

THE MONTHLY LIST

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LIST COLLABORATES WITH KLEOS TO BUILD ROBOTIC ANTENNAS IN SPACE

Within the Spaceresources.lu initiative, Kleos Space Sàrl will collaborate with EmTroniX, a Luxembourg-based company specialized in electronics development, as well as with LIST, on the development of in-space manufacturing technology. The project capitalizes on LIST's expertise in new materials that will be used to construct and assemble robotic antennas in space. The Government will support the development by providing funding through the Luxembourg space program (LuxIMPULSE).

On 24 July 2017, the Luxembourg Institute of Science and Technology (LIST) participated in the press conference organized by the Luxembourg Government and announcing a new cooperation - within the SpaceResources.lu initiative - with Luxembourg-based Kleos Space Sàrl.

A Memorandum of Understanding (MoU) was signed in order to provide the framework for this collaboration with focus on space technology development. The newly created Kleos Space company is 100% owned by UK-based Magna Parva Limited. Kleos Space is active in geolocation services and develops a space infrastructure for geo-intelligence and signal intelligence applications with in-space manufacturing.

Within the framework of this MoU, the developments and research to take place in Luxembourg are related to the project for in-space manufacturing of composite beams equipped with antennas. Kleos Space will collaborate with EmTroniX, a Luxembourg-based company specialized in electronics development, as well as with LIST on this subject. The Government will support the development of the in-space manufacturing technology by providing funding through the Luxembourg space program (LuxIMPULSE).

LIST will bring its expertise in the field of materials in order to provide innovative resources to this cooperation. As Prof. Jens Kreisel, Director of LIST's Materials Research and Technology Department (MRT), has stated: "Uniting space technology and composite materials, two key focus areas of LIST-MRT, the collaboration with Kleos is of great strategic interest for our Institute. We are working with the Ministry of the Economy on a growing number of space-related industrial partnerships and we are aiming to sustain this trend".

Dr. Damien Lenoble, MRT deputy director added that "The current partnership with Kleos will allow us to further enhance and test Kleos' composite materials, relying strongly on the new National Composite Center facilities at LIST. It is an honor for us to support Kleos in developing the ideal material solutions for the pultrusion, assembly and deployment of their antennas in orbit".

Picture from left to right: Dr Damien Lenoble (Head of Nanomaterials and Nanotechnologies Unit, LIST), Cédric Lorant (CEO of EmTroniX), Andy Bowyer (Director of Kleos Space) and Etienne Schneider (Luxembourg Deputy Prime Minister and Minister of the Economy).

Photo credits ©The Ministry of the Economy

OTHER HIGHLIGHTS



— Scientific excellence —

SCIENTIST MEDAL 2017 FOR LIST RESEARCHER

On 23 August 2017, LIST researcher Bianca Rita Pistillo received the renowned Scientist Medal 2017 by the International Association of Advanced Materials (IAAM) in Stockholm, one of the most prestigious awards in the worldwide advanced materials community.

Miss Pistillo's outstanding research focusses on a deposition technique of conducting polymer called PEDOT, an almost transparent polymer that possesses several inherently advantageous properties, such as low oxidation potential and moderate bandgap combined with good stability in the oxidized state. Thanks to its unique properties, PEDOT could be easily applied to products in several markets including medical, sports, military and energy. This award further demonstrates LIST's ever-growing impact in the international RDI community towards a better future for society.

[Learn more on www.list.lu](http://www.list.lu)

— Environment —

BLUE ALGAE FOUND AT THE LAKE HAUTE-SÛRE

Over the summer, LIST researchers, as part of the regular monitoring of the quality of bathing waters, have found a proliferation of cyanobacteria, known as "blue algae", in the Haute-Sûre lake at the "Rommwiss" beach.

The first analyses revealed the presence of three species of cyanobacteria potentially producing toxins, thus potentially harmful to health. The toxins produced by cyanobacteria can be dangerous to humans, aquatic fauna, domestic animals and livestock. Therefore, the Water Management Administration, in consultation with the Health Directorate, recommends to the public not to swim or have direct contact with the water at the Rommwiss beach. [Learn more on www.list.lu](http://www.list.lu)



— Industry —

LIST WELCOMES FNR ATTRACT FELLOW DR. STAN SCHYMANSKI

Dr. Stan Schymanski was selected to join LIST as part of the FNR's ATTRACT programme, destined for promising researchers who are not yet established in Luxembourg and who have the potential to become leaders in their field of research.

On 1 August, Dr. Schymanski joined the Water Security and Safety unit of the ERIN department where he is working on the "Water and Vegetation in a Changing Environment" (WAVE) project. The project aims to improve our understanding of the interactions between vegetation and the water balance in ecosystems, in order to enable better predictions of some of the consequences of land use and environmental change for both ecosystem services and water resources.

[Learn more on www.list.lu](http://www.list.lu)

— Event —

LIST PRESENTS ITS BIOPROCESS ENGINEERING ACTIVITIES AT LIBRAMONT FAIR

From 28 to 31 July, LIST was present at the Libramont Fair 2017 highlighting its activities in the field of bioprocess engineering, with a special emphasis on biomethanisation coupled with innovative recycling of fertilizing resources in agriculture.

LIST activities in this area are aimed at reducing greenhouse gas emissions in agriculture and are therefore relevant to the main theme of the 2017 Fair: "Growing Climate". These activities strengthen LIST's ambition contributing to a better quality of life while protecting the environment. Visitors to the stand were numerous, a success that is confirmed year after year.

[Learn more on www.list.lu](http://www.list.lu)



WHERE TOMORROW BEGINS

Located in the heart of Belval's Research & Innovation Campus, LIST can ideally connect its over 500 specialists in materials, environment and IT, including its more than 70 PhD students, through a broad range of joint projects, programmes and partnerships with virtually all of Luxembourg's other major research players. At Belval, the University of Luxembourg, LIH, LISER, Technoport, Luxinnovation and the Luxembourg National Research Fund are all literally within arm's reach.

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