

ROCKET LAB USA 2020

IN FOCUS PRESS KIT OCTOBER 2020



LAUNCHING ON ELECTRON
VEHICLE FIFTEEN: 'IN FOCUS'





ROCKET LAB PRESS KIT 'IN FOCUS' 2020

LAUNCH INFORMATION



● ELECTRON ON THE PAD AHEAD OF WET DRESS REHEARSAL FOR THE 'IN FOCUS' MISSION | October 2020

LAUNCH WINDOW

21 OCTOBER – 03 NOVEMBER NZT
20 OCTOBER - 02 NOVEMBER UTC

LAUNCH SITE

LAUNCH COMPLEX 1, PAD A
MAHIA PENINSULA, NZ

Daily launch opportunity

NZT: 10:14 - 11:03

UTC (OCT 20): 21:14 - 22:03

PT (OCT 20): 14:14 - 15:03

ET (OCT 20): 17:14 - 18:03

Watch the live launch webcast: www.rocketlabusa.com/live-stream.

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

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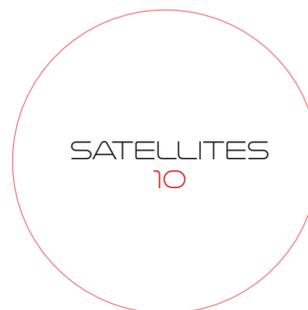
MISSION OVERVIEW

'In Focus' will deploy ten small satellites to a 500km circular low Earth orbit on an Earth-imaging commercial rideshare mission for Planet and Spaceflight Inc.'s customer Canon Electronics.

The mission will be Rocket Lab's 15th launch overall and fifth mission of 2020.

Rocket Lab will not be carrying out any recovery testing on the Electron launch vehicle during this mission.

TARGET ORBIT INFORMATION





PAYLOADS ONBOARD IN FOCUS



The primary payload aboard this mission includes nine of the latest generation SuperDove satellites from Planet, the operator of the world's largest constellation of Earth-imaging satellites. Each of the nine SuperDoves in Flock 4e' will be integrated with and deployed from Rocket Lab's Maxwell dispensers, the industry's lightest CubeSat dispenser in its class. Planet's constellation provides medium-resolution global coverage that enables researchers, students, businesses and governments to discover patterns, detect early signals of change, and make timely, informed decisions.

www.planet.com



● **PLANET'S SUPERDOVES READY FOR INTEGRATION WITH ROCKET LAB MAXWELL DISPENSERS**



● **PLANET'S SUPERDOVE'S INTEGRATED WITH ROCKET LAB'S KICKSTAGE**



Canon Electronics Inc.'s CE-SAT-IIB, was procured by satellite rideshare and mission management provider Spaceflight Inc. The mission objective for the CE-SAT-IIB satellite is a technical demonstration microsatellite developed with a middle-size telescope equipped with an ultra-high sensitivity camera to take night images of the Earth and small size telescopes which are suitable for CubeSat use.



● **CE-SAT-IIB**



● **DUBAI** | Image taken by an early generation Canon Electronics's satellite, CE-SAT-I



● **THE MOON** | Image taken by an early generation Canon Electronics's satellite, CE-SAT-I



SMALL SATELLITES, BIG IMPACT

How data from Planet's constellation of small satellites has helped us better understand recent climate events, uncover illegal fishing, and enable farmers to better manage their crops to deliver food to our tables.

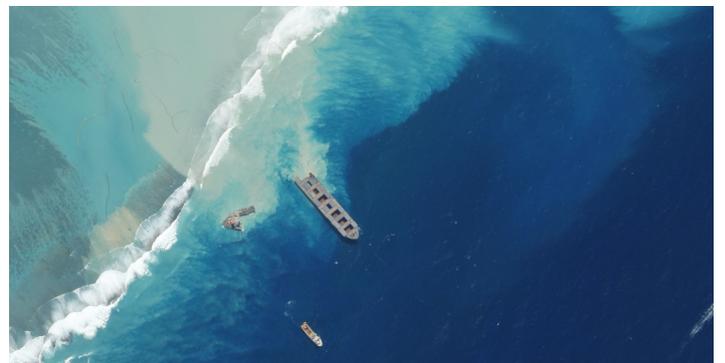
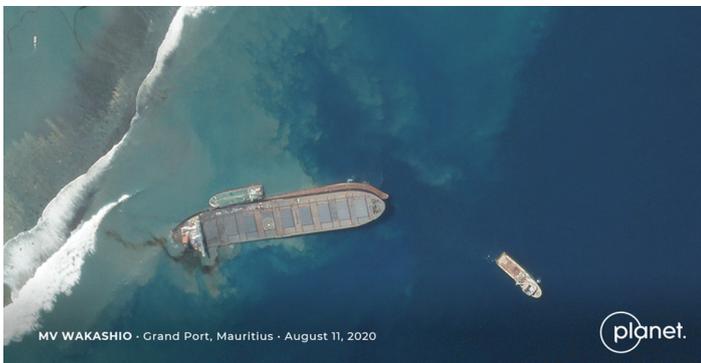
MAPPING FORESTS AND TRACKING WILDFIRE

Choking smoke from the CZU Lightning Complex fires covered the Santa Cruz Mountains on August 20, 2020. Planet's monitoring data can help authorities respond to fires like this and other fast-moving disasters.

The California Forest Observatory (CFO) is a new data-driven forest monitoring system designed to dynamically map forest structure and vegetation fuel loads at the individual tree level. This wall-to-wall, state-wide data will set a new standard for how authorities will research, plan for, and respond to wildfires in the state. The CFO leverages AI and Planet satellite imagery to support forest restoration & wildfire mitigation efforts by providing governments, researchers and nonprofits, free access to data.



◉ IMAGE OF CALIFORNIA WILD FIRES CAPTURED BY A PLANET SATELLITE IN AUGUST 2020.

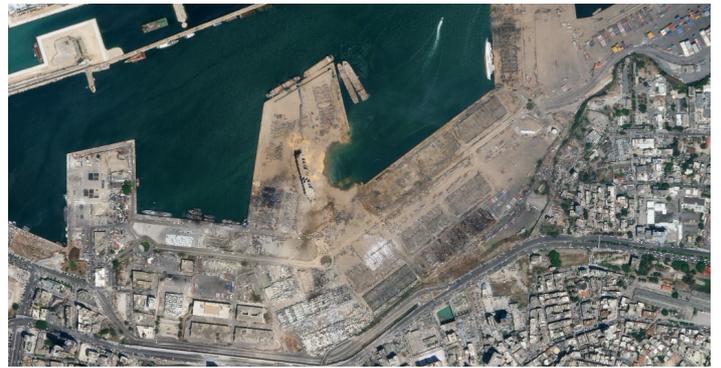
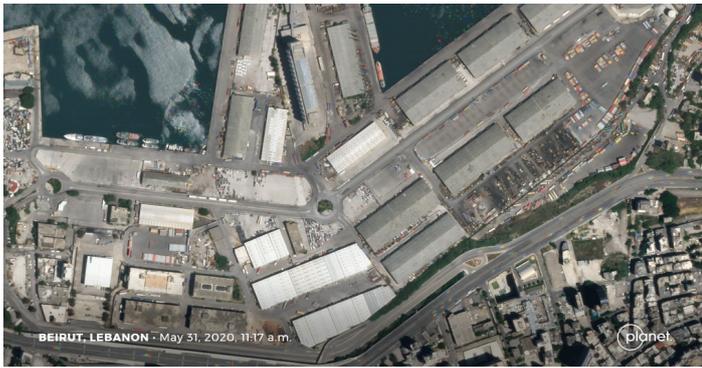


In late July, the MV Wakashio, a Japanese-owned ship, ran aground off the coast of Pointe d'Esny, Mauritius, and began leaking oil on August 6, 2020. The tanker has since split apart, spilling tons of oil into the turquoise, tropical waters of Mauritius, leaving them stained black and brown. Satellite imagery caught the exact moments that the hull of the ship broke apart and has been used to track the ship's journey that led it to Mauritius



BEIRUT BLAST

This pair of Planet SkySat images shows some of the damage caused by the explosion of 2,750 metric tons of ammonium nitrate in Beirut Port. An image collected on May 31, 2020 (left), shows the warehouse where the material was stored and the surrounding infrastructure. An image collected at 11:17 a.m. on August 5, 2020 (the day after the explosion, right), shows some of the aftermath—a water-filled crater where the warehouse once stood, damaged grain silos, and a capsized cruise ship. Numerous media outlets have used this imagery to map the damage as Beirut and its people deal with the aftermath of this disaster.



EXPOSING ILLEGAL FISHING

A new study led by researchers at Global Fishing Watch and published in Science Advances in July 2020 shows how Planet's Dove and SkySat imagery, in concert with other innovative technologies, was utilized to reveal widespread illegal fishing in the waters between the Koreas, Japan and Russia. The study showed the value of satellite imagery for exposing "dark fleets"—fishing vessels that don't broadcast their locations in public monitoring systems—which can take part in illegal, unreported, and unregulated fishing practices. The study, Illuminating Dark Fishing Fleets in North Korea, found more than 900 vessels of Chinese origin in 2017, and 700 in 2018, likely violated United Nations (UN) sanctions by fishing in North Korean waters.

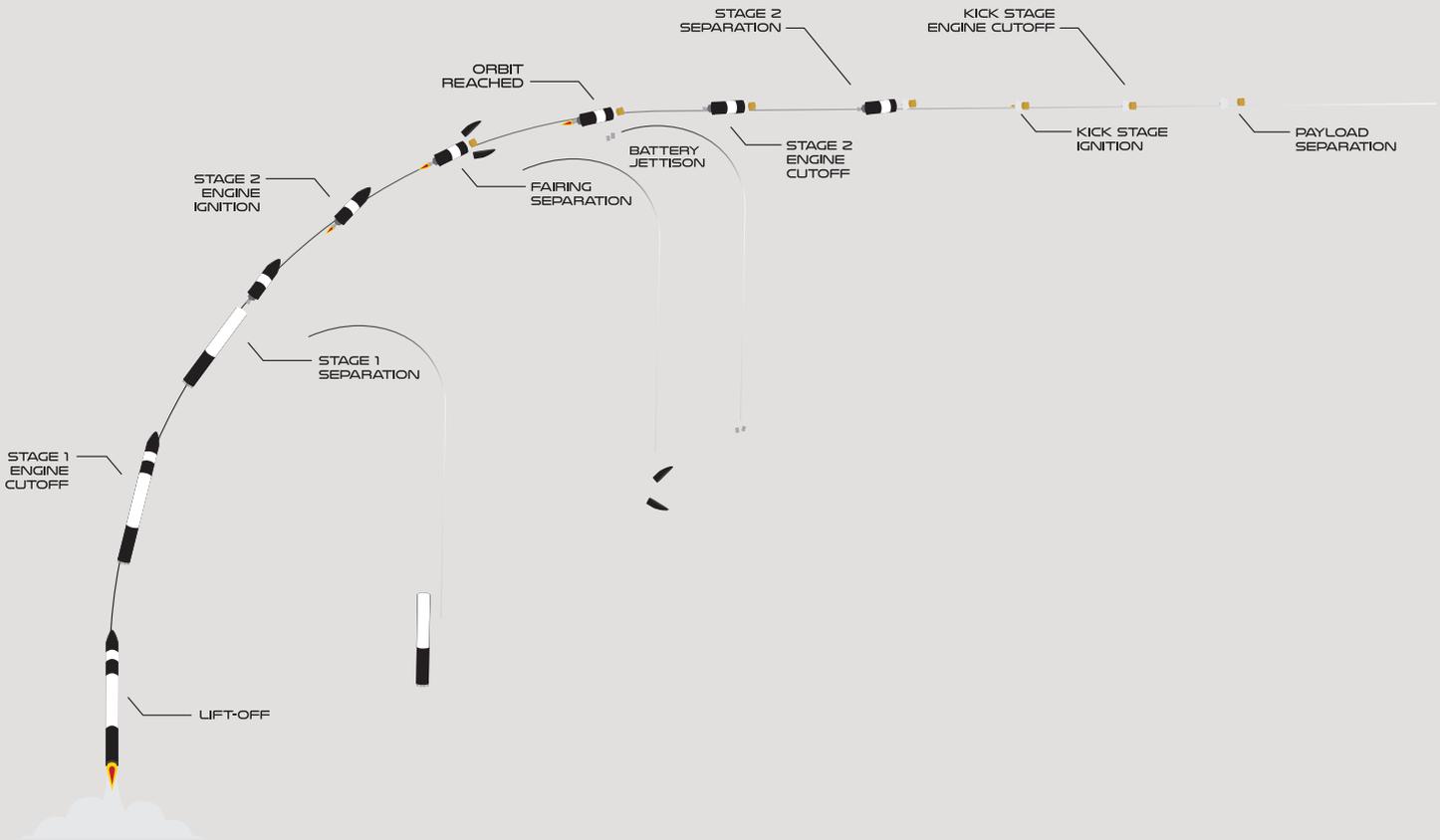


CHINESE PAIR TRAWLERS IN NORTH KOREAN WATERS, CAPTURED BY A PLANETSCOPE SATELLITE ON JUNE 2, 2018.

TIMELINE OF LAUNCH EVENTS

HOURS:MINUTES:SECONDS FROM LIFT-OFF

EVENT	
-06:00:00	Road to the launch site closed
-04:00:00	Electron is raised vertical, fueling begins
-02:30:00	Launch pad personnel exit area ahead of launch
-02:00:00	Electron filled with liquid oxygen (LOx)
-02:00:00	Safety zones are activated for designated marine space
-00:30:00	Safety zones are activated for designated airspace
-00:18:00	The Launch Director conducts a go/no-go poll of launch operators to confirm Electron is ready for launch
-00:02:00	Launch autosequence begins
-00:00:02	Rutherford engines ignite
00:00:00	Lift-off
+00:02:31	Main Engine Cut Off (MECO) on Electron's first stage
+00:02:34	Stage 1 separation
+00:02:37	Electron's Stage 2 Rutherford engine ignites
+00:03:09	Fairing separation
+00:06:23	Battery hot-swap
+00:08:54	Electron reaches orbit
+00:09:02	Stage 2 separation from Kick Stage
+00:51:06	The Curie engine on the Kick Stage ignites
+00:53:12	Curie engine cuts off
~+00:60:00	Payloads deployed



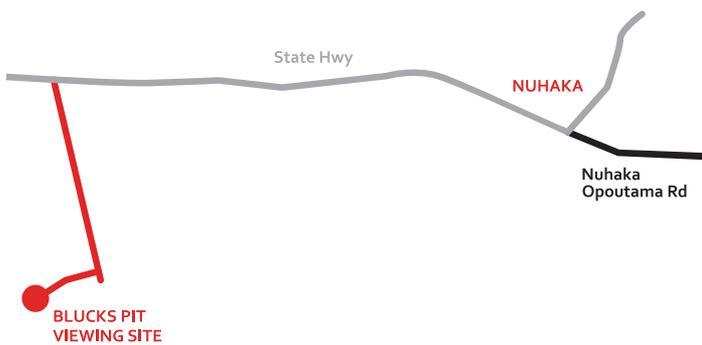


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VIEWING A LAUNCH

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.



● **LC-1 LAUNCH VIEWING AREA** | Blucks Pit Road, near Nuhaka



● **LAUNCH VIEWING AREAS DISTANCE FROM ROCKET LAB LC-1**

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.



● **ROCKET LAB'S LIVESTREAM OF 'I CAN'T BELIEVE IT'S NOT OPTICAL' MISSION**
August, 2020

LAUNCH FOOTAGE AND IMAGES

Images and video footage of the 'In Focus' launch will be available shortly after a successful mission at www.rocketlabusa.com/news/updates/link-to-rocket-lab-imagery-and-video

SOCIAL MEDIA

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

f @RocketLabUSA t @RocketLab

CONTACTS

PRESS

🌐 rocketlabusa.com/news
✉ media@rocketlabusa.com

ELECTRON



OVERALL

LENGTH
18M

DIAMETER (MAX)
1.2M

STAGES
2 + KICK STAGE

VEHICLE MASS (LIFTOFF)
13,000KG

MATERIAL/STRUCTURE
CARBON FIBER COMPOSITE/MONOCOQUE

PROPELLANT
LOX/KEROSENE

PAYLOAD

NOMINAL PAYLOAD
200KG / 440LBM TO 500KM SSO

FAIRING DIAMETER
1.2M

FAIRING HEIGHT
2.5M

FAIRING SEP SYSTEM
PNEUMATIC UNLOCKING, SPRINGS

STAGE 2

PROPULSION
1X RUTHERFORD VACUUM ENGINE

THRUST
5800 LBF VACUUM

ISP
343 SEC

INTERSTAGE

SEPARATION SYSTEM
PNEUMATIC PUSHER

STAGE 1

PROPULSION
9X RUTHERFORD SEA LEVEL ENGINES

THRUST
5600 LBF SEA LEVEL (PER ENGINE)

ISP
311 SEC



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