



Scalable Socio-Technical System Simulation in Manufacturing

Issue 1

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What we aim to achieve

4SiM is a European collaborative initiative, co-funded by Erasmus+, to create an innovative simulation environment of socio-technical systems in the manufacturing sector. The simulation is based on Lean Production, safety, quality, human factors and integrated management systems. The project will be supported by the creation of a relevant learning platform and targeted training.

Its objective is to support educators of the European manufacturing workforce in preparing learners for Industry 4.0 and Industry 5.0 environments.

What has been achieved so far

From October to January, the consortium focused on:

➤ **Project Management & Partnership Agreement**

Project management procedures were organized and progress was made toward the finalization of the Partnership Agreement to ensure smooth cooperation among partners.

➤ **Establishment of the Team of Experts**

A multidisciplinary Team of Experts in production, safety and quality was formed to ensure alignment of the project with real industry needs.

➤ **Survey Design & Initial Interviews**

The survey was designed and initial interviews were prepared to gather input from professionals and educators in the manufacturing sector.

➤ **Systematic Literature Review**

A structured literature review was launched to ensure that the project builds on up-to-date scientific knowledge and established best practices.

➤ **Legal & Ethical Compliance Framework**

Work progressed on defining the legal and ethical framework of the project, including GDPR and AI ethics considerations.

➤ **Website & LinkedIn Presence**

The project website was launched and continuously improved, while the project's LinkedIn presence was developed to strengthen communication and visibility.

What comes next

Until April 2026, the project will focus on completing data collection through interviews and the survey, and on finalizing the socio-technical factors (STFs) that will structure the simulation model. Work will continue on the development of the 4SiM database within WP2. The database is being designed to be AI-compatible and will form the foundation for the next phase of the simulation development (WP3).

At the same time, dissemination and scientific outreach activities will continue to ensure visibility, stakeholder engagement and broader impact of the project results.

Meet our partners

➤ OULUN YLIOPISTO (Finland)

Website www oulu.fi

Founded in 1958, the University of Oulu is one of Finland's largest and most multidisciplinary universities, with 14,200 students and 3,800 staff from nearly 100 nationalities. It ranks among the top 3% of universities worldwide and is strongly engaged in international research networks. The university promotes interdisciplinary research and research-based education to support a sustainable and digital future.

➤ UNIVERSITY OF KRAGUJEVAC (Serbia)

Website www.kg.ac.rs

A public accredited university with 12 faculties and around 16,000 students, UNIKG is active in international research and mobility programmes. It holds the HR Excellence in Research award and adopted a Gender Equality Plan and Internationalization Strategy (2022–2027). Its research spans natural sciences, engineering, social sciences, medicine and arts.

➤ TECHNOLOGICAL UNIVERSITY DUBLIN (Ireland)

Website www.tudublin.ie

One of Ireland's largest higher education institutions, TU Dublin has over 29,000 students and

strong industry engagement. Through its Knowledge Transfer Office, it has supported more than 200 start-ups and significant investment. Its research activity is organized in specialized institutes and it is active in major European and international university networks.

➤ HELLENIC INSTITUTE FOR OCCUPATIONAL HEALTH AND SAFETY (Greece)

Website <http://www.elinyae.gr>

Established in 1992, ELINYAE is a non-profit institute with 31 years of experience in Occupational Safety and Health (OSH). It provides research, training, consulting and scientific support to employees, employers and public bodies in Greece. The institute also conducts workplace investigations and publishes educational and informational material on OSH issues.

➤ SPINDOX LABS srl (Italy)

Website <https://spindoxlabs.com>

Spindox Labs is the R&D centre of Spindox Spa, focusing on digital transformation technologies. Its expertise includes Artificial Intelligence, robotics, IoT, big data and green digital solutions. The company collaborates with universities and research centres on innovation projects in AI, connected devices and sustainable technologies.



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More information about the Erasmus+ programme:
www.oph.fi/en/erasmusplus