

ROCKET LAB USA 2020

THE OWL'S NIGHT BEGINS PRESS KIT DECEMBER 2020



LAUNCHING ON ELECTRON
VEHICLE SEVENTEEN: 'THE OWL'S NIGHT BEGINS'





ROCKET LAB PRESS KIT 'THE OWL'S NIGHT BEGINS' 2020

LAUNCH INFORMATION



ELECTRON ON THE PAD FOR THE 'RETURN TO SENDER' MISSION | November 2020

LAUNCH WINDOW

12 – 25 DECEMBER 2020 NZT/UTC

LAUNCH SITE

LAUNCH COMPLEX 1
MAHIA PENINSULA, NZ

DAILY LAUNCH OPPORTUNITY

NZT: 22:00–23:59	ET: 04:00–05:59
UTC: 09:00–10:59	JST: 18:00–19:59
PT: 01:00–02:59	

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

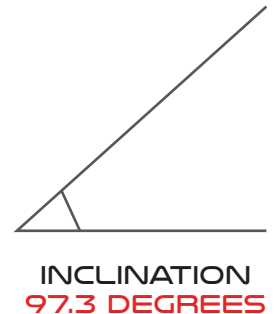
For information on launch day visit: www.rocketlabusa.com/next-mission/

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TARGET ORBIT INFORMATION



MISSION OVERVIEW

Rocket Lab's 17th Electron launch is a dedicated mission for Japanese synthetic aperture radar (SAR) company Synspective. 'The Owl's Night Begins' is a nod to Synspective's StriX family of SAR spacecraft being developed to image millimetre-level changes to the Earth's surface from space, independent of weather conditions on Earth and at any time of the day or night. Strix is also the genus of owls.

For this mission, Rocket Lab will utilize a custom expanded fairing to encompass Synspective's wide-body satellite – the first use of the expanded fairing options that Rocket Lab recently introduced alongside a suite of vehicle performance improvements, including advances in battery technology which enable an improved payload lift capacity up to 300 kg (660 lbs). Rocket Lab will also perform an advanced mid-mission maneuver with its Kick Stage space tug that will shield the StriX-α satellite from the sun to reduce radiation exposure ahead of payload deployment.

The mission will be Rocket Lab's 17th launch overall and seventh mission of 2020.

Rocket Lab will not be attempting to recover Electron for this mission.

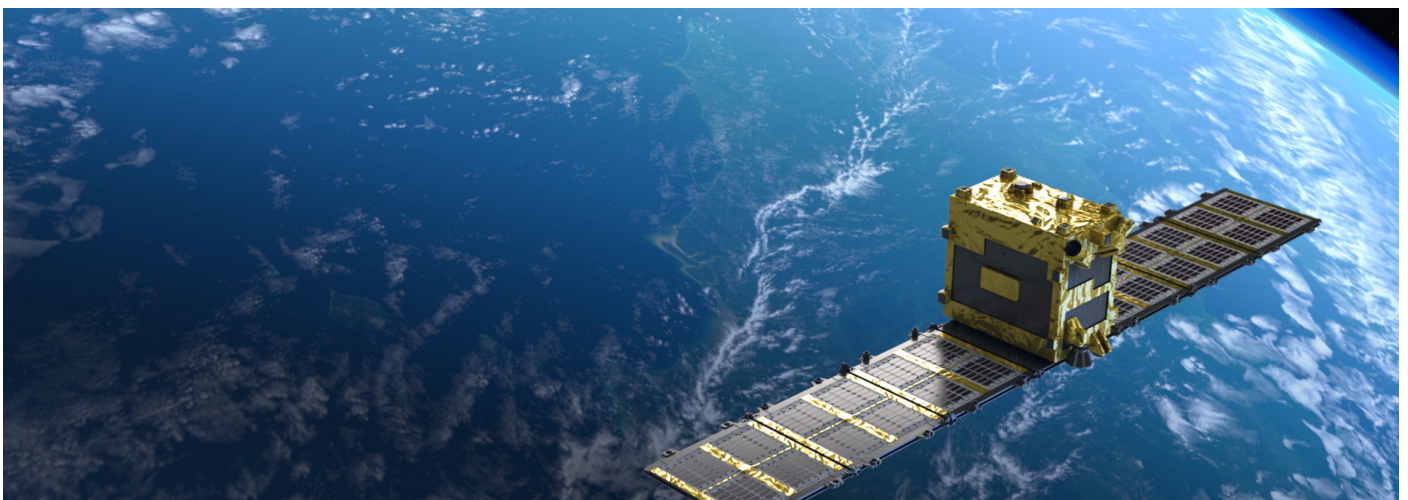
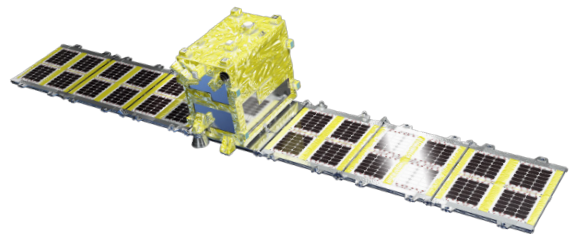
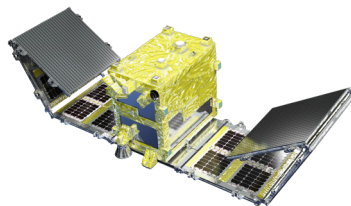
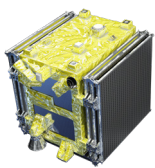


PAYLOAD ONBOARD THE OWL'S NIGHT BEGINS



Payload: StriX- α | Organization: Synspective

The StriX- α satellite onboard this mission will be the first of a series of spacecraft deployments for Synspective's planned constellation of more than 30 SAR small satellites to collate data of metropolitan centers across Asia on a daily basis that can be used for urban development planning, construction and infrastructure monitoring, and disaster response.



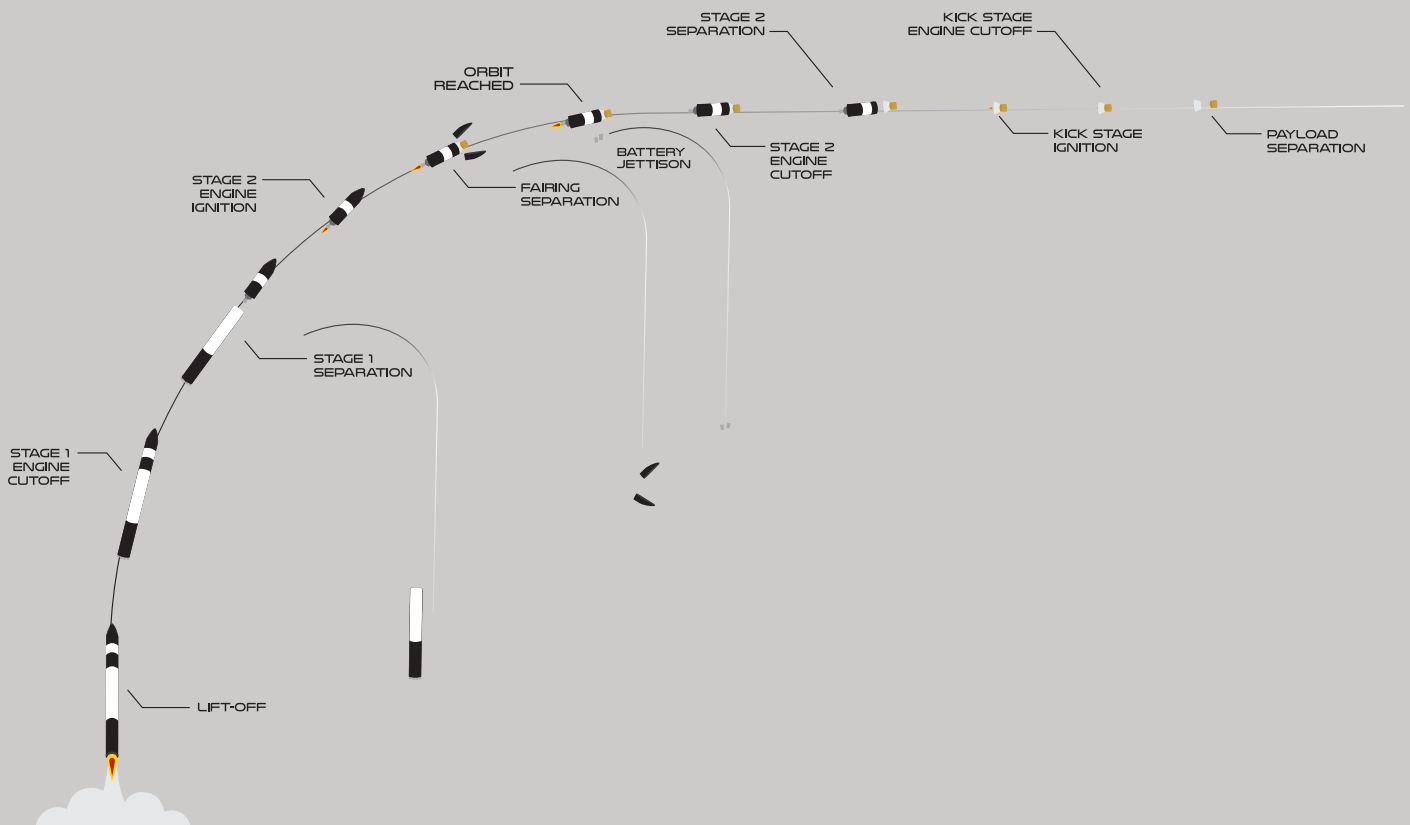


ROCKET LAB PRESS KIT 'THE OWL'S NIGHT BEGINS' 2020

TIMELINE OF LAUNCH EVENTS

HOURS:MINUTES:SECONDS FROM LIFT-OFF

	EVENT
-04:00:00	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	GO/NO GO poll
-00:02:00	Launch autosequence begins
-00:00:02	Rutherford engines ignite
00:00:00	Lift-off
+00:02:27	Main Engine Cut Off (MECO) on Electron's first stage
+00:02:31	Stage 1 separation
+00:02:34	Electron's Stage 2 Rutherford engine ignites
+00:03:07	Fairing separation
+00:05:56	Battery hot-swap
+00:08:33	Electron reaches orbit
+00:08:40	Stage 2 separation from Kick Stage
+00:52:28	The Curie engine on the Kick Stage ignites
+00:54:22	The Curie engine cuts off
~+00:60:00	Payloads deployed



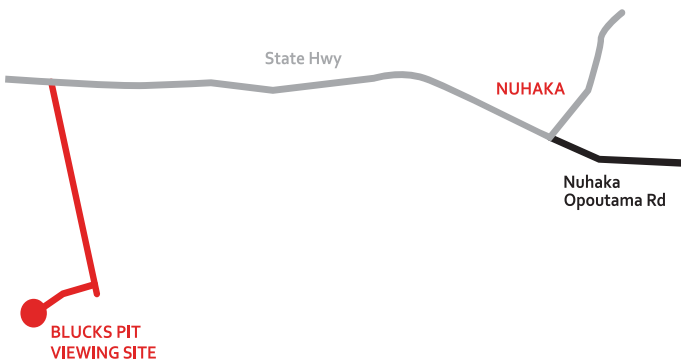


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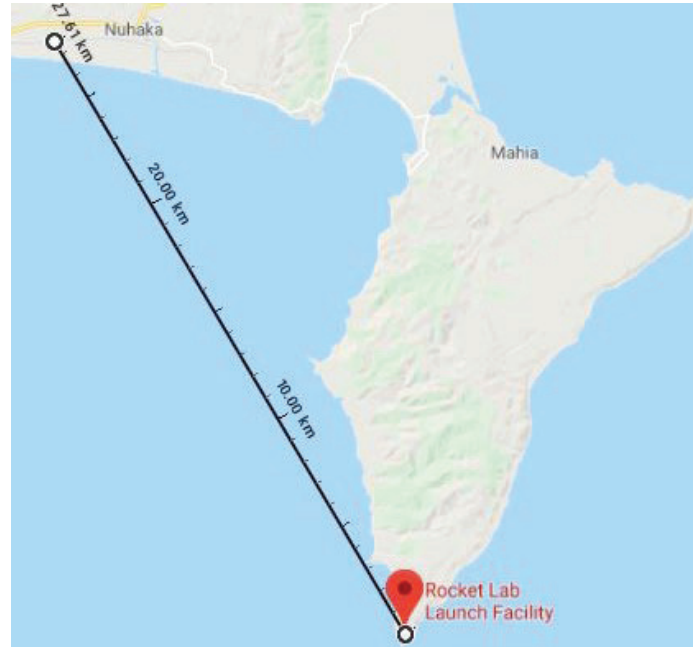
VIEWING A LAUNCH

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



ROCKET LAB'S LIVESTREAM OF 'RETURN TO SENDER' MISSION | November, 2020

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 footage of the 'The Owl's Night Begins' 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

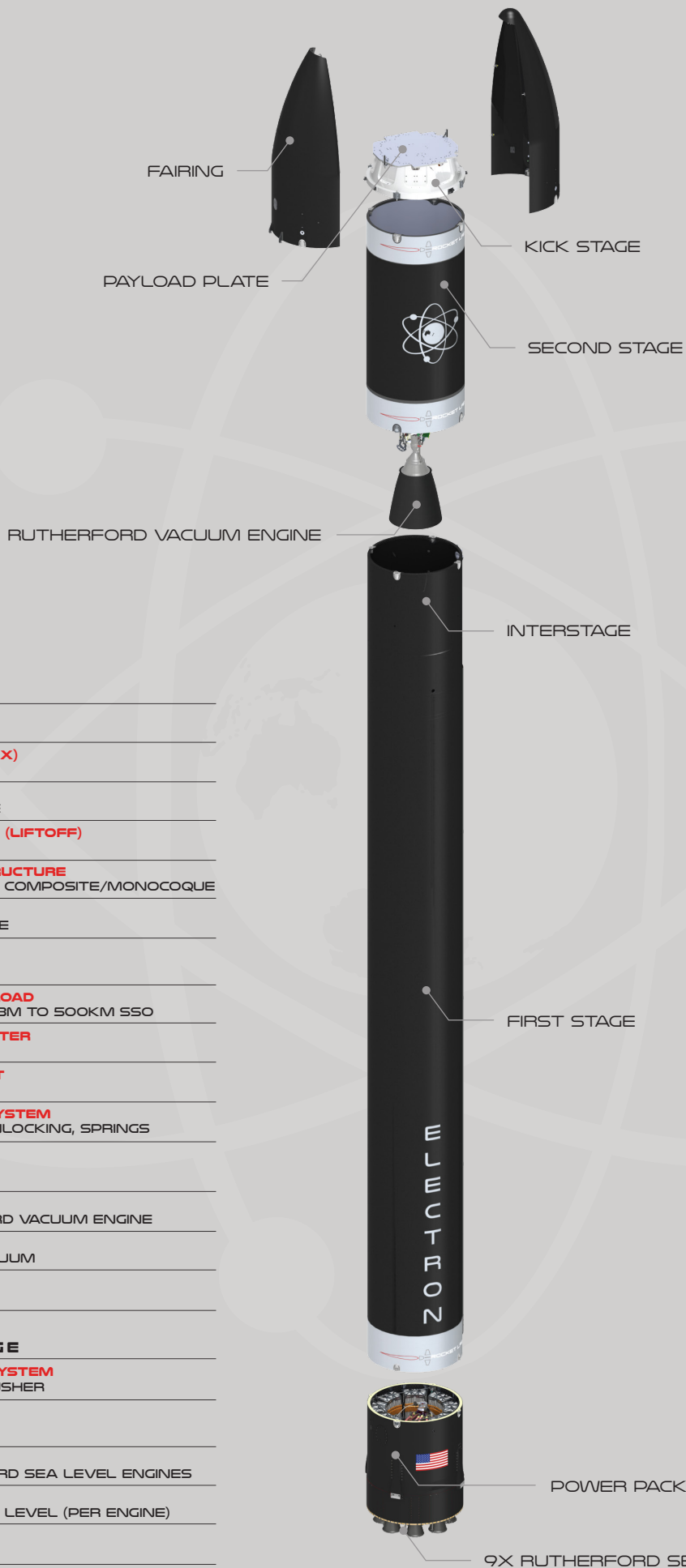
CONTACTS

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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