

Sector: Digital Technologies

Areas of Intervention & Priorities 2021-2027

Area of Intervention	Final Priorities
1. Data and information management technologies	1.1 Open and/or big data, high-performance data analytics (HPDA), GraphData management
	1.2 Advanced 3D modelling, conservation and restoration technologies for special-interest tangible and intangible assets
	1.3 Advanced entertainment software and innovative gaming technologies and gamification techniques
	1.4 Augmented, virtual and mixed-reality technologies
	1.5 Surveillance technologies (heterogeneous multi-media data analysis and fusion technologies)
	1.6 Common data spaces and online cooperation platforms
2. Smart Networks and Services	2.1 Smart networks and novel internet architectures
	2.2 Smart technologies for optical & wireless networks
	2.3 Advanced cloud infrastructures & services and edge computing
	2.4 Tools, methods and integrated environments for software development
	2.5 Collective awareness platforms for sustainability and social innovation
	2.6 Tactile Internet
	2.7 Advanced 5G and beyond 5G (6G) network infrastructures and services
	2.8 Development of more efficient computational models, as well as data and operations management models
3. Artificial Intelligence (AI)	3.1 Knowledge representation and automated reasoning technologies and systems using machine learning and artificial intelligence, adaptable and applicable to various sectors and activities (public and private sector) or aimed at addressing major social challenges
	3.2 AI infrastructures focusing on the generation and analysis of high-quality and large-scale data, including thematic databases
	3.3 Building AI platforms for application testing and experimentation
	3.4 AI systems by enterprises for innovative product & services development
	3.5 AI systems conducive to responsible, inclusive, ethical and democratic innovation for the benefit of society
	3.6 Systems for analyzing, detecting and addressing bias/fairness/discrimination in AI systems and services
	3.7 Technologies and novel architectures for an explainable and verifiable AI
	3.8 Advanced AI-based robotic conversational agents (chatbots) for automated citizen and customer service support

4. Human-Machine Interaction	4.1 Internet of Things (IoT, including satellite IoT) and flexible platforms – “intelligent” object interconnection applications
	4.2 Multimodal and physical human-computer interaction, voice or non-voice, including automated translation
5. Smart, Digitized Industry and Manufacturing	5.1 Optimization of production processes
	5.2 ICT-supported modelling, simulation, analysis, optimization and prediction technologies
	5.3 3D/4D printing, scanning
	5.4 Smart technologies and strategies to extend operating lifetime of production systems
	5.5 Zero defect manufacturing technologies and strategies in smart factories
	5.6 Rapid infrastructure reconfiguration integrated technologies to support Reconfigurable Manufacturing Systems (RMS) / Industry 4.0
	5.7 Using artificial intelligence and other state-of-the-art technologies (e.g. digital twins, robots, collaborative industrial robots (cobots), industrial IoT, AR/VR) for the benefit of the agri-food, industry/manufacturing and construction sectors
6. Robotics	6.1 New-generation robots and supporting technologies (artificial intelligence, 4G/5G, augmented reality, etc.) applied in all sectors of the economy except industry & manufacturing
	6.2 Operation in dynamic real-world environments with increased autonomy, adaptability and secure human interaction capabilities
7. Components and Systems	7.1 Nano- and microelectronics and incorporated low-energy consumption systems
	7.2 Sensors (MEMS – Microelectromechanical systems)
	7.3 Electronic and incorporated sound, video and image management systems
	7.4 Electronic security systems and tools
	7.5 Systems and components for smart wearables in innovative applications
	7.6 Microwave devices
	7.7 Optical devices
	7.8 Microelectronic device design and simulation tools
	7.9 Microelectronic and electronic device production processes
	7.10 Low-consumption electronics
8. Digital Environment Security and Trusted Distributed Systems for Data, Documents and Transactions	8.1 Personal data privacy and security
	8.2 Online content reliability, authenticity and quality
	8.3 Online security and illegal content identification technologies
	8.4 Electronic identification (eID) of persons, objects and electronic information

	8.5 Cybersecurity system protection
	8.6 Novel architectures for heterogeneous and distributed critical infrastructure security (including IoT)
	8.7 Smart contracts (specifically for application to legal acts)
	8.8 Trusted cataloguing systems / smart registers (real estate, means of transportation, etc.)
	8.9 Systems for trusted transactions (tangible and intangible asset transfers) and secure data sharing
	8.10 Platforms for creative works digital distribution and direct grant of rights (software, music, other audiovisual material)
	8.11 Stand-alone digital IDs in compliance with GDPR privacy policies
	8.12 Stand-alone and verifiable data sharing with an emphasis on privacy protection using blockchain technologies
9. Quantum Computers and Quantum Technologies	9.1 Quantum computing and algorithms
	9.2 Quantum devices
	9.3 Quantum simulation and quantum simulators applied to various sectors
	9.4 Quantum communication
	9.5 Quantum metrology and quantum sensors