

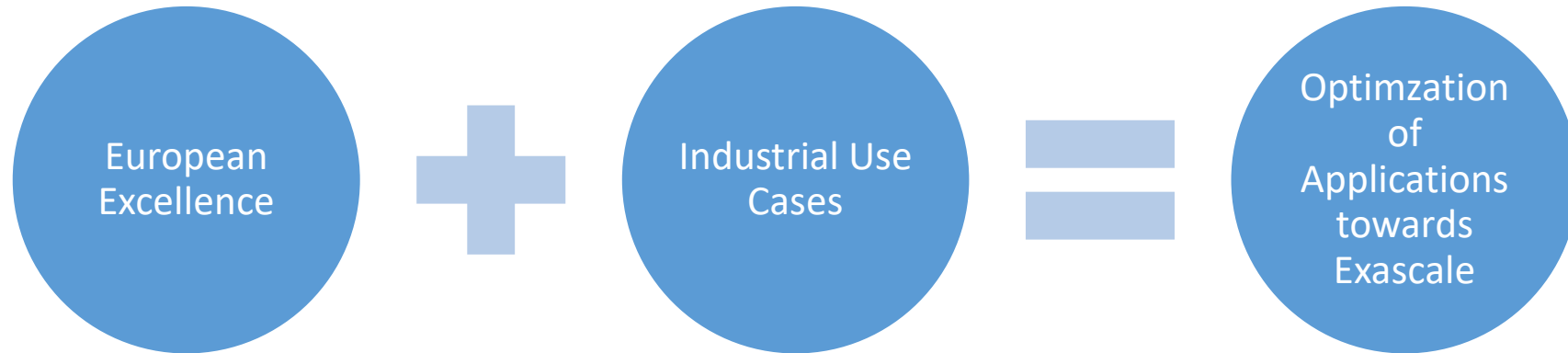
The European Centre of Excellence on Engineering

and its collaboration potentials with the EOSC-hub

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The Vision!



Going beyond the „classic“ consortium approach!
Going beyond a traditional project approach!

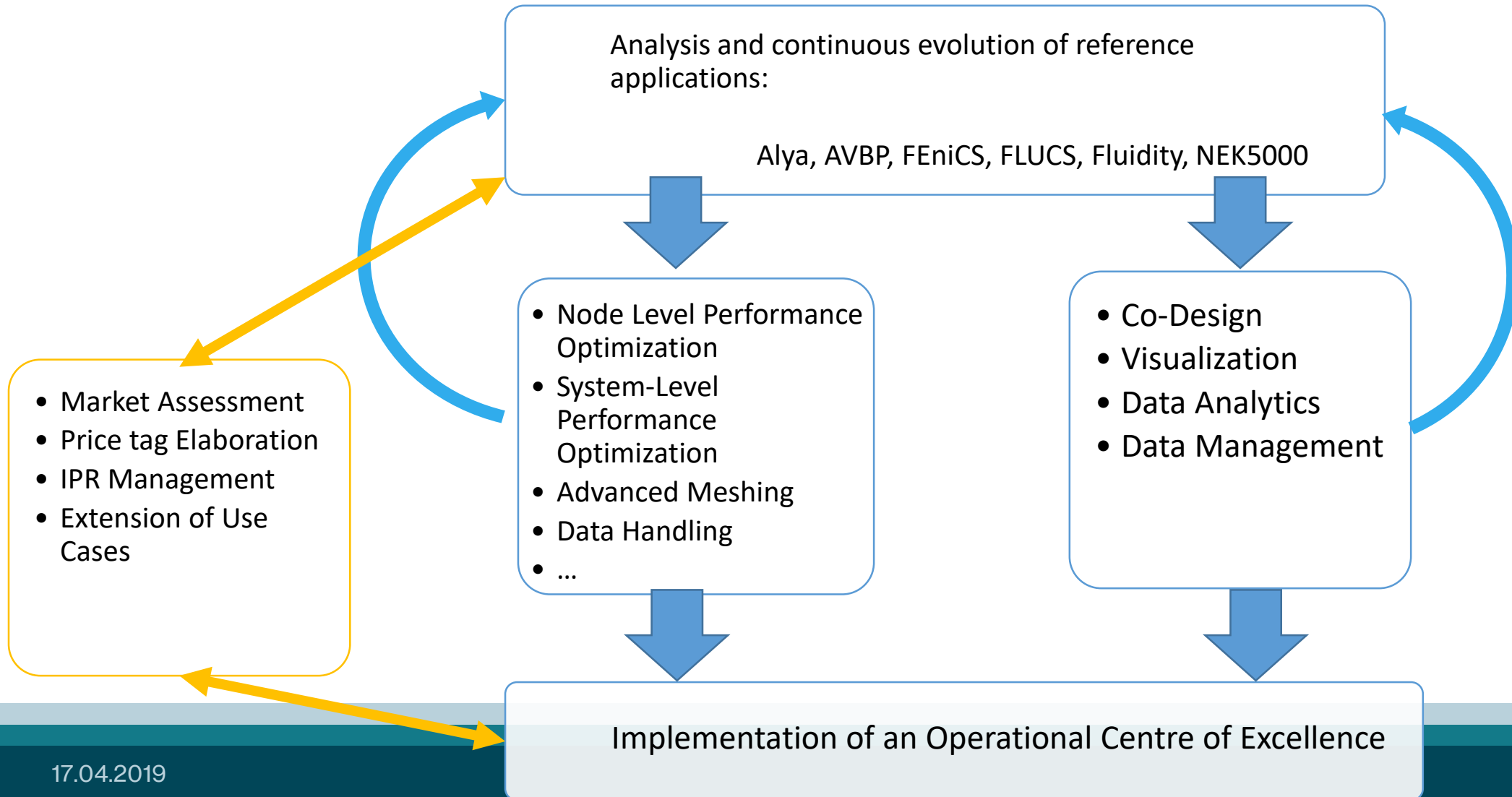
Principle elements to establish a Centre of Excellence



- Nek5000 (Open Source (BSD))
 - Based on the spectral element method
 - Application Area: Aerospace, Automotive, Energy, Renewables
- Alya (In-House Development BSC)
 - Parallel multi-physics / multi-scale simulation code featuring hybrid parallelization
 - Application Area: Multiphysics, Aerospace, Automotive, Marine
- AVBP (CERFACS / IFPEN Distributed for research proposals only)
 - parallel CFD
 - Aerospace, Automotive, Combustion, Compressible Two-Phases Flows

- Fluidity (Imperial College London - Open Source (LGPL))
 - General purpose, multiphase computational fluid dynamics code
 - Green energy, Environmental modelling
- FEniCS (Open Source (LGPLv3/LGPLv2))
 - Solving partial differential equations
 - Multiphysics, Aerospace, Automotive, Energy, Renewable
- FLUCS (DLR, In house code, Usage under Agreement)
 - CFD solver
 - Aerospace

How do we do it?



- Training in a European Dimension
 - Based on existing portfolios of participants
 - Gap-filling based on needs
- Enhanced Data Management
 - Not only data handling during simulation, but also addressing aspects such as secured data transfer
- Setting up EXCELLERAT as a single access point
 - Portal planned as single entry

- Introducing the concept of Interest Groups
 - Industrial End Users, Code Developers/ISVs, Scientific Experts, Technology Providers
- Bringing together the project participants and external entities
 - First hand access of Interest Group Members to EXCELLERAT results
 - F2F workshops planned
 - Early feedback from community members, potential customers
 - Setup of protected IP-bubbles
 - Ideally spin-off activities launched during the projects runtime

- Close Collaboration with R&D Developments
 - FET-HPC activities in Europe
 - HPC activities world wide
- Long-Term: Going beyond limits bei enabling services based on fusion of HPC, Data Analytics, Machine Learning....
- Potential Collaboration with EOSC-Hub on
 - provisioning of new services
 - research data management
 - use of existing services
 - ...

Thank you