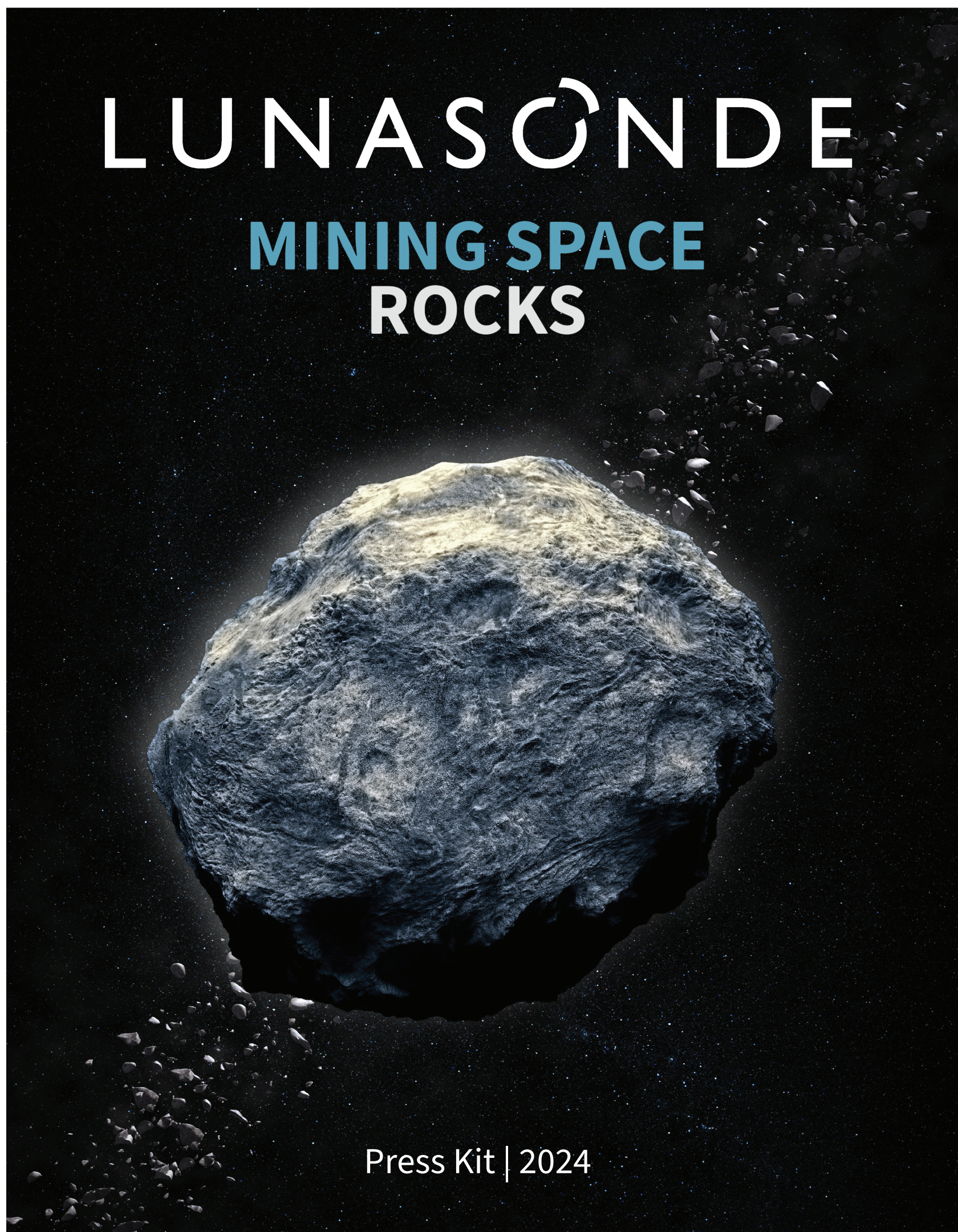
LUNASONDE

MINING SPACE ROCKS



Press Kit | 2024

LUNASONDE OVERVIEW

Autonomous Mineral Detection

Anywhere, Anytime

Harnessing the power of human intelligence and machine learning, Lunasonde is revealing the future of autonomous mineral detection across the universe.

Established in 2018, we are the world's singular commercial provider enabling resource exploration from orbit.

Our focus is delivering high-value solutions across an array of Earth-based and space-based industries.

Our unique blend of geophysicist and aerospace engineers creates a synergy that propels our innovations to new heights. Our exemplary team excels at finding and defining valuable resources on Earth and in space—*such as on planets and asteroids*—through the utilization of advanced technologies, including machine learning and the development and deployment of our leading edge satellites.

Our satellites are equipped with SAR, state-of-the art technologies, robotic systems, and our proprietary software. They are capable of imaging hundreds of meters underground, allowing us to identify, locate, and map valuable resources with unparalleled accuracy. They have the potential to discover vast quantities of minerals while minimizing the environmental impact associated with traditional mining practices on Earth. We seek to enable the ability to bring these minerals to Earth and to provide them on orbit.

Our Earth-focused work reduces the need for extensive and expensive searches. Reaching beyond Earth's boundaries, Lunasonde is unlocking the untapped potential of space resources to harness the raw materials humanity needs now more than ever, thereby preserving our planet's delicate ecosystem.

Building on a rich legacy of space exploration, Lunasonde is pioneering planetary resource exploration forged through the synergies of our unique blend of geophysicist and aerospace engineers.

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Founder & CEO
Jeremiah Pate

Jeremiah Pate, Founder and CEO of Lunasonde, is an entrepreneur and visionary in the field of space resource exploration. Pate and his team at Lunasonde have revolutionized the way we think about sustainability and resource extraction beyond Earth. After watching traditional mining efforts, Jeremiah knew a better and more sustainable way was possible. He endeavored to find a way to secure humanity's need for critical minerals while concurrently preserving our planet from the effects of conventional mining. That's where the story of Lunasonde began, focusing on providing a new path for access to raw materials and the renewable energy economy they will build.

In 2020, Jeremiah was a recipient of Forbes 30 under 30 in Manufacturing and Industry. Before Lunasonde, he attended the University of Arizona and researched the molecular biophysics of Parkinson's disease at the University of Pennsylvania. Asteroid 34104 Jeremiahpate is named in honor of his research.

EXECUTIVE TEAM

KELLY MALONEY | Vice President of Growth

Kelly oversees global strategic growth, communications, and business development. She is the former Chief Growth Officer of Altek, Inc., where she was responsible for the growth strategy, communications and branding, strategic relationships, and the sales and business development strategy. Kelly is the former CEO of OLI Global and is a Co-Founder and Board Member of Space Northwest. She is a past President and CEO of the Aerospace Futures Alliance and the Washington State Space Coalition, where she was responsible for retaining nearly $9 billion in aerospace tax incentives year over year. She has also been part of several successful start-ups throughout her career. As a former elected official, she led efforts to attract a University of Washington branch campus to her city and drove a safety task force to decrease crime. Kelly has her Master's degree in Communications and Leadership Studies from Gonzaga University.

EDITH CARIASO | Vice President of Operations

Edith is one of Lunasonde's first employees, helping stand up the office and set the company's course. As Vice President of Operations, she oversees the team, staffing, and operations. Edith's expertise lies in development of design automation software tools, a skill she honed during her tenture at Sperry Univac, National Semiconductor, and VLSI Technology. Edith has led strategic relationships, operations, special projects, and spearheaded new product marketing initiatives. Her role also extends to human resources. Her extensive experience and diverse skill set is an asset in the field of technology and business management.

ANDREAS ROUSING | Vice President of Technology

Andreas was Director of Spacecraft at Outpost, where he led a team of engineers through blank slate design and launch of two satellites and the development of ESPA class vehicles capable of entry, descent, and landing. Among other work, Andreas led the design of hybrid RF and optical data relay network satellites for space-based assets. He also designed the attitude determination system for a satellite-based radio-tracking system, capable of locating miniaturized transmitters globally. Before that, he was a Mission Program Manager and Senior Spacecraft Systems Engineer at Hedron, where he designed spacecraft for an in-space data relay network for space-based assets. Andreas received his BS in Electrical Engineering and Physics and Nanotechnology from Technical University of Denmark, and his Master's degree in Mechanical and Aerospace Engineering at Princeton University.

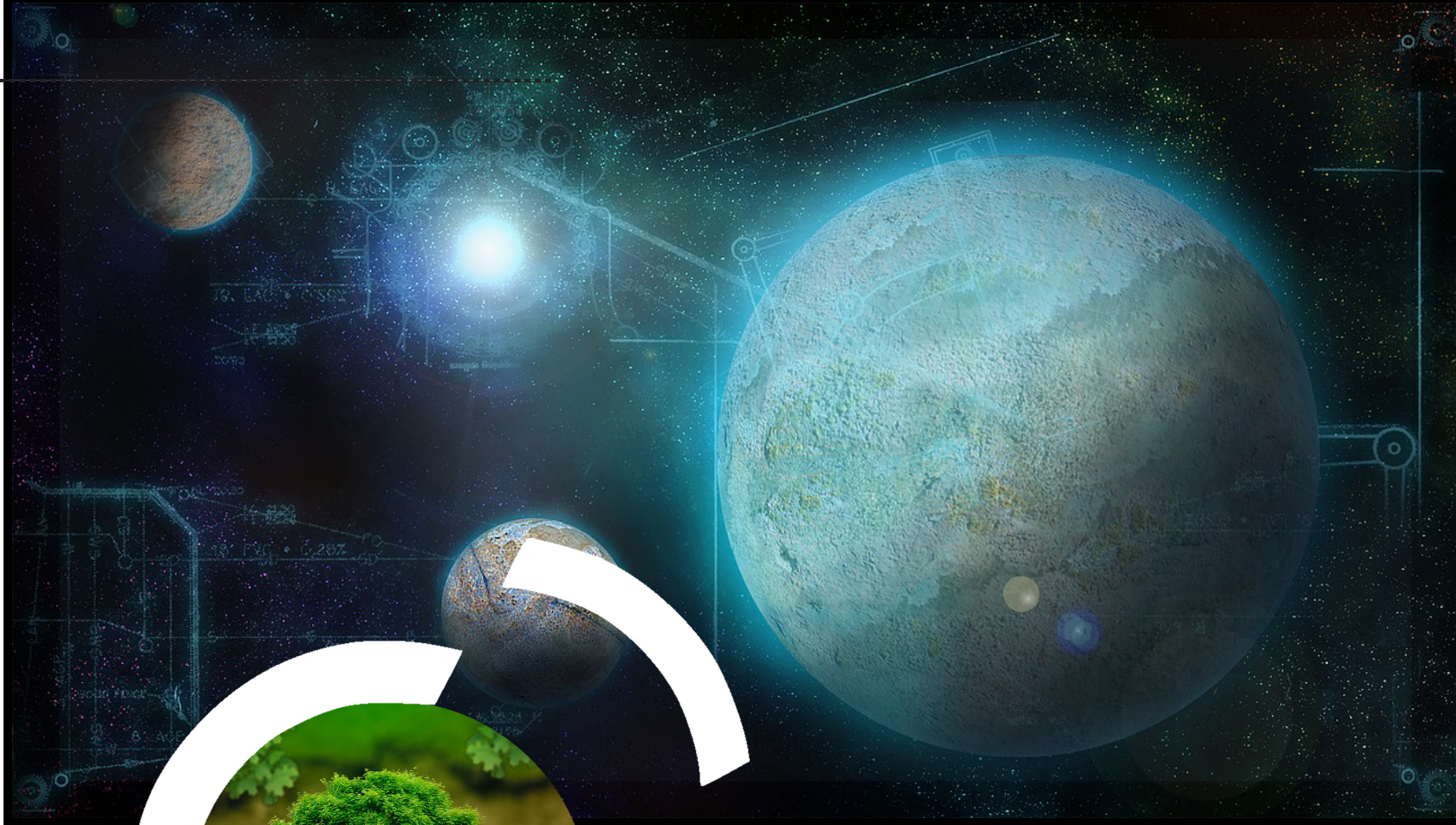
LUNASONDE

Mission

Preserving Earth's ecosystem by
reimagining Earth and space exploration.

Vision

Life on Earth is better for all with sustainably harnessed resources gained through leading-edge space exploration and advanced technologies.



A More Sustainable Way

As the global population continues to grow and our demand for resources escalates, it has become increasingly clear that our current methods of resource discovery and extraction are not sustainable.

Traditional mining practices on Earth--*finding, identifying, and excavating essential and scarce resources*--have resulted in significant ecological damage, including deforestation, pollution, and habitat destruction. Moreover, the availability of certain resources is becoming scarce, leading to increased competition and geopolitical tensions.

This is where Lunasonde's revolutionary approach to sustainable planetary resource exploration comes into play. Our Earth-based focus includes identifying subsurface essential minerals and water from the sky, minimizing the need for environmentally damaging search techniques. Furthermore, by venturing beyond the confines of our planet and discovering the vast resources of the universe, Lunasonde offers a solution to both the scarcity of resources and the environmental impact of traditional mining practices.

Mining in the cosmos presents a unique opportunity to harness the bountiful resources available in space. Asteroids, moons, and other planets contain valuable elements such as rare metals, minerals, and water, which can be extracted and utilized for various purposes. By expanding our resource acquisition beyond Earth, we can alleviate the strain on our planet and ensure a sustainable future for all.

Delivering Natural Resources that Impact Life on Earth

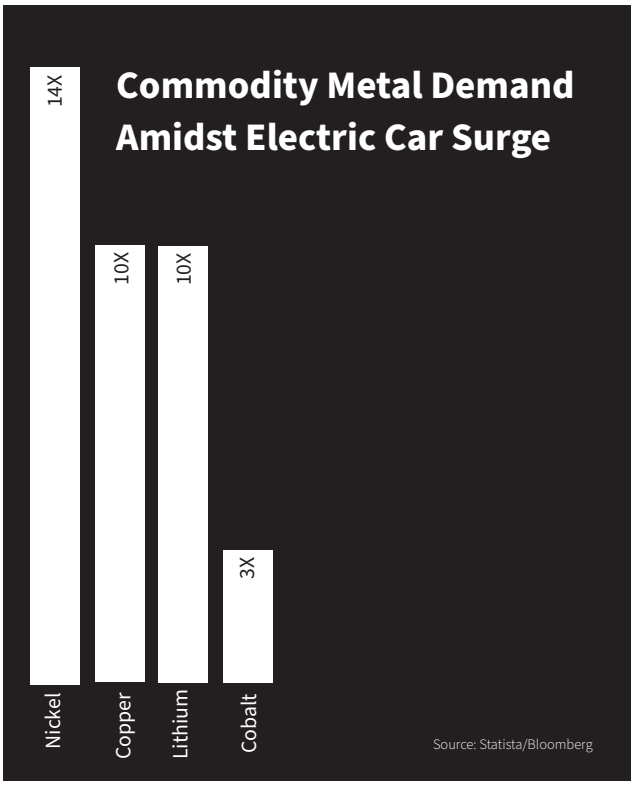
Current methods of resource discovery and extraction are not sustainable.

The Growing Demand for Global Commodity Metals in Electric Vehicles and Consumer Electronics

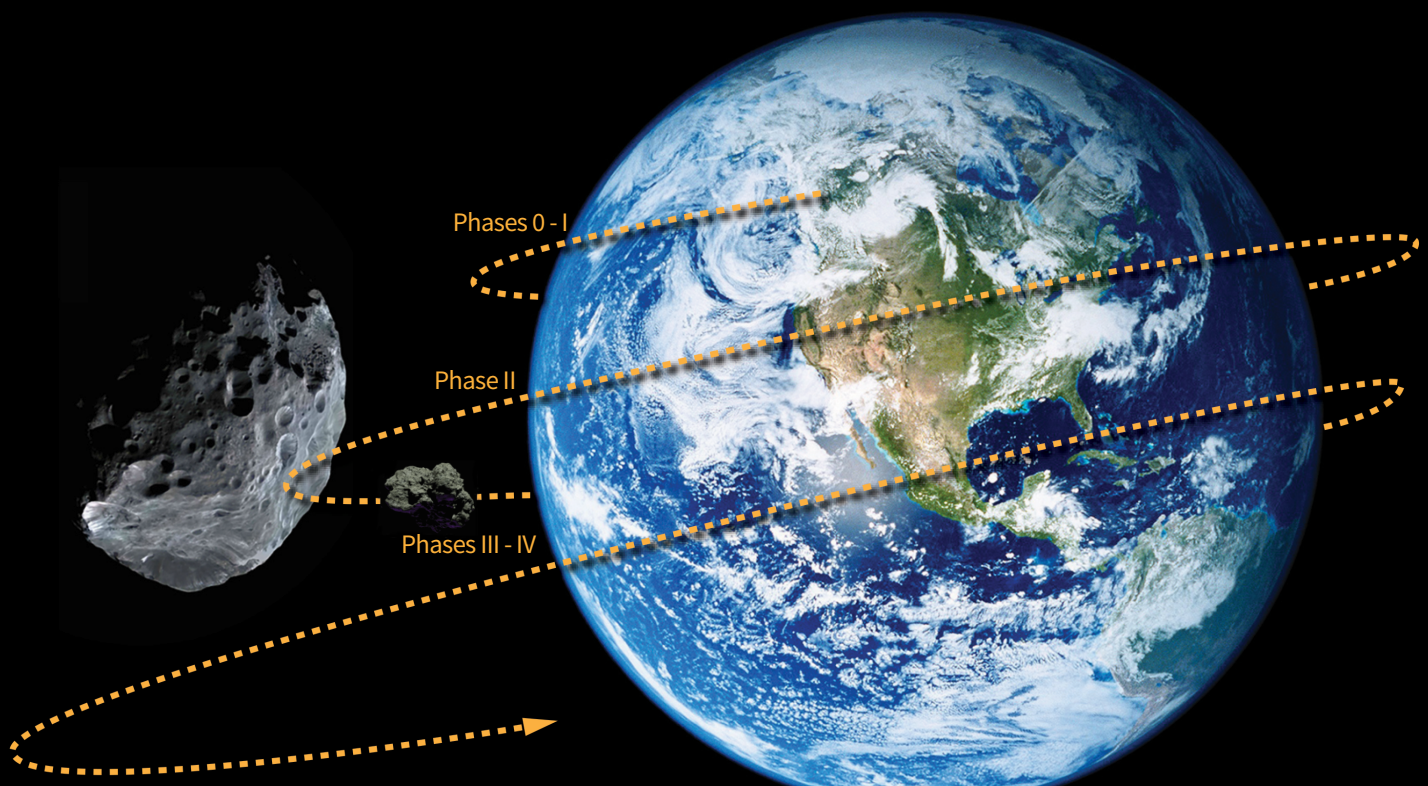
As the world shifts towards sustainable energy and advanced technological innovations, the demand for key metals such as copper, lithium, cobalt, and nickel has surged, primarily driven by the rapid growth of electric vehicles and consumer electronics.

Current and Projected Market Demand

- Clean energy needs may lead to high prices for copper, nickel, cobalt, and lithium under a net-zero emissions scenario.
- Demand for these metals is expected to soar due to the increasing popularity of electric vehicles and renewable energy storage systems.
- Under a net-zero scenario, lithium and cobalt consumption is projected to jump more than sixfold to meet the needs for batteries and other clean energy uses.



Projected Phases | Earth Mining to Asteroid Mining



Phase 0
Testing for Phase 1. Starts on Earth and continues into LEO.

Phase I
Use sensors to support Earth mining and to advance our technologies to go further on Earth and in space.

Phase II
Use new propulstion technology to test beyond Earth systems and ID additional tech needs. Fine new mining targets.

Phase III
Bring samples to Earth from a near Earth asteroid. Tests the integration of Lunasonde technologies, partner technologies, and communications wtih the goal of reducing expansion of existing mines.

Phase IV
Main Mission -- Through proven technologies and partnerships, forge ecologically sustainable space mining.

Lunasonde Impact

Phase		Earth
I	RF System	More effecient mining
II	Propulsion	Fewer new mines
III	Re-entry	Fewer expanded mines
IV	Mining	End of Earth mining

FLIGHT HERITAGE
Our Missions to Date

Piccolomini | Launched January 2022

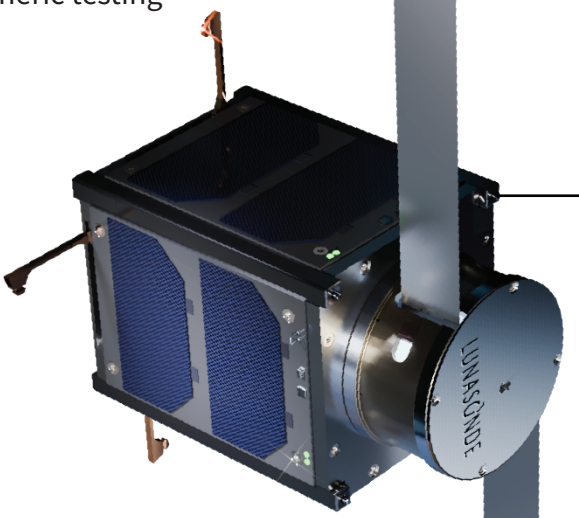
SpaceX Falcon 9, TR-3

First satellite, built in a garage

Verde | Launched August 2022

First full-stack functional payload

Stratospheric testing



History Channel | January 2023

Verde was flown over UT

Field tech testing in real world setting

Picacho | Launched November 2023

SpaceX Falcon 9, TR-9

New satellite bus

Antenna tech testing

UP NEXT

Phoenix | Launching July 2024

Polar Satellite Launch Vechicle

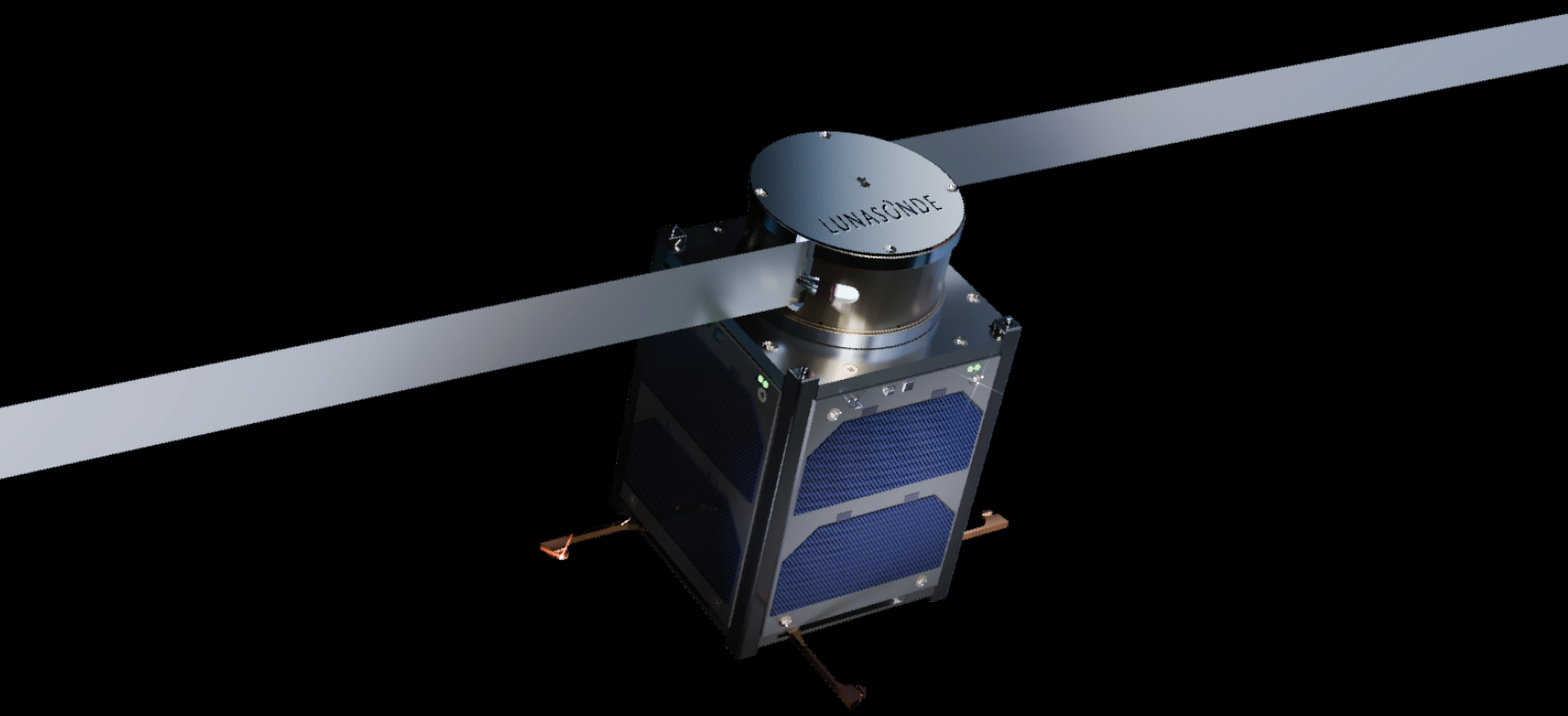
(PSLV)

PHOENIX
Our 2024 Test Satellite Mission

LAUNCH | Polar Satellite Launch Vehicle (PSLV)

July 2024

Sun-synchronous orbit (SSO)



Lunasonde's next 1U satellite, Phoenix, is scheduled to launch in no later than August, 2024, aboard PSLV. Testing the Ionosphere for future missions.

SAN XAVIER
Our 2025 Test Satellite Mission

LAUNCH | SpaceX Falcon 9 Transporter-14

Summer 2025

Launch provider Exolaunch

Sun-synchronous orbit (SSO)

Lunasonde's 6U satellite, San Xavier, is our first on-orbit test of our proprietary low frequency (LF) and high frequency (HF) radar technological stack capable of detecting subsurface mineral deposits.

"We are excited about this next step in our evolution and what this could mean for global environmental factors as well as decreasing mining costs. These technological advancements will allow us to look an order of magnitude deeper than current satellite technologies and do so without disturbing precious Earth ecosystems."

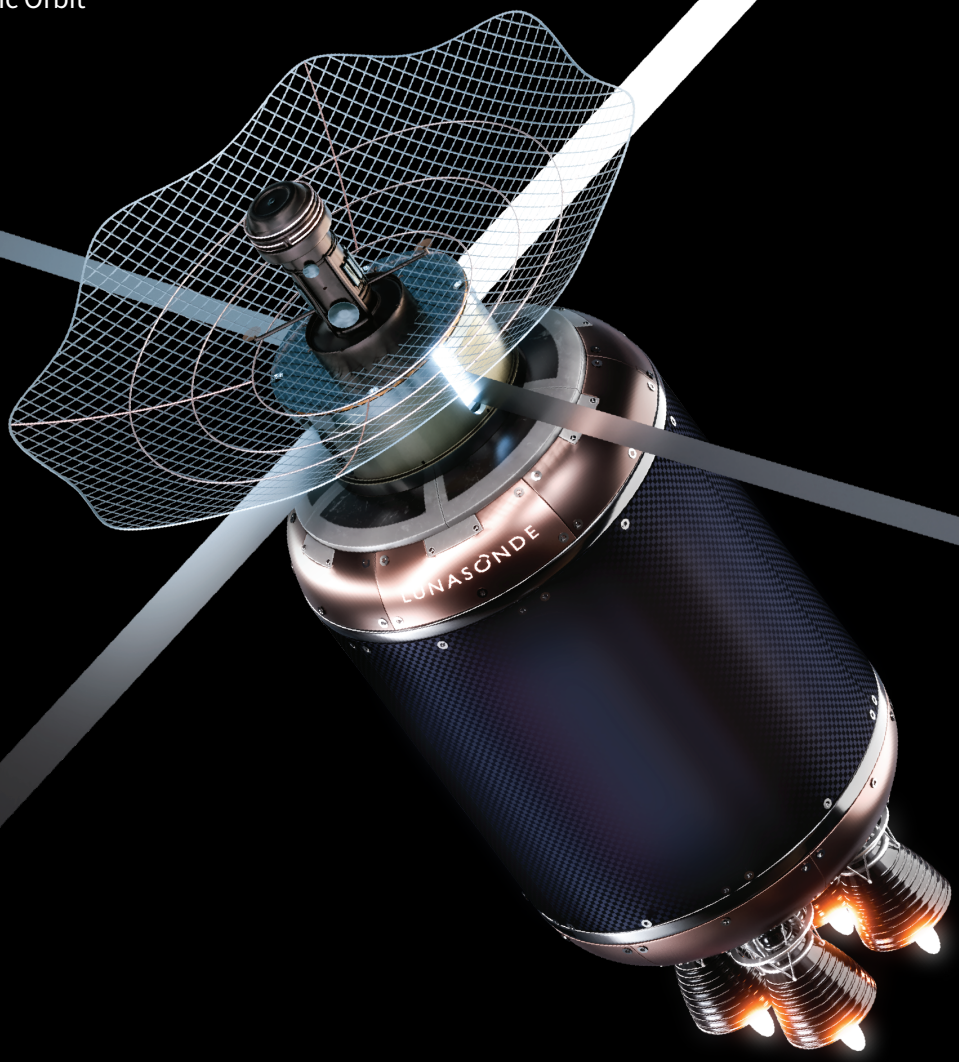
- Jeremiah Pate, Lunasonde Founder & CEO

BISBEE
Our Future Asteroid Mission

LAUNCH | TBD

2026

Heliocentric Orbit



The Lunasonde Promise

The Highest Standards | Built on Passionte People and Full-Stack Innovation

Lunasonde is first and foremost a company of people; people of high standards with ethics to match.
We pride ourselves on being ahead of the curve in every respect:
Ethics, Safety, Technology & Innovation, Respect for the Environment, Inclusion, and Community.

It's who we are. How we promise to act. And what we expect from those we do business with.

Ethics

We are a continuously evolving startup, signifying constant progress. Our team of scientists and geophysicists are actively researching the most effective methods to detect and extract minerals on Earth and in space. This dedication is accompanied by our commitment to upholding ethical standards, which serve as the foundation for all of our endeavors.

Safety

At our work sites, launch sites, and in space, we prioritize the well-being and safety of our esteemed staff and the general population. Every aspect of our operations takes into account these health and safety concerns. We strictly follow safety protocols to minimize any potential unforeseen problems.

Tech/Innovation

Our technology is constantly advancing as we pursue accuracy in every aspect of our work. We are pleased to collaborate with partners for elements that fall outside of our primary expertise, leading us to exceptional quality and precision in every aspect of our work.

Environment

One of our overriding priorities is to make the world a better place through our work. We firmly believe that by minimizing the environmental impact associated with conventional mining practices on Earth, we can make a positive difference.

Inclusion

We strive to promote inclusivity by embracing those from diverse backgrounds, regardless of their beliefs, hobbies, cultural heritage, racial identity, religious affiliations, or physical abilities. This dedication enables us to recruit and retain exceptionally talented people who consistently deliver outstanding results.

Community

We have a deep appreciation for the communities we serve! From our dedicated team members, to our immediate local community, to the global stage, we are wholeheartedly devoted to giving back and creating positive change in every possible way.

Our Valued Partners

techstars_

LUNASONDE

Autonomous Mineral Detection
Anywhere, Anytime

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