



Press Release

MaterialsCommons

For immediate release

MaterialsCommons to transform how Europe develops advanced materials

A new European initiative, MaterialsCommons, has launched to bring together shared digital resources, such as data and workflow tools, to form a connected European infrastructure that can be accessed through a single entry point. With its ambitious vision, MaterialsCommons will play a key role in accelerating innovation, supporting sustainability, and strengthening Europe's leadership in advanced materials.

MaterialsCommons seeks to solve the long-standing problem that materials data across Europe is fragmented, difficult to find, and even harder to combine and reuse, hampering AI-driven innovation. Today, data is spread across many platforms, publications, and repositories, often without consistent formats, so it is challenging for researchers and engineers to work efficiently and to exploit the available knowledge.

Europe-wide, unified access to materials data

MaterialsCommons will create a unified, accessible entry point to Europe's materials data and digital tools. The project will connect and integrate existing platforms and initiatives, such as Materials Cloud, NOMAD, MaterialDigital, CAPEX, and OPTIMADE, to achieve this.

Faster innovation

The project aims to make materials innovation smarter and significantly faster by improving data standards, access to high-quality data, and connected digital workflows that link experiments, simulations, and AI tools. An engineer developing a new steel component today may be relying on limited data and need to carry out extensive testing. MaterialsCommons will provide access to richer datasets and advanced digital tools that help predict material properties, which will enable engineers to design and validate better solutions much faster.

Support for industry

MaterialsCommons is designed to deliver practical benefits for industry. Our industrial partners will ensure that the tools, data services, and digital infrastructure developed address real-world challenges and can be adopted quickly. The project will also support Digital Product Passports with interoperable and traceable data across value chains.

Technological advances

MaterialsCommons' developments focus on three areas to accelerate materials development:

1. Building a semantic foundation with common taxonomies, metadata standards, and ontologies that can be readily used via shared schemas.



2. Simplified access to a wide range of materials science data to enable better informed decisions at an early stage of development.
3. More efficient, automated, interconnected and interoperable workflows, for experiments and simulations.

Sustainable European infrastructure

Ultimately, MaterialsCommons aims to become a leading, foundational platform for materials research services offering support to researchers and engineers across Europe and beyond. The digital infrastructure advances will be demonstrated through real-world use cases.

“MaterialsCommons provides materials scientists and engineers with a unified, secure, and reliable platform to discover and access materials information.”

“By starting with richer, more precise information, engineers will be able to develop superior solutions much faster.”

— *Peter Gumbsch, MaterialsCommons Coordinator*

About MaterialsCommons

MaterialsCommons is a large and diverse consortium of 26 academic partners, 21 associated partners, and 12 associated collaborators. The project is coordinated by Fraunhofer-Institut für Werkstoffmechanik, Freiburg, Germany. The project kick-off meeting was held on 17 June 2026 at the Karlsruhe Institute of Technology in Germany.

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Media Contact

Dr Gerhard Goldbeck

Communication, Dissemination & Exploitation Lead

EMMC (European Materials Modelling Council), Belgium

Email: executive.secretary@emmc.eu

Website: <https://www.materialscommons.eu/>

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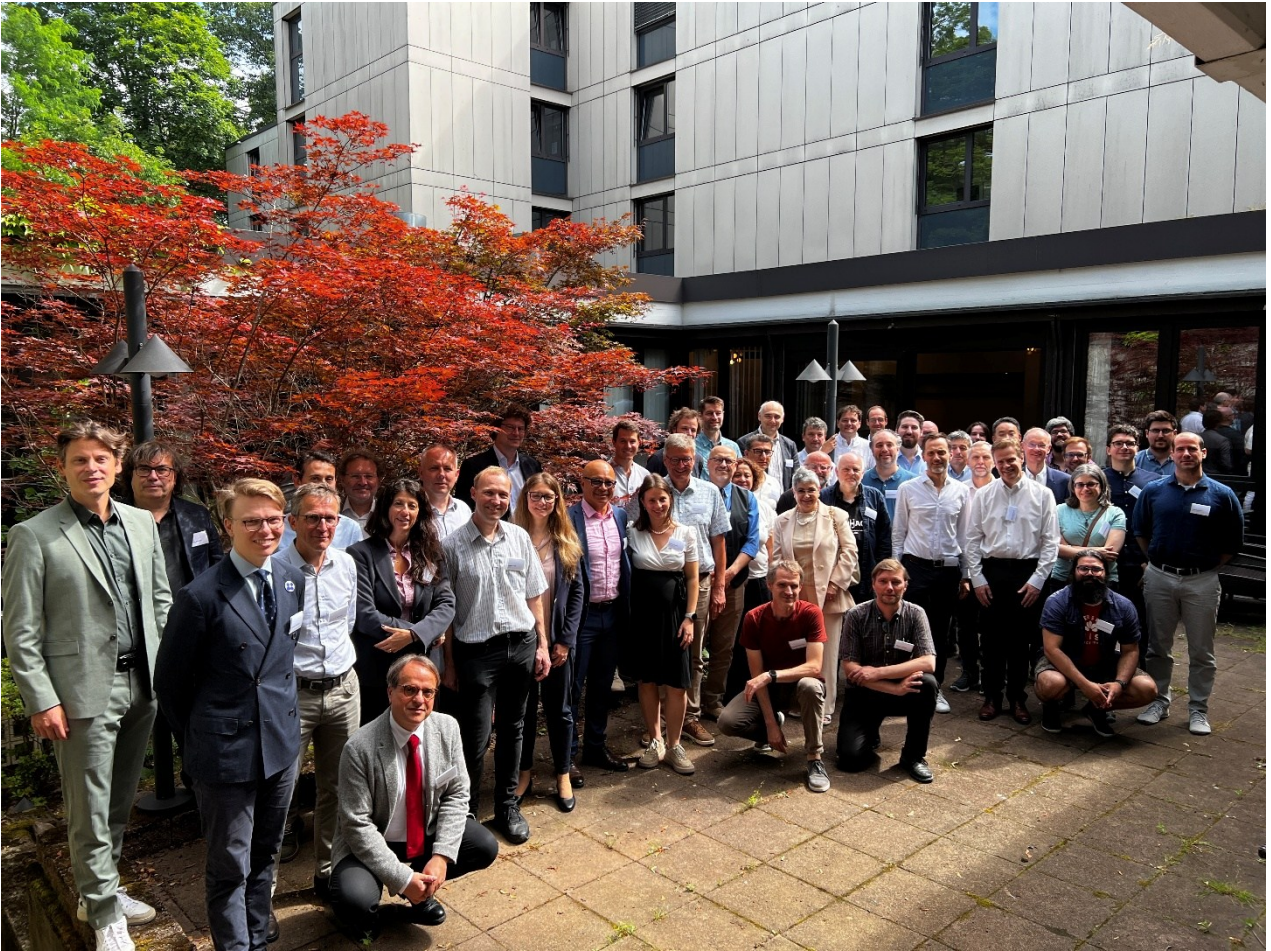


Figure 1. MaterialsCommons researchers at the Kick-Off Meeting 17 July 2026, in Karlsruhe. Photo credit: Fraunhofer IWM.