

PRESS RELEASE

ENGLISH

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LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY (LIST)

The Luxembourg Institute of Science and Technology (LIST) is a mission-driven Research and Technology Organization (RTO) that develops advanced technologies and delivers innovative products and services to industry and society. As a major engine of the diversification and growth of Luxembourg's economy through innovation, LIST supports the deployment of a number of solutions to a wide range of sectors, including energy, IT, telecommunications, environment, agriculture, and advanced manufacturing at national and European level. Thanks to its location in an exceptional collaborative environment, namely the Belval Innovation Campus, LIST accelerates time to market by maximizing synergies with different actors, including the university, the national funding agency and industrial clusters.



LIST AND MET-LUX INTEND TO DEVELOP NEW TRANSPARENT AND FLEXIBLE PACKAGING

LIST and MET-LUX have agreed to develop, until 2021, a new thin, flexible and transparent gas permeation barrier coated on a polymer foil for future manufactured products providing transparent and flexible food packaging.

On 21 September 2018, the Luxembourg Institute of Science and Technology (LIST) and MET-LUX, a Luxembourg company specialising in the vacuum metallisation of various flexible materials, signed a three-year collaboration agreement. As part of the "Transparent gas permeation barrier on polymer foils for packaging and flexible electronics" (TRANSPERBAR) research project funded by the Luxembourg National Research Fund (*Fonds National de la Recherche - FNR*), the two partners undertake to develop, by May 2021, new packaging solutions combining optical transparency and a controlled permeation rate. They will also focus on improving the preservation properties of transparent food packaging using a new technique of light-transparent and gas-impermeable coating.

Meeting market trends

The food and drinks packaging markets are increasingly looking for flexible and transparent packaging that maintains in particular the preservation properties, hygienic conditions, and flavours of its contents. Consumers have a preference for this type of packaging that allows them to see what they are buying and manufacturers tend to adapt to this trend. The transparent and flexible packaging has many limitations. Humidity and oxygen penetrating the interior of this packaging affect the shelf life of food, even, in some cases, have a negative impact on food.

Developing new solutions for transparent and flexible packaging while limiting the penetration of these two species underpins the research being carried out concurrently by the LIST and MET-LUX teams. Both have solid experience in the field of polymer foil metallisation for packaging. They are thus joining forces to develop a coating technique enabling transparent flexible polymer films with the same preservation features as aluminium opaque packaging.

Pooling of skills

While MET-LUX provides metal coatings on polymer foil for applications in packaging, LIST researchers from LIST specialising in transparent and optically-tunable electronics have, in other research, been able to identify solutions and develop low-temperature coating techniques that are compatible with polymer films. LIST researchers are able to bring this experience and knowledge in the design and deposition of low-temperature thin film to MET-LUX.

Collaboration with LIST could therefore allow the sector to expand its product range and be at the forefront of market needs. The innovative coating technique that the partners hope to develop could thus be applied by MET-LUX, at the end of the project, to its production lines, bringing added value to its existing products and offering competitive benefits to some of its future

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products. Better yet, by paving the way for new applications such as flexible electronics, some of the explored approaches could help MET-LUX to rank among the major players in this sector over the next decade.

>> To find out more about the TRANSPERBAR project, please visit: www.list.lu/en/project/transperbar

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