

Digital Transformation of Materials R&D

Introduction

Investments in key enabling technologies projects have been creating a huge wealth of data and knowledge, which however remain largely within silos. Results not immediately exploited are typically lost to innovation. Even data deposited in openly accessible repositories remain largely out of view and are hard to re-use due to a lack of a common semantic basis. Impacting on innovation in materials, products and processes requires a strategic approach to digitalisation involving a wide range of stakeholders along value chains and deep knowledge in materials, processes and digital technologies.

Objectives

The objective of the session is to explore current and emerging approaches to transform the development, processing and applications of materials in European industry. The aim is to increase European capacity to extract knowledge from materials and manufacturing data. In order to achieve that, a strategic approach to digitalisation is required involving stakeholders from materials, manufacturing and digital technologies.

Background information and documents

- Innovation and digitalisation feature as a thematic area selected for the 'EU Industry Days' held on 5-6 February 2019 in Brussels <https://ec.europa.eu/growth/content/eu-industry-days-high-level-conference-2019> attend. A session on Data in Materials and Manufacturing is organised by EMMC.
- IntOP2018: EMMC-CSA Workshop on Marketplaces and Interoperability <https://emmc.info/events/intop2018/>

Discussion points and questions

- How can we increase European manufacturing and process industry capacity to extract knowledge from data?
- How can we support leadership by digital transformation of data into knowledge?
- How can we achieve that manufacturing companies remain competitive (new products, high-added value) on the basis of knowledge extracted from wide-spanning data sets?
- How can we promote European benefits from data management, standardised documentation enabling interoperability and linking tools for enriching and enhancing the usability of data?
- What actions are proposed for a common semantic knowledge base in materials?
- What practical ways forward are there for industry to reap the benefits of digitalisation in materials?