

## Modern heating systems: ISH 2019 presents high-tech solutions for the heating transition

Anja Bräutigam  
Tel. +49 69 75 75-54 61  
Anja.Braeutigam@messefrankfurt.com  
www.messefrankfurt.com  
www.ish.messefrankfurt.com

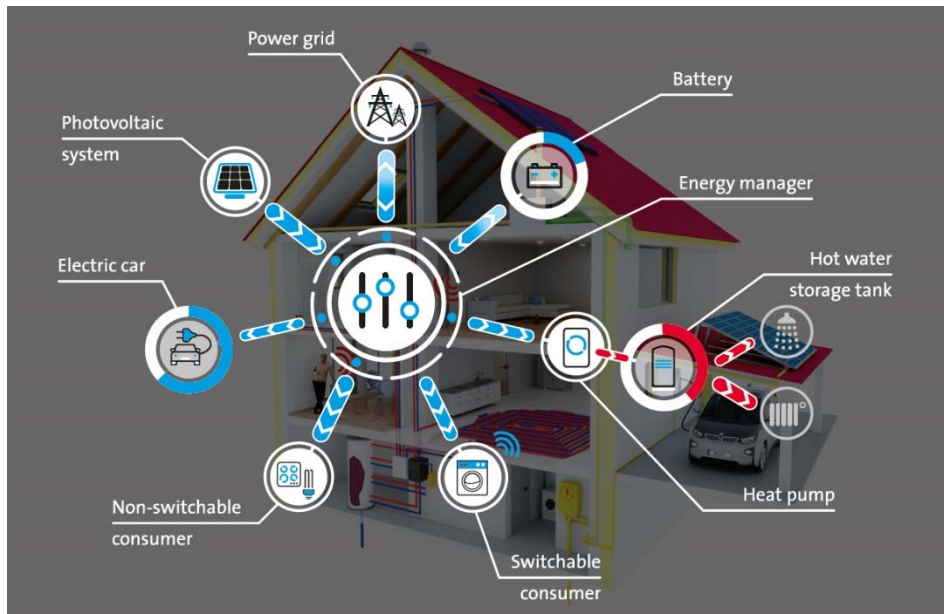
**Ambitious targets for the protection of natural resources and climate in Europe and Germany are pivotal for the discussions that have been held on energy and economic policy over the past few years. A major key to achieving these targets lies in the largest sector of energy use in Europe and Germany, the heating market. This offers the greatest potential of all for saving energy and reducing CO2 emissions.**

In Europe, and particularly in Germany, the existing installed equipment is dramatically out of date. Of roughly 21 million central heating installations in German boiler rooms, some two thirds do not meet the standards that technology can now provide and consume far too much energy. The heating industry has an extensive portfolio of high-efficiency solutions both for renovation work and for new builds.

Hybrid systems enable us to achieve high levels of efficiency and to include renewable energies. A heat pump used in combination with a condensing boiler is one form of hybrid system. The heat pump takes over the partial load at times when there is limited need for heat. When more heat is required, then the condensing boiler absorbs the peaks in demand. Similarly, a heat pump can be combined with a solid-fuel boiler, on the same principle. The combination of a condensing unit with a solar thermal installation is another example of a hybrid system and can be fitted both in existing buildings and in new builds. New builds are where heat pumps come into their own as the only form of heating, because of the limited heat required. If the operator wants a high degree of independence in terms of energy sources, the heat pump can be combined with a PV (photovoltaic) installation and thus use self-generated electricity for heating purposes.

In future, heat pumps will be able to be used in combination with a PV (photovoltaic) system and electrical storage as the heart of a Home Energy Management System (HEMS). The energy manager coordinates the balance between production and use. The PV installation provides cheap electricity to power the electric heat pump. The combination of heat pump and PV installation increases the efficiency and cost-effectiveness of the whole system. Excess solar-generated electricity that is not used immediately in the building is used to charge the battery storage.

Messe Frankfurt Exhibition GmbH  
Ludwig-Erhard-Anlage 1  
60327 Frankfurt am Main



Home Energy Management Systems (HEMS)

And finally, fuel-cell heating technology represents a particularly efficient solution for providing heat. This technology uses the chemical energy in the fuel – natural gas, for example – and transforms this into electric current and heat. Gas-fuelled cells are extremely efficient and cut CO<sub>2</sub> emissions. Because of this, there are some particularly attractive subsidies for fuel-cell technology.

All modern heat generators now include an internet interface and can, therefore, be controlled via an app on your tablet or smartphone. That not only increases the degree of comfort and convenience, it also means additional potential energy savings.

Modern state-of-the-art heating technologies – ranging from efficient heat generation to heat transfer – will be on display from 11 to 15 March 2019 at ISH. In Halls 11 and 12, the heating industry will be presenting the latest solutions and heating systems, which combine high efficiency with increased use of renewable energies. In conjunction with the Association of the German Heating Industry (BDH), ISH will be providing information about these technologies and other topics relating to the heating market in the ISH Technology and Energy Forum. In 2019, this will take place for the first time in Hall 11.1.

You can find further information about ISH at:  
[www.ish.messefrankfurt.com](http://www.ish.messefrankfurt.com).

As from 2019, the leading world trade fair will, for the first time, begin on Monday and finish on Friday; it is being held from 11 to 15 March 2019 in Frankfurt am Main.

ISH  
 World's leading trade fair for  
 HVAC + Water  
 Frankfurt am Main, 11 to 15 March 2019

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**Background information on Messe Frankfurt**

Messe Frankfurt is the world's largest trade fair, congress and event organiser with its own exhibition grounds. With over 2,400 employees at 30 locations, the company generates annual sales of around €669 million. Thanks to its far-reaching ties with the relevant sectors and to its international sales network, the Group looks after the business interests of its customers effectively. A comprehensive range of services – both onsite and online – ensures that customers worldwide enjoy consistently high quality and flexibility when planning, organising and running their events. The wide range of services includes renting exhibition grounds, trade fair construction and marketing, personnel and food services.

With its headquarters in Frankfurt am Main, the company is owned by the City of Frankfurt (60 percent) and the State of Hesse (40 percent).

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