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

The Luxembourg Institute of Science and Technology (LIST) and MET-LUX have agreed to develop, by 2021, a new thin, flexible and transparent gas permeation barrier coated on a polymer foil to provide transparent and flexible food packaging for products that will be manufactured in the future.

On 21 September 2018, LIST and MET-LUX 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, the two partners agree 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 light-transparent and gas-impermeable coating technique.

Indeed, the food and drink packaging markets are increasingly looking for flexible and transparent packaging solutions that maintain, in particular, the preservation properties, hygienic conditions, and flavours of their contents. Although consumers prefer transparent packaging in order to see what they are buying, transparent and flexible packaging currently has many limitations. These include humidity and oxygen penetrating its interior and affecting the shelf life of food, and even, in some cases, having a negative impact on food.

LIST and MET-LUX, both with solid experience in the field of polymer foil metallization for packaging, are thus joining forces to develop a coating technique to provide transparent flexible polymer films with the same preservation features as aluminium opaque packaging. While MET-LUX provides metal coatings on polymer foil for applications in packaging, LIST researchers, specializing 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.

The innovative coating technique that the partners hope to develop could thus be applied by MET-LUX to its production lines, at the end of the project, bringing added value to its existing products and offering competitive benefits to some of its future products. Collaboration with LIST could therefore allow MET-LUX to expand its product range and be at the forefront of market needs. 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. Learn more at www.list.lu/project/transperbar
LIST AND IVV CONDUCT RESEARCH IN LUXEMBOURG VINEYARDS

At the “Weinbergsbegehung”, the annual visit of the test vineyard organized by the Wine Institute (IVV) for winegrowers in Luxembourg, LIST presented its research work with the IVV. Together, they are conducting a series of research projects focusing on vines: pests and diseases affecting vineyards in Luxembourg and the reduction of pesticide use. In the test vineyard, LIST has identified a natural compound capable of combatting the spotted wing drosophila (Drosophila suzukii), the effectiveness of which will be tested in real conditions from 2019. LIST already uses various remote-sensing technologies to identify signs of mildew. The benefits of the technology for detecting and monitoring the symptoms of esca will be evaluated in 2019. Learn more at www.list.lu