ACEnano
## Analytical and Characterisation Excellence

Analytical and Characterisation Excellence in nanomaterial risk assessment: A tiered approach

Vision

ACEnano will introduce confidence, adaptability and clarity into nanomaterial risk assessment by developing a widely implementable and robust tiered approach to nanomaterials physicochemical characterisation that will simplify and facilitate contextual (hazard or exposure) description and its transcription into a reliable nanomaterials grouping framework. This will be achieved by the creation of a "conceptual toolbox" including a tiered approach to cost efficient nanomaterials analysis that will facilitate decision-making in choice of techniques and SOPs, linked to a characterisation ontology framework for grouping and risk assessment. ACEnano will initiate activities to support data collection, management, interpretation and delivery to a data warehouse for safe use & storage. It will thus underpin the future of nanomaterial quality control, labelling and anti-counterfeiting.
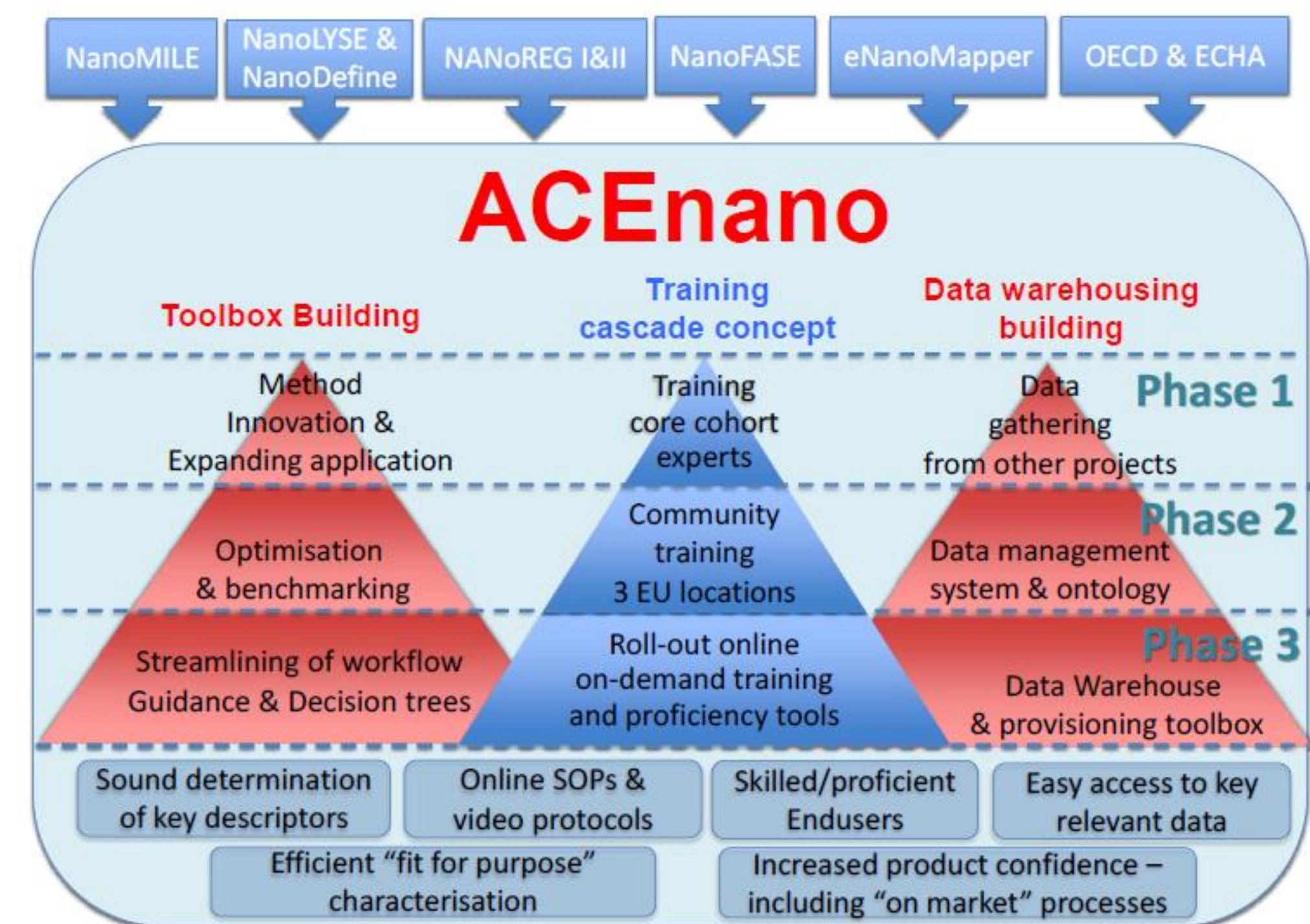
Main objectives

- To innovate in a carefully selected and appropriate set of analytical techniques, instrumentation and equipment for the testing of nanomaterials properties/descriptors to provide a one-stop solution to nanomaterial characterization: ACEnano toolbox
- To optimise the existing techniques/instrumentation, miniaturise and simplify where possible and support their use by SMEs through training and documentation
- To benchmark key components of the ACEnano toolbox and set criteria for future benchmarking of further components
- To link the methodological advancements of ACEnano to a mechanistic ontology framework
- To embed all above into a quality assurance and risk assessment framework
- To ensure dissemination and exploitation of the ACEnano project and its innovations and outcomes
- To embody the vision of the European Union and United Nations for sustainability by participating in the preventive effort to substantially reduce the impact of nanomaterials on individual health and on the environment.

Main outcome: ACENANO TOOLBOX, available online and comprising:

- Improved by innovation analytical techniques, instrumentation and equipment
- Optimised, already existing techniques/instrumentation
- Three layer training model: core cohort of experts from the consortium, community training events, and online training tools
- Decision tree to guide users (specially SMEs) through selection of the most appropriate methods to address their needs in risk assessment

Consortium