

MUSICODE Open Innovation Platform For Materials Modelling

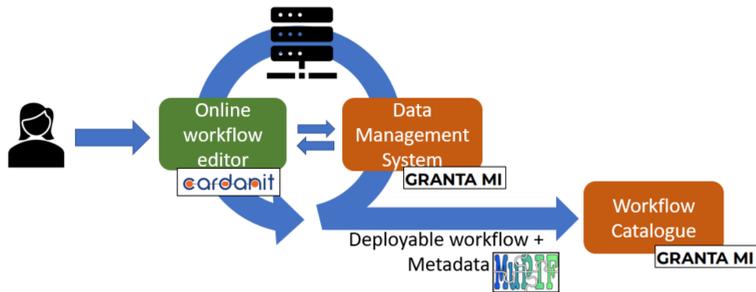


MUSICODE aims to create an Open Innovation Materials Modelling Platform that facilitates accurate and informed business decisions related to materials design and manufacturing process optimization. The platform, presented in this poster, is currently in its beta version and is being tested against project use cases in the Organic and Large Area Electronics Industry.

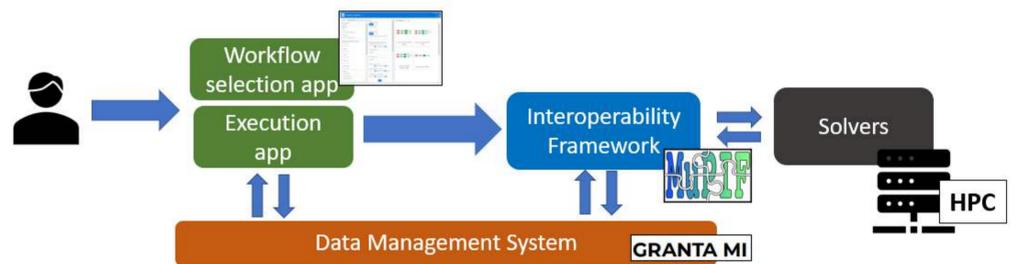


Target users and use cases:

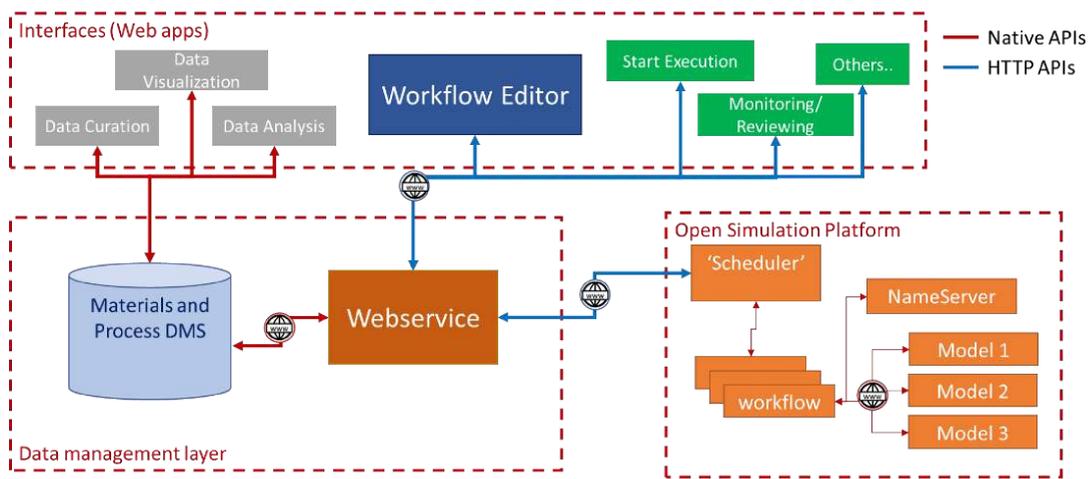
Expert Creating workflows



Non-Expert running workflows:



Architecture

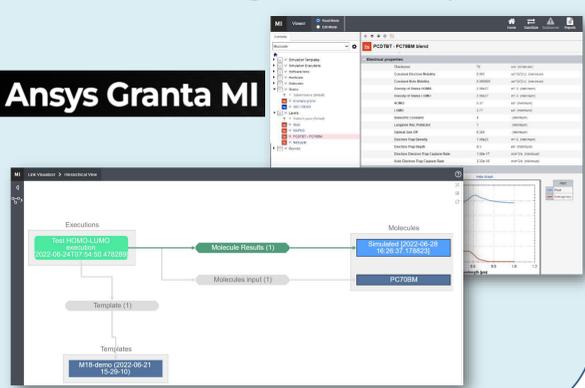


Key Features

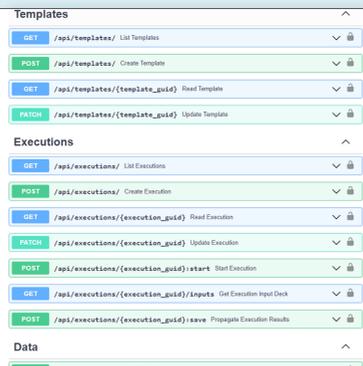
- Modular and flexible architecture with connection based on http APIs
- OIDC based single sign-on Authentication and Authorization
- No-code definition and deployment of preconfigured workflows as web apps
- Workflow definition based on BPMN standard
- Centralized Data Management
- Full traceability/provenance of simulation/experimental data
- Distributed execution of simulation workflows on HPC
- Semantic data exchange between models

Main Components

Data Management System



Webservice



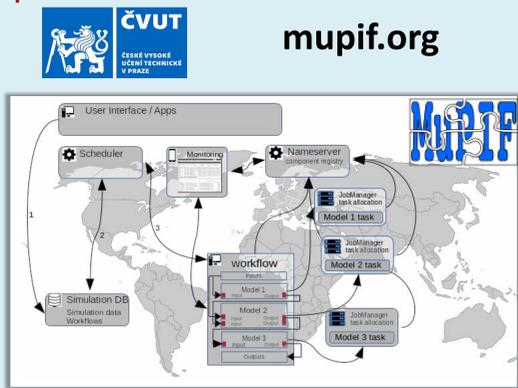
Standardized HTTP APIs
Following best practices for design and documentation

Workflow Editor



BPMN editor:
Design, validate, export

Open Simulation Platform

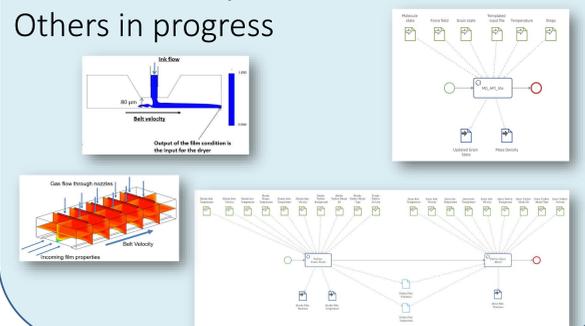


Connected tools*



Workflows/Models

2 workflows implemented and available
Others in progress



* Examples only, some planned/in progress

Acknowledgement:



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