

Title

Development of multibody Ge-rotor Pump model

Scope

Development of 2D multibody model in Amesim of a ge-rotor pump which will help improve the Digital twin of the pump.

Activity Plan

Model Development

From drawings and CAD models retrieve the data and geometry relevant for the modeling
Develop and assemble the multibody model in Amesim
Connect the model to hydraulics and e-motor sub-models

Validation of model

Assess with proper developed physical indicators if there is any correlation with NVH test data already available

Sensitivity Study

Assess the sensitivity of gaps, materials

Recommended skills:

- MATLAB
- AMESIM
- Concepts of Multibody modelling
- Research Oriented
- Simulink

Skills to be acquired during Thesis work

- Modelling in AMESIM
- Research methodologies
- Design optimization methodologies
- Multibody modelling in Simulink