

Are tematiche

Thematic area 1 aims to support innovators, inventors, SMEs, and companies to flood the market with new machines. That will be safer, faster, more precise, and built up with innovative materials, sensors, actuators, and controllers. Furthermore, Thematic area 1 aims to support Mini, Small and Medium Enterprises in easing the adoption of such innovative technologies.

AI-Powered Robotics and Intelligent Machines	Advanced digital technologies and sensors for manufacturing (AR/VR, Vision Systems, Sensing technologies, wearable devices...)
	Advanced automation technologies for machine control
	Environmental Awareness and Cognitive Planning
	Smart safety (safety sensors, protocols, and methods)
	Design and Simulation (behavior simulation, mechanical simulation,...)
	Technologies for human-centered machine design and control (HMI, ergonomics, wearable technologies...)
	Mechatronics for new machines and devices with advanced physical functionalities, capabilities and efficiency (faster, safer, more agile and precise, new grippers, tools, robots, machines, human empowering systems...)

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Thematic area 2 will focus on the development and transfer to the industrial firms of innovative and practically applicable methods, technologies and systems to develop greener and smarter products and to manufacture them by means of more environmentally and socially friendly processes that are both more agile, sustainable and resilient to perturbations and safer for workers

Sustainable & digital product and production system	Advanced digital technologies and processes for manufacturing (additive, smart materials,...)
	Advanced digital communication technologies for manufacturing (IIoT, Wireless,...)
	AI & Automated Production Systems
	Smart safety
	Digital Twin (AR/VR, knowledge modelling, product and systems simulation,...)
	Technologies and systems for human-centered manufacturing (HMI, ...)
	Advanced method and tools for dynamic life-cycle assessment (product and processes LCSA)
	Flexible manufacturing

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Thematic area “Sustainable & Digital extended factories” will therefore focus on the development and transfer to the industrial firms of innovative and practically applicable methods, technologies, and approaches to make operations and supply chain processes more efficient, resilient and sustainable, from economic, environmental and social points of view.

Sustainable & digital extended factories	Life-cycle management methods and approaches (circular economy, services)
	Technologies and methods for a flexible, proactive, resilient and inclusive production systems and supply chain
	Optimizing the use of energy and natural resources (including territory)
	Supply Chain Management and Innovation
	Network Logistics System and urban logistics (last mile) and optimization of supply-chain, warehouse logistics, distribution, handling and transport processes
	Intermodal and combined logistic transport innovative solutions
	Mobility in the territory
	Requalification of old/unused industrial areas and internal area
	Urban manufacturing and Sustainable manufacturing impact in urban areas
	Evaluate and reduce pression of manufacturing organisation and production systems in urban areas

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Thematic area 4 “Sustainable & digital organizational, business management for well-being” will therefore focus on the development and transfer to the industrial company and the territory innovative and practically applicable methods, technologies, and approaches to move towards more sustainable business model and towards innovative work environment that promotes quality of life in the workplace and outside.

Sustainable & digital organizational, business management for well-being	Digital and sustainable strategy & open innovation & marketing
	Sustainable organizational and ecosystem governance
	Sustainable management control & accounting and finance
	New forms of work organization (HR, competences, smart working, company, welfare, generational transition in family business, ..)
	Community welfare
	Macro/meso economics analysis (local industrial policies)
	Work-family balance and gender inequality (impatto sociale sulla disuguaglianza di genere)
	Social impact assessment and measurement

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Thematic area 5 “Innovative sustainable and recyclable materials in intelligent manufacturing” will on the development of new sustainable materials (metallic, ceramics, polymeric, hybrids), recovery technologies, and manufacturing techniques and to make them accessible to companies. For this aim a special attention will be focused on smart materials (shape memory alloy, functionally graded materials,...), zero-waste production methods (such as additive manufacturing), and waste and by-products recovery. Great attention will be devoted to support eco-design strategies, mainly in collaboration with thematic area 2.

Innovative, sustainable and recyclable material	Digital & Innovative methods for material production
	Innovative and sustainable metallic, polymer and powder materials
	Smart material (shape memory alloy, functionally graded materials,...)
	Sustainable materials and production processes with zero waste
	Material life cycle assesment and recycle

IL PRESIDENTE
(ing. Roberto Saccone)