THE OWL SPREADS ITS WINGS

PRESS KIT | NET 14 SEPTEMBER 2022 UTC

Rocket Lab USA, Inc.
rocketlabusa.com

ROCKETLAB

LAUNCH INFORMATION

LAUNCH SITE

Launch Complex 1, Pad B
Mahia, New Zealand

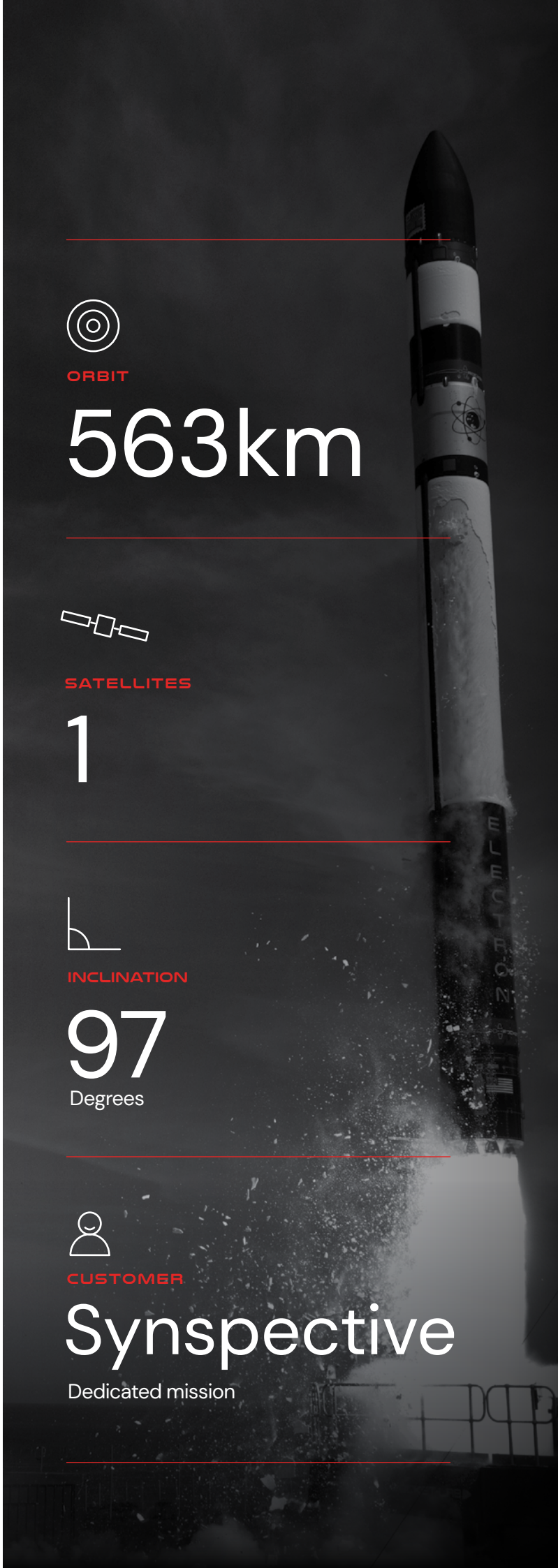
LAUNCH WINDOW

A 14-day launch window opens
no earlier than 14 September UTC.

DAILY LAUNCH OPPORTUNITY

A launch is possible within this time band for each day of the launch window.

Time Zone	Window Open
UTC	20:30 — 20:45
NZST	08:30 — 08:45 (Day after)
EDT	16:30 — 16:45
PDT	13:30 — 13:45



ORBIT

563km

SATELLITES

1

INCLINATION

97
Degrees

CUSTOMER

Synspective
Dedicated mission

MISSION OVERVIEW

ABOUT 'THE OWL SPREADS ITS WINGS'

LAUNCH COMPLEX 1
MAHIA, NEW ZEALAND

"The Owl Spreads Its Wings" is a landmark mission for Rocket Lab — the third for repeat customer Synspective, on the 30th Electron flight, carrying the 300th Rutherford engine and 150th satellite flown to space.

"The Owl Spreads Its Wings" is the second mission in a three-launch contract from Synspective, following on from "The Owl's Night Continues" earlier this year, which likewise made another first as the inaugural launch from the new Pad B at Launch Complex 1.

The two previous missions for Synspective – "The Owl's Night Begins" in December 2020 and "The Owl's Night Continues" in February 2022 – carried their StriX-series satellites. These Synthetic Aperture Radar (SAR) satellites can gather high resolution Earth observation data regardless of conditions or daylight, offering a resilient and effective resource for the purposes of urban development, infrastructure monitoring, and disaster response.

As with all the StriX satellites Rocket Lab has launched for Synspective, Electron's payload fairing was custom designed with small domes to allow for the size of the satellite.

Rocket Lab will not attempt to recover Electron for this mission.

ON THE UP & UP

MISSION MILESTONES WITH ELECTRON

F27 'CAPSTONE' MOON MISSION, 2022
ELECTRON LIFTS OFF FROM LAUNCH COMPLEX 1

THE RUTHERFORD ENGINE
TEST CELL FIRE

It's been just over five years since Rocket Lab launched Electron to orbit for the first time – and we've gone on to celebrate many firsts since then.

30TH LAUNCH

"The Owl Spreads Its Wings" marks the 30th Electron launch, further reinforcing a track record of reliability and responsiveness. Over 30 launches, Electron as a launch vehicle has become one of the most reliable launch vehicles available globally, as well as evolving to carry twice the payload mass and perform beyond original parameters – which proved particularly important in the recent CAPSTONE mission to the Moon. With 30 launches under its belt from Launch Complex 1 in Mahia, New Zealand, and the first slated for Launch Complex 2 in Virginia later this year, Electron has established its role as a workhorse for small launch and making space accessible for all.

150TH SATELLITE

Over those 30 launches, Rocket Lab has successfully delivered dozens of satellites to orbit and, more recently, to the wider solar system. The satellites we've launched to date include Earth observation and weather monitoring, support for the Covid-19 response and disaster relief, connectivity and better management of air traffic and public safety, science and research, national security, and more. With a vision to make launch as straightforward as Earth-based logistics, the delivery of the 150th satellite by Electron is a key metric in establishing this consistency of service.

300TH RUTHERFORD ENGINE

Each Electron vehicle carries 11 engines across three stages – 9 sea-level Rutherford Engines on the first stage, 1 space-optimised Rutherford Engine on the second stage, and the smaller Curie engine on the Kick Stage that circularises the orbit needed to deliver its payload to a very precise location in space.

With the celebration of Electron's 30th launch, we also celebrate the 300th Rutherford Engine that will fly past the Karman line into space – yet another measure of the reliability and success of the Electron launch program. With the first recovered Rutherford Engine successfully passing its first hot-fire test in recent days, and Rocket Lab's Neutron program well into development, Electron has set the standard for resilient, agile launch capability.

VIEWING A LAUNCH ONLINE

LIVE STREAM LINKS

The livestream is viewable at:

rocketlabusa.com/live-stream

Webcast will be live approx. T-20 minutes

LAUNCH FOOTAGE & IMAGES

Images and footage of "The Owl Spreads Its Wings" launch will be available shortly after a successful mission at:

www.rocketlabusa.com/about-us/updates/link-to-rocket-lab-imagery-and-video

UPDATES

For information on launch day visit:

rocketlabusa.com/next-mission

FOLLOW ROCKET LAB:

@RocketLab

facebook.com/RocketLabUSA

VIEWING A LAUNCH IN PERSON

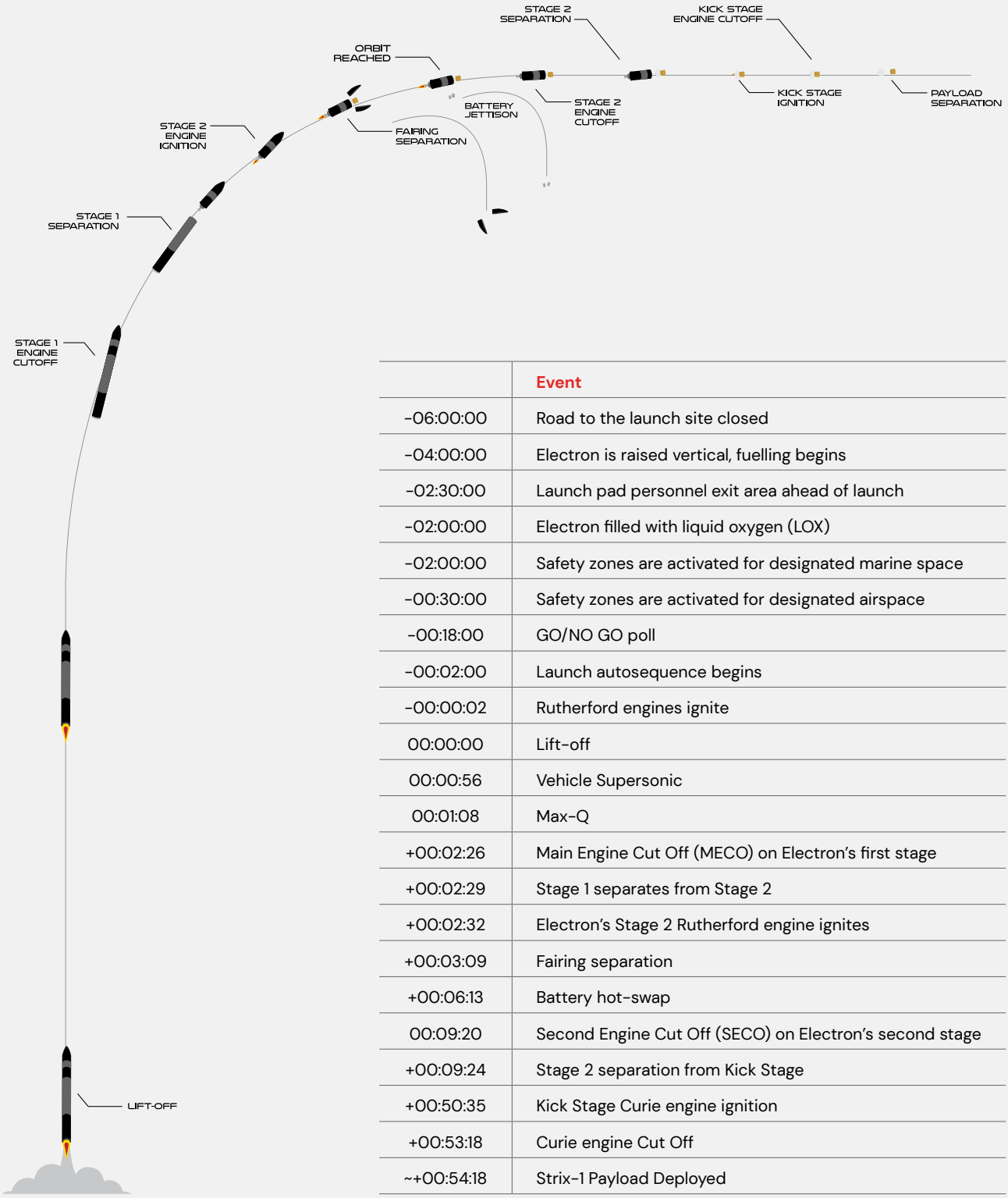
Location

Wairoa District Council has allocated a rocket launch viewing area for the public near Nuhaka, accessible via Blucks Pit Road. Scrubs and postponements are likely during launch windows, so visitors to the Blucks Pit viewing site should anticipate multiple postponements, sometimes across several days.

More information visit

www.visitwairoa.co.nz/welcome-to-wairoa/space-coast-new-zealand

TIMELINE OF LAUNCH EVENTS



	Event
-06:00:00	Road to the launch site closed
-04:00:00	Electron is raised vertical, fuelling 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
00:00:56	Vehicle Supersonic
00:01:08	Max-Q
+00:02:26	Main Engine Cut Off (MECO) on Electron's first stage
+00:02:29	Stage 1 separates from Stage 2
+00:02:32	Electron's Stage 2 Rutherford engine ignites
+00:03:09	Fairing separation
+00:06:13	Battery hot-swap
00:09:20	Second Engine Cut Off (SECO) on Electron's second stage
+00:09:24	Stage 2 separation from Kick Stage
+00:50:35	Kick Stage Curie engine ignition
+00:53:18	Curie engine Cut Off
~+00:54:18	Strix-1 Payload Deployed

ELECTRON LAUNCH VEHICLE

OVERALL

LENGTH
18m

DIAMETER (MAX)
1.2m

STAGES
2 + Kick Stage

VEHICLE MASS (LIFT-OFF)
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

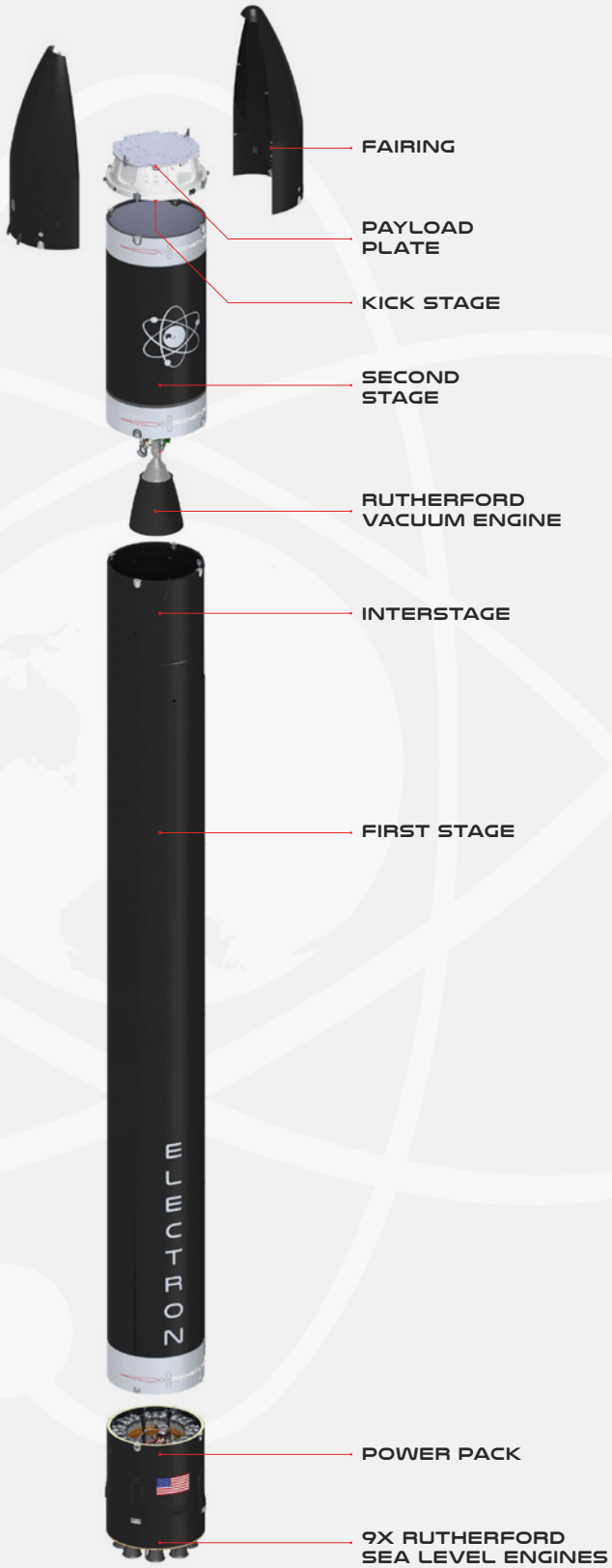
SEPARATION SYSTEM
Pneumatic Pusher

STAGE 1

PROPULSION
9x Rutherford Sea Level Engines

THRUST
5600 LBF Sea Level (Per Engine)

ISP
311 Sec



CONTACT US

rocketlabusa.com
media@rocketlabusa.com

CONNECT WITH US

@rocketlab
RocketLabUSA
facebook.com/rocketlabusa

ROCKETLAB