

# Welcome to the Fifth DOME 4.0 Newsletter!



# DOME 4.0

DOME 4.0  
Newsletter N°5

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**We are pleased to announce the publication of the fifth 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 1<sup>st</sup>, 2020**

End Date: **November 30<sup>th</sup>, 2024**

Coordinator: **COMPUTATIONAL MODELLING CAMBRIDGE LIMITED (CMCL)**



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

Visit our website: [www.dome40.eu](http://www.dome40.eu)

# How DOME 4.0 creates a sustainable and impactful digital marketplace

DOME 4.0, committed to pioneering an innovative digital marketplace adhering to the FAIR principles and enabling semantic data interoperability in data sharing. Such an innovative technology offering appeals to a wider range of customers and stakeholders, and also necessitates representative sustainable business models. The WP7 (“Exploitation, Business Model and Sustainability”) comprises five specialized tasks in DOME 4.0 and covers such activities in the project, ranging from identification of the stakeholders, innovation assets, Intellectual Property management, and Exploitation in the project as well as micro- and macro- market

analysis towards a hybrid framework for business model.

This model aims to facilitate diverse monetization channels, aligning seamlessly with the requirements of varied personas engaged within the marketplace ecosystem. The development of this robust business model stands as a pivotal achievement within the DOME 4.0 project, heralding a framework designed to cater to the multifaceted needs of our engaged stakeholders. It is a testament to our commitment to forging a sustainable and impactful digital marketplace, placing us at the forefront of technological innovation.



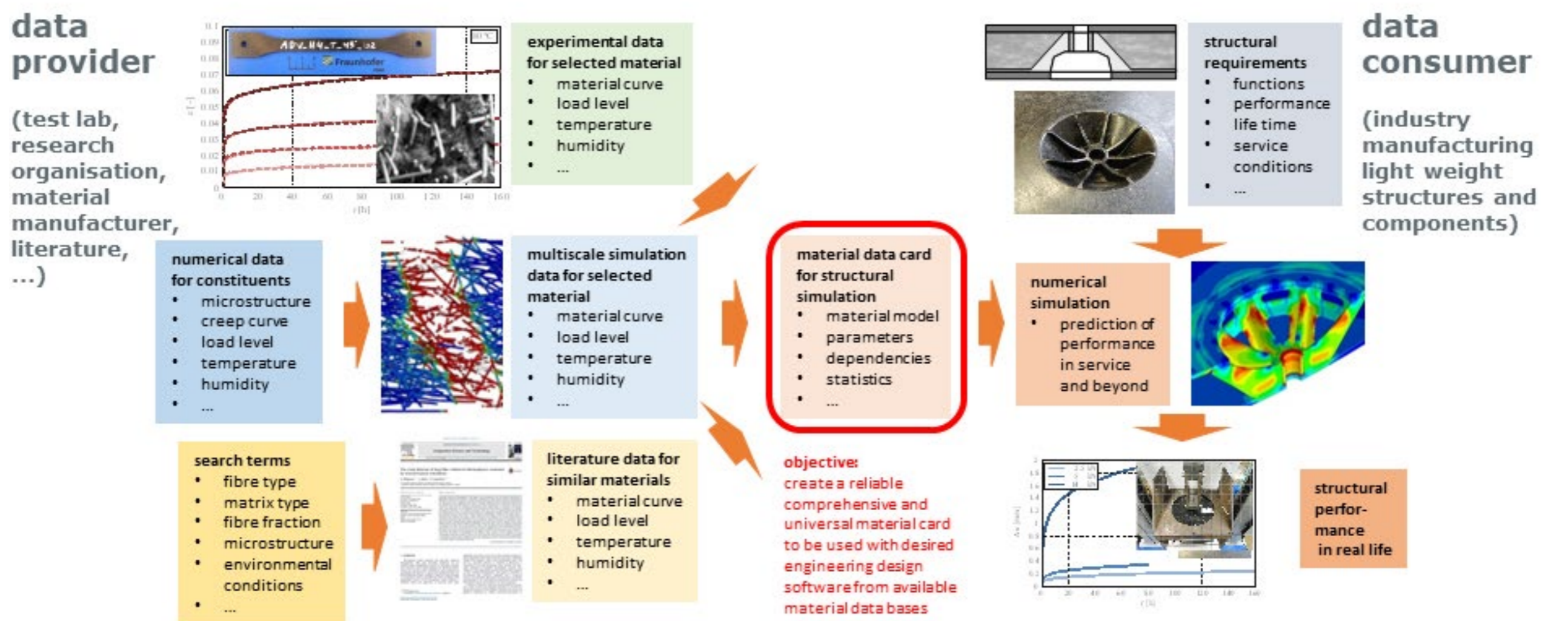
# SHOWCASE: Material data for engineering design of polymeric structures

To avoid expensive trial-and-error procedures, the design of structures relies heavily on numerical simulation. Using commercially available finite element software for the numerical assessment of the structural response, proper and reliable predictions can be made. The reliability of the predictions essentially depends on the quality of the input data. Whereas the data prescribing geometry and loading situation are usually defined by the design engineers themselves, the material data are usually taken from other sources. These sources may include material manufac-

turers data sheets, internal or external test labs, material handbooks, and other published data from literature.

When acquiring the respective material data, a major problem arises from the fact that in most cases none of the available data sets provides the complete picture including all dependencies on temperature, loading rate, humidity, and other relevant environmental effects. Thus, the material data card for the numerical simulation needs to be created from multiple data sources. Finding all sources and identifying the most relevant

## Material data for engineering design DOME 4.0



# SHOWCASE: Material data for engineering design of polymeric structures

ones might be a time-consuming task. In this context, a searchable universal data exchange platform like the DOME4.0 platform directly providing a large variety of data sets and making links with all other relevant data exchange platforms enables the design engineer to gain full and reliable data rather quickly, thereby improving the quality of the structural simulation results and reducing the time-to-market of the product. Especially small and medium enterprises without in-house testing capacities and deep material expertise may benefit from this service.

Link of the video: <https://youtu.be/Thm46B42CaY>



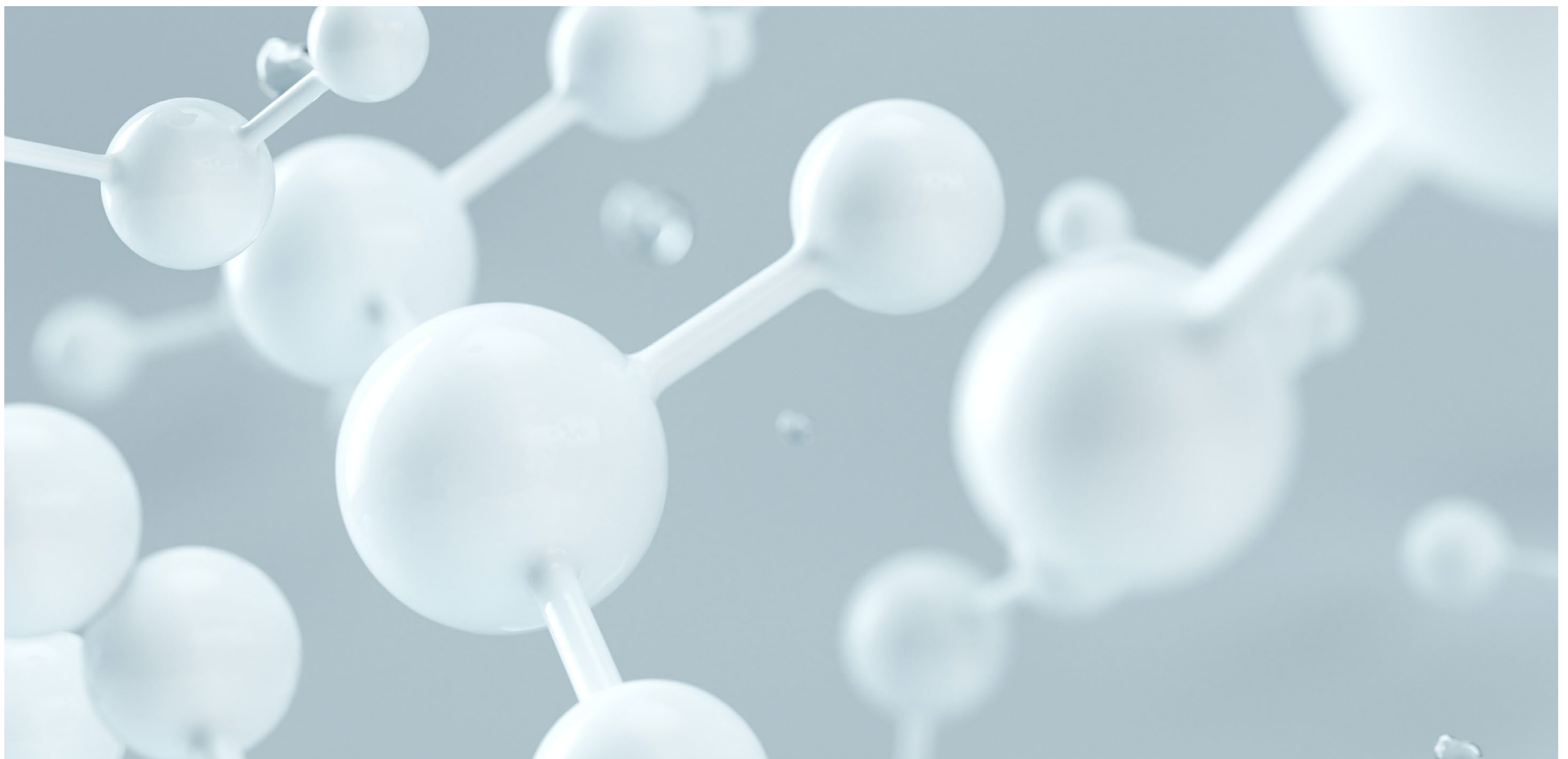
## Material data

A showcase for the DOME4.0 platform

J. Hohe  
Fraunhofer IWM



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# News



## DOME 4.0 On Digital Twin Cities Conference

At the recent Digital Twin Cities Conference, hosted by [DTCC](#), [Chalmers University of Technology](#) in Gothenburg, Sweden, Dr. Amit Bhave, coordinator of the DOME 4.0 project, presented a showcase on enabling cross-domain interoperability to assess the impact of maritime emissions on local air quality for port cities like Singapore and Southampton.

[Read more](#)

## DOME 4.0: 7th GA Meeting

The cornerstone of this vibrant meeting was the insightful presentations and discussions led by our dedicated Work Package (WP) Leaders.

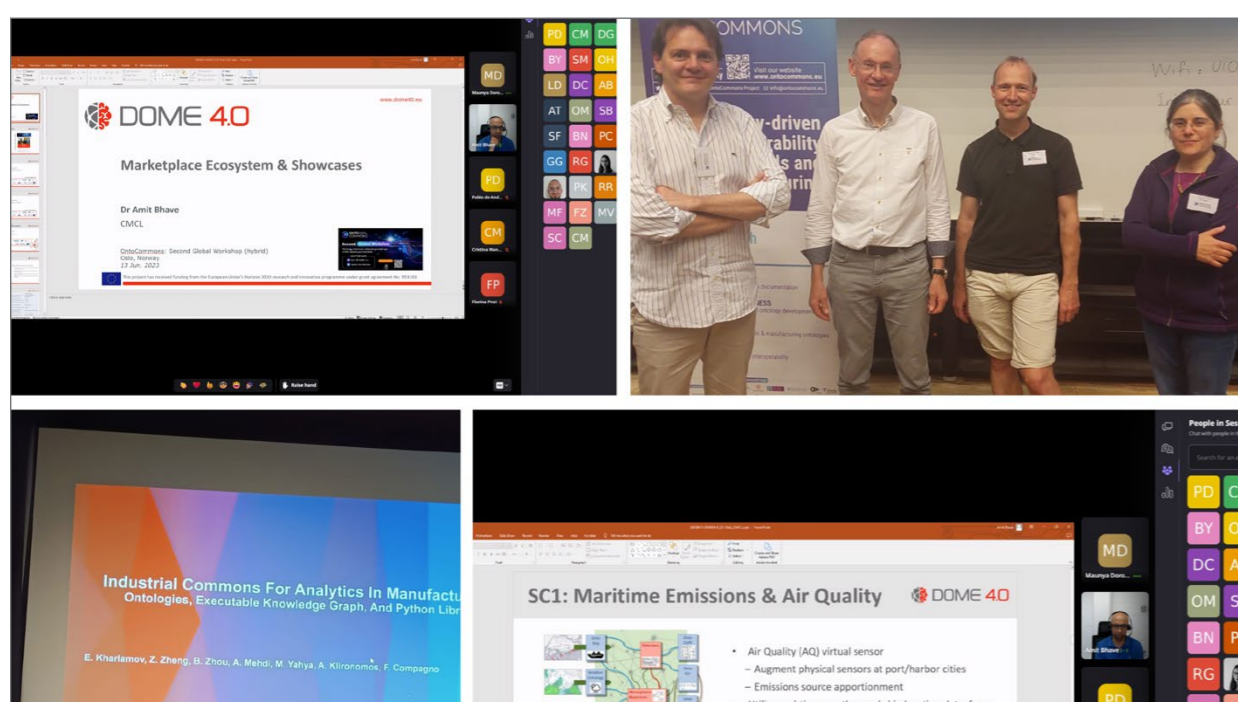
[Read more](#)



## DOME 4.0: At The Second Global Workshop

The DOME 4.0 project had the privilege to be represented by the consortium at the [Second Global Workshop](#) which was organized by the [OntoCommons](#) project.

[Read more](#)



# Events

## DOME 4.0 At The 4th EMMC International Workshop



**DOME 4.0**

**4TH EMMC INTERNATIONAL WORKSHOP 2023**  
Materials & Digitalisation: the backbone of the Green Transition

**VIENNA, AUSTRIA**  
26-28 April 2023

The DOME 4.0 project made a strong showing at the 4th [EMMC](#) International Workshop, which took place from April 26-28 at [TU Wien](#) in Austria. Throughout the event, DOME 4.0 was featured in many talks, posters, and discussions, highlighting its important role in enabling interoperability, B2B data sharing, and standardization within the materials and manufacturing industry.

[Read more](#)



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# Blog Posts

## DOME 4.0 blog: How e are making a difference with our project

We invite you to read the blog posts that our project partners have written about their experiences and insights from working on DOME 4.0. The blog posts cover various topics, relevant to the project and they will give you a glimpse into the DOME 4.0 project.

- [DOME4.0 On KGA - Knowledge Graph Alliance ASBL In Brussels: A Step Forward For Semantic Knowledge Graphs And Collaboration In Data Handling](#)
- [Efficiency And Focus: Navigating Project Challenges in DOME 4.0](#)



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