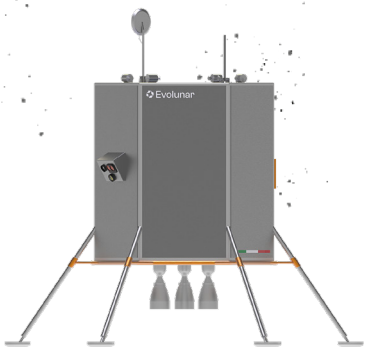
Get in touch!

**We are always thrilled to share our passion.
Be part of the next step of deep space exploration.**



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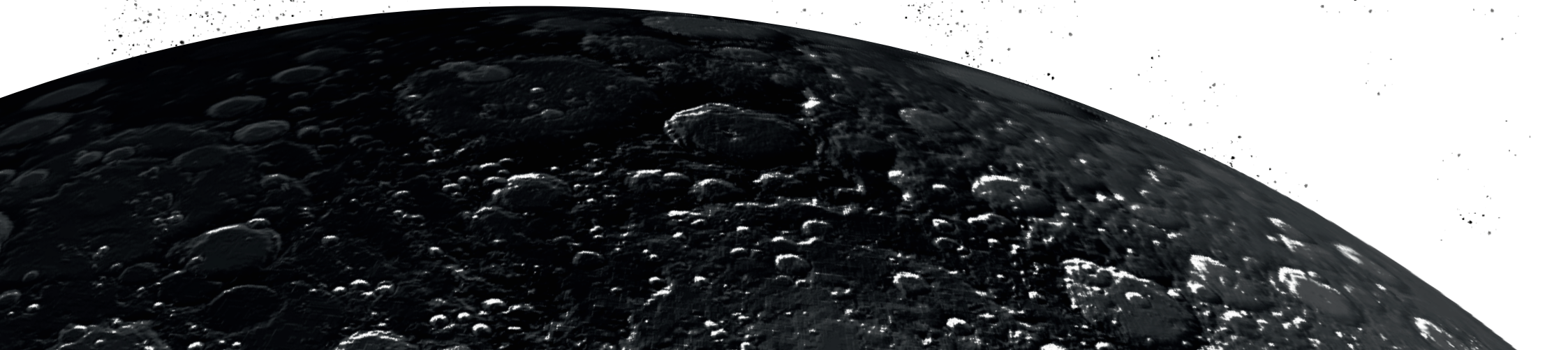
AUTONOMOUS VEHICLES FOR LUNAR EXPLORATION

Our journey as an interplanetary species begins with the Moon. By 2040, the lunar surface will be home to over a thousand pioneers. Our innovative vehicle, LuNaDrone, will be crucial to support robotic and human surface operations.



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What we do

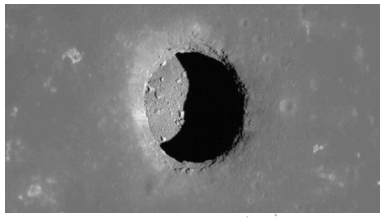
Since 2020, Evolunar's team has been working on LuNaDrone, a small spacecraft capable of flying autonomously over the lunar surface. The extreme mobility of this vehicle allows us to offer a whole range of post-landing services, from exploring sites of interest to last-mile delivery of customer payloads.

These capabilities are an enabler for space agencies and private companies investing in the Lunar Economy, ultimately looking for sites that can be leveraged for resource utilization and settlement of human bases. These missions are risky due to insufficient data regarding the sites of interest. Collecting the necessary information is a challenging task, but, thanks to LuNaDrone, Evolunar will be able to fill this gap.

LuNaDrone

Lunar extreme mobility

LuNaDrone (Lunar Nano Drone) is a small hopper that can perform customized flight profiles specifically designed to satisfy customer's requirements. Thanks to its rocket propulsion and autonomous



navigation systems, it can fly even in the most challenging lunar environments, such as craters, lunar pits and Permanently Shadowed Regions.

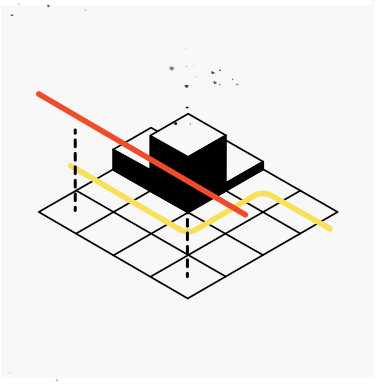
This innovative vehicle can collect data at a higher resolution than orbiters and fly over rough terrain that would otherwise be inaccessible to rovers. Its compact size reduces transportation costs and allows frequent access to the Moon thanks to its compatibility with even the smallest commercial landers.

LuNaDrone was originally conceived for lunar lava tube exploration. These underground caves would provide shelter from energetic particles, cosmic radiation, micrometeoroids, and extreme temperatures, allowing astronauts to safely live inside. A potential access to these caves may be provided by Skylights, which are vertical pits between the lunar surface and the underground voids.

Since 2009, nearly 300 lunar pits have been identified, some of which present overhangs that suggest the presence of a cave opening beneath them. However, it is impossible, just from orbital images, to assess if they actually give access to a cave or not. Instead, we can use LuNaDrone to fly into these sites and find out!

Path Planning

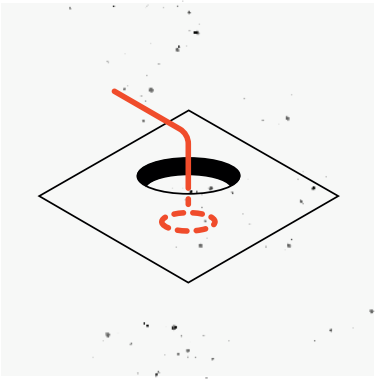
LuNaDrone can act as a survey drone for rovers and other vehicles, by mapping the terrain in advance and collecting environmental data. This coordinated effort enables optimal path planning to avoid obstacles and reach scientific goals with precision and efficiency.



Drone survey flight
Optimal computed rover path

Scouting

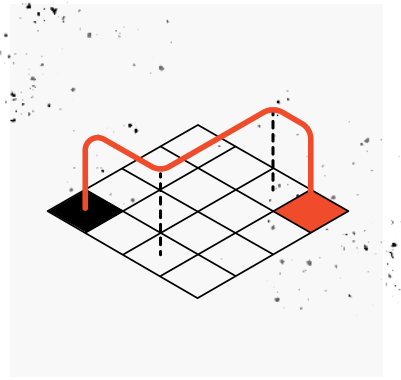
LuNaDrone can perform scouting flights to identify resources to be mined and collect critical data for efficient mission planning, by identifying potential hazards and locating the most promising sites that maximize the commercial and scientific returns for the customer.



Drone approach and return path
Scouting flight inside lunar pit

Last-mile Delivery

Evolunar can transport payloads from the lunar lander to more valuable sites for customer's objectives. LuNaDrone enables pinpoint delivery of different kinds of payloads, like sensors, beacons, and telecommunication relays to support lunar infrastructure.



Lunar lander landing site
Drone payload delivery target

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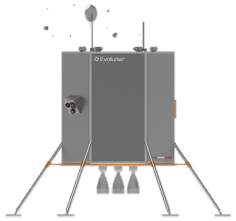

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