

# Creation of accurate contact modelling technique for linear FEM-analysis

## Master thesis topic

- FEM-analysis is used to determine natural frequencies of a frequency converters and evaluate their behaviour and mechanical strength in vibration tests.
- One of the main challenges currently is how to model contacts between components for linear FEM-analysis (modal analysis and vibration response analysis) accurately enough.
- Target: To have contacts modelling technique for linear FEM-analysis, which could be applied for modelling accurately FEM models of large assemblies. It must be possible to utilize developed technique(s) in main commercial FEM softwares ( Abaqus, Ansys etc.)
- Real-life reference testing of analyzed objects is needed to verify the accuracy of developed modelling method.
- Expected benefit: With more accurate simulations product design could be optimized better and that allows to design more cost-effective products, which are more reliable at the same time. Product type test results could be foreseen with bigger confidence.

