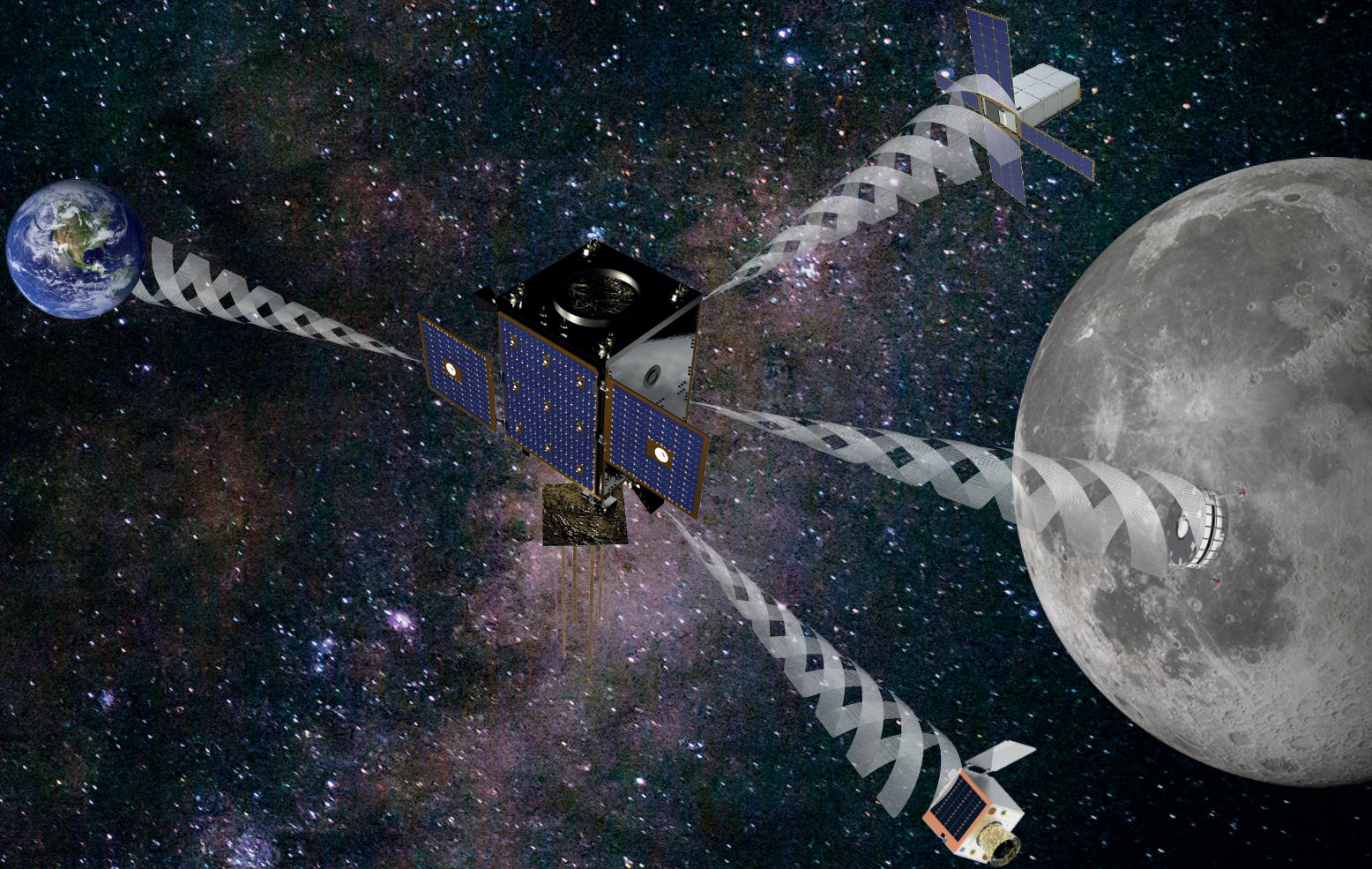




LUNAR MISSION SERVICES

ENABLING THE NEXT GENERATION OF LUNAR EXPLORERS



COST EFFECTIVE AND FLEXIBLE LUNAR DATA
RELAY SOLUTION READY TO USE FROM 2023

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Lunar Mission Services

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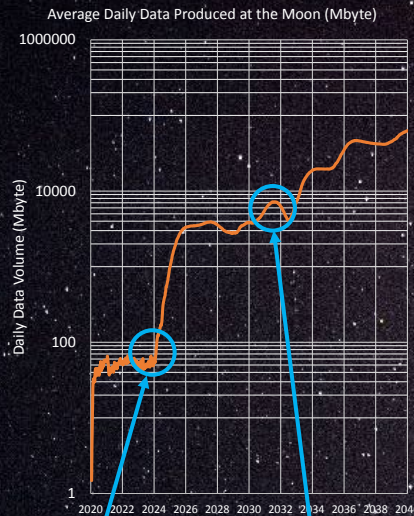
As the return of human missions to the Lunar surface, "Forward to the Moon," continues to accelerate, focusing international effort and resources, Europe now has the prime opportunity to position themselves as the "hub" for off-planet communication and navigation services.

Space mission utility and ambition are increasing, yet for many, space exploration remains a challenge and budgets are under pressure. For small missions, in particular, the key barriers are still affordable access to lunar and deep space orbits and communications back to Earth. SSTL and Goonhilly Earth Station have jointly proposed a set of Commercial Lunar Mission Support Services (CLMSS) that, in the frame of a partnership with ESA, infrastructure to support the exploration of the Moon, and ultimately the sustainable development of a Lunar economy.

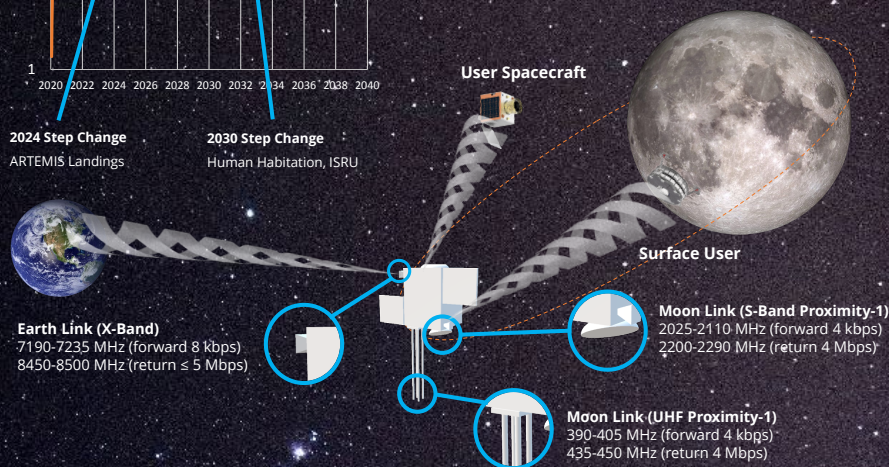
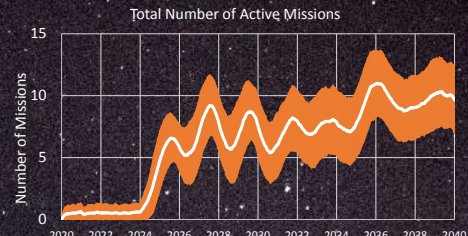


CLMSS enables new, cheaper and better missions to the moon, expanding the frontiers of human and robotic exploration.

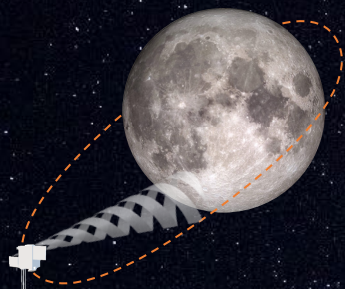
The return to the moon is underway, and CLMSS is providing communications infrastructure to the moon and back.



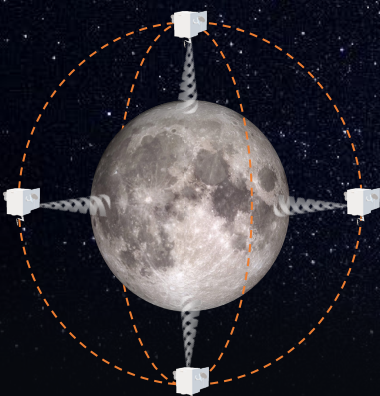
Our statistical market analysis forecasts a significant increase in lunar missions over the next two decades, driven by institutional customers and commercial services.



2022 Lunar Pathfinder Orbit (South Pole)



2028 Lunar Comms and Navigation Constellation (Circular)



A SIMPLER, CHEAPER MISSION ENABLER

Lunar Pathfinder (2022) will be a mission enabler for polar and far-side missions, which, without direct line of sight of the Earth, would otherwise have to procure their own relay spacecraft. Lunar Pathfinder will offer orbiter and near-side missions a better availability, improved data-rates and a cheaper alternative to crowded institutional deep-space ground stations via direct to Earth (DTE) solutions

LAYING THE FOUNDATIONS FOR THE FUTURE

The CLMSS partnership is preparing for the high data future, as the market opens from exploration towards in-situ resource utilisation and prolonged human habitation. Once first mover advantage is established and market demand confirmed, from 2028 the service will evolve to a constellation, offering extended availability, higher capacity and full navigation capabilities.

EXPLORATION INFRASTRUCTURE FOR YOUR MISSION

- Key Benefits:
- High availability, high data return communications improving scientific return
 - Accurate Navigation to enable in-situ resource utilisation and exploration

Supports diverse applications:

- Space environment
- Astrobiology
- Lunar in-orbit demos
- Planetary Science
- Resource Prospecting
- Far side and polar
- Beyond Line of Site Rovers
- Mission extension
- Human and robotic exploration

Regular opportunities for:

- ✓ Science & exploration
- ✓ Capacity Building
- ✓ Cooperation
- ✓ Education & Inspiration

Leading the global movement to develop a multi-planetary Society & Economy