**SOLARIS - Sustainable Options for Leather Advances and Recycling Innovative Solutions**

Claudia FLORIO - Stazione Sperimentale dell'Industria delle Pelli e delle materie concianti

Leather is one of the leading materials in the fashion and luxury production chain, deriving from the transformation of a food industry by-product, where Italian tanning production holds a significant primacy at European and international level.

From this scenario arises the need for the leather supply chain to multiply its efforts aimed at preserving a strategic role in the field of bioeconomy and circular economy, while matching the sector's innovation needs: growing demand for functionalized, customized and high-performance leather items, with the consequent need to identify more challenging approaches to ensure the capability of the material to satisfy, simultaneously, all the features of sustainability, circularity and high added value.

SOLARIS Project aims to be a tool to face these new challenges.

More in detail, the Project is aimed to reach solutions for the design and development of molecules and materials to be used in the production of novel generations of sustainable leathers with high added value (smart and sustainable leathers); it is also aimed at promoting sustainable approaches for design of novel circular materials deriving from waste from the tanning industry and other supply chains that use biomass, according to the principles of Industrial Symbiosis.

The project involves the use of enabling technologies, such as: nanotechnologies, biotechnologies, additive manufacturing, for the development of molecules and materials to be used in the tanning sector, also deriving from waste from other renewable sources (textile and agri-food industries), as well as for the development of molecules and materials able to provide added properties to leathers and to novel circular materials, such as: self-cleaning, antimicrobial, waterproofing, antioxidant, flame-resistant, stain-resistant increased light resistance, increased surface electrical conductivity properties.