



Terrae Novae

European Exploration Programme

Human exploration

low Earth orbit

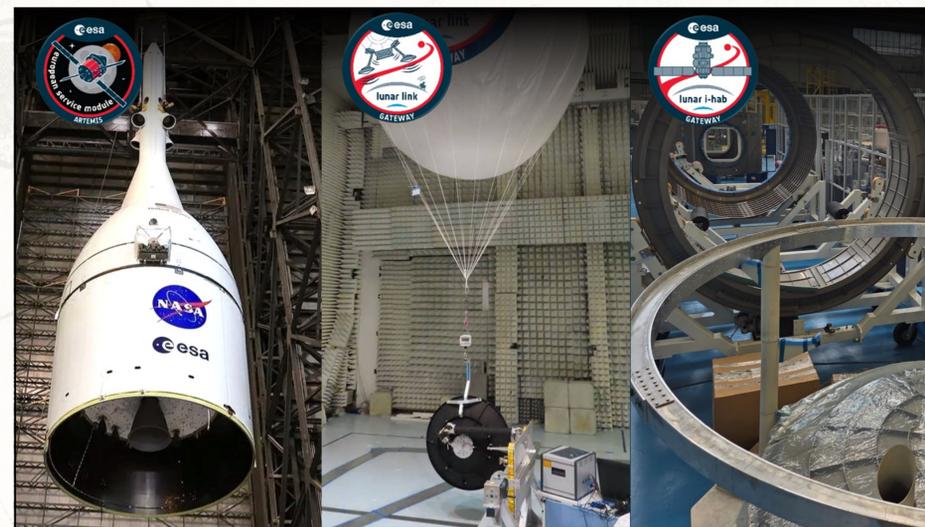
the Moon

Robotic exploration

Mars

Earth-Mars closest approach: 54.6 million km

Earth-Moon-Mars distances to scale. All bodies 100x larger.

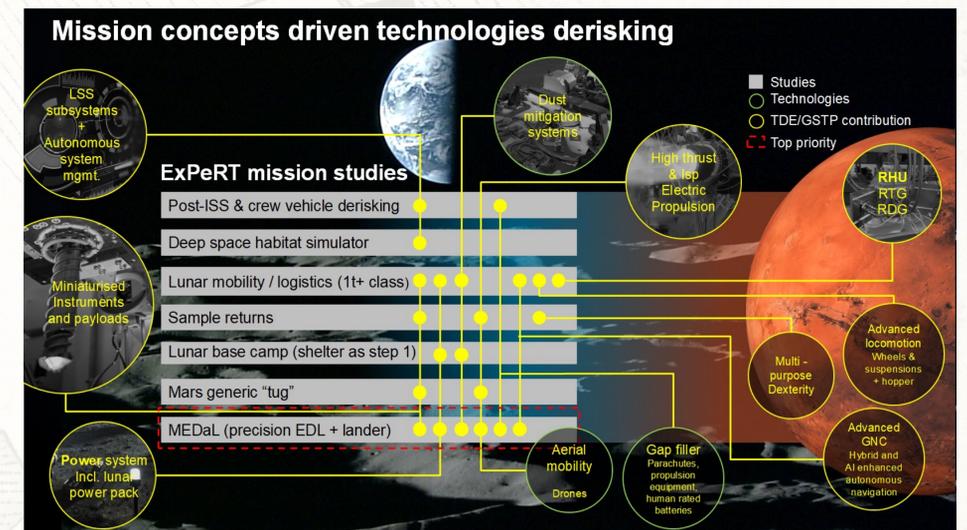
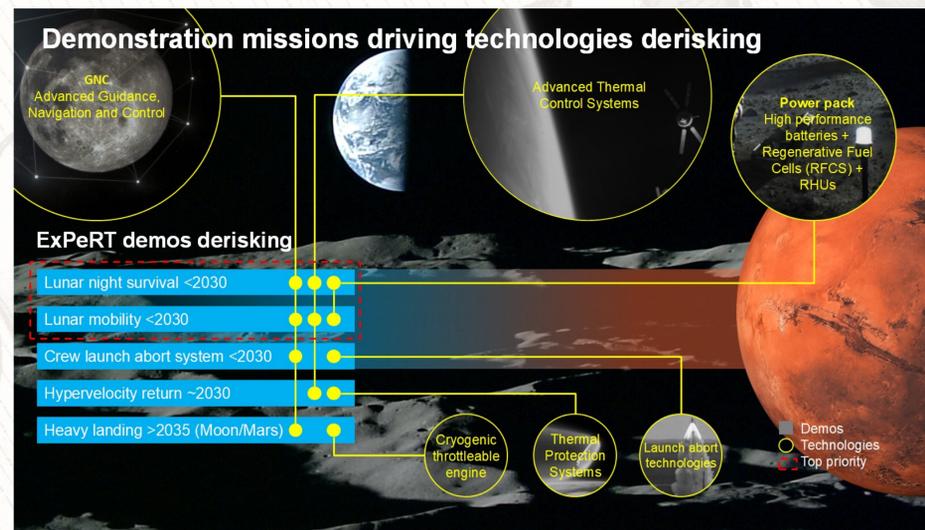
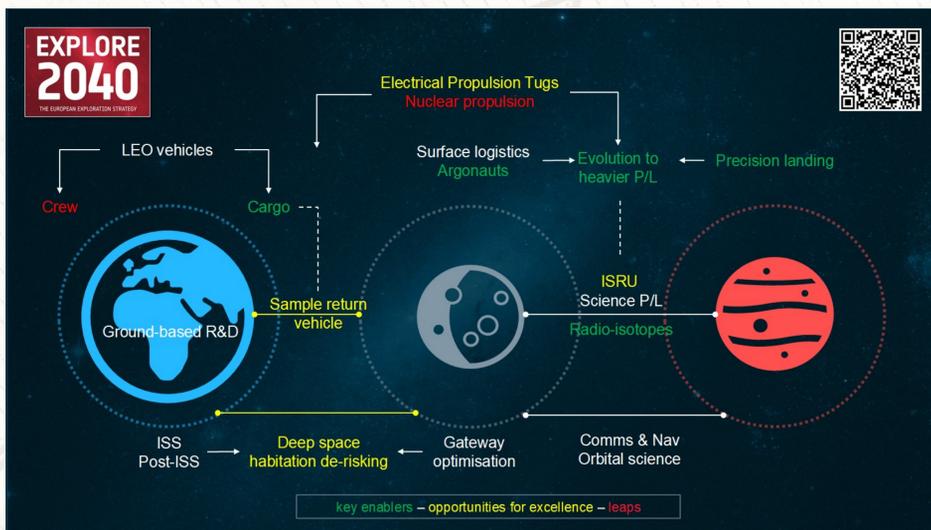


Strategic capabilities

LEO Cargo Return Service

Argonaut lunar lander

Moonlight/ Lunar Pathfinder



ESA Exploration Science

1780 scientists involved in ESA low gravity research

International cooperation

38 countries participating in ESA exploration science

Competitiveness

\$160M venture capital in 2024 for LCRS

Inspiration

8.2B annual gross reach

Exploration focused science & technology roadmap

Exploration science

Groundbreaking advancements for exploration science with 2 streams

Exploration FOCUSED

4 themes: Local resources + Environment and effects + Crew health and performance + Habitation

Exploration ENABLED

Announcements of Opportunity – excellence based

Basic and applied physics + Biology + Human physiology + Planetary science

ExPeRT

New mission options and corresponding derisking of critical technologies

- Technology maturation top-priorities: **mobility, power and transport/habitability**
- Fast learning/high risk approach** for new promising topics tailored towards future development needs
- Enhanced **scouting for spin-in technologies** shall be pursued.
- Duplication** of technology providers should be **limited to critical** enabling capabilities

