

Research Infrastructures supporting Nano Science and Innovation

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The Landscape of Research Infrastructures enabling advanced nanoscience and innovation has been developing in the last 20 years worldwide. From the Department of Energy (DOE) programme of Nanocenters in the USA to the European Strategy Forum on Research Infrastructure (ESFRI) Landscape Analysis in the Roadmaps 2016 and 2018 the need to access to advanced instrumentation and standards for the synthesis, characterization, numerical modelling and simulation and fine analysis has been met also by open access RIs. Some RIs have specialized in a class of methods; others have integrated access to complementary methods from theory to the use of cleanrooms, synchrotron radiation, lasers and neutron sources. Novel coordination schemes are being explored today among the European RIs and efforts towards a higher level of integration are underway, demonstrating how the coordinated use of the available capacity can provide unique science services, overall increasing reproducibility and quality of the data. The work towards realizing the objectives of the European Open Science Cloud (EOSC) will further stimulate integration of services, e.g. for the nanoscience and innovation communities, enabling more researchers to attack advanced research projects on complex systems at the nanoscale, and benefiting from existing, quality proven, knowledge.