



# ESRIC

## *Startup Support Programme*

Space Resources Roundtable

**Golden, Colorado USA**

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*Startup Program Lead*

*7<sup>th</sup> June 2022*


**esric**



LUXEMBOURG  
INSTITUTE OF SCIENCE  
AND TECHNOLOGY



## ***Content:***

- I. The European Space Resources Innovation Centre***
  - II. Startup Support Programme (SSP)***
  - III. Expectations and Deliverables***
  - IV. Next steps***
- 



ESRIC aims to become the internationally recognised **centre of expertise** for **scientific, technical, business** and **economic** aspects related to the use of space resources for human and robotic **exploration**, as well as for a future **in-space economy**.

## *Founding partners:*

**LSA** : Luxembourg Space Agency

**LIST** : Luxembourg Institute of Science & Technology

## *Strategic partner:*

**ESA** : European Space Agency

## *ESRIC develops activities in four main areas*

### Research

Research is at the heart of ESRIC's mission to build a future in-space economy.

ESRIC will establish world-class labs and testing facilities to undertake ground-based R&D along the space resources value chain.

### Knowledge Management

ESRIC will provide a source of up-to-date information on developments related to space resources utilization.

### Business

ESRIC will support commercial initiatives from established players and **start-ups**, enable technology transfer between space and non-space industries and encourage public-private partnerships and new initiatives.

### Community Management

ESRIC will help to connect the space resources community by creating an open and collaborative environment to encourage dialogue and exchange of ideas.



*First worldwide incubation programme entirely dedicated to Space Resource Utilization (SRU)*

- Identifying early-stage space resources ventures having a near term business models (space and non-space)
- Contributing to building a space resources ecosystem with new players
- Accelerating the next generation of space resources related business ideas of the most entrepreneurial teams



### *Focus on the **consolidation of the Space Resources Value Chain (SRVC)***

- Helping the projects in refining their **business plan**, attracting their **first customers**, proving their **technological value proposition**, and securing their first **investments**
- Support startups in Luxembourg with access to **non-dilutive** and **non-refundable funding**
- Three-phases programme building on each other





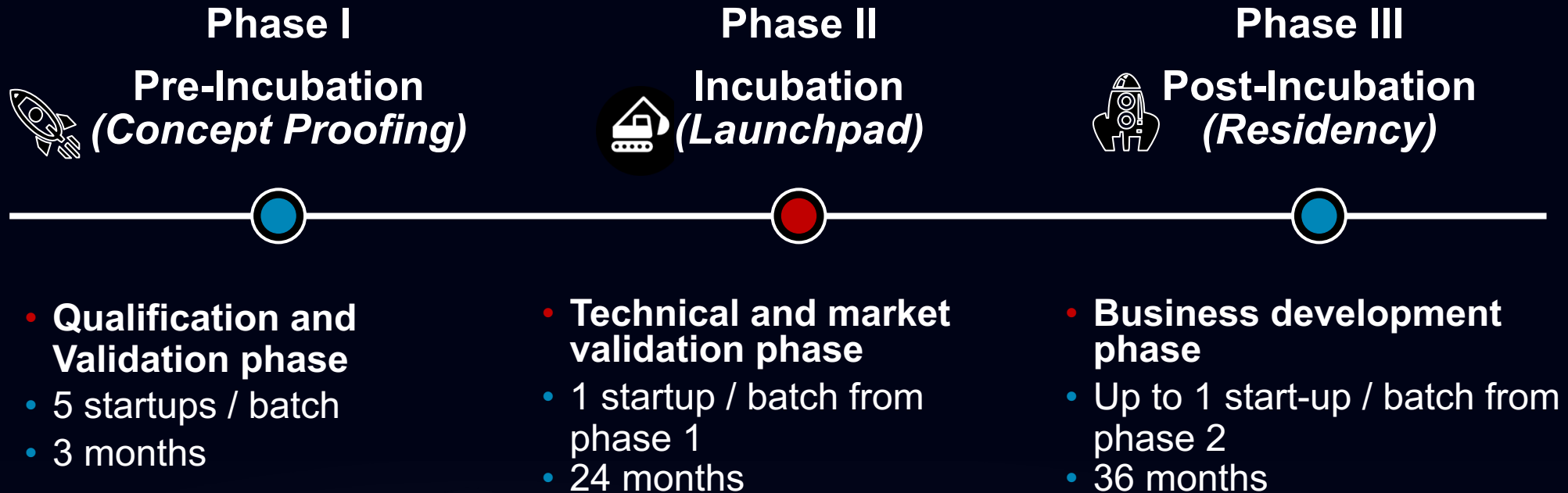
- 1 call / semester
- First : Winter 2021
- Next: Summer 2022

- Phase 1: Concept Proofing >> 3m
- Phase 2: Incubation >> 24m
- Phase 3: Residency >> 36m

- Space Resources
- Terrestrial & Space Applications



## II. ESRIC Startup Support Programme (4/8)



Concept Validation

Prototyping & POC Testing  
+ Funding

Commercialization +  
Technology Transfer Support

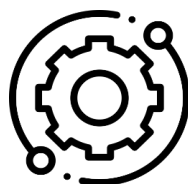




## II. ESRIC Startup Support Programme (5/8)

### Benefits of the Programme

## Value proposition



### Technical Equipment & Support

- Access to facilities at ESRIC & technical support from ESA
- Global facilitation access provided to startups
- Part of ESA Space solution network



### Funding Opportunities

- Access to a program strongly connected to ESA and LSA in space resources utilization which can open doors to further **private** and **public** funding



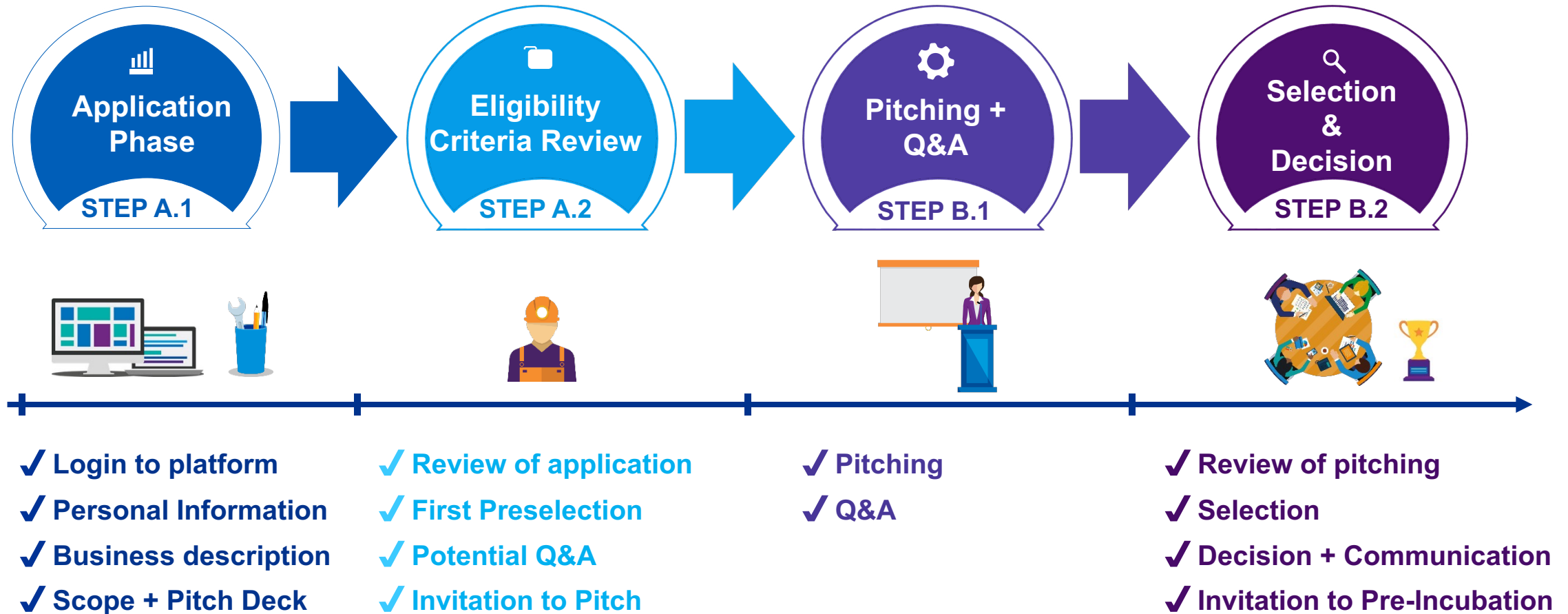
### Luxembourg, a Key Space Resources Player

- Access to a vibrant ecosystem and an international network of partners from the key driver of space resources initiatives: **Luxembourg**



## II. ESRIC Startup Support Programme (6/8)

### Application Process for Phase 1: Pre-Incubation





## II. ESRIC Startup Support Programme (7/8)

### Target & Support Objectives

Technology  
Readiness Level

Dual Market:  
Terrestrial and/or Space

- 9. Full commercial application
- 8. Qualified commercial product
- 7. Field demonstration system
- 6. Prototype system
- 5. Field Simulations/Testing
- 4. Lab Testing & validation
- 3. Concept Validation
- 2. Technology concept
- 1. Basic research
- 0. Idea

- 1. Basis Hypothesis
- 2. Market Awareness
- 3. Technology Application
- 4. Value Proposition
- 5. Market Alignment
- 6. Product/Solution optimisation
- 7. Financial Model Validation
- 8. Market Introduction
- 9. Full Launch

Consolidate technological proposal into a Technology Business Solution

What do you need to proof & start your Project

Who are the Targeted Customers / End users

Commercial  
Readiness Level

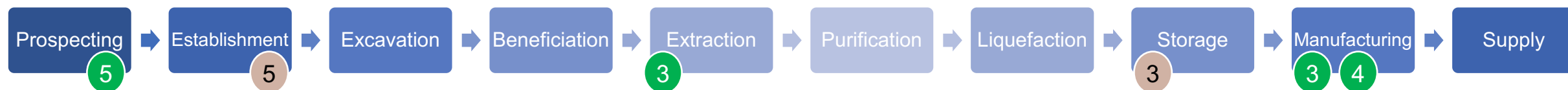


## II. ESRIC Startup Support Programme (8/8)

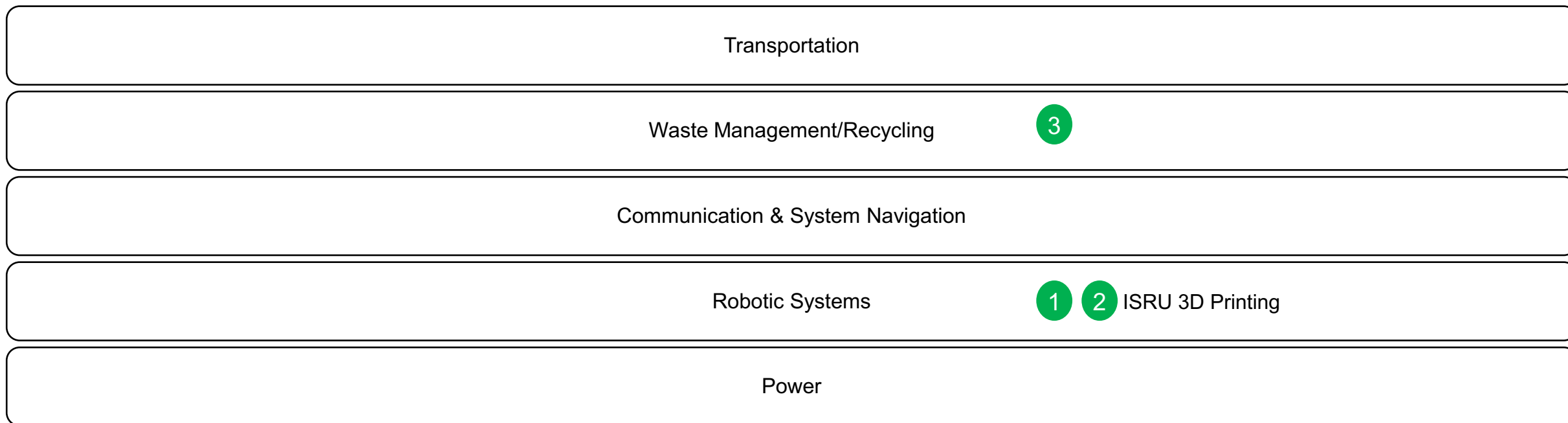
### Space Resources Value Chain



#### Primary Activities

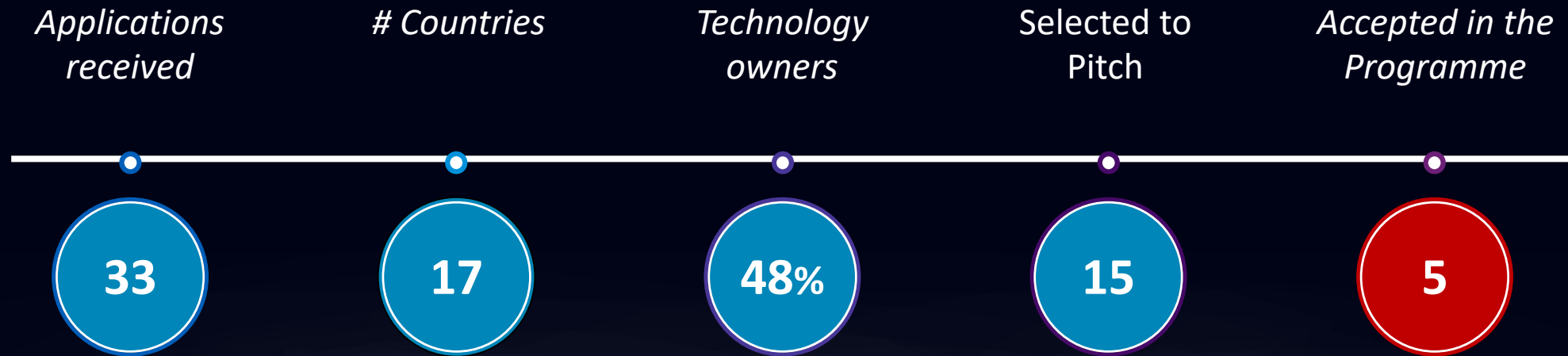


#### Transversal Activities





## II. Summary of the first call (1/5)



## II. Summary of the first call (2/5)







### **Adventus Interstellar (CH)**

- Ultra-low-cost customizable interplanetary lander



### **Anisoprint (LU)**

- 3D printing equipment on the Moon / Microgravity



### **Astroport Space Technologies (US)**

- Lunar landing pads for safe landings



### **Four Point (PL)**

- ATP – Autonomous Transport Systems on the Moon



### **Orbit Recycling (DE)**

- Extracting metals from orbital space debris on the Moon





2. AnisoPrint (Lu)

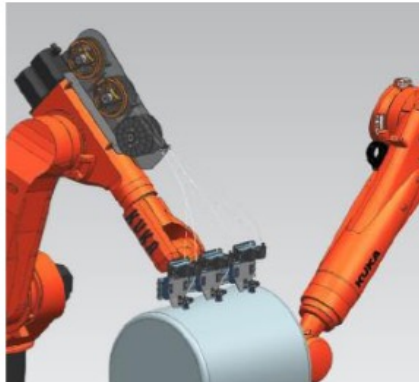
INDUSTRIAL (existing model)

PROM IS



LARGE-SCALE INDUSTRIAL development)

PROM PT

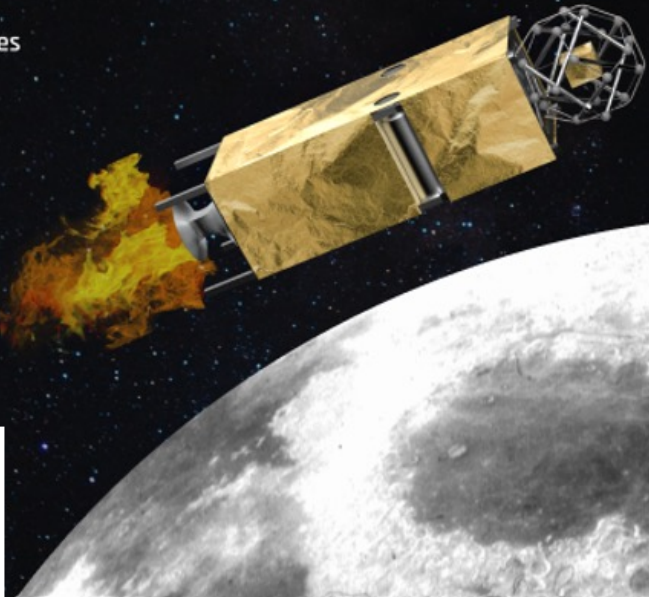


5. Adventus Interstellar (CH)

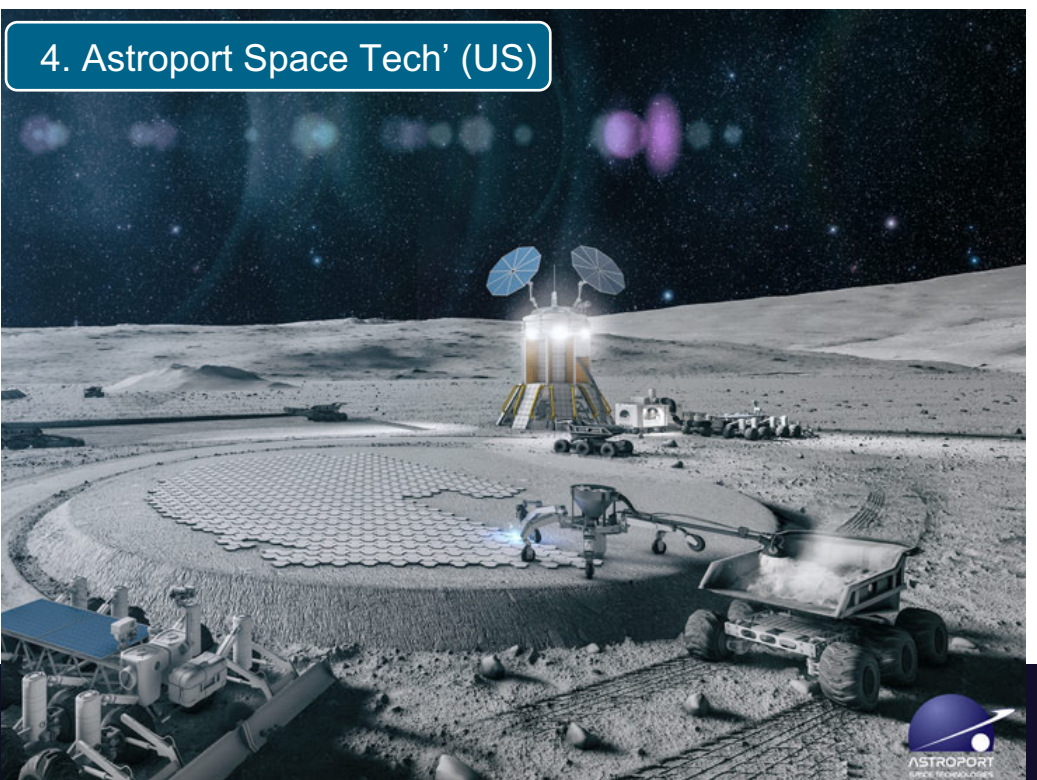


Adventus Interstellar

Ultra-Low-Cost Space Deployment Services



4. Astroport Space Tech' (US)

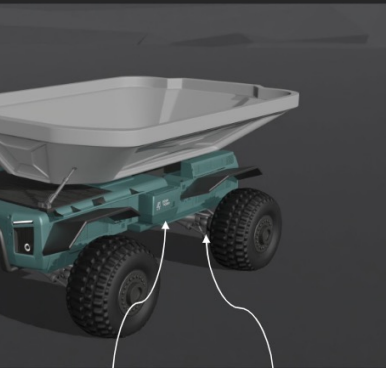


3. Orbit Recycling (DE)



1. Four Point (PL)

f ATP – Main Elements



Power supply and Energy storage system



Powertrain Hydrogen/electric hybrid Drivetrain - electric engines powering axles/hubs



Frame and exterior (body)



Data decision

## II. Summary of the first call (5/5)



- Astroport Space Technologies
- Sam Ximenes  
CEO



- Adventus Interstellar
- Tomas Boschetto  
Founder



- Anisoprint
- Dmitrii Prokopiuk  
Head of Space  
Development



- Four Point
- Marek Wilgucki  
CEO



- Orbit Recycling
- Frank Koch  
Founder





# III. Expectations and Deliverables

## Phase 1 - Objectives



### 1. Phase 1: Pre-Incubation (3 months)

Scouting stage to **qualify** and **validate** early-stage venture's potential – Idea generation



### 3. Business Deliverables

- ii. Specified addressable market strategy
- iii. Competition and existing alternatives are identified
- iv. Formalised business model
- v. Identified business risks  
(Business Plan)



### 2. Technical Deliverables

- i. **Valid technical concept:**  
*(formalizing an alpha technology base / technical development plan/feasibility analysis/milestones planning)*



### 4. Strategic Communication Deliverables

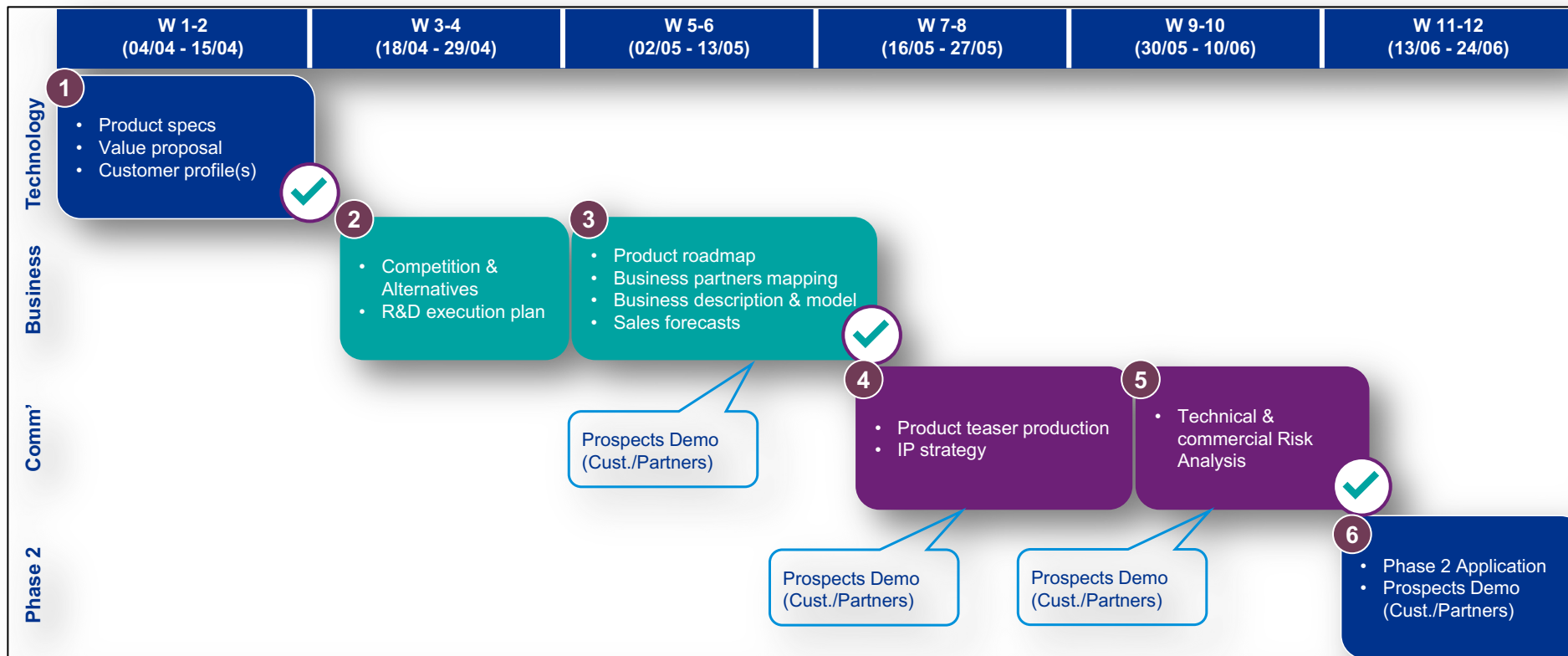
- vi. Product & company fact sheets
- vii. Concept teaser video
- viii. Investors/Partners deck





# III. Expectations and Deliverables

## Phase 1 - Deployment



Technical

Business

Communication

Cross domain



# III. Expectations and Deliverables

## Phase 2 – Target - General Overview

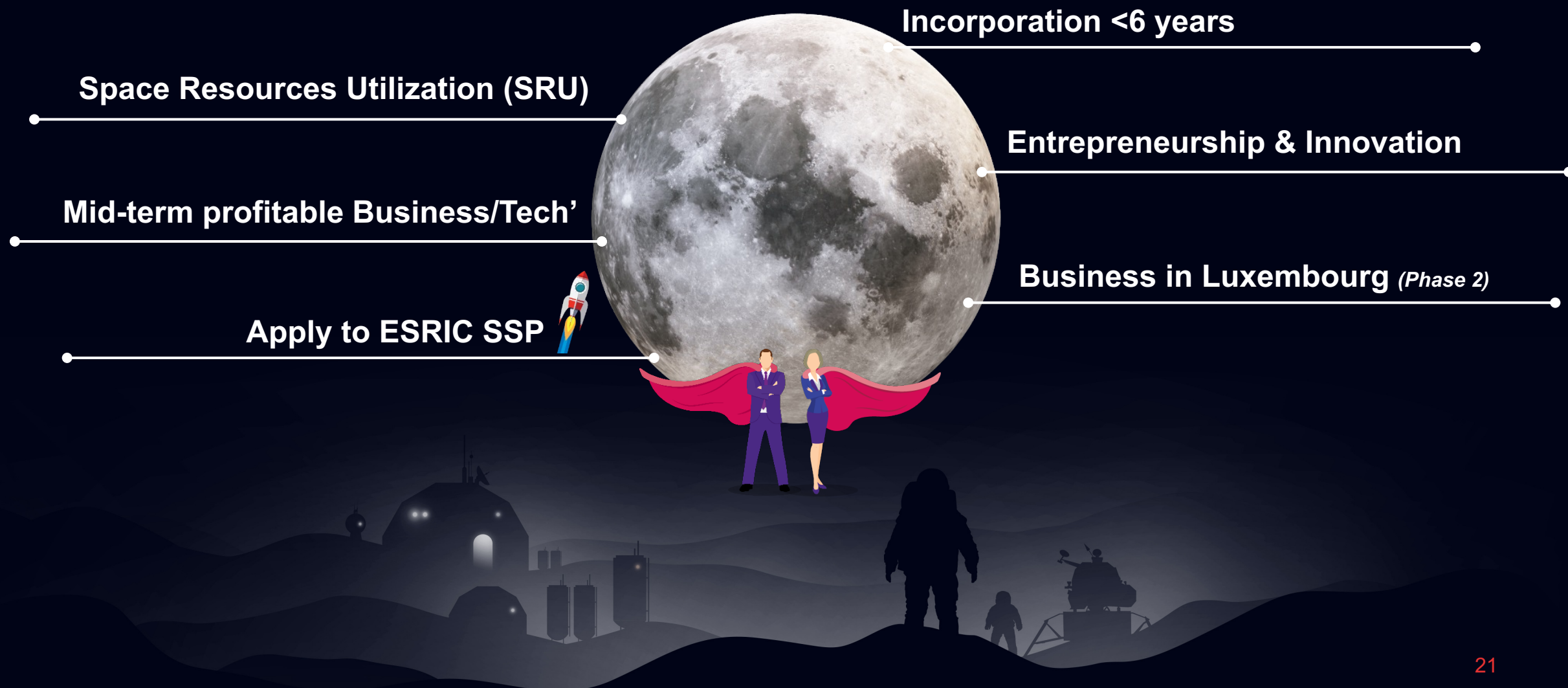
- Following phase 1 completion, a ESA selection process will be performed to get **1 startup out of the 5** to be incubated for a period of 24 months (physical presence + company registration in Luxembourg)
- Additional **Technical** and **Business Support** Provided
- **Financial support:**
  - **200k€** non-equity and non-refundable funding/startup
    - **Incentive Scheme** Milestones to unlock **50k EUR** within 2 years
    - **Boost Scheme** milestones to unlock **150k EUR** within 2 years → 3 Milestones (Go 2 Market strategy + Advanced pitch/fact sheet/contracts + detailed and advanced business plan)





## IV. Next steps

*Eligibility requirements*





# IV. Next steps

Stay tuned ...

## Background



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ESRIC is a unique place where technologies, businesses and people meet to drive the future of space resources utilisation in support of space exploration and the creation of an in-space economy.

Based in Luxembourg, ESRIC fosters innovation and growth in the space resources industry by providing access to top class research facilities and business expertise.

ESRIC connects leading academic, industrial and entrepreneurial talents in the field of space resource utilisation. The technologies and business ideas that this inspiring and creative environment generates will help to build a strong, self-sustaining in-space economy with a truly global reach.

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**Next Call for Application (SSP2) Opening in July 2022**

[www.esric.lu](http://www.esric.lu)



# Thank you

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