The benefits of organized networking and matchmaking for the development of 3D/4D geomodel visualization

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While huge territory of the EU shows a very high exploration potential and many EU countries remain attractive to investors (e.g. Fraser Institute, 2015), a mere 4% of global exploration expenditure is currently invested within European countries. One tool to trigger a higher degree of investment in exploration and to secure the domestic supply of both main commodities and critical raw materials (CRM) is to enhance our three-dimensional geometric understanding of the Earth’s crust.

For these reasons, EIT Raw Materials decided to fund the Visual3D network of infrastructure (NoI) for three years (2017–2019). Visual3D involves to-date 14 partner organisations from nine EU countries. The NoI aims to integrate expertise within exploration and 3D modelling from industry, academia and research institutes, with the ambition to increase the understanding of geological bodies in 3D and 4D through improved visualisation techniques. The network believes firmly that the integration of novel visualization technologies (e.g. virtual and augmented reality) into workflows of exploration, mining and geoscientific research will bring a much-needed innovation boost to the European raw materials sector and increase its competitiveness.

During its first year, Visual3D has compiled the network expertise and infrastructure regarding visualization tools available at the partner facilities. An overview of this infrastructure, as well as projects conducted by network partners is available on the Visual3D homepage (www.visual3d.info). The network also managed to identify common issues in the field of geomodelling, the solutions to which may be facilitated by a pan-European network approach, such as data compatibility, communication of geomodels, as well as complexity and variety of software. Subsequent years have been dedicated to the conceptualization of possible projects in order to solve the issues name above, as well as matchmaking to find expert consortia for these projects.

So far, four workshops including project partners and invited external stakeholders have been held. Networking and matchmaking during these workshops has resulted in successful project proposals in the EIT RawMaterials KAVA calls for educational (MireBooks), as well as upscaling projects (FARMIN). Both these projects are presented at the Visual3D conference 2019. Further project ideas have been discussed within Visual3D and will be developed further.

The benefits of organized networking in novel research and developments fields, such as visualization of 3D/4D models for exploration and geosciences, has become apparent during the lifetime of the Visual3D network. The network partners would encourage pan-European funding institutions such as EIT RawMaterials to provide continuous funding to similar networking initiatives, especially in highly innovative and novel research fields. Well-organized communication between different stakeholders is the basis of technological innovation and has the potential to give the European raw materials sector the leading edge in this highly competitive global market.