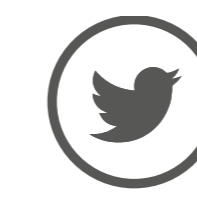




eFlows4HPC

Enabling dynamic and Intelligent workflows in the future EuroHPC ecosystem

www.eFlows4HPC.eu



@eFlows4HPC



eFlows4HPC Project



Creating a **European workflow platform** to enable the design of complex applications that integrate HPC processes, data analytics and artificial intelligence

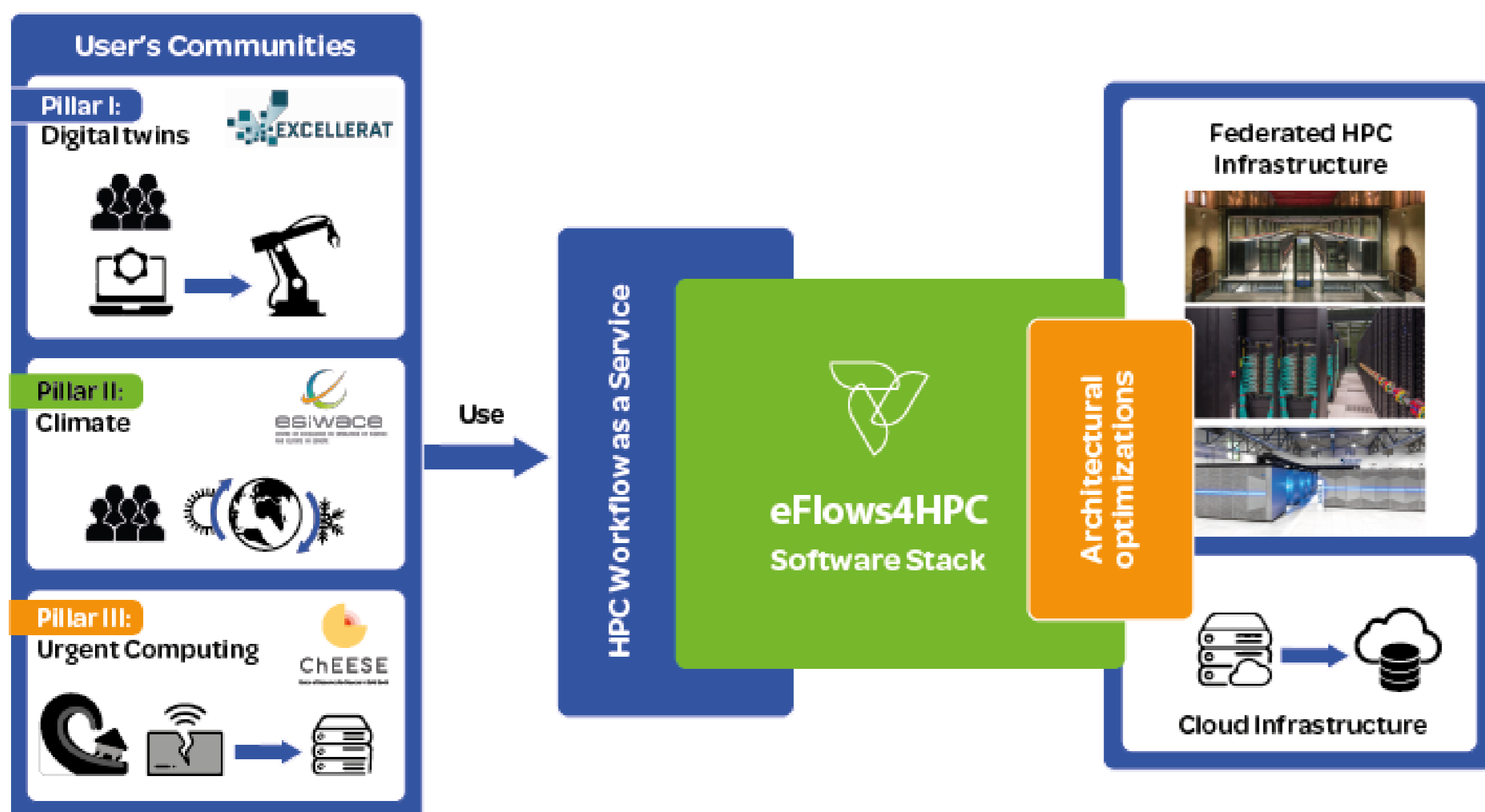


Developing **methodologies** to widen the access to HPC to selected user communities

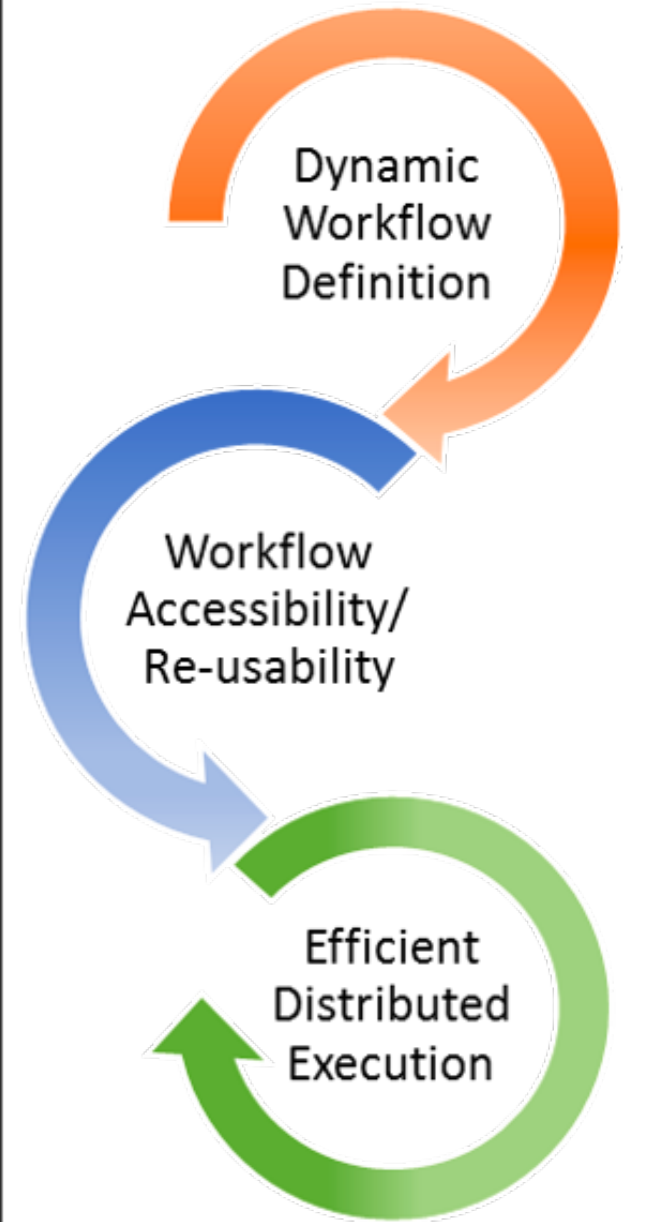
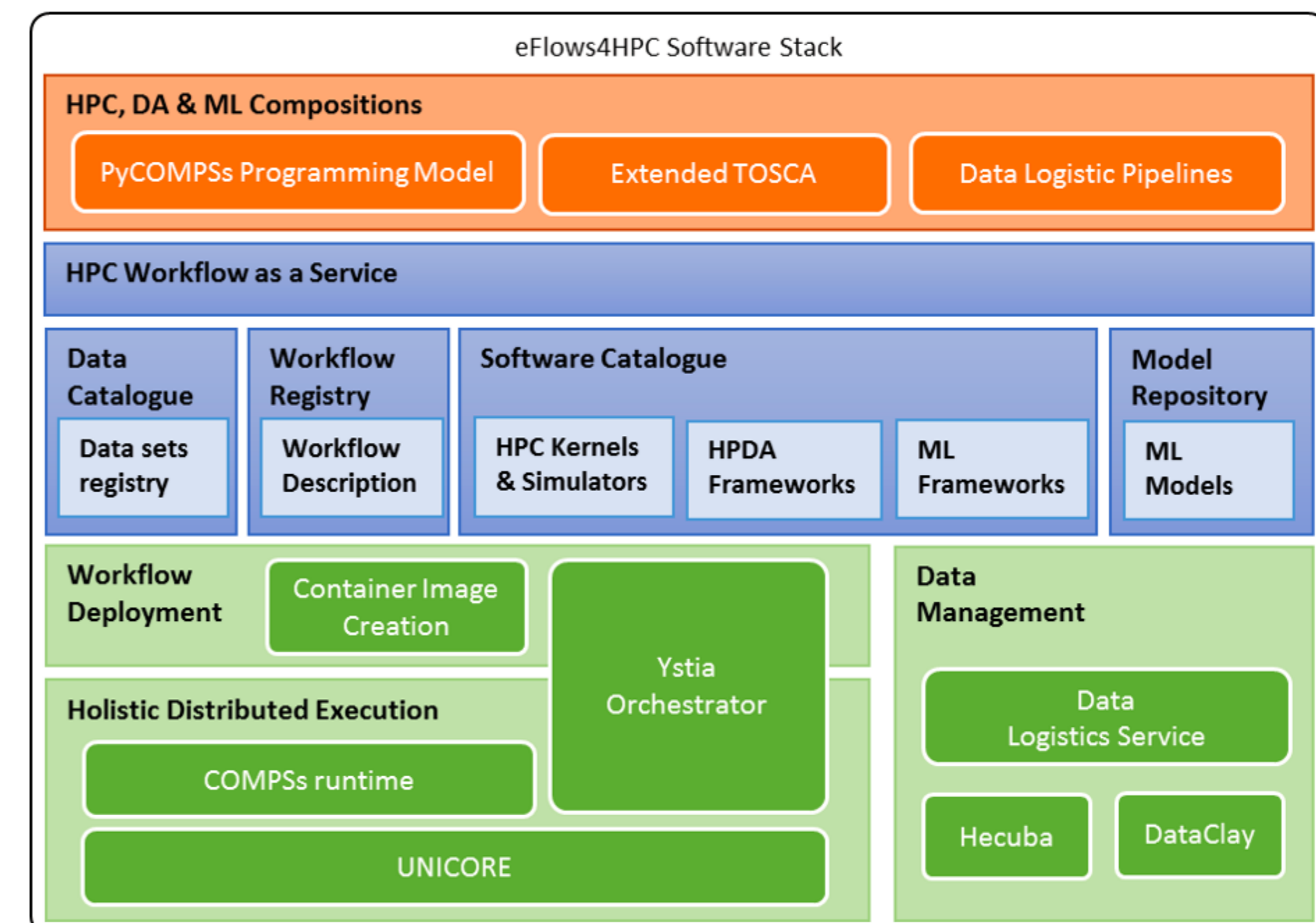


Demonstrating new workflow technologies through manufacturing, climate and urgent computing for natural hazards use cases

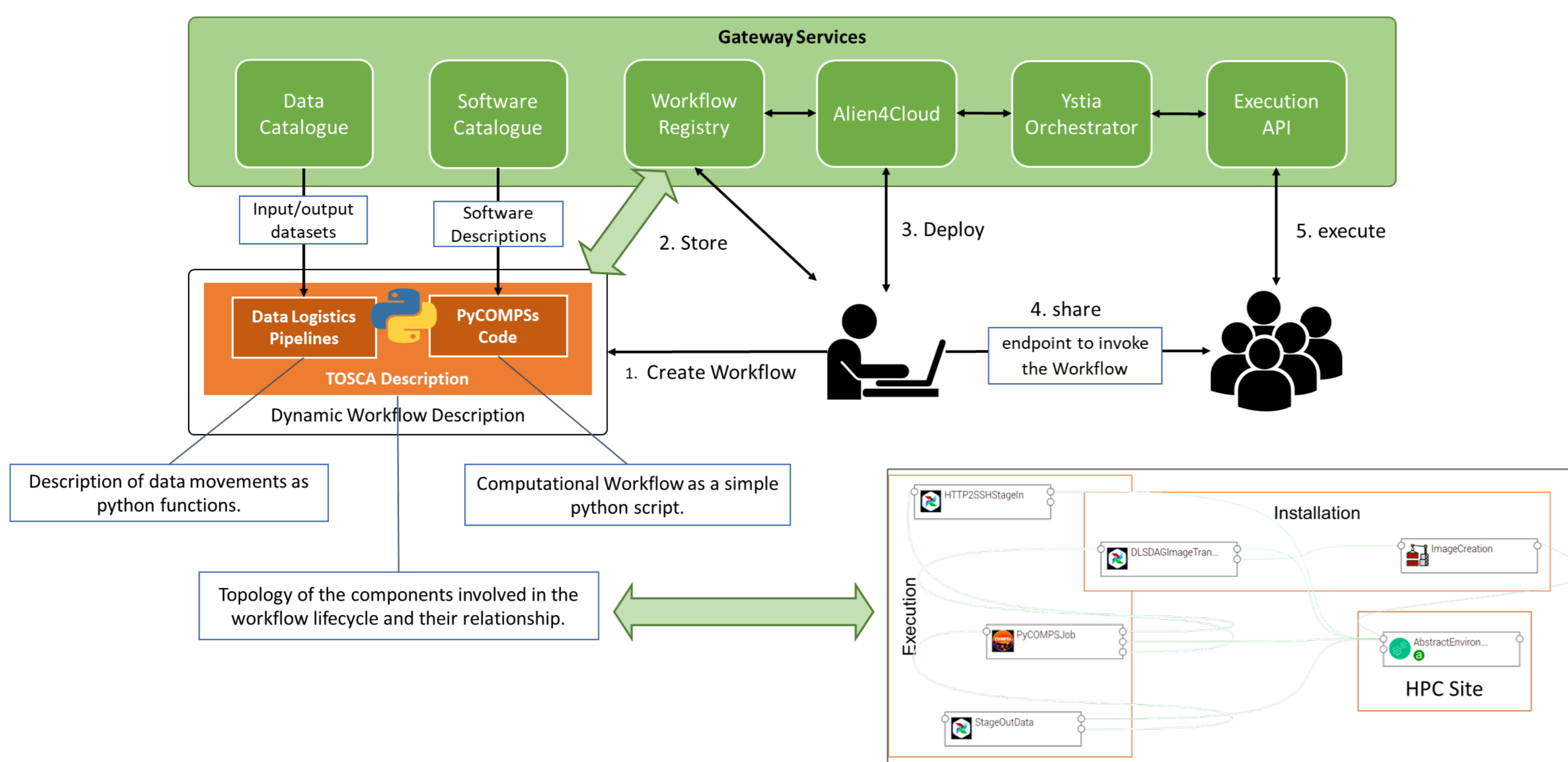
Overview



Software Stack



HPC Workflow as a Service (HPCWaaS)



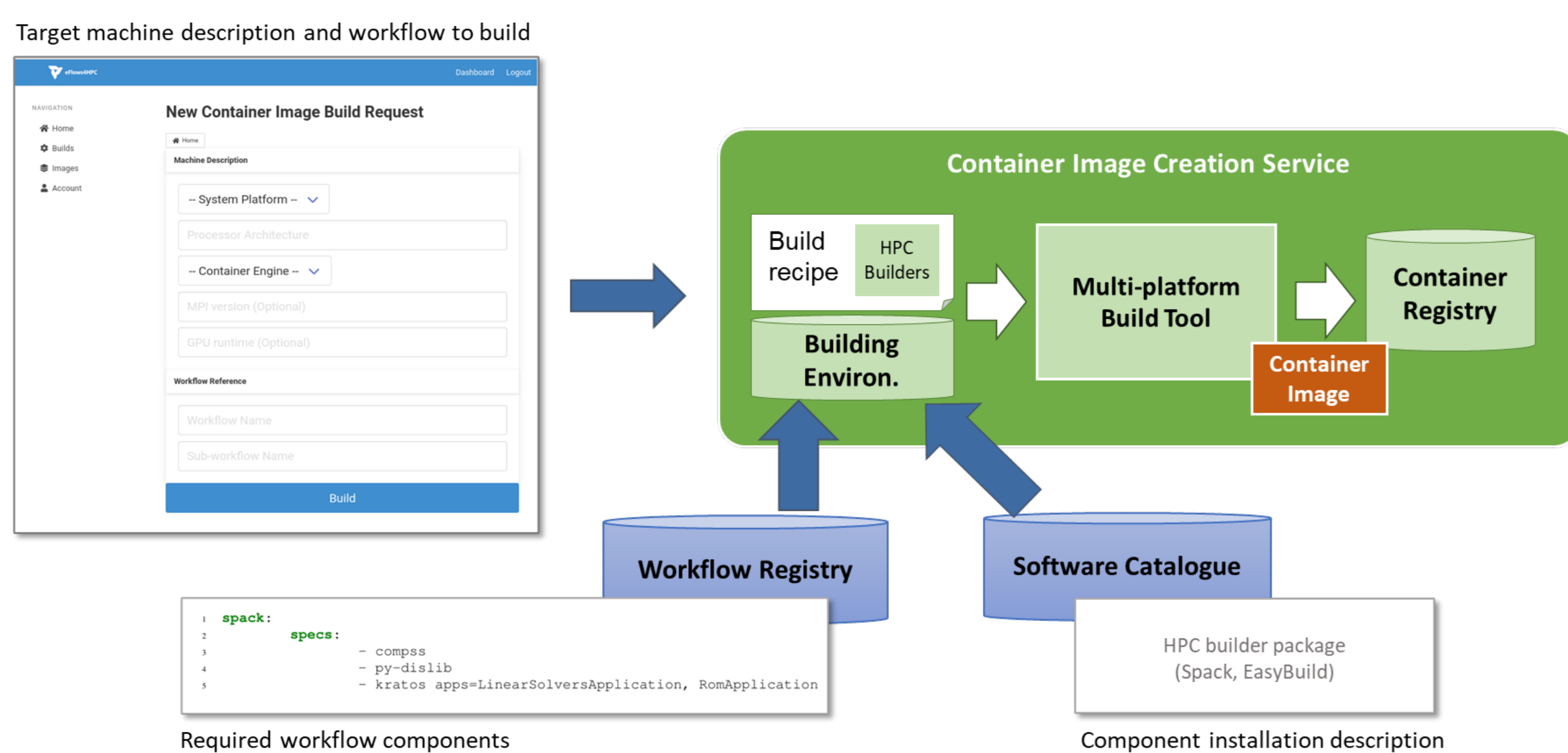
Development phase

- Different catalogues, repositories and registries will be source for workflow components
- Developers create workflow description including:
 - TOSCA description:**
 - Required software and services
 - Deployment and configuration
 - PyCOMPSs:**
 - Logic of the dynamic workflow
 - Data logistics pipelines:**
 - Describe Data movements involved in the deployment and execution
- Workflow description stored in Workflow Registry
- Deployed on any HPC system using the HPCWaaS Developer Interface (Alien4Cloud)

Execution phase

- Once deployed on the HPC, workflow execution can be triggered using a REST interface

Container Image Creation service (CIC)



HPC-ready containers

- Simplify deployment keeping the performance**
 - Methodology to allow the creation containers for specific HPC system
 - Specific containers for target architectures and HPC libraries (i.e., MPI, CUDA, ...)
- Two usage model:**
 - Web Service with graphical and REST interface
 - Standalone to easily integrate to CI/CD processes

Would you like to see a detailed tutorial?

