Overview on ESRIC and the Space Resources Week

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Dr. Mathias Link
Director ad int., ESRIC
Director SpaceResources.lu, LSA
Welcome to the 2021 Space Resources Week!

• More than 1300 registrations with 115 speakers from all over the world
• **Largest event worldwide fully dedicated to space resources**
• Organized by the newly created ESRIC, a cooperation between LSA, ESA and LIST
• 13 sessions, covering general, scientific, technical, business, legal and economic topics.
Luxembourg aims to contribute to the peaceful exploration and sustainable utilization of space resources for the benefit of humankind.
SpaceResources.lu
FIVE STRATEGIC PILLARS

POLITICAL SUPPORT
Ensure national political support and promote international cooperation

LEGAL FRAMEWORK
Build clear legal framework and engage internationally

RESEARCH & EDUCATION
Promote long-term public support and workforce engagement by education and R&D

INNOVATION, R&D
Provide dedicated support for industrial R&D activities

FUNDING INSTRUMENTS
Develop long-term funding instruments
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.

Established by LSA and LIST as a national innovation centre in the field of space resources.

ESA joined as a strategic partner.

Implemented as a department at LIST, with a dedicated governance and branding.

Other partners may join ESRIC to develop new ideas and projects.
ESRIC allows to address objectives of both SpaceResources.lu & ESA’s space resources strategy

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.

**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.

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

**Community**
ESRIC will help to connect the space resources community by creating an open and collaborative environment to encourage dialogue and exchange of ideas.
ESRIC will host key research infrastructure required to develop new space resources technologies.

This infrastructure will be accessible to European industry and academia.

During the first phase, key infrastructure will comprise various end to end oxygen demonstrators procured by ESA (hydrogen reduction, carbothermal reduction, molten salt) and an optimised Dirty Thermal Vacuum Chamber to run space resources experiments.
Four thematic research areas are implemented in close partnerships with public and private entities.

**ISRU Value Chain**

Analyze the ISRU value chain; define and lead collaborative end-to-end ISRU projects.

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<thead>
<tr>
<th>Prospecting and Mining</th>
<th>Processing and Supplying</th>
<th>Manufacturing and Construction</th>
</tr>
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<tbody>
<tr>
<td>Identify, excavate, transport and handle space resources</td>
<td>Process / transform space resources and produce, store and deliver feedstock and consumables</td>
<td>Manufacture components, repair parts, and build infrastructure using space resources</td>
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*Initial focus on enabling sustainable space activities using H2, O2 and Metals on the Moon, in line with ESA’s space resources strategy.*
ESRIC is hiring its first permanent Director, Innovation Lead & FNR PEARL Fellow

Lead the development of ESRIC to become an internationally recognized innovation centre with more than 100 researchers, innovators and entrepreneurs within this decade.

Develop a new research team in the area of prospecting and mining with the goal to identify, excavate, transport and handle space resources on the lunar surface with a guaranteed funding of 8M€ for the first 5 years through the FNR PEARL programme.

For more information:

www.esric.lu/career
Knowledge management and sharing is key for the long-term development of space resources activities.

We strive to federate a space resources community around a common platform, generating new business applications, mission-driven research, and private-public partnerships.

Help us design and develop this future knowledge management platform by participating in our survey!

www.esric.lu/survey
ESRIC will develop a Startup Support Programme that will support early-stage startups in the space resources sector to refine their business plan, attract their first customers and secure their first investments.

The programme will be run together with ESA, LSA and Technoport, the leading technology incubator in Luxembourg.

→ Learn more in the “Financing & Business” Session on Wednesday 21st April!
ESA and ESRIC are launching the first robotic Space Resources Challenge, conditional to internal final approval.

Robots of all sorts shall be invited to compete in an attempt to map and characterise resources (minerals/rocks) in an analogue terrain near ESTEC in 2021, then in Luxembourg in 2022.

The final announcement shall be given on ESA’s platform OSIP on the 3rd of May.

→ Learn more in the “Terrestrial & Space” Session on Wednesday 21st April!
ESA Space Solutions has launched an Invitation to Tender on the topic of Space Resources.

It opened today and closes on 30 June 2021.

The aim of this invitation to tender is to support successful teams in developing **products and services** that are **relevant to industries on Earth today** but have potential for **future application in Space**.

Successful teams will receive **100%** funding of up to **€200K** to run a **12 months** study

For more information visit: [business.esa.int/funding/invitation-to-tender/space-resources](http://business.esa.int/funding/invitation-to-tender/space-resources)

→ Learn more in the “Terrestrial & Space” Session on Wednesday 21st April!
Conclusion

- Space resources exploration and utilization continues to grow!
- ESRIC is supporting this growth with activities in research, business, community and knowledge
- Opportunities exist for scientists, researchers, entrepreneurs, lawyers and investors
- In Europe, in Luxembourg and in ESRIC

Please make sure to:

- Answer the ESRIC survey: www.esric.lu/survey
- Check out open positions: www.esric.lu/career

Stay tuned for more information on:

- The ESRIC-ESA prospecting challenge
- The ESRIC start-up support program
- ESA Space Resources Invitation to Tender
Thanks for your attention!

Dr. Mathias Link
Director ad int., ESRIC
Director SpaceResources.lu, LSA
mathias.link@esric.lu