

## **Innovative materials and disruptive technologies for the future challenges of the Made in Italy**

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Made in Italy products are internationally acknowledged for the quality of their design and technical characteristics. However, society and business are evolving nationally and worldwide. To maintain competitiveness, Italy is now called to undergo a transformation that is aligned with the global active call for action to respond to crucial issues, such as climate and social changes. An important contribution to support this transformation is provided by the research on smart and sustainable materials, whose ambition, today, is to develop climate-friendly products and processes in fostering a nature-oriented disruptive technology for a "green" approach of the industrial production. Research activities planned in the frame of the Spoke 4 of the PNRR Extended Partnership project "Made in Italy Circolare e Sostenibile" (MICS), will be carried-out through 10 thematic projects, already started this year, having as general objectives the validation in laboratory of smart and sustainable materials as well as the recycled materials assessment by using End of Waste (EoW) criteria both finalized to create proof of concepts of circular technologies for a sustainable Made in Italy. The main topics of such projects include: smart materials; nanostructured materials; sustainable polymers and composites; leathers and bio-based materials; scraps, wastes and bio-wastes from furniture and textiles for circular additive manufacturing; end-of-waste for new circular materials; metrics and circular industrial index; sustainable packaging; soft robotics; augmented safety and sport equipment.