Karlsruhe Institute of Technology

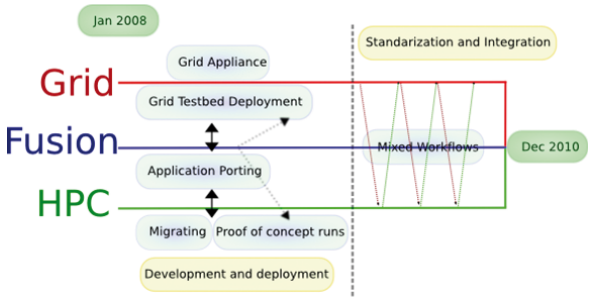
# EUFORIA - EU Fusion for ITER Applications

## Project objectives

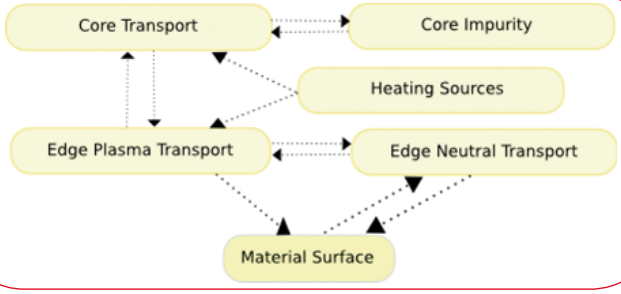
Bringing a comprehensive framework and e-infrastructure to the fusion modelling community oriented to the development of ITER physics needs with particular emphasis on Grid and HPC activities

- Deployment of Grid and HPC infrastructure
  - Resources: Interactive European Grid
- Adaptation and Optimization of Fusion Codes
  - Platform oriented Grid and/or HPC
- Development of advanced tools for
  - Workflow management
  - Visualization tools
  - Data mining

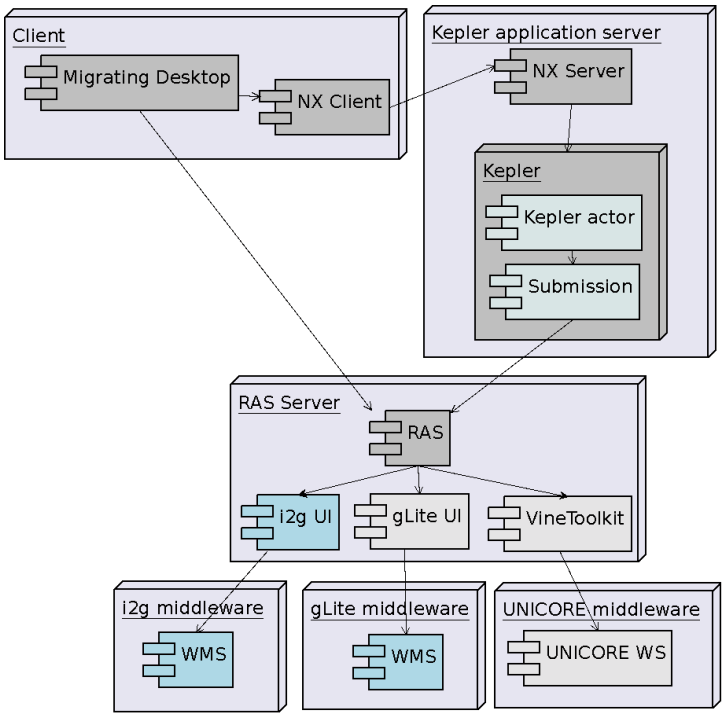
## Work plan outline




## Fusion Plasma Simulation




## Integration Architecture




## Promoted Codes


| Country | Institute | Capabilities |
|---|---|---|
| SWEDEN: | CHALMERS University of Technology (coordinating) | Fusion, Grid, (CS) |
| FINLAND: | CSC - Tieteellinen laskenta Oy | HPC, (Grid), |
| | Åbo Akademi University | Code Optimization & parallelisation, CS |
| FRANCE: | CEA - Commissariat à l'énergie atomique – Cadarache | Workflow, Fusion, CS |
| | Université Louis Pasteur - ULP | Visualization, Applied Math |
| GERMANY: | Forschungszentrum Karlsruhe GmbH - FZK | Grid, Code parallelisation |
| | Max-Planck-Institut für Plasmaphysik - IPP | Fusion, (HPC, Grid) |
| ITALY: | ENEA | Fusion, Grid, HPC, **GATEWAY** |
| SLOVENIA: | University of Ljubljana - LECAD | Visualization, CS |
| POLAND: | Poznan Supercomputing and Networking Centre (PSNC) | Grid, Migrating Desktop, CS |
| SPAIN: | Barcelona Supercomputing Center – Centro Nacional de Supercomputación - BSC | HPC, Code optimization & parallelisation |
| | Centro de Investigaciones Energéticas Medio Ambientales y Tecnológicas - CIEMAT | Grid, Code parallelization, Fusion, Grid, NA |
| | Consejo Superior de Investigaciones Cientificas - CSIC | Grid, CS, (NA activities) |
| UNITED KINGDOM: | The University of Edinburgh - EPCC | HPC, Code Optimization & parallelisation, NA, User support, (GRID) |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