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 formating.

- 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 collumns 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)).js
        BoosterVersion.append(response['name'])
```

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

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

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

In [4]:
```
# Takes the dataset and uses the payloads column to call the API and append the dat
def getPayloadData(data):
    for load in data['payloads']:
       if load:
        response = requests.get("https://api.spacexdata.com/v4/payloads/"+load).jso
        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, wheter the core is reused, wheter legs were used, the landing pad used, the block of the core which is a number used to seperate 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 t
def getCoreData(data):
    for core in data['cores']:
            if core['core'] != None:
                response = requests.get("https://api.spacexdata.com/v4/cores/"+core
                Block.append(response['block'])
                ReusedCount.append(response['reuse_count'])
                Serial.append(response['serial'])
            else:
                Block.append(None)
                ReusedCount.append(None)
                Serial.append(None)
            Outcome.append(str(core['landing_success'])+' '+str(core['landing_type'
            Flights.append(core['flight'])
            GridFins.append(core['gridfins'])
```

```
            Reused.append(core['reused'])
            Legs.append(core['legs'])
            LandingPad.append(core['landpad'])
```

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

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

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

Check the content of the response

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

b'[{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":
[]},"links":{"patch":{"small":"https://images2.imgbox.com/94/f2/NN6Ph45r_o.png","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/na1tzhHs_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\xc2\xa0SpaceX 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":"5eb87cdbffd86e000604b32d"},{"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=yTaIDooc8Og","youtube_id":"yTaIDooc8Og","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":tru
e,"failures":[],"details":null,"crew":[],"ships":["5ea6ed2d080df4000697c901"],"capsu
les":["5e9e2c5bf35918ed873b2664"],"payloads":["5eb0e4b9b6c3bb0006eeb1e8","5eb0e4b9b6
c3bb0006eeb1e9"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":7,"name":"CO
TS 1","date_utc":"2010-12-08T15:43:00.000Z","date_unix":1291822980,"date_local":"201
0-12-08T11:43:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5
e9e289ef35918187c3b2629","flight":1,"gridfins":false,"legs":false,"reused":false,"la
nding_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"au
to_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cdeffd86e000604b33
0"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/c5/f4/XfL
VgbaO_o.png","large":"https://images2.imgbox.com/94/8d/YnZ1SLsT_o.png"},"reddit":{"c
ampaign":null,"launch":null,"media":null,"recovery":null},"flickr":{"small":[],"orig
inal":[]},"presskit":"https://www.nasa.gov/pdf/649910main_cots2_presskit_051412.pd
f","webcast":"https://www.youtube.com/watch?v=tpQzDbAY7yI","youtube_id":"tpQzDbAY7y
I","article":"https://en.wikipedia.org/wiki/Dragon_C2%2B","wikipedia":"https://en.wi
kipedia.org/wiki/Dragon_C2%2B"},"static_fire_date_utc":"2012-04-30T00:00:00.000Z","s
tatic_fire_date_unix":1335744000,"net":false,"window":0,"rocket":"5e9d0d95eda69973a8
09d1ec","success":true,"failures":[],"details":"Launch was scrubbed on first attemp
t, second launch attempt was successful","crew":[],"ships":["5ea6ed2d080df4000697c90
1"],"capsules":["5e9e2c5bf3591882af3b2665"],"payloads":["5eb0e4bab6c3bb0006eeb1e
a"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":8,"name":"COTS 2","date_u
tc":"2012-05-22T07:44:00.000Z","date_unix":1335944640,"date_local":"2012-05-22T03:4
4:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ef3591
8f39c3b262a","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":"5eb87cdfffd86e000604b331"},{"fairing
s":null,"links":{"patch":{"small":"https://images2.imgbox.com/3e/91/hlGiK49a_o.pn
g","large":"https://images2.imgbox.com/fb/42/0V9JgYQS_o.png"},"reddit":{"campaign":n
ull,"launch":null,"media":null,"recovery":null},"flickr":{"small":[],"original":
[]},"presskit":"https://www.nasa.gov/pdf/694166main_SpaceXCRS-1PressKit.pdf","webcas
t":"https://www.youtube.com/watch?v=-Vk3hiV_zXU","youtube_id":"-Vk3hiV_zXU","articl
e":"https://www.nasa.gov/mission_pages/station/main/spacex-crs1-target.html","wikipe
dia":"https://en.wikipedia.org/wiki/SpaceX_CRS-1"},"static_fire_date_utc":"2012-09-2
9T00:00:00.000Z","static_fire_date_unix":1348876800,"net":false,"window":0,"rocke
t":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"CRS-1 successf
ul, 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 prim
ary payload owner\'s contractual right to decline a second ignition of the second st
age under some conditions.","crew":[],"ships":["5ea6ed2d080df4000697c902"],"capsule
s":["5e9e2c5bf3591835983b2666"],"payloads":["5eb0e4bab6c3bb0006eeb1eb","5eb0e4bab6c3
bb0006eeb1ec"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":9,"name":"CRS-
1","date_utc":"2012-10-08T00:35:00.000Z","date_unix":1349656500,"date_local":"2012-1
0-08T20:35:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e
289ff3591821a73b262b","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":"5eb87ce0ffd86e000604b332"},
{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/bd/fe/lXUYKL2
8_o.png","large":"https://images2.imgbox.com/bc/c5/fHN3m8KV_o.png"},"reddit":{"campa
ign":null,"launch":"https://www.reddit.com/r/space/comments/19gm5f/live_coverage_spa
cex_crs2_launch_to_the_iss/c8nvah4","media":null,"recovery":null},"flickr":{"small":
[],"original":[]},"presskit":"https://www.nasa.gov/sites/default/files/files/Orb2_PR
ESS_KIT.pdf","webcast":"https://www.youtube.com/watch?v=ik0ElKl5kW4","youtube_id":"i
k0ElKl5kW4","article":"https://en.wikipedia.org/wiki/SpaceX_CRS-2","wikipedia":"http
s://en.wikipedia.org/wiki/SpaceX_CRS-2"},"static_fire_date_utc":"2013-02-25T18:30:0
0.000Z","static_fire_date_unix":1361817000,"net":false,"window":0,"rocket":"5e9d0d95
eda69973a809d1ec","success":true,"failures":[],"details":"Last launch of the origina

l Falcon 9 v1.0 launch vehicle","crew":[],"ships":["5ea6ed2d080df4000697c902"],"caps
ules":["5e9e2c5bf359189ef23b2667"],"payloads":["5eb0e4bbb6c3bb0006eeb1ed"],"launchpa
d":"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","d
ate_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ff3591884e03b262
c","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":"5eb87ce1ffd86e000604b333"},{"fairings":{"reu
sed":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.red
dit.com/r/spacex/comments/1ndlay","media":null,"recovery":null},"flickr":{"small":
[],"original":[]},"presskit":"https://spaceflightnow.com/falcon9/006/UpgradedF9DemoM
ission_PressKit.pdf","webcast":"https://www.youtube.com/watch?v=uFefasS6bhc","youtub
e_id":"uFefasS6bhc","article":"http://www.parabolicarc.com/2013/09/29/falcon-9-launc
h-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":137954
8800,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"fail
ures":[],"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 vehicl
e. The test provided good test data on the experiment-its primary objective-but as t
he booster neared the ocean, aerodynamic forces caused an uncontrollable roll. The c
enter engine, depleted of fuel by centrifugal force, shut down resulting in the impa
ct and destruction of the vehicle.","crew":[],"ships":["5ea6ed2d080df4000697c90
3"],"capsules":[],"payloads":["5eb0e4bbb6c3bb0006eeb1ee"],"launchpad":"5e9e4502f5090
92b78566f87","flight_number":11,"name":"CASSIOPE","date_utc":"2013-09-29T16:00:00.00
0Z","date_unix":1380470400,"date_local":"2013-09-29T09:00:00-07:00","date_precisio
n":"hour","upcoming":false,"cores":[{"core":"5e9e289ff359180ae23b262d","flight":1,"g
ridfins":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,"reco
very_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"http
s://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/spac
ex/comments/1ryy1n","media":null,"recovery":null},"flickr":{"small":[],"original":
[]},"presskit":"http://www.spacex.com/sites/spacex/files/spacex_ses-8launch_presski
t.pdf","webcast":"https://www.youtube.com/watch?v=aAj5xapImEs","youtube_id":"aAj5xap
ImEs","article":"https://www.nasaspaceflight.com/2013/12/spacex-falcon-9-v1-1-milest
one-ses-8-launch/","wikipedia":"https://en.wikipedia.org/wiki/SES-8"},"static_fire_d
ate_utc":"2013-11-22T06:26:00.000Z","static_fire_date_unix":1385101560,"net":fals
e,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"detai
ls":"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,"core
s":[{"core":"5e9e289ff35918862c3b262e","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":"5eb87ce2ffd
86e000604b335"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":fal
se,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/5c/20/AsqTXJDC_
o.png","large":"https://images2.imgbox.com/f5/fa/JvLWfNZz_o.png"},"reddit":{"campaig
n":null,"launch":"http://www.reddit.com/r/spacex/comments/1ujoc0","media":null,"reco
very":null},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/8617/16
789019815_f99a165dc5_o.jpg","https://farm8.staticflickr.com/7619/16763151866_35a0a4d
8e1_o.jpg","https://farm9.staticflickr.com/8569/16169086873_4d8829832e_o.png"]},"pre

sskit":"http://www.spacex.com/sites/spacex/files/spacex_thaicom6_presskit.pdf","webcast":"https://www.youtube.com/watch?v=AnSNRzMEmCU","youtube_id":"AnSNRzMEmCU","article":"http://spacenews.com/38959spacex-delivers-thaicom-6-satellite-to-orbit/","wikipedia":"https://en.wikipedia.org/wiki/Thaicom_6"},"static_fire_date_utc":"2013-12-28T00:00:00.000Z","static_fire_date_unix":1388188800,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Second GTO launch for Falcon 9. The USAF evaluated launch data from this flight as part of a separate certification program for SpaceX to qualify to fly U.S. military payloads and found that the Thaicom 6 launch had \\"unacceptable fuel reserves at engine cutoff of the stage 2 second burnoff\\"","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4bbb6c3bb0006eeb1f0"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":13,"name":"Thaicom 6","date_utc":"2014-01-06T18:06:00.000Z","date_unix":1389031560,"date_local":"2014-01-06T14:06:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ff3591878603b262f","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87ce3ffd86e000604b336"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/ae/3c/yVvE2vVh_o.png","large":"https://images2.imgbox.com/82/c7/bbs0gt88_o.png"},"reddit":{"campaign":null,"launch":"http://www.reddit.com/r/spacex/comments/22zo8c","media":null,"recovery":null},"flickr":{"small":[],"original":["https://farm8.staticflickr.com/7615/16670240949_8d43db0e36_o.jpg","https://farm9.staticflickr.com/8597/16856369125_e97cd30ef7_o.jpg","https://farm8.staticflickr.com/7586/16166732954_9338dc859c_o.jpg","https://farm8.staticflickr.com/7603/16855223522_462da54e84_o.jpg","https://farm8.staticflickr.com/7618/16234010894_e1210ec300_o.jpg","https://farm8.staticflickr.com/7617/16855338881_69542a2fa9_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/spacexcrs-3_presskit_042014.pdf","webcast":"https://www.youtube.com/watch?v=Od-lON4bTyQ","youtube_id":"Od-lON4bTyQ","article":"https://newatlas.com/crs-3-launch-spacex/31671/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-3"},"static_fire_date_utc":"2014-03-08T00:00:00.000Z","static_fire_date_unix":1394236800,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Following second-stage separation, SpaceX conducted a second controlled-descent test of the discarded booster vehicle and achieved the first successful controlled ocean touchdown of a liquid-rocket-engine orbital booster. Following touchdown the first stage tipped over as expected and was destroyed. This was the first Falcon 9 booster to fly with extensible landing legs and the first Dragon mission with the Falcon 9 v1.1 launch vehicle.","crew":[],"ships":["5ea6ed2d080df4000697c902"],"capsules":["5e9e2c5bf3591859a63b2668"],"payloads":["5eb0e4bbb6c3bb0006eeb1f1"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":14,"name":"CRS-3","date_utc":"2014-04-18T19:25:00.000Z","date_unix":1397849100,"date_local":"2014-04-18T15:25:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e289ff3591829343b2630","flight":1,"gridfins":false,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"Ocean","landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87ce4ffd86e000604b337"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/a4/44/YWAUBkOe_o.png","large":"https://images2.imgbox.com/fd/41/FUnfqHHH_o.png"},"reddit":{"campaign":null,"launch":"http://www.reddit.com/r/spacex/comments/2aany2","media":null,"recovery":null},"flickr":{"small":[],"original":["https://farm8.staticflickr.com/7585/16602893909_1181317089_o.jpg","https://farm9.staticflickr.com/8747/16581738577_83e0690136_o.png","https://farm8.staticflickr.com/7285/16581736047_6fd536ab11_o.jpg","https://farm8.staticflickr.com/7597/16789021675_35f0148f78_o.jpg","https://farm8.staticflickr.com/7631/16236321533_829ae07b42_o.jpg","https://farm9.staticflickr.com/8726/16830422056_26c2265bbc_o.jpg","https://farm9.staticflickr.com/8591/16670149079_33d6cc3631_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/spacex_orbcomm_presskit_final.pdf","webcast":"https://www.youtube.com/watch?v=lbHnSu-DLR4","youtube_id":"lbHnSu-DLR4","article":"https://www.orbcomm.com/en/networks/satellite/orbcomm-og2","wikipedia":"https://

en.wikipedia.org/wiki/Falcon_9_flight_10"},"static_fire_date_utc":"2015-12-19T04:57:00.000Z","static_fire_date_unix":1450501020,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Total payload mass was 1,316 kg (2,901 lb) : 6 satellites weighing 172 kg each, plus two 142-kg mass simulators. This was the second Falcon 9 booster equipped with landing legs. Following second-stage separation, SpaceX conducted a controlled-descent test of the first stage, which successfully decelerated from\xc2\xa0hypersonic velocity in the upper atmosphere, made reentry and landing burns, deployed its legs and touched down on the ocean surface. As with the previous mission, the first stage then tipped over as expected and was not recovered.","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=7YkCh7uOw1Y","youtube_id":"7YkCh7uOw1Y","article":"https://www.nasa.gov/press/2014/september/nasa-cargo-launches-to-space-station-aboard-spacex-resupply-mission-0","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-4"},"static_fire_date_utc":"2014-09-17T00:00:00.000Z","static_fire_date_unix":1410912000,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":["5ea6ed2d080df4000697c902"],"capsules":["5e9e2c5bf3591880643b2669"],"payloads":["5eb0e4bcb6c3bb0006eeb1f5"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":18,"name":"CRS-4","date_utc":"2014-09-21T05:52:00.000Z","date_unix":1411278720,"date_local":"2014-09-21T01:52:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a0f359184a683b2634","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":true,"landing_success":false,"landing_type":"Ocean","landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87ce7ffd86e000604b33b"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/df/53/3Ik1KR2O_o.png","large":"https://images2.imgbox.com/ed/f3/MdEzr8rE_o.png"},"reddit":{"campaign":null,"launch":"http://www.reddit.com/r/spacex/comments/2rrdha","media":null,"recovery":null},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/8666/16511391418_bb5cdbbd71_o.jpg","https://farm9.staticflickr.com/8612/16848173281_035bdc6009_o.jpg","https://farm9.staticflickr.com/8571/16699496805_bf39747618_o.jpg","https://farm9.staticflickr.com/8650/16699496705_187e4e53fd_o.jpg","https://farm9.staticflickr.com/8663/16077174554_370937efbe_o.jpg","https://farm9.staticflickr.com/8638/16512101410_83763eb9ea_o.jpg","https://farm9.staticflickr.com/8653/16077173984_17885d4bea_o.jpg","https://farm8.staticflickr.com/7635/16848159582_40c0f9d25f_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/spacex_nasa_crs-5_presskit.pdf","webcast":"https://www.youtube.com/watch?v=p7x-SumbynI","youtube_id":"p7x-SumbynI","article":"https://spaceflightnow.com/2015/01/10/dragon-successfully-launched-rocket-recovery-demo-crash-lands/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-5"},"static_fire_date_utc":"2014-12-19T00:00:00.000Z","static_fire_date_unix":1418947200,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Following second stage separation, SpaceX performed a test flight which attempted to return the first stage of the Falcon 9 through the atmosphere and land it on an approximately 90-by-50-meter (300 ft x 160 ft) floating platform-called the autonomous spaceport drone ship. Many of the test objectives were achieved, including precision control of the rocket\'s descent to land on the platform at a specific point in the Atlantic ocean, and a large amount of test data was obtained from the first use of grid fin control surfaces used for more precise reentry positioning. The grid fin control system ran out of hydraulic fluid a minute before landing and the landing itself resulted in a crash.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c","5ea6ed2f080df4000697c90f","5ea6ed30080df4000697c912"],"capsules":["5e9e2c5bf35918165f3b266a"],"payloads":["5eb0e4bdb6c3bb0006eeb1f6"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":19,"name":"CRS-5","date_utc":"2015-01-10T09:47:00.000Z","date_unix":1420883220,"date_local":"2015-01-10T05:47:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a0f359187a3c3b2635","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_succes

s":false,"landing_type":"ASDS","landpad":"5e9e3032383ecb761634e7cb"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87ce8ffd86e000604b33c"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/bc/a6/uDYvXvql_o.png","large":"https://images2.imgbox.com/30/47/WmtGcjW8_o.png"},"reddit":{"campaign":null,"launch":"http://www.reddit.com/r/spacex/comments/2vjm9e","media":null,"recovery":null},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/8619/16511407538_9a25c5d8c6_o.jpg","https://farm9.staticflickr.com/8665/16697946612_1284e952b0_o.jpg","https://farm9.staticflickr.com/8570/16698990475_16524a93de_o.jpg","https://farm9.staticflickr.com/8681/16512864259_e849e496b1_o.jpg","https://farm9.staticflickr.com/8637/16079045013_1f0fab9b54_o.jpg","https://farm9.staticflickr.com/8601/16512864369_2bb896c344_o.jpg","https://farm9.staticflickr.com/8646/16697693861_a038331e0a_o.jpg","https://farm9.staticflickr.com/8680/16511407248_093635a243_o.jpg","https://farm9.staticflickr.com/8654/16511594820_451f194d53_o.jpg","https://farm9.staticflickr.com/8603/16673054016_472fb42a20_o.jpg"]},"presskit":"http://www.spacex.com/press/2015/02/11/dscovr-launch-update","webcast":"https://www.youtube.com/watch?v=OvHJSIKP0Hg","youtube_id":"OvHJSIKP0Hg","article":"https://spaceflightnow.com/2015/02/12/space-weather-observatory-blasts-off-after-17-year-wait/","wikipedia":"https://en.wikipedia.org/wiki/Deep_Space_Climate_Observatory"},"static_fire_date_utc":"2015-01-31T00:00:00.000Z","static_fire_date_unix":1422662400,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First launch under USAF\'s OSP 3 launch contract. First SpaceX launch to put a satellite to an orbit with an orbital altitude many times the distance to the Moon: Sun-Earth libration point L1. The first stage made a test flight descent to an over-ocean landing within 10 m (33 ft) of its intended target.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c"],"capsules":[],"payloads":["5eb0e4bdb6c3bb0006eeb1f7"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":20,"name":"DSCOVR","date_utc":"2015-02-11T23:03:00.000Z","date_unix":1423695780,"date_local":"2015-02-11T19:03:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a0f3591885be3b2636","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"Ocean","landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87ceaffd86e000604b33d"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/2b/65/8Hd65fHz_o.png","large":"https://images2.imgbox.com/3f/c9/ZczpJ97M_o.png"},"reddit":{"campaign":null,"launch":"http://www.reddit.com/r/spacex/comments/2x81fc","media":"https://www.reddit.com/r/spacex/comments/2xmumx","recovery":null},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/8749/16788442562_ed460c2d9e_o.jpg","https://farm9.staticflickr.com/8586/16510243060_48d6a9b1f6_o.jpg","https://farm9.staticflickr.com/8641/16490359747_c043b8c61a_o.jpg","https://farm9.staticflickr.com/8636/16510241270_ca83157509_o.jpg","https://farm8.staticflickr.com/7618/16601658850_13b826e705_o.jpg","https://farm9.staticflickr.com/8617/16510041628_883af57512_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/abs-eutelsatfactsheet.pdf","webcast":"https://www.youtube.com/watch?v=mN7lyaCBzT8","youtube_id":"mN7lyaCBzT8","article":"https://www.space.com/28702-spacex-rocket-launches-satellites-video.html","wikipedia":"https://en.wikipedia.org/wiki/ABS-3A"},"static_fire_date_utc":"2015-02-25T19:10:00.000Z","static_fire_date_unix":1424891400,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"The launch was Boeing\'s first-ever conjoined launch of a lighter-weight dual-commsat stack that was specifically designed to take advantage of the lower-cost SpaceX Falcon 9 launch vehicle. Per satellite, launch costs were less than $30 million. The ABS satellite reached its final destination ahead of schedule and started operations on September 10.","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4bdb6c3bb0006eeb1f8","5eb0e4bdb6c3bb0006eeb1f9"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":21,"name":"ABS-3A / Eutelsat 115W B","date_utc":"2015-03-02T03:50:00.000Z","date_unix":1425268200,"date_local":"2015-03-02T23:50:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"c

ore":"5e9e28a0f35918c0893b2637","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":"5eb87ceaffd86e0006
04b33e"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/75/3
9/TJU6xWM5_o.png","large":"https://images2.imgbox.com/c7/02/2XvCh1yD_o.png"},"reddi
t":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/32jnyd","medi
a":"https://www.reddit.com/r/spacex/comments/32lw5y","recovery":null},"flickr":{"sma
ll":[],"original":["https://farm8.staticflickr.com/7624/17170624642_e5949d160e_o.jp
g","https://farm8.staticflickr.com/7708/17170624402_f6de506461_o.jpg","https://farm
8.staticflickr.com/7658/17170624462_2efc977fee_o.jpg","https://farm8.staticflickr.co
m/7611/17171659711_42597fefed_o.jpg","https://farm9.staticflickr.com/8774/1717062441
2_7091dbd04a_o.jpg"]},"presskit":"https://www.nasa.gov/sites/default/files/files/Spa
ceX_NASA_CRS-6_PressKit.pdf","webcast":"https://www.youtube.com/watch?v=csVpa25iqH
0","youtube_id":"csVpa25iqH0","article":"https://spaceflightnow.com/2015/04/14/falco
n-9-successfully-launches-descends-to-off-balance-landing/","wikipedia":"https://en.
wikipedia.org/wiki/SpaceX_CRS-6"},"static_fire_date_utc":"2015-04-11T00:00:00.000
Z","static_fire_date_unix":1428710400,"net":false,"window":0,"rocket":"5e9d0d95eda69
973a809d1ec","success":true,"failures":[],"details":"Following the first-stage boos
t, SpaceX attempted a controlled-descent test of the first stage. The first stage co
ntacted the ship, but soon tipped over due to excess lateral velocity caused by a st
uck throttle valve resulting in a later-than-intended downthrottle.","crew":[],"ship
s":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90
c","5ea6ed2f080df4000697c90f","5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf3591
88bfb3b266b"],"payloads":["5eb0e4bdb6c3bb0006eeb1fa"],"launchpad":"5e9e4501f509094ba
4566f84","flight_number":22,"name":"CRS-6","date_utc":"2015-04-14T20:10:00.000Z","da
te_unix":1429042200,"date_local":"2015-04-14T16:10:00-04:00","date_precision":"hou
r","upcoming":false,"cores":[{"core":"5e9e28a1f359186d533b2638","flight":1,"gridfin
s":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":false,"l
anding_type":"ASDS","landpad":"5e9e3032383ecb761634e7cb"}],"auto_update":true,"tbd":
false,"launch_library_id":null,"id":"5eb87cecffd86e000604b33f"},{"fairings":{"reuse
d":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"s
mall":"https://images2.imgbox.com/a6/9b/IzWT1pYC_o.png","large":"https://images2.img
box.com/a1/dc/grsyEfA5_o.png"},"reddit":{"campaign":null,"launch":"https://www.reddi
t.com/r/spacex/comments/33xqcj","media":"https://www.reddit.com/r/spacex/comments/34
39s3","recovery":null},"flickr":{"small":[],"original":["https://farm8.staticflickr.
com/7695/17138865668_18dcce7072_o.jpg","https://farm8.staticflickr.com/7677/16706406
093_61a8f9c2f8_o.jpg","https://farm8.staticflickr.com/7691/17324793792_2dd13ea3f3_o.
jpg","https://farm8.staticflickr.com/7691/17139094400_b94ce1ff56_o.jpg","https://far
m9.staticflickr.com/8739/17140415959_38b5ee8bc6_o.jpg","https://farm8.staticflickr.c
om/7735/16704192574_e3a0a6fac2_o.jpg"]},"presskit":"http://www.spacex.com/sites/spac
ex/files/spacexthalesfactsheet_final.pdf","webcast":"https://www.youtube.com/watch?v
=nBwAYT_ogj4","youtube_id":"nBwAYT_ogj4","article":"https://spaceflightnow.com/2015/
04/28/falcon-9-rocket-powers-into-space-with-satellite-for-turkmenistan/","wikipedi
a":"https://en.wikipedia.org/wiki/T%C3%BCrkmen%C3%84lem_52%C2%B0E_/_MonacoSAT"},"sta
tic_fire_date_utc":"2015-04-22T11:11:00.000Z","static_fire_date_unix":1429701060,"ne
t":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":
[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4beb6c3bb0006
eeb1fb"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":23,"name":"T\xc3\xbc
rkmen\xc3\x84lem 52\xc2\xb0E / MonacoSAT","date_utc":"2015-04-27T23:03:00.000Z","dat
e_unix":1430175780,"date_local":"2015-04-27T19:03:00-04:00","date_precision":"hou
r","upcoming":false,"cores":[{"core":"5e9e28a1f35918233f3b2639","flight":1,"gridfin
s":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":nul
l,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_librar
y_id":null,"id":"5eb87cedffd86e000604b340"},{"fairings":null,"links":{"patch":{"smal
l":"https://images2.imgbox.com/53/12/gFtcOQuX_o.png","large":"https://images2.imgbo
x.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 lead 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":"5eb87ceeffd86e000604b341"},{"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=O5bTbVbe4e4","youtube_id":"O5bTbVbe4e4","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":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cefffd86e000604b342"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/8a/44/PSksEBjD_o.png","large":"https://images2.imgbox.com/d9/c9/57io

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":"5eb87cf0ffd86e000604b343"},{"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","5ea6ed2f080df4000
697c90c","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4beb6c3bb0006ee
b1ff"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":27,"name":"SES-9","dat
e_utc":"2016-03-04T23:35:00.000Z","date_unix":1457134500,"date_local":"2016-03-04T1
9:35:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a1f3
59188def3b263d","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attem
pt":true,"landing_success":false,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb2
34e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cf2ffd8
6e000604b344"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.co
m/72/1e/mA23xHqe_o.png","large":"https://images2.imgbox.com/36/d8/RyPKsTpC_o.pn
g"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/4dt
oly","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.staticflick
r.com/1650/26300505022_8b8b9035e8_o.jpg","https://farm2.staticflickr.com/1486/257879
98624_3ca213be1e_o.jpg","https://farm2.staticflickr.com/1450/26326628031_e1b08ec0b3_
o.jpg","https://farm2.staticflickr.com/1670/26239020092_05e5e4c538_o.jpg","https://f
arm2.staticflickr.com/1709/26305479266_76b4d01caf_o.jpg","https://farm2.staticflick
r.com/1645/26239017922_28c7ac50e0_o.jpg","https://farm2.staticflickr.com/1559/262884
02056_6c5997ce66_o.jpg","https://farm2.staticflickr.com/1449/25709481274_60f8c77358_
o.jpg","https://farm2.staticflickr.com/1671/26217360302_b66c3e384e_o.jpg","https://f
arm2.staticflickr.com/1704/26283822056_838c1103b9_o.jpg","https://farm2.staticflick
r.com/1508/26217345472_118767c608_o.jpg","https://farm2.staticflickr.com/1495/259168
86442_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","youtu
be_id":"7pUAydjne5M","article":"https://spaceflightnow.com/2016/04/08/spacex-lands-r
ocket-on-floating-platform-after-station-resupply-launch/","wikipedia":"https://en.w
ikipedia.org/wiki/SpaceX_CRS-8"},"static_fire_date_utc":"2016-04-05T00:00:00.000
Z","static_fire_date_unix":1459814400,"net":false,"window":0,"rocket":"5e9d0d95eda69
973a809d1ec","success":true,"failures":[],"details":"Dragon carried over 1500 kg of
supplies and delivered (stowed in its trunk) the inflatable Bigelow Expandable Activ
ity Module (BEAM) to the ISS for two years of in-orbit tests. The rocket\'s first st
age landed smoothly on SpaceX\'s autonomous spaceport drone ship 9 minutes after lif
toff, 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 orb
ital booster to be used again, when launching SES-10 on March 30, 2017.","crew":
[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000
697c90c","5ea6ed30080df4000697c912","5ea6ed30080df4000697c913"],"capsules":["5e9e2c5
cf3591885d43b266d"],"payloads":["5eb0e4bfb6c3bb0006eeb200"],"launchpad":"5e9e4501f50
9094ba4566f84","flight_number":28,"name":"CRS-8","date_utc":"2016-04-08T20:43:00.000
Z","date_unix":1460148180,"date_local":"2016-04-08T16:43:00-04:00","date_precisio
n":"hour","upcoming":false,"cores":[{"core":"5e9e28a2f359182d0b3b263e","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":"5eb87cf3ffd86e000604b345"},{"fairings":
{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"pat
ch":{"small":"https://images2.imgbox.com/7a/90/Zdo2mijx_o.png","large":"https://imag
es2.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/4hten
u","media":"https://www.reddit.com/r/spacex/comments/4htg2g","recovery":"https://ww
w.reddit.com/r/spacex/comments/4ihp1p"},"flickr":{"small":[],"original":["https://fa
rm8.staticflickr.com/7340/27044931232_7b755276ec_o.jpg","https://farm8.staticflickr.
com/7444/27028105566_1d3413daa7_o.jpg","https://farm8.staticflickr.com/7597/26778141
961_e3bd237942_o.jpg","https://farm8.staticflickr.com/7079/26778141661_559b48ac80_o.
jpg","https://farm8.staticflickr.com/7682/26778141401_c437b04b74_o.jpg","https://far
m8.staticflickr.com/7706/26751237322_ceb6d56235_o.jpg","https://farm8.staticflickr.c
```

om/7677/26809210466_fc55835f3c_o.jpg","https://farm8.staticflickr.com/7085/26809208046_d77bd31fd0_o.jpg","https://farm8.staticflickr.com/7103/26809207316_cdc7d582e6_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/spacex_jcsat_press_kit_final.pdf","webcast":"https://www.youtube.com/watch?v=L0bMeDj76ig","youtube_id":"L0bMeDj76ig","article":"https://spaceflightnow.com/2016/05/06/falcon-9-succeeds-in-middle-of-the-night-launch/","wikipedia":"https://en.wikipedia.org/wiki/JCSAT-2B"},"static_fire_date_utc":"2016-05-01T21:32:00.000Z","static_fire_date_unix":1462138320,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Launched the JCSAT 14 communications satellite for Tokyo-based SKY Perfect JSAT Corp. JCSAT 14 will support data networks, television broadcasters and mobile communications users in Japan, East Asia, Russia, Oceania, Hawaii and other Pacific islands. This was the first time a booster successfully landed after a GTO mission.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c"],"capsules":[],"payloads":["5eb0e4bfb6c3bb0006eeb201"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":29,"name":"JCSAT-2B","date_utc":"2016-05-06T05:21:00.000Z","date_unix":1462512060,"date_local":"2016-05-06T01:21:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a2f35918077b3b263f","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cf5ffd86e000604b346"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/fa/f2/iR1eKXrX_o.png","large":"https://images2.imgbox.com/84/dc/Qp0wk7j1_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/4hjz4k","launch":"https://www.reddit.com/r/spacex/comments/4l9uou","media":"https://www.reddit.com/r/spacex/comments/4l4af1","recovery":"https://www.reddit.com/r/spacex/comments/4lz2y6"},"flickr":{"small":[],"original":["https://farm8.staticflickr.com/7420/26814484893_13059e4b39_o.jpg","https://farm8.staticflickr.com/7321/26812794884_bf91665325_o.jpg","https://farm8.staticflickr.com/7337/26812792104_9323121f0b_o.jpg","https://farm8.staticflickr.com/7376/27421461715_5640d2b87a_o.jpg","https://farm8.staticflickr.com/7717/26812758364_74569b4327_o.jpg","https://farm8.staticflickr.com/7742/27294263035_9b43bd141c_o.jpg","https://farm8.staticflickr.com/7252/27294262435_c534cc4351_o.jpg","https://farm8.staticflickr.com/7698/27294261525_82c4b7e604_o.jpg","https://farm8.staticflickr.com/7045/27259828166_9e32061cc9_o.jpg","https://farm8.staticflickr.com/7013/27259827316_c2f7507b3d_o.jpg","https://farm8.staticflickr.com/7211/27182485331_ed2414a947_o.jpg","https://farm8.staticflickr.com/7740/27182481921_0d7a759736_o.jpg","https://farm8.staticflickr.com/7315/26645036414_39736db559_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/spacex_thaicom_8_press_kit.pdf","webcast":"https://www.youtube.com/watch?v=zBYC4f79iXc","youtube_id":"zBYC4f79iXc","article":"https://spaceflightnow.com/2016/05/27/spacex-logs-successful-late-afternoon-launch-for-thaicom/","wikipedia":"https://en.wikipedia.org/wiki/Thaicom_8"},"static_fire_date_utc":"2016-05-25T00:00:00.000Z","static_fire_date_unix":1464134400,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Manufactured by Orbital ATK, the 3,100-kilogram (6,800 lb) Thaicom 8 communications satellite will serve Thailand, India and Africa from the 78.5\xc2\xb0 East geostationary location. It is equipped with 24 active Ku-band transponders.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4bfb6c3bb0006eeb202"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":30,"name":"Thaicom 8","date_utc":"2016-05-27T21:39:00.000Z","date_unix":1464385140,"date_local":"2016-05-27T17:39:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a2f3591845c73b2640","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cf6ffd86e000604b347"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/36/a4/J5gJWxuC_o.png","large":"https://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/4o5u6r","media":"https://www.reddit.com/r/spacex/comments/4o5j6o","recovery":"https://www.reddit.com/r/spacex/comments/4on75l"},"flickr":{"small":[],"original":["https://farm8.staticflickr.com/7088/27661326426_ce3c3f320d_o.jpg","https://farm8.staticflickr.com/7698/27661325446_affb08be24_o.jpg","https://farm8.staticflickr.com/7733/27661322976_073466e80c_o.jpg","https://farm8.staticflickr.com/7218/27661320706_4c16f3b76b_o.jpg","https://farm8.staticflickr.com/7340/27661315686_6dcb2ce6f9_o.jpg","https://farm8.staticflickr.com/7656/27661313956_e1ac9650b9_o.jpg","https://farm8.staticflickr.com/7616/27661312516_640764f8fd_o.jpg","https://farm8.staticflickr.com/7413/27078893234_0142dd80f0_o.jpg","https://farm8.staticflickr.com/7334/27078889924_8819fd55ea_o.jpg"]},"presskit":"https://drive.google.com/open?id=0BwA3a65ef1OvMGpJSlpDNHhjelU","webcast":"https://www.youtube.com/watch?v=gLNmtUEvI5A","youtube_id":"gLNmtUEvI5A","article":"https://spaceflightnow.com/2016/06/15/spacex-successfully-fires-satellites-into-orbit-but-loses-booster-on-landing/","wikipedia":"https://en.wikipedia.org/wiki/ABS_(satellite_operator)"},"static_fire_date_utc":"2016-06-13T15:03:00.000Z","static_fire_date_unix":1465830180,"net":false,"window":2700,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"One year after pioneering this technique on flight 16, Falcon again launched two Boeing 702SP gridded ion thruster satellites in a dual-stack configuration, with the two customers sharing the rocket and mission costs. First stage landing attempt on drone ship failed on landing due to low thrust on one of the three landing engines.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4bfb6c3bb0006eeb203","5eb0e4bfb6c3bb0006eeb204"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":31,"name":"ABS-2A / Eutelsat 117W B","date_utc":"2016-06-15T14:29:00.000Z","date_unix":1466000940,"date_local":"2016-06-15T10:29:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a2f359184f403b2641","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":false,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cf8ffd86e000604b348"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/bb/0d/aLsm9QDC_o.png","large":"https://images2.imgbox.com/56/af/b7fNzZGo_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/4ksedl","launch":"https://www.reddit.com/r/spacex/comments/4t2umd/","media":"https://www.reddit.com/r/spacex/comments/4tayth","recovery":"https://www.reddit.com/r/spacex/comments/4znsvo"},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/8819/27776240293_fcbf8c4a0a_o.jpg","https://farm8.staticflickr.com/7720/27776237513_038971797c_o.jpg","https://farm8.staticflickr.com/7594/27776235133_d794ce01f4_o.jpg","https://farm8.staticflickr.com/7759/27776229243_a0674e590f_o.jpg","https://farm8.staticflickr.com/7512/27776228443_6652c6baea_o.jpg","https://farm9.staticflickr.com/8038/27776218453_34112abbc1_o.jpg","https://farm8.staticflickr.com/7636/27776215913_3f9f1b05df_o.jpg","https://farm8.staticflickr.com/7740/28358960896_9785456101_o.jpg","https://farm8.staticflickr.com/7488/27776206663_262526ba5f_o.jpg","https://farm8.staticflickr.com/7656/28358955546_ce55d65e16_o.jpg","https://farm8.staticflickr.com/7467/27776204693_68b4ed82c9_o.jpg","https://farm8.staticflickr.com/7693/28348649546_0a54b1aa44_o.jpg","https://farm8.staticflickr.com/7540/28291786662_5e2e874576_o.jpg"]},"presskit":"https://drive.google.com/open?id=0BwA3a65ef1OvM0JpSXdDUUJMRVk","webcast":"https://www.youtube.com/watch?v=ThIdCuSsJh8","youtube_id":"ThIdCuSsJh8","article":"https://spaceflightnow.com/2016/07/18/spacex-sends-supplies-to-space-station-lands-another-falcon-rocket/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-9"},"static_fire_date_utc":"2016-07-16T02:31:47.000Z","static_fire_date_unix":1468636307,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Among other cargo, an International Docking Adapter (IDA-2) was carried to the ISS. This mission had a successful first-stage landing at Cape Canaveral.*Including the reusable Dragon Capsule, total payload to orbit was 6457 kg.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df

4000697c90c","5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf359183bb73b266e"],"payloads":["5eb0e4c0b6c3bb0006eeb205"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":32,"name":"CRS-9","date_utc":"2016-07-18T04:45:00.000Z","date_unix":1468817100,"date_local":"2016-07-18T00:45:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a2f359187f273b2642","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cf9ffd86e000604b349"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/22/cc/DjPcsMhb_o.png","large":"https://images2.imgbox.com/0b/3e/aQpLZQHt_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/4pv6ws","launch":"https://www.reddit.com/r/spacex/comments/4xi7uq","media":"https://www.reddit.com/r/spacex/comments/4xkdfj","recovery":"https://www.reddit.com/r/spacex/comments/4y5xd1"},"flickr":{"small":[],"original":["https://farm9.staticflickr.com/8699/28965678292_17533229f3_o.jpg","https://farm9.staticflickr.com/8173/28453337463_b9d11eeb4c_o.jpg","https://farm8.staticflickr.com/7793/28453335533_3f5a0a5760_o.jpg","https://farm9.staticflickr.com/8784/28938085496_74b3fd0527_o.jpg","https://farm9.staticflickr.com/8337/28969742675_15f78369a1_o.jpg","https://farm9.staticflickr.com/8691/28353012603_ab83b6f5aa_o.jpg","https://farm9.staticflickr.com/8078/28351782813_58ca783e51_o.jpg"]},"presskit":"https://drive.google.com/open?id=0BwA3a65ef1Ovb0FkYnE5dElZRlU","webcast":"https://www.youtube.com/watch?v=QZTCEO0gvLo","youtube_id":"QZTCEO0gvLo","article":"https://spaceflightnow.com/2016/08/14/falcon-9-rocket-launches-japanese-satellite-then-nails-bullseye-landing/","wikipedia":"https://en.wikipedia.org/wiki/JCSAT-16"},"static_fire_date_utc":"2016-08-11T04:01:00.000Z","static_fire_date_unix":1470888060,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First attempt to touch down from a ballistic trajectory using a single-engine landing burn. All previous landings from a ballistic trajectory had fired three engines on the landing-burn, which provided more braking force, but subjected the vehicle to greater structural stresses. The single-engine landing burn takes more time and fuel, but puts less stress on the vehicle.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4c1b6c3bb0006eeb206"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":33,"name":"JCSAT-16","date_utc":"2016-08-14T05:26:00.000Z","date_unix":1471152360,"date_local":"2016-08-14T01:26:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a2f35918b8243b2643","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cfaffd86e000604b34a"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/0d/5b/8X01C3ov_o.png","large":"https://images2.imgbox.com/ff/19/KCI4DVla_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/4pv7jl","launch":null,"media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://www.youtube.com/watch?v=_BgJEXQkjNQ","youtube_id":"_BgJEXQkjNQ","article":"https://spaceflightnow.com/2016/09/01/spacex-rocket-and-israeli-satellite-destroyed-in-launch-pad-explosion/","wikipedia":"https://en.wikipedia.org/wiki/Amos-6"},"static_fire_date_utc":"2016-09-01T13:07:00.000Z","static_fire_date_unix":1472735220,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":false,"failures":[{"time":-165180,"altitude":0,"reason":"buckled liner in several of the COPV tanks, causing perforations that allowed liquid and/or solid oxygen to accumulate underneath the lining, which was ignited by friction."}],"details":"The rocket and Amos-6 payload were lost in a launch pad explosion on September 1, 2016 during propellant fill prior to a static fire test. The pad was clear of personnel and there were no injuries.","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4c1b6c3bb0006eeb207"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":34,"name":"Amos-6","date_utc":"2016-09-01T13:07:00.000Z","date_unix":1472735220,"date_local":"2016-09-01T09:07:00-04:0

0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a2f359187ee83b26
44","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"la
nding_success":null,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"au
to_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cfbffd86e000604b34
b"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":
[]},"links":{"patch":{"small":"https://images2.imgbox.com/89/2a/bkI6LN0R_o.png","lar
ge":"https://images2.imgbox.com/24/c3/9MKjvOdD_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/5dii6z","launch":"https://www.reddit.com/r/spac
ex/comments/5nsaqm","media":"https://www.reddit.com/r/spacex/comments/5nsico","recov
ery":"https://www.reddit.com/r/spacex/comments/5oe9kk"},"flickr":{"small":[],"origin
al":["https://farm1.staticflickr.com/658/32394688795_55a9873ea7_o.jpg","https://farm
1.staticflickr.com/506/32394688095_a3339f3c6d_o.jpg","https://farm1.staticflickr.co
m/745/32394687645_63ae2b4740_o.jpg","https://farm1.staticflickr.com/318/31548291014_
e3a30abca8_o.jpg","https://farm1.staticflickr.com/670/32351549066_e9cffe8d2b_o.jp
g","https://farm6.staticflickr.com/5518/31579784413_83aeac560a_o.jpg","https://farm
6.staticflickr.com/5556/32312421135_22c197c156_o.jpg","https://farm1.staticflickr.co
m/529/32312420015_5d2403a847_o.jpg","https://farm1.staticflickr.com/435/32312417695_
19c0e50c4b_o.jpg","https://farm1.staticflickr.com/735/32312416415_b90892af0a_o.jp
g","https://farm1.staticflickr.com/293/32312415025_cae16d1994_o.jpg","https://farm1.
staticflickr.com/738/31467130724_92e02c9524_o.jpg","https://farm1.staticflickr.com/4
64/31467130374_9f7a7d380e_o.jpg","https://farm1.staticflickr.com/581/31467129424_bac
77d594a_o.jpg","https://farm1.staticflickr.com/380/32308163845_c1731a4b1f_o.jpg","ht
tps://farm1.staticflickr.com/447/31450835954_72ed10a19e_o.jpg","https://farm1.static
flickr.com/507/31450834974_b8a3f4aca5_o.jpg"]},"presskit":"https://drive.google.com/
open?id=0BwA3a65ef1OvZC1aU3FuMlQzalE","webcast":"https://www.youtube.com/watch?v=7Wi
mRhydggo","youtube_id":"7WimRhydggo","article":"https://spaceflightnow.com/2017/01/1
4/spacex-resumes-flights-with-on-target-launch-for-iridium/","wikipedia":"https://e
n.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generation_constellatio
n"},"static_fire_date_utc":"2017-01-05T19:40:00.000Z","static_fire_date_unix":148364
5200,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"fail
ures":[],"details":"Return-to-flight mission after the loss of Amos-6 in September 2
016. Iridium NEXT will replace the original Iridium constellation, launched in the l
ate 1990s. Each Falcon mission will carry 10 satellites, with a goal to complete dep
loyment of the 66 plus 9 spare satellite constellation by mid 2018. The first two Ir
idium qualification units were supposed to ride a Dnepr rocket in April 2016 but wer
e delayed, so Iridium decided to qualify the first batch of 10 satellites instea
d.","crew":[],"ships":["5ea6ed2f080df4000697c910","5ea6ed30080df4000697c912","5ea6ed
30080df4000697c915"],"capsules":[],"payloads":["5eb0e4c2b6c3bb0006eeb208"],"launchpa
d":"5e9e4502f509092b78566f87","flight_number":35,"name":"Iridium NEXT Mission 1","da
te_utc":"2017-01-14T17:54:00.000Z","date_unix":1484416440,"date_local":"2017-01-14T1
0:54:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3
59189e3a3b2645","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attem
pt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e53
4e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cfdffd86
e000604b34c"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.co
m/11/eb/qqrhHFhv_o.png","large":"https://images2.imgbox.com/ea/43/D4tA0WaM_o.pn
g"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/5n2eqx","launc
h":"https://www.reddit.com/r/spacex/comments/5uw4bh","media":"https://www.reddit.co
m/r/spacex/comments/5uoy8o","recovery":"https://www.reddit.com/r/spacex/comments/609
aq4"},"flickr":{"small":[],"original":["https://farm3.staticflickr.com/2815/32761844
973_d2e8d76e9c_o.jpg","https://farm4.staticflickr.com/3878/32761843663_8e366494f4_o.
jpg","https://farm3.staticflickr.com/2790/32852846842_6f1f7b26b9_o.jpg","https://far
m3.staticflickr.com/2295/32852845662_e7ae0daf4a_o.jpg","https://farm4.staticflickr.c
om/3888/33000639155_2a6e2bb23d_o.jpg","https://farm1.staticflickr.com/405/3300063818
5_b4ec7c7b93_o.jpg","https://farm1.staticflickr.com/574/32874779241_9f463de901_o.jp
g","https://farm4.staticflickr.com/3710/32153433074_96337a54db_o.jpg","https://farm

1.staticflickr.com/327/32153432924_09dd1482d8_o.jpg","https://farm3.staticflickr.com/2881/32183025803_36bf976b9e_o.jpg","https://farm3.staticflickr.com/2362/32183025493_2a37b4e22c_o.jpg","https://farm1.staticflickr.com/504/32178458813_ff47f61bb9_o.jpg","https://farm1.staticflickr.com/265/32176806823_879ccc5da0_o.jpg","https://farm1.staticflickr.com/401/32866357531_69c6d289ed_o.jpg","https://farm3.staticflickr.com/2105/32945170805_553d45ca56_o.jpg","https://farm4.staticflickr.com/3865/32945170225_58129f00dc_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/crs10presskitfinal.pdf","webcast":"https://www.youtube.com/watch?v=giNhaEzv_PI","youtube_id":"giNhaEzv_PI","article":"https://spaceflightnow.com/2017/02/19/historic-launch-pad-back-in-service-with-thundering-blastoff-by-spacex/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-10"},"static_fire_date_utc":"2017-02-12T21:30:00.000Z","static_fire_date_unix":1486935000,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First Falcon 9 flight from the historic LC-39A launchpad at Kennedy Space Center, carrying supplies and materials to support dozens of science and research investigations scheduled during ISS Expeditions 50 and 51. The first stage returned to launch site and landed at LZ-1.","crew":[],"ships":["5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf359185d753b266f"],"payloads":["5eb0e4c3b6c3bb0006eeb209"],"launchpad":"5e9e4502f509094188566f88","flight_number":36,"name":"CRS-10","date_utc":"2017-02-19T14:39:00.000Z","date_unix":1487515140,"date_local":"2017-02-19T10:39:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591829dc3b2646","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cfeffd86e000604b34d"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/56/9d/gvzAqLFg_o.png","large":"https://images2.imgbox.com/52/a0/z8Dwflcz_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/5n2e10/echostar_23_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/5z8dkm/welcome_to_the_rspacex_echostar23_official_launch/","media":"https://www.reddit.com/r/spacex/comments/5z8if6/rspacex_echostar_23_media_thread_videos_images/","recovery":null},"flickr":{"small":[],"original":["https://farm4.staticflickr.com/3819/33094074350_ae56bd5c73_o.jpg","https://farm3.staticflickr.com/2935/33094073720_92234ddaee_o.jpg","https://farm1.staticflickr.com/768/33094072690_31a85e82ba_o.jpg","https://farm3.staticflickr.com/2876/33094072100_546090a4f3_o.jpg","https://farm3.staticflickr.com/2860/32626053254_d702922d87_o.jpg","https://farm3.staticflickr.com/2904/32654666113_ba833971e0_o.jpg","https://farm1.staticflickr.com/677/32654665263_751d29ded1_o.jpg","https://farm3.staticflickr.com/2936/33299697331_09313ac49d_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/echostarxxiiifinal.pdf","webcast":"https://www.youtube.com/watch?v=lZmqbL-hz7U","youtube_id":"lZmqbL-hz7U","article":"http://spacenews.com/spacex-launches-echostar-23/","wikipedia":"https://en.wikipedia.org/wiki/EchoStar#Satellite_fleet"},"static_fire_date_utc":"2017-03-09T23:00:00.000Z","static_fire_date_unix":1489100400,"net":false,"window":9000,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Communications satellite for EchoStar Corp. EchoStar XXIII, based on a spare platform from the cancelled CMBStar 1 satellite program, will provide direct-to-home television broadcast services over Brazil. There was no attempt at a first-stage recovery so this rocket did not have landing legs or grid fins.","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4c3b6c3bb0006eeb20a"],"launchpad":"5e9e4502f509094188566f88","flight_number":37,"name":"EchoStar 23","date_utc":"2017-03-16T06:00:00.000Z","date_unix":1489644000,"date_local":"2017-03-16T02:00:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591878473b2647","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87cfeffd86e000604b34e"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/d0/c4/DFQ5TdPz_o.png","large":"https://images2.imgbox.com/9c/cf/tRe9z6t8_o.png"},"reddit":{"campaig

n":"https://www.reddit.com/r/spacex/comments/5sjrzj/ses10_launch_campaign_threa
d/","launch":"https://www.reddit.com/r/spacex/comments/62aqi7/rspacex_ses10_official
_launch_discussion_updates/","media":"https://www.reddit.com/r/spacex/comments/62aqa
d/rspacex_ses10_media_thread_videos_images_gifs/","recovery":"https://www.reddit.co
m/r/spacex/comments/634gmr/b1021ses10_recovery_thread/"},"flickr":{"small":[],"origi
nal":["https://farm1.staticflickr.com/601/33026465643_462ef7a2cb_o.jpg","https://far
m3.staticflickr.com/2850/32996438264_b79ca3664b_o.jpg","https://farm4.staticflickr.c
om/3956/32996437434_4dab1ae8e3_o.jpg","https://farm4.staticflickr.com/3831/329964350
84_6c5662caca_o.jpg","https://farm4.staticflickr.com/3775/32915200224_b6ecfabd7e_o.j
pg","https://farm4.staticflickr.com/3886/32915199874_b826eac153_o.jpg","https://farm
3.staticflickr.com/2842/32915199514_6c44178e87_o.jpg","https://farm4.staticflickr.co
m/3771/32915198904_2df85aed05_o.jpg","https://farm4.staticflickr.com/3668/3291519833
4_d2fa2f16ab_o.jpg","https://farm4.staticflickr.com/3955/32915197674_24d6e27cf5_o.jp
g","https://farm4.staticflickr.com/3830/33616913981_f04b6e2351_o.jpg","https://farm
4.staticflickr.com/3819/33616913111_e699b48d66_o.jpg","https://farm4.staticflickr.co
m/3835/33361035860_c57ed61239_o.jpg","https://farm4.staticflickr.com/3783/3336103520
0_bfb797d38f_o.jpg","https://farm4.staticflickr.com/3698/33611796351_54d5a6d65a_o.jp
g","https://farm3.staticflickr.com/2857/33611795531_82cc2d8789_o.jpg"]},"presski
t":"http://www.spacex.com/sites/spacex/files/finalses10presskit.pdf","webcast":"http
s://www.youtube.com/watch?v=xsZSXav4wI8","youtube_id":"xsZSXav4wI8","article":"http
s://spaceflightnow.com/2017/03/31/spacex-flies-rocket-for-second-time-in-historic-te
st-of-cost-cutting-technology/","wikipedia":"https://en.wikipedia.org/wiki/SES-1
0"},"static_fire_date_utc":"2017-03-27T18:00:00.000Z","static_fire_date_unix":149063
7600,"net":false,"window":9000,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"f
ailures":[],"details":"First payload to fly on a reused first stage, B1021, previous
ly launched with CRS-8, which also landed a second time. In what is also a first, th
e payload fairing remained intact after a successful splashdown achieved with thrust
ers and a steerable parachute.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6e
d2f080df4000697c90b","5ea6ed2f080df4000697c90c","5ea6ed30080df4000697c913"],"capsule
s":[],"payloads":["5eb0e4c3b6c3bb0006eeb20b"],"launchpad":"5e9e4502f509094188566f8
8","flight_number":38,"name":"SES-10","date_utc":"2017-03-30T22:27:00.000Z","date_un
ix":1490912820,"date_local":"2017-03-30T18:27:00-04:00","date_precision":"hour","upc
oming":false,"cores":[{"core":"5e9e28a2f359182d0b3b263e","flight":2,"gridfins":tru
e,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_t
ype":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"l
aunch_library_id":null,"id":"5eb87d00ffd86e000604b34f"},{"fairings":{"reused":fals
e,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"smal
l":"https://images2.imgbox.com/e5/2d/IZB4g6Ra_o.png","large":"https://images2.imgbo
x.com/9d/76/kMetaHqz_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/c
omments/601ykx","launch":"https://www.reddit.com/r/spacex/comments/68bn8y/","medi
a":"https://www.reddit.com/r/spacex/comments/68bpii","recovery":null},"flickr":{"sma
ll":[],"original":["https://farm3.staticflickr.com/2922/33578359423_4169ac8f98_o.jp
g","https://farm3.staticflickr.com/2900/33578357343_85c247ebce_o.jpg","https://farm
5.staticflickr.com/4166/34006001860_8c45f28e69_o.jpg","https://farm5.staticflickr.co
m/4166/34005999880_77684dba4b_o.jpg","https://farm3.staticflickr.com/2934/3400599814
0_c77076b6fb_o.jpg","https://farm5.staticflickr.com/4191/34005996220_fe9e4342d3_o.jp
g","https://farm3.staticflickr.com/2883/33575654563_699c544776_o.jpg","https://farm
3.staticflickr.com/2902/33575652913_0dece34db4_o.jpg","https://farm5.staticflickr.co
m/4163/33575651063_24e05826c5_o.jpg","https://farm3.staticflickr.com/2876/3399485162
0_fabd14770f_o.jpg","https://farm3.staticflickr.com/2832/33973172140_b370b79c51_o.jp
g","https://farm3.staticflickr.com/2874/34357262105_11b417bea2_o.jpg","https://farm
5.staticflickr.com/4158/34357260545_16870a94ba_o.jpg"]},"presskit":"http://www.space
x.com/sites/spacex/files/nrol76presskit.pdf","webcast":"https://www.youtube.com/watc
h?v=EzQpkQ1etdA","youtube_id":"EzQpkQ1etdA","article":"https://techcrunch.com/2017/0
5/01/spacex-successfully-launches-nrol-76-u-s-military-satellite/","wikipedia":"http
s://en.wikipedia.org/wiki/List_of_NRO_launches"},"static_fire_date_utc":"2017-04-25T

19:02:00.000Z","static_fire_date_unix":1493146920,"net":false,"window":7200,"rocke
t":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First launch u
nder SpaceX\'s certification for national security space missions, which allows Spac
eX to contract launch services for classified payloads. Second-stage speed and altit
ude telemetry were omitted from the launch webcast, which displayed first-stage tele
metry instead, with continuous tracking of the booster from liftoff to landing for t
he first time.","crew":[],"ships":["5ea6ed2f080df4000697c90c"],"capsules":[],"payloa
ds":["5eb0e4c3b6c3bb0006eeb20c"],"launchpad":"5e9e4502f509094188566f88","flight_numb
er":39,"name":"NROL-76","date_utc":"2017-05-01T11:15:00.000Z","date_unix":149363730
0,"date_local":"2017-05-01T07:15:00-04:00","date_precision":"hour","upcoming":fals
e,"cores":[{"core":"5e9e28a3f3591811f83b2648","flight":1,"gridfins":true,"legs":tru
e,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTL
S","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_lib
rary_id":null,"id":"5eb87d01ffd86e000604b350"},{"fairings":{"reused":false,"recovery
_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://ima
ges2.imgbox.com/ab/8d/fUpriAbI_o.png","large":"https://images2.imgbox.com/5b/f7/30l0
xVXG_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/64kgu
j/","launch":"https://www.reddit.com/r/spacex/comments/6b88hz/","media":"https://ww
w.reddit.com/r/spacex/comments/6bcf8j/","recovery":null},"flickr":{"small":[],"origi
nal":["https://farm5.staticflickr.com/4174/33859521334_d75fa367d5_o.jpg","https://fa
rm5.staticflickr.com/4158/33859520764_5bb7a7daf6_o.jpg","https://farm5.staticflickr.
com/4182/33859520404_a9c78c971d_o.jpg","https://farm5.staticflickr.com/4157/34556140
711_f404943340_o.jpg","https://farm5.staticflickr.com/4179/34556139821_b2d6255e07_o.
jpg","https://farm5.staticflickr.com/4187/34684981395_2f93965492_o.jpg","https://far
m5.staticflickr.com/4155/34684980875_77b745158a_o.jpg","https://farm5.staticflickr.c
om/4183/34296430820_8d3a42c0d7_o.jpg"]},"presskit":"https://www.spacex.com/sites/spa
cex/files/inmarsat5f4presskit_final.pdf","webcast":"https://www.youtube.com/watch?v=
ynMYE64IEKs","youtube_id":"ynMYE64IEKs","article":"https://www.space.com/36852-space
x-launches-inmarsat-5-f4-satellite.html","wikipedia":"https://en.wikipedia.org/wiki/
Inmarsat#Satellites"},"static_fire_date_utc":"2017-05-11T16:45:00.000Z","static_fire
_date_unix":1494521100,"net":false,"window":2940,"rocket":"5e9d0d95eda69973a809d1e
c","success":true,"failures":[],"details":"At 6,070 kg this was the heaviest payload
launched to GTO by a Falcon 9 rocket. The launch was originally scheduled for the Fa
lcon Heavy, but performance improvements allowed the mission to be carried out by an
expendable Falcon 9 instead.","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4
c3b6c3bb0006eeb20d"],"launchpad":"5e9e4502f509094188566f88","flight_number":40,"nam
e":"Inmarsat-5 F4","date_utc":"2017-05-15T23:21:00.000Z","date_unix":1494890460,"dat
e_local":"2017-05-15T19:21:00-04:00","date_precision":"hour","upcoming":false,"core
s":[{"core":"5e9e28a3f359186f3f3b2649","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":"5eb87d01ffd
86e000604b351"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.c
om/54/45/VoihQAY3_o.png","large":"https://images2.imgbox.com/2d/39/EAkUxxPk_o.pn
g"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/68ul58/","launc
h":"https://www.reddit.com/r/spacex/comments/6ektkt/","media":"https://www.reddit.co
m/r/spacex/comments/6emlzr/","recovery":null},"flickr":{"small":[],"original":["http
s://farm5.staticflickr.com/4210/34696326760_cee662ef1f_o.jpg","https://farm5.staticf
lickr.com/4279/34239858024_64795724c9_o.jpg","https://farm5.staticflickr.com/4250/35
043398436_3ceaa0098a_o.jpg","https://farm5.staticflickr.com/4223/34272083563_f52e5bf
ffe_o.jpg","https://farm5.staticflickr.com/4219/34918571502_7cf66854f7_o.jpg","http
s://farm5.staticflickr.com/4252/34918568732_4efe0885de_o.jpg","https://farm5.staticf
lickr.com/4264/34272065153_cfd8899f3e_o.jpg","https://farm5.staticflickr.com/4284/34
948230531_e76b7560c9_o.jpg","https://farm5.staticflickr.com/4280/35078830875_afbd41c
675_o.jpg","https://farm5.staticflickr.com/4280/34268361083_71fc70ff1a_o.jpg","http
s://farm5.staticflickr.com/4199/35038651646_93d0339269_o.jpg","https://farm5.staticf
lickr.com/4227/34223076793_4abe7e74d6_o.jpg"]},"presskit":"http://www.spacex.com/sit

es/spacex/files/crs11presskit.pdf","webcast":"https://www.youtube.com/watch?v=JuZBOU
MsYws","youtube_id":"JuZBOUMsYws","article":"https://spaceflightnow.com/2017/06/03/r
eused-dragon-cargo-capsule-launched-on-journey-to-space-station/","wikipedia":"http
s://en.wikipedia.org/wiki/SpaceX_CRS-11"},"static_fire_date_utc":"2017-05-28T16:00:0
0.000Z","static_fire_date_unix":1495987200,"net":false,"window":0,"rocket":"5e9d0d95
eda69973a809d1ec","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 launch
ed a refurbished Dragon capsule, serial number C106 which first flew in September 20
14 on the CRS-4 mission. Originally scheduled to launch on June 1, but was scrubbed
due to inclement weather.","crew":[],"ships":["5ea6ed30080df4000697c912"],"capsule
s":["5e9e2c5bf3591880643b2669"],"payloads":["5eb0e4c4b6c3bb0006eeb20e"],"launchpa
d":"5e9e4502f509094188566f88","flight_number":41,"name":"CRS-11","date_utc":"2017-06
-03T21:07:00.000Z","date_unix":1496524020,"date_local":"2017-06-03T17:07:00-04:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591856803b26
4a","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"la
nding_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"au
to_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d03ffd86e000604b35
2"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":
[]},"links":{"patch":{"small":"https://images2.imgbox.com/fa/1b/3vvXwAf9_o.png","lar
ge":"https://images2.imgbox.com/e2/f3/RZJ7ET73_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/69hhkm/bulgariasat1_launch_campaign_thread/","l
aunch":"https://www.reddit.com/r/spacex/comments/6isph2/welcome_to_the_rspacex_bulga
riasat1_official/","media":"https://www.reddit.com/r/spacex/comments/6iuj1z/rspacex_
bulgariasat1_media_thread_videos_images/","recovery":"https://www.reddit.com/r/space
x/comments/6k3kop/b10292_bulgariasat_1_recovery_thread/"},"flickr":{"small":[],"orig
inal":["https://farm5.staticflickr.com/4216/35496028185_ac5456195f_o.jpg","https://f
arm5.staticflickr.com/4278/35496027525_9ab9d90417_o.jpg","https://farm5.staticflick
r.com/4277/35496026875_fd25c46934_o.jpg","https://farm5.staticflickr.com/4257/354960
26065_02fe65754b_o.jpg","https://farm5.staticflickr.com/4289/35491530485_5a4d0f39ae_
o.jpg","https://farm5.staticflickr.com/4279/35491529875_1e35ee0a1e_o.jpg","https://f
arm5.staticflickr.com/4230/34681559323_53f05581ca_o.jpg"]},"presskit":"http://www.sp
acex.com/sites/spacex/files/bulgariasat1presskit.pdf","webcast":"https://www.youtub
e.com/watch?v=Y8mLi-rRTh8","youtube_id":"Y8mLi-rRTh8","article":"https://en.wikipedi
a.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":149756
5500,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"f
ailures":[],"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 commercia
l Bulgarian-owned communications satellite and it will provide television broadcasts
and other communications services over southeast Europe.","crew":[],"ships":["5ea6ed
2e080df4000697c906","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c","5ea6ed300
80df4000697c913"],"capsules":[],"payloads":["5eb0e4c4b6c3bb0006eeb20f"],"launchpa
d":"5e9e4502f509094188566f88","flight_number":42,"name":"BulgariaSat-1","date_ut
c":"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":"5e9e28a3f359189
e3a3b2645","flight":2,"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":null,"id":"5eb87d04ffd86e000
604b353"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"sh
ips":[]},"links":{"patch":{"small":"https://images2.imgbox.com/dc/51/LrdAbm5y_o.pn
g","large":"https://images2.imgbox.com/84/18/ahmKQNIj_o.png"},"reddit":{"campaig
n":"https://www.reddit.com/r/spacex/comments/6bp4fj/","launch":"https://www.reddit.c
om/r/spacex/comments/6j67ti/","media":"https://www.reddit.com/r/spacex/comments/6j7v
a6/","recovery":"https://www.reddit.com/r/spacex/comments/6k16ho/"},"flickr":{"smal
l":[],"original":["https://farm5.staticflickr.com/4162/34868729603_c75aa126b5_o.jp

g","https://farm5.staticflickr.com/4256/35618496935_5049a27240_o.jpg","https://farm5.staticflickr.com/4138/35231792310_377477e626_o.jpg","https://farm5.staticflickr.com/4005/35231791780_dd15335d5e_o.jpg","https://farm5.staticflickr.com/4289/35371450262_bb9c682ace_o.jpg","https://farm5.staticflickr.com/4263/35499710806_f9179bea0e_o.jpg","https://farm5.staticflickr.com/4256/35533873795_eb04895a60_o.jpg","https://farm5.staticflickr.com/4217/35533872755_900b3e8977_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/iridium2presskit.pdf","webcast":"https://www.youtube.com/watch?v=7tIwZg8F9b8","youtube_id":"7tIwZg8F9b8","article":"https://www.space.com/37304-liftoff-spacex-second-launch-three-days.html","wikipedia":"https://en.wikipedia.org/wiki/Iridium_satellite_constellation"},"static_fire_date_utc":"2017-06-20T22:10:00.000Z","static_fire_date_unix":1497996600,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"First flight with titanium grid fins to improve control authority and better cope with heat during re-entry.","crew":[],"ships":["5ea6ed2f080df4000697c910","5ea6ed2f080df4000697c911","5ea6ed30080df4000697c912"],"capsules":[],"payloads":["5eb0e4c4b6c3bb0006eeb210"],"launchpad":"5e9e4502f509092b78566f87","flight_number":43,"name":"Iridium NEXT Mission 2","date_utc":"2017-06-25T20:25:00.000Z","date_unix":1498422300,"date_local":"2017-06-25T13:25:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591801cf3b264b","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":"5eb87d05ffd86e000604b354"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/8f/a2/46UURVaD_o.png","large":"https://images2.imgbox.com/14/bd/jSZymxYh_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/6fw4yy/","launch":"https://www.reddit.com/r/spacex/comments/6kt2re/","media":"https://www.reddit.com/r/spacex/comments/6kt3fe/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4063/35758875505_a8559a6226_o.jpg","https://farm5.staticflickr.com/4025/35758874355_5075298440_o.jpg","https://farm5.staticflickr.com/4235/35359372730_df7c79797b_o.jpg","https://farm5.staticflickr.com/4014/35359371840_239a658872_o.jpg","https://farm5.staticflickr.com/4002/35577536822_679c68862d_o.jpg","https://farm5.staticflickr.com/4259/34868730393_b778d81a71_o.jpg","https://farm5.staticflickr.com/4162/34868729603_c75aa126b5_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/intelsat35epresskit.pdf","webcast":"https://www.youtube.com/watch?v=MIHVPCj25Z0","youtube_id":"MIHVPCj25Z0","article":"https://spaceflightnow.com/2017/07/06/spacex-delivers-for-intelsat-on-heavyweight-falcon-9-mission/","wikipedia":"https://en.wikipedia.org/wiki/Intelsat_35e"},"static_fire_date_utc":"2017-06-29T00:30:00.000Z","static_fire_date_unix":1498696200,"net":false,"window":3480,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Due to the constraints of sending a heavy satellite (~6,000 kg) to GTO, the rocket will fly in its expendable configuration and the first-stage booster will not be recovered.","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4c4b6c3bb0006eeb211"],"launchpad":"5e9e4502f509094188566f88","flight_number":44,"name":"Intelsat 35e","date_utc":"2017-07-05T23:35:00.000Z","date_unix":1499297700,"date_local":"2017-07-05T19:35:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591850cc3b264c","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d06ffd86e000604b355"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/ee/85/dtsbOs0E_o.png","large":"https://images2.imgbox.com/9c/f7/BNIV5kBE_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/6mrga2/crs12_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/6tfcio/welcome_to_the_rspacex_crs12_official_launch/","media":"https://www.reddit.com/r/spacex/comments/6th2nf/rspacex_crs12_media_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4352/36438808381_733603843d_o.jpg","https://farm5.staticflickr.com/4434/35760634184_f75457493b_o.jpg","https://farm5.staticflickr.com/4418/35741466074_327e9d0a80_o.jpg","https://

farm5.staticflickr.com/4414/35741465934_db82541cf3_o.jpg","https://farm5.staticflickr.com/4384/35741465854_e264864537_o.jpg","https://farm5.staticflickr.com/4333/35741465714_d0a8800533_o.jpg","https://farm5.staticflickr.com/4397/35741465464_1d49cc1cae_o.jpg","https://farm5.staticflickr.com/4354/35762350653_d94b2b5b07_o.jpg","https://farm5.staticflickr.com/4353/36571921725_2a0be4ec58_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/crs12presskit.pdf","webcast":"https://www.youtube.com/watch?v=vLxWsYx8dbo","youtube_id":"vLxWsYx8dbo","article":"https://spaceflightnow.com/2017/08/17/photos-falcon-9-rocket-soars-into-space-lands-back-at-cape-canaveral/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-12"},"static_fire_date_utc":"2017-08-10T13:10:00.000Z","static_fire_date_unix":1502370600,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Dragon is expected to carry 2,349 kg (5,179 lb) of pressurized mass and 961 kg (2,119 lb) unpressurized. The external payload manifested for this flight is the CREAM cosmic-ray detector. First flight of the Falcon 9 Block 4 upgrade. Last flight of a newly-built Dragon capsule; further missions will use refurbished spacecraft.","crew":[],"ships":["5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf3591869b63b2670"],"payloads":["5eb0e4c4b6c3bb0006eeb212"],"launchpad":"5e9e4502f509094188566f88","flight_number":45,"name":"CRS-12","date_utc":"2017-08-14T16:31:00.000Z","date_unix":1502728260,"date_local":"2017-08-14T12:31:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591884ee3b264d","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d07ffd86e000604b356"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/fd/09/Z1wlUv4U_o.png","large":"https://images2.imgbox.com/5e/95/HLIEaJlQ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/6o98st","launch":"https://www.reddit.com/r/spacex/comments/6vihsl/welcome_to_the_rspacex_formosat5_official_launch/","media":"https://www.reddit.com/r/spacex/comments/6vhwi1/rspacex_formosat5_media_thread_videos_images_gifs/","recovery":"https://www.reddit.com/r/spacex/comments/6wk653/b1038_recovery_thread/"},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4434/36075361533_54b3b937dd_o.jpg","https://farm5.staticflickr.com/4428/36884090115_ced8a80f14_o.jpg","https://farm5.staticflickr.com/4393/36073897213_6746d2a8b2_o.jpg","https://farm5.staticflickr.com/4341/36073878143_45c3ef0b93_o.jpg","https://farm5.staticflickr.com/4369/35978284213_e12e5743ab_o.jpg","https://farm5.staticflickr.com/4394/35978283413_145ba2ca2f_o.jpg","https://farm5.staticflickr.com/4340/35978282703_5dff70fb19_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/formosat5presskit.pdf","webcast":"https://www.youtube.com/watch?v=J4u3ZN2g_MI","youtube_id":"J4u3ZN2g_MI","article":"https://spaceflightnow.com/2017/08/25/taiwanese-satellite-rides-spacex-rocket-into-orbit/","wikipedia":"https://en.wikipedia.org/wiki/Formosat-5"},"static_fire_date_utc":"2017-08-24T18:50:00.000Z","static_fire_date_unix":1503600600,"net":false,"window":2520,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Formosat-5 is an Earth observation satellite of the Taiwanese space agency. The SHERPA space tug by Spaceflight Industries was removed from the cargo manifest of this mission. The satellite has a mass of only 475 kg.","crew":[],"ships":["5ea6ed2e080df4000697c905","5ea6ed2f080df4000697c910"],"capsules":[],"payloads":["5eb0e4c4b6c3bb0006eeb213"],"launchpad":"5e9e4502f509092b78566f87","flight_number":46,"name":"FormoSat-5","date_utc":"2017-08-24T18:50:00.000Z","date_unix":1503600600,"date_local":"2017-08-24T11:50:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f359182d843b264e","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d08ffd86e000604b357"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/12/7c/p8btH0CD_o.png","large":"https://images2.imgbox.com/32/61/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/4364/36689885100_c3c427c6bf_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/otv5_presskit.pdf","webcast":"https://www.youtube.com/watch?v=9M6Zvi-fFv4","youtube_id":"9M6Zvi-fFv4","article":"https://spaceflightnow.com/2017/09/07/spacex-beats-hurricane-with-smooth-launch-of-militarys-x-37b-spaceplane/","wikipedia":"https://en.wikipedia.org/wiki/Boeing_X-37"},"static_fire_date_utc":"2017-08-31T20:30:00.000Z","static_fire_date_unix":1504211400,"net":false,"window":18300,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Notable because Boeing is the primary contractor of the X-37B, which has until now been launched by ULA, a SpaceX competitor and Boeing partnership. Second flight of the Falcon 9 Block 4 upgrade.","crew":[],"ships":["5ea6ed2e080df4000697c906","5ea6ed2f080df4000697c90b"],"capsules":[],"payloads":["5eb0e4c5b6c3bb0006eeb214"],"launchpad":"5e9e4502f509094188566f88","flight_number":47,"name":"Boeing X-37B OTV-5","date_utc":"2017-09-07T13:50:00.000Z","date_unix":1504792200,"date_local":"2017-09-07T09:50:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591845123b264f","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d09ffd86e000604b358"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/fb/5b/LNVLRITr_o.png","large":"https://images2.imgbox.com/48/d4/MKsibD8N_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/6ygwxw/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":"https://images2.imgbox.com/dd/c6/Qns2WYDQ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/6yvn64/ses11echostar_105_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/75bw7p/ses11echostar105_official_launch_discussions/","media":"https://www.reddit.com/r/spacex/comments/75pgu5/rspacex_ses11_media_thread_videos_images_gifs/","recovery":"https://www.reddit.com/r/spacex/comments/76fqz1/b10312_recovery_thread/"},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4471/37388002420_b86680c3af_o.jpg","https://farm5.staticflickr.com/4497/37388002170_a267280534_o.jpg","https://farm5.staticflickr.com/4455/37388001730_0869279a8d_o.jpg","https://farm5.staticflickr.com/4465/36975195443_b98ed0fb24_o.jpg","https://farm5.staticflickr.com/4499/36975194993_8548a53c60_o.jpg","https://farm5.staticflickr.com/4482/36975194613_15bb109059_o.jpg","https://farm5.staticflickr.com/4453/36975194233_5f8f45c686_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/echostar105ses11presskit.pdf","webcast":"https://www.youtube.com/watch?v=iv1zeGSvhIw","youtube_id":"iv1zeGSvhIw","article":"https://spaceflightnow.com/2017/10/12/video-falcon-9-rocket-lifts-off-with-joint-satellite-for-ses-echostar/","wikipedia":"https://en.wikipedia.org/wiki/List_of_SES_satellites"},"static_fire_date_utc":"2017-10-02T20:30:00.000Z","static_fire_date_unix":1506976200,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Nineteenth comsat to GTO, also the fourth satellite launched for SES and second for Echostar. Third time a first stage booster will be reused.","crew":[],"ships":["5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90d","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4c5b6c3bb0006eeb216"],"launchpad":"5e9e4502f509094188566f88","flight_number":49,"name":"SES-11 / Echostar 105","date_utc":"2017-10-11T22:53:00.000Z","date_unix":1507762380,"date_local":"2017-10-11T18:53:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591829dc3b2646","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d0cffd86e000604b35a"},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/bb/fa/vNIBtlSn_o.png","large":"https://images2.imgbox.com/d6/8d/iv3VDTkX_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/73ttkd/koreasat_5a_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/79iuvb/rspacex_koreasat_5a_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/79lmdu/rspacex_koreasat5a_media_thread_videos_images/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4477/38056454431_a5f40f9fd7_o.jpg","https://farm5.staticflickr.com/4455/26280153979_b8016a829f_o.jpg","https://farm5.staticflickr.com/4459/38056455051_79ef2b949a_o.jpg","https://farm5.staticflickr.com/4466/26280153539_ecbc2b3fa9_o.jpg","https://farm5.staticflickr.com/4482/26280154209_bf08d76361_o.jpg","https://farm5.staticflickr.com/4493/38056455211_a4565a9cee_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/koreasat5apresskit.pdf","webcast":"https://www.youtube.com/watch?v=RUjH14vhLxA","youtube_id":"RUjH14vhLxA","article":"https://spaceflightnow.com/2017/10/30/spacex-launches-and-lands-third-rocket-in-three-weeks/","wikipedia":"https://en.wikipedia.org/wiki/Koreasat_5A"},"static_fire_date_utc":"2017-10-26T16:00:00.000Z","static_fire_date_unix":1509033600,"net":false,"window":8640,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"KoreaSat 5A is a Ku-band satellite capable of providing communication services from East Africa and Central Asia to southern India, Southeast Asia, the Philippines, Guam, Korea, and Japan. The satellite will be placed in GEO at 113\xc3\x82\xc2\xb0 East Longitude, and will provide services ranging from broadband internet to broadcasting services and maritime communications.","crew":[],"ships":["5ea6ed2f080df4000697c90d","5ea6ed2e080df4000697c908","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4c5b6c3bb0006eeb217"],"launchpad":"5e9e4502f509094188566f88","flight_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","upc
oming":false,"cores":[{"core":"5e9e28a4f359185cc03b2651","flight":1,"gridfins":tru
e,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_
type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":fals
e,"launch_library_id":null,"id":"5eb87d0dffd86e000604b35b"},{"fairings":null,"link
s":{"patch":{"small":"https://images2.imgbox.com/84/42/Ejb9KhGR_o.png","large":"http
s://images2.imgbox.com/54/4f/CeMcU6RG_o.png"},"reddit":{"campaign":"https://www.redd
it.com/r/spacex/comments/7bxg5a/crs13_launch_campaign_thread/","launch":"https://ww
w.reddit.com/r/spacex/comments/7j725w/rspacex_crs13_official_launch_discussion_updat
es/","media":"https://www.reddit.com/r/spacex/comments/7j6oxz/rspacex_crs13_media_th
read_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["http
s://farm5.staticflickr.com/4591/38372264594_8140bd943d_o.png","https://farm5.staticf
lickr.com/4546/39051469552_13703e6b2e_o.jpg","https://farm5.staticflickr.com/4682/39
051469662_55c55150c0_o.jpg","https://farm5.staticflickr.com/4565/25215551218_2597838
c1a_o.jpg","https://farm5.staticflickr.com/4680/39051469812_b6f802fc9d_o.jpg","http
s://farm5.staticflickr.com/4517/27304331429_59b9d6c1d4_o.jpg"]},"presskit":"http://w
ww.spacex.com/sites/spacex/files/crs13presskit12_11.pdf","webcast":"https://www.yout
ube.com/watch?v=OPHbqY9LHCs","youtube_id":"OPHbqY9LHCs","article":"https://spaceflig
htnow.com/2017/12/15/spacexs-50th-falcon-rocket-launch-kicks-off-station-resupply-mi
ssion/","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,"win
dow":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"W
ill reuse the Dragon capsule previously flown on CRS-6 and will reuse the booster fr
om CRS-11.","crew":[],"ships":["5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf359
188bfb3b266b"],"payloads":["5eb0e4c5b6c3bb0006eeb218"],"launchpad":"5e9e4501f509094b
a4566f84","flight_number":51,"name":"CRS-13","date_utc":"2017-12-15T15:36:00.000
Z","date_unix":1513352160,"date_local":"2017-12-15T10:36:00-05:00","date_precisio
n":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591856803b264a","flight":2,"g
ridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":tru
e,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"t
bd":false,"launch_library_id":null,"id":"5eb87d0effd86e000604b35c"},{"fairings":{"re
used":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":
{"small":"https://images2.imgbox.com/85/43/6VSgldkO_o.png","large":"https://images2.
imgbox.com/5f/d4/wAoAmyxK_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spa
cex/comments/7cgts7/iridium_next_constellation_mission_4_launch/","launch":"https://
www.reddit.com/r/spacex/comments/7li8y2/rspacex_iridium_next_4_official_launch_discu
ssion/","media":"https://www.reddit.com/r/spacex/comments/7litv2/rspacex_iridium4_me
dia_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["h
ttps://farm5.staticflickr.com/4695/25557986177_2d315f4c11_o.jpg","https://farm5.stat
icflickr.com/4735/25377631178_d28e0a9141_o.jpg","https://farm5.staticflickr.com/473
3/25377628928_a79bb43a31_o.jpg","https://farm5.staticflickr.com/4732/25377628288_361
f551d34_o.jpg","https://farm5.staticflickr.com/4598/39244105581_eeb76c8ed2_o.jpg","h
ttps://farm5.staticflickr.com/4728/24381830217_a49ae2100f_o.jpg"]},"presskit":"htt
p://www.spacex.com/sites/spacex/files/iridium4presskit.pdf","webcast":"https://www.y
outube.com/watch?v=wtdjCwo6d3Q","youtube_id":"wtdjCwo6d3Q","article":"https://spacef
lightnow.com/2017/12/23/spacex-launch-dazzles-delivering-10-more-satellites-for-irid
ium/","wikipedia":"https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Nex
t-generation_constellation"},"static_fire_date_utc":"2017-12-17T21:00:00.000Z","stat
ic_fire_date_unix":1513544400,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d
1ec","success":true,"failures":[],"details":"Reusing the booster first used on Iridi
um-2, but will be flying expendable.","crew":[],"ships":["5ea6ed2e080df4000697c90
8"],"capsules":[],"payloads":["5eb0e4c6b6c3bb0006eeb219"],"launchpad":"5e9e4502f5090
92b78566f87","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","d
ate_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a3f3591801cf3b264
b","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/space
x/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/7orksl/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/space
x-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":"5eb87d10ffd86e000604b35e"},{"fair
ings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"link
s":{"patch":{"small":"https://images2.imgbox.com/e0/b5/G8QLLURl_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/7tvtbh/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/space
x/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/7vimtm/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/eQQSQrXp_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/7r5pyn/hispasat_30w6_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/7r5pyn/hispasat_30w6_launch_campaign_thread/","media":"https://www.reddit.com/r/spacex/comments/825asx/rspacex_hispasat_30w6_media_thread_videos_images/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4753/25790223907_36e7b59efa_o.jpg","https://farm5.staticflickr.com/4666/38850799080_e17426795c_o.jpg","https://farm5.staticflickr.com/4758/40660917561_daa8efea04_o.jpg","https://farm5.staticflickr.com/4622/39951085264_b5deeed6c9_o.jpg","https://farm5.staticflickr.com/4772/39951085474_77be77c227_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/hispasat30w6_presskit.pdf","webcast":"https://www.youtube.com/watch?v=Kpfrp-GMKKM","youtube_id":"Kpfrp-GMKKM","article":"https://spaceflightnow.com/2018/03/06/hefty-hispasat-satellite-rides-spacex-rocket-into-orbit/","wikipedia":"https://en.wikipedia.org/wiki/Hispasat_30W-6"},"static_fire_date_utc":"2018-02-21T03:46:00.000Z","static_fire_date_unix":1519184760,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Launched with landing legs and titanium grid fins. Did not attempt a landing due to \'unfavorable weather conditions in the recovery area \'.","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4c7b6c3bb0006eeb21f"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":57,"name":"Hispasat 30W-6","date_utc":"2018-03-06T05:33:00.000Z","date_unix":1520314380,"date_local":"2018-03-06T00:33:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f359186cb73b2654","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d15ffd86e000604b362"},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/55/c6/8sNQh2b6_o.png","large":"https://images2.imgbox.com/23/bc/mq595O2o_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_

o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/iridium-5_press_kit_2018.pdf","webcast":"https://www.youtube.com/watch?v=mp0TW8vkCLg","youtube_id":"mp0TW8vkCLg","article":"https://spaceflightnow.com/2018/03/30/iridium-messaging-network-gets-another-boost-from-spacex/","wikipedia":"https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generation_constellation"},"static_fire_date_utc":"2018-03-25T12:23:00.000Z","static_fire_date_unix":1521980580,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Fifth Iridium NEXT mission to deploy ten Iridium NEXT satellites. Reused booster from third Iridium flight, and although controlled descent was performed, the booster was expended into the ocean. SpaceX planned a second recovery attempt of one half of the fairing using the specially modified boat Mr. 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/88l52i/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":1522252320,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"The launch used a refurbished booster (from CRS-12) for the 11th time, and a refurbished capsule (C110 from CRS-8) for the third time. External payloads include a materials research platform MISSE-FF phase 3 of the Robotic Refueling Mission TSIS, heliophysics sensor several crystallization experiments, and the RemoveDebris spacecraft aimed at space junk removal. The booster was expended in order to test a new landing profile.","crew":[],"ships":["5ea6ed30080df4000697c912"],"capsules":["5e9e2c5cf3591885d43b266d"],"payloads":["5eb0e4c7b6c3bb0006eeb221"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":59,"name":"CRS-14","date_utc":"2018-04-02T20:30:41.000Z","date_unix":1522701041,"date_local":"2018-04-02T16:30:41-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591884ee3b264d","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d16ffd86e000604b364"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/4d/55/TQjhUrc7_o.png","large":"https://images2.imgbox.com/22/84/wfppRwXb_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/88l46q/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.staticfl

ickr.com/803/27684194678_c1ccd0680b_o.jpg","https://farm1.staticflickr.com/902/41512967962_74913ef5b0_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/tesspresskitfinal417.pdf","webcast":"https://www.youtube.com/watch?v=aY-0uBIYYKk","youtube_id":"aY-0uBIYYKk","article":"https://spaceflightnow.com/2018/04/19/all-sky-survey-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/bangabandhupresskit51118.pdf","webcast":"https://www.youtube.com/watch?v=rQEqKZ7CJlk","youtube_id":"rQEqKZ7CJlk","article":"https://spaceflightnow.com/2018/05/11/spacex-debuts-an-improved-human-rated-model-of-the-falcon-9-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","5ea6ed300800df4000697c916"],"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":"5e9e3032383ecb6bb234e7c

a"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d19ffd86e000
604b366"},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"shi
ps":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.
com/c8/01/ijWT6oSs_o.png","large":"https://images2.imgbox.com/e9/61/9dF2ELMJ_o.pn
g"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8ffsgl/iridium6_g
racefo_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/8
kyk5a/rspacex_iridium_next_6_official_launch_discussion/","media":"https://www.reddi
t.com/r/spacex/comments/8l9tfz/rspacex_iridium6gracefo_media_thread_videos/","recove
ry":null},"flickr":{"small":[],"original":["https://farm1.staticflickr.com/897/42290
934301_4c6ac431c8_o.jpg","https://farm1.staticflickr.com/831/42290933051_510176c9da_
o.jpg","https://farm1.staticflickr.com/882/42290932011_a522b43015_o.jpg","https://fa
rm1.staticflickr.com/947/42290930761_4bf7b607b1_o.jpg","https://farm1.staticflickr.c
om/982/42290930181_0117ab0dfb_o.jpg","https://farm1.staticflickr.com/955/42244412292
_e787538fc5_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/iridium6pr
esskit2018521.pdf","webcast":"https://www.youtube.com/watch?v=I_0GgKfwCSk","youtube_
id":"I_0GgKfwCSk","article":"https://spaceflightnow.com/2018/05/22/rideshare-launch-
by-spacex-serves-commercial-and-scientific-customers/","wikipedia":"https://en.wikip
edia.org/wiki/Gravity_Recovery_and_Climate_Experiment"},"static_fire_date_utc":"2018
-05-18T20:16:00.000Z","static_fire_date_unix":1526674560,"net":false,"window":0,"roc
ket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"GFZ arranged
a rideshare of GRACE-FO on a Falcon 9 with Iridium following the cancellation of the
ir Dnepr launch contract in 2015. Iridium CEO Matt Desch disclosed in September 2017
that GRACE-FO would be launched on the sixth Iridium NEXT mission. The booster reuse
turnaround was a record 4.5 months between flights.","crew":[],"ships":["5ea6ed2e080
df4000697c908"],"capsules":[],"payloads":["5eb0e4c7b6c3bb0006eeb224","5eb0e4c8b6c3bb
0006eeb225"],"launchpad":"5e9e4502f509092b78566f87","flight_number":62,"name":"Iridi
um NEXT Mission 6","date_utc":"2018-05-22T19:47:58.000Z","date_unix":1527018478,"dat
e_local":"2018-05-22T12:47:58-08:00","date_precision":"hour","upcoming":false,"core
s":[{"core":"5e9e28a4f35918345e3b2652","flight":2,"gridfins":true,"legs":false,"reus
ed":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpa
d":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d1affd8
6e000604b367"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":fals
e,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/fa/c4/37mkd4wY_
o.png","large":"https://images2.imgbox.com/9f/0c/0KIBjMfe_o.png"},"reddit":{"campaig
n":"https://www.reddit.com/r/spacex/comments/8jv0ed/ses12_launch_campaign_threa
d/","launch":"https://www.reddit.com/r/spacex/comments/8o9woj/rspacex_ses12_official
_launch_discussion_updates/","media":"https://www.reddit.com/r/spacex/comments/8oa3k
4/rspacex_ses12_media_thread_videos_images_gifs/","recovery":null},"flickr":{"smal
l":[],"original":["https://farm2.staticflickr.com/1752/41664024035_14c81a25e3_o.jp
g","https://farm2.staticflickr.com/1731/27695627527_d9d5bca0ae_o.jpg","https://farm
2.staticflickr.com/1735/27695627327_ed66c7282c_o.jpg","https://farm2.staticflickr.co
m/1752/27695627417_38ea7d7acf_o.jpg","https://farm2.staticflickr.com/1733/4166402393
5_e9e8120690_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/ses-12mis
sionpress_kit_6.2.18.pdf","webcast":"https://www.youtube.com/watch?v=2hcM5hqQ45s","y
outube_id":"2hcM5hqQ45s","article":"https://spaceflightnow.com/2018/06/04/multi-miss
ion-telecom-craft-launched-by-spacex-for-ses/","wikipedia":"https://en.wikipedia.or
g/wiki/SES-12"},"static_fire_date_utc":"2018-05-25T01:48:00.000Z","static_fire_date_
unix":1527212880,"net":false,"window":7200,"rocket":"5e9d0d95eda69973a809d1ec","succ
ess":true,"failures":[],"details":"SES-12, the replacement satellite for NSS-6, was
successfully launched and deployed on June 4th, completing SpaceX\'s eleventh flight
of 2018. According to SES Luxembourg, The SES-12 satellite will expand SES\xe2\x80\x
99s capabilities to provide direct-to-home (DTH) broadcasting, VSAT, Mobility and Hi
gh Throughput Satellite (HTS) data connectivity services in the Middle East and the
Asia-Pacific region, including rapidly growing markets such as India and Indonesia.
[SES-12] will be co-located with SES-8","crew":[],"ships":["5ea6ed2e080df4000697c90
a"],"capsules":[],"payloads":["5eb0e4c8b6c3bb0006eeb226"],"launchpad":"5e9e4501f5090

94ba4566f84","flight_number":63,"name":"SES-12","date_utc":"2018-06-04T04:45:00.000
Z","date_unix":1528087500,"date_local":"2018-06-04T00:45:00-04:00","date_precisio
n":"hour","upcoming":false,"cores":[{"core":"5e9e28a4f3591845123b264f","flight":2,"g
ridfins":false,"legs":false,"reused":true,"landing_attempt":false,"landing_success":
null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_lib
rary_id":null,"id":"5eb87d1bffd86e000604b368"},{"fairings":null,"links":{"patch":{"s
mall":"https://images2.imgbox.com/b3/12/t63UKas5_o.png","large":"https://images2.img
box.com/15/3c/W0LEnrZx_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/space
x/comments/8pua1m/crs15_launch_campaign_thread/","launch":"https://www.reddit.com/r/
spacex/comments/8ugo3l/rspacex_crs15_official_launch_discussion_updates","media":"ht
tps://www.reddit.com/r/spacex/comments/8ujcwo/rspacex_crs15_media_thread_videos_imag
es_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm1.staticfli
ckr.com/836/42374725204_dae09db889_o.jpg","https://farm2.staticflickr.com/1781/41281
636860_71dca92ab4_o.jpg","https://farm2.staticflickr.com/1829/42374725534_325e676d19
_o.jpg","https://farm2.staticflickr.com/1810/42374724974_e50b050403_o.jpg","https://
farm1.staticflickr.com/843/41281636620_437528bd1f_o.jpg","https://farm2.staticflick
r.com/1790/41281637670_f6a6a2cf6c_o.jpg"]},"presskit":"http://www.spacex.com/sites/s
pacex/files/crs15presskit.pdf","webcast":"https://www.youtube.com/watch?v=ycMagB1s8X
M","youtube_id":"ycMagB1s8XM","article":"https://spaceflightnow.com/2018/06/29/space
x-launches-ai-enabled-robot-companion-vegetation-monitor-to-space-station/","wikiped
ia":"https://en.wikipedia.org/wiki/SpaceX_CRS-15"},"static_fire_date_utc":"2018-06-2
3T21:30:00.000Z","static_fire_date_unix":1529789400,"net":false,"window":0,"rocke
t":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Payload includ
ed MISSE-FF 2, ECOSTRESS, and a Latching End Effector. The refurbished booster featu
red a record 2.5 months period turnaround from its original launch of the TESS satel
lite \xe2\x80\x94 the fastest previous was 4.5 months. This was the last commercial
flight of a Block 4 booster, which was expended into the Atlantic without landing le
gs and grid fins.","crew":[],"ships":["5ea6ed30080df4000697c912"],"capsules":["5e9e2
c5cf359183bb73b266e"],"payloads":["5eb0e4c8b6c3bb0006eeb227"],"launchpad":"5e9e4501f
509094ba4566f84","flight_number":64,"name":"CRS-15","date_utc":"2018-06-29T09:42:00.
000Z","date_unix":1530265320,"date_local":"2018-06-29T05:42:00-04:00","date_precisio
n":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f35918863d3b2655","flight":2,"g
ridfins":false,"legs":false,"reused":true,"landing_attempt":false,"landing_success":
null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_lib
rary_id":null,"id":"5eb87d1cffd86e000604b369"},{"fairings":{"reused":false,"recovery
_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://ima
ges2.imgbox.com/2b/de/2CF8Q4Bq_o.png","large":"https://images2.imgbox.com/c0/d8/Jt7E
s9az_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8w19yg/t
elstar_19v_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/commen
ts/90p1a6/rspacex_telstar_19v_official_launch_discussion/","media":"https://www.redd
it.com/r/spacex/comments/90oxrr/rspacex_telstar_19v_media_thread_videos_images/","re
covery":null},"flickr":{"small":[],"original":["https://farm1.staticflickr.com/856/2
8684550147_49802752b3_o.jpg","https://farm1.staticflickr.com/927/28684552447_956a974
4f1_o.jpg","https://farm2.staticflickr.com/1828/29700007298_8ac5891d2c_o.jpg","http
s://farm1.staticflickr.com/914/29700004918_31ed7b73ef_o.jpg","https://farm1.staticfl
ickr.com/844/29700002748_3047e50a0a_o.jpg","https://farm2.staticflickr.com/1786/2970
0000688_2514cd3cbb_o.jpg"]},"presskit":"http://www.spacex.com/sites/spacex/files/tel
star19vantagepresskit.pdf","webcast":"https://www.youtube.com/watch?v=xybp6zLaGx
4","youtube_id":"xybp6zLaGx4","article":"https://spaceflightnow.com/2018/07/22/space
x-delivers-for-telesat-with-successful-early-morning-launch/","wikipedia":"https://e
n.wikipedia.org/wiki/Telstar_19V"},"static_fire_date_utc":"2018-07-18T21:00:00.000
Z","static_fire_date_unix":1531947600,"net":false,"window":7200,"rocket":"5e9d0d95ed
a69973a809d1ec","success":true,"failures":[],"details":"SSL-manufactured communicati
ons satellite intended to be placed at 63\xc2\xb0 West over the Americas. At 7,075 k
g, it became the heaviest commercial communications satellite ever launched.","cre
w":[],"ships":["5ea6ed2e080df4000697c90a","5ea6ed2f080df4000697c90b","5ea6ed2f080df4

000697c90d","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5eb0e4c8b6c3bb000
6eeb228"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":65,"name":"Telstar
19V","date_utc":"2018-07-22T05:50:00.000Z","date_unix":1532238600,"date_local":"2018
-07-22T01:50:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e
9e28a5f359181eed3b2657","flight":1,"gridfins":true,"legs":true,"reused":false,"landi
ng_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383
ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87
d1effd86e000604b36a"},{"fairings":{"reused":false,"recovery_attempt":true,"recovere
d":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://im
ages2.imgbox.com/b4/96/LRfRepkO_o.png","large":"https://images2.imgbox.com/e6/10/oZP
CNx0m_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/8v4wcm/
iridium_next_constellation_mission_7_launch/","launch":"https://www.reddit.com/r/spa
cex/comments/91i1ru/rspacex_iridium_next_7_official_launch_discussion/","media":"htt
ps://www.reddit.com/r/spacex/comments/91gx44/rspacex_iridium_next_constellation_miss
ion_7/","recovery":null},"flickr":{"small":[],"original":["https://farm1.staticflick
r.com/934/41868222930_0a850d30dc_o.jpg","https://farm1.staticflickr.com/852/41868222
500_2ff5f6e5f9_o.jpg","https://farm1.staticflickr.com/929/28787338307_7c0cfce99a_o.j
pg","https://farm1.staticflickr.com/928/28787338507_3be74590d2_o.jpg"]},"presski
t":"http://www.spacex.com/sites/spacex/files/iridium7_press_kit_7_24.pdf","webcas
t":"https://www.youtube.com/watch?v=vsDknmK30C0","youtube_id":"vsDknmK30C0","articl
e":"https://spaceflightnow.com/2018/07/25/spacexs-second-launch-in-three-days-lofts-
10-more-iridium-satellites/","wikipedia":"https://en.wikipedia.org/wiki/Iridium_sate
llite_constellation#Next-generation_constellation"},"static_fire_date_utc":"2018-07-
20T21:08:00.000Z","static_fire_date_unix":1532120880,"net":false,"window":0,"rocke
t":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX\'s four
teenth flight of 2018 and seventh of eight launches in a half-a-billion-dollar contr
act with Iridium. Will use a Block 5 first stage, to be recovered in the Pacific Oce
an. Only one mission will be left for Iridium, with 10 more satellites. First attemp
t to recover a Fairing with the upgraded net. Fairing recovery was not successfu
l.","crew":[],"ships":["5ea6ed2f080df4000697c910","5ea6ed2e080df4000697c908","5ea6ed
30080df4000697c912","5ea6ed30080df4000697c914"],"capsules":[],"payloads":["5eb0e4c9b
6c3bb0006eeb229"],"launchpad":"5e9e4502f509092b78566f87","flight_number":66,"nam
e":"Iridium NEXT Mission 7","date_utc":"2018-07-25T11:39:26.000Z","date_unix":153251
8766,"date_local":"2018-07-25T04:39:26-07:00","date_precision":"hour","upcoming":fal
se,"cores":[{"core":"5e9e28a5f3591809c03b2658","flight":1,"gridfins":true,"legs":tru
e,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASD
S","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_lib
rary_id":null,"id":"5eb87d1fffd86e000604b36b"},{"fairings":{"reused":false,"recovery
_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://ima
ges2.imgbox.com/46/b2/NUQmyHR4_o.png","large":"https://images2.imgbox.com/9e/eb/uGUY
OYfZ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/91gwfg/m
erah_putih_telkom4_launch_campaign_thread/","launch":"https://www.reddit.com/r/space
x/comments/9539nr/rspacex_merah_putih_telkom4_official_launch/","media":"https://ww
w.reddit.com/r/spacex/comments/94zr0b/rspacex_merah_putih_media_thread_videos_image
s/","recovery":null},"flickr":{"small":[],"original":["https://farm2.staticflickr.co
m/1798/43862495212_8fe1688c4b_o.jpg","https://farm1.staticflickr.com/935/43006330655
_f1623a3fa1_o.jpg","https://farm1.staticflickr.com/938/28974313177_d16381ff5f_o.jp
g","https://farm2.staticflickr.com/1780/43006334045_fb7b4a8714_o.jpg","https://farm
1.staticflickr.com/929/28974335747_ffd87ff274_o.jpg","https://farm1.staticflickr.co
m/930/30041972208_f735b9690b_o.jpg"]},"presskit":"https://www.spacex.com/sites/space
x/files/merahputihpresskit.pdf","webcast":"https://www.youtube.com/watch?v=FjfQNBYv2
IY","youtube_id":"FjfQNBYv2IY","article":"https://spaceflightnow.com/2018/08/07/indo
nesian-communications-satellite-deployed-in-orbit-by-spacex/","wikipedia":"https://e
n.wikipedia.org/wiki/Telkom_Indonesia"},"static_fire_date_utc":"2018-08-02T15:53:00.
000Z","static_fire_date_unix":1533225180,"net":false,"window":7200,"rocket":"5e9d0d9
5eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX\'s fifteenth fligh

t of 2018 launched the Merah Putih (also known as Telkom-4) geostationary communicat
ions 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 recove
red and is expected to become the first Falcon 9 booster to fly three missions.","cr
ew":[],"ships":["5ea6ed2f080df4000697c90d","5ea6ed30080df4000697c913"],"capsules":
[],"payloads":["5eb0e4c9b6c3bb0006eeb22a"],"launchpad":"5e9e4501f509094ba4566f84","f
light_number":67,"name":"Merah Putih","date_utc":"2018-08-07T05:18:00.000Z","date_un
ix":1533619080,"date_local":"2018-08-07T01:18:00-04:00","date_precision":"hour","upc
oming":false,"cores":[{"core":"5e9e28a5f359182b023b2656","flight":2,"gridfins":tru
e,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_t
ype":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"l
aunch_library_id":null,"id":"5eb87d20ffd86e000604b36c"},{"fairings":{"reused":fals
e,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"smal
l":"https://images2.imgbox.com/55/54/73EXeMfo_o.png","large":"https://images2.imgbo
x.com/fd/59/nv3Ih3Am_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/c
omments/95cte4/telstar_18v_apstar_5c_launch_campaign_thread/","launch":"https://www.
reddit.com/r/spacex/comments/9e7bmq/rspacex_telstar_18v_official_launch_discussio
n/","media":"https://www.reddit.com/r/spacex/comments/9ebkqw/rspacex_telstar_18v_med
ia_thread_videos_images/","recovery":"https://www.reddit.com/r/spacex/comments/9erxl
h/telstar_18_vantage_recovery_thread/"},"flickr":{"small":[],"original":["https://fa
rm2.staticflickr.com/1878/43690848045_492ef182dd_o.jpg","https://farm2.staticflickr.
com/1856/43881229604_6d42e838b6_o.jpg","https://farm2.staticflickr.com/1852/43881223
704_93777e34af_o.jpg","https://farm2.staticflickr.com/1841/43881217094_558b7b214e_o.
jpg","https://farm2.staticflickr.com/1869/43881193934_423eff8c86_o.jpg"]},"presski
t":"https://www.spacex.com/sites/spacex/files/telstar18vantagepresskit.pdf","webcas
t":"https://www.youtube.com/watch?v=Apw3xqwsG1U","youtube_id":"Apw3xqwsG1U","articl
e":"https://spaceflightnow.com/2018/09/10/spacex-telesat-achieve-repeat-success-with
-midnight-hour-launch/","wikipedia":"https://en.wikipedia.org/wiki/Telstar_18V"},"st
atic_fire_date_utc":"2018-09-05T07:21:00.000Z","static_fire_date_unix":1536132060,"n
et":false,"window":14400,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failure
s":[],"details":"SpaceX\'s sixteenth flight of 2018 launched the Telstar 18v GEO com
munication satellite for Telesat, the second launch for the canadian company in a fe
w months. The first stage was a new Falcon 9 V1.2 Block 5 which was successfully rec
overed on OCISLY.","crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed2f080df40006
97c90d","5ea6ed2f080df4000697c90b"],"capsules":[],"payloads":["5eb0e4c9b6c3bb0006eeb
22b"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":68,"name":"Telstar 18
V","date_utc":"2018-09-10T04:45:00.000Z","date_unix":1536554700,"date_local":"2018-0
9-10T00:45:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e
28a5f3591833b13b2659","flight":1,"gridfins":true,"legs":true,"reused":false,"landing
_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ec
b6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d2
2ffd86e000604b36d"},{"fairings":{"reused":false,"recovery_attempt":false,"recovere
d":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/cb/41/RQI
Y0BjQ_o.png","large":"https://images2.imgbox.com/df/2c/DsfygPln_o.png"},"reddit":{"c
ampaign":"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/9m3l
y5/rspacex_saocom_1a_media_thread_videos_images_gifs/","recovery":null},"flickr":{"s
mall":[],"original":["https://farm2.staticflickr.com/1940/44262177535_9582184d3f_o.j
pg","https://farm2.staticflickr.com/1917/30234800687_fd94fde151_o.jpg","https://farm
2.staticflickr.com/1951/30234801997_b5a65426ca_o.jpg","https://farm2.staticflickr.co
m/1910/44262169525_e4c6b27299_o.jpg","https://farm2.staticflickr.com/1923/4445112545
4_8d26929d0b_o.jpg","https://farm2.staticflickr.com/1914/44262170545_22fe55d4bb_o.jp
g","https://farm2.staticflickr.com/1934/44262166295_3f84597f09_o.jpg"]},"presski
t":"https://www.spacex.com/sites/spacex/files/saocom1apresskit.pdf","webcast":"http
s://www.youtube.com/watch?v=vr_C6LQ7mHc","youtube_id":"vr_C6LQ7mHc","article":"http

s://spaceflightnow.com/2018/10/08/spacex-aces-first-rocket-landing-in-california-after-launching-argentine-satellite/","wikipedia":"https://en.wikipedia.org/wiki/SAOCOM"},"static_fire_date_utc":"2018-10-02T21:00:00.000Z","static_fire_date_unix":1538514000,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX\'s seventeenth flight of 2018 was the first launch of the Saocom Earth observation 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"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d23ffd86e000604b36e"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/ad/40/oCtCFYfl_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\xe2\x80\x99hail 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"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d24ffd86e000604b36f"},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/48/3b/Lg1Qc4uX_o.png","large":"https://images2.imgbox.com/3e/87/xYszAJQc_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/9raysi/ssoa_launch_campaign_thread","launch":"https://www.reddit.com/r/spacex/comments/a0vjff/rspacex_ssoa_official_launch_discussion_updates/","media":"https://old.reddit.com/r/spacex/comments/a0wylf/rspacex_ssoa_media_thread_videos_images_gifs/","recovery":"https://www.reddit.com/r/spacex/comments/a2tjoe/ssoa_recovery_thr

ead/"},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4875/45257565145_d53757e0b2_o.jpg","https://farm5.staticflickr.com/4839/45257565835_4fd6f3e895_o.jpg","https://farm5.staticflickr.com/4822/45257566865_9c9d34a7ca_o.jpg","https://farm5.staticflickr.com/4821/45257568225_186c8431cf_o.jpg","https://farm5.staticflickr.com/4885/45257569445_1d74a601df_o.jpg","https://farm5.staticflickr.com/4869/45257570925_8eae9a0888_o.jpg","https://farm5.staticflickr.com/4842/31338804427_2e4dcda6e7_o.jpg","https://farm5.staticflickr.com/4894/46227271292_2eee9af3eb_o.jpg","https://farm5.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 synchronus low earth orbit consisting of 64 individual microsatellites and cubesats. It is also likely to be the third flight of core B1046 which previously flew Bangabandhu-1 and Merah Putih. If this happens it will be the first time a Falcon 9 has flown more than two missions. ","crew":[],"ships":["5ea6ed2f080df4000697c910","5ea6ed30080df4000697c912","5ea6ed30080df4000697c914","5ea6ed2e080df4000697c908"],"capsules":[],"payloads":["5eb0e4c9b6c3bb0006eeb22e"],"launchpad":"5e9e4502f509092b78566f87","flight_number":71,"name":"SSO-A","date_utc":"2018-12-03T18:34:00.000Z","date_unix":1543861920,"date_local":"2018-12-03T10:34:00-08:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f359182b023b2656","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d25ffd86e000604b370"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/f0/a6/oNKZP5Hu_o.png","large":"https://images2.imgbox.com/ee/c6/MkvXHhu1_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/9z7i4j/crs16_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/a2oubw/rspacex_crs16_official_launch_discussion_updates/","media":"https://www.reddit.com/r/spacex/comments/a2uojp/rspacex_crs16_media_thread_videos_images_gifs/","recovery":"https://www.reddit.com/r/spacex/comments/a3n3vm/crs16_emergency_recovery_thread/"},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4835/45473442624_69ee8bee45_o.jpg","https://farm5.staticflickr.com/4903/45473443604_0d668c31da_o.jpg","https://farm5.staticflickr.com/4858/45473444314_413a344dcb_o.jpg","https://farm5.staticflickr.com/4856/45473445134_d9384878f8_o.jpg","https://farm5.staticflickr.com/4840/45473446114_7d5e5d6fe2_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/crs16_press_kit_12_4.pdf","webcast":"https://www.youtube.com/watch?v=Esh1jHT9oTA","youtube_id":"Esh1jHT9oTA","article":"https://spaceflightnow.com/2018/12/05/spacex-falcon-9-boosts-dragon-cargo-ship-to-orbit-first-stage-misses-landing-target/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-16"},"static_fire_date_utc":"2018-11-30T19:57:00.000Z","static_fire_date_unix":1543607820,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX\'s 16th Crew Resupply Mission on behalf of NASA, with a total of 20 contracted flights. This will bring essential supplies to the International Space Station using SpaceX\'s reusable Dragon spacecraft. The Falcon 9 will launch from SLC-40 at Cape Canaveral Air Force Station. During the landing of the first stage, a grid fin hydraulic pump stalled, causing the core to enter an uncontrolled roll, and resulting in a (succesful) 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,"la

nding_success":false,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d26ffd86e000604b371"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/3c/2f/tL7xDUD6_o.png","large":"https://images2.imgbox.com/f9/31/MGTnAfuR_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/a4516o/gps_iii2_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/a71wyn/rspacex_gps_iii2_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/a73kz5/rspacex_gps_iii2_media_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4864/45715171884_f1dd88c058_o.jpg","https://farm8.staticflickr.com/7926/45525648155_32fdab17a5_o.jpg","https://farm8.staticflickr.com/7876/45525649035_ba60162fe0_o.jpg","https://farm8.staticflickr.com/7853/45525649825_e6d35415e1_o.jpg","https://farm5.staticflickr.com/4893/45525650685_02b408c385_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/gps_iii_press_kit.pdf","webcast":"https://youtu.be/yRiLPoy_Mzc","youtube_id":"yRiLPoy_Mzc","article":"https://spaceflightnow.com/2018/12/23/spacex-closes-out-year-with-successful-gps-satellite-launch/","wikipedia":"https://en.wikipedia.org/wiki/GPS_Block_IIIA"},"static_fire_date_utc":"2018-12-13T21:24:00.000Z","static_fire_date_unix":1544736240,"net":false,"window":1560,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX\'s twenty-first flight of 2018 launched the first of the new GPS III satellites (Block IIIA) for the United States Air Force and was SpaceX\'s first EELV mission. The spacecraft was delivered to a MEO transfer orbit from SLC-40 at Cape Canaveral Air Force Station. This mission was the first to fly with the redesigned COPV on the first stage (B1054) as well as the second. The booster was expended.","crew":[],"ships":[],"capsules":[],"payloads":["5eb0e4cab6c3bb0006eeb230"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":73,"name":"GPS III SV01","date_utc":"2018-12-23T13:51:00.000Z","date_unix":1545573060,"date_local":"2018-12-23T08:51:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918513b3b265b","flight":1,"gridfins":false,"legs":false,"reused":false,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d27ffd86e000604b372"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/75/cb/DMVc5j8b_o.png","large":"https://images2.imgbox.com/d7/f9/861bfh4Q_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/a699fh/iridium_next_constellation_mission_8_launch/","launch":"https://www.reddit.com/r/spacex/comments/aemq2i/rspacex_iridium_next_8_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/aeoxve/rspacex_iridium_next_8_media_thread_videos_images/","recovery":"https://www.reddit.com/r/spacex/comments/aewp4r/iridium_8_recovery_thread/"},"flickr":{"small":[],"original":["https://farm5.staticflickr.com/4866/39745612523_14270b4b9d_o.jpg","https://farm8.staticflickr.com/7833/39745612923_21aa442350_o.jpg","https://farm5.staticflickr.com/4881/39745613173_e99b09c000_o.jpg","https://farm8.staticflickr.com/7882/39745613513_6cdd4581af_o.jpg","https://farm8.staticflickr.com/7807/39745613733_1a7b70e54a_o.jpg","https://farm5.staticflickr.com/4891/39745614053_43855205bc_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/iridium8presskit.pdf","webcast":"https://youtu.be/VshdafZvwrg","youtube_id":"VshdafZvwrg","article":"https://spaceflightnow.com/2019/01/11/spacex-begins-2019-with-eighth-and-final-for-upgraded-iridium-network/","wikipedia":"https://en.wikipedia.org/wiki/Iridium_satellite_constellation#Next-generation_constellation"},"static_fire_date_utc":"2019-01-06T13:51:00.000Z","static_fire_date_unix":1546782660,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX\'s first flight of 2019 will be the eighth and final launch of its planned Iridium flights. Delivering 10 satellites to low earth orbit, this brings the total up to 75 and completes the Iridium NEXT constellation. This mission launches from SLC-4E at Vandenberg AFB. The booster is expected to land on JRTI.","crew":[],"ships":["5ea6ed2f080df4000697c910","5ea6ed30080df4000697c912","5ea6ed30080df4000697c914"],"capsules":[],"payloads":["5eb0e4cab6c3bb0006eeb231"],"launch

pad":"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/7889/4029439593

3_f429c12e83_o.jpg","https://farm8.staticflickr.com/7914/40294395873_0a328f2d87_o.jpg","https://farm8.staticflickr.com/7866/46535572294_22499c1223_o.jpg","https://farm8.staticflickr.com/7850/46535573034_03da10f899_o.jpg","https://farm8.staticflickr.com/7848/46535572664_316c466742_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/crew_demo-1_press_kit.pdf","webcast":"https://youtu.be/2ZL0tbOZYhE","youtube_id":"2ZL0tbOZYhE","article":"https://spaceflightnow.com/2019/03/02/spacex-launches-first-crew-dragon-ferry-ship/","wikipedia":"https://en.wikipedia.org/wiki/SpX-DM1"},"static_fire_date_utc":"2019-01-24T19:03:00.000Z","static_fire_date_unix":1548356580,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Demonstration Mission 1 (DM-1) will launch Dragon 2 as part of NASA\'s Commercial Crew Transportation Capability program. This mission will demonstrate Dragon 2, and Falcon 9 in its configuration for crewed missions. DM-1 will launch from LC-39A at Kennedy Space 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":"5e9e3032383ecb6bb2

34e7ca"},{"core":"5e9e28a6f359183c413b265d","flight":1,"gridfins":true,"legs":tru
e,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTL
S","landpad":"5e9e3032383ecb267a34e7c7"},{"core":"5e9e28a6f359188fd53b265e","fligh
t":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_succ
ess":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb90a834e7c8"}],"auto_updat
e":true,"tbd":false,"launch_library_id":null,"id":"5eb87d2dffd86e000604b376"},{"fair
ings":null,"links":{"patch":{"small":"https://images2.imgbox.com/97/8e/YbVKIUZB_o.pn
g","large":"https://images2.imgbox.com/0d/05/zH7YqLRe_o.png"},"reddit":{"campaig
n":"https://new.reddit.com/r/spacex/comments/bd2l28/crs17_launch_campaign_threa
d/","launch":"https://www.reddit.com/r/spacex/comments/bjsn0v/rspacex_crs17_official
_launch_discussion_updates","media":"https://www.reddit.com/r/spacex/comments/bkc4d
5/rspacex_crs17_media_thread_videos_images_gifs","recovery":"https://www.reddit.com/
r/spacex/comments/bjy7p5/rspacex_crs17_recovery_discussion_updates_thread"},"flick
r":{"small":[],"original":["https://live.staticflickr.com/65535/46856594435_206c773b
5a_o.jpg","https://live.staticflickr.com/65535/47720639872_284e49381d_o.jpg","http
s://live.staticflickr.com/65535/46856594755_88f1b22e50_o.jpg","https://live.staticfl
ickr.com/65535/47720639542_1b7c1a71b0_o.jpg","https://live.staticflickr.com/65535/47
720639732_e04b2a9ed7_o.jpg","https://live.staticflickr.com/65535/32829382467_087d024
428_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/crs-17_press_kit.
pdf","webcast":"https://youtu.be/AQFhX5TvP0M","youtube_id":"AQFhX5TvP0M","articl
e":"https://spaceflightnow.com/2019/05/04/spacex-launches-space-station-resupply-mis
sion-lands-rocket-on-drone-ship/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_
CRS-17"},"static_fire_date_utc":"2019-04-27T07:23:00.000Z","static_fire_date_unix":1
556349780,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":tru
e,"failures":[],"details":"SpaceX\'s 17th Commercial Resupply Services mission for N
ASA out of a total of 20 contracted flights, this mission brings essential supplies
to the International Space Station using SpaceX\'s reusable Dragon 1 spacecraft. The
external payloads for this mission include Orbital Carbon Observatory 3 and Space Te
st Program-Houston 6. The Falcon 9 launches from SLC-40 at Cape Canaveral AFS. The b
ooster was expected to land at LZ-1, however, due to the ongoing investigation and c
lean-up following the Crew Dragon testing incident, it is likely to land on OCISLY i
nstead.\\n   ","crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed2f080df4000697c
90e","5ea6ed2f080df4000697c90b"],"capsules":["5e9e2c5cf3591869b63b2670"],"payloads":
["5eb0e4cbb6c3bb0006eeb237"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":
78,"name":"CRS-17","date_utc":"2019-05-04T06:48:00.000Z","date_unix":1556952480,"dat
e_local":"2019-05-04T02:48:00-04:00","date_precision":"hour","upcoming":false,"core
s":[{"core":"5e9e28a7f3591809313b2660","flight":1,"gridfins":true,"legs":true,"reuse
d":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpa
d":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":n
ull,"id":"5eb87d2effd86e000604b377"},{"fairings":{"reused":false,"recovery_attempt":
true,"recovered":true,"ships":["5ea6ed2f080df4000697c90c"]},"links":{"patch":{"smal
l":"https://images2.imgbox.com/79/ec/TOE2PBJq_o.png","large":"https://images2.imgbo
x.com/39/aa/5of7buxK_o.png"},"reddit":{"campaign":"https://www.reddit.com/comments/b
jybrl","launch":"https://www.reddit.com/r/spacex/comments/brfbic/rspacex_starlink_of
ficial_launch_discussion","media":"https://www.reddit.com/r/spacex/comments/bp0479/r
spacex_starlink_media_thread_videos_images_gifs","recovery":"https://www.reddit.com/
r/spacex/comments/bsaljm/rspacex_starlink_b10493_recovery_discussion_and"},"flickr":
{"small":[],"original":["https://live.staticflickr.com/65535/47926143711_4a0b2680bf_
o.jpg","https://live.staticflickr.com/65535/47926136902_d8ce35223d_o.jpg","https://l
ive.staticflickr.com/65535/47926144123_2a828b66d5_o.jpg","https://live.staticflickr.
com/65535/47926137127_ef58152b6b_o.jpg","https://live.staticflickr.com/65535/4792613
7017_e6d86fa820_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/starl
ink_press_kit.pdf","webcast":"https://www.youtube.com/watch?v=riBaVeDTEWI","youtube_
id":"riBaVeDTEWI","article":"https://spaceflightnow.com/2019/05/24/spacexs-first-60-
starlink-broadband-satellites-deployed-in-orbit","wikipedia":"https://en.wikipedia.o
rg/wiki/Starlink_(satellite_constellation)"},"static_fire_date_utc":"2019-05-13T20:0

6:00.000Z","static_fire_date_unix":1557777960,"net":false,"window":9000,"rocket":"5e
9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch d
ozens of Starlink demonstration satellites from SLC-40, Cape Canaveral AFS. Starlink
is a low Earth orbit broadband internet constellation developed and owned by SpaceX
which will eventually consist of nearly 12 000 satellites and will provide low laten
cy internet service to ground terminals around the world. Two prototype satellites,
Microsats 2a and 2b, were launched from Vandenberg AFB in February 2018. The booster
for this mission will land on OCISLY.","crew":[],"ships":["5ea6ed30080df4000697c91
3","5ea6ed2f080df4000697c90c","5ea6ed2f080df4000697c90e","5ea6ed2f080df4000697c90
b","5ea6ed2e080df4000697c909"],"capsules":[],"payloads":["5eb0e4cbb6c3bb0006eeb23
8"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":79,"name":"Starlink v0.
9","date_utc":"2019-05-24T02:30:00.000Z","date_unix":1558665000,"date_local":"2019-0
5-23T22:30:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e
28a5f3591833b13b2659","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_
attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb
6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d30
ffd86e000604b378"},{"fairings":{"reused":false,"recovery_attempt":false,"recovered":
null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/39/af/ygmjLYh
v_o.png","large":"https://images2.imgbox.com/03/18/xlkSHLy1_o.png"},"reddit":{"campa
ign":"https://www.reddit.com/r/spacex/comments/buq487/radarsat_constellation_launch_
campaign_thread","launch":"https://www.reddit.com/r/spacex/comments/byp69f/rspacex_r
adarsat_constellation_official_launch","media":null,"recovery":null},"flickr":{"smal
l":[],"original":["https://live.staticflickr.com/65535/48052269657_71764b0fb3_o.jp
g","https://live.staticflickr.com/65535/48052269617_34447619f0_o.jpg","https://live.
staticflickr.com/65535/48052224858_20ea2a411e_o.jpg","https://live.staticflickr.com/
65535/48052269562_325c117b81_o.jpg","https://live.staticflickr.com/65535/48052182461
_a419db6b84_o.jpg","https://live.staticflickr.com/65535/48052224733_f89f1dd046_o.jp
g"]},"presskit":"https://www.spacex.com/sites/spacex/files/radarsat_constellation_mi
ssion_press_kit.pdf","webcast":"https://youtu.be/8A2nJd9Urk8","youtube_id":"8A2nJd9U
rk8","article":"https://spaceflightnow.com/2019/06/12/three-canadian-radar-surveilla
nce-satellites-ride-spacex-rocket-into-orbit/","wikipedia":"https://en.wikipedia.or
g/wiki/RADARSAT_Constellation"},"static_fire_date_utc":"2019-06-08T08:39:00.000Z","s
tatic_fire_date_unix":1559983140,"net":false,"window":780,"rocket":"5e9d0d95eda69973
a809d1ec","success":true,"failures":[],"details":"SpaceX is launching the three sate
llite RADARSAT Constellation Mission into Sun Synchronous orbit from SLC-4E, VAFB. T
he RCM spacecraft are synthetic aperture radar (SAR) Earth observation satellites bu
ilt by the Canadian space company, MDA, for the Canadian Space Agency. This mission
was delayed when the originally slated booster failed to land after CRS-16. The boos
ter is expected to return to LZ-4.","crew":[],"ships":[],"capsules":[],"payloads":
["5eb0e4ccb6c3bb0006eeb239"],"launchpad":"5e9e4502f509092b78566f87","flight_number":
80,"name":"RADARSAT Constellation","date_utc":"2019-06-12T14:17:00.000Z","date_uni
x":1560349020,"date_local":"2019-06-12T07:17:00-07:00","date_precision":"hour","upco
ming":false,"cores":[{"core":"5e9e28a6f35918c0803b265c","flight":2,"gridfins":tru
e,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_t
ype":"RTLS","landpad":"5e9e3032383ecb554034e7c9"}],"auto_update":true,"tbd":false,"l
aunch_library_id":null,"id":"5eb87d31ffd86e000604b379"},{"fairings":{"reused":fals
e,"recovery_attempt":true,"recovered":true,"ships":["5ea6ed2e080df4000697c908"]},"li
nks":{"patch":{"small":"https://images2.imgbox.com/b0/90/fA4QaCAi_o.png","large":"ht
tps://images2.imgbox.com/81/9e/p6AaiJwj_o.png"},"reddit":{"campaign":"https://www.re
ddit.com/r/spacex/comments/bw6aa8/stp2_launch_campaign_thread/","launch":"https://ww
w.reddit.com/r/spacex/comments/c40a29/rspacex_stp2_official_launch_discussion_update
s","media":"https://www.reddit.com/r/spacex/comments/c4ng3a/rspacex_stp2_media_threa
d_videos_images_gifs","recovery":null},"flickr":{"small":[],"original":["https://liv
e.staticflickr.com/65535/48129211778_83c1769305_o.jpg","https://live.staticflickr.co
m/65535/48129211908_8390c775b0_o.jpg","https://live.staticflickr.com/65535/481291828
36_fd53e5646b_o.jpg","https://live.staticflickr.com/65535/48129269897_22d854be5c_o.j

pg","https://live.staticflickr.com/65535/48129182631_572051790c_o.jpg","https://liv
e.staticflickr.com/65535/48129211693_d23b0287f1_o.jpg","https://live.staticflickr.co
m/65535/48129269942_eb9b5c25bc_o.jpg"]},"presskit":"https://www.spacex.com/sites/spa
cex/files/stp-2_press_kit.pdf","webcast":"https://youtu.be/WxH4CAlhtiQ","youtube_i
d":"WxH4CAlhtiQ","article":"https://spaceflightnow.com/2019/06/25/falcon-heavy-launc
hes-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":"5e9d0d
95eda69974db09d1ed","success":true,"failures":[],"details":"Space Test Program 2 is
a rideshare managed by the U.S. Air Force Space and Missile Systems Center (SMC), la
unching from LC-39A, KSC. Most of the spacecraft will be delivered into low Earth or
bit (LEO) in two deployment sequences separated by a second stage burn. These LEO pa
yloads include the six Taiwan and United States owned COSMIC-2 microsatellites, the
Planetary Society\'s LightSail-B demonstrator cubesat, and others. The third and fin
al deployment will be the Air Force Research Lab\'s DSX spacecraft, which will be de
livered to a medium Earth orbit (MEO). This mission will reuse the side cores from A
rabsat 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":["5ea6ed3
0080df4000697c913","5ea6ed2f080df4000697c90b","5ea6ed2e080df4000697c909","5ea6ed2e08
0df4000697c908","5ea6ed2f080df4000697c90e"],"capsules":[],"payloads":["5eb0e4ccb6c3b
b0006eeb23a","5eb0e4ccb6c3bb0006eeb23b","5eb0e4ccb6c3bb0006eeb23c","5eb0e4ccb6c3bb00
06eeb23d","5eb0e4ccb6c3bb0006eeb23e","5eb0e4cdb6c3bb0006eeb23f","5eb0e4cdb6c3bb0006e
eb240","5eb0e4cdb6c3bb0006eeb241","5eb0e4cdb6c3bb0006eeb242","5eb0e4cdb6c3bb0006eeb2
43","5eb0e4cdb6c3bb0006eeb244","5eb0e4cdb6c3bb0006eeb245","5eb0e4ceb6c3bb0006eeb24
6","5eb0e4ceb6c3bb0006eeb247","5eb0e4ceb6c3bb0006eeb248","5eb0e4ceb6c3bb0006eeb24
9"],"launchpad":"5e9e4502f509094188566f88","flight_number":81,"name":"STP-2","date_u
tc":"2019-06-25T03:30:00.000Z","date_unix":1561433400,"date_local":"2019-06-24T23:3
0:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591
878063b2661","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attemp
t":true,"landing_success":false,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb23
4e7ca"},{"core":"5e9e28a6f359183c413b265d","flight":2,"gridfins":true,"legs":true,"r
eused":true,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","lan
dpad":"5e9e3032383ecb267a34e7c7"},{"core":"5e9e28a6f359188fd53b265e","flight":2,"gri
dfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":tru
e,"landing_type":"RTLS","landpad":"5e9e3032383ecb90a834e7c8"}],"auto_update":true,"t
bd":false,"launch_library_id":null,"id":"5eb87d35ffd86e000604b37a"},{"fairings":nul
l,"links":{"patch":{"small":"https://images2.imgbox.com/f1/70/USGBp3Dy_o.png","larg
e":"https://images2.imgbox.com/79/a5/ZdV48VwO_o.png"},"reddit":{"campaign":"https://
www.reddit.com/r/spacex/comments/c8k6g5/crs18_launch_campaign_thread","launch":"http
s://www.reddit.com/r/spacex/comments/ch2ml7/rspacex_crs18_official_launch_discussion
_updates/","media":"https://www.reddit.com/r/spacex/comments/chbr8i/rspacex_crs18_me
dia_thread_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["h
ttps://live.staticflickr.com/65535/48380511527_190682b573_o.jpg","https://live.stati
cflickr.com/65535/48380370691_7b0757a4d3_o.jpg","https://live.staticflickr.com/6553
5/48380511492_51db1bf984_o.jpg","https://live.staticflickr.com/65535/48380370626_a5d
264c637_o.jpg","https://live.staticflickr.com/65535/48380511427_97db52a9e3_o.jp
g"]},"presskit":"https://www.spacex.com/sites/spacex/files/crs-18_press_kit.pdf","we
bcast":"https://youtu.be/SlgrxVuP5jk","youtube_id":"SlgrxVuP5jk","article":"https://
spaceflightnow.com/2019/07/25/new-docking-port-spacesuit-and-supplies-en-route-to-sp
ace-station/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-18"},"static_fir
e_date_utc":"2019-07-19T15:31:00.000Z","static_fire_date_unix":1563550260,"net":fals
e,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"detai
ls":"SpaceX\'s 18th Commercial Resupply Services mission out of a total of 20 such c
ontracted flights for NASA, this launch will deliver essential supplies to the Inter
national Space Station using the reusable Dragon 1 cargo spacecraft. The external pa
yload for this mission is International Docking Adapter 3, replacing IDA-1 lost in S

paceX\'s CRS-7 launch failure. This mission will launch from SLC-40 at Cape Canaveral AFS on a Falcon 9, and the first-stage booster is expected to land back at CCAFS LZ-1.","crew":[],"ships":[],"capsules":["5e9e2c5cf359188bfb3b266b"],"payloads":["5eb0e4ceb6c3bb0006eeb24a"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":82,"name":"CRS-18","date_utc":"2019-07-25T22:01:00.000Z","date_unix":1564092060,"date_local":"2019-07-25T18:01:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591809313b2660","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d36ffd86e000604b37b"},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":true,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/65/c2/MMGkhdcA_o.png","large":"https://images2.imgbox.com/9e/6f/oaYZfAoF_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/cjaawx/amos17_launch_campaign_thread","launch":"https://www.reddit.com/r/spacex/comments/cmedgn/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_5aae1f6131_o.jpg","https://live.staticflickr.com/65535/48478269442_08479bed36_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/amos-17_mission_press_kit_8_6_2019.pdf","webcast":"https://youtu.be/fZh82-WcCuo","youtube_id":"fZh82-WcCuo","article":"https://spaceflightnow.com/2019/08/07/spacex-launches-israeli-owned-telecom-satellite/","wikipedia":"https://en.wikipedia.org/wiki/Spacecom"},"static_fire_date_utc":"2019-08-01T00:00:00.000Z","static_fire_date_unix":1564617600,"net":false,"window":5280,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch Boeing built Amos-17, a geostationary communications satellite for Israeli company Spacecom. The satellite will be delivered to GTO from KSC LC-39A or possibly CCAFS SLC-40, and will replace the defunct Amos-5 at 17\xc2\xb0 E. Amos-17 carries multi-band high throughput and regional beams servicing Africa, Europe and the Middle East. The cost of this launch is covered for Spacecom by SpaceX credit following the Amos-6 incident. A recovery of the booster for this mission is not expected.","crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c909"],"capsules":[],"payloads":["5eb0e4cfb6c3bb0006eeb24b"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":83,"name":"Amos-17","date_utc":"2019-08-06T22:52:00.000Z","date_unix":1565131920,"date_local":"2019-08-06T18:52:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f359181eed3b2657","flight":3,"gridfins":false,"legs":false,"reused":true,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":null}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d37ffd86e000604b37c"},{"fairings":{"reused":true,"recovery_attempt":false,"recovered":false,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/61/a6/1MnnbXIF_o.png","large":"https://images2.imgbox.com/3a/d1/R1MaGiiV_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/dgqcb6/2nd_starlink_mission_launch_campaign_thread","launch":"https://www.reddit.com/r/spacex/comments/du07rt/rspacex_starlink1_official_launch_discussion","media":"https://www.reddit.com/r/spacex/comments/durx53/rspacex_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/65535/49051988636_3714a78787_o.jpg","https://live.staticflickr.com/65535/49051477088_d86104481d_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/starlink_press_kit_nov2019.pdf","webcast":"https://youtu.be/pIDuv0Ta0XQ","youtube_id":"pIDuv0Ta0XQ","article":"https://spaceflightnow.com/2019/11/11/successful-launch-continues-depl

oyment-of-spacexs-starlink-network","wikipedia":"https://en.wikipedia.org/wiki/Starl
ink_(satellite_constellation)"},"static_fire_date_utc":"2019-11-11T12:08:00.000Z","s
tatic_fire_date_unix":1573474080,"net":false,"window":0,"rocket":"5e9d0d95eda69973a8
09d1ec","success":true,"failures":[],"details":"This mission will launch the first b
atch of Starlink version 1.0 satellites, from SLC-40, Cape Canaveral AFS. They are e
xpected to contribute to the 550 km x 53\xc2\xb0 shell. It is the second Starlink la
unch overall. Starlink is a low Earth orbit broadband internet constellation develop
ed 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":["5ea6ed2
e080df4000697c908","5ea6ed30080df4000697c913","5ea6ed2e080df4000697c909","5ea6ed2f08
0df4000697c90d"],"capsules":[],"payloads":["5eb0e4cfb6c3bb0006eeb24c"],"launchpa
d":"5e9e4501f509094ba4566f84","flight_number":84,"name":"Starlink-1","date_utc":"201
9-11-11T14:56:00.000Z","date_unix":1573484160,"date_local":"2019-11-11T09:56:00-05:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591809c03b26
58","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":"5eb87d39ffd86e000604b37
d"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/5d/26/ZP7
5Il1j_o.png","large":"https://images2.imgbox.com/6e/76/jVcSQg0K_o.png"},"reddit":{"c
ampaign":"https://www.reddit.com/r/spacex/comments/e0upb3/crs19_launch_campaign_thre
ad/","launch":"https://www.reddit.com/r/spacex/comments/e5r8hj/rspacex_crs19_officia
l_launch_discussion_updates","media":"https://www.reddit.com/r/spacex/comments/e6ln0
m/rspacex_crs19_media_thread_videos_images_gifs","recovery":"https://www.reddit.com/
r/spacex/comments/e6lbzy/rspacex_crs19_booster_recovery_discussion_updates"},"flick
r":{"small":[],"original":["https://live.staticflickr.com/65535/49178460143_e3ae2bd5
06_o.jpg","https://live.staticflickr.com/65535/49178954221_8544835325_o.jpg","http
s://live.staticflickr.com/65535/49179161792_9f1801a963_o.jpg","https://live.staticfl
ickr.com/65535/49178460368_62eb945db8_o.jpg","https://live.staticflickr.com/65535/49
184948561_ce20b38bc6_o.jpg","https://live.staticflickr.com/65535/49185149122_00a7fa5
73d_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/crs-19_mission_pr
ess_kit.pdf","webcast":"https://youtu.be/-aoAGdYXp_4","youtube_id":"-aoAGdYXp_4","ar
ticle":"https://spaceflightnow.com/2019/12/05/dragon-soars-on-research-and-resupply-
flight-to-international-space-station","wikipedia":"https://en.wikipedia.org/wiki/Sp
aceX_CRS-19"},"static_fire_date_utc":"2019-11-26T17:04:00.000Z","static_fire_date_un
ix":1574787840,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":
true,"failures":[],"details":"SpaceX\'s 19th Crew Resupply Mission on behalf of NASA
with a total of 20 contracted flights, this mission brings essential supplies to the
International Space Station using SpaceX\'s reusable Dragon spacecraft. The external
payloads for this mission include the Hyperspectral Imager Suite and a lithium-ion b
attery. Falcon 9 and Dragon will launch from SLC-40, Cape Canaveral AFS. The mission
will be complete with return and recovery of the Dragon capsule and down cargo.","cr
ew":[],"ships":["5ea6ed2f080df4000697c90d"],"capsules":["5e9e2c5bf3591880643b266
9"],"payloads":["5eb0e4cfb6c3bb0006eeb24d"],"launchpad":"5e9e4501f509094ba4566f8
4","flight_number":85,"name":"CRS-19","date_utc":"2019-12-05T17:29:23.000Z","date_un
ix":1575566963,"date_local":"2019-12-05T12:29:23-05:00","date_precision":"hour","upc
oming":false,"cores":[{"core":"5e9e28a7f359187afd3b2662","flight":1,"gridfins":tru
e,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_
type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":fals
e,"launch_library_id":null,"id":"5eb87d39ffd86e000604b37e"},{"fairings":{"reused":fa
lse,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e080df4000697c90
8"]},"links":{"patch":{"small":"https://images2.imgbox.com/2c/03/fMLdgNQ4_o.png","la
rge":"https://images2.imgbox.com/73/e2/4I3Os6n7_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/e5w6i8/jcsat18kacific1_launch_campaign_threa
d","launch":"https://www.reddit.com/r/spacex/comments/ebfr9t/rspacex_jcsat18kacific1
_official_launch","media":"https://www.reddit.com/r/spacex/comments/ebn4g5/rspacex_j

csat18kacific1_media_thread_videos","recovery":"https://www.reddit.com/r/spacex/comments/ec48p3/jscat_18kacific1_recovery_discussion_and_updates"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/49235364922_e55ceb61be_o.jpg","https://live.staticflickr.com/65535/49235136806_e5a3774904_o.jpg","https://live.staticflickr.com/65535/49235137056_585dc050e7_o.jpg"]},"presskit":"https://www.spacex.com/sites/spacex/files/jcsat18kacific1_mission_press_kit.pdf","webcast":"https://youtu.be/sbXgZg9JmkI","youtube_id":"sbXgZg9JmkI","article":"https://spaceflightnow.com/2019/12/17/startup-launches-broadband-satellite-on-spacex-rocket-to-connect-pacific-islands","wikipedia":"https://en.wikipedia.org/wiki/JSAT_(satellite_constellation)"},"static_fire_date_utc":"2019-12-13T12:34:00.000Z","static_fire_date_unix":1576240440,"net":false,"window":5280,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch the Boeing built dual payload satellite to geostationary transfer orbit from XXXX. JCSat 18 is a mobile broadband communications payload built for Sky Perfect JSAT Corporation of Japan and will service Asia Pacific. Kacific 1 is a high throughput broadband internet payload built for Kacific Broadband Satellites and will service certain high demand areas of Southeast Asia and the Pacific. Both payloads share a single chassis. The booster for this mission is expected to land on OCISLY.","crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ea6ed30080df4000697c913","5ea6ed2f080df4000697c90d"],"capsules":[],"payloads":["5eb0e4cfb6c3bb0006eeb24e"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":86,"name":"JCSat 18 / Kacific 1","date_utc":"2019-12-17T00:10:00.000Z","date_unix":1576541400,"date_local":"2019-12-16T19:10:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591809313b2660","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"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/efqnvg/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/ekybzb/rspacex_starlink2_media_thread_videos_images_gifs","recovery":"https://www.reddit.com/r/spacex/comments/elgp5k/rspacex_starlink_l2_recovery_discussion_updates"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/49346907238_b27507e4d9_o.jpg","https://live.staticflickr.com/65535/49347368761_f4e45bd38a_o.jpg","https://live.staticflickr.com/65535/49347368406_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\xc2\xb0 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,"lan

ding_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"aut
o_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d3cffd86e000604b38
0"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":
[]},"links":{"patch":{"small":"https://images2.imgbox.com/c0/9d/SJYvC4hT_o.png","lar
ge":"https://images2.imgbox.com/19/df/IH0nVnSr_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/ek7eny/in_flight_abort_test_launch_campaign_thr
ead","launch":"https://www.reddit.com/r/spacex/comments/eq24ap/rspacex_inflight_abor
t_test_official_launch","media":"https://www.reddit.com/r/spacex/comments/eq7pg4/rsp
acex_inflight_abort_test_media_thread_videos/","recovery":null},"flickr":{"small":
[],"original":["https://live.staticflickr.com/65535/49421605028_b7ba890f0e_o.jpg","h
ttps://live.staticflickr.com/65535/49422067976_cda2b8f021_o.jpg","https://live.stati
cflickr.com/65535/49422067876_13ed519fe6_o.jpg","https://live.staticflickr.com/6553
5/49421604803_0093a5d2cb_o.jpg","https://live.staticflickr.com/65535/49422294602_0d5
e7d8e82_o.jpg","https://live.staticflickr.com/65535/49422068111_2ed613b19b_o.jp
g"]},"presskit":"https://www.spacex.com/sites/spacex/files/in-flight_abort_test_pres
s_kit.pdf","webcast":"https://youtu.be/mhrkdHshb3E","youtube_id":"mhrkdHshb3E","arti
cle":"https://spaceflightnow.com/2020/01/19/spacex-aces-final-major-test-before-firs
t-crew-mission","wikipedia":"https://en.wikipedia.org/wiki/Commercial_Crew_Developme
nt"},"static_fire_date_utc":"2020-01-11T09:42:00.000Z","static_fire_date_unix":15787
35720,"net":false,"window":14400,"rocket":"5e9d0d95eda69973a809d1ec","success":tru
e,"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 t
he period of maximum dynamic pressure. As part of NASA\'a 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 th
ere will be no landing attempt.","crew":[],"ships":["5ea6ed2f080df4000697c90c"],"cap
sules":["5e9e2c5df359184c9a3b2672"],"payloads":["5eb0e4d0b6c3bb0006eeb250"],"launchp
ad":"5e9e4502f509094188566f88","flight_number":88,"name":"Crew Dragon In Flight Abor
t Test","date_utc":"2020-01-19T14:00:00.000Z","date_unix":1579442400,"date_local":"2
020-01-19T09:00:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"cor
e":"5e9e28a5f359182b023b2656","flight":4,"gridfins":false,"legs":false,"reused":tru
e,"landing_attempt":false,"landing_success":null,"landing_type":null,"landpad":nul
l}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d3dffd86e0006
04b381"},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":true,"ship
s":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.c
om/3a/c6/ueu9Acdh_o.png","large":"https://images2.imgbox.com/1c/55/xNcIOR8Z_o.pn
g"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/eof5pr/starlink3_
launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/eudve3/r
spacex_starlink_3_official_launch_discussion/","media":"https://www.reddit.com/r/spa
cex/comments/evjdws/rspacex_starlink3_media_thread_videos_images_gifs/","recover
y":"https://www.reddit.com/r/spacex/comments/evnyij/rspacex_starlink3_recovery_discu
ssion_updates/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/655
35/49461673512_f4e01c8b27_o.jpg","https://live.staticflickr.com/65535/49461673792_b1
804c2a2b_o.jpg","https://live.staticflickr.com/65535/49461673707_cb7fc4a3a8_o.jp
g","https://live.staticflickr.com/65535/49461673552_65cc294f82_o.jpg"]},"presski
t":"https://www.spacex.com/sites/spacex/files/starlink_press_kit_jan272020.pdf","web
cast":"https://youtu.be/1KmBDCiL7MU","youtube_id":"1KmBDCiL7MU","article":"https://s
paceflightnow.com/2020/01/29/spacex-boosts-60-more-starlink-satellites-into-orbit-af
ter-weather-delays/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_Starlink"},"s
tatic_fire_date_utc":"2020-01-20T13:17:00.000Z","static_fire_date_unix":157952622
0,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failure
s":[],"details":"This mission will launch the third batch of Starlink version 1.0 sa
tellites, 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 maneu

vering to their operational altitude of 550 km. The booster for this mission is expe
cted to land on OCISLY.","crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080d
f4000697c907","5ea6ed30080df4000697c913","5ea6ed2f080df4000697c90b","5ea6ed2f080df40
00697c90d"],"capsules":[],"payloads":["5eb0e4d0b6c3bb0006eeb251"],"launchpad":"5e9e4
501f509094ba4566f84","flight_number":89,"name":"Starlink-3","date_utc":"2020-01-29T1
4:06:00.000Z","date_unix":1580306760,"date_local":"2020-01-29T09:06:00-05:00","date_
precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918c0803b265c","fligh
t":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_succ
ess":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_updat
e":true,"tbd":false,"launch_library_id":null,"id":"5eb87d3fffd86e000604b382"},{"fair
ings":{"reused":false,"recovery_attempt":true,"recovered":false,"ships":["5ea6ed2e08
0df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/4f/07/GJWgTm
KM_o.png","large":"https://images2.imgbox.com/90/7c/MlD6s04z_o.png"},"reddit":{"camp
aign":"https://www.reddit.com/r/spacex/comments/ex0ilm/starlink4_launch_campaign_thr
ead/","launch":"https://www.reddit.com/r/spacex/comments/f4d8sg/rspacex_starlink4_of
ficial_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/f56mb4/
rspacex_starlink4_media_thread_videos_images_gifs/","recovery":"https://www.reddit.c
om/r/spacex/comments/f5es7j/rspacex_starlink4_recovery_discussion_updates/"},"flick
r":{"small":[],"original":["https://live.staticflickr.com/65535/49549022017_18738a25
52_o.jpg","https://live.staticflickr.com/65535/49548795221_edd6dc7ef6_o.jpg","http
s://live.staticflickr.com/65535/49548795401_93ef80caf5_o.jpg","https://live.staticfl
ickr.com/65535/49549022057_d4dbd6a492_o.jpg"]},"presskit":"https://www.spacex.com/si
tes/spacex/files/fifth_starlink_press_kit.pdf","webcast":"https://youtu.be/8xeX62mLc
f8","youtube_id":"8xeX62mLcf8","article":"https://spaceflightnow.com/2020/02/17/spac
ex-delivers-more-starlink-satellites-to-orbit-booster-misses-drone-ship-landing/","w
ikipedia":"https://en.wikipedia.org/wiki/SpaceX_Starlink"},"static_fire_date_utc":"2
020-02-14T08:31:00.000Z","static_fire_date_unix":1581669060,"net":false,"window":
0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This m
ission will launch the fourth batch of Starlink version 1.0 satellites, from SLC-40,
Cape Canaveral AFS. It is the fifth Starlink launch overall. The satellites will be
delivered to low Earth orbit and will spend a few weeks maneuvering to their operati
onal altitude of 550 km. The booster for this mission is expected to land on OCISL
Y.","crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ea6ed
2f080df4000697c90b","5ea6ed30080df4000697c913","5ea6ed2f080df4000697c90d"],"capsule
s":[],"payloads":["5eb0e4d0b6c3bb0006eeb252"],"launchpad":"5e9e4501f509094ba4566f8
4","flight_number":90,"name":"Starlink-4","date_utc":"2020-02-17T15:05:55.000Z","dat
e_unix":1581951955,"date_local":"2020-02-17T10:05:55-05:00","date_precision":"hou
r","upcoming":false,"cores":[{"core":"5e9e28a7f3591809313b2660","flight":4,"gridfin
s":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":false,"la
nding_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":f
alse,"launch_library_id":null,"id":"5eb87d41ffd86e000604b383"},{"fairings":null,"lin
ks":{"patch":{"small":"https://images2.imgbox.com/9b/93/k1hCBIG8_o.png","large":"htt
ps://images2.imgbox.com/dd/50/KsiuGQL4_o.png"},"reddit":{"campaign":"https://www.red
dit.com/r/spacex/comments/ezn6n0/crs20_launch_campaign_thread","launch":"https://ww
w.reddit.com/r/spacex/comments/fe8pcj/rspacex_crs20_official_launch_discussion_updat
es/","media":"https://www.reddit.com/r/spacex/comments/fes64p/rspacex_crs20_media_th
read_videos_images_gifs/","recovery":null},"flickr":{"small":[],"original":["http
s://live.staticflickr.com/65535/49635401403_96f9c322dc_o.jpg","https://live.staticfl
ickr.com/65535/49636202657_e81210a3ca_o.jpg","https://live.staticflickr.com/65535/49
636202572_8831c5a917_o.jpg","https://live.staticflickr.com/65535/49635401423_e0bef3e
82f_o.jpg","https://live.staticflickr.com/65535/49635985086_660be7062f_o.jpg"]},"pre
sskit":"https://www.spacex.com/sites/spacex/files/crs-20_mission_press_kit.pdf","web
cast":"https://youtu.be/1MkcWK2PnsU","youtube_id":"1MkcWK2PnsU","article":"https://s
paceflightnow.com/2020/03/07/late-night-launch-of-spacex-cargo-ship-marks-end-of-an-
era/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-20"},"static_fire_date_u
tc":"2020-03-01T10:20:00.000Z","static_fire_date_unix":1583058000,"net":false,"windo

w":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Spa
ceX\'s 20th and final Crew Resupply Mission under the original NASA CRS contract, th
is 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 capsul
e. (CRS-21 and up under the new Commercial Resupply Services 2 contract will use Dra
gon 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 Fo
rce Station and the booster will land at LZ-1. The mission will be complete with ret
urn and recovery of the Dragon capsule and down cargo.","crew":[],"ships":[],"capsul
es":["5e9e2c5cf359185d753b266f"],"payloads":["5eb0e4d0b6c3bb0006eeb253"],"launchpa
d":"5e9e4501f509094ba4566f84","flight_number":91,"name":"CRS-20","date_utc":"2020-03
-07T04:50:31.000Z","date_unix":1583556631,"date_local":"2020-03-06T23:50:31-05:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f359187afd3b26
62","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"lan
ding_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"aut
o_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d42ffd86e000604b38
4"},{"fairings":{"reused":true,"recovery_attempt":true,"recovered":false,"ships":["5
ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/dc/
14/DLlaYbmf_o.png","large":"https://images2.imgbox.com/e4/fd/2NPlCwzs_o.png"},"reddi
t":{"campaign":"https://www.reddit.com/r/spacex/comments/f8awv0/starlink5_launch_cam
paign_thread/","launch":"https://www.reddit.com/r/spacex/comments/fhymy3/rspacex_sta
rlink_5_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/commen
ts/fizrn1/rspacex_starlink5_media_thread_videos_images_gifs/","recovery":null},"flic
kr":{"small":[],"original":["https://live.staticflickr.com/65535/49673373182_93a517e
140_o.jpg","https://live.staticflickr.com/65535/49672551378_fabc17ef6f_o.jpg","http
s://live.staticflickr.com/65535/49672551303_564ce21658_o.jpg"]},"presskit":"https://
www.spacex.com/sites/spacex/files/sixth_starlink_press_kit.pdf","webcast":"https://y
outu.be/I4sMhHbHYXM","youtube_id":"I4sMhHbHYXM","article":"https://spaceflightnow.co
m/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":"20
20-03-13T18:37:00.000Z","static_fire_date_unix":1584124620,"net":false,"window":0,"r
ocket":"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 s
ixty satellites into an elliptical orbit about fifteen minutes into flight. In the w
eeks following launch the satellites are expected to utilize their onboard ion thrus
ters 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 shi
p approximately 628 km downrange.","crew":[],"ships":["5ea6ed30080df4000697c913","5e
a6ed2f080df4000697c90d"],"capsules":[],"payloads":["5eb0e4d0b6c3bb0006eeb254"],"laun
chpad":"5e9e4502f509094188566f88","flight_number":92,"name":"Starlink-5","date_ut
c":"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":"5e9e28a5f359180
9c03b2658","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":tr
ue,"landing_success":false,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7c
a"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d43ffd86e000
604b385"},{"fairings":{"reused":true,"recovery_attempt":false,"recovered":null,"ship
s":["5ea6ed2e080df4000697c908","5ea6ed2f080df4000697c90d"]},"links":{"patch":{"smal
l":"https://images2.imgbox.com/ef/36/h10Ds3kT_o.png","large":"https://images2.imgbo
x.com/ab/12/2cQPNTCZ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/c
omments/fxkc7k/starlink6_launch_campaign_thread/","launch":"https://www.reddit.com/
r/spacex/comments/g5jmx0/rspacex_starlink_6_official_launch_discussion/","media":"ht
tps://www.reddit.com/r/spacex/comments/g5fqka/rspacex_starlink6_media_thread_photogr
apher/","recovery":"https://www.reddit.com/r/spacex/comments/g6kztd/rspacex_starlink
_v1_l6_recovery_discussion/"},"flickr":{"small":[],"original":["https://live.staticf
lickr.com/65535/49673373182_93a517e140_o.jpg","https://live.staticflickr.com/65535/4

9672551378_fabc17ef6f_o.jpg","https://live.staticflickr.com/65535/49672551303_564ce2
1658_o.jpg","https://live.staticflickr.com/65535/49806771628_fef13c852d_o.jpg","http
s://live.staticflickr.com/65535/49807633862_e5abcb41a6_o.jpg"]},"presskit":"https://
www.spacex.com/sites/spacex/files/seventh_starlink_mission_overview.pdf","webcas
t":"https://youtu.be/wSge0I7pwFI","youtube_id":"wSge0I7pwFI","article":"https://spac
eflightnow.com/2020/04/22/spacexs-starlink-network-surpasses-400-satellite-mark-afte
r-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":f
alse,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"de
tails":"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 sev
enth Starlink launch overall. The satellites will be delivered to low Earth orbit an
d will spend a few weeks maneuvering to their operational altitude of 550 km. The bo
oster for this mission is expected to land on OCISLY.","crew":[],"ships":["5ea6ed300
80df4000697c913","5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ee68c683c22
8f36bd5809b5"],"capsules":[],"payloads":["5eb0e4d1b6c3bb0006eeb255"],"launchpad":"5e
9e4502f509094188566f88","flight_number":93,"name":"Starlink-6","date_utc":"2020-04-2
2T19:30:00.000Z","date_unix":1587583800,"date_local":"2020-04-22T15:30:00-04:00","da
te_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918c0803b265c","f
light":4,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_s
uccess":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_upda
te":true,"tbd":false,"launch_library_id":null,"id":"5eb87d44ffd86e000604b386"},{"fai
rings":null,"links":{"patch":{"small":"https://images2.imgbox.com/48/a8/LTqq8OrE_o.p
ng","large":"https://images2.imgbox.com/e3/b7/DeT7QTkx_o.png"},"reddit":{"campaig
n":"https://www.reddit.com/r/spacex/comments/fjf6rr/dm2_launch_campaign_thread/","la
unch":"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":{"smal
l":[],"original":["https://live.staticflickr.com/65535/49927519643_b43c6d4c44_o.jp
g","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.jp
g","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.jp
g","https://live.staticflickr.com/65535/49956396262_ef41c1d9b0_o.jpg"]},"presski
t":"https://www.nasa.gov/sites/default/files/atoms/files/commercialcrew_press_kit.pd
f","webcast":"https://youtu.be/xY96v0OIcK4","youtube_id":"xY96v0OIcK4","article":"ht
tps://spaceflightnow.com/2020/05/30/nasa-astronauts-launch-from-us-soil-for-first-ti
me-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":159016
9140,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"fail
ures":[],"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 u
nexpected 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 demonstra
tes the Falcon 9 and Crew Dragon\'s ability to safely transport crew to the space st
ation 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, h
owever NASA has been considering an extension to as much as six weeks or three month
s. The astronauts have been undergoing additional training for the possible longer m
ission.","crew":["5ebf1a6e23a9a60006e03a7a","5ebf1b7323a9a60006e03a7b"],"ships":["5e

a6ed30080df4000697c913","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90c","5ea6ed2e080df4000697c909","5ea6ed2f080df4000697c90d"],"capsules":["5e9e2c5df359188aba3b2676"],"payloads":["5eb0e4d1b6c3bb0006eeb257"],"launchpad":"5e9e4502f509094188566f88","flight_number":94,"name":"CCtCap Demo Mission 2","date_utc":"2020-05-30T19:22:00.000Z","date_unix":1590866520,"date_local":"2020-05-30T15:22:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591817f23b2663","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d46ffd86e000604b388"},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/14/8a/x2EqeeM4_o.png","large":"https://images2.imgbox.com/f4/9a/sUj3vEI3_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/gamcbr/starlink7_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/gkfe30/rspacex_starlink_7_official_launch_discussion/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/49971196871_a0462d0084_o.jpg","https://live.staticflickr.com/65535/49970682603_e6333945ee_o.jpg"]},"presskit":"https://spacextimemachine.com/assets/press_kits/185.pdf","webcast":"https://youtu.be/y4xBFHjkUvw","youtube_id":"y4xBFHjkUvw","article":"https://spaceflightnow.com/2020/06/04/spacex-sets-new-mark-in-rocket-reuse-10-years-after-first-falcon-9-launch/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":"2020-05-13T11:11:00.000Z","static_fire_date_unix":1589368260,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission will launch the seventh batch of operational Starlink satellites, which are expected to be version 1.0, from SLC-40, Cape Canaveral AFS. It is the eighth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. The booster for this mission is expected to land on JRTI on its first mission since arriving at Port Canaveral.","crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ee68c683c228f36bd5809b5"],"capsules":[],"payloads":["5eb0e4d1b6c3bb0006eeb256"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":95,"name":"Starlink-7","date_utc":"2020-06-04T01:25:00.000Z","date_unix":1591233900,"date_local":"2020-06-03T21:25:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591833b13b2659","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d45ffd86e000604b387"},{"fairings":{"reused":true,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/f2/ab/jxHngBd5_o.png","large":"https://images2.imgbox.com/ba/aa/6rusTkQw_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/gwbr4t/starlink8_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/h7gqlc/rspacex_starlink_8_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/h842qk/rspacex_starlink8_media_thread_photographer/","recovery":"https://www.reddit.com/r/spacex/comments/h8sx6q/starlink8_recovery_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50009748327_93e52a451f_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/8riKQXChPGg","youtube_id":"8riKQXChPGg","article":"https://spaceflightnow.com/2020/06/13/starlink-satellite-deployments-continue-with-successful-falcon-9-launch/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission will launch the eighth batch of operational Starlink satellites, which are expected to be version 1.0, from SLC-40, Cape Canaveral AFS. It is the ninth Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. This mission is includes rideshare payloads, SkySats 16-18, on top of the Starlink stack. The booster for this mission is expected to land an ASDS.","crew":

[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ea6ed2f080df4000697c90b"],"capsules":[],"payloads":["5eb0e4d1b6c3bb0006eeb258"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":96,"name":"Starlink-8 & SkySat 16-18","date_utc":"2020-06-13T09:21:00.000Z","date_unix":1592040060,"date_local":"2020-06-13T05:21:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f359187afd3b2662","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"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 milita

ry communication satellite from LC-39A, Kennedy Space Center. It will be South Korea \'s first dedicated military communications satellite. Falcon 9 will deliver the sat ellite to a geostationary transfer orbit. The booster is expected to land downrange on an ASDS.","crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c90 7","5ea6ed2f080df4000697c90b"],"capsules":[],"payloads":["5eb0e4d2b6c3bb0006eeb25 b"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":98,"name":"ANASIS-II","da te_utc":"2020-07-20T21:30:00.000Z","date_unix":1595280600,"date_local":"2020-07-20T1 7:30:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3 591817f23b2663","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attemp t":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534 e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d50ffd86e 000604b394"},{"fairings":{"reused":null,"recovery_attempt":true,"recovered":true,"sh ips":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"sma ll":"https://images2.imgbox.com/ac/ad/FhIfqkTq_o.png","large":"https://images2.imgbo x.com/2f/4f/Mk46ah9f_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/c omments/h8mold/starlink9_launch_campaign_thread/","launch":"https://www.reddit.com/ r/spacex/comments/i4ozw3/rspacex_starlink9_launch_discussion_updates/","media":"http s://www.reddit.com/r/spacex/comments/hg499n/rspacex_starlink9_media_thread_photograp her/","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.jp g"]},"presskit":null,"webcast":"https://youtu.be/KU6KogxG5BE","youtube_id":"KU6KogxG 5BE","article":"https://spaceflightnow.com/2020/08/07/spacex-closes-out-busy-week-wi th-launch-of-more-starlink-satellites/","wikipedia":"https://en.wikipedia.org/wiki/S tarlink"},"static_fire_date_utc":"2020-06-24T18:18:00.000Z","static_fire_date_unix": 1593022680,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":tru e,"failures":[],"details":"This mission will launch the ninth batch of operational S tarlink 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 is includes a rideshare of two BlackSky satellites on top of the Starlink stack. The booster for this mission is expected to land an ASDS.","cre w":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ea6ed30080df4 000697c913","5ee68c683c228f36bd5809b5"],"capsules":[],"payloads":["5ed9858b1f3055403 0d45c3e","5ee522e32f1f3d474c758123"],"launchpad":"5e9e4502f509094188566f88","flight_ number":99,"name":"Starlink-9 (v1.0) & BlackSky Global 5-6","date_utc":"2020-08-07T0 5:12:00.000Z","date_unix":1596777120,"date_local":"2020-08-07T01:12:00-04:00","date_ precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918c0803b265c","flig ht":5,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_succ ess":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_updat e":true,"tbd":false,"launch_library_id":null,"id":"5ed9819a1f30554030d45c29"},{"fair ings":{"reused":true,"recovery_attempt":true,"recovered":true,"ships":["5ea6ed2e080d f4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images 2.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/star link_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/s pacex/comments/ibacxz/rspacex_starlink10_launch_discussion_updates/","media":"http s://www.reddit.com/r/spacex/comments/ic46fw/starlink10_recovery_updates_discussion_t hread/","recovery":"https://www.reddit.com/r/spacex/comments/ic46fw/starlink10_recov ery_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.stat icflickr.com/65535/50241845831_9a7412e81d_o.jpg","https://live.staticflickr.com/6553 5/50242057637_ea4f98d517_o.jpg","https://live.staticflickr.com/65535/50242057682_608 4977bf7_o.jpg","https://live.staticflickr.com/65535/50242057677_e96fbd46e6_o.jp g"]},"presskit":null,"webcast":"https://youtu.be/jTMJK7wb0rM","youtube_id":"jTMJK7wb 0rM","article":"https://spaceflightnow.com/2020/08/18/spacex-adds-more-satellites-to

-ever-growing-starlink-network/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":"2020-08-17T10:00:00.000Z","static_fire_date_unix":1597658400,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission will launch the tenth batch of operational Starlink satellites, which are expected to be version 1.0, from LC-39A, Kennedy Space Center. It is the eleventh Starlink launch overall. The satellites will be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude of 550 km. This mission is includes rideshare payloads, SkySats 19-21, on top of the Starlink stack. The booster for this mission is expected to land on an ASDS.","crew":[],"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c907","5ee68c683c228f36bd5809b5","5ea6ed2f080df4000697c90b","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5ed9859f1f30554030d45c3f"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":100,"name":"Starlink-10 (v1.0) & SkySat 19-21","date_utc":"2020-08-18T14:31:00.000Z","date_unix":1597761060,"date_local":"2020-08-18T10:31:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591833b13b2659","flight":6,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5ed981d91f30554030d45c2a"},{"fairings":{"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/iiwlch/rspacex_saocom_1b_launch_discussion_updates_thread/","media":"https://www.reddit.com/r/spacex/comments/ij8mxf/rspacex_starlink11_saocom_1b_media_thread/","recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50291453997_aa715950e7_o.jpg","https://live.staticflickr.com/65535/50291306296_85b6ff12a2_o.jpg","https://live.staticflickr.com/65535/50291306061_2f9e350a85_o.jpg","https://live.staticflickr.com/65535/50291306216_4fd44c261e_o.jpg","https://live.staticflickr.com/65535/50291306346_136d3dce7b_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/P-gLOsDjE3E","youtube_id":"P-gLOsDjE3E","article":"https://spaceflightnow.com/2020/08/31/spacex-launches-first-polar-orbit-mission-from-florida-in-decades/","wikipedia":"https://en.wikipedia.org/wiki/SAOCOM"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX\'s Falcon 9 will launch the second of the two satellite SAOCOM 1 satellites into a sun-synchronous polar orbit from SLC-40, Cape Canaveral AFS. SAOCOM 1B is a synthetic aperture radar Earth observation satellite to support disaster management. The SAOCOM spacecraft are operated by CONAE, the Argentinian National Space Activities Commission, and are built by INVAP. This mission is also expected to include rideshare 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,"tbd":false,"launch_library_id":null,"id":"5eb87d47ffd86e000604b38a"},{"fairings":{"reused":null,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.com/38/09/yStzn5Er_o.png","large":"https://images2.imgbox.com/83/11/smudwRMI_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/i63bst/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/iip8h3/rspacex_starlink11_launch_discussion_updates/","media":"https://www.reddit.com/r/spacex/comments/ij8mxf/rspacex_starlink11_saocom_1b_media_thread/","recovery":null},"flickr":{"smal

l":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/_j4xR7LMCGY","youtu
be_id":"_j4xR7LMCGY","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Starl
ink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":
null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Thi
s mission will launch the eleventh batch of operational Starlink satellites, which a
re 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 o
rbit 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":["5e
a6ed2e080df4000697c908","5ea6ed2f080df4000697c90b","5ee68c683c228f36bd5809b5"],"caps
ules":[],"payloads":["5ef6a4600059c33cee4a829e"],"launchpad":"5e9e4502f509094188566f
88","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_precisio
n":"hour","upcoming":false,"cores":[{"core":"5ef670f10059c33cee4a826c","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":"5ef6a1e90059c33cee4a828a"},{"fairings":{"re
used":true,"recovery_attempt":true,"recovered":true,"ships":["5ea6ed2e080df4000697c9
07","5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"https://images2.imgbox.c
om/3b/c3/kd7H9FTQ_o.png","large":"https://images2.imgbox.com/79/1f/hBdiixIW_o.pn
g"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/i63bst/starlink_g
eneral_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/
comments/iu0vtg/rspacex_starlink12_official_launch_discussion/","media":"https://ww
w.reddit.com/r/spacex/comments/iudifm/rspacex_starlink12_media_thread_photographe
r/","recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.co
m/65535/50428228397_6151927733_o.jpg","https://live.staticflickr.com/65535/504273593
18_67b3397892_o.jpg","https://live.staticflickr.com/65535/50428050591_36defbe958_o.j
pg"]},"presskit":null,"webcast":"https://youtu.be/UZkaE_9zwQQ","youtube_id":"UZkaE_9
zwQQ","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_f
ire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":0,"rocket":"5e9
d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission will lau
nch the twelfth batch of operational Starlink satellites, which are expected to be v
ersion 1.0, from SLC-40, Cape Canaveral Air Force Station. It is the thirteenth 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 an ASDS.","crew":[],"ships":["5ea6ed2f080df40006
97c90b","5ea6ed2f080df4000697c910","5ea6ed2e080df4000697c907","5ea6ed2e080df4000697c
908","5ea6ed30080df4000697c913"],"capsules":[],"payloads":["5ef6a48e0059c33cee4a829
f"],"launchpad":"5e9e4502f509094188566f88","flight_number":103,"name":"Starlink-12
(v1.0)","date_utc":"2020-10-06T11:29:00.000Z","date_unix":1601983740,"date_local":"2
020-10-06T07:29:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"cor
e":"5e9e28a7f3591817f23b2663","flight":3,"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":"5ef6a2090059c33cee4a828b"},{"fairings":{"reused":true,"recovery_attempt":true,"r
ecovered":null,"ships":["5ea6ed2e080df4000697c907","5ea6ed2e080df4000697c908"]},"lin
ks":{"patch":{"small":"https://images2.imgbox.com/1d/5c/Eg5XilXY_o.png","large":"htt
ps://images2.imgbox.com/42/26/UbDMepRy_o.png"},"reddit":{"campaign":"https://www.red
dit.com/r/spacex/comments/i63bst/starlink_general_discussion_and_deployment_threa
d/","launch":"https://www.reddit.com/r/spacex/comments/jctqq9/rspacex_starlink13_off
icial_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/jdgsm2/r
spacex_starlink13_media_thread_photographer/","recovery":"https://www.reddit.com/r/s
pacex/comments/jdgpgl/starlink13_recovery_updates_discussion_thread/"},"flickr":{"sm
all":[],"original":["https://live.staticflickr.com/65535/50500804918_eb1187e1b2_o.jp
g","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
8CDDAmp98","youtube_id":"UM8CDDAmp98","article":"https://spaceflightnow.com/2020/10/
18/spacex-launches-another-batch-of-starlink-satellites/","wikipedia":"https://en.wi
kipedia.org/wiki/Starlink"},"static_fire_date_utc":"2020-10-17T05:23:00.000Z","stati
c_fire_date_unix":1602912180,"net":false,"window":null,"rocket":"5e9d0d95eda69973a80
9d1ec","success":true,"failures":[],"details":"This mission will launch the thirteen
th batch of operational Starlink satellites, which are expected to be version 1.0, f
rom LC-39A, Kennedy Space Center. It is the fourteenth Starlink launch overall. The
satellites will be delivered to low Earth orbit and will spend a few weeks maneuveri
ng to their operational altitude of 550 km. The booster for this mission is expected
to land on an ASDS.","crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed2f080df400
0697c90b","5ee68c683c228f36bd5809b5","5ea6ed2e080df4000697c907","5ea6ed2e080df400069
7c908"],"capsules":[],"payloads":["5ef6a4d50059c33cee4a82a1"],"launchpad":"5e9e4502f
509094188566f88","flight_number":104,"name":"Starlink-13 (v1.0)","date_utc":"2020-10
-18T12:25:00.000Z","date_unix":1603023900,"date_local":"2020-10-18T08:25:00-04:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918c0803b26
5c","flight":6,"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":"5ef6a2bf0059c33cee4a828
c"},{"fairings":{"reused":false,"recovery_attempt":true,"recovered":null,"ships":["5
ea6ed2e080df4000697c907","5ea6ed2e080df4000697c908"]},"links":{"patch":{"small":"htt
ps://images2.imgbox.com/65/e5/GS6w5gPI_o.png","large":"https://images2.imgbox.com/2
1/50/iOx9Tpuy_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comment
s/i63bst/starlink_general_discussion_and_deployment_thread/","launch":"https://www.r
eddit.com/r/spacex/comments/jetth8/rspacex_starlink14_official_launch_discussio
n/","media":"https://www.reddit.com/r/spacex/comments/jhcwun/rspacex_starlink14_medi
a_thread_photographer/","recovery":null},"flickr":{"small":[],"original":[]},"pressk
it":null,"webcast":"https://youtu.be/2gbVgTxLgN0","youtube_id":"2gbVgTxLgN0","articl
e":"https://spaceflightnow.com/2020/10/24/spacex-adds-another-60-satellites-to-starl
ink-network/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_dat
e_utc":"2020-10-21T12:55:00.000Z","static_fire_date_unix":1603284900,"net":false,"wi
ndow":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"detail
s":"This mission will launch the fourteenth batch of operational Starlink satellite
s, which are expected to be version 1.0, from SLC-40, Kennedy Space Center. It is th
e fifteenth Starlink launch overall. The satellites will be delivered to low Earth o
rbit and will spend a few weeks maneuvering to their operational altitude of 550 km.
The booster for this mission is expected to land on JRTI.","crew":[],"ships":["5ea6e
d2f080df4000697c910","5ea6ed2f080df4000697c90b","5ea6ed2e080df4000697c907","5ea6ed2e
080df4000697c908"],"capsules":[],"payloads":["5ef6a4ea0059c33cee4a82a2"],"launchpa
d":"5e9e4501f509094ba4566f84","flight_number":105,"name":"Starlink-14 (v1.0)","date_
utc":"2020-10-24T15:31:00.000Z","date_unix":1603553460,"date_local":"2020-10-24T11:3
1:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5ef670f10059c
33cee4a826c","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":
true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7c
c"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5ef6a2e70059c33ce
e4a8293"},{"fairings":{"reused":null,"recovery_attempt":true,"recovered":null,"ship
s":["5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.c
om/5e/b7/Kn4Vn6nM_o.png","large":"https://images2.imgbox.com/c8/f5/tRqtdHD6_o.pn
g"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/io0swm/gps_iii_sv
04_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/jobxn
2/rspacex_gps_iii_sv04_sacagawea_official_launch/","media":null,"recovery":null},"fl
ickr":{"small":[],"original":["https://live.staticflickr.com/65535/50611865511_2299e
11860_o.jpg","https://live.staticflickr.com/65535/50611118958_448d239fe1_o.jpg","htt
ps://live.staticflickr.com/65535/50611979827_48811d2ea6_o.jpg"]},"presskit":null,"we
bcast":"https://youtu.be/wufXF5YKR1M","youtube_id":"wufXF5YKR1M","article":"https://
spaceflightnow.com/2020/11/06/spacex-launches-gps-navigation-satellite-from-cape-can

averal/","wikipedia":"https://en.wikipedia.org/wiki/GPS_Block_III"},"static_fire_date_utc":"2020-09-25T05:42:00.000Z","static_fire_date_unix":1601012520,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch GPS Block III Space Vehicle 04 from SLC-40, Cape Canaveral AFS aboard a Falcon 9. GPS III is owned and operated by the US Air Force and produced by Lockheed Martin. This will be the fourth GPS III satellite launched and the third launched by SpaceX. The satellite will be delivered into a MEO transfer orbit. The booster for this mission will land on an ASDS.","crew":[],"ships":["5ea6ed30080df4000697c913","5ee68c683c228f36bd5809b5","5ea6ed2e080df4000697c907"],"capsules":[],"payloads":["5eb0e4d2b6c3bb0006eeb25e"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":106,"name":"GPS III SV04 (Sacagawea)","date_utc":"2020-11-05T23:24:00.000Z","date_unix":1604618640,"date_local":"2020-11-05T18:24:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c5440622a633027900a0","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"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":["5f6f99fddcfdf403df379709"],"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":"5e9e3033383e

cbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d4dffd86e000604b38e"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/96/40/667HXq7w_o.png","large":"https://images2.imgbox.com/26/73/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":"5ed983aa1f30554030d45c31"},{"fairings":{"reused":true,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"https://images2.imgbox.com/54/00/2OgoVFlS_o.png","large":"https://images2.imgbox.com/4a/e7/h403ivFa_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/jxyodz/rspacex_starlink15_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/k0mom0/starlink15_media_thread_photographer_contest/","recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50644831893_bb40b60827_o.jpg","https://live.staticflickr.com/65535/50645580736_44af27257f_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/J442-ti-Dhg","youtube_id":"J442-ti-Dhg","article":"https://spaceflightnow.com/2020/11/25/spacex-launches-60-more-starlink-satellites-on-100th-falcon-9-flight/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":"2020-11-21T16:31:00.000Z","static_fire_date_unix":1605976260,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission will launch the fifteenth batch of operational 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":"5e9e28a5f3591833b13b2

659","flight":7,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5fb95b3f3a88ae63c954603c"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/a2/a0/cHJWyFCo_o.png","large":"https://images2.imgbox.com/dd/53/W10Rog1y_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jw8bfe/crs21_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/k6my16/rspacex_crs21_official_launch_discussion_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50689254612_db8bc87d2c_o.jpg","https://live.staticflickr.com/65535/50689254712_98ef758c81_o.jpg","https://live.staticflickr.com/65535/50689254512_bb44826694_o.jpg","https://live.staticflickr.com/65535/50689254642_ba6b08d142_o.jpg","https://live.staticflickr.com/65535/50689254552_1d9f91a963_o.jpg"]},"presskit":"https://www.nasa.gov/sites/default/files/atoms/files/spacex_crs-21_mision_overview_high_res.pdf","webcast":"https://youtu.be/4xJAGFR_N-c","youtube_id":"4xJAGFR_N-c","article":"https://spaceflightnow.com/2020/12/06/spacex-launches-first-in-new-line-of-upgraded-space-station-cargo-ships/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_CRS-21"},"static_fire_date_utc":"2020-12-03T13:45:00.000Z","static_fire_date_unix":1607003100,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX\'s 21st ISS resupply mission on behalf of NASA and the first under the CRS-2 contract, this mission brings essential supplies to the International Space Station using the cargo variant of SpaceX\'s Dragon 2 spacecraft. The external payload for this mission is the Nanoracks Bishop Airlock. Falcon 9 and Dragon launch from LC-39A, Kennedy Space Center and the booster is expected to land on an ASDS. The mission will be complete with return and recovery of the Dragon capsule and down cargo.","crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed2f080df4000697c90b","5ea6ed2f080df4000697c90d"],"capsules":["5fbb0f8fec55b34eb9f35c14"],"payloads":["5eb0e4d3b6c3bb0006eeb262"],"launchpad":"5e9e4502f509094188566f88","flight_number":110,"name":"CRS-21","date_utc":"2020-12-06T16:17:00.000Z","date_unix":1607271420,"date_local":"2020-12-06T11:17:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591817f23b2663","flight":4,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"5eb87d4effd86e000604b391"},{"fairings":{"reused":true,"recovery_attempt":true,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/a9/be/43FhrPoq_o.png","large":"https://images2.imgbox.com/17/34/WgRl7YFh_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/k51p7b/sxm7_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/kaizok/rspacex_sxm7_official_launch_discussion_updates/","media":"https://www.reddit.com/r/spacex/comments/kcev8p/sxm7_media_thread_photographer_contest/","recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/50715254423_3cb2a8ff9c_o.jpg","https://live.staticflickr.com/65535/50715992426_bf43a8f872_o.jpg","https://live.staticflickr.com/65535/50716071077_5a5bc00af9_o.jpg","https://live.staticflickr.com/65535/50716071167_100d6f7092_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/COraGXFb1lo","youtube_id":"COraGXFb1lo","article":"https://spaceflightnow.com/2020/12/13/siriusxm-satellite-rides-spacex-rocket-into-orbit/","wikipedia":"https://en.wikipedia.org/wiki/Sirius_XM#Satellites"},"static_fire_date_utc":"2020-12-07T23:00:00.000Z","static_fire_date_unix":1607382000,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch the first of two next generation high power S-band broadcast satellites for SiriusXM. The spacecraft will be delivered into a geostationary transfer orbit and the booster will be recovered downrange. The spacecraft is built by Space Systems Loral (SSL) on the SSL 1300 platform and includes two solar arrays producing 20kW, and an unfurlable antenna dish. SXM-7 will replace XM-3 in geostationary orbit.","crew":[],"ships":["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/sBErNO7T_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/9OeVwaFBkfE","youtube_id":"9OeVwaFBkfE","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\xbcrksat. T\xc3\xbcrksat 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 3

1\xc2\xb0 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","5ea
6ed2e080df4000697c907","5ea6ed2e080df4000697c908"],"capsules":[],"payloads":["5eb0e4
d3b6c3bb0006eeb264"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":113,"nam
e":"Turksat 5A","date_utc":"2021-01-08T02:15:00.000Z","date_unix":1610072100,"date_l
ocal":"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","landpa
d":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":n
ull,"id":"5eb87d4fffd86e000604b393"},{"fairings":{"reused":true,"recovery_attempt":t
rue,"recovered":null,"ships":["5ea6ed2e080df4000697c907","5ea6ed2e080df4000697c90
8"]},"links":{"patch":{"small":"https://images2.imgbox.com/a6/d3/bPczm8gQ_o.png","la
rge":"https://images2.imgbox.com/2b/28/fZnNbGqX_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployme
nt_thread/","launch":"https://www.reddit.com/r/spacex/comments/kz969o/rspacex_starli
nk16_official_launch_discussion/","media":"https://www.reddit.com/r/spacex/comments/
l1b5q8/starlink16_media_thread_photographer_contest/","recovery":"https://www.reddi
t.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://l
ive.staticflickr.com/65535/50855737933_bcc65bdf8b_o.jpg","https://live.staticflickr.
com/65535/50856551642_5190c59ec1_o.jpg"]},"presskit":null,"webcast":"https://youtu.b
e/84Nct_Q9Lqw","youtube_id":"84Nct_Q9Lqw","article":"https://spaceflightnow.com/202
1/01/20/spacex-sets-new-rocket-reuse-records-with-successful-starlink-launch/","wiki
pedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static
_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1e
c","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. Th
e booster is expected to land on an ASDS.","crew":[],"ships":["5ea6ed2e080df4000697c
907","5ea6ed2e080df4000697c908","5ea6ed2f080df4000697c910","5ea6ed2f080df4000697c90
d","5ea6ed2f080df4000697c90b"],"capsules":[],"payloads":["5fbfedba54ceb10a5664c81
3"],"launchpad":"5e9e4502f509094188566f88","flight_number":114,"name":"Starlink-16
(v1.0)","date_utc":"2021-01-20T13:02:00.000Z","date_unix":1611147720,"date_local":"2
021-01-20T08:02:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"cor
e":"5e9e28a6f35918c0803b265c","flight":8,"gridfins":true,"legs":true,"reused":tru
e,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9
e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":null,"i
d":"5fbfecce54ceb10a5664c80a"},{"fairings":{"reused":false,"recovery_attempt":tru
e,"recovered":true,"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c90
7"]},"links":{"patch":{"small":"https://images2.imgbox.com/58/70/eapAog9v_o.png","la
rge":"https://images2.imgbox.com/82/9a/fzsUstOu_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/kt5gds/transporter1_launch_campaign_thread/","l
aunch":"https://www.reddit.com/r/spacex/comments/l210i3/rspacex_transporter1_officia
l_launch_discussion/","media":null,"recovery":"https://www.reddit.com/r/spacex/comme
nts/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"origina
l":["https://live.staticflickr.com/65535/50870343533_e815eb30c4_o.jpg","https://liv
e.staticflickr.com/65535/50871151292_af114a3f9e_o.jpg","https://live.staticflickr.co
m/65535/50871053741_59a1dbb6cc_o.jpg","https://live.staticflickr.com/65535/508710536
96_cd01a7e092_o.jpg","https://live.staticflickr.com/65535/50870343763_1b1ac55eae_o.j
pg"]},"presskit":null,"webcast":"https://youtu.be/ScHI1cbkUv4","youtube_id":"ScHI1cb
kUv4","article":"https://spaceflightnow.com/2021/01/24/spacex-launches-record-settin
g-rideshare-mission-with-143-small-satellites/","wikipedia":null},"static_fire_date_
utc":null,"static_fire_date_unix":null,"net":false,"window":2520,"rocket":"5e9d0d95e

da69973a809d1ec","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","5ea6ed
2e080df4000697c908","5ea6ed2e080df4000697c907"],"capsules":[],"payloads":["5fd3871a7
faea57d297c86c6"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":115,"nam
e":"Transporter-1","date_utc":"2021-01-24T15:00:00.000Z","date_unix":1611500400,"dat
e_local":"2021-01-24T10:00:00-05:00","date_precision":"hour","upcoming":false,"core
s":[{"core":"5e9e28a7f3591817f23b2663","flight":5,"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_id":n
ull,"id":"5fd386aa7faea57d297c86c1"},{"fairings":{"reused":true,"recovery_attempt":t
rue,"recovered":null,"ships":["5ea6ed2e080df4000697c908","5ea6ed2e080df4000697c90
7"]},"links":{"patch":{"small":"https://images2.imgbox.com/81/af/UT6KOE53_o.png","la
rge":"https://images2.imgbox.com/6b/53/ZqAxQPhS_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployme
nt_thread/","launch":"https://www.reddit.com/r/spacex/comments/lbjuok/rspacex_starli
nk18_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","h
ttps://live.staticflickr.com/65535/50908092893_d254477be0_o.jpg","https://live.stati
cflickr.com/65535/50908092833_4cb5833fb9_o.jpg","https://live.staticflickr.com/6553
5/50908787221_9cf383a2b4_o.jpg","https://live.staticflickr.com/65535/50908787166_8dd
e2e29bd_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/fe6HBw1y6bA","youtube_i
d":"fe6HBw1y6bA","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Starlin
k"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":nu
ll,"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 satellit
es will be delivered to low Earth orbit and will spend a few weeks maneuvering to th
eir operational altitude. The booster is expected to land on an ASDS.","crew":[],"sh
ips":["5ea6ed30080df4000697c913","601742b20c87b90be7bb7e86","5ea6ed2e080df4000697c90
8","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":16
12419540,"date_local":"2021-02-04T01:19:00-05:00","date_precision":"hour","upcomin
g":false,"cores":[{"core":"5ef670f10059c33cee4a826c","flight":5,"gridfins":true,"leg
s":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_typ
e":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"lau
nch_library_id":"f31702e8-6353-4c9a-932c-5bd104717500","id":"5ff6554f9257f579ee3a6c5
f"},{"fairings":{"reused":null,"recovery_attempt":true,"recovered":true,"ships":["5e
a6ed2e080df4000697c908","5ea6ed2e080df4000697c907"]},"links":{"patch":{"small":"http
s://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/j
hu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.redd
it.com/r/spacex/comments/ljkh7l/rspacex_starlink19_official_launch_discussion/","med
ia":"https://www.reddit.com/r/spacex/comments/lkwllg/starlink19_media_thread_photogr
apher_contest/","recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_
fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.st
aticflickr.com/65535/50949943433_87e3002307_o.jpg"]},"presskit":null,"webcast":"http
s://youtu.be/L0dkyV09Zso","youtube_id":"L0dkyV09Zso","article":"https://spaceflightn
ow.com/2021/02/16/spacex-successfully-deploys-60-more-starlink-satellites-but-loses-
booster-on-descent/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_f
ire_date_utc":"2021-02-13T18:17:00.000Z","static_fire_date_unix":1613240220,"net":fa
lse,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":
[],"details":"This mission launches the eighteenth batch of operational Starlink sat

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

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

9e4501f509094ba4566f84","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 mi
ssion of its Crew Dragon vehicle as part of NASA\'s Commercial Crew Program, carryin
g NASA astronauts Shane Kimbrough, Megan McArthur, Thomas Pesquet, and Akihiko Hoshi
de 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 astrona
uts to Earth.","crew":["5fe3ba5fb3467846b3242188","5fe3bb01b3467846b3242189","5fe3bc
3db3467846b324218b","5fe3bc8ab3467846b324218c"],"ships":["5ea6ed2e080df4000697c90
9","5ea6ed30080df4000697c913"],"capsules":["5e9e2c5df359188aba3b2676"],"payloads":
["5fe3b3adb3467846b3242173"],"launchpad":"5e9e4502f509094188566f88","flight_number":
123,"name":"Crew-2","date_utc":"2021-04-23T09:49:00.000Z","date_unix":1619171340,"da
te_local":"2021-04-23T05:49:00-04:00","date_precision":"hour","upcoming":false,"core
s":[{"core":"5f57c53d0622a6330279009f","flight":2,"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":"32dcb5ad-7609-4fc0-8094-768ee5c2ebe0","id":"5fe3af58b3467846b324215f"},{"fairing
s":{"reused":false,"recovery_attempt":true,"recovered":true,"ships":["6059166413f40e
27e8af34b6"]},"links":{"patch":{"small":"https://images2.imgbox.com/cd/30/UYfjAmuT_
o.png","large":"https://images2.imgbox.com/2e/a8/bvzKCiwf_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/mzol0k/rspace
x_starlink24_launch_discussion_updates/","media":null,"recovery":"https://www.reddi
t.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://l
ive.staticflickr.com/65535/51147949685_975bd6b4ee_o.jpg"]},"presskit":null,"webcas
t":"https://youtu.be/RBxkRKZ34yo","youtube_id":"RBxkRKZ34yo","article":"https://spac
eflightnow.com/2021/04/29/spacex-launches-60-more-starlink-spacecraft-fcc-clears-spa
cex-to-fly-satellites-at-lower-altitudes/","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":"This mission launches the 24th batch of operational Starlink satellites, which a
re version 1.0, from LC-39A or SLC-40. It is the 25th Starlink launch overall. The s
atellites will be delivered to low Earth orbit and will spend a few weeks maneuverin
g to their operational altitude. The booster is expected to land on an ASDS.","cre
w":[],"ships":["5ea6ed2f080df4000697c910","5ea6ed2f080df4000697c90d","5ee68c683c228f
36bd5809b5","6059166413f40e27e8af34b6"],"capsules":[],"payloads":["605b4be3aa5433645
e37d046"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":124,"name":"Starlin
k-24 (v1.0)","date_utc":"2021-04-29T03:44:00.000Z","date_unix":1619667840,"date_loca
l":"2021-04-28T23:44:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"c
ore":"5ef670f10059c33cee4a826c","flight":7,"gridfins":true,"legs":true,"reused":tru
e,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9
e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"fbd23c8
6-89d0-4d3f-b5fb-5d7165d05cca","id":"605b4b6aaa5433645e37d03f"},{"fairings":{"reuse
d":true,"recovery_attempt":true,"recovered":true,"ships":["6059166413f40e27e8af34b
6"]},"links":{"patch":{"small":"https://images2.imgbox.com/33/03/aHKx9cu1_o.png","la
rge":"https://images2.imgbox.com/8e/e0/wOt6ZecV_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployme
nt_thread/","launch":"https://www.reddit.com/r/spacex/comments/n3z0aa/rspacex_starli
nk25_launch_discussion_updates/","media":null,"recovery":"https://www.reddit.com/r/s
pacex/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/Starlin
k"},"static_fire_date_utc":"2021-05-03T05:00:00.000Z","static_fire_date_unix":162001

8000,"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/amlU5JWP_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","608c1a06cf7f3d6152666ad4","5ea6ed2f080df4000697c90b"],"capsules":[],"payloads":["605b4bfcaa5433645e37d048","609f48374a12e4692eae4667","609f49c64a12e4692eae4668"],"launchpad":"5e9e4502f509094188566f88","flight_number":127,"name":"Starlink-26 (v1.0) + Capella-6 + Tyvak-0130","date_utc":"2021-05-15T22:54:00.000Z","date_unix":1621119240,"date_local":"2021-05-15T18:54:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591817f23b2663","flight":8,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":"c32d1f5e-2dd9-4b55-ac8b-3eb8c4a4e955","id":"605b4b95aa5433645e37d041"},{"fairings":{"reused":true,"recovery_attempt":true,"recovered":true,"ships":["5ea6ed2e080df4000697c909","5ea6ed2f080df4000697c90c"]},"links":{"patch":{"small":"https://images2.imgbox.com/28/ee/Bchywpgu_o.png","large":"https://images2.imgbox.com/06/09/908F8uzV_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/nkxg4s/rspacex_starlink28_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51225270061_42bc3abb43_o.jpg","https://live.staticflickr.com/65535/51226036719_584d141279_o.jpg","https://live.staticflickr.com/65535/51225480623_5ef7d3957a_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/xRu-ekesDyY","youtube_id":"xRu-ekesDyY","article":"https://spaceflightnow.com/2021/05/26/first-phase-of-spacexs-starlink-network-nears-completion-with-falcon-9-launch/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"This mission launches the 28th batch of operational Starlink satellites, which were version 1.0, from SLC-40. It was the 29th Starlink launch overall. The satellites plan to be delivered to low Earth orbit and will spend a few weeks maneuvering to their operational altitude. The booster is expected to land on ASDS JRTI.","crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed2f080df4000697c90c","5ee68c683c228f36bd5809b5","5ea6ed2f080df4000697c90b","5ea6ed2e080df4000697c909"],"capsules":[],"payloads":["6079bd679a06446e8c61bf7d"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":128,"name":"Starlink-28 (v1.0)","date_utc":"2021-05-26T18:59:00.000Z","date_unix":1622055540,"date_local":"2021-05-26T14:59:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c54a0622a633027900a1","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"fb25ecf0-fb51-4b5e-b678-105f6ba4c06e","id":"6079bd399a06446e8c61bf77"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/aa/a8/HhwYIXoB_o.png","large":"https://images2.imgbox.com/16/32/9Z7btrQF_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/nhztq5/crs22_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/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":"5e9d0d95eda699

73a809d1ec","success":true,"failures":[],"details":"SpaceX\'s 22nd ISS resupply mission on behalf of NASA, this mission sends essential supplies to the International Space Station using the cargo variant of SpaceX\'s Dragon 2 spacecraft. The external payload for this mission is the first pair of ISS Roll Out Solar Arrays. Falcon 9 and Dragon launch from LC-39A, Kennedy Space Center and the booster is expected to land on an ASDS. The mission will be complete with splashdown and recovery of the capsule and down cargo.","crew":[],"ships":["5ea6ed2f080df4000697c90b","608c1a06cf7f3d6152666ad4","5ea6ed30080df4000697c913"],"capsules":["60b803421f83cc1e59f1644d"],"payloads":["5fe3b642b3467846b324217b"],"launchpad":"5e9e4502f509094188566f88","flight_number":129,"name":"CRS-22 & IROSA","date_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/UVl6cZ6e_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":"5fe3af6db34678460b3242160"},{"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","succes

s":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/L2EqHznO_o.png","large":"https://images2.imgbox.com/96/8c/4HOqLFoZ_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/nz7rai/transporter2_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/o9ki7u/rspacex_transporter2_launch_discussion_and/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51283430951_a9e5a41141_o.jpg","https://live.staticflickr.com/65535/51283430936_3852120bbe_o.jpg","https://live.staticflickr.com/65535/51283604493_d1a088b7c9_o.jpg","https://live.staticflickr.com/65535/51284454795_591717faee_o.jpg","https://live.staticflickr.com/65535/51284454810_9fdd0e8db4_o.jpg","https://live.staticflickr.com/65535/51283604443_6d92fe1231_o.jpg","https://live.staticflickr.com/65535/51283604428_b24ebf1b5f_o.jpg","https://live.staticflickr.com/65535/51283604438_7202e2a388_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/sSiuW1HcGjA","youtube_id":"sSiuW1HcGjA","article":null,"wikipedia":null},"static_fire_date_utc":"2021-06-22T15:24:00.000Z","static_fire_date_unix":1624375440,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Falcon 9 launches to sun-synchronous polar orbit from Florida as part of SpaceX\'s Rideshare program dedicated to smallsat customers. The mission lifts off from SLC-40, Cape Canaveral on a southward azimuth and performs a dogleg maneuver. The booster for this mission is expected to return to LZ-1 based on FCC communications filings. This rideshare takes approximately 90 satellites and hosted payloads into orbit on a variety of deployers including three free-flying spacecraft which dispense their customers\' satellites after separation from the SpaceX stack.","crew":[],"ships":["60c8c7a45d4819007ea69871"],"capsules":[],"payloads":["608ac397eb3e50044e3630e7"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":132,"name":"Transporter-2","date_utc":"2021-06-30T19:31:00.000Z","date_unix":1625081460,"date_local":"2021-06-30T15:31:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5ef670f10059c33cee4a826c","flight":8,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_id":"5d248abe-17ef-43ce-9c04-aef33af40520","id":"600f9b6d8f798e2a4d5f979f"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/23/8a/eyj3lHJk_o.png","large":"https://images2.imgbox.com/fd/60/g7jacgTb_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/p67i27/crs23_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/pcj0ao/rspacex_crs23_launch_docking_discussion_updates/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51411435986_82d7088b61_o.jpg","https://live.staticflickr.com/65535/51411702583_fe67991413_o.jp

g","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-f5eac05fbe4f","id":"5fe3b11eb3467846b324216c"},{"fairings":{"reused":true,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/cb/ef/u7GOlbj4_o.png","large":"https://images2.imgbox.com/a3/55/7K6zEOT2_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/pmn0xm/rspacex_starlink21_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51474853666_be4615e186_o.jpg","https://live.staticflickr.com/65535/51475097383_dcf9002e9c_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/4372QYiPZB4","youtube_id":"4372QYiPZB4","article":"https://spaceflightnow.com/2021/09/14/spacex-launches-first-full-batch-of-laser-equipped-starlink-satellites/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":"2021-09-02T17:29:00.000Z","static_fire_date_unix":1630603740,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":["5ea6ed30080df4000697c913"],"capsules":[],"payloads":["60e3bf3373359e1e20335c3c"],"launchpad":"5e9e4502f509092b78566f87","flight_number":134,"name":"Starlink 2-1 (v1.5)","date_utc":"2021-09-14T03:55:00.000Z","date_unix":1631591700,"date_local":"2021-09-13T20:55:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a5f3591833b13b2659","flight":10,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":"6b9f9fe6-7f94-498b-a664-7c9e42dbe76d","id":"60e3bf0d73359e1e20335c37"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/bb/2f/jMnSSQHM_o.png","large":"https://images2.imgbox.com/eb/36/ZJnCO6hc_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/pc1fq7/inspiration4_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/po651k/rspacex_inspiration4_launch_discussion_updates/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/3pv01sSq44w","youtube_id":"3pv01sSq44w","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Inspiration4"},"static_fire_date_utc":"2021-09-13T07:07:00.000Z","static_fire_date_unix":1631516820,"net":false,"window":18000,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Inspiration4 is the world\xe2\x80\x99s 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\xe2\x80\x99s 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\xe2\x80\x99s population. Named in recognition

of the four-person crew that will raise awareness and funds for St. Jude Children\xe2\x80\x99s Research Hospital, this milestone represents a new era for human spaceflight and exploration.","crew":["607a3a5f5a906a44023e0870","607a3ab45a906a44023e0872","607b48375a906a44023e08b8","607b48da5a906a44023e08b9"],"ships":["5ea6ed2f080df4000697c910","5ee68c683c228f36bd5809b5","614251b711a64135defb3654"],"capsules":["5f6f99fddcfdf403df379709"],"payloads":["607a382f5a906a44023e0867"],"launchpad":"5e9e4502f509094188566f88","flight_number":135,"name":"Inspiration4","date_utc":"2021-09-16T00:02:00.000Z","date_unix":1631750520,"date_local":"2021-09-15T20:02:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c5440622a633027900a0","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"621d64e6-0513-45dc-8ffa-c9fd56518398","id":"607a37565a906a44023e0866"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/5a/2f/w3woVyro_o.png","large":"https://images2.imgbox.com/80/34/J7ROsgsi_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/q8r52a/crew3_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/qij6f4/rspacex_crew3_launch_discussion_updates_thread/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51673353699_e3da266245_o.jpg","https://live.staticflickr.com/65535/51673548360_64354b760f_o.jpg","https://live.staticflickr.com/65535/51672676881_3b88410a96_o.jpg","https://live.staticflickr.com/65535/51673548330_7acc53d2fb_o.jpg","https://live.staticflickr.com/65535/51671874407_4f56a87855_o.jpg","https://live.staticflickr.com/65535/51672676961_36371a6a76_o.jpg","https://live.staticflickr.com/65535/51672915563_7f5b373701_o.jpg","https://live.staticflickr.com/65535/51672915633_947e35cabc_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/WZvtrnFItNs","youtube_id":"WZvtrnFItNs","article":"https://spaceflightnow.com/2021/11/11/spacex-debuts-new-dragon-capsule-in-launch-to-the-international-space-station/","wikipedia":"https://en.wikipedia.org/wiki/SpaceX_Crew-3"},"static_fire_date_utc":"2021-10-28T05:46:00.000Z","static_fire_date_unix":1635399960,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX will launch the third operational mission of its Crew Dragon vehicle as part of NASA\'s Commercial Crew Program, carrying four astronauts to the International Space Station, including 1 international partner This mission will fly on a new capsule and a once used booster. The booster will land downrange on a drone ship. The Crew-2 mission returns from the space station in November.","crew":["5fe3c587b3467846b3242198","5fe3c5beb3467846b3242199","5fe3c5f6b3467846b324219a","60c4b5ad4e041c0b356db393"],"ships":["5ea6ed2d080df4000697c904","5ee68c683c228f36bd5809b5","614251b711a64135defb3654","5ea6ed2f080df4000697c90c","5ea6ed2e080df4000697c909"],"capsules":["617c05591bad2c661a6e2909"],"payloads":["5fe3b3bab3467846b3242174"],"launchpad":"5e9e4502f509094188566f88","flight_number":136,"name":"Crew-3","date_utc":"2021-11-11T02:03:00.000Z","date_unix":1636596180,"date_local":"2021-11-10T21:03:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"60b800111f83cc1e59f16438","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"0d779392-1a36-4c1e-b0b8-ec11e3031ee6","id":"5fe3b15eb3467846b324216d"},{"fairings":{"reused":null,"recovery_attempt":true,"recovered":true,"ships":["618fad7e563d69573ed8caa9"]},"links":{"patch":{"small":"https://images2.imgbox.com/f1/38/HYBzPrio_o.png","large":"https://images2.imgbox.com/c9/b7/R0e1MkGD_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/qro60o/rspacex_starlink_41_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51676939646_1a12780e54_o.jpg","https://live.staticflickr.com/65535/51677186188_e03e87ae8e_o.jpg","https://live.staticflickr.com/65535/51676136297_0bbb893f44_o.jpg","https://live.staticflickr.com/65535/51677822295_87c2ee94b1_o.jpg","https://live.staticflickr.com/65535/51677186098_12c8f54593_o.jp

g","https://live.staticflickr.com/65535/51676136282_5118fa42ef_o.jpg"]},"presskit":n
ull,"webcast":"https://youtu.be/AtmtP4vouSY","youtube_id":"AtmtP4vouSY","article":"h
ttps://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":"5e9d
0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":
["5ea6ed2f080df4000697c910","618fad7e563d69573ed8caa9"],"capsules":[],"payloads":["6
18fabf0563d69573ed8caa6"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":13
7,"name":"Starlink 4-1 (v1.5)","date_utc":"2021-11-13T12:40:00.000Z","date_unix":163
6807200,"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":"ASD
S","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_lib
rary_id":null,"id":"618faad2563d69573ed8ca9d"},{"fairings":{"reused":null,"recovery_
attempt":true,"recovered":null,"ships":["5ea6ed30080df4000697c912"]},"links":{"patc
h":{"small":"https://images2.imgbox.com/5a/fa/fhZj1ebN_o.png","large":"https://image
s2.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.co
m/r/spacex/comments/r0dn3a/rspacex_dart_launch_discussion_and_updates_thread/","medi
a":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflick
r.com/65535/51702654584_13a4b39655_o.jpg","https://live.staticflickr.com/65535/51702
261963_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,"webcas
t":"https://youtu.be/XKRf6-NcMqI","youtube_id":"XKRf6-NcMqI","article":null,"wikiped
ia":"https://en.wikipedia.org/wiki/Double_Asteroid_Redirection_Test"},"static_fire_d
ate_utc":"2021-11-19T20:20:00.000Z","static_fire_date_unix":1637353200,"net":fals
e,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"de
tails":"NASA\'s Double Asteroid Redirect Test (DART) will demonstrate the use of a k
inetic impactor to alter an asteroid\'s trajectory, an intervention that could be us
ed 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 spa
cecraft 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 Dimor
phos\'s 12 hour orbital period around its companion by several minutes. The mission
tests several technologies, including the Small-body Maneuvering Autonomous Real-Tim
e Navigation (SMART Nav) used to differentiate and steer toward the target body and
Roll-Out Solar Arrays (ROSA) with Transformational Solar Array concentrators. NASA\x
e2\x80\x99s Evolutionary Xenon Thruster \xe2\x80\x94 Commercial (NEXT\xe2\x80\x93C)
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 i
t is about 11 million kilometers from Earth. Ten days before impact, the Italian Spa
ce 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 orb
it.","crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed2f080df4000697c90b","5ea6e
d30080df4000697c912"],"capsules":[],"payloads":["5fe3c4a6b3467846b3242192"],"launchp
ad":"5e9e4502f509092b78566f87","flight_number":138,"name":"DART","date_utc":"2021-11
-24T06:20:00.000Z","date_unix":1637734800,"date_local":"2021-11-23T22:20:00-08:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c54a0622a633027900
a1","flight":2,"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":"c4b2f90e-3385-4cbe-a89f-fc5f57da1bf
b","id":"5fe3b107b3467846b324216b"},{"fairings":{"reused":null,"recovery_attempt":tr
ue,"recovered":null,"ships":["618fad7e563d69573ed8caa9"]},"links":{"patch":{"smal
l":"https://images2.imgbox.com/fc/e7/esvHlHwA_o.png","large":"https://images2.imgbo
x.com/91/15/2LRaHihk_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/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":["http
s://live.staticflickr.com/65535/51732172914_4efa7d5210_o.jpg","https://live.staticfl
ickr.com/65535/51730706247_4b5bf2899f_o.jpg","https://live.staticflickr.com/65535/51
732172879_4ce91546ed_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/594TbXriaA
k","youtube_id":"594TbXriaAk","article":null,"wikipedia":"https://en.wikipedia.org/w
iki/Starlink"},"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":["5ea6ed2d080df4000697c904","618fad7e563d69573ed8caa
9","5ee68c683c228f36bd5809b5"],"capsules":[],"payloads":["6161d0f26db1a92bfba8535
5"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":139,"name":"Starlink 4-3
(v1.5)","date_utc":"2021-12-01T23:20:00.000Z","date_unix":1638400800,"date_local":"2
021-12-01T18:20:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"cor
e":"5ef670f10059c33cee4a826c","flight":9,"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":"56db9ab
d-41b8-41a3-9d6d-88e52460682b","id":"6161c94c6db1a92bfba85349"},{"fairings":{"reuse
d":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"smal
l":"https://images2.imgbox.com/75/ac/qogMzpf1_o.png","large":"https://images2.imgbo
x.com/29/60/zFjdRVpC_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/c
omments/r7chh2/ixpe_launch_campaign_thread/","launch":null,"media":null,"recovery":n
ull},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/517365875
81_c944959eaa_o.jpg","https://live.staticflickr.com/65535/51737479675_63a2074244_o.j
pg","https://live.staticflickr.com/65535/51737234364_b43ca3ea26_o.jpg","https://liv
e.staticflickr.com/65535/51735767097_6126fe3138_o.jpg"]},"presskit":null,"webcas
t":"https://youtu.be/CpmHsN5GUn8","youtube_id":"CpmHsN5GUn8","article":null,"wikiped
ia":"https://en.wikipedia.org/wiki/IXPE"},"static_fire_date_utc":null,"static_fire_d
ate_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","succes
s":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,"core
s":[{"core":"5f57c53d0622a6330279009f","flight":5,"gridfins":true,"legs":true,"reuse
d":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpa
d":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_i
d":"dfb2cc3b-8cd8-41b6-a83a-22b2a742ba4b","id":"6161c88d6db1a92bfba85348"},{"fairing
s":{"reused":null,"recovery_attempt":true,"recovered":null,"ships":["5ea6ed30080df40
00697c912"]},"links":{"patch":{"small":"https://images2.imgbox.com/1d/2f/Z0V6iIoM_o.
png","large":"https://images2.imgbox.com/0a/63/DSii5T55_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/rhvacp/rspace
x_starlink_44_launch_discussion_and_updates/","media":null,"recovery":"https://www.r
eddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flick
r":{"small":[],"original":["https://live.staticflickr.com/65535/51756013766_f664db80
97_o.jpg","https://live.staticflickr.com/65535/51756656374_59ca8efbab_o.jpg"]},"pres
skit":null,"webcast":"https://youtu.be/q4Ed3EBx90s","youtube_id":"q4Ed3EBx90s","arti
cle":"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_d
ate_unix":1639729860,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1e
c","success":true,"failures":[],"details":"The mission consists in launching 52 Star
link v1.5 satellites to Shell number 4 at 53.2\xc2\xb0. This is unusual as the missi
on is launching from Vandenberg as these missions usually launch from the East Coas
t.","crew":[],"ships":["5ea6ed30080df4000697c913","5ea6ed30080df4000697c912","5ea6ed

2f080df4000697c90b"],"capsules":[],"payloads":["61bbac16437241381bf70632"],"launchpad":"5e9e4502f509092b78566f87","flight_number":141,"name":"Starlink 4-4 (v1.5)","date_utc":"2021-12-18T12:41:40.000Z","date_unix":1639831300,"date_local":"2021-12-18T12:41:40-08:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f35918c0803b265c","flight":11,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":false,"tbd":false,"launch_library_id":"0d4b0c0f-3d72-4cb2-b596-dc526ad178a6","id":"61bba806437241381bf7061e"},{"fairings":{"reused":null,"recovery_attempt":true,"recovered":null,"ships":["618fad7e563d69573ed8caa9"]},"links":{"patch":{"small":"https://images2.imgbox.com/9d/c9/rmVWqnDr_o.png","large":"https://images2.imgbox.com/e4/6b/fZQllIZ8_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/rfim89/t%C3%BCrksat_5b_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/rja5u0/rspacex_t%C3%BCrksat_5b_launch_discussion_and_updates/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/JBGjE9_aosc","youtube_id":"JBGjE9_aosc","article":"https://spaceflightnow.com/2021/12/19/spacex-two-for-two-in-companys-first-falcon-9-launch-doubleheader/","wikipedia":"https://en.wikipedia.org/wiki/T%C3%BCrksat_5B"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"The T\xc3\xbcrksat 5B communication satellite, which its construction work continues at Airbus Defense and Space\'s facilities in Toulouse, France, will soon be sent to the Cape Canaveral Space Launch Station located in Florida, United States. The satellite will be launched into space onboard the Falcon 9 rocket following pre-launch preparations. With an estimated in-orbit lifetime of 30 years and the aim of securing Turkey\xe2\x80\x99s orbital and frequency rights, T\xc3\xbcrksat 5B will be launched into an orbital slot at 42 degrees East. With 12 kW power, T\xc3\xbcrksat 5B will provide TV broadcasting and data communication services over a wide coverage area that reaches the entire Middle East, the Persian Gulf, the Red Sea, the Mediterranean, North Africa, East Africa, South Africa and Nigeria. Apart from that, the satellite will also provide customized services for airlines and commercial ship operators around the world thanks to the fact that it operates in Ka-Band.","crew":[],"ships":["618fad7e563d69573ed8caa9","5ee68c683c228f36bd5809b5"],"capsules":[],"payloads":["5fe3c080b3467846b3242190"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":142,"name":"T\xc3\xbcrksat 5B","date_utc":"2021-12-19T03:58:00.000Z","date_unix":1639886280,"date_local":"2021-12-18T22:58:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"60b800111f83cc1e59f16438","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":false,"tbd":false,"launch_library_id":"16d0c02e-0bb1-45d5-a3f5-7c4ff6cf6de1","id":"5fe3afc1b3467846b3242164"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/fe/c3/yV1LnAUT_o.png","large":"https://images2.imgbox.com/37/fd/AiNV3ldU_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/rfisc2/crs24_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/rktygs/rspacex_crs24_launch_discussion_and_updates_thread/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/gEv6HLHYhWo","youtube_id":"gEv6HLHYhWo","article":"https://spaceflightnow.com/2021/12/21/spacex-cargo-flight-sets-record-for-most-orbital-launches-from-space-coast-in-a-year/","wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":0,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"SpaceX\'s 24th ISS resupply mission on behalf of NASA, this mission brings essential supplies to the International Space Station using the cargo variant of SpaceX\'s Dragon 2 spacecraft. Cargo includes several science experiments. The booster for this mission is expected to land on an ASDS. The mission will be complete with return and recovery of the Dragon capsule and down cargo.","crew":[],"ships":["5ea6ed2f080df4000697c910","614251b711a64135defb3654"],"capsules":["60b803421f83cc1e59f1644d"],"payloads":["6161d22a6db1a92bfba85357"],"launchpad":"5e9e4502f509094188566f88","flight_number":

143,"name":"CRS-24","date_utc":"2021-12-21T10:06:00.000Z","date_unix":1640081160,"da
te_local":"2021-12-21T05:06:00-05:00","date_precision":"hour","upcoming":false,"core
s":[{"core":"61c1ef45a4a2462678cbf45d","flight":1,"gridfins":true,"legs":true,"reuse
d":false,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpa
d":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_i
d":"878ba32c-5e93-4d2b-95c3-24b60c8b05e7","id":"6161d2006db1a92bfba85356"},{"fairing
s":{"reused":null,"recovery_attempt":true,"recovered":null,"ships":["614251b711a6413
5defb3654"]},"links":{"patch":{"small":"https://images2.imgbox.com/8e/e9/MJG9yylu_o.
png","large":"https://images2.imgbox.com/e3/1b/r7u0e6SM_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/rwukw5/rspace
x_starlink_45_launch_discussion_and_updates/","media":null,"recovery":"https://www.r
eddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flick
r":{"small":[],"original":["https://live.staticflickr.com/65535/51804559341_730da650
03_o.jpg","https://live.staticflickr.com/65535/51804671583_7a1137dd05_o.jpg","http
s://live.staticflickr.com/65535/51804914844_ee0cd2c3c0_o.jpg"]},"presskit":null,"web
cast":"https://youtu.be/4_ePBpwMhns","youtube_id":"4_ePBpwMhns","article":"https://s
paceflightnow.com/2022/01/06/spacex-deploys-49-more-starlink-satellites-in-first-lau
nch-of-2022/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_dat
e_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d9
5eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":["6
14251b711a64135defb3654","5ea6ed2d080df4000697c904"],"capsules":[],"payloads":["61d5
ece4f88e4c5fc91f1ebb"],"launchpad":"5e9e4502f509094188566f88","flight_number":144,"n
ame":"Starlink 4-5 (v1.5)","date_utc":"2022-01-06T21:49:00.000Z","date_unix":1641505
740,"date_local":"2022-01-06T16:49:00-05:00","date_precision":"hour","upcoming":fals
e,"cores":[{"core":"5f57c5440622a633027900a0","flight":4,"gridfins":true,"legs":tru
e,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASD
S","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_lib
rary_id":"3ddb1934-2b57-489b-b5d2-31d4990604eb","id":"61d5eca1f88e4c5fc91f1eb7"},{"f
airings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"link
s":{"patch":{"small":"https://images2.imgbox.com/d4/7b/iDjUz9US_o.png","large":"http
s://images2.imgbox.com/94/be/MVwoNNDy_o.png"},"reddit":{"campaign":"https://www.redd
it.com/r/spacex/comments/s04tw9/transporter3_launch_campaign_thread/","launch":"http
s://www.reddit.com/r/spacex/comments/s23yav/rspacex_transporter3_launch_discussion_a
nd/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.st
aticflickr.com/65535/51818737408_435196f856_o.jpg","https://live.staticflickr.com/65
535/51819334315_a542f60ca7_o.jpg","https://live.staticflickr.com/65535/51818737428_c
969752259_o.jpg","https://live.staticflickr.com/65535/51818622981_a51f8e400e_o.jp
g","https://live.staticflickr.com/65535/51818962544_6dc5873faf_o.jpg","https://live.
staticflickr.com/65535/51818737463_ab81867074_o.jpg"]},"presskit":null,"webcast":"ht
tps://youtu.be/mFBeuSAvhUQ","youtube_id":"mFBeuSAvhUQ","article":"https://spacefligh
tnow.com/2022/01/13/spacex-launches-105-customer-satellites-on-third-transporter-rid
eshare-mission/","wikipedia":null},"static_fire_date_utc":null,"static_fire_date_uni
x":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":tru
e,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["6175a
aacefa4314085aa9c56"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":145,"na
me":"Transporter-3","date_utc":"2022-01-13T15:25:00.000Z","date_unix":1642087500,"da
te_local":"2022-01-13T10:25:00-05:00","date_precision":"hour","upcoming":false,"core
s":[{"core":"5e9e28a7f3591817f23b2663","flight":10,"gridfins":true,"legs":true,"reus
ed":true,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpa
d":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"launch_library_i
d":"c660df6f-7e33-4c90-a0f5-b27c8cb4c974","id":"61bf3e31cd5ab50b0d936345"},{"fairing
s":{"reused":null,"recovery_attempt":true,"recovered":null,"ships":["614251b711a6413
5defb3654"]},"links":{"patch":{"small":"https://images2.imgbox.com/5f/23/CAkj0nIZ_o.
png","large":"https://images2.imgbox.com/d6/57/1HqOmlpH_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":["https://live.staticflickr.com/65535/51830117595_12bfa3bf5d_o.jpg","https://live.staticflickr.com/65535/51828440767_8ce8e10d30_o.jpg","https://live.staticflickr.com/65535/51829734974_ddfe778a46_o.jpg","https://live.staticflickr.com/65535/51829734959_d68fa43e2a_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/Yov854ZT1lg","youtube_id":"Yov854ZT1lg","article":"https://spaceflightnow.com/2022/01/19/spacex-launches-2000th-starlink-satellite/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":["5ea6ed2d080df4000697c904","614251b711a64135defb3654"],"capsules":[],"payloads":["61e05516be8d8b66799018d4"],"launchpad":"5e9e4502f509094188566f88","flight_number":146,"name":"Starlink 4-6 (v1.5)","date_utc":"2022-01-19T00:04:00.000Z","date_unix":1642550640,"date_local":"2022-01-18T19:04:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5ef670f10059c33cee4a826c","flight":10,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"50ac28f2-024f-442f-837d-dab8107304ec","id":"61e048bbbe8d8b66799018d0"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/69/be/Y0sIjJ6f_o.png","large":"https://images2.imgbox.com/ea/26/DjPDzbZl_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/sarr7x/rspacex_csg2_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/sdtz77/rspacex_csg2_launch_discussion_and_updates_thread/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51856205295_4ec1c21ce3_o.jpg","https://live.staticflickr.com/65535/51854587612_b30f28ede1_o.jpg","https://live.staticflickr.com/65535/51855875789_b27465e1f2_o.jpg","https://live.staticflickr.com/65535/51855546836_710848417a_o.jpg","https://live.staticflickr.com/65535/51855627363_c927574ce4_o.jpg","https://live.staticflickr.com/65535/51854587577_cfe014f0e9_o.jpg","https://live.staticflickr.com/65535/51855875759_a4cdc29fbf_o.jpg","https://live.staticflickr.com/65535/51855546821_7900aed52d_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/AbFoi68L-GQ","youtube_id":"AbFoi68L-GQ","article":"https://spaceflightnow.com/2022/02/01/italian-radar-satellite-rides-spacex-rocket-into-polar-orbit/","wikipedia":null},"static_fire_date_utc":"2022-01-23T21:22:00.000Z","static_fire_date_unix":1642972920,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":"Falcon 9 launches to sun-synchronous polar orbit from Florida as part of CSG-2 Mission. The mission lifts off from SLC-40, Cape Canaveral on a southward azimuth and performs a dogleg maneuver. The booster for this mission is expected to return to LZ-1 based on FCC communications filings","crew":[],"ships":[],"capsules":[],"payloads":["6161d3a06db1a92bfba8535a"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":147,"name":"CSG-2","date_utc":"2022-01-31T23:11:12.000Z","date_unix":1643670672,"date_local":"2022-01-31T18:11:12-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f359183c413b265d","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":false,"tbd":false,"launch_library_id":"23229c2b-abb7-4b94-b624-981a9adc88d2","id":"6161d32d6db1a92bfba85359"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/a8/17/lVuBZTIF_o.png","large":"https://images2.imgbox.com/4c/7a/USlzA8r3_o.png"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/si3o0y/rspacex_nrol87_launch_discussion_and_updates/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51860158413_2ebc4d47a4_o.jpg","https://live.staticflickr.com/65535/51860412009_2e15b59fbf_o.jpg","https://live.staticflickr.com/65535/51860158508_793bf779eb_o.jpg","https://live.staticflickr.com/65535/51860411994_584cab0598_o.jpg","https://live.staticflickr.com/65535/51859123422_603c610574_o.jpg","https://live.staticflickr.com/65535/51859122897_637e67

a312_o.jpg","https://live.staticflickr.com/65535/51860730685_c8c7f0561e_o.jpg","https://live.staticflickr.com/65535/51859123052_cc5640ef1a_o.jpg","https://live.staticflickr.com/65535/51860412119_8926453a27_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/bVk8XyjhTKo","youtube_id":"bVk8XyjhTKo","article":"https://spaceflightnow.com/2022/02/02/spacex-launches-classified-nro-satellite-from-vandenberg-space-force-base/","wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["6175aaacefa4314085aa9c56"],"launchpad":"5e9e4502f509092b78566f87","flight_number":148,"name":"NROL-87","date_utc":"2022-02-02T20:18:00.000Z","date_unix":1643833080,"date_local":"2022-02-02T12:18:00-08:00","date_precision":"hour","upcoming":false,"cores":[{"core":"61fae5947aa67176fe3e0e1e","flight":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_success":true,"landing_type":"RTLS","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":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/97/24/8byKYtz1_o.png","large":"https://images2.imgbox.com/d0/84/kfEJRH1j_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/sx92uf/rspacex_starlink_48_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51897183392_ecee950c6f_o.jpg","https://live.staticflickr.com/65535/51898142206_9dd9dd27e1_o.jpg","https://live.staticflickr.com/65535/51897183382_6f6dcf0fb8_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/eiKOMCRymsw","youtube_id":"eiKOMCRymsw","article":"https://spaceflightnow.com/2022/02/21/spacex-adds-46-more-satellites-to-starlink-fleet/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["61fc02e1e0dc5662b76489b4"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":150,"name":"Starlink 4-8 (v1.5)","date_utc":"2022-02-21T14:44:00.000Z","date_unix":1645454640,"date_local":"2022-02-21T09:44:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a7f3591817f23b2663","flight":11,"gridfins":true,"legs":true,"reused":tru

e,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9
e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"398e713
f-5daa-4fb9-a70a-0b8654baf5d1","id":"61fc01dae0dc5662b76489a7"},{"fairings":{"reuse
d":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"smal
l":"https://images2.imgbox.com/4d/6a/Oh3QT4JI_o.png","large":"https://images2.imgbo
x.com/e7/37/bWXhCJ8i_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/t0yksi/rspacex_starlink_411_launch_discussion_a
nd/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspace
x_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/nnVOfKOzXHE","youtu
be_id":"nnVOfKOzXHE","article":"https://spaceflightnow.com/2022/02/25/spacex-deploys
-another-batch-of-starlink-satellites/","wikipedia":"https://en.wikipedia.org/wiki/S
tarlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"wind
ow":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":
null,"crew":[],"ships":[],"capsules":[],"payloads":["61fc0334e0dc5662b76489b5"],"lau
nchpad":"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":"5f5
7c54a0622a633027900a1","flight":4,"gridfins":true,"legs":true,"reused":true,"landing
_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ec
b6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":"b7b24770-f9dd-40e
b-adad-da95e917e55d","id":"61fc0203e0dc5662b76489a8"},{"fairings":{"reused":null,"re
covery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"http
s://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/j
hu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.redd
it.com/r/spacex/comments/t5lzm9/rspacex_starlink_49_launch_discussion_and_update
s/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex
_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":["https://live.s
taticflickr.com/65535/51924631989_4e0b26f306_o.jpg","https://live.staticflickr.com/6
5535/51924934610_296c72bf67_o.jpg","https://live.staticflickr.com/65535/51924933910_
9627ae096e_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/ypb2sDdUkRo","youtub
e_id":"ypb2sDdUkRo","article":"https://spaceflightnow.com/2022/03/03/after-another-s
tarlink-mission-spacex-on-pace-for-one-launch-per-week-this-year/","wikipedia":"http
s://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_u
nix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":tr
ue,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["61fc
0379e0dc5662b76489b6"],"launchpad":"5e9e4502f509094188566f88","flight_number":152,"n
ame":"Starlink 4-9 (v1.5)","date_utc":"2022-03-03T14:35:00.000Z","date_unix":1646318
100,"date_local":"2022-03-03T09:35:00-05:00","date_precision":"hour","upcoming":fals
e,"cores":[{"core":"5ef670f10059c33cee4a826c","flight":11,"gridfins":true,"legs":tru
e,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASD
S","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_lib
rary_id":"861795c5-e694-4d3e-b22f-a356a31cd5d8","id":"61fc0224e0dc5662b76489ab"},{"f
airings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"link
s":{"patch":{"small":"https://images2.imgbox.com/82/8f/qKGTi0s6_o.png","large":"http
s://images2.imgbox.com/16/33/3M4qJ6Fz_o.png"},"reddit":{"campaign":"https://www.redd
it.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_threa
d/","launch":"https://www.reddit.com/r/spacex/comments/t9la7r/rspacex_starlink_410_l
aunch_discussion_and/","media":null,"recovery":"https://www.reddit.com/r/spacex/comm
ents/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"origina
l":["https://live.staticflickr.com/65535/51928220502_1a44139be7_o.jpg","https://liv
e.staticflickr.com/65535/51929288928_46decee5db_o.jpg","https://live.staticflickr.co

m/65535/51929537589_f03fb8c20a_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/uqAppamdGyo","youtube_id":"uqAppamdGyo","article":"https://spaceflightnow.com/2022/03/09/spacex-broomstick-launches-40th-starlink-mission/","wikipedia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["61fc0382e0dc5662b76489b7"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":153,"name":"Starlink 4-10 (v1.5)","date_utc":"2022-03-09T13:45:00.000Z","date_unix":1646833500,"date_local":"2022-03-09T08:45:00-05:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f359183c413b265d","flight":4,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"d8c7fbe0-6a32-42dc-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,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"72188aca-810d-40b9-887d-43040614dd2c","id":"6234908cf051102e1fcedac4"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/6f/96/DdGNFAIf_o.png","large":"https://images2.imgbox.com/cb/68/qmxOMk8e_o.png"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/tt5n43/rspacex_transporter4_launch_discussion_and/","media":null,"recovery":null},"flickr":{"small":[],"original":["https://live.staticflickr.com/65535/51981688502_0584ac5658_o.jpg","https://live.staticflickr.com/65535/51982975529_3e1610767a_o.jpg"]},"presskit":null,"webcast":"https://youtu.be/4NqSoHnkKEM","youtube_id":"4NqSoHnkKEM","article":"https://spaceflightnow.com/2022/04/01/forty-payloads-ride-into-orbit-on-spacex-falcon-9-rocket/","wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["6243af62af52800c6e919260"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":155,"name":"Transporter-4","date_utc":"2022-04-01T16:24:00.000Z","date_unix":1648830240,"date_local":"2022-04-01T12:24:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c53d0622a6330279009f","flight":7,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"335acce9-a35c-436c-9a22-a2505f20957f","id":"6243ad8baf52800c6e919252"},{"fairings":null,"links":{"patch":{"small":"https://images2.imgbox.com/16/33/EAmegdSP_o.png","large":"https://images2.imgbox.com/27/1c/FaWQjihE_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/t3ez79/axiom1_launch_campaign_thread/","launch":"https://www.reddit.com/r/spacex/comments/tyd866/rspacex_axiom1_launch_discussion_and_updates/","media":null,"re

covery":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":"5e9e4502f5090902b78566f87","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":["6243af

9faf52800c6e919261"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":158,"nam
e":"Starlink 4-14 (v1.5)","date_utc":"2022-04-21T15:16:00.000Z","date_unix":16505541
60,"date_local":"2022-04-21T11:16:00-04:00","date_precision":"hour","upcoming":fals
e,"cores":[{"core":"5ef670f10059c33cee4a826c","flight":12,"gridfins":true,"legs":tru
e,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASD
S","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_lib
rary_id":"2c5447d7-36c5-40fd-88de-47ed6b258bdb","id":"6243ada6af52800c6e919253"},{"f
airings":null,"links":{"patch":{"small":"https://images2.imgbox.com/22/94/l0GVrzr2_
o.png","large":"https://images2.imgbox.com/8f/ce/drbrg4Ky_o.png"},"reddit":{"campaig
n":"https://www.reddit.com/r/spacex/comments/u6d5na/rspacex_crew4_campaign_launch_di
scussion_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_C
rew-4"},"static_fire_date_utc":"2022-04-20T14:12:00.000Z","static_fire_date_unix":16
50463920,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":tru
e,"failures":[],"details":null,"crew":["6243bc5baf52800c6e919276","6243bcdcaf52800c6
e919277","6243bd7baf52800c6e919278","6243bdf8af52800c6e919279"],"ships":["614251b711
a64135defb3654"],"capsules":["62615d180ec008379be596f1"],"payloads":["6243b1cdaf5280
0c6e919265"],"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":"60b
800111f83cc1e59f16438","flight":4,"gridfins":true,"legs":true,"reused":true,"landing
_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ec
b075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"d786d8fc-862b-45b
f-8f7b-9ad862883f67","id":"6243ade2af52800c6e919255"},{"fairings":{"reused":null,"re
covery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"http
s://images2.imgbox.com/f2/ba/8LUO26uP_o.png","large":"https://images2.imgbox.com/17/
93/FKLGOiaH_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/j
hu37i/starlink_general_discussion_and_deployment_thread/","launch":null,"media":nul
l,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_
discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcas
t":"https://youtu.be/skNrXnubpwA","youtube_id":"skNrXnubpwA","article":null,"wikiped
ia":"https://en.wikipedia.org/wiki/Starlink"},"static_fire_date_utc":null,"static_fi
re_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","su
ccess":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payload
s":["62582aa55988f159024b964d"],"launchpad":"5e9e4501f509094ba4566f84","flight_numbe
r":160,"name":"Starlink 4-16 (v1.5)","date_utc":"2022-04-29T21:27:00.000Z","date_uni
x":1651267620,"date_local":"2022-04-29T17:27:00-04:00","date_precision":"hour","upco
ming":false,"cores":[{"core":"5f57c5440622a633027900a0","flight":6,"gridfins":tru
e,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_t
ype":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"l
aunch_library_id":"b79a9332-4c0c-42a2-a59b-aafcd5d4721d","id":"62582a6f5988f159024b9
64b"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":
[]},"links":{"patch":{"small":"https://images2.imgbox.com/1c/64/JbkoahWh_o.png","lar
ge":"https://images2.imgbox.com/c3/f5/xpg9K0hk_o.png"},"reddit":{"campaign":"http
s://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployme
nt_thread/","launch":"https://www.reddit.com/r/spacex/comments/uj5ina/rspacex_starli
nk_417_launch_discussion_and/","media":null,"recovery":"https://www.reddit.com/r/spa
cex/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,"stat
ic_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1e
c","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"p
ayloads":["62582aad5988f159024b964e"],"launchpad":"5e9e4502f509094188566f88","flight
_number":161,"name":"Starlink 4-17 (v1.5)","date_utc":"2022-05-06T09:42:00.000Z","da
te_unix":1651830120,"date_local":"2022-05-06T05:42:00-04:00","date_precision":"hou

r","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/rspace
x_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_precis
ion":"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,"recovere
d":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":["62615ee40ec008379be596fd"],"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,"recovere
d":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/fc/73/QpGK
qpvV_o.png","large":"https://images2.imgbox.com/a1/0b/Hj2nGHdQ_o.png"},"reddit":{"ca
mpaign":null,"launch":"https://www.reddit.com/r/spacex/comments/uxafkb/rspacex_trans
porter5_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,"stat
ic_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1e
c","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"p
ayloads":["6243b39daf52800c6e919267"],"launchpad":"5e9e4501f509094ba4566f84","flight
_number":165,"name":"Transporter-5","date_utc":"2022-05-25T18:27:00.000Z","date_uni
x":1653503220,"date_local":"2022-05-25T14:27:00-04:00","date_precision":"hour","upco
ming":false,"cores":[{"core":"5f57c53d0622a6330279009f","flight":8,"gridfins":tru
e,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_t
ype":"RTLS","landpad":"5e9e3032383ecb267a34e7c7"}],"auto_update":true,"tbd":false,"l
aunch_library_id":"949421ac-3802-499b-b383-d8274de7e147","id":"6243ae24af52800c6e919
258"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":
[]},"links":{"patch":{"small":"https://images2.imgbox.com/6d/f7/ZJKXRNzL_o.png","lar
ge":"https://images2.imgbox.com/32/10/Mb5CLqt8_o.png"},"reddit":{"campaign":null,"la
unch":"https://www.reddit.com/r/spacex/comments/v7hxph/rspacex_nilesat_301_launch_di
scussion_and_updates/","media":null,"recovery":null},"flickr":{"small":[],"origina
l":[]},"presskit":null,"webcast":"https://youtu.be/UpCZu89zb5Y","youtube_id":"UpCZu8
9zb5Y","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Nilesat"},"static_f
ire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocke
t":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":
[],"ships":[],"capsules":[],"payloads":["6243b286af52800c6e919266"],"launchpad":"5e9
e4501f509094ba4566f84","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","d
ate_precision":"hour","upcoming":false,"cores":[{"core":"5f57c5440622a633027900a
0","flight":7,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"land
ing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto
_update":true,"tbd":false,"launch_library_id":"62fb58f6-1d43-4b24-862f-6ac5bee5f72
3","id":"6243ae0aaf52800c6e919257"},{"fairings":{"reused":null,"recovery_attempt":nu
ll,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.co
m/ea/40/slQKbK6Y_o.png","large":"https://images2.imgbox.com/24/85/xcpbpqqZ_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/vdue2y/rspacex_starlink_419_launch_discussion_and/","media":null,"recover
y":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion
_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://yo
utu.be/oCN-BMU9-hM","youtube_id":"oCN-BMU9-hM","article":null,"wikipedia":null},"sta
tic_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rock
et":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":
[],"ships":[],"capsules":[],"payloads":["6278484e57b51b752c5c5a63"],"launchpad":"5e9
e4502f509094188566f88","flight_number":167,"name":"Starlink 4-19 (v1.5)","date_ut
c":"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":"5ef670f10059c33
cee4a826c","flight":13,"gridfins":true,"legs":true,"reused":true,"landing_attempt":t
rue,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7c
d"}],"auto_update":true,"tbd":false,"launch_library_id":"179789f0-9380-4182-8ea2-676
504c2f890","id":"6278481757b51b752c5c5a5f"},{"fairings":{"reused":null,"recovery_att
empt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.i
mgbox.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/comment
s/vf0x9v/rspacex_sarah1_launch_discussion_and_updates/","media":null,"recovery":"htt

ps://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_threa
d/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.b
e/lCX-KUCn4A4","youtube_id":"lCX-KUCn4A4","article":null,"wikipedia":null},"static_f
ire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocke
t":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":
[],"ships":[],"capsules":[],"payloads":["5fe3b2abb3467846b3242172"],"launchpad":"5e9
e4502f509092b78566f87","flight_number":168,"name":"SARah 1","date_utc":"2022-06-18T1
4:19:00.000Z","date_unix":1655561940,"date_local":"2022-06-18T07:19:00-07:00","date_
precision":"hour","upcoming":false,"cores":[{"core":"61fae5947aa67176fe3e0e1e","flig
ht":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_succ
ess":true,"landing_type":"RTLS","landpad":"5e9e3032383ecb554034e7c9"}],"auto_updat
e":true,"tbd":false,"launch_library_id":"4ca945f6-981f-4ee9-8a79-f1204b785f8c","i
d":"5fe3af43b3467846b324215e"},{"fairings":{"reused":null,"recovery_attempt":null,"r
ecovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/8b/
bd/1cZPPs46_o.png","large":"https://images2.imgbox.com/3c/8b/Ck1Ona0s_o.png"},"reddi
t":{"campaign":null,"launch":"https://www.reddit.com/r/spacex/comments/vfcq6f/rspace
x_globalstar_fm15_launch_discussion_and/","media":null,"recovery":null},"flickr":{"s
mall":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/94cClvOFWH4","yo
utube_id":"94cClvOFWH4","article":null,"wikipedia":"https://en.wikipedia.org/wiki/Gl
obalstar"},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"win
dow":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"detail
s":null,"crew":[],"ships":[],"capsules":[],"payloads":["62adecbcd26f4f711fa5384
8"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":169,"name":"Globalstar FM
15","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":"5f5
7c53d0622a6330279009f","flight":9,"gridfins":true,"legs":true,"reused":true,"landing
_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ec
bb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"33223258-614c-449
c-8af7-a9f75cc036b2","id":"62a9f08b20413d2695d88711"},{"fairings":{"reused":null,"re
covery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"http
s://images2.imgbox.com/32/84/oJzvzmvd_o.jpg","large":"https://images2.imgbox.com/c8/
1c/MnTYr16O_o.jpg"},"reddit":{"campaign":null,"launch":"https://www.reddit.com/r/spa
cex/comments/vnc3uu/rspacex_ses22_launch_discussion_and_updates_thread/","media":nul
l,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"ht
tps://youtu.be/ZjUvXWg2_fE","youtube_id":"ZjUvXWg2_fE","article":null,"wikipedia":nu
ll},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":nu
ll,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":nul
l,"crew":[],"ships":[],"capsules":[],"payloads":["6243b93caf52800c6e91926f"],"launch
pad":"5e9e4501f509094ba4566f84","flight_number":170,"name":"SES-22","date_utc":"2022
-06-29T21:04:00.000Z","date_unix":1656536640,"date_local":"2022-06-29T17:04:00-04:0
0","date_precision":"hour","upcoming":false,"cores":[{"core":"627843db57b51b752c5c5a
54","flight":2,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"lan
ding_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"aut
o_update":true,"tbd":false,"launch_library_id":"86a3010e-f8ef-4b64-a029-f4f92829772
d","id":"6243aea5af52800c6e91925c"},{"fairings":{"reused":null,"recovery_attempt":nu
ll,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.co
m/b4/ad/i3KVeFRA_o.png","large":"https://images2.imgbox.com/4a/e6/kCnNdivV_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/vsz5s5/rspacex_starlink_421_launch_discussion_and/","media":null,"recover
y":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion
_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://yo
utu.be/u_A7xdnVllM","youtube_id":"u_A7xdnVllM","article":null,"wikipedia":null},"sta
tic_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rock
et":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":
[],"ships":[],"capsules":[],"payloads":["630bccc6d36448026ab01639"],"launchpad":"5e9

e4501f509094ba4566f84","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":"5e9e28a7f359181
7f23b2663","flight":13,"gridfins":true,"legs":true,"reused":true,"landing_attempt":t
rue,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7c
c"}],"auto_update":true,"tbd":false,"launch_library_id":"ac4ce8e1-fd76-4654-8809-550
0ba792a8a","id":"62a9f0c920413d2695d88712"},{"fairings":{"reused":null,"recovery_att
empt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.i
mgbox.com/8a/bc/C3bBWOQN_o.png","large":"https://images2.imgbox.com/e6/b5/PT6yjfOt_
o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starli
nk_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spa
cex/comments/vvwx9k/rspacex_starlink_31_launch_discussion_and_updates/","media":nul
l,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_
discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcas
t":"https://youtu.be/_c738Z_zQR0","youtube_id":"_c738Z_zQR0","article":null,"wikiped
ia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"wind
ow":null,"rocket":"5e9d0d95eda69973a809d1ec","success":null,"failures":[],"details":
null,"crew":[],"ships":[],"capsules":[],"payloads":["630bccd6d36448026ab0163a"],"lau
nchpad":"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":"5f5
7c54a0622a633027900a1","flight":6,"gridfins":true,"legs":true,"reused":true,"landing
_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ec
b6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":"051c4c90-a89d-4a8
6-a77f-c7e22b9cb458","id":"62a9f0e320413d2695d88713"},{"fairings":null,"links":{"pat
ch":{"small":"https://images2.imgbox.com/4a/8a/XVjJ2BKD_o.png","large":"https://imag
es2.imgbox.com/80/e2/15AFwnRv_o.png"},"reddit":{"campaign":null,"launch":"https://ww
w.reddit.com/r/spacex/comments/vyw3eo/rspacex_crs25_launch_discussion_and_updates_th
read/","media":null,"recovery":null},"flickr":{"small":[],"original":[]},"presskit":
null,"webcast":"https://youtu.be/mnowEqqMiFs","youtube_id":"mnowEqqMiFs","article":n
ull,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"ne
t":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failure
s":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["6243b835af52800
c6e91926d"],"launchpad":"5e9e4502f509094188566f88","flight_number":173,"name":"CRS-2
5","date_utc":"2022-07-15T00:44:00.000Z","date_unix":1657845840,"date_local":"2022-0
7-14T20:44:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"60b8
00111f83cc1e59f16438","flight":5,"gridfins":true,"legs":true,"reused":true,"landing_
attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb
075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"2773613e-58eb-4b99
-8120-595c92aa3390","id":"6243ae40af52800c6e919259"},{"fairings":{"reused":null,"rec
overy_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://
images2.imgbox.com/ba/9b/INF3SG3k_o.png","large":"https://images2.imgbox.com/32/8f/H
PsvsuG9_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37
i/starlink_general_discussion_and_deployment_thread/","launch":null,"media":null,"re
covery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discu
ssion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"http
s://youtu.be/7VWcjgYfJ9U","youtube_id":"7VWcjgYfJ9U","article":null,"wikipedia":nul
l},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":nul
l,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"c
rew":[],"ships":[],"capsules":[],"payloads":["630bce10d36448026ab0163b"],"launchpa
d":"5e9e4501f509094ba4566f84","flight_number":174,"name":"Starlink 4-22 (v1.5)","dat
e_utc":"2022-07-17T14:50:00.000Z","date_unix":1658069400,"date_local":"2022-07-17T1
0:50:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f3
5918c0803b265c","flight":13,"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":"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/BuXdtORWrpg","youtube_id":"BuXdtORWrpg","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["630bce49d36448026ab0163c"],"launchpad":"5e9e4502f509092b78566f87","flight_number":175,"name":"Starlink 3-2 (v1.5)","date_utc":"2022-07-21T17:13:00.000Z","date_unix":1658423580,"date_local":"2022-07-21T10:13:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"61fae5947aa67176fe3e0e1e","flight":4,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3032383ecb6bb234e7ca"}],"auto_update":true,"tbd":false,"launch_library_id":"4ddf282b-94a1-418e-b3f6-7d8e753fdfec","id":"62a9f10b20413d2695d88715"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/8b/5a/zJ1W8QIE_o.png","large":"https://images2.imgbox.com/d2/64/JxeOTPRl_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":null,"media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":null,"youtube_id":null,"article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["630bce79d36448026ab0163d"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":176,"name":"Starlink 4-25 (v1.5)","date_utc":"2022-07-24T00:00:00.000Z","date_unix":1658620800,"date_local":"2022-07-23T20:00:00-04:00","date_precision":"day","upcoming":false,"cores":[{"core":"5f57c5440622a633027900a0","flight":8,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":null,"id":"62a9f12820413d2695d88716"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/9a/11/gjRM9dTi_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/rTrkHZjiO_8","youtube_id":"rTrkHZjiO_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":"KPLO","date_utc":"2022-08-04T23:08:00.000Z","date_unix":1659654480,"date_local":"2022-08-04T19:08:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5e9e28a6f359183c413b265d","flight":6,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":true,"tbd":false,"launch_library_id":"75d7306e-1d76-4c0b-9dc4-98dee7b9af59","id":"62a9f86420413d2695d88719"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/db/0c/Qrfi4lgd_o.png","large":"https://images2.imgbox.com/6f/13/SnfNAbpz_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/wk8dua/rspacex_starlink_426_launch_discussion_and/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion

_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/ck5z0uMGz8s","youtube_id":"ck5z0uMGz8s","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["630bcea1d36448026ab0163e"],"launchpad":"5e9e4502f509094188566f88","flight_number":178,"name":"Starlink 4-26 (v1.5)","date_utc":"2022-08-09T22:57:00.000Z","date_unix":1660085820,"date_local":"2022-08-09T18:57:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"627843db57b51b752c5c5a54","flight":3,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"a6b9deb4-f78d-4b57-8e47-98c5aea99d9e","id":"62a9f8b320413d2695d8871b"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/d0/90/pKNXVgeG_o.png","large":"https://images2.imgbox.com/33/50/ZK6KD7kE_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/wmgtiu/rspacex_starlink_33_launch_discussion_and_updates/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/SU5FbiCbjic","youtube_id":"SU5FbiCbjic","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["630bceb8d36448026ab01640"],"launchpad":"5e9e4502f509092b78566f87","flight_number":179,"name":"Starlink 3-3 (v1.5)","date_utc":"2022-08-12T21:30:00.000Z","date_unix":1660339800,"date_local":"2022-08-12T14:30:00-07:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c53d0622a6330279009f","flight":10,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"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/O1spe4aF_o.png","large":"https://images2.imgbox.com/d1/10/0u6LdCUH_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":"https://www.reddit.com/r/spacex/comments/wsde1t/rspacex_starlink_427_launch_discussion_and/","media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/M018DAaNd_E","youtube_id":"M018DAaNd_E","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"failures":[],"details":null,"crew":[],"ships":[],"capsules":[],"payloads":["630bceadd36448026ab0163f"],"launchpad":"5e9e4501f509094ba4566f84","flight_number":180,"name":"Starlink 4-27 (v1.5)","date_utc":"2022-08-19T19:24:00.000Z","date_unix":1660937040,"date_local":"2022-08-19T15:24:00-04:00","date_precision":"hour","upcoming":false,"cores":[{"core":"5f57c5440622a633027900a0","flight":9,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_success":true,"landing_type":"ASDS","landpad":"5e9e3033383ecb075134e7cd"}],"auto_update":true,"tbd":false,"launch_library_id":"4a114237-e8c5-4248-8d30-7a9026b86430","id":"62f3b5200f55c50e192a4e6c"},{"fairings":{"reused":null,"recovery_attempt":null,"recovered":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/12/42/5T8I9wZL_o.png","large":"https://images2.imgbox.com/f4/bc/5iJ5j1Ju_o.png"},"reddit":{"campaign":"https://www.reddit.com/r/spacex/comments/jhu37i/starlink_general_discussion_and_deployment_thread/","launch":null,"media":null,"recovery":"https://www.reddit.com/r/spacex/comments/k2ts1q/rspacex_fleet_updates_discussion_thread/"},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.be/07RGJ04HRns","youtube_id":"07RGJ04HRns","article":null,"wikipedia":null},"static_fire_date_utc":null,"static_fire_date_unix":null,"net":fals

e,"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":1
4,"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":"992823ad-f843-4a4a-beca-882b8ce8773a","id":"62a
9f89a20413d2695d8871a"},{"fairings":{"reused":null,"recovery_attempt":null,"recovere
d":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/a9/9a/NXVk
TZCE_o.png","large":"https://images2.imgbox.com/e3/cc/hN96PmST_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/xd8vhj/r
spacex_starlink_434_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/ZlQHF_yBkM
Q","youtube_id":"ZlQHF_yBkMQ","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":["63161699ffc78f3b85670719"],"launchpad":"5e9e4501f509094ba4566
f84","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_preci
sion":"hour","upcoming":false,"cores":[{"core":"60b800111f83cc1e59f16438","flight":
6,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_succes
s":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":t
rue,"tbd":false,"launch_library_id":"9ba04064-c329-40bf-b477-ff468d7d8058","id":"631
61329ffc78f3b8567070b"},{"fairings":{"reused":null,"recovery_attempt":null,"recovere
d":null,"ships":[]},"links":{"patch":{"small":"https://images2.imgbox.com/a9/9a/NXVk
TZCE_o.png","large":"https://images2.imgbox.com/e3/cc/hN96PmST_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/xn028t/r
spacex_starlink_435_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/VVu2bSJJhg
I","youtube_id":"VVu2bSJJhgI","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":["631616a7ffc78f3b8567071a"],"launchpad":"5e9e4501f509094ba4566
f84","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_preci
sion":"hour","upcoming":false,"cores":[{"core":"627843d657b51b752c5c5a53","flight":
4,"gridfins":true,"legs":true,"reused":true,"landing_attempt":true,"landing_succes
s":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_update":t
rue,"tbd":false,"launch_library_id":"1c903b65-6667-4fd5-944d-296c5f13e01f","id":"631
61339ffc78f3b8567070c"},{"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/comment
s/xvm76j/rspacex_crew5_launchcoast_docking_discussion_and/","media":null,"recovery":
null},"flickr":{"small":[],"original":[]},"presskit":null,"webcast":"https://youtu.b
e/5EwW8ZkArL4","youtube_id":"5EwW8ZkArL4","article":null,"wikipedia":"https://en.wik
ipedia.org/wiki/SpaceX_Crew-5"},"static_fire_date_utc":null,"static_fire_date_unix":
null,"net":false,"window":null,"rocket":"5e9d0d95eda69973a809d1ec","success":true,"f
ailures":[],"details":null,"crew":["62dd7196202306255024d13c","62dd71c9202306255024d
13d","62dd7210202306255024d13e","62dd7253202306255024d13f"],"ships":[],"capsules":
["617c05591bad2c661a6e2909"],"payloads":["62dd73ed202306255024d145"],"launchpad":"5e
9e4502f509094188566f88","flight_number":187,"name":"Crew-5","date_utc":"2022-10-05T1
6:00:00.000Z","date_unix":1664985600,"date_local":"2022-10-05T12:00:00-04:00","date_
precision":"hour","upcoming":false,"cores":[{"core":"633d9da635a71d1d9c66797b","flig
ht":1,"gridfins":true,"legs":true,"reused":false,"landing_attempt":true,"landing_suc

cess":true,"landing_type":"ASDS","landpad":"5e9e3033383ecbb9e534e7cc"}],"auto_updat
e":true,"tbd":false,"launch_library_id":"f33d5ece-e825-4cd8-809f-1d4c72a2e0d3","i
d":"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 [9]:
```
static_json_url='https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud
```

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

In [10]:
```
response=requests.get(static_json_url)
```

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
from pandas import json_normalize

data = response.json()
data = json_normalize(data)
```

Using the dataframe `data` print the first 5 rows

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

	static_fire_date_utc	static_fire_date_unix	tbd	net	window	rocket
0	2006-03-17T00:00:00.000Z	1.142554e+09	False	False	0.0	5e9d0d95eda69955f709d1eb
1	None	NaN	False	False	0.0	5e9d0d95eda69955f709d1eb
2	None	NaN	False	False	0.0	5e9d0d95eda69955f709d1eb
3	2008-09-20T00:00:00.000Z	1.221869e+09	False	False	0.0	5e9d0d95eda69955f709d1eb

	static_fire_date_utc	static_fire_date_unix	tbd	net	window	rocket
4	None	NaN	False	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 [14]:
```
# Lets take a subset of our dataframe keeping only the features we want and the fli
data = data[['rocket', 'payloads', 'launchpad', 'cores', 'flight_number', 'date_utc

# We will remove rows with multiple cores because those are falcon rockets with 2 e
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 valu
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 t
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 seperate 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 [15]:
```
#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 looks at `BoosterVersion` variable. Before we apply `getBoosterVersion` the list is empty:

In [16]:
```
BoosterVersion
```

Out[16]:
```
[]
```

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

In [17]:
```
# Call getBoosterVersion
getBoosterVersion(data)
```

the list has now been update

In [18]:
```
BoosterVersion[0:5]
```

Out[18]:
```
['Falcon 1', 'Falcon 1', 'Falcon 1', 'Falcon 1', 'Falcon 9']
```

we can apply the rest of the functions here:

In [19]:
```
# Call getLaunchSite
getLaunchSite(data)
```

In [20]:
```
# Call getPayloadData
getPayloadData(data)
```

In [21]:
```
# Call getCoreData
getCoreData(data)
```

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

In [22]:
```
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 [23]:
```
# Create a data from launch_dict
df = pd.DataFrame(launch_dict)
```

Show the summary of the dataframe

In [24]:
```
# Show the head of the dataframe
display(df.head())
```

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

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 [25]:
```
# Hint data['BoosterVersion']!='Falcon 1'
df_falcon9 = df[df['BoosterVersion'] == 'Falcon 9']
display(df_falcon9.head())
```

	FlightNumber	Date	BoosterVersion	PayloadMass	Orbit	LaunchSite	Outcome	Flights
4	6	2010-06-04	Falcon 9	NaN	LEO	CCSFS SLC 40	None None	1
5	8	2012-05-22	Falcon 9	525.0	LEO	CCSFS SLC 40	None None	1
6	10	2013-03-01	Falcon 9	677.0	ISS	CCSFS SLC 40	None None	1
7	11	2013-09-29	Falcon 9	500.0	PO	VAFB SLC 4E	False Ocean	1
8	12	2013-12-03	Falcon 9	3170.0	GTO	CCSFS SLC 40	None None	1

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

In [26]:
```
df_falcon9.loc[:,'FlightNumber'] = list(range(1, df_falcon9.shape[0]+1))
df_falcon9
```

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

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

Out[26]:

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

90 rows × 17 columns

Data Wrangling

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

In [162…

```
df_falcon9.isnull().sum()
```

Out[162]:
```
FlightNumber       0
Date               0
BoosterVersion     0
PayloadMass        5
Orbit              0
LaunchSite         0
Outcome            0
Flights            0
GridFins           0
Reused             0
Legs               0
LandingPad        26
Block              0
ReusedCount        0
Serial             0
Longitude          0
Latitude           0
dtype: int64
```

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

Task 3: Dealing with Missing Values

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

In [163…
```
# Calculate the mean value of PayloadMass column
mean_payload_mass = df_falcon9['PayloadMass'].mean()

# Replace the np.nan values with its mean value
df_falcon9['PayloadMass'].fillna(mean_payload_mass, inplace=True)
```

```
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages/pandas/core/generic.p
y:6392: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

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

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.