



EMMC Working Group of End-users

Industrial End-Users of materials modelling

Background

Within the EMMC subgroups have formed to focus on a certain group of stakeholders. This team focuses on industrial end-users of materials modelling (manufacturers). These are material and product producing companies¹. Many manufacturing companies across Europe (SME's and large multinationals alike) have recognised the potential of materials modelling to drive a radical change in speed of product design for manufacturability and in-use performance. Although applications to both material and manufacturing process design have been demonstrated, sometimes modelling is not yet on the critical path of commercial development because modelling tools are still seen to be too difficult to use.

Against a tough, highly volatile market environment, speed-to-market is critical, especially for companies that need to put new products on the market every year. Materials modelling-led product innovation is a key differentiator for success in competitive markets. The technical challenge is to develop predictive models that are simple and affordable yet accurate enough to enable novel product design. This will reduce the time to market and reduce development costs of a new (or re-designed) product leading to larger benefits for the European Industry base as a whole.

The future of the European industry depends on a strong European-based materials modelling capacity; such leadership can be expressed and fostered by an funding policy which supports materials modelling-enabled business growth.

Scope of the EMMC end-user team

Europe has been leading the way in the development and use of models for materials design, thanks especially to its creative academic community, across several countries and thanks to for example, a "Materials by Design" approach has been supported during the last decade in the EU Framework Programmes. In the industrial context, however, the use of these often advanced (and sometime cumbersome) tools is typically limited to a few industries and is often not yet fully integrated into the product and device design process. The EMMC team of (large and small) industrial end-users of materials modelling (manufacturers) will discuss what would could change this situation. Road Maps

¹ *Please note that process and device design software owners that could integrate materials software into their software, are also a type of end-user, but they are part of the Software Owner team.*



expressing what needs to be undertaken to stimulate business growth, will be elaborated and communicated to funding schemes (e.g. to the EC for LEIT activities)

Objective

The objective for the team is to gather key company representatives across industrial sectors and use this team of business stakeholders to clearly articulate commercial end-users needs to introduce materials modelling in to their business cycle. Bottom-up activities and provision of policy input to funding schemes (EU, national, international,...) will be undertaken.

Goals

- Establish a core team
- Develop a (representative) commercial manufacturers network on materials modelling
- Define a work approach and context for addressing the defining challenges associated with the objective
- Identify key areas of company interest for materials modelling solutions and how those can be achieved
- Articulate the features that would allow materials modelling to be successfully applied by companies
- Establish a Road Map with the industrial context and drive, especially when identifying business-critical areas
- Identify current gaps in current funding schemes and analyse where there is an opportunity to focus the effort to obtain business growth
- Act as a sounding board and participate in European consultation initiatives
- Advise on how to achieve maximum impact for companies and for society at large
- Stimulate and execute bottom-up activities

Desired outcome

The team will express the commercial end-users needs and shape activities of interest in order to deliver maximum benefit and impact for the European industrial base.

Timeline

Continuously: Expanding database to reach a representative social network with active core (the team)

Sept 2014: Request for sharing of ideas sent to existing list of manufacturers using the Charter

Sept 2014: First draft Road Map as discussion paper for Nov meeting by core team

October 2014 Invitation to Nov meeting of active contributors by EC

Nov 2014: Report on outcome of the wide consultation

Dec 2014: Second version Road Map