EUROPEAN MATERIALS MODELLING COUNCIL: TRAINING FOR TRANSLATORS

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ABSTRACT

Materials modelling is considered as a European Science & Technology strength but needs far more implementation and use in industry to reap its full economic impact. The translation of industrial case into modelling solution is performed by Translators. They are primary players at the interface between industrial end-users on the one hand and software owners and modellers on the other hand. Translators support the usage of materials modelling in industrial R&D to the same level as experiments are used today.

The goal of the Training is to explain the possibilities for wider industrial adoption of modelling as well as to demonstrate successful cases of the use of material modelling for solving industrial problems and translation cases illustrating the translation process.

Effective approaches for overcoming of barriers on modelling application for business decision are discussed. The transfer of materials modelling innovation from academic, model developers and software owners to end-users (incl. SMEs) is the major aspect to be focussed on. Translators are "application developers". The efficient translation strategy is the key to make the European manufacturing industry more competitive

Modelling plays a dominant role for the development of new materials and products. The use of materials modelling for business decision is cost-effective and it helps to reduce the numbers of tests and experiments. Applications of different types of models (electronic/ atomistic/ mesoscopic/ continuum (including computational solid and fluid mechanics)) [1] for solution of complex coupled and multi-scale industrial problems in mechanical engineering, mechanics of polymers and chemistry will complete the Training.

REFERENCES

[1] Anne F. de Baas, "Review of Materials Models (RoMM): What makes a material function? Let me compute the ways", (2017).