

# European Materials Characterisation Council (EMCC)

## Scope

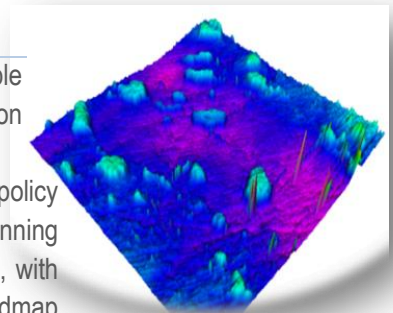
Characterisation is a central pillar across the spectrum from research development via engineering and upscaling to production and product quality control. A survey of 100 FP7 projects carried out in 2014 under the umbrella of the Engineering & Upscaling Cluster clearly demonstrated the central role of characterisation. Over 90% of projects apply characterisation methods and 50% of projects include characterisation developments. Characterisation was ranked by far the highest in terms of importance of engineering and upscaling with an average across all projects of 9/10, compared to averages of below 7/10 for modelling and standardisation for example.

A lot of these projects however have a weak link to the impact required by the EC, with little tangible output in relation to commercial exploitation or reliable recommendations to regulation. There is therefore the need to set up a European Materials Characterisation Council (EMCC) in order to support commercialization and regulation through the provision of characterisation tools.



## Objectives

- To support establishing a community of European stakeholders in the process of developing and improving characterisation tools in order to bring the development of nanomaterials and advanced materials in Europe into end products more successfully.
- To gather the needs and requirements of that community for characterisation tools and supporting actions.
- To provide a forum for discussion, problem solving and planning R&I activities in Europe.
- To establish the formation of standard methodologies on nanocharacterization in Europe, and create a common background.
- To create a platform for nanocharacterization, with the attempt to act with Open Research Data.
- To link nanometrology with in-situ monitoring and industrial needs.
- To provide a suitable background for regulation and nanosafety.
- To support EC policy development, underpinning the relevant EC priorities, with a stakeholder driven roadmap for characterisation techniques for engineering and upscaling of nanomaterials and advanced materials in Europe. This activity is to support the strengthening of Europe's industrial capacity and competitiveness and thus contributes to the main objectives of the LEIT-NMBP programme.



## Stakeholders

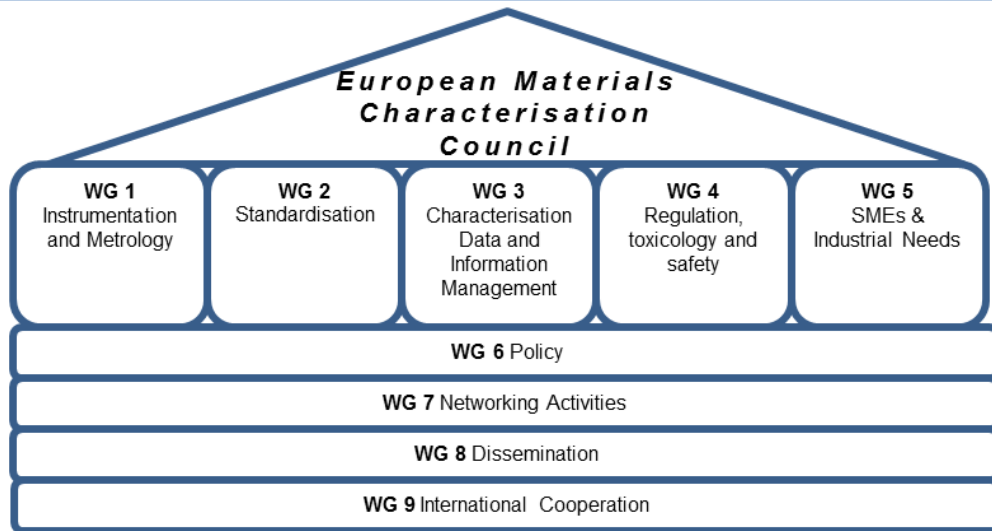
- Materials manufacturers and integrators
- Manufactures of analytical instruments
- Standardisation bodies and metrology institutes
- Materials scientists divided into sub-groups according to the main specific expertise (microscopy, spectroscopy, surface and interface characterisation techniques, etc.)



# Themes

- Lifecycle encompassing academia, end users and regulation.
- Reliability of metrology, meaning validation, calibration, standardisation, uncertainty budget, traceability, reference materials and modelling.
- Characterisation to support materials modelling: validation and data.
- Characterisation data, metadata and information management.
- Characterisation for upscaling: supporting the transition from complex testing towards accessible methods/tests for industry (“from lab to fab” approach)
- Reduced time-to-data; linking nano-metrology with in-situ monitoring and industrial needs.
- Methods to provide reliable risk assessments and recommendations to regulators (e.g. regarding toxicity); providing a suitable background for nanosafety, biomolecular devices and applications.

# Council Structure



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