

Welcome to the Sixth DOME 4.0 Newsletter!



DOME 4.0

DOME 4.0
Newsletter N°8

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We are pleased to announce the publication of the eight issue of the DOME 4.0 newsletter. If you are interested in industrial data and digital marketplaces, you are at the right place!

DOME 4.0 is a 4-year Research and Innovation Action (RIA) from 2020 to 2024 funded under Horizon 2020 focusing on developing a comprehensive industrial data ecosystem aligned with the Open Science and Open Innovation objectives to enable sharing of business-to-business (B2B) data for the purpose of value generation and creation of new or enhanced products, processes, and services.

DOME 4.0 will be open to all providers and users of data, and aims to facilitate maximum

knowledge extraction with the help of ontology-driven semantic data interoperability and modern data processing technologies adopted from the fields of Machine Learning (ML) and Artificial Intelligence (AI). These features are crucial to scale and advance the proposed ecosystem to any sector of the economy. Given the significant contribution of the materials and manufacturing sectors to the European economy, DOME 4.0 focuses on data-driven knowledge generation within these key sectors.

STAY TUNED

Stay updated on all our latest news, developments, research and general information regarding the DOME 4.0 project.

PROJECT INFORMATION

Digital Open Marketplace Ecosystem (DOME) 4.0
Grant Agreement ID: 953163
Start Date: December 1st, 2020
End Date: November 30th, 2024
Coordinator: COMPUTATIONAL MODELLING CAMBRIDGE LIMITED (CMCL)

✉ @DOME40_H2020 in



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 953163.

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As part of the DOME 4.0 project, Work Package 4 focuses on **nine Business-to-Business (B2B) showcases** that demonstrate the practical functionalities and applications of the DOME 4.0 ecosystem. These showcases have been selected to **highlight the ecosystem’s broad applicability across various industrial and scientific sectors**. The table below gives an overview of the nine B2B showcases and their corresponding sectors, covering topics from polymer processing and structural adhesive technologies to quantum computation and marine air quality, these showcases illustrate the transformative impact of the DOME 4.0 Platform on the synthesis of knowledge and the exchange of data throughout the materials and manufacturing sectors.

SC #	B2B SC	Sector
SC 1	Chemistry Knowledge Graph – marine, air quality and nanoparticles	MARINE, ENVIRONMENTAL, NANOPARTICLES
SC 2	Lightweight construction – fibre reinforced plastics	PLASTICS
SC 3	Polymer additives for corrosion protection	POLYMERS
SC 4	Structural adhesives: fatigue behaviour	ADHESIVES
SC 5	Production equipment tools and service catalogues (metals, plastics, high-tech) – MARKET4.0	MANUFACTURING
SC 6	Turnkey services & custom workflows integrating simulations and data	MATERIALS
SC 7	Formulated consumer products	CHEMICAL PROCESSES, MATERIALS
SC 8	Semantic analytics of manufacturing assets	SMART MANUFACTURING

The development of these nine showcases progressed through distinct stages:

1. Showcases Preparation:

This initial phase involved assessing data sources and availability, curating metadata and data, and developing potential ontologies or associated data structures.

2. Showcases “Offline” Execution:

In the second stage, each showcase was developed and executed independently outside of the DOME 4.0 Platform. This approach enabled the showcases to mature alongside the core platform development, confirming their

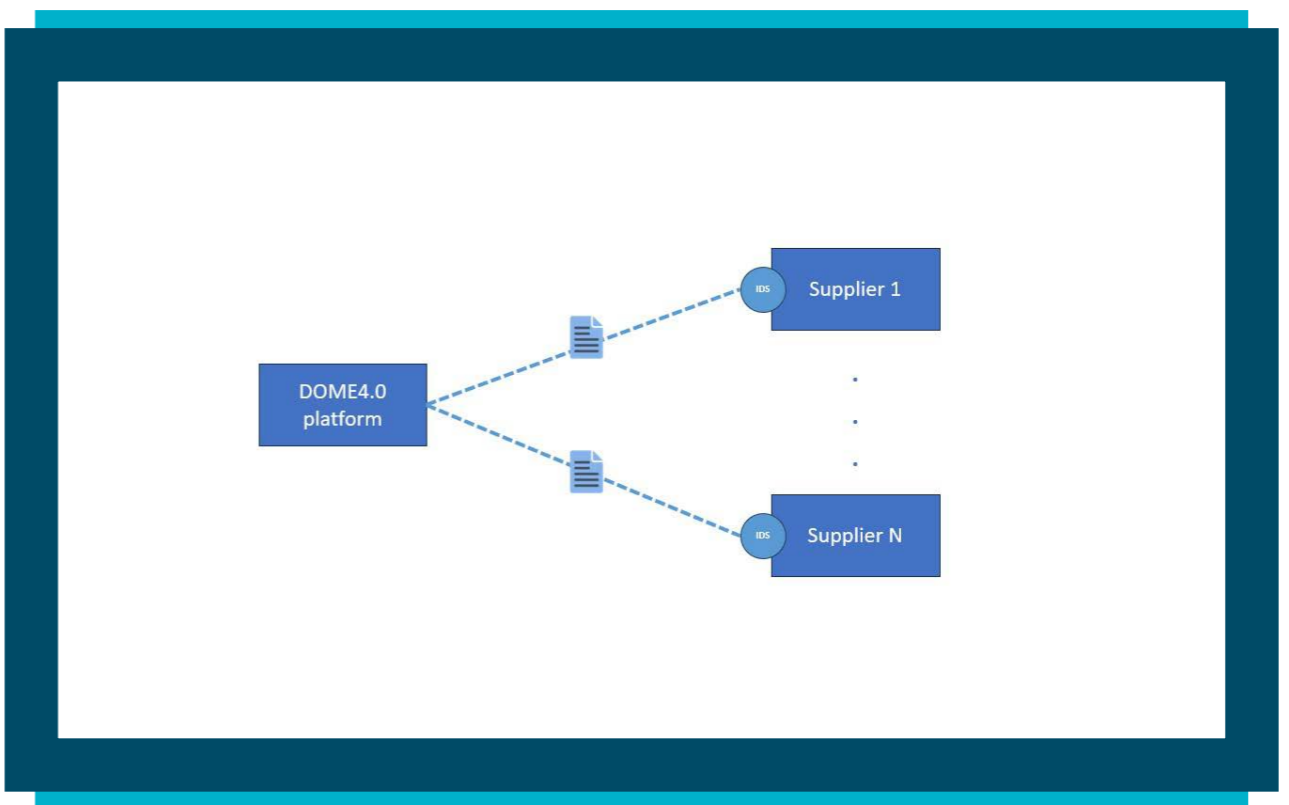
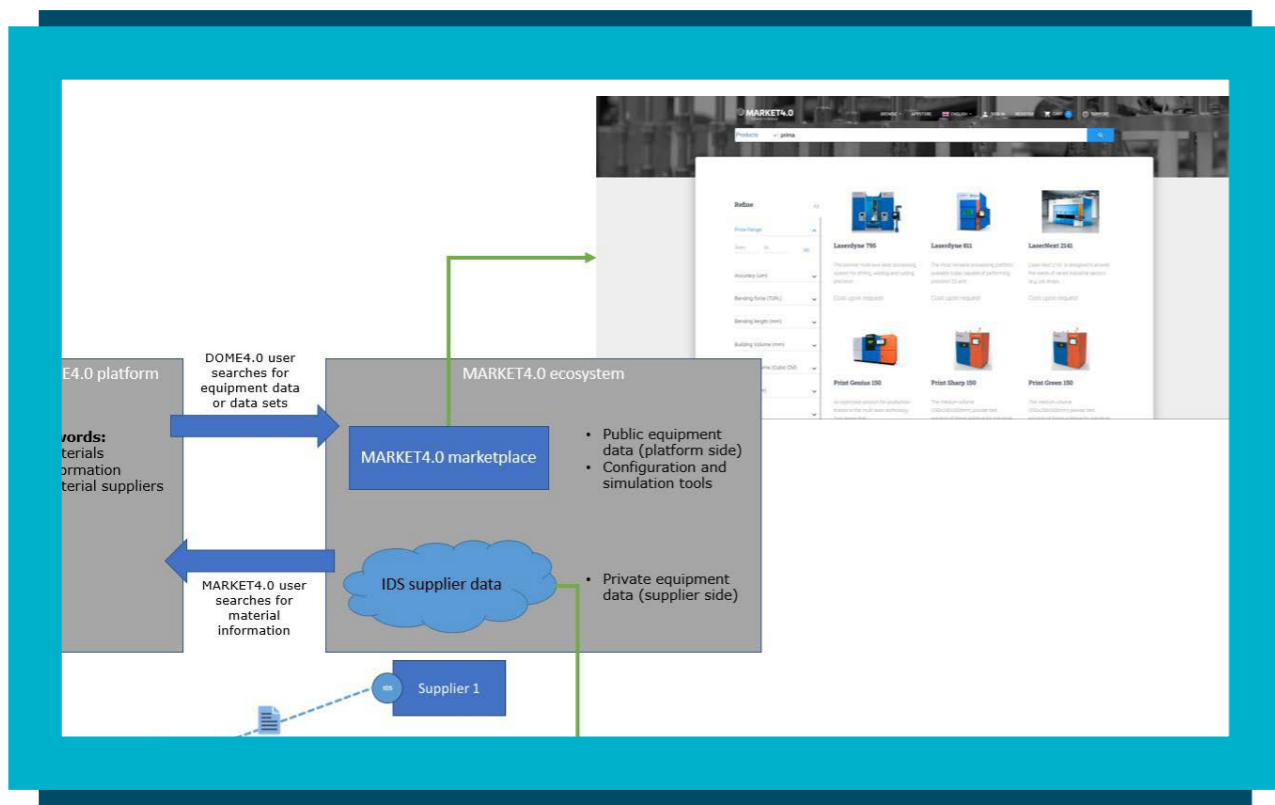
technical feasibility and identifying data source requirements and dependencies.

3. Showcases “Online” Execution:

The final step entailed integrating the showcases into the DOME 4.0 platform, allowing them to fully leverage the platform’s added value and interact with it.

For detailed insights into the nine showcases, visit the [description page on the DOME 4.0 website](#). To witness these showcases in action, head directly to the [Showcases page on the DOME 4.0 platform!](#)

SHOWCASE: Production Equipment and Service Catalogues



Showcase 5 addresses MARKET4.0 marketplace for the procurement of manufacturing equipment and services. The procurement process requires access to different kinds of data such CAD files that are mostly considered confidential. MARKET4.0 combines both public and confidential data exchange. Public data exchange is covered by the MARKET4.0 marketplace UI, where the first insights on the items available on the platform are gained by potential customers. As soon as private data exchanges are required to further investigate if an item meets the customer's needs, the platform facilitates such data exchanges through an IDS dataspace which enables sovereign peer to peer data exchanges.

Showcase 5 contributes to DOME 4.0's objectives by delivering data sets related to manufacturing equipment procurement. The showcase connects both public data using a typical HTTP API and private data using the IDS infrastructure. In addition, MARKET4.0 platform also acts as client for DOME4.0 data sets by enabling MARKET4.0 users to access DOME4.0 datasets through the MARKET4.0 platform.

Link of the video:

<https://youtu.be/fW40WppEPCk>

Learn more about our showcases at

<https://dome40.eu/dome-40-showcases>

News



DOME 4.0 [HTTPS://DOME40.EU/](https://dome40.eu/)
3RD HACKATHON Sept 11 - 12
Keynote Speakers
Dr. Iker Esnaola-Gonzalez from BASF Digital Solutions
Christoph Mertens from the International Data Spaces Association
REGISTER NOW FOR FREE!
SEPTEMBER 11 - 12, 2024
UCL EAST, LONDON

Hackathon 3: Get to Know The Power of Data and AI with Our Keynote Speakers

The Digital Open Marketplace Ecosystem (DOME 4.0) is thrilled to announce the participation of Dr. Iker Esnaola-Gonzalez from BASF Digital Solutions and Christoph Mertens from the International Data Spaces Association as the keynote speakers for our 3rd Hackathon, taking place on September 11-12, 2024, at UCL East, London.

[Read more](#)

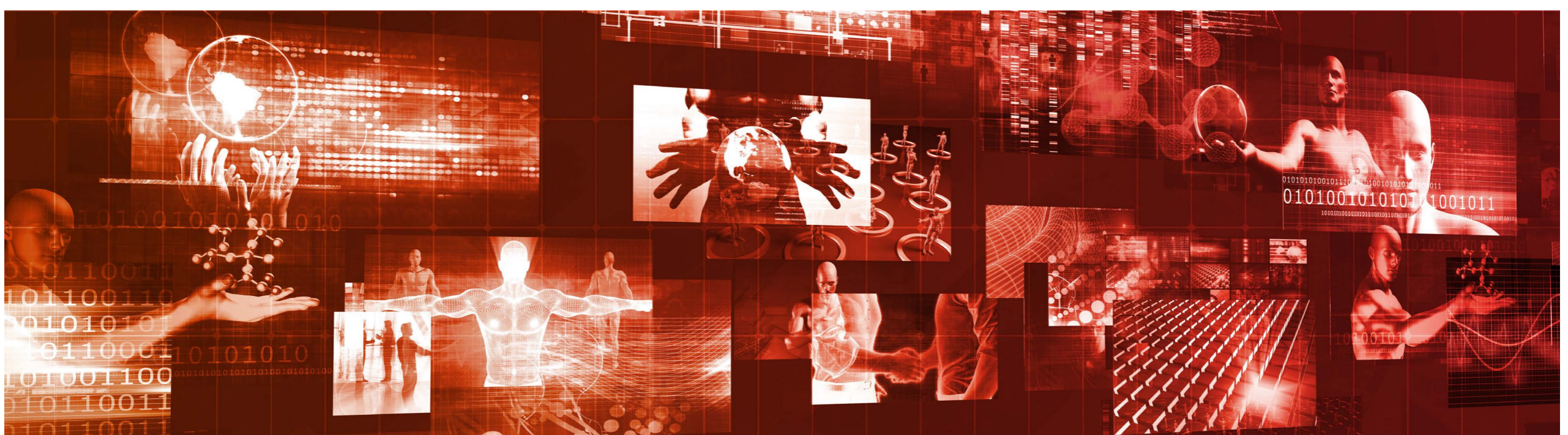
DOME 4.0 On Digital Twin Conference 2024

On November 12th, 2024, the DOME 4.0 consortium held virtually the project's final General Assembly meeting. As the project approaches its official conclusion, this meeting provided an opportunity for all partners to come together to review progress, address any remaining challenges, and outline the last steps needed to achieve the project's objectives.

[Read more](#)



DOME 4.0 9TH GA MEETING
November 12th, 2024



Events

3rd DOME 4.0 Hackathon: Driving Innovation through Collaboration



 **DOME 4.0**

**3RD
HACKATHON**

SEP
11 - 12
2024 

 **UCL Est, London, UK** 

At the UCL East, was held the 3rd Hackathon of the DOME 4.0, as a testament to the power of collaboration, innovation, and the quest for data-driven solutions in today's rapidly evolving digital landscape. Over two action-packed days, participants, experts, and keynote speakers gathered to focus on the technical intricacies of the DOME 4.0 project, pushing the boundaries of data interoperability, ontologies, and semantic technology.

[Read more](#)

Blog Posts



Netcompany



Fraunhofer

SINTEF



EPFL

UK Science and Technology Facilities Council



SIEMENS Ingenuity for life



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