



TLK-Thermo GmbH



## ClaRa<sup>+</sup> Training:

# Introduction to the Modelica Library ClaRa<sup>+</sup>

### Scope of Library

ClaRa<sup>+</sup> allows to model the transient, thermal behaviour of power plants and power systems. The library covers the modular description of all components of the water-steam cycle and the gas path of coal dust fired boilers and heat recovery steam generators.

### Training course objectives

The objective of the 3-day course is to introduce the participants to the Modelica library ClaRa<sup>+</sup>.

### Participants

The training course is for engineers and scientists who deal with development and simulation of energy systems. Please note that the number of participants is limited to 6 attendees in order to enable an intensive support of the group.

### Course instructor

The course is held in English (on demand) by developers of the library. They have modelled model energy systems in industrial and research projects for several years. Additionally, they are the main developers of ClaRa<sup>+</sup> and were involved in many projects using the library.

### Prerequisites for attending

For a successful participation you should have a fundamental knowledge of using the simulation software Dymola as well as common functional principles of the model description language Modelica.

---

#### Contact:

Ing. Ales Vojacek  
Dr.-Ing. Lasse Nielsen  
training@clara.com

+49 40 76629 2641 | Harburger Schlosstr. 6-12 | 21079 | Hamburg, Germany  
+49 531 390 76 244 | Hans-Sommer-Str 5 | 38106 | Braunschweig, Germany



TLK-Thermo GmbH



---

## Content

- Purpose of the library
- Package structure and scope of the library
- Discussion on selected components
  - Modelling ideas
  - Features, accuracy and limits of validity
  - Expert settings
  - Numerical properties
- Model creation of an example power plant
  - Overview on required steps
  - Creation of a static model
  - Creation of specific subsystems of the plant
  - Combine the subsystems to form the power plant
  - Discussion of results
- Individual studies of participants' use-cases

## Course length and place of event

The course will take 3 days (9 hours each including lunch break).  
It takes place in XRG's training rooms in Hamburg, Germany ([view](#)).

## Costs

The course fee is 1950 € for industrial participants and 1200 € for academic participants (plus VAT). This includes training material and catering (lunch, beverages). Accommodation expenses are borne by the participants. Please contact us, if there is need of an individually customized quotation.

---

### Contact:

Ing. Ales Vojacek  
Dr.-Ing. Lasse Nielsen  
[training@clara.com](mailto:training@clara.com)

+49 40 76629 2641 | Harburger Schlosstr. 6-12 | 21079 | Hamburg, Germany  
+49 531 390 76 244 | Hans-Sommer-Str 5 | 38106 | Braunschweig, Germany