



HAL
open science

Integrating Modeling Toolchain into High Field Magnet Monitoring and Control system

François Debray, Cédric Grand-Clément, Olivier Jay, Romain Hild,
Christophe Prud'Homme, Christophe Trophime

► **To cite this version:**

François Debray, Cédric Grand-Clément, Olivier Jay, Romain Hild, Christophe Prud'Homme, et al.. Integrating Modeling Toolchain into High Field Magnet Monitoring and Control system. International Conference on Magnet Technology MT26, Sep 2019, Vancouver, Canada. hal-02477407

HAL Id: hal-02477407

<https://hal.science/hal-02477407v1>

Submitted on 13 Feb 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



LNCMI



European Magnetic Field Laboratory

Integrating Modeling Toolchain into High Field Magnet Monitoring and Control system.

Francois Debray¹, Cédric Grand-Clément¹, Olivier Jay¹, Romain Hild², Christophe Prud'homme², Christophe Trophime¹

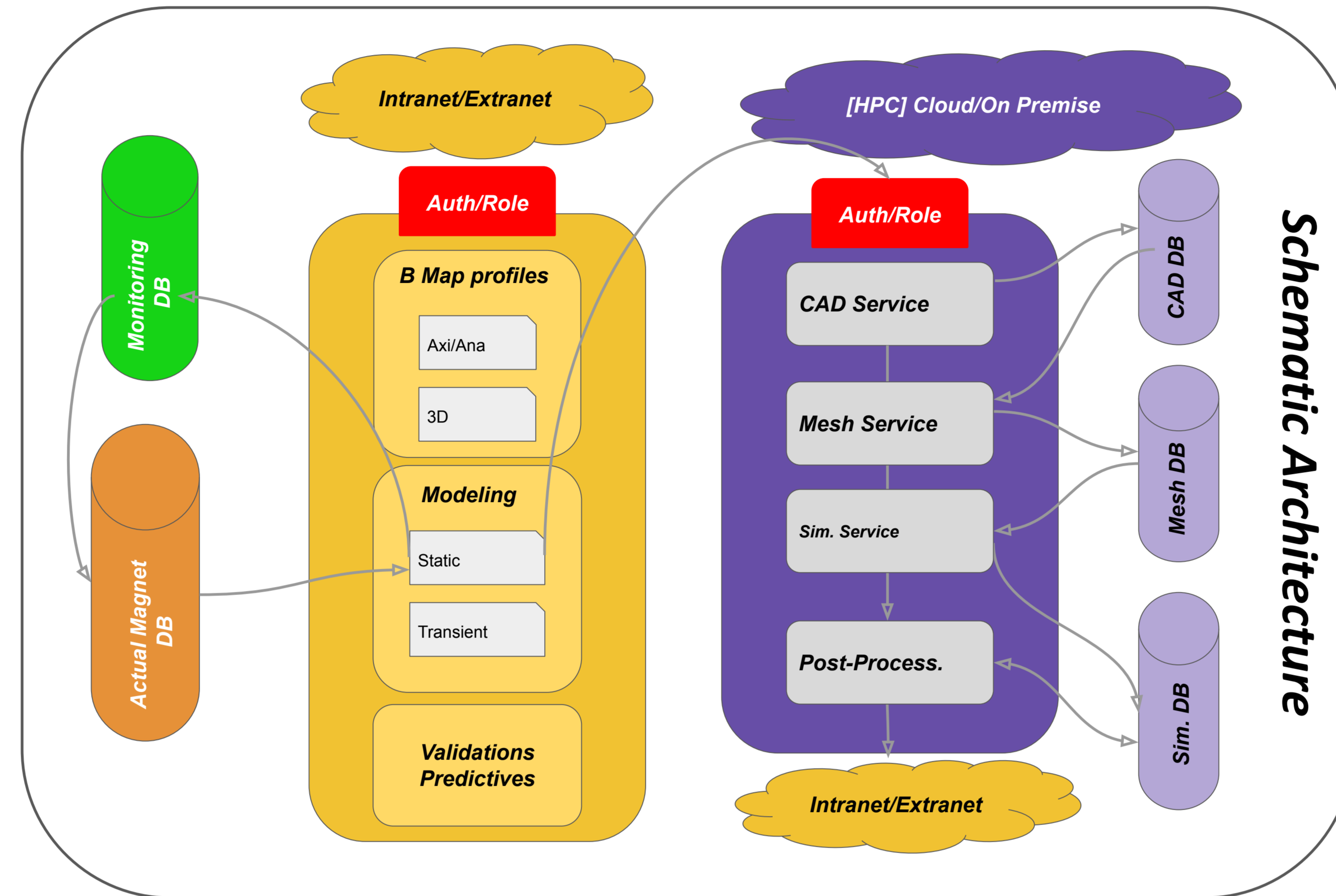
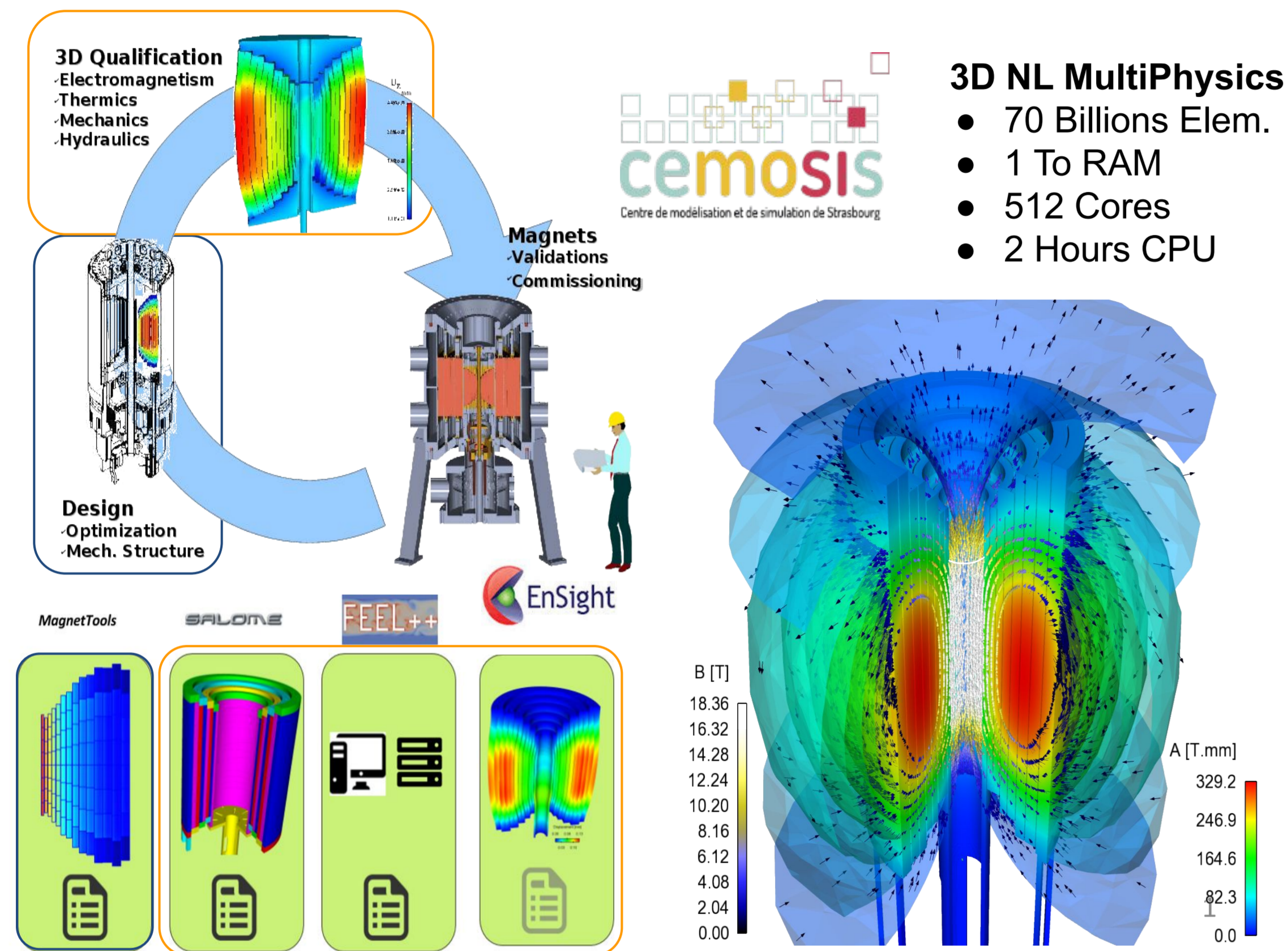
1. Laboratoire National des Champs Magnétiques Intenses, Univ. Grenoble Alpes, INSA Toulouse, Univ. Toulouse Paul Sabatier, EMFL, CNRS, F-38000 Grenoble, France

2. Institut de Recherche en Mathématiques Avancées, University of Strasbourg, F-67000 Strasbourg, France



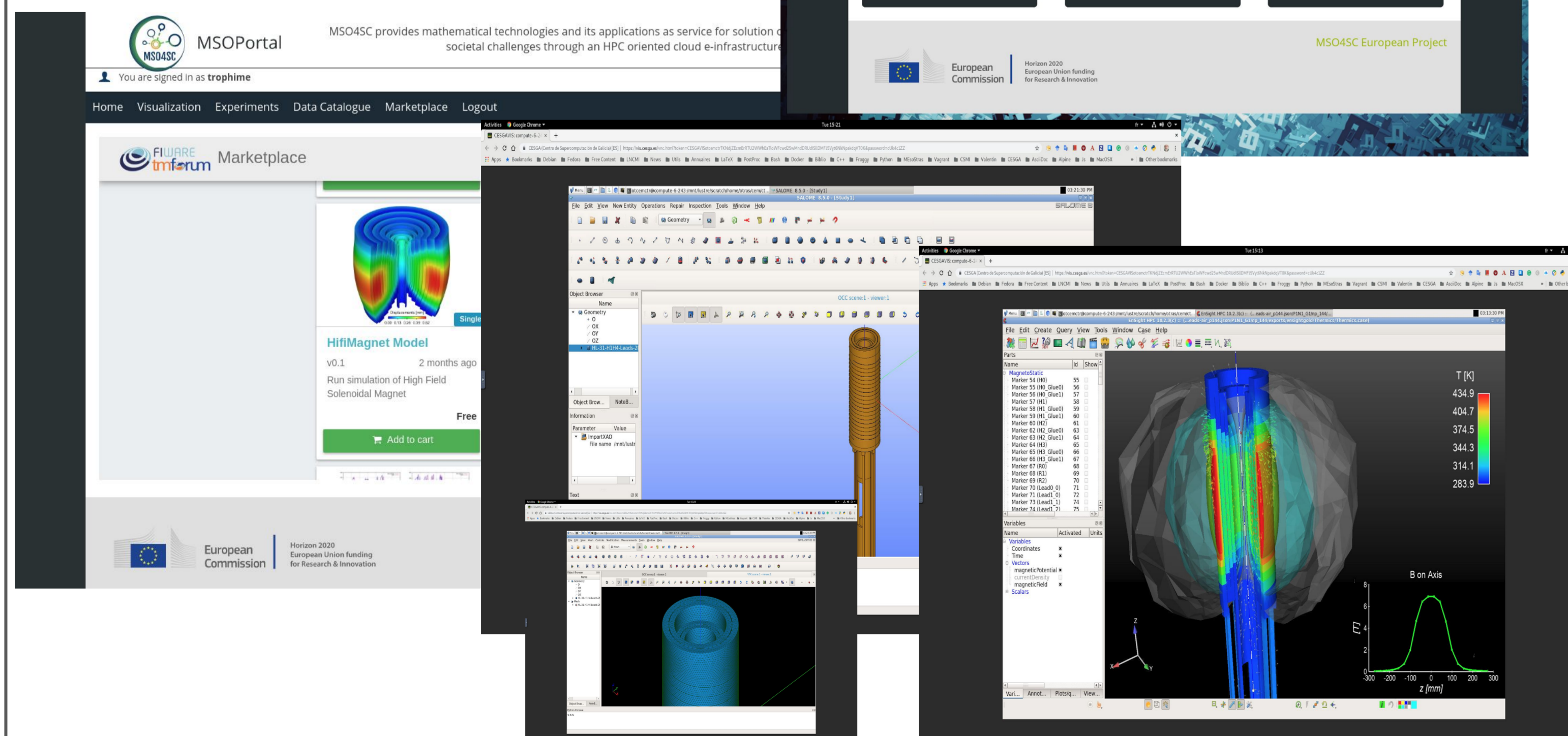
Wed-Af-Po3.23-0

HifiMagnet: a software tool Chain



MSO45C: HPC Cloud Computing service

- A Portal to access:
- software catalogue (Hifimagnet),
 - data repository,
 - workflow management
 - pre/post visualization of data (Salome)

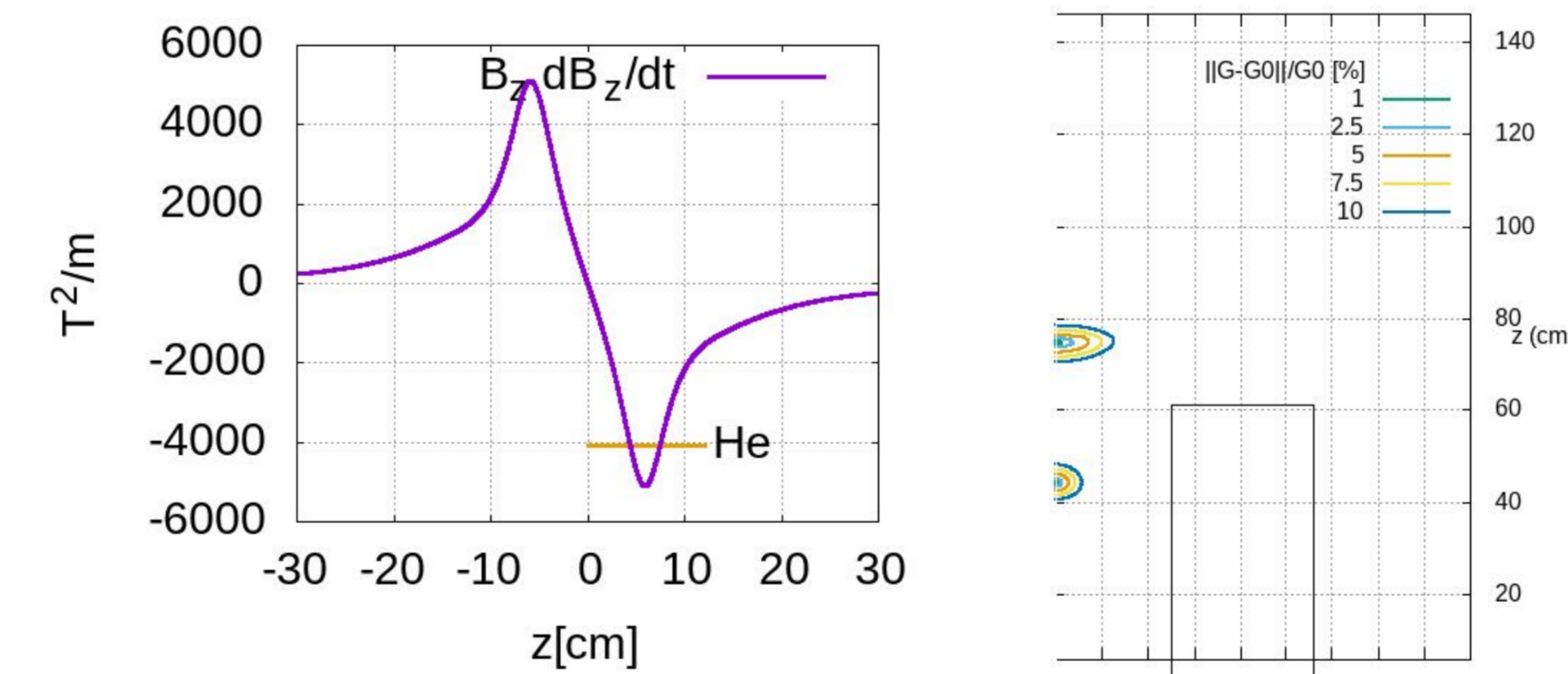


- Software CI/CD, provided as HPC containers
- Easy access to HPC resources (defined as yaml file)
- Only basic knowledge of HPC

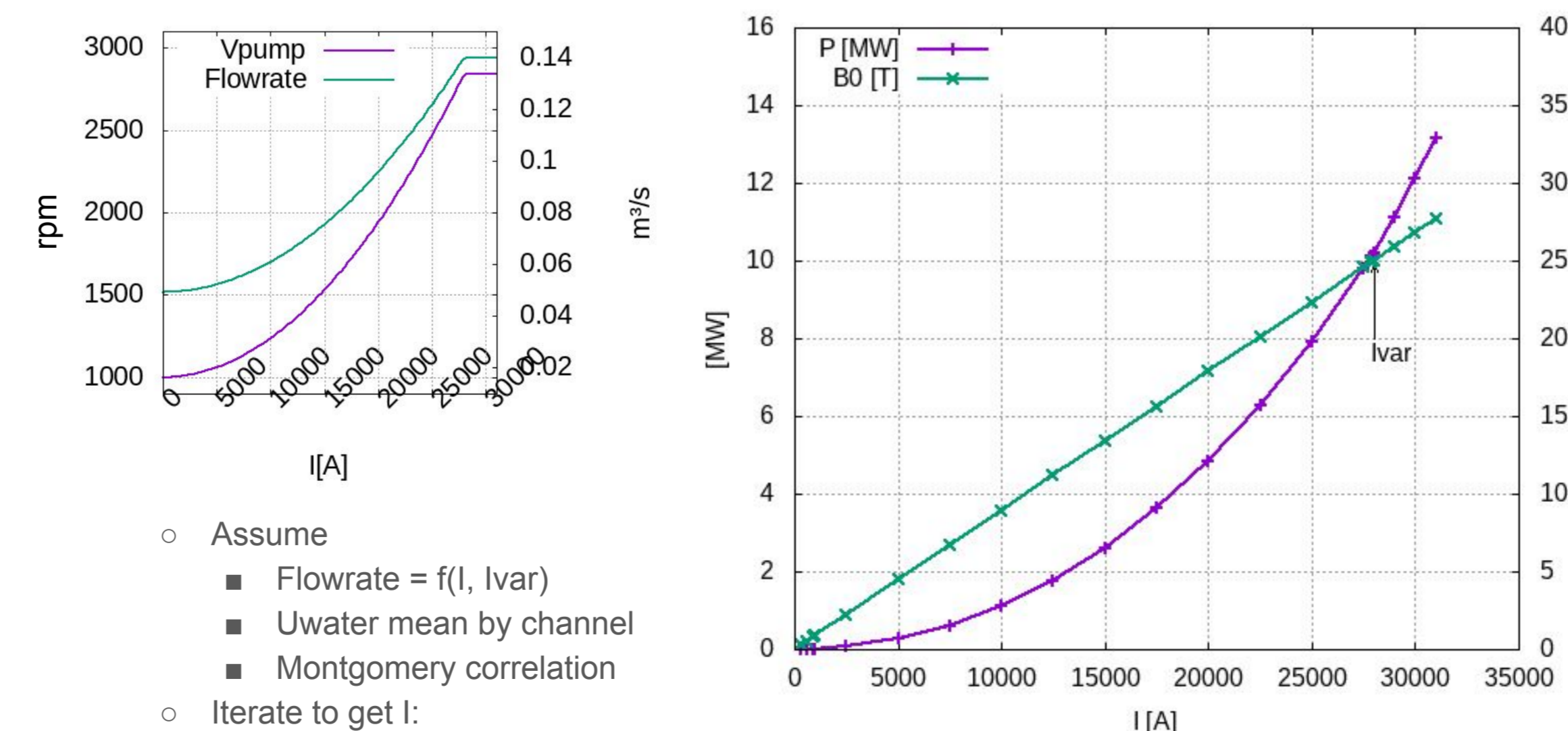


Use cases:

Cooling of HTS Nougat prototype (Jan. 2019) [Fri-Mo-Or27-04]
Magnetic Levitation of liquid He



14 Helices Insert (Jul. 2019) : Commissioning (Axi Model)



**14 Helices Insert in Operation (Mar. 2017) :
Reproduce plateau (3D Model)**

