D3.1: Technology Mapping and Scouting

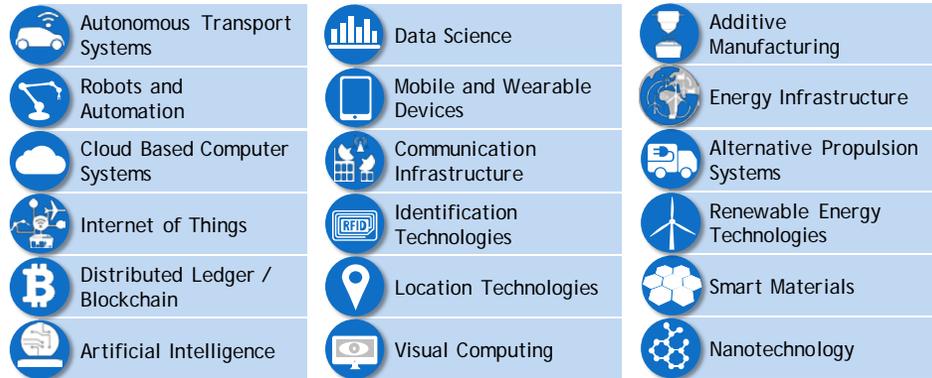|		
Autonomous Transport Systems	Data Science	Additive Manufacturing
Robots and Automation	Mobile and Wearable Devices	Energy Infrastructure
Cloud Based Computer Systems	Communication Infrastructure	Alternative Propulsion Systems
Internet of Things	Identification Technologies	Renewable Energy Technologies
Distributed Ledger / Blockchain	Location Technologies	Smart Materials
Artificial Intelligence	Visual Computing	Nanotechnology

Technology is not the only factor that determines a supply chain competitiveness, but it is a key factor, that can make the difference in the implementation of a specific strategy. Therefore, technology has an important implication on improving agility, transparency or reliability of a supply chain, but supply chain performance also depends on other framework conditions and decisions. This deliverable aims to illustrate how a wide range of technologies can contribute to improving supply chain performance. The Deliverable 3.1 identifies enabling technologies through the analysis of existing roadmaps and studies and selection of the most important technologies, and evaluates them regarding their implications on the supply chain.

Existing roadmaps and studies at different levels (regional, national, international; sector-specific) were analysed to identify enabling technologies. In order to select the most important enabling technologies, each partner held a project-internal workshop. To evaluate and validate these selected technologies, technology evaluation methodology (Technology Readiness Level TRL, applicability scoring and implications on supply chain performance), application examples and gap analyses (technology gaps and implementation challenges) were gathered for each technology through inputs by the project-internal experts and further complemented with specialised experts from different fields, as well as with literature research. Moreover, running projects of the project partners were taken into account considering the main programs (SPIRE, FOF, CIRC, Transportation).

As a result, 18 enabling technologies have been selected and evaluated. These technologies differ in their applicability and implications on the supply chain performance in the manufacturing, process and logistics industry. Based on their applicability and their implications on the supply chain nine technologies emerge to be a focus for future research.