Paper ID: 49095
oral

30th IAA SYMPOSIUM ON SPACE AND SOCIETY (E5)
Is Space R&D Truly Fostering A Better World For Our Future? (2)

Author: Dr. Mathias Link
Luxembourg Space Agency, Luxembourg

Mr. Bob Lamboray
Luxembourg Ministry of the Economy, Luxembourg
Mr. Gary Martin
Luxembourg Space Agency, United States

THE BUSINESS-ORIENTED ADVANCED TECHNOLOGY LUXEMBOURG SPACE RESOURCES RESEARCH CENTER (LS2RC)

Abstract

In 2016, Luxembourg launched the SpaceResources.lu initiative with the long-term vision to enable the exploration and utilization of space resources. The objective was also to create a framework supporting the broader commercialization of space activities by carving out an envelope of 200 M Euros for various measures. In 2017, Luxembourg passed legislation that enabled the creation of a regulatory framework needed to decrease risk and enable businesses to harvest and use space resources. In September of 2018, Luxembourg announced the creation of the Luxembourg Space Agency (LSA). These actions illustrate the strong determination of the country to reach their long-term vision of developing a thriving commercial space sector.

To create a sustainable ecosystem supporting the growing space industry in Luxembourg requires developing new talent and conducting innovative research. To meet these demands the LSA is developing the concept of a Luxembourg Space Resources Research Center (LS2RC). This structure will allow the LSA to further strengthen its leadership in space resources utilization and guide future research priorities. In addition, it will enable the LSA to build important collaborations with other space agencies as peer-to-peer organizations with similar research centers.

The LS2RC focusses on the spaceresources.lu vision of the Luxembourg government along with current space industry needs not covered by other public research centers already existing in Luxembourg. Its goals are to: • Conduct enabling research in support of Luxembourg's space vision and in close collaboration with local space industry • Transfer new technologies and expertise to local space and non-space industries through patents, licensing, and through conducting joint research • Create a major centre for space education to develop top-tier talent by providing students and graduates with hands-on research experience • Support the creation of spinoff companies • Engage in international cooperation

The high-level content of the research center will include research in these areas: • Prospecting (how to find the resource and determine its worth) • Mining and Refining (collecting the resource and putting it into a usable form) • In-space servicing and Manufacturing (using the resources and making useful products) • Laboratories and Testing Facilities; which will also supporting local space industry

This paper describes the creation and the initial areas of research for the LS2RC. The LS2RC is actively looking for partners for collaboration as the new facilities are established.