PICS OR IT DIDN'T HAPPEN
PRESS KIT JULY 2020

Launching on Electron Vehicle Thirteen: 'Pics or it didn't happen'
LAUNCH INFORMATION

LAUNCH WINDOW
4 JULY – 17 JULY, 2020 NZT
3 JULY – 16 JULY, 2020 UTC

LAUNCH SITE
LAUNCH COMPLEX 1
MAHIA PENINSULA, NZ

Launch window
4 July – 17 July, 2020 NZT
3 July – 16 July, 2020 UTC

Launch site
Launch Complex 1
Mahia Peninsula, NZ

For information on launch day visit www.rocketlabusa.com/next-mission/
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MISSION OVERVIEW

‘Pics Or It Didn’t Happen’ will deploy seven small satellites to a 500km circular low Earth orbit. The mission will be Rocket Lab’s 13th Electron launch.

In a demonstration of our rapid launch capability, the launch window for ‘Pics Or It Didn’t Happen’ will open just 21 days after Rocket Lab’s most recent launch, the ‘Don’t Stop Me Now’ mission which launched from LC-1 on 13 June UTC.

With a full Electron rocket produced every 18 days, a satellite manufacturing division, and two operational launch pads with a third on the way – Rocket Lab is putting small satellites in space faster and easier than ever before.

TARGET ORBIT INFORMATION

Orbit
SSO
Altitude
500km (Approximate)
Satellites
7
Inclination
97.5 Degrees
PAYLOADS ONBOARD 'PICS OR IT DIDN'T HAPPEN'

The primary payload aboard this mission, Canon Electronics Inc.’s CE-SAT-IB, was procured by satellite rideshare and mission management provider Spaceflight Inc. The mission objective for the CE-SAT-IB satellite is to demonstrate Canon Electronics Inc.’s Earth-imaging technology with high-resolution and wide-angle cameras, as well as test the microsatellite for mass production.

The next five satellites manifested on this mission are the latest generation of SuperDove satellites manufactured by Planet, operator of the world’s largest constellation of Earth-observation satellites. Planet’s satellites are capable of imaging the Earth’s entire landmass on a near-daily basis. This unprecedented dataset helps researchers, students, businesses and governments discover patterns, detect early signals of change, and make timely, informed decisions. These five SuperDoves, Flock 4e, are equipped with new sensors to enable higher image quality with sharper, more vibrant colors and accurate surface reflectance values for advanced algorithms and time-series analysis.

The final spacecraft aboard Electron for this mission has been supplied by British small mission prime, In-Space Missions. The Faraday-1 6U CubeSat is a hosted payload mission providing a low-cost route to orbit for start-ups, institutions, and large corporate R&D groups. In addition, it provides a first flight demonstration of In-Space’s own software-defined payload that will enable uploadable payload capabilities on future missions. Faraday-1 is the first flight of the Faraday service with four future satellites already under contract.
# Timeline of Events

<table>
<thead>
<tr>
<th>EVENT</th>
<th>HOURS:MINUTES:SECONDS FROM LIFT-OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road to the launch site closed</td>
<td>-06:00:00</td>
</tr>
<tr>
<td>Electron is raised vertical, fueling begins</td>
<td>-04:00:00</td>
</tr>
<tr>
<td>Launch pad personnel exit area ahead of launch</td>
<td>-02:30:00</td>
</tr>
<tr>
<td>Electron filled with liquid oxygen (LOx)</td>
<td>-02:00:00</td>
</tr>
<tr>
<td>Safety zones are activated for designated marine space</td>
<td>-02:00:00</td>
</tr>
<tr>
<td>Safety zones are activated for designated airspace</td>
<td>-00:30:00</td>
</tr>
<tr>
<td>The Launch Director conducts a go/no-go poll of launch operators to confirm Electron is ready for launch</td>
<td>-00:18:00</td>
</tr>
<tr>
<td>Launch autosequence begins</td>
<td>-00:02:00</td>
</tr>
<tr>
<td>Rutherford engines ignite</td>
<td>-00:00:02</td>
</tr>
<tr>
<td>Lift-off</td>
<td>+00:00:00</td>
</tr>
<tr>
<td>Main Engine Cut Off (MECO) on Electron’s first stage</td>
<td>+00:02:35</td>
</tr>
<tr>
<td>Stage 1 separation</td>
<td>+00:02:38</td>
</tr>
<tr>
<td>Electron’s Stage 2 Rutherford engine ignites</td>
<td>+00:02:41</td>
</tr>
<tr>
<td>Fairing separation</td>
<td>+00:03:14</td>
</tr>
<tr>
<td>Battery hot-swap</td>
<td>+00:06:27</td>
</tr>
<tr>
<td>Electron reaches orbit</td>
<td>+00:08:59</td>
</tr>
<tr>
<td>Stage 2 Engine Cut Off (SECO)</td>
<td>+00:09:02</td>
</tr>
<tr>
<td>Stage 2 separation from Kick Stage</td>
<td>+00:09:07</td>
</tr>
<tr>
<td>The Curie engine on the Kick Stage ignites</td>
<td>+00:49:39</td>
</tr>
<tr>
<td>Curie engine cuts off</td>
<td>+00:52:06</td>
</tr>
<tr>
<td>Payloads deployed</td>
<td>+00:60:00</td>
</tr>
</tbody>
</table>

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**Diagram**

- **Lift-off**
- **Stage 1 Separation**
- **Stage 1 Engine Cutoff**
- **Fairing Separation**
- **Stage 2 Separation**
- **Stage 2 Engine Cutoff**
- **Kick Stage Ignition**
- **Kick Stage Engine Cutoff**
- **Payload Separation**
VIEWING IN PERSON

Wairoa District Council has allocated a rocket launch viewing area for the public near Nuhaka, accessible via Blucks Pit Road. Visit www.visitwairoa.co.nz/welcome-to-wairoa/space-coast-new-zealand/ for more information. Scrubs and postponements are likely during launch windows, so visitors to the Blucks Pit viewing site should anticipate multiple postponements, sometimes across several days.

LIVESTREAM

The best way to view a launch is via Rocket Lab's live video webcast. This offers the best views of launch and includes helpful commentary about the launch process. A livestream will be made available approximately 15 - 20 minutes prior to a launch attempt. Rocket Lab will post links to the webcast when live via Facebook and Twitter. The livestream is viewable at www.rocketlabusa.com/live-stream and Rocket Lab's YouTube channel.

LAUNCH FOOTAGE AND IMAGES

Images and video footage of the 'Pics Or It Didn't Happen' launch will be available shortly after a successful mission at www.rocketlabusa.com/news/updates/link-to-rocket-lab-imagery-and-video. Images and footage of previous Rocket Lab launches can also be found at that link.

SOCIAL MEDIA

For real time updates on the launch follow the Rocket Lab Twitter page @RocketLab

f @RocketLabUSA    t @RocketLab

CONTACTS

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500km
The circular orbit targeted for this mission.

-3
The number of seconds in the countdown to lift-off when Electron's nine Rutherford engines ignite.

7.0
How many payloads are on Electron.

540
The approximate number of seconds before Electron reaches orbit.

THE ANATOMY OF A MISSION PATCH
STAGE 1

PROPELLANT

9X RUTHERFORD SEA LEVEL ENGINES

THRUST

5500 LBF SEA LEVEL (PER ENGINE)

ISP

311 SEC

STAGE 2

PROPELLANT

1X RUTHERFORD VACUUM ENGINE

THRUST

5500 LBF VACUUM

ISP

343 SEC

PAYLOAD

NOMINAL PAYLOAD

150KG TO 550

PAYLOAD DIAMETER

1.08M

PAYLOAD HEIGHT

1.91M

FAIRING SEP SYSTEM

PNEUMATIC UNLOCKING, SPRINGS

OVERALL

LENGTH

17M

DIAMETER (MAX)

1.2M

STAGES

2 + OPTIONAL KICK STAGE

VEHICLE MASS (LIFTOFF)

13,000KG

MATERIAL/STRUCTURE

CARBON FIBER COMPOSITE/MONOCAQUE

PROPELLANT

LOX/KEROSENE

INTERSTAGE

SEPARATION SYSTEM

PNEUMATIC PUSHER

FIRST STAGE

POWER PACK

9X RUTHERFORD SEA LEVEL ENGINES

INTERSTAGE

FAIRING SEP SYSTEM

PNEUMATIC UNLOCKING, SPRINGS

SECOND STAGE

PAYLOAD PLATE

KICK STAGE

FAIRING

PAYLOAD PLATE