



Manufacturing As A Service to Increase resilience in ValuE networks

Welcome to MAASive!

We are excited to present the first release of our newsletter, dedicated to keeping you informed on the progress and developments of the MAASive project. In this issue, we'll update you on the project's goals, our vision, key insights from the recent Istanbul meeting, and emerging practices and cutting-edge technologies that have the potential to transform the future of Manufacture

| What is MAASive |

MAASive is a project funded by the European Union under the Horizon Europe program. Its focus is on the concept of Manufacturing as a Service (MaaS) to enhance the resilience of value networks. MAASive aims to support companies in adapting to external challenges by developing models that enable dynamic reconfiguration and connection to new services, utilizing both internal and external manufacturing resources. The project seeks to provide a comprehensive toolkit that combines existing methods with newly developed models and technologies to facilitate network building, impact assessment, re-orchestration, and efficient value network operation.

| Which is MAASive vision |

MAASive's vision is to transform the manufacturing sector into a flexible and scalable service ecosystem. The goal is to create a structure that allows for the use of existing resources within value networks, enhancing companies' ability to respond to unforeseen events and to quickly reconfigure their production networks. This is achieved through the integration of internal and external production services, fostering collaboration among different companies and optimizing operations within a distributed and digitalized network.

| Goals |



RESILIENCE



DYNAMIC RECONFIGURATION



SERVICE INTEGRATION



TOOLKIT DEVELOPMENT



COLLABORATION



OPERATIONAL EFFICIENCY



IMPACT SIMULATION



SCALABILITY



| Consortium |



Arçelik

arctic



ETKEMS

ILPEA INDUSTRIE

kamstrup



SmartOpt

TUHH
Hamburg
University of
Technology



| News & Events |



Istanbul Meeting

The Istanbul meeting was a valuable opportunity to solidify the direction of the MAASive project, discuss progress, and explore new ideas. One of the most exciting discussions centered around the development of the MAASive platform, where the team highlighted the technical and design features that will make it an essential tool for partners. The goal is to create an intuitive and powerful platform that meets the needs of users to support network analysis and orchestration. The platform will be based on a reference architecture, that is meant to support the companies in pursuing supply chain resilience and servitization. In this regard, the meeting provided an opportunity to deepen collaboration with TXT and Smart Opt, key partners contributing unique expertise and added value to the project. These strategic partners support the platform's evolution and contribute to operational optimization, ensuring that the solutions developed align with the real needs of the companies involved. The first set of models (Alpha models) were also discussed, forming an important foundation for the next steps. The team has been working diligently to define the features and interconnections of these models, ensuring that each element is seamlessly integrated to support future activities and maximize the project's efficiency. Risk management, communication and dissemination were also emphasized, to assure risk monitoring, visibility and engagement with key stakeholders.

Looking forward the next meeting in March!

| Project Insights |

Emerging Practices and Technologies in MaaS

Our project is grounded in the concept of Manufacturing As a Service (MaaS), but how does MaaS work in practice? Here's an overview of the main practices and technologies emerging in the field of Manufacturing as a Service (MaaS):

- **Federated Platforms**

Federated platforms, such as Gaia-X, provide a decentralized foundation for MaaS, aligning supply and demand in manufacturing. These platforms create a secure and decentralized marketplace where manufacturing capacities and resources can be showcased to potential customers, ensuring safety and transparency.

- **Virtualization / Digital Twins**

Digital twins allow real-time monitoring of system attributes, visualizing physical and functional aspects of products. This data-driven insight enables MaaS providers to quickly address issues, offer customized solutions, and support stakeholders in their decision-making.

- **Orchestration**

Orchestration is a key concept for MaaS, enabling the dynamic management of value chains, with the ability to reallocate resources quickly and efficiently. Technologies such as augmented reality and smart factory software support this flexibility, helping companies maintain operational resilience in the face of unforeseen challenges.

- **Multi-Agent Systems**

Originating from the field of artificial intelligence, Multi-Agent Systems (MAS) involve multiple autonomous agents gathering data and making proactive decisions within the network. This collaborative intelligence allows manufacturing systems to self-organize and adapt, providing valuable support for rapid reconfiguration in response to disruptions.

- **Blockchain**

Blockchain technology enhances security and transparency, ensuring that transactions between MaaS partners are documented in a secure, distributed ledger. This system simplifies payment processes and allows traceability of components across the value chain, promoting trust and accountability in partnerships.

These innovations collectively contribute to a more resilient, efficient, and adaptable MaaS ecosystem, strengthening the MAASive project's objectives to make value networks more robust and responsive.

The MAASive project is reaching significant milestones, laying the groundwork for further advancements in the coming months.
We're excited to continue this journey and to share our future progress with you!



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