The European Space Resources Innovation Centre – ESRIC

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ABSTRACT

In 2016, Luxembourg launched the SpaceResources.lu initiative with the aim to promote the peaceful exploration and sustainable utilisation of space resources for the benefit of humankind. The initiative puts a particular emphasis on economics, research, education as well as legal aspects related to space resources.

With the support of the Luxembourg Government, the Luxembourg Space Agency ("LSA") is committed to support research activities connected to the utilisation of space re-sources and develop new capabilities as well as critical technologies in close collaboration with industry and public re-search.

The European Space Agency ("ESA") developed in 2019 an innovation-driven Space Resources Strategy. It is following a mission-orientated innovation approach applied to the challenge of sustained and sustainable human presence in space.

In line with the objectives of the SpaceResources.lu initiative, ESA's Space Resources Strategy and considering the growing international interest in space resources, LSA established in 2020 the European Space Resources Innovation Centre ("ESRIC") in cooperation with the Luxembourg Institute of Science and Technology (LIST), and in a strategic partnership with ESA.

LSA and ESA include R&D and technology maturation, as well as partnership and business creation as part of their core strategic activities. ESRIC is thus conducting activities in the following four areas, Research, Business Support, Knowledge Management, and Community Management.

ESRIC will conduct ground-based research and support the advancement of technologies used across the whole value chain of space resources utilisation. The centre is hosting a Space Resources laboratory that is open to academia and industry from Europe and beyond.

As the Moon is of global strategic interest, ESRIC's activities will initially be centred around the use of lunar resources for the production of hydrogen, oxygen and metals as well as products and services relevant for sustainable lunar surface activities.