Thermo-Calc Software

Thermo-Calc Software is a growing company, founded in 1997 and specialises in developing software for computational materials engineering. Our software products are used for both fundamental research and applied research, such as design of new alloys, optimisation of processing conditions, failure analysis and much more.

Our flagship product Thermo-Calc is licensed to more than 1000 organisations which are distributed and used in more than 70 countries by industry, government and academia for aerospace, automotive, energy, fabrication, primary metals and more. With a large and growing user base, Thermo-Calc Software looks forward to continuously providing our customers with new tools which will serve the scientific and engineering communities.

In choosing Thermo-Calc, you are not just joining a worldwide user community of top material researchers, but you also get access to the scientific experience of the company. The thermodynamic and mobility databases are continually developed in the true CALPHAD spirit in close collaboration with universities and industrial partners. Together with new models and functionality, the theories and results are frequently published in various journals, hence being validated by the greater scientific community to ensure our high standards of quality.

For the industrial user, one main benefit is to save time. By thermodynamic and kinetic calculations, you avoid doing unnecessary experiments by simple calculations and you speed up your different processes. Another use of the software is that you can get a better understanding of your application, thus avoiding errors and other side effects, and many times it guides you to breakthrough ideas. All this together will accelerate your development and implementation of new materials into plant and products, i.e. the return of investment is unlimited.

The teacher may experience an opportunity to give the students an insight in how to apply computational thermodynamics to real world problems. Teaching examples and much more are found under our Academia section in the website.

Company core competences are:

- Software development
- Modelling and assessment of thermodynamic and kinetic data applying the so-called CALPHAD methodology. This competence spans a wide spectrum of materials, such as for example Al-, Fe-, Mg and Ni-based alloys, solid oxides and slag systems.
- Calculation of thermodynamic properties in various systems.
- Modelling and simulating the kinetics of phase transformations.
- Modelling and simulating multi-particle precipitation kinetics.
- Modelling and simulating the evolution of microstructure.
- Consulting through database development and calculations offering insight into customer problems.
- Project management.
- Training.