

# SoWaCo<sup>®</sup> - Optimisation and **Dimensioning of your Facility**



Daniela Baris M. Sc., Dr. Hartmut Mätzing, Dr.-Ing. Hans-Joachim Gehrmann

# Service SoWaCo®

With the help of the numerical tool SoWaCo<sup>®</sup>, the optimisation potential of existing combustion plants, e.g. regarding the flow guidance, can be shown.

For newly designed facilities, SoWaCo® supports the dimensioning of the plants, for example for different load cases or shifting fuels.

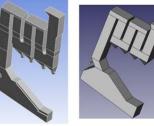
With the help of SoWaCo®, it is also possible to perform parameter studies for innovative construction forms, compared to the standard module, for which the required knowledge was not sufficiently available vet.

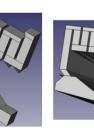
# We recommend SoWaCo<sup>®</sup> to:

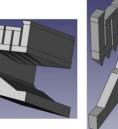
- Scan and test different optimization opportunities regarding the
  - geometry of the facility
  - operating parameters
  - emissions
  - thermal stress to plant components
- Optimize the combustion process regarding the
  - Grate burnout
  - Emission reduction
  - Reduction of thermal stress to plant components
  - Increase of energy efficiency
- Qualitative forecast of the emission behavior and the slag formation

# Why SoWaCo<sup>®</sup>?

SoWaCo<sup>®</sup> is a numerical tool for dimensioning combustion facilities and optimize the combustion process. The tool can be used to analyzed investment decisions, for example for comparing different construction measures to improve the flow guidance or to study the effects of different fuels in the combustion chamber.









programmed made by hand Design (~2-5 days) (~5-10 days)

programmable resizina (~5 min)

programmable section plane (~1 h)

Figure 1: Fast calculations of different sizes via CAD Source: KIT

design

#### Advantages:

- Optimization of your Facility:
  - Simulation of the impacts of possible construction measures
  - **Economic Operation**
  - Longer Lifetimes
  - Improvement of the burnout
  - Estimation of the slagging and corrosion
- potential
- Cost Savings

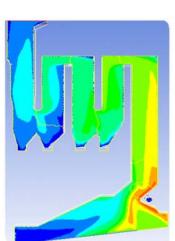


Figure 1: Presentation of the flow conditions with the help of SoWaCo® Source: KIT

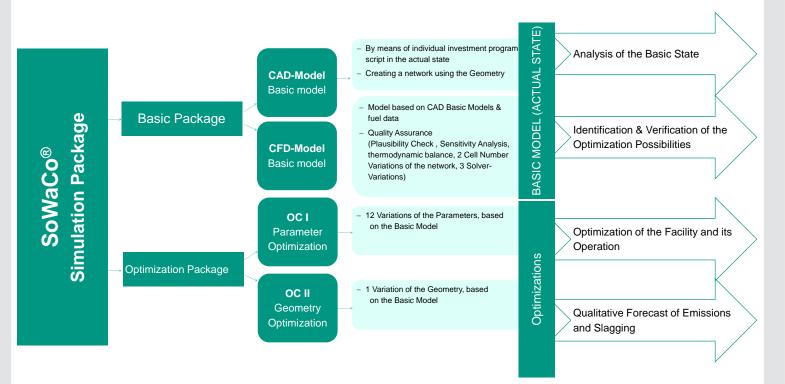


# The modular system of SoWaCo®

SoWaCo<sup>®</sup> is built like a modular system. Therefore it is possible to make an offer customized to your facility and your requirements.

In the basic package only the actual state and the planned state are included.

With the optimization package we offer you an identification and a verification of the optimization possibilities of your facility at the same time (optimal case OC).



### Please contact us, if you are interested in:

- A characterisation, calculation or consultation of your grate firing with FuBe<sup>®</sup>
- Further information about our service SoWaCo<sup>®</sup>

We would be glad to consult you, answer your questions and make you an individual offer. Please fill in this <u>form</u> and send us a request via Email.

Karlsruher Institut für Technologie Campus Nord Hermann-von-Helmholtz-Platz 1 76344 Eggenstein-Leopoldshafen

For further information go to: https://www.itc.kit.edu/



Daniela Baris M. Sc. Tel.: +49 721 608-24134 E-Mail: daniela.baris@kit.edu



Dr. Hans-Joachim Gehrmann Tel.: +49 721 608-23342 E-Mail: hans-joachin.gehrmann@kit.edu