

ESRIC Commercialization

Space Resources Economics: From **Lab** to **Market**

The world's first innovation centre entirely dedicated to space resources

Lari CUJKO

Start-up Support Programme Lead

XXV Meeting

June 3, 2025

Session 2: Economic, Business, Legal, and Policy Considerations

Colorado School of Mines
Golden, Colorado, USA

ESRIC - European Space Resources Innovation Centre

Mission



RESEARCH

DEVELOPING EXTENSIVE RESEARCH CAPABILITIES

Industry-relevant R&D
State-of-the-art facilities
Training the next generation



COMMERCIALIZATION

INITIATIVES TO SUPPORT AN EMERGING ISRU GROWING SECTOR

Start-up Support Programme
Space Resources Accelerator



COMMUNITY

CONNECTING RESEARCHERS, ENTREPRENEURS & INDUSTRY

Space Resources Week
ESA & ESRIC Challenges
Resourceful podcast

To be a world-leading **centre of excellence** in the science, technology and business of **space resources**, support human and robotic **space exploration** and a future **innovative** sustainable in-space economy

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Value Proposition



TECHNICAL EQUIPMENT & SUPPORT

- Access to **facilities** at **ESRIC/LIST** & technical support from **ESA**
- Global facilitation access provided to start-ups
- Part of **ESA Space solution network** and robotic exploration



FUNDING OPPORTUNITIES

- Access to programmes strongly **connected** to **ESA** and **LSA** in space resources utilization
- Potentials to further **private** and **public funding**



LUXEMBOURG, A KEY SPACE RESOURCES PLAYER

- Access to the **space ecosystem** and an (inter)national **network** of partners from the key driver of **Space Resources Initiatives**

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Commercial Programs



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Specific programs

Support Schemes	1 INCUBATION	2 ACCELERATION
Type / Focus	<ul style="list-style-type: none"> Business Incubation (Luxembourg) 	<ul style="list-style-type: none"> Development contract / Prototyping (EU)
Frequency	<ul style="list-style-type: none"> Once / Twice a year 	<ul style="list-style-type: none"> Every 2 years
Profiles	<ul style="list-style-type: none"> Project owners / Registered entities 	<ul style="list-style-type: none"> Registered entities
Pre-selections	<ul style="list-style-type: none"> 5 -10 Pre-commercial 	<ul style="list-style-type: none"> Pre-seed / Series A
Maturity	<ul style="list-style-type: none"> Early-stage 	<ul style="list-style-type: none"> Existing funding sources
Selection	<ul style="list-style-type: none"> 1 or 2 – 200 K€ 	<ul style="list-style-type: none"> Up to 6
Geography	<ul style="list-style-type: none"> Worldwide outreach 	<ul style="list-style-type: none"> ESA Member states
TRL / CRL	<ul style="list-style-type: none"> 1-3 / 2-4 	<ul style="list-style-type: none"> 4-6 / 2-4
Funding parties	<ul style="list-style-type: none"> ESRIC 	<ul style="list-style-type: none"> 50% Public (ESA - ESRIC) + 50% Private
Legal entity	<ul style="list-style-type: none"> If Legal entity <5y Phase 1: Worldwide Phase 2: LU legal entity 	<ul style="list-style-type: none"> Legal entity ESA member state Raised funds

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1 Incubation – Start-up Support Programme

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1 Incubation – Start-up Support Programme - Roadmap

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*Generic application in other space resources segments are authorized.

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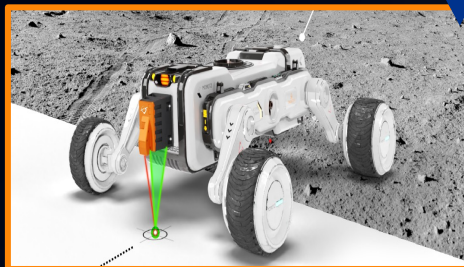
1 Incubation – Start-up Support Programme - Operations

SSP1

TerraEye
(03 2023)

- Autonomous Transport Platform
- EO – TerraEye solutions

SSP2

Lightigo Space
(05 2024)

- Prospecting & Characterization
- Laser spectroscopy payload for Earth & Lunar exploration

SSP3

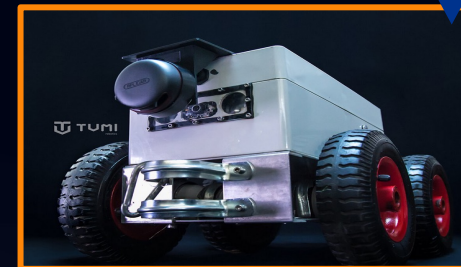
Spacebackend
(06 2024)

- Space Communications & Connectivity

SSP4

Neamine
(04 2025)

- Oxygen Extraction from Regolith
- Biochar for Earth

Tumi Robotics
(04 2025)

- Autonomous exploration Robots

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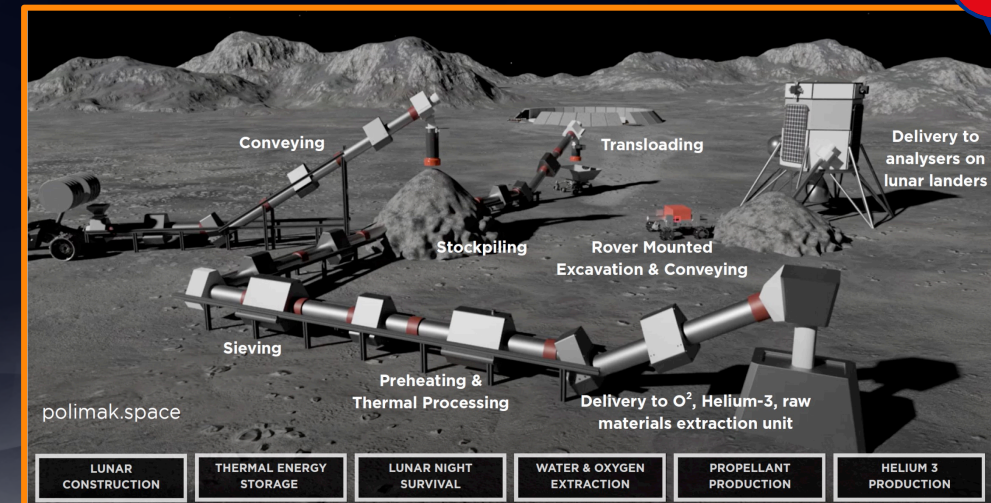
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① Incubation – Start-up Support Programme - #6

SSP5

Polimak Space
(05 2025)

- Build **regolith pipelines** on the moon allowing for ISRU activities at scale
- Regolith Handling Systems built around a **Modular Drum Conveyor (MDC)**
- **Regolith as a Service (RaaS)**



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1 Incubation – Start-up Support Programme - #6

SSP5

Polimak Space
(05 2025)

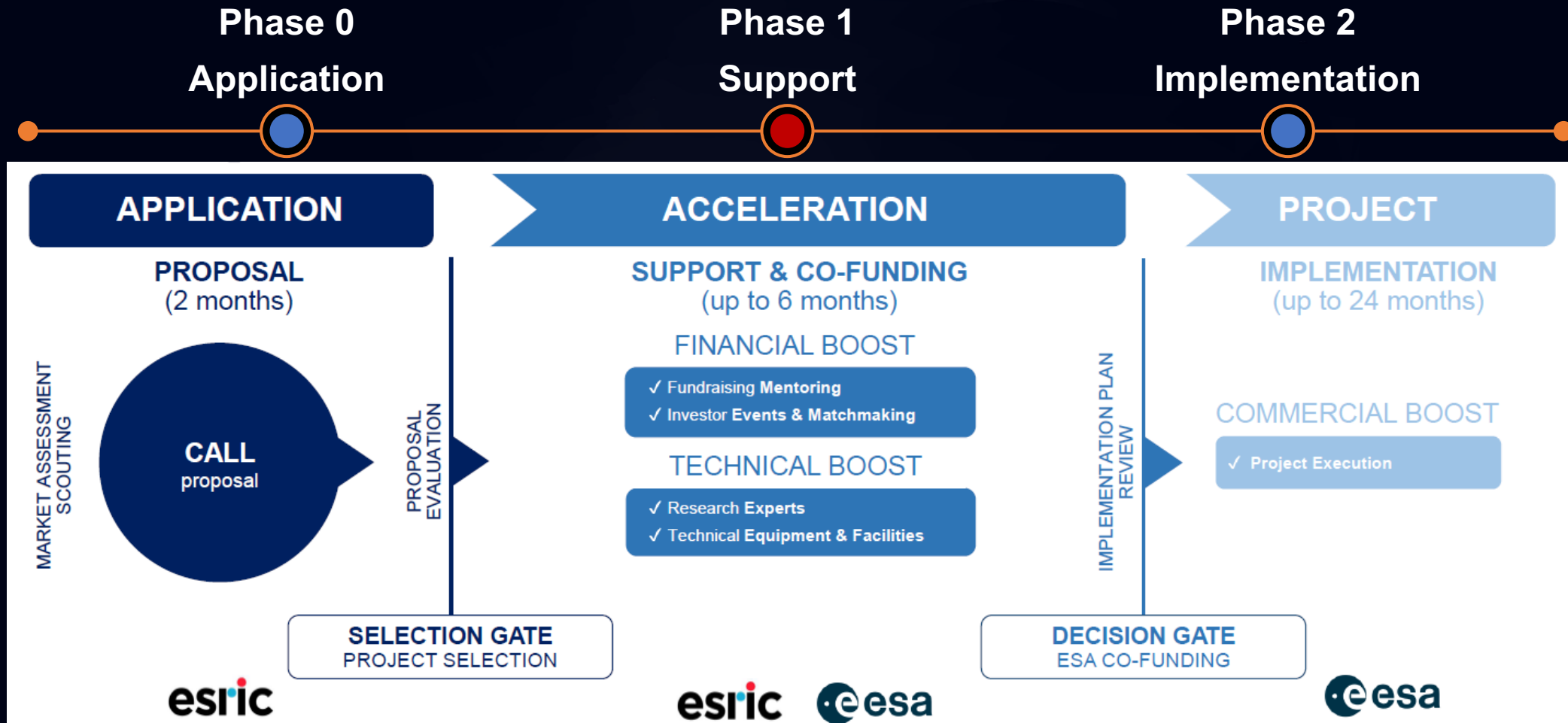
- Space Resources Week 2025 (Luxembourg)
- Wednesday, June 4
- Session 6
- Regolith Handling and Conveyance
- Regolith as a Service: Enabling End-To-End ISRU Operations



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2 Acceleration – Space Resources Accelerator



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2 Acceleration – Space Resources Accelerator - Operations

Project 1



Additive
manufacturing

3D printing from
regolith

Project 2



In-orbit refueling

Project 3



High-performance
materials

Metal fiber from
basalt

Project 4



Power Beaming

Project 5



Power beaming to
the moon

Project 6



ISRU/power
generation

Silicon for
photovoltaic solar
panels

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Target Audience

Dual Challenge: DeepTech & SpaceTech Players

- **Technology providers:** Having existing market applications being **Terrestrial** or **Space**



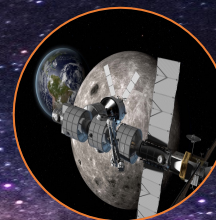
TERRESTRIAL

- Mining
- Agriculture
- 3D Printing
- Marine
- Other



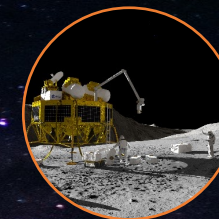
SPACE

- LEO / MEO / GEO
- Satcom services
- Earth Observation
- Space Debris use
- Other



CIS-LUNAR

- Communications
- Infrastructure
- ISRU Applications
- Transportation
- Other



LUNAR & OTHER

- Infrastructure
- Exploration & Prospection
- Mining & Extraction
- Refining & Processing
- Manufacturing & Supply
- Power
- Transportation

Target Audience

Dual Challenge: Existing market (earth-based) and space-based

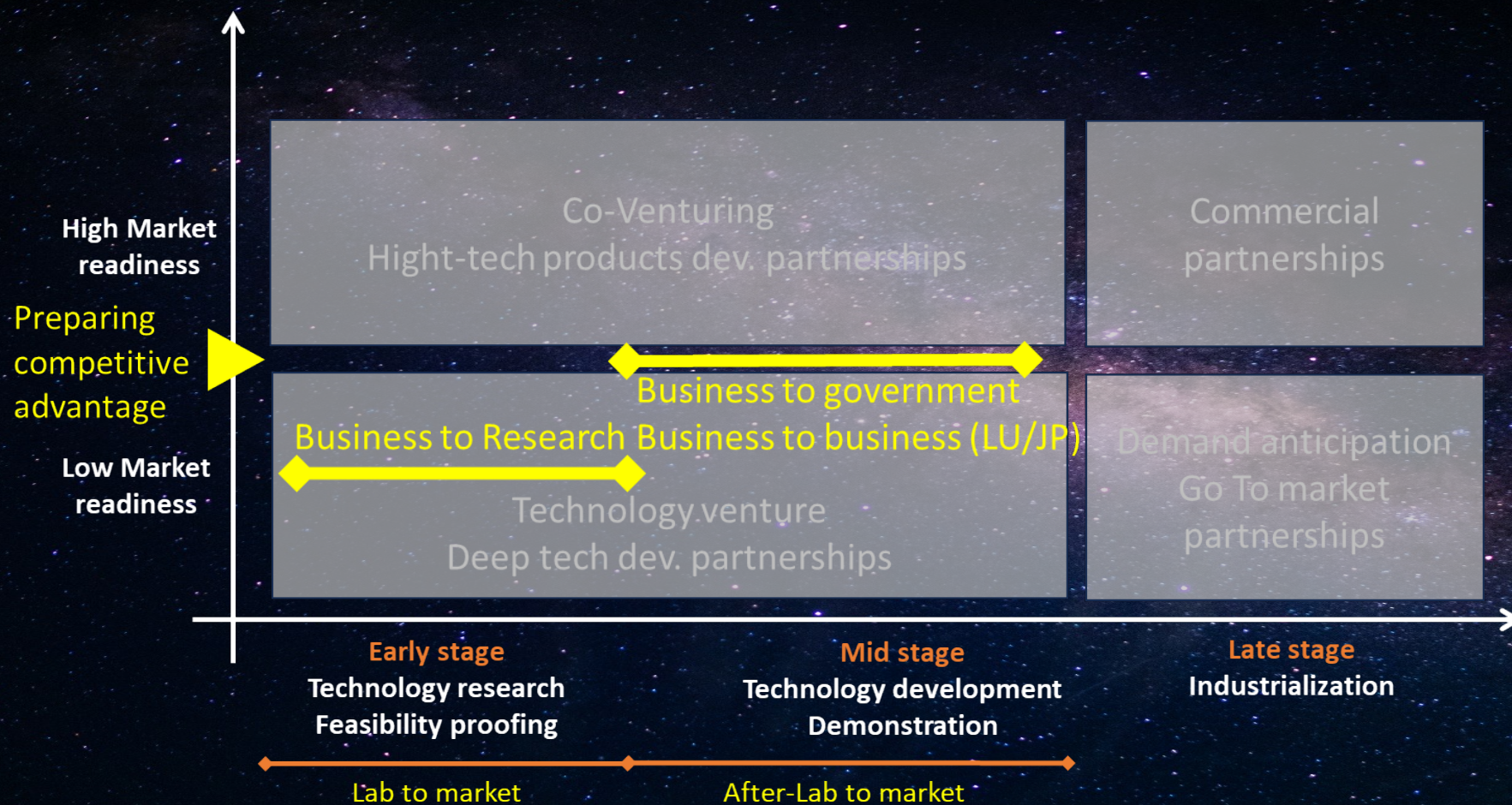
- Power and Energy systems
- Robotic and Autonomous systems
- Communications systems



- Software and Information Processing
- Manufacturing and Construction
- Mechanical systems

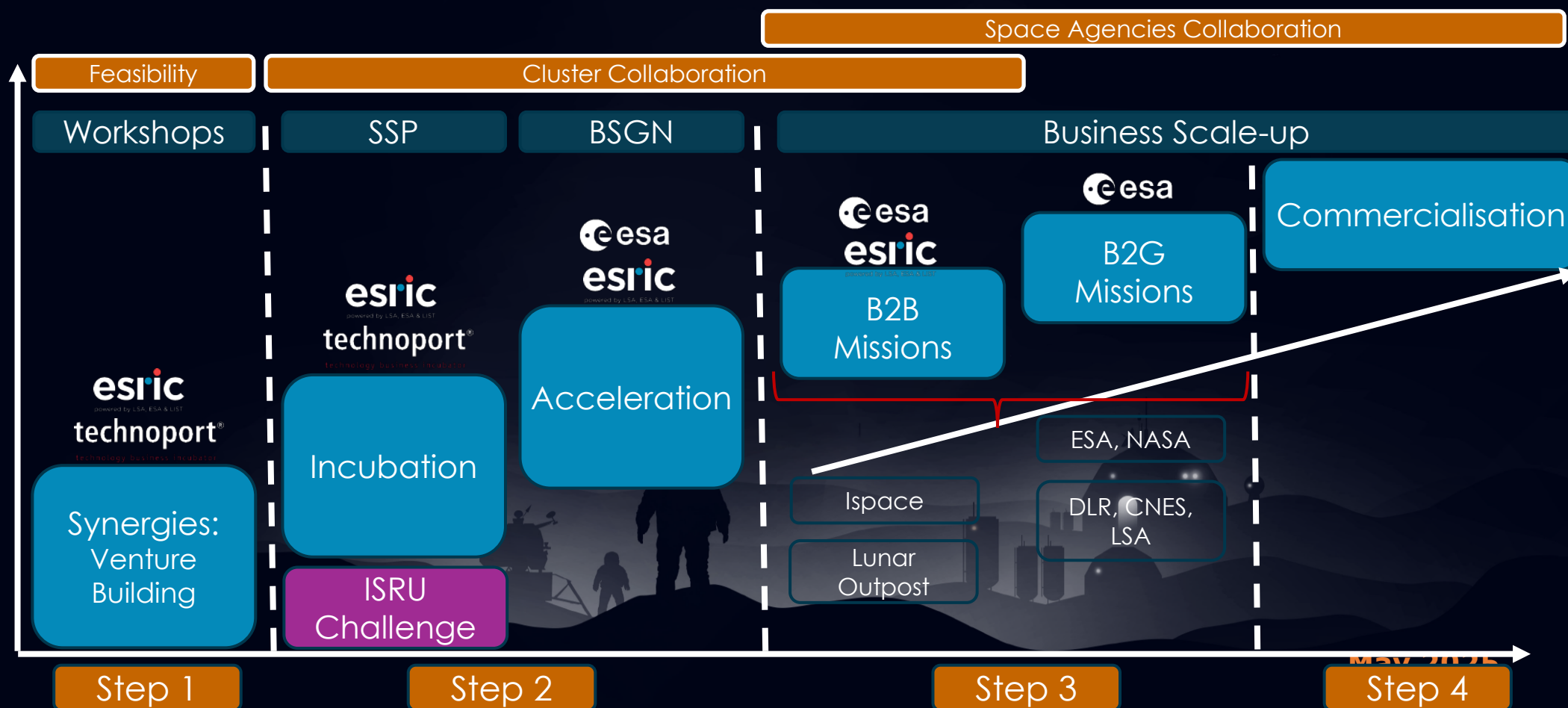
Target Audience

Business, Technical & Scientific Challenges

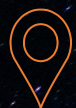


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ISRU Commercialisation scaling strategy



Commercial Gateway toward the Moon



Up to **two** years of business **incubation** at ESRI - Technoport



Technical support from leading experts from ESA and ESRI



Business support from leading experts from ESA and ESRI



Legal and **IPR** Advice



Access to business partners **capabilities**, **Labs** and **networks**



Fundraising **guidance** and opportunities



Workshops and **Trainings**



Support to **company set-up** in Luxembourg



€200 000 funding for product and IP development*

First Worldwide Incubation Programme
dedicated to Space Resources Utilization



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The **ESRIC Commercialization** goal is to reach and connect your **business value** with the right **customer base (ISRU Cluster)** and creating **Innovation (R&D)**

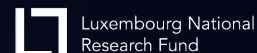


ESRIC Experts (Research & Innovation Lab)



And more

Partners



And more to come

Stakeholders



Selected Projects
SSP5

Cluster/ Start-ups



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Ad-Hoc Experts (Techno)




Ad-Hoc Experts (Business)



Ad-Hoc Experts (Media-PR)



How to apply to our Programs



The screenshot shows the ESRIc website with a navigation bar containing 'Our mission', 'Research', 'Commercialization', 'Stay tuned', 'Space Resources Week', and 'Contact'. The 'Commercialization' menu is expanded, showing 'Business Incubator' and 'Industry Accelerator'. Below the navigation bar is a large image of the Moon's surface. The 'Start-up Support Programme description' section is visible, detailing the program's focus on supporting early-stage ventures in space resources utilization.

Start-up Support Programme description

First worldwide incubation programme, entirely dedicated to space resources utilization.

The ESRIc Start-up Support Programme (SSP) aims at supporting early-stage ventures and start-ups designing novel technologies for space resources applications in refining their business plan, attracting customers and securing their first investments.

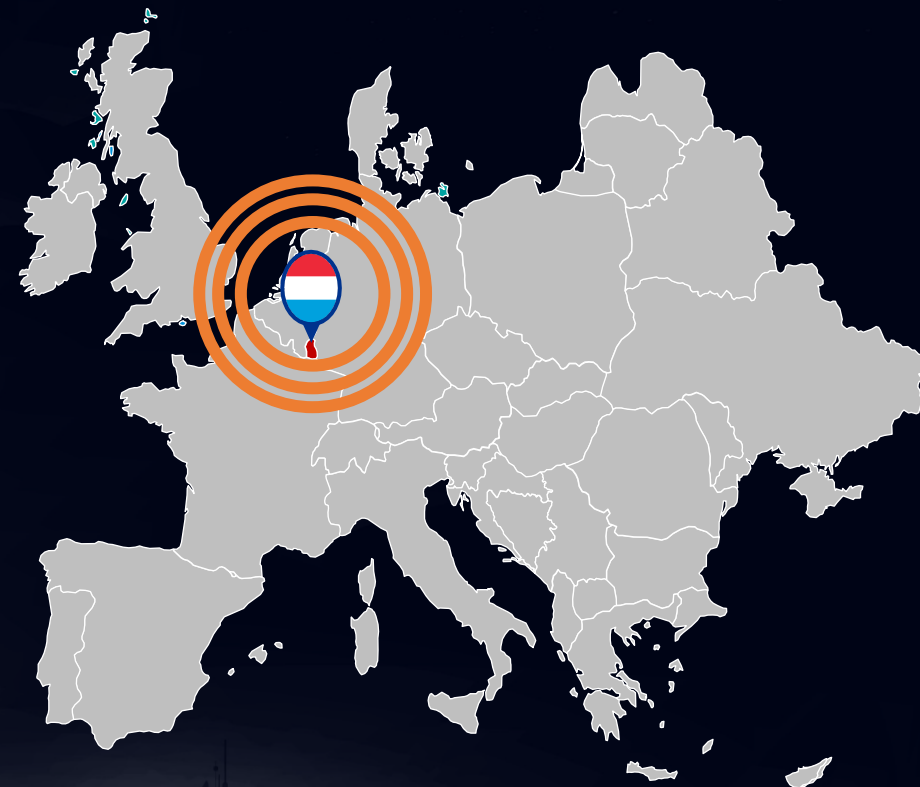
- › The SSP is a customised programme, dedicated to young start-ups looking to develop their project and increase their TRL and CRL
- › It is focused on the development of prototypes for terrestrial and space applications all along the Space Resources Value Chain
- › The programme enables access to technical laboratories from ESRIc/LIST and ESA

[Calls and applications](#)

We are continuously looking for Partners who are willing to contribute to the next generation of space players :

- Research Institutions
- Corporates
- Financial Institutions
- Investors

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OPEN CALL ESRIC SSP6 in Q4 2025
Power & Energy for Space Exploration

→ www.esric.lu

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ESRIC is Hiring !!



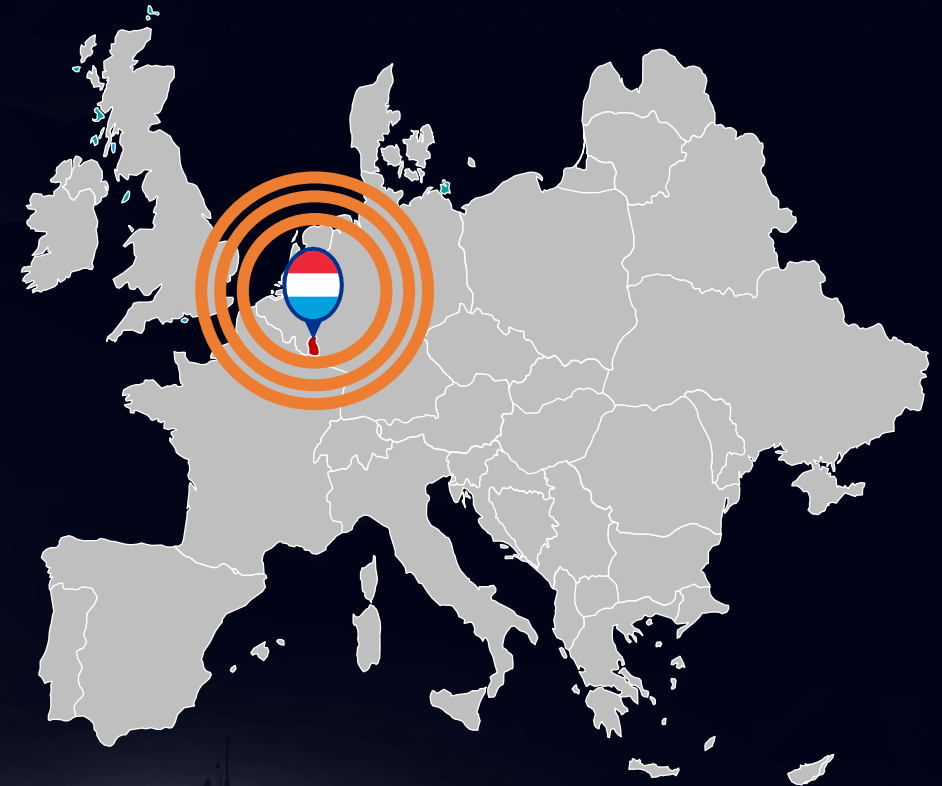
Welcome

You are about to start your application process for:

ES-25006 SPACE RESOURCES BUSINESS ACCELERATOR OFFICER

[Apply now](#)

[Apply now](#)



Position based in Luxembourg
Business, Commercialization and Innovation

→ www.list.lu

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Thank you!



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Commercialization

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