

# SEKO

## Energy system integration & sector coupling using the example of the research infrastructures Energy Lab 2.0 and Living Lab Energy Campus

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Within the Helmholtz research infrastructures Energy Lab 2.0 and Living Lab Energy Campus, a technology platform is being developed at KIT's Campus North that enables the connection of different energy sources (electricity, heat/cooling, gas) with the help of ICT. The construction of the main components is to be completed by the end of 2018. This results in a very good starting position to investigate the system integration of different technologies with the help of information technology and to develop and validate methods for the dynamic coupling of the individual sectors.

In the sub-project TP3.2: "Integration of industrial production in the gas, heating and electricity network using the example of bioliq® - dynamic modelling of the system coupling", a dynamic simulation model of an exemplary future industrial production process in sector coupling is to be developed. With such a model approach, both the energy system role of industrial production as a prosumer and system service provider can be examined and evaluated and the complex production process itself can be dynamically optimized under the conditions of the future energy system.

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