

## **Designing new flexible packaging**

*Nowadays flexible packaging is not being effectively recycled. The path towards a better recyclability can be found on its design due to different issues identified. Simplifying material structures could ease the sorting between different polymers as well as increase its value in market.*

Flexible packaging has been increasingly growing in the market and besides its benefits, its recyclability needs to be addressed. Understanding the key issues of sorting and recycling this packaging category is crucial and its design could lead to a better effective recyclability. The Early Life Nutrition portfolio is presence worldwide and different flexible packaging should be re-design to achieve its 100% recyclability.

The portfolio of ELN (Early Life Nutrition) flexible packaging was analysed to have a worldwide overview of the different film strategies by region. These structures were analysed with the information gathered from the different interviews with specialists and the bibliographic research. The scope of the projects was narrowed using a forecast sale, giving this study a business approach and being able to prioritize between the multiple categories.

The different issues identified along the recycling stream were used to provide new materials for the flexible packaging. This new material will ease the recyclability due to their structures and the ways the current technologies and recycling facilities sort and recycle the packaging. The first proposal is to develop together with a supplier a film based on PE layers and EVOH as a high barrier if necessary. Having this kind of flexible films implemented, it is possible to assure that they will be recycle ready since there are already recycling streams for PO (polyolefins) and if the barrier is not enough to protect the product, the development could include a layer of EVOH which will be accepted as well within a certain range

Thanks to the analysis and overview of the different flexible films specifications currently in used by Early Life Nutrition Division, it was noticeable that due to the complexity of the portfolio and the different matrix that those flexible films are being used for (i.e. fruit puree, milk cereals, milk powders), and specific research on each category should be implemented

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