.com/r/spacex/comments/4on75l"},"flickr":{"small":[],"original":["https://fa
rm8.staticflickr.com/7088/27661326426_ce3c3f320d_o.jpg","https://farm8.staticflickr.
com/7698/27661325446_affb08be24_o.jpg","https://farm8.staticflickr.com/7733/27661322
976_073466e80c_o.jpg","https://farm8.staticflickr.com/7218/27661320706_4c16f3b76b_o.
jpg","https://farm8.staticflickr.com/7340/27661315686_6dcb2ce6f9_o.jpg","https://far
m8.staticflickr.com/7656/27661313956_e1ac9650b9_o.jpg","https://farm8.staticflickr.c
om/7616/27661312516_640764f8fd_o.jpg","https://farm8.staticflickr.com/7413/270788932
34_0142dd80f0_o.jpg","https://farm8.staticflickr.com/7334/27078889924_8819fd55ea_o.j
pg"]},"presskit":"https://drive.google.com/open?id=0BwA3a65ef10vMGpJS1pDNHhjelU","we
bcast":"https://www.youtube.com/watch?v=gLNmtUEvI5A","youtube_id":"gLNmtUEvI5A","art
icle":"https://spaceflightnow.com/2016/06/15/spacex-successfully-fires-satellites-in
to-orbit-but-loses-booster-on-landing/","wikipedia":"https://en.wikipedia.org/wiki/A
BS_(satellite_operator)","static_fire_date_utc":"2016-06-13T15:03:00.000Z","static_
fire_date_unix":1465830180,"net":false,"window":2700,"rocket":"5e9d0d95eda69973a809d
1ec","success":true,"failures":[],"details":"One year after pioneering this techniqu
e on flight 16, Falcon again launched two Boeing 702SP gridded ion thruster satellit
es in a dual-stack configuration, with the two customers sharing the rocket and miss
ion costs. First stage landing attempt on drone ship failed on landing due to low th
rust on one of the three landing engines.", "crew":[],"ships":["5ea6ed2e080df4000697c
906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c","5ea6ed30080df4000697c91
3"],"capsules":[],"payloads":["5eb0e4bfb6c3bb0006eeb203","5eb0e4bfb6c3bb0006eeb20
4"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":31,"name":"ABS-2A / Eutel
sat 117W B","date_utc":"2016-06-15T14:29:00.000Z","date_unix":1466000940,"date_loca
l":"2016-06-15T10:29:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"c
ore":"5e9e28a2f359184f403b2641","flight":1,"gridfins":true,"legs":true,"reused":fals
e,"landing_attempt":true,"landing_success":false,"landing_type":"ASDS","landpad":"5e
9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"i
d":"5eb87cf8ffdd86e000604b348"}, {"fairings":null,"links":{"patch":{"small":"https://i
mages2.imgbox.com/bb/0d/aLsm9QDC_o.png","large":"https://images2.imgbox.com/56/af/b7
fNzZGo_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/4ksed
l","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/com
ments/4znsvo"},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/881
9/27776240293_fcbf8c4a0a_o.jpg","https://farm8.staticflickr.com/7720/27776237513_038
971797c_o.jpg","https://farm8.staticflickr.com/7594/27776235133_d794ce01f4_o.jpg","h
ttps://farm8.staticflickr.com/7759/27776229243_a0674e590f_o.jpg","https://farm8.stat
icflickr.com/7512/27776228443_6652c6baea_o.jpg","https://farm9.staticflickr.com/803
8/27776218453_34112abbc1_o.jpg","https://farm8.staticflickr.com/7636/27776215913_3f9
f1b05df_o.jpg","https://farm8.staticflickr.com/7740/28358960896_9785456101_o.jpg","h
ttps://farm8.staticflickr.com/7488/27776206663_262526ba5f_o.jpg","https://farm8.stat
icflickr.com/7656/28358955546_ce55d65e16_o.jpg","https://farm8.staticflickr.com/746
7/27776204693_68b4ed82c9_o.jpg","https://farm8.staticflickr.com/7693/28348649546_0a5
4b1aa44_o.jpg","https://farm8.staticflickr.com/7540/28291786662_5e2e874576_o.jp
g"]},"presskit":"https://drive.google.com/open?id=0BwA3a65ef10vM0JpSxduUJMRVvk","web
cast":"https://www.youtube.com/watch?v=ThIdCuSsJh8","youtube_id":"ThIdCuSsJh8","arti
cle":"https://spaceflightnow.com/2016/07/18/spacex-sends-supplies-to-space-station-l
ands-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":146863
6307,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"fail
ures":[],"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 Canave
ral.*Including the reusable Dragon Capsule, total payload to orbit was 6457 kg.", "cr
ew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4

```

```

80df4000697c912"], "capsules": ["5e9e2c5cf359183bb73b266e"], "payloads": ["5eb0e4c0b6c3b
b0006eeb205"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 32, "name": "CRS-
9", "date_utc": "2016-07-18T04:45:00.000Z", "date_unix": 1468817100, "date_local": "2016-0
7-18T00:45:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e
28a2f359187f273b2642", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing
_attempt": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ec
b267a34e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cf
9ffd86e000604b349"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovere
d": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/22/cc/DjP
csMhb_o.png", "large": "https://images2.imgbox.com/0b/3e/aQpLZQht_o.png"}, "reddit": {"c
ampaign": "https://www.reddit.com/r/spacex/comments/4pv6ws", "launch": "https://www.red
dit.com/r/spacex/comments/4xi7uq", "media": "https://www.reddit.com/r/spacex/comments/
4xkdfj", "recovery": "https://www.reddit.com/r/spacex/comments/4y5xd1"}, "flickr": {"sma
ll": [], "original": ["https://farm9.staticflickr.com/8699/28965678292_17533229f3_o.jp
g", "https://farm9.staticflickr.com/8173/28453337463_b9d11eeb4c_o.jpg", "https://farm
8.staticflickr.com/7793/28453335533_3f5a0a5760_o.jpg", "https://farm9.staticflickr.co
m/8784/28938085496_74b3fd0527_o.jpg", "https://farm9.staticflickr.com/8337/2896974267
5_15f78369a1_o.jpg", "https://farm9.staticflickr.com/8691/28353012603_ab83b6f5aa_o.jp
g", "https://farm9.staticflickr.com/8078/28351782813_58ca783e51_o.jpg"]}, "pressski
t": "https://drive.google.com/open?id=0BwA3a65ef10vb0FkYnE5dElZRlU", "webcast": "http
s://www.youtube.com/watch?v=QZTCE00gvLo", "youtube_id": "QZTCE00gvLo", "article": "http
s://spaceflightnow.com/2016/08/14/falcon-9-rocket-launches-japanese-satellite-then-n
ails-bullseye-landing/", "wikipedia": "https://en.wikipedia.org/wiki/JCSAT-16"}, {"stati
c_fire_date_utc": "2016-08-11T04:01:00.000Z", "static_fire_date_unix": 1470888060, "ne
t": false, "window": 7200, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failure
s": [], "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 mor
e time and fuel, but puts less stress on the vehicle.", "crew": [], "ships": ["5ea6ed2e0
80df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed30080d
f4000697c913"], "capsules": [], "payloads": ["5eb0e4c1b6c3bb0006eeb206"], "launchpad": "5e
9e4501f509094ba4566f84", "flight_number": 33, "name": "JCSAT-16", "date_utc": "2016-08-14T
05:26:00.000Z", "date_unix": 1471152360, "date_local": "2016-08-14T01:26:00-04:00", "date
_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a2f35918b8243b2643", "fli
ght": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_su
ccess": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_updat
e": true, "tbd": false, "launch_library_id": null, "id": "5eb87cfaffd86e000604b34a"}, {"fair
ings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "link
s": {"patch": {"small": "https://images2.imgbox.com/0d/5b/8X01C3ov_o.png", "large": "http
s://images2.imgbox.com/ff/19/KCI4DVla_o.png"}, "reddit": {"campaign": "https://www.redd
it.com/r/spacex/comments/4pv7jl", "launch": null, "media": null, "recovery": null}, "flick
r": {"small": [], "original": []}, "presskit": null, "webcast": "https://www.youtube.com/wat
ch?v=_BgJEXQkjNQ", "youtube_id": "_BgJEXQkjNQ", "article": "https://spaceflightnow.com/2
016/09/01/spacex-rocket-and-israeli-satellite-destroyed-in-launch-pad-explosion/", "w
ikipedia": "https://en.wikipedia.org/wiki/Amos-6"}, {"static_fire_date_utc": "2016-09-01
T13:07:00.000Z", "static_fire_date_unix": 1472735220, "net": false, "window": null, "rocke
t": "5e9d0d95eda69973a809d1ec", "success": false, "failures": [{"time": -165180, "altitud
e": 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 ig
nited 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 tes
t. The pad was clear of personnel and there were no injuries.", "crew": [], "ships":
[], "capsules": [], "payloads": ["5eb0e4c1b6c3bb0006eeb207"], "launchpad": "5e9e4501f50909
4ba4566f84", "flight_number": 34, "name": "Amos-6", "date_utc": "2016-09-01T13:07:00.000
Z", "date_unix": 1472735220, "date_local": "2016-09-01T09:07:00-04:00", "date_precision

```

```

n": "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": "5eb87cfbffd86e000604b34b"}, {"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=0BwA3a65ef10vZC1aU3FuMlQzale", "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"}, {"static_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": "5eb87cfdfdd86e000604b34c"}, {"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/327/32

```

```

153432924_09dd1482d8_o.jpg", "https://farm3.staticflickr.com/2881/32183025803_36bf976
b9e_o.jpg", "https://farm3.staticflickr.com/2362/32183025493_2a37b4e22c_o.jpg", "http
s://farm1.staticflickr.com/504/32178458813_ff47f61bb9_o.jpg", "https://farm1.staticfl
ickr.com/265/32176806823_879ccc5da0_o.jpg", "https://farm1.staticflickr.com/401/32866
357531_69c6d289ed_o.jpg", "https://farm3.staticflickr.com/2105/32945170805_553d45ca56
_o.jpg", "https://farm4.staticflickr.com/3865/32945170225_58129f00dc_o.jpg"]}, "pressk
it": "http://www.spacex.com/sites/spacex/files/crs10presskitfinal.pdf", "webcast": "htt
ps://www.youtube.com/watch?v=giNhaEzv_PI", "youtube_id": "giNhaEzv_PI", "article": "http
s://spaceflightnow.com/2017/02/19/historic-launch-pad-back-in-service-with-thunderin
g-blastoff-by-spacex/", "wikipedia": "https://en.wikipedia.org/wiki/SpaceX_CRS-10", "s
tatic_fire_date_utc": "2017-02-12T21:30:00.000Z", "static_fire_date_unix": 148693500
0, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failure
s": [], "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 resea
rch investigations scheduled during ISS Expeditions 50 and 51. The first stage retur
ned to launch site and landed at LZ-1.", "crew": [], "ships": [{"5ea6ed30080df4000697c91
2"}, {"capsules": [{"5e9e2c5cf359185d753b266f"}], "payloads": [{"5eb0e4c3b6c3bb0006eeb20
9"}], "launchpad": "5e9e4502f509094188566f88", "flight_number": 36, "name": "CRS-10", "date_
utc": "2017-02-19T14:39:00.000Z", "date_unix": 1487515140, "date_local": "2017-02-19T10:3
9:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f3591
829dc3b2646"}, {"flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attemp
t": true, "landing_success": true, "landing_type": "RTLS", "landpad": "5e9e3032383ecb267a34
e7c7"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87cfeffd86e
000604b34d"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": fals
e, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/56/9d/gvzAqLFg_
o.png", "large": "https://images2.imgbox.com/52/a0/z8Dwflcz_o.png"}, "reddit": {"campaig
n": "https://www.reddit.com/r/spacex/comments/5n2e10/echostar_23_launch_campaign_thre
ad/", "launch": "https://www.reddit.com/r/spacex/comments/5z8dkm/welcome_to_the_rspace
x_echostar23_official_launch/", "media": "https://www.reddit.com/r/spacex/comments/5z8
if6/rspacex_echostar_23_media_thread_videos_images/", "recovery": null}, "flickr": {"sma
ll": [], "original": [{"https://farm4.staticflickr.com/3819/33094074350_ae56bd5c73_o.jp
g", "https://farm3.staticflickr.com/2935/33094073720_92234ddaee_o.jpg", "https://farm
1.staticflickr.com/768/33094072690_31a85e82ba_o.jpg", "https://farm3.staticflickr.co
m/2876/33094072100_546090a4f3_o.jpg", "https://farm3.staticflickr.com/2860/3262605325
4_d702922d87_o.jpg", "https://farm3.staticflickr.com/2904/32654666113_ba833971e0_o.jp
g", "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/echostarxxiiifinal.pdf", "webcast": "https://www.youtube.com/wa
tch?v=lZmqbL-hz7U", "youtube_id": "lZmqbL-hz7U", "article": "http://spacenews.com/spacex
-launches-echostar-23/", "wikipedia": "https://en.wikipedia.org/wiki/EchoStar#Satellit
e_fleet"}, {"static_fire_date_utc": "2017-03-09T23:00:00.000Z", "static_fire_date_unix":
1489100400, "net": false, "window": 9000, "rocket": "5e9d0d95eda69973a809d1ec", "success": t
rue, "failures": [], "details": "Communications satellite for EchoStar Corp. EchoStar XX
III, 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 attem
pt at a first-stage recovery so this rocket did not have landing legs or grid fin
s.", "crew": [], "ships": [], "capsules": [], "payloads": [{"5eb0e4c3b6c3bb0006eeb20a"}], "laun
chpad": "5e9e4502f509094188566f88", "flight_number": 37, "name": "EchoStar 23", "date_ut
c": "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": "5e9e28a3f359187
8473b2647"}, {"flight": 1, "gridfins": false, "legs": false, "reused": false, "landing_attemp
t": false, "landing_success": null, "landing_type": null, "landpad": null}], "auto_update": t
rue, "tbd": false, "launch_library_id": null, "id": "5eb87cfeffd86e000604b34e"}, {"fairing
s": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links":
{"patch": {"small": "https://images2.imgbox.com/d0/c4/DFQ5TdPz_o.png", "large": "http
s://images2.imgbox.com/9c/cf/tRe9z6t8_o.png"}, "reddit": {"campaign": "https://www.redd

```

```

it.com/r/spacex/comments/5sjrzj/ses10_launch_campaign_thread/","launch":"https://ww
w.reddit.com/r/spacex/comments/62aqi7/rspacex_ses10_official_launch_discussion_updat
es/","media":"https://www.reddit.com/r/spacex/comments/62aqad/rspacex_ses10_media_th
read_videos_images_gifs/","recovery":"https://www.reddit.com/r/spacex/comments/634gm
r/b1021ses10_recovery_thread/"},"flickr":{"small":[],"original":["https://farm1.stat
icflickr.com/601/33026465643_462ef7a2cb_o.jpg","https://farm3.staticflickr.com/2850/
32996438264_b79ca3664b_o.jpg","https://farm4.staticflickr.com/3956/32996437434_4dab1
ae8e3_o.jpg","https://farm4.staticflickr.com/3831/32996435084_6c5662caca_o.jpg","htt
ps://farm4.staticflickr.com/3775/32915200224_b6ecfabd7e_o.jpg","https://farm4.static
flickr.com/3886/32915199874_b826eac153_o.jpg","https://farm3.staticflickr.com/2842/3
2915199514_6c44178e87_o.jpg","https://farm4.staticflickr.com/3771/32915198904_2df85a
ed05_o.jpg","https://farm4.staticflickr.com/3668/32915198334_d2fa2f16ab_o.jpg","http
s://farm4.staticflickr.com/3955/32915197674_24d6e27cf5_o.jpg","https://farm4.staticf
lickr.com/3830/33616913981_f04b6e2351_o.jpg","https://farm4.staticflickr.com/3819/33
616913111_e699b48d66_o.jpg","https://farm4.staticflickr.com/3835/33361035860_c57ed61
239_o.jpg","https://farm4.staticflickr.com/3783/33361035200_bfb797d38f_o.jpg","http
s://farm4.staticflickr.com/3698/33611796351_54d5a6d65a_o.jpg","https://farm3.staticf
lickr.com/2857/33611795531_82cc2d8789_o.jpg"]},"presskit":"http://www.spacex.com/sit
es/spacex/files/finals10presskit.pdf","webcast":"https://www.youtube.com/watch?v=x
sZSXav4wI8","youtube_id":"xsZSXav4wI8","article":"https://spaceflightnow.com/2017/0
3/31/spacex-flies-rocket-for-second-time-in-historic-test-of-cost-cutting-technolog
y/","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":900
0,"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 int
act after a successful splashdown achieved with thrusters and a steerable parachut
e.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed
2f080df4000697c90c","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4c3b
6c3bb0006eeb20b"],"launchpad":"5e9e4502f509094188566f88","flight_number":38,"nam
e":"SES-10","date_utc":"2017-03-30T22:27:00.000Z","date_unix":1490912820,"date_loca
l":"2017-03-30T18:27:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"c
ore":"5e9e28a2f359182d0b3b263e","flight":2,"gridfins":true,"legs":true,"reused":tru
e,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9
e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"i
d":"5eb87d00ffd86e000604b34f"},{"fairings":{"reused":false,"recovery_attempt":fals
e,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.co
m/e5/2d/IZB4g6Ra_o.png","large":"https://images2.imgbox.com/9d/76/kMetaHqz_o.png
g"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/601yxk","launc
h":"https://www.reddit.com/r/spacex/comments/68bn8y/","media":"https://www.reddit.co
m/r/spacex/comments/68bp1i","recovery":null},"flickr":{"small":[],"original":["http
s://farm3.staticflickr.com/2922/33578359423_4169ac8f98_o.jpg","https://farm3.staticf
lickr.com/2900/33578357343_85c247ebce_o.jpg","https://farm5.staticflickr.com/4166/34
006001860_8c45f28e69_o.jpg","https://farm5.staticflickr.com/4166/34005999880_77684db
a4b_o.jpg","https://farm3.staticflickr.com/2934/34005998140_c77076b6fb_o.jpg","http
s://farm5.staticflickr.com/4191/34005996220_fe9e4342d3_o.jpg","https://farm3.staticf
lickr.com/2883/33575654563_699c544776_o.jpg","https://farm3.staticflickr.com/2902/33
575652913_0dece34db4_o.jpg","https://farm5.staticflickr.com/4163/33575651063_24e0582
6c5_o.jpg","https://farm3.staticflickr.com/2876/33994851620_fabd14770f_o.jpg","http
s://farm3.staticflickr.com/2832/33973172140_b370b79c51_o.jpg","https://farm3.staticf
lickr.com/2874/34357262105_11b417bea2_o.jpg","https://farm5.staticflickr.com/4158/34
357260545_16870a94ba_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/n
rol76presskit.pdf","webcast":"https://www.youtube.com/watch?v=EzQpkQ1etdA","youtube_
id":"EzQpkQ1etdA","article":"https://techcrunch.com/2017/05/01/spacex-successfully-l
aunches-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_fir

```

```

e_date_unix":1493146920,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1e
c","success":true,"failures":[],"details":"First launch under SpaceX\'s certificatio
n for national security space missions, which allows SpaceX to contract launch servi
ces for classified payloads. Second-stage speed and altitude telemetry were omitted
from the launch webcast, which displayed first-stage telemetry instead, with continu
ous tracking of the booster from liftoff to landing for the first time.", "crew":
[], "ships":["5ea6ed2f080df4000697c90c"], "capsules":[], "payloads":["5eb0e4c3b6c3bb000
6eeb20c"], "launchpad":"5e9e4502f509094188566f88", "flight_number":39, "name":"NROL-7
6", "date_utc":"2017-05-01T11:15:00.000Z", "date_unix":1493637300, "date_local":"2017-0
5-01T07:15:00-04:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"5e9e
28a3f3591811f83b2648", "flight":1, "gridfins":true, "legs":true, "reused":false, "landi
ng_attempt":true, "landing_success":true, "landing_type":"RTLS", "landpad":"5e9e3032383ec
b267a34e7c7"}], "auto_update":true, "tbd":false, "launch_library_id":null, "id":"5eb87d0
1ffd86e000604b350"}, {"fairings":{"reused":false, "recovery_attempt":false, "recovere
d":false, "ships":[]}, "links":{"patch":{"small":"https://images2.imgbox.com/ab/8d/fUp
riAbI_o.png", "large":"https://images2.imgbox.com/5b/f7/3010xVXG_o.png"}, "reddit":{"c
ampaign":"https://www.reddit.com/r/spacex/comments/64kguj/", "launch":"https://www.re
ddit.com/r/spacex/comments/6b88hz/", "media":"https://www.reddit.com/r/spacex/comment
s/6bcf8j/", "recovery":null}, "flickr":{"small":[], "original":["https://farm5.staticflic
kr.com/4174/33859521334_d75fa367d5_o.jpg", "https://farm5.staticflickr.com/4158/338
59520764_5bb7a7daf6_o.jpg", "https://farm5.staticflickr.com/4182/33859520404_a9c78c97
1d_o.jpg", "https://farm5.staticflickr.com/4157/34556140711_f404943340_o.jpg", "http
s://farm5.staticflickr.com/4179/34556139821_b2d6255e07_o.jpg", "https://farm5.staticf
lickr.com/4187/34684981395_2f93965492_o.jpg", "https://farm5.staticflickr.com/4155/34
684980875_77b745158a_o.jpg", "https://farm5.staticflickr.com/4183/34296430820_8d3a42c
0d7_o.jpg"]}, "presskit":"https://www.spacex.com/sites/spacex/files/inmarsat5f4pressk
it_final.pdf", "webcast":"https://www.youtube.com/watch?v=ynMYE64IEKs", "youtube_i
d":"ynMYE64IEKs", "article":"https://www.space.com/36852-spacex-launches-inmarsat-5-f
4-satellite.html", "wikipedia":"https://en.wikipedia.org/wiki/Inmarsat#Satellite
s"}, {"static_fire_date_utc":"2017-05-11T16:45:00.000Z", "static_fire_date_unix":149452
1100, "net":false, "window":2940, "rocket":"5e9d0d95eda69973a809d1ec", "success":true, "f
ailures":[], "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 per
formance improvements allowed the mission to be carried out by an expendable Falcon
9 instead.", "crew":[], "ships":[], "capsules":[], "payloads":["5eb0e4c3b6c3bb0006eeb20
d"], "launchpad":"5e9e4502f509094188566f88", "flight_number":40, "name":"Inmarsat-5 F
4", "date_utc":"2017-05-15T23:21:00.000Z", "date_unix":1494890460, "date_local":"2017-0
5-15T19:21:00-04:00", "date_precision":"hour", "upcoming":false, "cores":[{"core":"5e9e
28a3f359186f3f3b2649", "flight":1, "gridfins":false, "legs":false, "reused":false, "landi
ng_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/VoihQAY
3_o.png", "large":"https://images2.imgbox.com/2d/39/EAkUxxPk_o.png"}, "reddit":{"campa
ign":"https://www.reddit.com/r/spacex/comments/68ul58/", "launch":"https://www.reddi
t.com/r/spacex/comments/6ektkt/", "media":"https://www.reddit.com/r/spacex/comments/6
emlzt/", "recovery":null}, "flickr":{"small":[], "original":["https://farm5.staticflick
r.com/4210/34696326760_cee662ef1f_o.jpg", "https://farm5.staticflickr.com/4279/342398
58024_64795724c9_o.jpg", "https://farm5.staticflickr.com/4250/35043398436_3ceaa0098a_
o.jpg", "https://farm5.staticflickr.com/4223/34272083563_f52e5bffffe_o.jpg", "https://f
arm5.staticflickr.com/4219/34918571502_7cf66854f7_o.jpg", "https://farm5.staticflick
r.com/4252/34918568732_4efe0885de_o.jpg", "https://farm5.staticflickr.com/4264/342720
65153_cfd8899f3e_o.jpg", "https://farm5.staticflickr.com/4284/34948230531_e76b7560c9_
o.jpg", "https://farm5.staticflickr.com/4280/35078830875_afbd41c675_o.jpg", "https://f
arm5.staticflickr.com/4280/34268361083_71fc70ffa1a_o.jpg", "https://farm5.staticflick
r.com/4199/35038651646_93d0339269_o.jpg", "https://farm5.staticflickr.com/4227/342230
76793_4abe7e74d6_o.jpg"]}, "presskit":"http://www.spacex.com/sites/spacex/files/crs11

```

```

presskit.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": "RTLS", "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/6iujlz/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": 1497565500, "net": false, "window": 7200, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Second time a booster will be reused: Second flight of B1029 after the Iridium mission of January 2017. The satellite will be the first commercial Bulgarian-owned communications satellite and it will provide television broadcasts and other communications services over southeast Europe.", "crew": [], "ships": ["5ea6ed2e080df4000697c906", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90c", "5ea6ed30080df4000697c913"], "capsules": [], "payloads": ["5eb0e4c4b6c3bb0006eeb20f"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 42, "name": "BulgariaSat-1", "date_utc": "2017-06-23T19:10:00.000Z", "date_unix": 1498245000, "date_local": "2017-06-23T15:10:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f359189e3a3b2645", "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": "5eb87d04ffd86e000604b353"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/dc/51/LrdAbm5y_o.png", "large": "https://images2.imgbox.com/84/18/ahmKQNIj_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/6bp4fj/", "launch": "https://www.reddit.com/r/spacex/comments/6j7va6/", "recovery": "https://www.reddit.com/r/spacex/comments/6k16ho/"}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4162/34868729603_c75aa126b5_o.jpg", "https://farm5.stat

```



```

icflickr.com/4256/35618496935_5049a27240_o.jpg", "https://farm5.staticflickr.com/413
8/35231792310_377477e626_o.jpg", "https://farm5.staticflickr.com/4005/35231791780_dd1
5335d5e_o.jpg", "https://farm5.staticflickr.com/4289/35371450262_bb9c682ace_o.jpg", "h
ttps://farm5.staticflickr.com/4263/35499710806_f9179bea0e_o.jpg", "https://farm5.stat
icflickr.com/4256/35533873795_eb04895a60_o.jpg", "https://farm5.staticflickr.com/421
7/35533872755_900b3e8977_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/fil
es/iridium2presskit.pdf", "webcast": "https://www.youtube.com/watch?v=7tIwZg8F9b8", "yo
utube_id": "7tIwZg8F9b8", "article": "https://www.space.com/37304-liftoff-spacex-second
-launch-three-days.html", "wikipedia": "https://en.wikipedia.org/wiki/Iridium_satellit
e_constellation", "static_fire_date_utc": "2017-06-20T22:10:00.000Z", "static_fire_dat
e_unix": 1497996600, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "succe
ss": true, "failures": [], "details": "First flight with titanium grid fins to improve co
ntrol authority and better cope with heat during re-entry.", "crew": [], "ships": ["5ea6
ed2f080df4000697c910", "5ea6ed2f080df4000697c911", "5ea6ed30080df4000697c912"], "capsul
es": [], "payloads": ["5eb0e4c4b6c3bb0006eeb210"], "launchpad": "5e9e4502f509092b78566f8
7", "flight_number": 43, "name": "Iridium NEXT Mission 2", "date_utc": "2017-06-25T20:25:0
0.000Z", "date_unix": 1498422300, "date_local": "2017-06-25T13:25:00-07:00", "date_precis
ion": "hour", "upcoming": false, "cores": [{"core": "5e9e28a3f3591801cf3b264b", "flight":
1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_succe
ss": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_update": t
rue, "tbd": false, "launch_library_id": null, "id": "5eb87d05ffd86e000604b354"}, {"fairing
s": {"reused": false, "recovery_attempt": false, "recovered": false, "ships": []}, "links":
{"patch": {"small": "https://images2.imgbox.com/8f/a2/46UURVaD_o.png", "large": "http
s://images2.imgbox.com/14/bd/jSZymxYh_o.png"}, "reddit": {"campaign": "https://www.redd
it.com/r/spacex/comments/6fw4yy/", "launch": "https://www.reddit.com/r/spacex/comment
s/6kt2re/", "media": "https://www.reddit.com/r/spacex/comments/6kt3fe/", "recovery": nul
l}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4063/35758875505
_a8559a6226_o.jpg", "https://farm5.staticflickr.com/4025/35758874355_5075298440_o.jp
g", "https://farm5.staticflickr.com/4235/35359372730_df7c79797b_o.jpg", "https://farm
5.staticflickr.com/4014/35359371840_239a658872_o.jpg", "https://farm5.staticflickr.co
m/4002/35577536822_679c68862d_o.jpg", "https://farm5.staticflickr.com/4259/3486873039
3_b778d81a71_o.jpg", "https://farm5.staticflickr.com/4162/34868729603_c75aa126b5_o.jp
g"]}, "presskit": "http://www.spacex.com/sites/spacex/files/intelsat35epresskit.pd
f", "webcast": "https://www.youtube.com/watch?v=MIHVPCj25Z0", "youtube_id": "MIHVPCj25Z
0", "article": "https://spaceflightnow.com/2017/07/06/spacex-delivers-for-intelsat-on-
heavyweight-falcon-9-mission/", "wikipedia": "https://en.wikipedia.org/wiki/Intelsat_3
5e"}, {"static_fire_date_utc": "2017-06-29T00:30:00.000Z", "static_fire_date_unix": 14986
96200, "net": false, "window": 3480, "rocket": "5e9d0d95eda69973a809d1ec", "success": tru
e, "failures": [], "details": "Due to the constraints of sending a heavy satellite (~6,0
00 kg) to GTO, the rocket will fly in its expendable configuration and the first-sta
ge booster will not be recovered.", "crew": [], "ships": [], "capsules": [], "payloads": ["5
eb0e4c4b6c3bb0006eeb211"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 4
4, "name": "Intelsat 35e", "date_utc": "2017-07-05T23:35:00.000Z", "date_unix": 149929770
0, "date_local": "2017-07-05T19:35:00-04:00", "date_precision": "hour", "upcoming": fals
e, "cores": [{"core": "5e9e28a4f3591850cc3b264c", "flight": 1, "gridfins": false, "legs": fal
se, "reused": false, "landing_attempt": false, "landing_success": null, "landing_type": nul
l, "landpad": null}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb
87d06ffd86e000604b355"}, {"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/w
elcome_to_the_rspacex_crs12_official_launch/", "media": "https://www.reddit.com/r/spac
ex/comments/6th2nf/rspacex_crs12_media_thread_videos_images_gifs/", "recovery": nul
l}, "flickr": {"small": [], "original": ["https://farm5.staticflickr.com/4352/36438808381
_733603843d_o.jpg", "https://farm5.staticflickr.com/4434/35760634184_f75457493b_o.jp
g", "https://farm5.staticflickr.com/4418/35741466074_327e9d0a80_o.jpg", "https://farm

```

5.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/HLI EaJlQ_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/6vhw11/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": "5e9e3032383ecbb9e534e7cc"}], "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/cX8ZlEJQ_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/6u6q1t/x37b_otv5_launch_campaign_thread/", "launch": "https://www.re

```

ddit.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/4364/3668988510_0c3c427c6bf_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/LNVLRItr_o.png", "large": "https://images2.imgbox.com/48/d4/MKsibD8N_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/6ywxw/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", "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"}, {"fairing

```

```

s":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":
{"patch":{"small":"https://images2.imgbox.com/bc/d3/Yd5qpPd9_o.png","large":"http
s://images2.imgbox.com/dd/c6/Qns2WYDQ_o.png"},"reddit":{"campaign":"https://www.redd
it.com/r/spacex/comments/6yvn64/ses11echostar_105_launch_campaign_thread/","launc
h":"https://www.reddit.com/r/spacex/comments/75bw7p/ses11echostar105_official_launch
_discussions/","media":"https://www.reddit.com/r/spacex/comments/75pgu5/rspacex_ses1
1_media_thread_videos_images_gifs/","recovery":"https://www.reddit.com/r/spacex/comm
ents/76fqz1/b10312_recovery_thread/"},"flickr":{"small":[],"original":["https://farm
5.staticflickr.com/4471/37388002420_b86680c3af_o.jpg","https://farm5.staticflickr.co
m/4497/37388002170_a267280534_o.jpg","https://farm5.staticflickr.com/4455/3738800173
0_0869279a8d_o.jpg","https://farm5.staticflickr.com/4465/36975195443_b98ed0fb24_o.jp
g","https://farm5.staticflickr.com/4499/36975194993_8548a53c60_o.jpg","https://farm
5.staticflickr.com/4482/36975194613_15bb109059_o.jpg","https://farm5.staticflickr.co
m/4453/36975194233_5f8f45c686_o.jpg"]},"presskit":"http://www.spacex.com/sites/space
x/files/echostar105ses11presskit.pdf","webcast":"https://www.youtube.com/watch?v=iv1
zeGSvhIw","youtube_id":"iv1zeGSvhIw","article":"https://spaceflightnow.com/2017/10/1
2/video-falcon-9-rocket-lifts-off-with-joint-satellite-for-ses-echostar/","wikipedi
a":"https://en.wikipedia.org/wiki/List_of_SES_satellites"},"static_fire_date_utc":"2
017-10-02T20:30:00.000Z","static_fire_date_unix":1506976200,"net":false,"window":720
0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Ninete
enth 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":["5ea6ed2f08
0df4000697c90b","5ea6ed2f080df4000697c90d","5ea6ed30080df4000697c913"],"capsules":
[],"payloads":["5eb0e4c5b6c3bb0006eeb216"],"launchpad":"5e9e4502f509094188566f88","f
light_number":49,"name":"SES-11 / Echostar 105","date_utc":"2017-10-11T22:53:00.000
Z","date_unix":1507762380,"date_local":"2017-10-11T18:53:00-04:00","date_precisio
n":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591829dc3b2646","flight":2,"g
ridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":tru
e,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"t
bd":false,"launch_library_id":null,"id":"5eb87d0cfff86e000604b35a"}, {"fairings":{"re
used":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697
c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/bb/fa/vNIBtlSn_o.pn
g","large":"https://images2.imgbox.com/d6/8d/iv3VDTkX_o.png"},"reddit":{"campaig
n":"https://www.reddit.com/r/spacex/comments/73ttkd/koreasat_5a_launch_campaign_thre
ad/","launch":"https://www.reddit.com/r/spacex/comments/79iuvb/rspacex_koreasat_5a_o
fficial_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/79lmd
u/rspacex_koreasat5a_media_thread_videos_images/","recovery":null},"flickr":{"smal
l":[],"original":["https://farm5.staticflickr.com/4477/38056454431_a5f40f9fd7_o.jp
g","https://farm5.staticflickr.com/4455/26280153979_b8016a829f_o.jpg","https://farm
5.staticflickr.com/4459/38056455051_79ef2b949a_o.jpg","https://farm5.staticflickr.co
m/4466/26280153539_ecbc2b3fa9_o.jpg","https://farm5.staticflickr.com/4482/2628015420
9_bf08d76361_o.jpg","https://farm5.staticflickr.com/4493/38056455211_a4565a9cee_o.jp
g"]},"presskit":"http://www.spacex.com/sites/spacex/files/koreasat5apresskit.pdf","w
ebcast":"https://www.youtube.com/watch?v=RUjH14vhLxA","youtube_id":"RUjH14vhLxA","ar
ticle":"https://spaceflightnow.com/2017/10/30/spacex-launches-and-lands-third-rocket
-in-three-weeks/","wikipedia":"https://en.wikipedia.org/wiki/Koreasat_5A"},"static_f
ire_date_utc":"2017-10-26T16:00:00.000Z","static_fire_date_unix":1509033600,"net":fa
lse,"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 Ph
ilippines, Guam, Korea, and Japan. The satellite will be placed in GEO at 113\xc3\x8
2\xc2\xbb East Longitude, and will provide services ranging from broadband internet
to broadcasting services and maritime communications.", "crew":[],"ships":["5ea6ed2f0
80df4000697c90d","5ea6ed2e080df4000697c908","5ea6ed30080df4000697c913"],"capsules":
[],"payloads":["5eb0e4c5b6c3bb0006eeb217"],"launchpad":"5e9e4502f509094188566f88","f
light_number":50,"name":"KoreaSat 5A","date_utc":"2017-10-30T19:34:00.000Z","date_un

```

```

ix":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","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d0dff86e000604b35b"},{"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://spacelighthnow.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":["5eb0e4c5b6c3bb0006eeb218"],"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","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d0effd86e000604b35c"},{"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","article":"https://spacelighthnow.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,"lan

```

```

ding_success":true,"landing_type":"Ocean","landpad":null}],{"auto_update":true,"tbd":
false,"launch_library_id":null,"id":"5eb87d0fffd86e000604b35d"},{"fairings":{"reuse
d":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"s
mall":"https://images2.imgbox.com/dc/7b/8HuZoJQU_o.png","large":"https://images2.img
box.com/4f/0d/UudW8zZK_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spac
ex/comments/7895bo/zuma_launch_campaign_thread/","launch":"https://www.reddit.com/r/s
pacex/comments/7oqjf0/rspacex_zuma_official_launch_discussion_updates/","media":"htt
ps://www.reddit.com/r/spacex/comments/7orks1/rspacex_zuma_media_thread_videos_images
_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflick
r.com/4751/39557026242_384d287045_o.jpg","https://farm5.staticflickr.com/4674/395565
49372_810396618d_o.jpg","https://farm5.staticflickr.com/4661/39556548902_f66c7be90d_
o.jpg","https://farm5.staticflickr.com/4607/39585580001_8b21846eab_o.jpg","https://f
arm5.staticflickr.com/4754/39585578201_a67ab9b9a8_o.jpg","https://farm5.staticflick
r.com/4603/39585575631_216cc035f4_o.jpg"]},"presskit":"http://www.spacex.com/sites/s
pacex/files/zumapresskit.pdf","webcast":"https://www.youtube.com/watch?v=0PWu3BRxn6
0","youtube_id":"0PWu3BRxn60","article":"https://spaceflightnow.com/2018/01/08/spac
ex-kicks-off-ambitious-2018-schedule-with-launch-for-u-s-government/","wikipedia":"ht
tps://en.wikipedia.org/wiki/Zuma_(satellite)","static_fire_date_utc":"2017-11-11T2
3:00:00.000Z","static_fire_date_unix":1510441200,"net":false,"window":7200,"rocke
t":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Originally pla
nned for mid-November 2017, the mission was delayed due to test results from the fai
ring of another customer. First-stage booster will attempt landing at LZ-1","crew":
[],"ships":[],"capsules":[],"payloads":["5eb0e4c6b6c3bb0006eeb21a"],"launchpad":"5e9
e4501f509094ba4566f84","flight_number":53,"name":"ZUMA","date_utc":"2018-01-08T01:0
0:00.000Z","date_unix":1515373200,"date_local":"2018-01-07T20:00:00-05:00","date_pre
cision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f35918345e3b2652"},"fligh
t":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_succ
ess":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],{"auto_updat
e":true,"tbd":false,"launch_library_id":null,"id":"5eb87d10fffd86e000604b35e"},{"fair
ings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"link
s":{"patch":{"small":"https://images2.imgbox.com/e0/b5/G8QLLUR1_o.png","large":"http
s://images2.imgbox.com/3b/6b/ovK7nExS_o.png"},"reddit":{"campaign":"https://www.redd
it.com/r/spacex/comments/7olw86/govsat1_ses16_launch_campaign_thread/","launch":"htt
ps://www.reddit.com/r/spacex/comments/7tvbth/rspacex_govsat1_official_launch_discuss
ion/","media":"https://www.reddit.com/r/spacex/comments/7tzzwy/rspacex_govsat1_media
_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["http
s://farm5.staticflickr.com/4721/40026315981_f16a7cd32a_o.jpg","https://farm5.staticf
lickr.com/4708/40026316291_0b3aef9d8d_o.jpg","https://farm5.staticflickr.com/4652/39
128355655_3eefa0d583_o.jpg","https://farm5.staticflickr.com/4741/39128355825_7c4166d
bbe_o.jpg","https://farm5.staticflickr.com/4609/39128355355_17381fc00e_o.jpg"]},"pre
sskit":"http://www.spacex.com/sites/spacex/files/govsat1presskit.pdf","webcast":"htt
ps://www.youtube.com/watch?v=ScYUA51-POQ","youtube_id":"ScYUA51-POQ","article":"http
s://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_satelli
tes#SES_Fleet"},"static_fire_date_utc":"2018-01-26T15:27:00.000Z","static_fire_date_
unix":1516980420,"net":false,"window":8460,"rocket":"5e9d0d95eda69973a809d1ec","succ
ess":true,"failures":[],"details":"Reused booster from the classified NROL-76 missio
n in May 2017. Following a successful experimental ocean landing that used three eng
ines, the booster unexpectedly remained intact; Elon Musk stated in a tweet that Spa
ceX will attempt to tow the booster to shore.","crew":[],"ships":["5ea6ed2f080df4000
697c90b"],"capsules":[],"payloads":["5eb0e4c6b6c3bb0006eeb21b"],"launchpad":"5e9e450
1f509094ba4566f84","flight_number":54,"name":"SES-16 / GovSat-1","date_utc":"2018-01
-31T21:25:00.000Z","date_unix":1517433900,"date_local":"2018-01-31T16:25:00-05:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591811f83b26
48"},"flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"lan
ding_success":true,"landing_type":"Ocean","landpad":null}],{"auto_update":true,"tbd":

```

```

false,"launch_library_id":null,"id":"5eb87d11ffd86e000604b35f"},{"fairings":{"reuse
d":false,"recovery_attempt":false,"recovered":false,"ships":[],"links":{"patch":{"s
mall":"https://images2.imgbox.com/cd/48/NVrODg2G_o.png","large":"https://images2.img
box.com/97/11/mjn87zBs_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spac
ex/comments/7hjp03/falcon_heavy_demo_launch_campaign_thread/","launch":"https://www.r
eddit.com/r/spacex/comments/7vg63x/rspacex_falcon_heavy_test_flight_official_launc
h/","media":"https://www.reddit.com/r/spacex/comments/7vmtm/rspacex_falcon_heavy_te
st_flight_media_thread/","recovery":null},"flickr":{"small":[],"original":["https://
farm5.staticflickr.com/4745/40110304192_b0165b7785_o.jpg","https://farm5.staticflick
r.com/4676/40110297852_6173e5cae6_o.jpg","https://farm5.staticflickr.com/4615/401430
96241_0324643b5e_o.jpg","https://farm5.staticflickr.com/4702/40110298232_4e9c412936_
o.jpg","https://farm5.staticflickr.com/4610/39337245575_41d760caef_o.jpg","https://f
arm5.staticflickr.com/4654/25254688767_59603ff06c_o.jpg","https://farm5.staticflick
r.com/4627/40126462801_d54b4f00be_o.jpg","https://farm5.staticflickr.com/4760/401264
62231_cdf00ef431_o.jpg","https://farm5.staticflickr.com/4655/40202121122_5d29cfe2ac_
o.jpg","https://farm5.staticflickr.com/4631/39337245145_5f5630a66a_o.jpg","https://f
arm5.staticflickr.com/4650/40126461851_14b93ec9d7_o.jpg","https://farm5.staticflick
r.com/4711/40126461411_b1ed283d45_o.jpg","https://farm5.staticflickr.com/4696/401264
60511_7b5cc64871_o.jpg","https://farm5.staticflickr.com/4589/38583831555_9ae89f5c10_
o.jpg","https://farm5.staticflickr.com/4682/38583829815_e01509d1a7_o.jpg","https://f
arm5.staticflickr.com/4731/39225582801_80594d5d91_o.jpg","https://farm5.staticflick
r.com/4641/39225582421_7aa0c65851_o.jpg","https://farm5.staticflickr.com/4643/274498
64329_d2424bc280_o.jpg","https://farm5.staticflickr.com/4681/39225582171_137a4c75e7_
o.jpg","https://farm5.staticflickr.com/4644/39225582351_ac6aba2533_o.jpg","https://f
arm5.staticflickr.com/4587/27449863849_709e135a98_o.jpg"]},"presskit":"http://www.sp
acex.com/sites/spacex/files/falconheavypresskit_v1.pdf","webcast":"https://www.youtu
be.com/watch?v=wbSwFU6tY1c","youtube_id":"wbSwFU6tY1c","article":"https://spacefligh
tnow.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_Road
ster"},"static_fire_date_utc":"2018-01-24T17:30:00.000Z","static_fire_date_unix":151
6815000,"net":false,"window":9000,"rocket":"5e9d0d95eda69974db09d1ed","success":tru
e,"failures":[],"details":"The launch was a success, and the side boosters landed si
multaneously 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 an
d payload passed through the Van Allen belts.,"crew":[],"ships":["5ea6ed2f080df4000
697c90c","5ea6ed2f080df4000697c90d","5ea6ed30080df4000697c913"],"capsules":[],"paylo
ads":["5eb0e4c6b6c3bb0006eeb21c"],"launchpad":"5e9e4502f509094188566f88","flight_num
ber":55,"name":"Falcon Heavy Test Flight","date_utc":"2018-02-06T20:45:00.000Z","dat
e_unix":1517949900,"date_local":"2018-02-06T15:45:00-05:00","date_precision":"hou
r","upcoming":false,"cores":[{"core":"5e9e28a5f359187f703b2653","flight":1,"gridfin
s":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":false,"l
anding_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"},"core":"5e9e28a2f359187f2
73b2642","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":tru
e,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb90a834e7c
8"},"core":"5e9e28a2f3591845c73b2640","flight":2,"gridfins":true,"legs":true,"reuse
d":true,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpa
d":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":n
ull,"id":"5eb87d13ffd86e000604b360"},{"fairings":{"reused":false,"recovery_attempt":
true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"],"links":{"patch":{"smal
l":"https://images2.imgbox.com/a4/ac/cC7w8EJz_o.png","large":"https://images2.imgbo
x.com/c9/fa/61ZcEua3_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/c
omments/7qnflk/paz_microsat2a_2b_launch_campaign_thread/","launch":"https://www.redd
it.com/r/spacex/comments/7y0grt/rspacex_paz_official_launch_discussion_updates/","me
dia":"https://www.reddit.com/r/spacex/comments/7zdvop/rspacex_paz_media_thread_video
s_images_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm5.sta
ticflickr.com/4768/25557986627_f3cc243afb_o.jpg","https://farm5.staticflickr.com/463

```

1/25557986367_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/eQSQrXp_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_b5deed6c9_o.jpg", "https://farm5.staticflickr.com/4772/39951085474_77be77c227_o.jpg"]}, "presskit": "http://www.spacex.com/sites/spacex/files/hispasat30w6_press_kit.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/88114l/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_c"]}

ex.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. Steven. 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/e8/6TmdhwLq_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": "http://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": 152252320, "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/comments/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", "http

s://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", "landpad": "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/bangabandhu_presskit51118.pdf", "webcast": "https://www.youtube.com/watch?v=rQEgKZ7CJlk", "youtube_id": "rQEgKZ7CJlk", "article": "https://spaceflightnow.com/2018/05/11/spacex-debuts-an-improved-human-rated-model-of-the-falcon-9-rocket/", "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": "5e9e28a5f359182b023b2656", "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}

```

ull,"id":"5eb87d19ffd86e000604b366"},{"fairings":{"reused":false,"recovery_attempt":
true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small
l":"https://images2.imgbox.com/c8/01/ijWT6oSs_o.png","large":"https://images2.imgbo
x.com/e9/61/9dF2ELMJ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/c
omments/8ffsgl/iridium6_gracefo_launch_campaign_thread/","launch":"https://www.reddi
t.com/r/spacex/comments/8kyk5a/rspacex_iridium_next_6_official_launch_discussio
n/","media":"https://www.reddit.com/r/spacex/comments/8l9tfz/rspacex_iridium6gracefo
_media_thread_videos/","recovery":null},"flickr":{"small":[],"original":["https://fa
rm1.staticflickr.com/897/42290934301_4c6ac431c8_o.jpg","https://farm1.staticflickr.c
om/831/42290933051_510176c9da_o.jpg","https://farm1.staticflickr.com/882/42290932011
_a522b43015_o.jpg","https://farm1.staticflickr.com/947/42290930761_4bf7b607b1_o.jp
g","https://farm1.staticflickr.com/982/42290930181_0117ab0dfb_o.jpg","https://farm1.
staticflickr.com/955/42244412292_e787538fc5_o.jpg"]},"presskit":"http://www.spacex.c
om/sites/spacex/files/iridium6presskit2018521.pdf","webcast":"https://www.youtube.co
m/watch?v=I_0GgKfwCSk","youtube_id":"I_0GgKfwCSk","article":"https://spaceflightnow.
com/2018/05/22/rideshare-launch-by-spacex-serves-commercial-and-scientific-customer
s/","wikipedia":"https://en.wikipedia.org/wiki/Gravity_Recovery_and_Climate_Experime
nt"},"static_fire_date_utc":"2018-05-18T20:16:00.000Z","static_fire_date_unix":15266
74560,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"fai
lures":[],"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 Iridi
um NEXT mission. The booster reuse turnaround was arecord 4.5 months between flight
s.","crew":[],"ships":["5ea6ed2e080df4000697c908"],"capsules":[],"payloads":["5eb0e4
c7b6c3bb0006eeb224","5eb0e4c8b6c3bb0006eeb225"],"launchpad":"5e9e4502f509092b78566f8
7","flight_number":62,"name":"Iridium NEXT Mission 6","date_utc":"2018-05-22T19:47:5
8.000Z","date_unix":1527018478,"date_local":"2018-05-22T12:47:58-08:00","date_precis
ion":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f35918345e3b2652","flight":
2,"gridfins":true,"legs":false,"reused":true,"landing_attempt":false,"landing_succes
s":null,"landing_type":null,"landpad":null}],{"auto_update":true,"tbd":false,"launch_
library_id":null,"id":"5eb87d1affd86e000604b367"},{"fairings":{"reused":false,"recov
ery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://
images2.imgbox.com/fa/c4/37mkd4wY_o.png","large":"https://images2.imgbox.com/9f/0c/0
KIBJmfe_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8jv0e
d/ses12_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/
8o9woj/rspacex_ses12_official_launch_discussion_updates/","media":"https://www.reddi
t.com/r/spacex/comments/8oa3k4/rspacex_ses12_media_thread_videos_images_gifs/","reco
very":null},"flickr":{"small":[],"original":["https://farm2.staticflickr.com/1752/41
664024035_14c81a25e3_o.jpg","https://farm2.staticflickr.com/1731/27695627527_d9d5bca
0ae_o.jpg","https://farm2.staticflickr.com/1735/27695627327_ed66c7282c_o.jpg","http
s://farm2.staticflickr.com/1752/27695627417_38ea7d7acf_o.jpg","https://farm2.staticf
lickr.com/1733/41664023935_e9e8120690_o.jpg"]},"presskit":"http://www.spacex.com/sit
es/spacex/files/ses-12missionpress_kit_6.2.18.pdf","webcast":"https://www.youtube.co
m/watch?v=2hcM5hqQ45s","youtube_id":"2hcM5hqQ45s","article":"https://spaceflightnow.
com/2018/06/04/multi-mission-telecom-craft-launched-by-spacex-for-ses/","wikipedi
a":"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":"5e9d
0d95eda69973a809d1ec","success":true,"failures":[],"details":"SES-12, the replacemen
t satellite for NSS-6, was successfully launched and deployed on June 4th, completin
g SpaceX's eleventh flight of 2018. According to SES Luxembourg, The SES-12 satellit
e will expand SES's capabilities to provide direct-to-home (DTH) broadca
sting, VSAT, Mobility and High Throughput Satellite (HTS) data connectivity services
in the Middle East and the Asia-Pacific region, including rapidly growing markets su
ch as India and Indonesia. [SES-12] will be co-located with SES-8","crew":[],"ship
s":["5ea6ed2e080df4000697c90a"],"capsules":[],"payloads":["5eb0e4c8b6c3bb0006eeb22
6"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":63,"name":"SES-12","date_

```

```

utc":"2018-06-04T04:45:00.000Z","date_unix":1528087500,"date_local":"2018-06-04T00:4
5:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591
845123b264f","flight":2,"gridfins":false,"legs":false,"reused":true,"landing_attemp
t":false,"landing_success":null,"landing_type":null,"landpad":null}],{"auto_update":t
rue,"tbd":false,"launch_library_id":null,"id":"5eb87d1bffd86e000604b368"},{"fairing
s":null,"links":{"patch":{"small":"https://images2.imgbox.com/b3/12/t63UKas5_o.pn
g","large":"https://images2.imgbox.com/15/3c/W0LEnrZx_o.png"},"reddit":{"campaig
n":"https://www.reddit.com/r/spacex/comments/8pua1m/crs15_launch_campaign_threa
d/","launch":"https://www.reddit.com/r/spacex/comments/8ugo3l/rspacex_crs15_official
_launch_discussion_updates","media":"https://www.reddit.com/r/spacex/comments/8ujcw
o/rspacex_crs15_media_thread_videos_images_gifs/","recovery":null},"flickr":{"smal
l":[],"original":["https://farm1.staticflickr.com/836/42374725204_dae09db889_o.jp
g","https://farm2.staticflickr.com/1781/41281636860_71dca92ab4_o.jpg","https://farm
2.staticflickr.com/1829/42374725534_325e676d19_o.jpg","https://farm2.staticflickr.co
m/1810/42374724974_e50b050403_o.jpg","https://farm1.staticflickr.com/843/41281636620
_437528bd1f_o.jpg","https://farm2.staticflickr.com/1790/41281637670_f6a6a2cf6c_o.jp
g"]},"presskit":"http://www.spacex.com/sites/spacex/files/crs15presskit.pdf","webcas
t":"https://www.youtube.com/watch?v=ycMagB1s8XM","youtube_id":"ycMagB1s8XM","articl
e":"https://spaceflightnow.com/2018/06/29/spacex-launches-ai-enabled-robot-companion
-vegetation-monitor-to-space-station/","wikipedia":"https://en.wikipedia.org/wiki/Sp
aceX_CRS-15"},"static_fire_date_utc":"2018-06-23T21:30:00.000Z","static_fire_date_un
ix":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 expe
nded into the Atlantic without landing legs and grid fins.", "crew":[],"ships":["5ea6
ed30080df4000697c912"],"capsules":["5e9e2c5cf359183bb73b266e"],"payloads":["5eb0e4c8
b6c3bb0006eeb227"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":64,"nam
e":"CRS-15","date_utc":"2018-06-29T09:42:00.000Z","date_unix":1530265320,"date_loca
l":"2018-06-29T05:42:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"c
ore":"5e9e28a5f35918863d3b2655","flight":2,"gridfins":false,"legs":false,"reused":tr
ue,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":nul
l}],{"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d1cffd86e0006
04b369"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"shi
ps":[]},"links":{"patch":{"small":"https://images2.imgbox.com/2b/de/2CF8Q4Bq_o.pn
g","large":"https://images2.imgbox.com/c0/d8/Jt7Es9az_o.png"},"reddit":{"campaig
n":"https://www.reddit.com/r/spacex/comments/8w19yg/telstar_19v_launch_campaign_thre
ad/","launch":"https://www.reddit.com/r/spacex/comments/90p1a6/rspacex_telstar_19v_o
fficial_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/90oxr
r/rspacex_telstar_19v_media_thread_videos_images/","recovery":null},"flickr":{"smal
l":[],"original":["https://farm1.staticflickr.com/856/28684550147_49802752b3_o.jp
g","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_30
47e50a0a_o.jpg","https://farm2.staticflickr.com/1786/29700000688_2514cd3cbb_o.jp
g"]},"presskit":"http://www.spacex.com/sites/spacex/files/telstar19vantagepresskit.p
df","webcast":"https://www.youtube.com/watch?v=xybp6zLaGx4","youtube_id":"xybp6zLaGx
4","article":"https://spaceflightnow.com/2018/07/22/spacex-delivers-for-telesat-with
-successful-early-morning-launch/","wikipedia":"https://en.wikipedia.org/wiki/Telsta
r_19V"},"static_fire_date_utc":"2018-07-18T21:00:00.000Z","static_fire_date_unix":15
31947600,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":tru
e,"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 com
mercial communications satellite ever launched.", "crew":[],"ships":["5ea6ed2e080df40
00697c90a","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90d","5ea6ed30080df40006

```

```

97c913"], "capsules": [], "payloads": ["5eb0e4c8b6c3bb0006eeb228"], "launchpad": "5e9e4501
f509094ba4566f84", "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_pr
ecision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f359181eed3b2657", "fligh
t": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_succ
ess": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_updat
e": true, "tbd": false, "launch_library_id": null, "id": "5eb87d1effd86e000604b36a"}, {"fair
ings": {"reused": false, "recovery_attempt": true, "recovered": false, "ships": ["5ea6ed2e08
0df4000697c908"]}, "links": {"patch": {"small": "https://images2.imgbox.com/b4/96/LRfRep
k0_o.png", "large": "https://images2.imgbox.com/e6/10/oZPCNx0m_o.png"}, "reddit": {"camp
aign": "https://www.reddit.com/r/spacex/comments/8v4wcm/iridium_next_constellation_mi
ssion_7_launch/", "launch": "https://www.reddit.com/r/spacex/comments/91i1ru/rspacex_i
ridium_next_7_official_launch_discussion/", "media": "https://www.reddit.com/r/spacex/
comments/91gx44/rspacex_iridium_next_constellation_mission_7/", "recovery": null}, "fli
ckr": {"small": [], "original": ["https://farm1.staticflickr.com/934/41868222930_0a850d3
0dc_o.jpg", "https://farm1.staticflickr.com/852/41868222500_2ff5f6e5f9_o.jpg", "http
s://farm1.staticflickr.com/929/28787338307_7c0cfce99a_o.jpg", "https://farm1.staticfl
ickr.com/928/28787338507_3be74590d2_o.jpg"]}, "presskit": "http://www.spacex.com/site
s/spacex/files/iridium7_press_kit_7_24.pdf", "webcast": "https://www.youtube.com/watc
h?v=vsDknmK30C0", "youtube_id": "vsDknmK30C0", "article": "https://spaceflightnow.com/20
18/07/25/spacexs-second-launch-in-three-days-lofts-10-more-iridium-satellites/", "wik
ipedia": "https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generati
on_constellation"}, "static_fire_date_utc": "2018-07-20T21:08:00.000Z", "static_fire_da
te_unix": 1532120880, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "succ
ess": true, "failures": [], "details": "SpaceX's fourteenth flight of 2018 and seventh o
f 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 f
or Iridium, with 10 more satellites. First attempt to recover a Fairing with the upg
raded net. Fairing recovery was not successful.", "crew": [], "ships": ["5ea6ed2f080df40
00697c910", "5ea6ed2e080df4000697c908", "5ea6ed30080df4000697c912", "5ea6ed30080df40006
97c914"], "capsules": [], "payloads": ["5eb0e4c9b6c3bb0006eeb229"], "launchpad": "5e9e4502
f509092b78566f87", "flight_number": 66, "name": "Iridium NEXT Mission 7", "date_utc": "201
8-07-25T11:39:26.000Z", "date_unix": 1532518766, "date_local": "2018-07-25T04:39:26-07:0
0", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f3591809c03b26
58", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "la
nding_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "au
to_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d1fffd86e000604b36
b"}, {"fairings": {"reused": false, "recovery_attempt": false, "recovered": false, "ships":
[]}, "links": {"patch": {"small": "https://images2.imgbox.com/46/b2/NUQmyHR4_o.png", "lar
ge": "https://images2.imgbox.com/9e/eb/uGUYOYfZ_o.png"}, "reddit": {"campaign": "http
s://www.reddit.com/r/spacex/comments/91gwfg/merah_putih_telkom4_launch_campaign_thre
ad/", "launch": "https://www.reddit.com/r/spacex/comments/9539nr/rspacex_merah_putih_t
elkom4_official_launch/", "media": "https://www.reddit.com/r/spacex/comments/94zr0b/rs
pacex_merah_putih_media_thread_videos_images/", "recovery": null}, "flickr": {"small":
[], "original": ["https://farm2.staticflickr.com/1798/43862495212_8fe1688c4b_o.jpg", "h
ttps://farm1.staticflickr.com/935/43006330655_f1623a3fa1_o.jpg", "https://farm1.stati
cflickr.com/938/28974313177_d16381ff5f_o.jpg", "https://farm2.staticflickr.com/1780/4
3006334045_fb7b4a8714_o.jpg", "https://farm1.staticflickr.com/929/28974335747_ffd87ff
274_o.jpg", "https://farm1.staticflickr.com/930/30041972208_f735b9690b_o.jpg"]}, "pres
skit": "https://www.spacex.com/sites/spacex/files/merahputihpresskit.pdf", "webcas
t": "https://www.youtube.com/watch?v=FjfQNBv2IY", "youtube_id": "FjfQNBv2IY", "articl
e": "https://spaceflightnow.com/2018/08/07/indonesian-communications-satellite-deploy
ed-in-orbit-by-spacex/", "wikipedia": "https://en.wikipedia.org/wiki/Telkom_Indonesi
a"}, "static_fire_date_utc": "2018-08-02T15:53:00.000Z", "static_fire_date_unix": 153322
5180, "net": false, "window": 7200, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "f
ailures": [], "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": [
    {
      "id": "5ea6ed2f080df4000697c90d",
      "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,
          "reused": 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/9e7bmqr/spacex_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_423eff8c86_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-telesat-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."
    }
  ],
  "capsules": [],
  "payloads": [
    {
      "id": "5eb0e4c9b6c3bb0006eeb22b",
      "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/Dsfygp1n_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-ace"
      }
    }
  ]
}

```

s-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 satellite 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"}, {"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": "2018-11-15T20:46:00.000Z", "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"}, {"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
r.com/4839/45257565835_4fd6f3e895_o.jpg", "https://farm5.staticflickr.com/4822/452575
66865_9c9d34a7ca_o.jpg", "https://farm5.staticflickr.com/4821/45257568225_186c8431cf_
o.jpg", "https://farm5.staticflickr.com/4885/45257569445_1d74a601df_o.jpg", "https://f
arm5.staticflickr.com/4869/45257570925_8eae9a0888_o.jpg", "https://farm5.staticflick
r.com/4842/31338804427_2e4dcda6e7_o.jpg", "https://farm5.staticflickr.com/4894/462272
71292_2eee9af3eb_o.jpg", "https://farm5.staticflickr.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, "tbody": 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", "landp
```



```

ad":"5e9e3032383ecb267a34e7c7"}]],"auto_update":true,"tbd":false,"launch_library_id":
null,"id":"5eb87d26ffd86e000604b371"},{"fairings":{"reused":false,"recovery_attemp
t":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.im
gbox.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/spac
ex/comments/a73kz5/rspacex_gps_iii2_media_thread_videos_images_gifs/","recovery":nul
l},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4864/45715171884
_f1dd88c058_o.jpg","https://farm8.staticflickr.com/7926/45525648155_32fdab17a5_o.jp
g","https://farm8.staticflickr.com/7876/45525649035_ba60162fe0_o.jpg","https://farm
8.staticflickr.com/7853/45525649825_e6d35415e1_o.jpg","https://farm5.staticflickr.co
m/4893/45525650685_02b408c385_o.jpg"]},"presskit":"https://www.spacex.com/sites/spac
ex/files/gps_iii_press_kit.pdf","webcast":"https://youtu.be/yRiLPoy_Mzc","youtube_i
d":"yRiLPoy_Mzc","article":"https://spaceflightnow.com/2018/12/23/spacex-closes-out-
year-with-successful-gps-satellite-launch/","wikipedia":"https://en.wikipedia.org/wi
ki/GPS_Block_IIIA"},"static_fire_date_utc":"2018-12-13T21:24:00.000Z","static_fire_d
ate_unix":1544736240,"net":false,"window":1560,"rocket":"5e9d0d95eda69973a809d1e
c","success":true,"failures":[],"details":"SpaceX's twenty-first flight of 2018 lau
nched 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 tr
ansfer orbit from SLC-40 at Cape Canaveral Air Force Station. This mission was the f
irst to fly with the redesigned COPV on the first stage (B1054) as well as the secon
d. The booster was expended.", "crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4
cab6c3bb0006eeb230"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":73,"nam
e":"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,"core
s":[{"core":"5e9e28a6f35918513b3b265b","flight":1,"gridfins":false,"legs":false,"reu
sed":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landp
ad":null}]],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d27ffd
86e000604b372"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":nul
l,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/75/cb/DMVc5j8b_
o.png","large":"https://images2.imgbox.com/d7/f9/861bfh4Q_o.png"},"reddit":{"campaig
n":"https://www.reddit.com/r/spacex/comments/a699fh/iridium_next_constellation_missi
on_8_launch/","launch":"https://www.reddit.com/r/spacex/comments/aemq2i/rspacex_iri
dium_next_8_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/com
ments/aeoxve/rspacex_iridium_next_8_media_thread_videos_images/","recovery":"http
s://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://f
arm5.staticflickr.com/4881/39745613173_e99b09c000_o.jpg","https://farm8.staticflick
r.com/7882/39745613513_6cdd4581af_o.jpg","https://farm8.staticflickr.com/7807/397456
13733_1a7b70e54a_o.jpg","https://farm5.staticflickr.com/4891/39745614053_43855205bc_
o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/iridium8presskit.pd
f","webcast":"https://youtu.be/VshdafZvwrng","youtube_id":"VshdafZvwrng","article":"ht
tps://spaceflightnow.com/2019/01/11/spacex-begins-2019-with-eighth-and-final-for-upg
raded-iridium-network/","wikipedia":"https://en.wikipedia.org/wiki/Iridium_satellite
_constellation#Next-generation_constellation"},"static_fire_date_utc":"2019-01-06T1
3:51:00.000Z","static_fire_date_unix":1546782660,"net":false,"window":0,"rocket":"5e
9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX's first flig
ht of 2019 will be the eighth and final launch of its planned Iridium flights. Deliv
ering 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":["5ea6ed2f080df4000697c9
10","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/spacex/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/q5IEqsOJ_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://farm

8.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/2ZL0tbOZYhE", "youtube_id": "2ZL0tbOZYhE", "article": "https://spaceflightnow.com/2019/03/02/spacex-launches-first-crew-dragon-ferry-shipp/", "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 Center, 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/bbhz9a/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": "5e9e28a6f359183c41

```

3b265d", "flight":1, "gridfins":true, "legs":true, "reused":false, "landing_attempt":true,
"landing_success":true, "landing_type":"RTLS", "landpad":"5e9e3032383ecb267a34e7c
7"}, {"core":"5e9e28a6f359188fd53b265e", "flight":1, "gridfins":true, "legs":true, "reuse
d":false, "landing_attempt":true, "landing_success":true, "landing_type":"RTLS", "landpa
d":"5e9e3032383ecb90a834e7c8"}], "auto_update":true, "tbd":false, "launch_library_id":n
ull, "id":"5eb87d2dff86e000604b376"}, {"fairings":null, "links":{"patch":{"small":"htt
ps://images2.imgbox.com/97/8e/YbVKIUZB_o.png", "large":"https://images2.imgbox.com/0
d/05/zH7YqLRe_o.png"}, "reddit":{"campaign":"https://new.reddit.com/r/spacex/comment
s/bd2l28/crs17_launch_campaign_thread/", "launch":"https://www.reddit.com/r/spacex/co
mments/bjsn0v/rspacex_crs17_official_launch_discussion_updates", "media":"https://ww
w.reddit.com/r/spacex/comments/bkc4d5/rspacex_crs17_media_thread_videos_images_gif
s", "recovery":"https://www.reddit.com/r/spacex/comments/bjy7p5/rspacex_crs17_recover
y_discussion_updates_thread"}, "flickr":{"small":[], "original":["https://live.staticfl
ickr.com/65535/46856594435_206c773b5a_o.jpg", "https://live.staticflickr.com/65535/4
7720639872_284e49381d_o.jpg", "https://live.staticflickr.com/65535/46856594755_88f1b2
2e50_o.jpg", "https://live.staticflickr.com/65535/47720639542_1b7c1a71b0_o.jpg", "http
s://live.staticflickr.com/65535/47720639732_e04b2a9ed7_o.jpg", "https://live.staticfl
ickr.com/65535/32829382467_087d024428_o.jpg"]}, "presskit":"https://www.spacex.com/si
tes/spacex/files/crs-17_press_kit.pdf", "webcast":"https://youtu.be/AQFhX5TvP0M", "you
tube_id":"AQFhX5TvP0M", "article":"https://spaceflightnow.com/2019/05/04/spacex-launc
hes-space-station-resupply-mission-lands-rocket-on-drone-ship/", "wikipedia":"http
s://en.wikipedia.org/wiki/SpaceX_CRS-17"}, {"static_fire_date_utc":"2019-04-27T07:23:0
0.000Z", "static_fire_date_unix":1556349780, "net":false, "window":0, "rocket":"5e9d0d95
eda69973a809d1ec", "success":true, "failures":[], "details":"SpaceX's 17th Commercial
Resupply Services mission for NASA out of a total of 20 contracted flights, this mis
sion brings essential supplies to the International Space Station using SpaceX's re
usable Dragon 1 spacecraft. The external payloads for this mission include Orbital C
arbon 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, i
t is likely to land on OCISLY instead.\\n    ", "crew":[], "ships":["5ea6ed30080df4000
697c913", "5ea6ed2f080df4000697c90e", "5ea6ed2f080df4000697c90b"], "capsules":["5e9e2c5
cf3591869b63b2670"], "payloads":["5eb0e4cbb6c3bb0006eeb237"], "launchpad":"5e9e4501f50
9094ba4566f84", "flight_number":78, "name":"CRS-17", "date_utc":"2019-05-04T06:48:00.00
0Z", "date_unix":1556952480, "date_local":"2019-05-04T02:48:00-04:00", "date_precisio
n":"hour", "upcoming":false, "cores":[{"core":"5e9e28a7f3591809313b2660", "flight":1, "g
ridfins":true, "legs":true, "reused":false, "landing_attempt":true, "landing_success":tr
ue, "landing_type":"ASDS", "landpad":"5e9e3032383ecb6bb234e7ca"}], "auto_update":tru
e, "tbd":false, "launch_library_id":null, "id":"5eb87d2effd86e000604b377"}, {"fairings":
{"reused":false, "recovery_attempt":true, "recovered":true, "ships":["5ea6ed2f080df4000
697c90c"]}, "links":{"patch":{"small":"https://images2.imgbox.com/79/ec/TOE2PBjQ_o.pn
g", "large":"https://images2.imgbox.com/39/aa/5of7buxK_o.png"}, "reddit":{"campaig
n":"https://www.reddit.com/comments/bjybrl", "launch":"https://www.reddit.com/r/space
x/comments/brfbic/rspacex_starlink_official_launch_discussion", "media":"https://www.
reddit.com/r/spacex/comments/bp0479/rspacex_starlink_media_thread_videos_images_gif
s", "recovery":"https://www.reddit.com/r/spacex/comments/bsaljm/rspacex_starlink_b104
93_recovery_discussion_and"}, "flickr":{"small":[], "original":["https://live.staticfl
ickr.com/65535/47926143711_4a0b2680bf_o.jpg", "https://live.staticflickr.com/65535/47
926136902_d8ce35223d_o.jpg", "https://live.staticflickr.com/65535/47926144123_2a828b6
6d5_o.jpg", "https://live.staticflickr.com/65535/47926137127_ef58152b6b_o.jpg", "http
s://live.staticflickr.com/65535/47926137017_e6d86fa820_o.jpg"]}, "presskit":"https://
www.spacex.com/sites/spacex/files/starlink_press_kit.pdf", "webcast":"https://www.you
tube.com/watch?v=riBaVeDTEWI", "youtube_id":"riBaVeDTEWI", "article":"https://spacefli
ghtnow.com/2019/05/24/spacexs-first-60-starlink-broadband-satellites-deployed-in-orb
it", "wikipedia":"https://en.wikipedia.org/wiki/Starlink_(satellite_constellatio
n)"}, {"static_fire_date_utc":"2019-05-13T20:06:00.000Z", "static_fire_date_unix":15577

```

```

77960,"net":false,"window":9000,"rocket":"5e9d0d95eda69973a809d1ec","success":true,
"failures":[],"details":"SpaceX will launch dozens of Starlink demonstration satel
lites from SLC-40, Cape Canaveral AFS. Starlink is a low Earth orbit broadband inter
net constellation developed and owned by SpaceX which will eventually consist of nea
rly 12 000 satellites and will provide low latency internet service to ground termin
als around the world. Two prototype satellites, Microsats 2a and 2b, were launched f
rom Vandenberg AFB in February 2018. The booster for this mission will land on OCISL
Y.", "crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed2f080df4000697c90c","5ea6ed
2f080df4000697c90e","5ea6ed2f080df4000697c90b","5ea6ed2e080df4000697c909"],"capsule
s":[],"payloads":["5eb0e4cbb6c3bb0006eeb238"],"launchpad":"5e9e4501f509094ba4566f8
4","flight_number":79,"name":"Starlink v0.9","date_utc":"2019-05-24T02:30:00.000
Z","date_unix":1558665000,"date_local":"2019-05-23T22:30:00-04:00","date_precision":
"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591833b13b2659","flight":3,"g
ridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":tru
e,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"t
bd":false,"launch_library_id":null,"id":"5eb87d30fffd86e000604b378"}, {"fairings":{"re
used":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/spa
cex/comments/buq487/radarsat_constellation_launch_campaign_thread","launch":"http
s://www.reddit.com/r/spacex/comments/byp69f/rspacex_radarsat_constellation_official_
launch","media":null,"recovery":null},"flickr":{"small":[],"original":["https://liv
e.staticflickr.com/65535/48052269657_71764b0fb3_o.jpg","https://live.staticflickr.co
m/65535/48052269617_34447619f0_o.jpg","https://live.staticflickr.com/65535/480522248
58_20ea2a411e_o.jpg","https://live.staticflickr.com/65535/48052269562_325c117b81_o.j
pg","https://live.staticflickr.com/65535/48052182461_a419db6b84_o.jpg","https://liv
e.staticflickr.com/65535/48052224733_f89f1dd046_o.jpg"]},"presskit":"https://www.spa
cex.com/sites/spacex/files/radarsat_constellation_mission_press_kit.pdf","webcas
t":"https://youtu.be/8A2nJd9Urk8","youtube_id":"8A2nJd9Urk8","article":"https://spac
eflightnow.com/2019/06/12/three-canadian-radar-surveillance-satellites-ride-spacex-r
ocket-into-orbit/","wikipedia":"https://en.wikipedia.org/wiki/RADARSAT_Constellatio
n"},"static_fire_date_utc":"2019-06-08T08:39:00.000Z","static_fire_date_unix":155998
3140,"net":false,"window":780,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"fa
ilures":[],"details":"SpaceX is launching the three satellite RADARSAT Constellation
Mission into Sun Synchronous orbit from SLC-4E, VAFB. The RCM spacecraft are synthe
tic aperture radar (SAR) Earth observation satellites built by the Canadian space com
pany, MDA, for the Canadian Space Agency. This mission was delayed when the original
ly slated booster failed to land after CRS-16. The booster is expected to return to
LZ-4.", "crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4ccb6c3bb0006eeb239"],"l
aunchpad":"5e9e4502f509092b78566f87","flight_number":80,"name":"RADARSAT Constellati
on","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":"5e9
e28a6f35918c0803b265c","flight":2,"gridfins":true,"legs":true,"reused":true,"landing
_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ec
b554034e7c9"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d3
1fffd86e000604b379"}, {"fairings":{"reused":false,"recovery_attempt":true,"recovered":
true,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images
2.imgbox.com/b0/90/fA4QaCAi_o.png","large":"https://images2.imgbox.com/81/9e/p6AaiJw
j_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/s
pacex/comments/c4ng3a/rspacex_stp2_media_thread_videos_images_gifs","recovery":nul
l},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/48129211778
_83c1769305_o.jpg","https://live.staticflickr.com/65535/48129211908_8390c775b0_o.jp
g","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/WxH4CALhtiQ", "youtube_id": "WxH4CALhtiQ", "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 OCISLY less than 40 km from the launch site.", "crew": [], "ships": ["5ea6ed30080df4000697c913", "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/SlgrxVuP5jk", "youtube_id": "SlgrxVuP5jk", "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.

C-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/cmmedgn/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.staticflickr.com/65535/48478120031_5aaelf6131_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_starlink_1_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/65535/49051477088_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":"2
019-11-11T12:08:00.000Z","static_fire_date_unix":1573474080,"net":false,"window":
0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This m
ission 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\xba shel
l. 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 o
f nearly 12 000 satellites and will provide low latency internet service to ground t
erminals around the world. The booster for this mission is expected to land on OCISL
Y.", "crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed30080df4000697c913","5ea6ed
2e080df4000697c909","5ea6ed2f080df4000697c90d"],"capsules":[],"payloads":["5eb0e4cfb
6c3bb0006eeb24c"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":84,"nam
e":"Starlink-1","date_utc":"2019-11-11T14:56:00.000Z","date_unix":1573484160,"date_l
ocal":"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","landpa
d":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":n
ull,"id":"5eb87d39ffd86e000604b37d"}, {"fairings":null,"links":{"patch":{"small":"htt
ps://images2.imgbox.com/5d/26/ZP75I1lj_o.png","large":"https://images2.imgbox.com/6
e/76/jVcSQg0K_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comment
s/e0upb3/crs19_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/co
mments/e5r8hj/rspacex_crs19_official_launch_discussion_updates","media":"https://ww
w.reddit.com/r/spacex/comments/e6ln0m/rspacex_crs19_media_thread_videos_images_gif
s","recovery":"https://www.reddit.com/r/spacex/comments/e6lbzy/rspacex_crs19_booster
_recovery_discussion_updates"},"flickr":{"small":[],"original":["https://live.static
flickr.com/65535/49178460143_e3ae2bd506_o.jpg","https://live.staticflickr.com/65535/
49178954221_8544835325_o.jpg","https://live.staticflickr.com/65535/49179161792_9f180
1a963_o.jpg","https://live.staticflickr.com/65535/49178460368_62eb945db8_o.jpg","htt
ps://live.staticflickr.com/65535/49184948561_ce20b38bc6_o.jpg","https://live.staticf
lickr.com/65535/49185149122_00a7fa573d_o.jpg"]},"presskit":"https://www.spacex.com/s
ites/spacex/files/crs-19_mission_press_kit.pdf","webcast":"https://youtu.be/-aoAGdYX
p_4","youtube_id":"-aoAGdYXp_4","article":"https://spaceflightnow.com/2019/12/05/dra
gon-soars-on-research-and-resupply-flight-to-international-space-station","wikipedi
a":"https://en.wikipedia.org/wiki/SpaceX_CRS-19"},"static_fire_date_utc":"2019-11-26
T17:04:00.000Z","static_fire_date_unix":1574787840,"net":false,"window":0,"rocke
t":"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 Hyper
spectral Imager Suite and a lithium-ion battery. Falcon 9 and Dragon will launch fro
m SLC-40, Cape Canaveral AFS. The mission will be complete with return and recovery
of the Dragon capsule and down cargo.", "crew":[],"ships":["5ea6ed2f080df4000697c90
d"],"capsules":["5e9e2c5bf3591880643b2669"],"payloads":["5eb0e4cfb6c3bb0006eeb24
d"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":85,"name":"CRS-19","date_
utc":"2019-12-05T17:29:23.000Z","date_unix":1575566963,"date_local":"2019-12-05T12:2
9:23-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591
87afd3b2662","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attemp
t":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234
e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d39ffd86e
000604b37e"}, {"fairings":{"reused":false,"recovery_attempt":true,"recovered":fals
e,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.i
mgbox.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/jcsat1
8kacif1_launch_campaign_thread","launch":"https://www.reddit.com/r/spacex/comment
s/ebfr9t/rspacex_jcsat18kacif1_official_launch","media":"https://www.reddit.com/r/
spacex/comments/ebn4g5/rspacex_jcsat18kacif1_media_thread_videos","recovery":"http

```


s://www.reddit.com/r/spacex/comments/ec48p3/jscat_18kacifc1_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"]}, "preskit": "https://www.spacex.com/sites/spacex/files/jcsat18kacifc1_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, "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_starlink_2_official_launch_discussion", "media": "https://www.reddit.com/r/spacex/comments/ekybbz/rspacex_starlink_2_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_8f9acf1e2a_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° shell. It is the third 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", "5ea6ed2f080df4000697c90b", "5ea6ed2f080df4000697c90d"], "capsules": [], "payloads": ["5eb0e4cfb6c3bb0006eeb24f"], "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": "5e9e3032383ecb6bb23"}]

```

4e7ca"}], "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 Sea Rcher after splashdown in the Atlantic Ocean. This flight does not go to orbit. The booster and 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": "5eb87d3cffd86e000604b381"}, {"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/evjdw5/rspacex_starlink3_media_thread_videos_images_gifs/", "recovery": "https://www.reddit.com/r/spacex/comments/evnyij/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 be reused."}]

```

51/100

ceX\'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": [{"id": "5e9e2c5cf359185d753b266f", "payloads": [{"id": "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": [{"id": "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_starlink5_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": "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": [{"id": "5ea6ed30080df4000697c913", "id": "5ea6ed2f080df4000697c90d"}], "capsules": [], "payloads": [{"id": "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": [{"id": "5ea6ed2e080df4000697c908", "id": "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_starlink6_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_564ce2"]}

1658_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/wSge0I7pwFI", "youtube_id": "wSge0I7pwFI", "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/fjf6rr/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_b43c6d4c44_o.jpg", "https://live.staticflickr.com/65535/49927519588_8a39a3994f_o.jpg", "https://live.staticflickr.com/65535/49928343022_6fb33cbd9c_o.jpg", "https://live.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", "5ea6e

```

d2e080df4000697c909", "5ea6ed2f080df4000697c90d"], "capsules": ["5e9e2c5df359188aba3b26
76"], "payloads": ["5eb0e4d1b6c3bb0006eeb257"], "launchpad": "5e9e4502f509094188566f8
8", "flight_number": 94, "name": "CCtCap Demo Mission 2", "date_utc": "2020-05-30T19:22:0
0.000Z", "date_unix": 1590866520, "date_local": "2020-05-30T15:22:00-04:00", "date_precis
ion": "hour", "upcoming": false, "cores": [{"core": "5e9e28a7f3591817f23b2663", "flight":
1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_succes
s": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": t
rue, "tbd": false, "launch_library_id": null, "id": "5eb87d46ffd86e000604b388"}, {"fairing
s": {"reused": false, "recovery_attempt": true, "recovered": null, "ships": ["5ea6ed2e080df4
000697c908", "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/starli
nk7_launch_campaign_thread/", "launch": "https://www.reddit.com/r/spacex/comments/gkfe
30/rspacex_starlink_7_official_launch_discussion/", "media": null, "recovery": null}, "fl
ickr": {"small": [], "original": ["https://live.staticflickr.com/65535/49971196871_a0462
d0084_o.jpg", "https://live.staticflickr.com/65535/49970682603_e6333945ee_o.jpg"]}, "p
resskit": "https://spacextimemachine.com/assets/press_kits/185.pdf", "webcast": "http
s://youtu.be/y4xBFHjkUvw", "youtube_id": "y4xBFHjkUvw", "article": "https://spaceflightn
ow.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_ut
c": "2020-05-13T11:11:00.000Z", "static_fire_date_unix": 1589368260, "net": false, "windo
w": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "Thi
s mission will launch the seventh batch of operational Starlink satellites, which ar
e expected to be version 1.0, from SLC-40, Cape Canaveral AFS. It is the eighth Star
link launch overall. The satellites will be delivered to low Earth orbit and will sp
end 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", "5ea6ed2e080df4000697c90
7", "5ee68c683c228f36bd5809b5"], "capsules": [], "payloads": ["5eb0e4d1b6c3bb0006eeb25
6"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 95, "name": "Starlink-7", "d
ate_utc": "2020-06-04T01:25:00.000Z", "date_unix": 1591233900, "date_local": "2020-06-03T
21:25:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5e9e28a5f
3591833b13b2659", "flight": 5, "gridfins": true, "legs": true, "reused": true, "landing_attem
pt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e53
4e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": null, "id": "5eb87d45ffd86
e000604b387"}, {"fairings": {"reused": true, "recovery_attempt": true, "recovered": null, "s
hips": ["5ea6ed2e080df4000697c908", "5ea6ed2e080df4000697c907"]}, "links": {"patch": {"sm
all": "https://images2.imgbox.com/f2/ab/jxHngBd5_o.png", "large": "https://images2.imgb
ox.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_starlink_8_official_launch_discussion/", "media": "ht
tps://www.reddit.com/r/spacex/comments/h842qk/rspacex_starlink8_media_thread_photogr
apher/", "recovery": "https://www.reddit.com/r/spacex/comments/h8sx6q/starlink8_recover
y_thread/"}, "flickr": {"small": [], "original": ["https://live.staticflickr.com/65535/5
0009748327_93e52a451f_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/8riKQXChP
Gg", "youtube_id": "8riKQXChPGg", "article": "https://spaceflightnow.com/2020/06/13/star
link-satellite-deployments-continue-with-successful-falcon-9-launch/", "wikipedia": "h
ttps://en.wikipedia.org/wiki/Starlink"}, "static_fire_date_utc": null, "static_fire_dat
e_unix": null, "net": false, "window": 0, "rocket": "5e9d0d95eda69973a809d1ec", "success": tr
ue, "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 Canaver
al 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", "5ea6ed2f080df4000

```

```

697c90b"], "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": "5e9e3032383ecb6bb234e7ca"}], "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_svo3_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_e1ac93fab0_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": "5eb87d50fffd86e000604b394"}, {"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": 1596777120, "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": {"reused": 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/ZxklwOk_r_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"}]


```

k"}, "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, "tbody": false, "launch_library_id": null, "id": "5ed981d91f30554030d45c2a", {"fairings": {"reused": 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/i1wlch/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 payloads 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, "tbody": 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", "youtu

```

```

be_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, "cores": [{"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/Eg5XilXY_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/jctqq9/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/UM

```

59/100

```

e_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": "5eb87d4cffd86e000604b38d"}, {"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_aa3997aaea_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": "5eb87d

```

```

4dffd86e000604b38e"}, {"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/pypHBlGD_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-of-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": "5ed983a1f30554030d45c31"}, {"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_con test/", "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 fiftenth batch of operational Starlink 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, "la

```

```

nding_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}], "au
to_update":true,"tbd":false,"launch_library_id":null,"id":"5fb95b3f3a88ae63c954603
c"}, {"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/a2/a0/cHJ
WyFCo_o.png","large":"https://images2.imgbox.com/dd/53/W10Rog1y_o.png"},"reddit":{"c
ampaign":"https://www.reddit.com/r/spacex/comments/jw8bfe/crs21_launch_campaign_thre
ad/","launch":"https://www.reddit.com/r/spacex/comments/k6my16/rspacex_crs21_officia
l_launch_discussion_updates/","media":null,"recovery":"https://www.reddit.com/r/spac
ex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":
[],"original":["https://live.staticflickr.com/65535/50689254612_db8bc87d2c_o.jpg","h
ttps://live.staticflickr.com/65535/50689254712_98ef758c81_o.jpg","https://live.stati
cflickr.com/65535/50689254512_bb44826694_o.jpg","https://live.staticflickr.com/6553
5/50689254642_ba6b08d142_o.jpg","https://live.staticflickr.com/65535/50689254552_1d9
f91a963_o.jpg"]},"presskit":"https://www.nasa.gov/sites/default/files/atoms/files/sp
acex_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/space
x-launches-first-in-new-line-of-upgraded-space-station-cargo-ships/","wikipedia":"ht
tps://en.wikipedia.org/wiki/SpaceX_CRS-21"},"static_fire_date_utc":"2020-12-03T13:4
5:00.000Z","static_fire_date_unix":1607003100,"net":false,"window":null,"rocket":"5e
9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX's 21st ISS r
esupply mission on behalf of NASA and the first under the CRS-2 contract, this missi
on brings essential supplies to the International Space Station using the cargo vari
ant of SpaceX's Dragon 2 spacecraft. The external payload for this mission is the N
anoracks Bishop Airlock. Falcon 9 and Dragon launch from LC-39A, Kennedy Space Cente
r 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":["5ea6e
d30080df4000697c913","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90d"],"capsule
s":["5fbb0f8fec55b34eb9f35c14"],"payloads":["5eb0e4d3b6c3bb0006eeb262"],"launchpa
d":"5e9e4502f509094188566f88","flight_number":110,"name":"CRS-21","date_utc":"2020-1
2-06T16:17:00.000Z","date_unix":1607271420,"date_local":"2020-12-06T11:17:00-05:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591817f23b26
63","flight":4,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"lan
ding_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}], "aut
o_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d4effd86e000604b39
1"}, {"fairings":{"reused":true,"recovery_attempt":true,"recovered":null,"ships":
[]},"links":{"patch":{"small":"https://images2.imgbox.com/a9/be/43FhrPoq_o.png","lar
ge":"https://images2.imgbox.com/17/34/WgRl7YFh_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/k51p7b/sxm7_launch_campaign_thread/","launc
h":"https://www.reddit.com/r/spacex/comments/kaizok/rspacex_sxm7_official_launch_dis
cussion_updates/","media":"https://www.reddit.com/r/spacex/comments/kcev8p/sxm7_medi
a_thread_photographer_contest/","recovery":"https://www.reddit.com/r/spacex/comment
s/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":
["https://live.staticflickr.com/65535/50715254423_3cb2a8ff9c_o.jpg","https://live.st
aticflickr.com/65535/50715992426_bf43a8f872_o.jpg","https://live.staticflickr.com/65
535/50716071077_5a5bc00af9_o.jpg","https://live.staticflickr.com/65535/50716071167_1
00d6f7092_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/C0raGXFb1lo","youtube
_id":"C0raGXFb1lo","article":"https://spaceflightnow.com/2020/12/13/siriusxm-satelli
te-rides-spacex-rocket-into-orbit/","wikipedia":"https://en.wikipedia.org/wiki/Siriu
s_XM#Satellites"},"static_fire_date_utc":"2020-12-07T23:00:00.000Z","static_fire_dat
e_unix":1607382000,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","su
ccess":true,"failures":[],"details":"SpaceX will launch the first of two next genera
tion high power S-band broadcast satellites for SiriusXM. The spacecraft will be del
ivered into a geostationary transfer orbit and the booster will be recovered downran
ge. The spacecraft is built by Space Systems Loral (SSL) on the SSL 1300 platform an
d includes two solar arrays producing 20kW, and an unfurlable antenna dish. SXM-7 wi
ll replace XM-3 in geostationary orbit.","crew":[],"ships":["5ea6ed2f080df4000697c91
0","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": {"reused": false, "recovery_attempt": true, "recovered": true, "ships": ["5ea6ed2e080df4000697c908", "5ea6ed2f080df4000697c90c"]}, "links": {"patch": {"small": "https://images2.imgbox.com/25/01/sBERn07T_o.jpg", "large": "https://images2.imgbox.com/be/b5/tGnEI6rY_o.jpg"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/j7qqbg/nrol108_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_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\xbcrcsat. T\xc3\xbcrcsat 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 A
```

frica 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_deployement_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/fzsUstOu_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, "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 dedica

ted 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 ASD S.", "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/UT6KOE53_o.png", "large": "https://images2.imgbox.com/6b/53/ZqAxQPhS_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployement_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, "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 ov

The booster is expected to land on an ASDS.", "crew": [], "ships": ["5ea6ed2f080df400069

```

7c910", "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_ut

```

```

c":"2021-03-24T08:28:00.000Z","date_unix":1616574480,"date_local":"2021-03-24T04:28:
00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5ef670f10059c33
cee4a826c","flight":6,"gridfins":true,"legs":true,"reused":true,"landing_attempt":tr
ue,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7c
a"}],"auto_update":true,"tbd":false,"launch_library_id":"ec03fe36-fe2a-4e43-8e10-d07
d5349f1de","id":"60428aafc041c16716f73cd7"},{"fairings":{"reused":true,"recovery_att
empt":true,"recovered":null,"ships":["6059166413f40e27e8af34b6","5ea6ed2f080df400069
7c90b","5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbo
x.com/b7/ca/KRGYs6pm_o.png","large":"https://images2.imgbox.com/10/23/NARQHPzA_o.pn
g"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_g
eneral_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/
comments/mlitqf/rspacex_starlink23_launch_discussion_updates/","media":null,"recover
y":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion
_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/511
01836837_8671b88722_o.jpg","https://live.staticflickr.com/65535/51101836832_e151d33d
66_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/Uy9Jn-3vuPs","youtube_id":"U
y9Jn-3vuPs","article":"https://spaceflightnow.com/2021/04/07/spacex-launches-its-100
th-mission-from-floridas-space-coast/","wikipedia":"https://en.wikipedia.org/wiki/St
arlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"windo
w":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Thi
s mission launches the 23rd batch of operational Starlink satellites, which are vers
ion 1.0, from or SLC-40 or LC-39A. It is the 24th Starlink launch overall. The satel
lites 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","5ea6ed2f080df4000
697c90b"],"capsules":[],"payloads":["60428b02c041c16716f73cde"],"launchpad":"5e9e450
1f509094ba4566f84","flight_number":122,"name":"Starlink-23 (v1.0)","date_utc":"2021-
04-07T16:34:00.000Z","date_unix":1617813240,"date_local":"2021-04-07T12:34:00-04:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591817f23b26
63","flight":7,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"lan
ding_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"aut
o_update":true,"tbd":false,"launch_library_id":"385455f4-067e-4c24-9937-ca8283ed330
7","id":"60428ac4c041c16716f73cd8"},{"fairings":null,"links":{"patch":{"small":"http
s://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/l
rx7ez/crew2_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comme
nts/mvcst9/rspacex_crew2_launch_discussion_updates_thread/","media":null,"recovery":
null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51136761
295_edb4d3ba1d_o.jpg","https://live.staticflickr.com/65535/51135652706_3e8448193d_o.
jpg","https://live.staticflickr.com/65535/51135865043_3ee9818a56_o.jpg","https://liv
e.staticflickr.com/65535/51136428854_4723547f5a_o.jpg","https://live.staticflickr.co
m/65535/51134975562_ca678d7e2f_o.jpg","https://live.staticflickr.com/65535/511356505
61_0bd04e5a56_o.jpg","https://live.staticflickr.com/65535/51135650711_f65e45739d_o.j
pg","https://live.staticflickr.com/65535/51136428874_30a1912bc6_o.jpg","https://liv
e.staticflickr.com/65535/51135650696_80bb4d0047_o.jpg","https://live.staticflickr.co
m/65535/51135650641_f8c77b5420_o.jpg","https://live.staticflickr.com/65535/511364288
29_2b995a79bc_o.jpg","https://live.staticflickr.com/65535/51135650621_187bc9fa5b_o.j
pg","https://live.staticflickr.com/65535/51135324597_816d0bc217_o.jpg","https://liv
e.staticflickr.com/65535/51135997286_1b5a4452f0_o.jpg","https://live.staticflickr.co
m/65535/51136428899_eb329865d1_o.jpg","https://live.staticflickr.com/65535/511364289
09_d4d6cf76ae_o.jpg","https://live.staticflickr.com/65535/51136761220_9a2e6dbaf6_o.j
pg"]},"presskit":null,"webcast":"https://youtu.be/lW07SN3YoLI","youtube_id":"lW07SN3
YoLI","article":"https://spaceflightnow.com/2021/04/23/spacex-launches-astronauts-on
-refurbished-capsule-and-flight-proven-rocket/","wikipedia":"https://en.wikipedia.or
g/wiki/SpaceX-Crew-2"},"static_fire_date_utc":"2021-04-17T11:01:00.000Z","static_fir
e_date_unix":1618657260,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1e

```

```

c","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, 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/UyFjAmU_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/mz0l0k/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://spacelifhtnow.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/w0t6ZecV_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/xpl_JnG7rcg","youtube_id":"xpl_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,"fail

```

```

ures":[],"details":"This mission launches the 25th batch of operational Starlink sat
ellites, 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 maneu
vering to their operational altitude. The booster is expected to land on OCISLY.", "c
rew":[],"ships":["608c1a06cf7f3d6152666ad4","5ea6ed30080df4000697c913","6059166413f4
0e27e8af34b6"],"capsules":[],"payloads":["605b4befaa5433645e37d047"],"launchpad":"5e
9e4502f509094188566f88","flight_number":125,"name":"Starlink-25 (v1.0)","date_ut
c":"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":"5e9e28a5f359183
3b13b2659","flight":9,"gridfins":true,"legs":true,"reused":true,"landing_attempt":tr
ue,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7c
a"}],"auto_update":true,"tbd":false,"launch_library_id":"1ecc82c0-c5c8-41f0-aa58-b50
a3b839ae0","id":"605b4b7daa5433645e37d040"},{"fairings":{"reused":true,"recovery_att
empt":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/spa
cex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"ht
tps://www.reddit.com/r/spacex/comments/n7ju15/rspacex_starlink27_launch_discussion_u
pdates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rs
pacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"pressk
it":null,"webcast":"https://youtu.be/J71s2KmkSrc","youtube_id":"J71s2KmkSrc","articl
e":null,"wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_ut
c":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda
69973a809d1ec","success":true,"failures":[],"details":"This mission launches the 26t
h batch of operational Starlink satellites, which are version 1.0, from SLC-40. It i
s the 27th Starlink launch overall. The satellites will be delivered to low Earth or
bit and will spend a few weeks maneuvering to their operational altitude. The booste
r is expected to land on an ASDS.", "crew":[],"ships":["5ea6ed30080df4000697c913","5e
e68c683c228f36bd5809b5","6059166413f40e27e8af34b6"],"capsules":[],"payloads":["6079b
d5e9a06446e8c61bf7c"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":126,"na
me":"Starlink-27 (v1.0)","date_utc":"2021-05-09T06:42:00.000Z","date_unix":162054252
0,"date_local":"2021-05-09T02:42:00-04:00","date_precision":"hour","upcoming":fals
e,"cores":[{"core":"5e9e28a6f35918c0803b265c","flight":10,"gridfins":true,"legs":tru
e,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASD
S","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_lib
rary_id":"e5085f22-208b-4b28-b66c-fd4bd9df90e7","id":"6079bd1c9a06446e8c61bf76"},{"f
airings":{"reused":true,"recovery_attempt":true,"recovered":null,"ships":["605916641
3f40e27e8af34b6"]},"links":{"patch":{"small":"https://images2.imgbox.com/b5/8a/KeiGE
z4f_o.png","large":"https://images2.imgbox.com/f6/28/am1U5JWP_o.png"},"reddit":{"cam
paign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_
and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/ncfexu/rs
pacex_starlink26_launch_discussion_updates/","media":null,"recovery":"https://www.re
ddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flick
r":{"small":[],"original":["https://live.staticflickr.com/65535/51171344450_6a3f0e08
b9_o.jpg","https://live.staticflickr.com/65535/51170251791_9b36fba5b7_o.jpg","http
s://live.staticflickr.com/65535/51185653708_86840b1672_o.jpg","https://live.staticfl
ickr.com/65535/51185653723_7bd9ecab87_o.jpg","https://live.staticflickr.com/65535/51
186506630_1a47a43787_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/tdgg_qwj-h
I","youtube_id":"tdgg_qwj-hI","article":null,"wikipedia":"https://en.wikipedia.org/w
iki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":fals
e,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"detai
ls":"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 maneuveri
ng to their operational altitude. The booster is expected to land on an ASDS.", "cre
w":[],"ships":["5ea6ed30080df4000697c913","6059166413f40e27e8af34b6","608c1a06cf7f3d

```

```

6152666ad4", "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, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234e7ca"}], "auto_update": true, "tbd": false, "launch_library_id": "c32d1f5e-2dd9-4b55-ac8b-3eb8c4a4e955", "id": "605b4b95aa5433645e37d041"}, {"fairings": {"reuse_d": 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/HwYIXoB_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/nqqojc/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"}

```

ion 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_utc": "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": "60b800111f83cc1e59f16438", "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": {"reused": 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/n9llxw/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/o0gcnq/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": "5e9e4501f509094ba4566f84",
  "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/L2EqHzn0_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."
}

```

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"],
  "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/65535/51411702583_fe67991413_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, "date_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/u7G0l1bj4_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_deployement_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
```

75/100

```

ull,"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":"618faad2563d69573ed8caa9d"},{"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.reddit.com/r/spacex/comments/qu8s5a/dart_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/r0dn3a/rspacex_dart_launch_discussion_and_updates_thread/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51702654584_13a4b39655_o.jpg","https://live.staticflickr.com/65535/5170261963_ec86519bce_o.jpg","https://live.staticflickr.com/65535/51702654544_c4b0a727c3_o.jpg","https://live.staticflickr.com/65535/51702654514_c379940fa3_o.jpg","https://live.staticflickr.com/65535/51702654339_7c40563d73_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/XKRf6-NcMqI","youtube_id":"XKRf6-NcMqI","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Double_Asteroid_Redirection_Test"},"static_fire_date_utc":"2021-11-19T20:20:00.000Z","static_fire_date_unix":1637353200,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"NASA's Double Asteroid Redirect Test (DART) will demonstrate the use of a kinetic impactor to alter an asteroid's trajectory, an intervention that could be used in the future to prevent devastating Earth impacts. The target system consists of Didymos, 780 meters in diameter, and its moonlet Dimorphos, 160 meters. The DART spacecraft will intercept the double asteroid, using autonomous guidance to crash into the smaller one. Moving at about 6 km/s, the transferred momentum should alter Dimorphos's 12 hour orbital period around its companion by several minutes. The mission tests several technologies, including the Small-body Maneuvering Autonomous Real-Time Navigation (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 (NEXT) Commercial (NEXT-C) ion engine will also be demonstrated, although the spacecraft's primary propulsion is 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 ejecta with its two cameras. Earth-based telescopes will be used to measure the altered orbit.", "crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed2f080df4000697c90b","5ea6ed30080df4000697c912"],"capsules":[],"payloads":["5fe3c4a6b3467846b3242192"],"launchpad":"5e9e4502f509092b78566f87","flight_number":138,"name":"DART","date_utc":"2021-11-24T06:20:00.000Z","date_unix":1637734800,"date_local":"2021-11-23T22:20:00-08:00","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":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":"c4b2f90e-3385-4cbe-a89f-fc5f57da1bfb","id":"5fe3b107b3467846b324216b"},{"fairings":{"reused":null,"recovery_attempt":true,"recovered":null,"ships":["618fad7e563d69573ed8caa9"]},"links":{"patch":{"small":"https://images2.imgbox.com/fc/e7/esvHlHwA_o.png","large":"https://images2.imgbox.com/91/15/2LRaHihk_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"http

```

s://www.reddit.com/r/spacex/comments/r79osa/spacex_starlink_43_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/65535/51732172914_4efa7d5210_o.jpg", "https://live.staticflickr.com/65535/51730706247_4b5bf2899f_o.jpg", "https://live.staticflickr.com/65535/51732172879_4ce91546ed_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/594TbXriaAk", "youtube_id": "594TbXriaAk", "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": ["5ea6ed2d080df4000697c904", "618fad7e563d69573ed8caa9", "5ee68c683c228f36bd5809b5"], "capsules": [], "payloads": ["6161d0f26db1a92bfba85355"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 139, "name": "Starlink 4-3 (v1.5)", "date_utc": "2021-12-01T23:20:00.000Z", "date_unix": 1638400800, "date_local": "2021-12-01T18:20:00-05:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "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": "56db9abd-41b8-41a3-9d6d-88e52460682b", "id": "6161c94c6db1a92bfba85349"}, {"fairings": {"reuse": 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/CpmHsN5GU8", "youtube_id": "CpmHsN5GU8", "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": 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\u00b0N 118.0\u00b0W. 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": "5e9e4501f509094ba4566f84", "flight_number": 141, "name": "Starlink 4-4 (v1.5)", "date_utc": "2021-12-17T08:31:00.000Z", "date_unix": 1639729860, "date_local": "2021-12-17T03:31:00-05:00", "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": "5e9e3033383ecbb9e534e7cc"}], "auto_update": true, "tbd": false, "launch_library_id": "dfb2cc3b-8cd8-41b6-a83a-22b2a742ba4b", "id": "6161c88d6db1a92bfba85349"}]

```

d": "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": "5e9e28a6f359
18c0803b265c", "flight": 11, "gridfins": true, "legs": true, "reused": true, "landing_attemp
t": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3032383ecb6bb234
e7ca"}], "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": {"patc
h": {"small": "https://images2.imgbox.com/9d/c9/rmVWqnDr_o.png", "large": "https://image
s2.imgbox.com/e4/6b/fZQ1lIZ8_o.png"}, "reddit": {"campaign": "https://www.reddit.com/r/
spacex/comments/rfim89/t%C3%BCrksat_5b_launch_campaign_thread/", "launch": "https://ww
w.reddit.com/r/spacex/comments/rja5u0/rspacex_t%C3%BCrksat_5b_launch_discussion_and_
updates/", "media": null, "recovery": null}, "flickr": {"small": [], "original": []}, "presski
t": null, "webcast": "https://youtu.be/JBGjE9_aosc", "youtube_id": "JBGjE9_aosc", "articl
e": "https://spaceflightnow.com/2021/12/19/spacex-two-for-two-in-companys-first-falco
n-9-launch-doubleheader/", "wikipedia": "https://en.wikipedia.org/wiki/T%C3%BCrksat_5
B"}, "static_fire_date_utc": null, "static_fire_date_unix": null, "net": false, "window": nu
ll, "rocket": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": "The T
\xc3\xbcrcsat 5B communication satellite, which its construction work continues at A
irbus 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 prepara
tions. With an estimated in-orbit lifetime of 30 years and the aim of securing Turke
y\xe2\x80\x99s orbital and frequency rights, T\xc3\xbcrcsat 5B will be launched into
an orbital slot at 42 degrees East. With 12 kW power, T\xc3\xbcrcsat 5B will provide
TV broadcasting and data communication services over a wide coverage area that reach
es the entire Middle East, the Persian Gulf, the Red Sea, the Mediterranean, North A
frica, East Africa, South Africa and Nigeria. Apart from that, the satellite will al
so provide customized services for airlines and commercial ship operators around the
world thanks to the fact that it operates in Ka-Band.", "crew": [], "ships": ["618fad7e5
63d69573ed8caa9", "5ee68c683c228f36bd5809b5"], "capsules": [], "payloads": ["5fe3c080b346
7846b3242190"], "launchpad": "5e9e4501f509094ba4566f84", "flight_number": 142, "name": "T
\xc3\xbcrcsat 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, "core
s": [{"core": "60b800111f83cc1e59f16438", "flight": 3, "gridfins": true, "legs": true, "reuse
d": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpa
d": "5e9e3033383ecb075134e7cd"}], "auto_update": false, "tbd": false, "launch_library_i
d": "16d0c02e-0bb1-45d5-a3f5-7c4ff6cf6de1", "id": "5fe3afc1b3467846b3242164"}, {"fairing
s": null, "links": {"patch": {"small": "https://images2.imgbox.com/fe/c3/yV1LnAUT_o.pn
g", "large": "https://images2.imgbox.com/37/fd/AiNV3ldU_o.png"}, "reddit": {"campaig
n": "https://www.reddit.com/r/spacex/comments/rfisc2/crs24_launch_campaign_threa
d/", "launch": "https://www.reddit.com/r/spacex/comments/rktygs/rspacex_crs24_launch_d
iscussion_and_updates_thread/", "media": null, "recovery": null}, "flickr": {"small": [], "o
riginal": []}, "presskit": null, "webcast": "https://youtu.be/gEv6HLHYhWo", "youtube_i
d": "gEv6HLHYhWo", "article": "https://spaceflightnow.com/2021/12/21/spacex-cargo-fligh
t-sets-record-for-most-orbital-launches-from-space-coast-in-a-year/", "wikipedia": nul
l}, "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 suppl
ies 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 recover
y of the Dragon capsule and down cargo.", "crew": [], "ships": ["5ea6ed2f080df4000697c91
0", "614251b711a64135defb3654"], "capsules": ["60b803421f83cc1e59f1644d"], "payloads":
["6161d22a6db1a92bfba85357"], "launchpad": "5e9e4502f509094188566f88", "flight_number":
143, "name": "CRS-24", "date_utc": "2021-12-21T10:06:00.000Z", "date_unix": 1640081160, "da

```

```

te_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_ePBwMhns", "youtube_id": "4_ePBwMhns", "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": "5e9e4502f509094188566f88", "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": ["6175aacefa4314085aa9c56"], "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","h
https://live.staticflickr.com/65535/51828440767_8ce8e10d30_o.jpg"],"https://live.stati
cflickr.com/65535/51829734974_ddfe778a46_o.jpg","https://live.staticflickr.com/6553
5/51829734959_d68fa43e2a_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/Yov854
ZT1lg","youtube_id":"Yov854ZT1lg","article":"https://spaceflightnow.com/2022/01/19/s
pacex-launches-2000th-starlink-satellite/","wikipedia":"https://en.wikipedia.org/wik
i/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"w
indow":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"detail
s":null,"crew":[],"ships":["5ea6ed2d080df4000697c904","614251b711a64135defb3654"],"c
apsules":[],"payloads":["61e05516be8d8b66799018d4"],"launchpad":"5e9e4502f5090941885
66f88","flight_number":146,"name":"Starlink 4-6 (v1.5)","date_utc":"2022-01-19T00:0
4:00.000Z","date_unix":1642550640,"date_local":"2022-01-18T19:04:00-05:00","date_pre
cision":"hour","upcoming":false,"cores":[{"core":"5ef670f10059c33cee4a826c"},"fligh
t":10,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_succ
ess":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_updat
e":true,"tbd":false,"launch_library_id":"50ac28f2-024f-442f-837d-dab8107304ec","i
d":"61e048bbbe8d8b66799018d0"},"fairings":{"reused":null,"recovery_attempt":null,"r
ecovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/69/
be/Y0sIjJ6f_o.png","large":"https://images2.imgbox.com/ea/26/DjPDzbZl_o.png"},"reddi
t":{"campaign":"https://www.reddit.com/r/spacex/comments/sarr7x/rspacex_csg2_campaig
n_thread/","launch":"https://www.reddit.com/r/spacex/comments/sdtz77/rspacex_csg2_la
unch_discussion_and_updates_thread/","media":null,"recovery":null},"flickr":{"smal
l":[],"original":["https://live.staticflickr.com/65535/51856205295_4ec1c21ce3_o.jp
g","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.jp
g","https://live.staticflickr.com/65535/51855875759_a4cdc29fbf_o.jpg","https://live.
staticflickr.com/65535/51855546821_7900aed52d_o.jpg"]},"presskit":null,"webcast":"ht
tps://youtu.be/AbFoi68L-GQ","youtube_id":"AbFoi68L-GQ","article":"https://spacefligh
tnow.com/2022/02/01/italian-radar-satellite-rides-spacex-rocket-into-polar-orbi
t/","wikipedia":null},"static_fire_date_utc":"2022-01-23T21:22:00.000Z","static_fire
_date_unix":1642972920,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1e
c","success":true,"failures":[],"details":"Falcon 9 launches to sun-synchronous pola
r orbit from Florida as part of CSG-2 Mission. The mission lifts off from SLC-40, Ca
pe 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","cre
w":[],"ships":[],"capsules":[],"payloads":["6161d3a06db1a92bfba8535a"],"launchpa
d":"5e9e4501f509094ba4566f84","flight_number":147,"name":"CSG-2","date_utc":"2022-01
-31T23:11:12.000Z","date_unix":1643670672,"date_local":"2022-01-31T18:11:12-05:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f359183c413b26
5d"},"flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"lan
ding_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"aut
o_update":false,"tbd":false,"launch_library_id":"23229c2b-abb7-4b94-b624-981a9adc88d
2","id":"6161d32d6db1a92bfba85359"},"fairings":{"reused":null,"recovery_attempt":nu
ll,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.co
m/a8/17/lVuBZTIF_o.png","large":"https://images2.imgbox.com/4c/7a/USlza8r3_o.pn
g"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/si3
o0y/rspacex_nrol87_launch_discussion_and_updates/","media":null,"recovery":null},"fl
ickr":{"small":[],"original":["https://live.staticflickr.com/65535/51860158413_2ebc4
d47a4_o.jpg","https://live.staticflickr.com/65535/51860412009_2e15b59fbf_o.jpg","htt
ps://live.staticflickr.com/65535/51860158508_793bf779eb_o.jpg","https://live.staticf
lickr.com/65535/51860411994_584cab0598_o.jpg","https://live.staticflickr.com/65535/5
1859123422_603c610574_o.jpg","https://live.staticflickr.com/65535/51859122897_637e67
a312_o.jpg","https://live.staticflickr.com/65535/51860730685_c8c7f0561e_o.jpg"],"http

```


s://live.staticflickr.com/65535/51859123052_cc5640ef1a_o.jpg", "https://live.staticflickr.com/65535/51860412119_8926453a27_o.jpg"]}, "presskit": null, "webcast": "https://youtu.be/bVkJ8XyjhTKo", "youtube_id": "bVkJ8XyjhTKo", "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", "landpad": "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": {"reuse": 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": "5e9"}]

```

e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "398e713f-5daa-4fb9-a70a-0b8654baf5d1", "id": "61fc01dae0dc5662b76489a7"}, {"fairings": {"reuse": 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/starlink_general_discussion_and_deployment_thread/", "launch": "https://www.reddit.com/r/spacex/comments/t5lzm9/rspacex_starlink_49_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/65535/51924631989_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/y pb2sDdUkRo", "youtube_id": "y pb2sDdUkRo", "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, "reuse": true, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecb075134e7cd"}], "auto_update": true, "tbd": false, "launch_library_id": "d8c7f7be0-6a32-42dc-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, "gridfins": true, "legs": true, "reuse": 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, "reuse": 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/65535/51991997825_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_da63eecbec_o.jpg", "https://live.staticflickr.com/65535/52013376694_cea1bb1c0b_o.jpg"]}], "presskit": null, "webcast": "https://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": "NROL-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, "nam

```

e": "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": "ASD", "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": ["6243b1cdfaf52800c6e919265"], "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": "5e9e3033383ecbb075134e7cd"}], "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, "rocket": "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/64/7bkoahWh_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, "gridfin

```

```

s":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"lan
ding_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],{"auto_update":true,"tbd":fa
lse,"launch_library_id":"4f25c927-6a49-4472-814f-4f1a20d93604","id":"62582a855988f15
9024b964c"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"shi
ps":[]},"links":{"patch":{"small":"https://images2.imgbox.com/46/a4/j5tV5LLx_o.pn
g","large":"https://images2.imgbox.com/45/88/6grEBZra_o.png"},"reddit":{"campaig
n":"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,"stat
ic_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1e
c","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"p
ayloads":["625829d75988f159024b9649"],"launchpad":"5e9e4502f509092b78566f87","flight
_number":162,"name":"Starlink 4-13 (v1.5)","date_utc":"2022-05-13T22:07:00.000Z","da
te_unix":1652479620,"date_local":"2022-05-13T15:07:00-07:00","date_precision":"hou
r","upcoming":false,"cores":[{"core":"5f57c54a0622a633027900a1","flight":5,"gridfin
s":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"lan
ding_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],{"auto_update":true,"tbd":fa
lse,"launch_library_id":"0bc91464-1d61-4545-95c8-01040dc5eec9","id":"6258290d5988f15
9024b9644"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"shi
ps":[]},"links":{"patch":{"small":"https://images2.imgbox.com/45/9f/Na8zs6V4_o.pn
g","large":"https://images2.imgbox.com/13/f0/tUIAS2tH_o.png"},"reddit":{"campaig
n":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_
deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/upk6t3/rspac
ex_starlink_415_launch_discussion_and/","media":null,"recovery":"https://www.reddit.c
om/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"sm
all":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/nFDkWL2Hmh8","you
tube_id":"nFDkWL2Hmh8","article":null,"wikipedia":null},"static_fire_date_utc":nul
l,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a
809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsule
s":[],"payloads":["625829cf5988f159024b9648"],"launchpad":"5e9e4501f509094ba4566f8
4","flight_number":163,"name":"Starlink 4-15 (v1.5)","date_utc":"2022-05-14T20:40:0
0.000Z","date_unix":1652560800,"date_local":"2022-05-14T16:40:00-04:00","date_preci
sion":"hour","upcoming":false,"cores":[{"core":"627843db57b51b752c5c5a54","flight":
1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_succes
s":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],{"auto_update":t
rue,"tbd":false,"launch_library_id":"b418d984-a9d1-4fa3-953d-c684a079714c","id":"625
828f25988f159024b9643"},{"fairings":{"reused":null,"recovery_attempt":null,"recove
r":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/b8/49/OVeV
3xJg_o.png","large":"https://images2.imgbox.com/60/48/jFYGyCf9_o.png"},"reddit":{"ca
mpaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion
_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/urv8l4/r
spacex_starlink_418_launch_discussion_and/","media":null,"recovery":"https://www.red
dit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flick
r":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/dQTgX40R-I
Q","youtube_id":"dQTgX40R-IQ","article":null,"wikipedia":null},"static_fire_date_ut
c":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda
69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"cap
sules":[],"payloads":["62615ee40ec08379be596fd"],"launchpad":"5e9e4502f509094188566
f88","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_preci
sion":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f359183c413b265d","flight":
5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_succes
s":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],{"auto_update":t
rue,"tbd":false,"launch_library_id":"27795b91-eb0e-43f1-898b-a23d9ff332db","id":"626

```

```

15ebc0ec008379be596fa"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/fc/73/QpGKqpvV_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/xcpbpqqZ_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/vdue2y/rspacex_starlink_419_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/oCN-BMU9-hM", "youtube_id": "oCN-BMU9-hM", "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": ["6278484e57b51b752c5c5a63"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 167, "name": "Starlink 4-19 (v1.5)", "date_utc": "2022-06-01T17:08:50.000Z", "date_unix": 1654103330, "date_local": "2022-06-01T13:08:50-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "5ef670f10059c33cee4a826c", "flight": 13, "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": "179789f0-9380-4182-8ea2-676504c2f890", "id": "6278481757b51b752c5c5a5f"}, {"fairings": {"reused": null, "recovery_attempt": null, "recovered": null, "ships": []}, "links": {"patch": {"small": "https://images2.imgbox.com/c4/49/D1B0f2cg_o.png", "large": "https://images2.imgbox.com/9e/a6/Vc7LrFG8_o.png"}, "reddit": {"campaign": null, "launch": "https://www.reddit.com/r/spacex/comments/vf0x9v/rspacex_sarah1_launch_discussion_and_updates/", "media": null, "recovery": "https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_threa

```

```

d/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/lCX-KUCn4A4","youtube_id":"lCX-KUCn4A4","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":["5fe3b2abb3467846b3242172"],"launchpad":"5e9e4502f509092b78566f87","flight_number":168,"name":"SARah 1","date_utc":"2022-06-18T14:19:00.000Z","date_unix":1655561940,"date_local":"2022-06-18T07:19:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"61fae5947aa67176fe3e0e1e","flight":3,"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":"4ca945f6-981f-4ee9-8a79-f1204b785f8c","id":"5fe3af43b3467846b324215e"},"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/8b/bd/1cZPPs46_o.png","large":"https://images2.imgbox.com/3c/8b/Ck10na0s_o.png"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/vfcq6f/rspacex_globalstar_fm15_launch_discussion_and/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/94cClvOFWH4","youtube_id":"94cClvOFWH4","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Globalstar"},"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":["62adecbcd26f4f711fa53848"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":169,"name":"Globalstar FM15","date_utc":"2022-06-19T04:27:00.000Z","date_unix":1655612820,"date_local":"2022-06-19T00:27:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c53d0622a6330279009f","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":"33223258-614c-449c-8af7-a9f75cc036b2","id":"62a9f08b20413d2695d88711"},"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/32/84/oJzvzvmvd_o.jpg","large":"https://images2.imgbox.com/c8/1c/MnTYr160_o.jpg"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/vnc3uu/rspacex_ses22_launch_discussion_and_updates_thread/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/ZjUvXWg2_fE","youtube_id":"ZjUvXWg2_fE","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":["6243b93caf52800c6e91926f"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":170,"name":"SES-22","date_utc":"2022-06-29T21:04:00.000Z","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/","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_A7xdnVllM","youtube_id":"u_A7xdnVllM","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":["630bccc6d36448026ab01639"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":171,"name":"Starlink 4-21 (v1.5)","date_ut

```



```

c":"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/C3bBWQN_o.png","large":"https://images2.imgbox.com/e6/b5/PT6yjf0t_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":{"youtube_id":"_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":["630bccd6d36448026ab0163a"],"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":"5e9e3032383ecbb6b234e7ca"}],{"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":{"youtube_id":"mnwEqqMiFs","youtube_id":"mnwEqqMiFs","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":"5e9e3033383ecbb075134e7cd"}],{"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/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":{"youtube_id":"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/JxeOTPR1_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/gjRM9dT1_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":["630bcfe1d36448026ab01641"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":177,"name":"KPL0","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://yo

```

```

utu.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": "5e9e3032383ecb6bb234e7ca"}], "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": ["630bceadd36448026ab0163ef"], "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": [], "de

```

```

tails":null,"crew":[],"ships":[],"capsules":[],"payloads":["631614d7ffc78f3b8567071
6"],"launchpad":"5e9e4502f509094188566f88","flight_number":181,"name":"Starlink 4-23
(v1.5)","date_utc":"2022-08-28T02:22:00.000Z","date_unix":1661653320,"date_local":"2
022-08-27T22:22:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"cor
e":"61c1ef45a4a2462678cbf45d","flight":2,"gridfins":true,"legs":true,"reused":tru
e,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9
e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"67158b3
c-201d-4450-be8a-990010c05b40","id":"62f3b5290f55c50e192a4e6d"},{"fairings":{"reuse
d":null,"recovery_attempt":null,"recovered":null,"ships":[],"links":{"patch":{"smal
l":"https://images2.imgbox.com/72/07/PtgYfiFT_o.png","large":"https://images2.imgbo
x.com/fc/18/97AKS1XR_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/c
omments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"http
s://www.reddit.com/r/spacex/comments/x1t7gd/rspacex_starlink_34_launch_discussion_an
d_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1
q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"pr
esskit":null,"webcast":"https://youtu.be/zSJWK_pmXVw","youtube_id":"zSJWK_pmXVw","ar
ticle":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":nu
ll,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"fai
lures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["630f63bf187
02d4844fb5391"],"launchpad":"5e9e4502f509092b78566f87","flight_number":182,"name":"S
tarlink 3-4 (v1.5)","date_utc":"2022-08-31T05:40:00.000Z","date_unix":1661924400,"da
te_local":"2022-08-30T22:40:00-07:00","date_precision":"hour","upcoming":false,"core
s":[{"core":"5f57c54a0622a633027900a1","flight":7,"gridfins":true,"legs":true,"reuse
d":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpa
d":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_i
d":"576b04d6-1962-4bda-b43f-0da4138d192d","id":"62f3b53a0f55c50e192a4e6f"},{"fairing
s":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[],"links":{"pat
ch":{"small":"https://images2.imgbox.com/dc/a0/erKL6HGq_o.png","large":"https://imag
es2.imgbox.com/57/42/trORYoRc_o.png"},"reddit":{"campaign":"https://www.reddit.com/
r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launc
h":null,"media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rsp
acex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presski
t":null,"webcast":"https://youtu.be/NONM-xsKMSs","youtube_id":"NONM-xsKMSs","articl
e":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":nul
l,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"fail
ures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["631614e9ffc7
8f3b85670717","631617fbffc78f3b8567071d"],"launchpad":"5e9e4501f509094ba4566f84","fl
ight_number":183,"name":"Starlink 4-20 (v1.5) & Sherpa LTC-2/Varuna-TDM","date_ut
c":"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":"5e9e28a6f359183
c413b265d","flight":7,"gridfins":true,"legs":true,"reused":true,"landing_attempt":tr
ue,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7c
c"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"62f3b5330f55c50e1
92a4e6e"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ship
s":[],"links":{"patch":{"small":"https://images2.imgbox.com/a9/9a/NXVKTZCE_o.pn
g","large":"https://images2.imgbox.com/e3/cc/hN96PmST_o.png"},"reddit":{"campaig
n":"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,"w
ikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":fals
e,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"de
tails":null,"crew":[],"ships":[],"capsules":[],"payloads":["63161610ffc78f3b8567071
8","63161872ffc78f3b8567071e"],"launchpad":"5e9e4502f509094188566f88","flight_numbe
r":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_precisio

```

```

n": "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/r_spacex_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": "60b80011f83cc1e59f16438", "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/r_spacex_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/D1Yywp0w_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": "5e9d0d95eda69973a809d1ec", "success": true, "failures": [], "details": null, "crew": ["62dd7196202306255024d13c", "62dd71c9202306255024d13d", "62dd7210202306255024d13e", "62dd7253202306255024d13f"], "ships": [], "capsules": ["617c05591bad2c661a6e2909"], "payloads": ["62dd73ed202306255024d145"], "launchpad": "5e9e4502f509094188566f88", "flight_number": 187, "name": "Crew-5", "date_utc": "2022-10-05T16:00:00.000Z", "date_unix": 1664985600, "date_local": "2022-10-05T12:00:00-04:00", "date_precision": "hour", "upcoming": false, "cores": [{"core": "633d9da635a71d1d9c66797b", "flight": 1, "gridfins": true, "legs": true, "reused": false, "landing_attempt": true, "landing_success": true, "landing_type": "ASDS", "landpad": "5e9e3033383ecbb9e534e7cc"}], "auto_updat

```

```
e":true,"tbd":false,"launch_library_id":"f33d5ece-e825-4cd8-809f-1d4c72a2e0d3","id":"62dd70d5202306255024d139"}]]'
```

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

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

```
In [11]: response.status_code
```

```
Out[11]: 200
```

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

```
In [12]: # Use json_normalize meethod to convert the json result into a dataframe
respjson = response.json()
data = pd.json_normalize(respjson)
```

Using the dataframe `data` print the first 5 rows

```
In [13]: # Get the head of the dataframe
data.head()
```

Out[13]:

| | static_fire_date_utc | static_fire_date_unix | net | window | rocket | succ |
|--|----------------------|-----------------------|-----|--------|--------|------|
|--|----------------------|-----------------------|-----|--------|--------|------|

| | | | | | | |
|---|--------------------------|--------------|-------|-----|--------------------------|---|
| 0 | 2006-03-17T00:00:00.000Z | 1.142554e+09 | False | 0.0 | 5e9d0d95eda69955f709d1eb | F |
|---|--------------------------|--------------|-------|-----|--------------------------|---|

| | | | | | | |
|---|------|-----|-------|-----|--------------------------|---|
| 1 | None | NaN | False | 0.0 | 5e9d0d95eda69955f709d1eb | F |
|---|------|-----|-------|-----|--------------------------|---|

| | | | | | | |
|---|------|-----|-------|-----|--------------------------|---|
| 2 | None | NaN | False | 0.0 | 5e9d0d95eda69955f709d1eb | F |
|---|------|-----|-------|-----|--------------------------|---|

| | | | | | | |
|---|--------------------------|--------------|-------|-----|--------------------------|---|
| 3 | 2008-09-20T00:00:00.000Z | 1.221869e+09 | False | 0.0 | 5e9d0d95eda69955f709d1eb | - |
|---|--------------------------|--------------|-------|-----|--------------------------|---|

| | static_fire_date_utc | static_fire_date_unix | net | window | rocket | success |
|---|----------------------|-----------------------|-------|--------|--------------------------|---------|
| 4 | None | NaN | False | 0.0 | 5e9d0d95eda69955f709d1eb | - |

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 [15]: # Lets take a subset of our dataframe keeping only the features we want and the flight number
data = data[['rocket', 'payloads', 'launchpad', 'cores', 'flight_number', 'date_utc']]

# We will remove rows with multiple cores because those are falcon rockets with 2 engines
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 values into their own columns
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 extracting the date only
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 [16]: #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 [14]: BoosterVersion
```

```
Out[14]: []
```

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

```
In [15]: # Call getBoosterVersion
getBoosterVersion(data)
```

```
-----
NameError                                Traceback (most recent call last)
/tmp/ipykernel_77/4276343484.py in <module>
      1 # Call getBoosterVersion
----> 2 getBoosterVersion(data)

NameError: name 'data' is not defined
```

the list has now been update

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

we can apply the rest of the functions here:

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

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

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

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

```
In [ ]: 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 [ ]: # Create a data from launch_dict
```

Show the summary of the dataframe

```
In [ ]: # Show the head of the dataframe
```

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 [ ]: # Hint data['BoosterVersion']!='Falcon 1'
```

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

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

Data Wrangling

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

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

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 [ ]: # Calculate the mean value of PayloadMass column
# Replace the np.nan values with its mean value
```

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.

Change Log

| Date (YYYY-MM-DD) | Version | Changed By | Change Description |
|-------------------|---------|------------|-------------------------------------|
| 2020-09-20 | 1.1 | Joseph | get result each time you run |
| 2020-09-20 | 1.1 | Azim | Created Part 1 Lab using SpaceX API |

| Date (YYYY-MM-DD) | Version | Changed By | Change Description |
|-------------------|---------|------------|-------------------------|
| 2020-09-20 | 1.0 | Joseph | Modified Multiple Areas |

Copyright © 2021 IBM Corporation. All rights reserved.