

# Industry 4.0 on Supply Chain Functions and classification of technologies: An overview

Marios Vasileiou<sup>1,2</sup> and Vasileios Zeimpekis<sup>1</sup>

<sup>1</sup> Department of Financial & Management Engineering, University of the Aegean, Chios, Greece

<sup>2</sup> Department of Information and Communication Systems Engineering, University of the Aegean, Samos, Greece

mvasileiou@aegean.gr, vzeimp@fme.aegean.gr

## Abstract

Industry 4.0 stands for the contemporary trend of automation and digitalization technologies in industry and it is typified on services and manufacturing by highly sophisticated electronics and IT. Academic researchers focalize on the comprehension and definition of this idea and endeavor to develop contiguous systems, business models and respective methodologies, while industry diverts its attention on the development of the industrial hardware and intelligent systems along with future clients. The automation and digitalization of the operations must be implemented throughout the supply chain regarding optimization of its functions. The aim of this paper is to probe the impact of Industry 4.0 technologies on the Supply Chain Functions (SCF) classifying them depending on their utilization. To attain that, the Systematic Literature Review (SLR) approach was used which has a three-phase step review with multiple publications and manifold criteria to identify the related research. In this overview we have distinguished nine trending technologies that are transforming the SCF enabling the industry 4.0 to redefine businesses to the new era. These technologies are Additive Manufacturing, Artificial Intelligence, Augmented Reality, Big Data & Analytics, Blockchain, Cyber-Physical Systems, Internet of Things, Robotics and Automation, and Simulation. The reviewed publications were classified based on these technologies related to supply chains and Industry 4.0.

**Keywords:** Supply Chain Management (SCM), Supply Chain Functions (SCF), Industry 4.0, Logistics 4.0, Decision Support Systems (DSS), Systematic Literature Review (SLR), Classification

**Cite as:** Vasileiou M. and Zeimpekis V., 2022, July, "Industry 4.0 on Supply Chain Functions and classification of technologies: An overview", *32nd European Conference on Operational Research (EURO 2022)*, pp. 149, Espoo, Finland