



NEWS RELEASE

Rocket Lab Reveals Neutron Launch Vehicle's Advanced Architecture

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Live streamed web event reveals detailed Neutron rocket architecture for the first time:

- New Archimedes rocket engine designed for reliability and reuse
- Unique captive 'Hungry Hippo' fairing design to enable streamlined first stage and fairing reuse
- Carbon composite structure, making Neutron the world's first carbon composite large launch vehicle
- Designed for 'return to launch site' propulsive landing

LONG BEACH, Calif.--(BUSINESS WIRE)-- Rocket Lab USA, Inc. (Nasdaq: **RKL**), a leading launch and space systems company, today revealed new details about the next generation Neutron launch vehicle in a virtual event streamed via Rocket Lab's YouTube channel (<https://www.youtube.com/watch?v=7kwAPr5G6WA>) at 8:00 am EST today.

Neutron Launch Vehicle Hungry Hippo Fairing (Graphic: Business Wire)

Building on Rocket Lab's proven experience developing the

Electron launch vehicle, the second most frequently launched U.S. rocket annually since 2019, the advanced 8-ton payload class Neutron launch vehicle is designed to transform space access by delivering reliable and cost-effective launch services for satellite mega-constellations, deep space missions and human spaceflight. During today's live streamed Neutron update, Rocket Lab founder and CEO Peter Beck revealed new details about Neutron's unique design, materials, propulsion, and reusability architecture for the first time.

"Neutron is not a conventional rocket. It's a new breed of launch vehicle with reliability, reusability and cost reduction is hard baked into the advanced design from day one. Neutron incorporates the best innovations of the past and marries them with cutting edge technology and materials to deliver a rocket for the future," said Mr. Beck. "More than 80% of the satellites to be launched in the next decade are expected to be constellations, which have

unique deployment needs that Neutron is the first vehicle to address specifically. Like we did with Electron, rather than starting with a traditional rocket design, we focused on our customers' needs and worked back from there. The result is a rocket that is right-sized for market demand and can launch fast, frequently and affordably."

The World's First Carbon Composite Medium-Class Launch Vehicle:

Neutron will be the world's first carbon composite large launch vehicle. Rocket Lab pioneered the use of carbon composite for orbital rockets with the Electron rocket, which has been delivering frequent and reliable access to space for government and commercial small satellites since 2018. Neutron's structure will be comprised of a new, specially formulated carbon composite material that is lightweight, strong and can withstand the immense heat and forces of launch and re-entry again and again to enable frequent re-flight of the first stage. To enable rapid manufacturability, Neutron's carbon composite structure will be made using an automated fiber placement system which can build meters of carbon rocket shell in minutes.

A Unique Structure to Simplify Launch and Landing:

Reusability is key to enabling frequent and affordable launch, so the ability to launch, land and lift-off again has been built into every aspect of Neutron's design from day one. It starts with Neutron's unique shape, a tapered rocket with a wide base to provide a robust, stable base for landing, eliminating the need for complex mechanisms and landing legs. This balanced structure also removes the need for bulky launch site infrastructure, including strongbacks and launch towers. Neutron will instead stand securely on its own legs for lift-off. After reaching space and deploying Neutron's second stage, the first stage will return to Earth for a propulsive landing at the launch site, eliminating the high costs associated with ocean-based landing platforms and operations.

A Rocket Engine Built for Reliability and Reuse:

Neutron will be powered by an entirely new rocket engine, Archimedes. Designed and manufactured in-house by Rocket Lab, Archimedes is a reusable liquid oxygen / methane gas generator cycle engine capable of 1 meganewton thrust and 320 seconds of ISP. Seven Archimedes engines will propel Neutron's first stage, with a single vacuum optimized Archimedes engine on the second stage. Neutron's lightweight carbon composite structure means Archimedes does not need the immense performance and complexity typically associated with larger rockets and their propulsion systems. By developing a simple engine with modest performance requirements, the timeline for development and testing can be drastically accelerated.

Say Goodbye to Throwing Away Fairings:

What makes Neutron's design especially unique is the captive 'Hungry Hippo' fairing design. This innovative design will see the fairing form part of the first stage structure and remain fixed to the stage. Rather than separating from the stage and falling away to the ocean like traditional fairings, Neutron's Hungry Hippo fairing jaws will open wide to release the second stage and payload, before closing again ready to return to Earth with the first stage. What

lands back on the launch pad is a complete first stage with fairings attached, ready for a new second stage to be integrated and launched. This advanced design can speed up launch frequency, eliminates the high cost, low reliability method of capturing fairings at sea, and enables the second stage to be lightweight and nimble.

A High-Performance Upper Stage:

Thanks to Neutron's 'Hungry Hippo' fairing design, the entire second stage will be completely enveloped within the Neutron's first stage structure and fairing during launch. Thanks to this, Neutron's second stage is designed to be the lightest in history to enable high performance for complex satellite deployments. Typically, a second stage forms part of the launch vehicle's exterior structure and needs to provide strength to the vehicle from lift-off, exposing it to the harsh environments of the lower atmosphere during launch. By being housed inside the first stage and 'Hungry Hippo' fairing, the requirement for the second stage to withstand the launch environment is eliminated and the second stage can be made significantly lighter enabling higher performance in space. Designed as an expendable upper stage for now, Neutron's second stage is a six-meter-long carbon composite structure with a single vacuum optimized Archimedes engine.

Rocket Lab is currently working through a competitive process to select launch site, rocket production facility and Archimedes engine test facility on the U.S. East Coast. Rocket Lab expects to create around 250 new jobs to support the Neutron program with many roles open for application now.

+ Neutron Images and Video for Download

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

+ About Rocket Lab

Founded in 2006, Rocket Lab is an end-to-end space company with an established track record of mission success. We deliver reliable launch services, spacecraft components, satellites and other spacecraft and on-orbit management solutions that make it faster, easier and more affordable to access space. Headquartered in Long Beach, California, Rocket Lab designs and manufactures the Electron small orbital launch vehicle and the Photon satellite platform and is developing the Neutron 8-ton payload class launch vehicle. Since its first orbital launch in January 2018, Rocket Lab's Electron launch vehicle has become the second most frequently launched U.S. rocket annually and has delivered 107 satellites to orbit for private and public sector organizations, enabling operations in national security, scientific research, space debris mitigation, Earth observation, climate monitoring, and communications. Rocket Lab's Photon spacecraft platform has been selected to support NASA missions to the Moon and Mars, as well as the first private commercial mission to Venus. Rocket Lab has three launch pads at two launch sites, including two launch pads at a private orbital launch site located in New Zealand, one of which is currently operational, and a second launch site in Virginia, USA which is expected to become operational in 2022. To learn more, visit **www.rocketlabusa.com**.

Forward-Looking Statements

This press release may contain certain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended. These forward-looking statements, including without limitation expectations regarding the development, capability and technical design of the Neutron rocket architecture and related components, are based on Rocket Lab’s current expectations and beliefs concerning future developments and their potential effects. These forward-looking statements involve a number of risks, uncertainties (many of which are beyond Rocket Lab’s control), or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. Many factors could cause actual future events to differ materially from the forward-looking statements in this press release, including risks related to the global COVID-19 pandemic, including risks related to government restrictions and lock-downs in New Zealand and other countries in which we operate that could delay or suspend our operations; delays and disruptions in expansion efforts; our dependence on a limited number of customers; the harsh and unpredictable environment of space in which our products operate which could adversely affect our launch vehicle and spacecraft; increased congestion from the proliferation of low Earth orbit constellations which could materially increase the risk of potential collision with space debris or another spacecraft and limit or impair our launch flexibility and/or access to our own orbital slots; increased competition in our industry due in part to rapid technological development and decreasing costs; technological change in our industry which we may not be able to keep up with or which may render our services uncompetitive; average selling price trends; failure of our launch vehicles, satellites and components to operate as intended either due to our error in design, in production or through no fault of our own; launch schedule disruptions; supply chain disruptions, product delays or failures; design and engineering flaws; launch failures; natural disasters and epidemics or pandemics; changes in governmental regulations including with respect to trade and export restrictions, or in the status of our regulatory approvals or applications; or other events that force us to cancel or reschedule launches, including customer contractual rescheduling and termination rights; risks that acquisitions may not be completed on the anticipated timeframe or at all or do not achieve the anticipated benefits and results; and the other risks detailed from time to time in Rocket Lab’s filings with the Securities and Exchange Commission under the heading “Risk Factors” and elsewhere (including that the impact of the COVID-19 pandemic may also exacerbate the risks discussed therein). There can be no assurance that the future developments affecting Rocket Lab will be those that we have anticipated. Except as required by law, Rocket Lab is not undertaking any obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise.

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