

Innovative Mono-Material, fully recyclable structure for Flexible Packaging applications



Nordmeccanica in cooperation with "University of Parma" and a selected group of qualified technical partners launched an R&D project named Remopack (*Recyclable mono-material for packaging*).

The project will require a significant investment over the 3 years planned duration. To confirm the importance of the topic and the attention of the political authorities to the matter the project has been awarded a non-repayable financing from the Italian Ministry of Economical Development..

Target of the project will be the development of a mono-material high barrier fully recyclable flexible packaging structure.

With the term mono-material is indicated a laminated compound made out of layers of films manufactured out of the same base polymer. Current guidelines indicate the minimum percentage to qualify for "mono-material" in a range from 80 to 90%, variable country by country. Being the remaining percentage a tolerated amount of non-recyclable components.

The final target of the project is a laminated structure made of multiple film layers, all layers made of the same fully recyclable polymer. The structure through the combined contribution of lamination completed with the use of fully recyclable adhesives, barrier coatings, AlOx deposition in a vacuum metallizer, and technologies developed to emend the typical AlOx layer fragility will have to achieve very high mechanical and barrier properties to comply with the increased demand of performances recorded for flexible packaging. The target mono-material percentage for the project is to be as close as possible for the entire laminated compound to "fully recyclable".



The innovation consists in pushing recyclability to the extreme while providing a process cost competitive with traditional technologies.

The development of the project will require the contribution of a number of high-level partners. All of them leading their specific market segment. Managing an R&D group of this complexity targeting highly innovative results requires extended expertise and significant technical knowledge. Nordmeccanica has been approved by public authorities in the leading role in recognition of the achievements reached in previous R&D projects and in acknowledgement of its historical role as innovator in our industry.

Partner in the leadership role will be the University of Parma. With its Interdepartmental Research Center for Packaging, University of Parma is leading the research at academic level in this segment in Europe. Parma is in fact the home base of EFSA, the European Food Safety Authority, the authority responsible to screen and rate new technologies and innovations in the food supply chain.