**Master thesis: Model development**

**Thesis Description:**
Solvina is working with various types of power system studies such as: model development and validation, controller tuning, verification of performance requirements, grid code compliance according to RfG (Requirements for Generators), stability studies, and qualification for providing ancillary services. These studies require more and more complex models to study for example integration of renewables and battery energy storage systems into the power grid. Solvina is therefore offering a thesis work within model development, with the aim of developing models that are relevant to our studies. The thesis work can include tasks such as:

- Component modelling and validation in some of our customer projects
- Modelling of inverter-based production sources in Solvina’s own power system simulation software Simpow
- Benchmarking of Simpow towards other softwares (PSS/E, PowerFactory, or similar)
- Component modelling for our test equipment or virtual power plant thesis

The student completing this thesis will gain great knowledge in component modelling, control theory, power plant dynamics and control, and simulation softwares.

**For this thesis we are looking for one student with the following background:**

- MSc student within electric power, signals and systems, or similar
- Special interest in the following areas is meriting:
  - Power plant dynamics
  - Control theory
  - User-model development in simulation softwares (PSS/E, PowerFactory, or similar)
  - Programming (Fortran, LabView, Simulink)

**Solvina’s offering:**
An exciting thesis work performed in a highly competent environment with expert areas such as electric power engineering, process and control engineering, and engineering management. The thesis will be performed at our headquarters in Gothenburg. The exact scope will be decided together with the student to match with the student’s interest areas.

If you have any questions about the thesis, please contact Bengt Johansson at bengt.johansson@solvina.com or 031-709 63 66. Send your application to work@solvina.com and write "ex2023-002 – Model development" as subject. Selection takes place continuously.