



**BOSCH**  
Invented for life

Generating heat, power  
and compressed air cost-  
effectively

Reference Report Bosch Industrial

Energy transparency  
at the Bosch site

### The company

Around 1,200 employees research, develop and produce at Bosch's Lollar site in Hesse (Germany). As one of the largest factories of Bosch Thermotechnik GmbH, it produces state-of-the-art heating products and domestic hot water solutions. The company's focus is on connectivity, smart service and maintenance concepts, as well of course as on efficient heating. This is also reflected in the energy generation in the company's own production halls.

### Efficient heat supply in the Lollar factory

A CHP unit together with seven heating boilers and a waste heat boiler with a total heat output of 16,000 kW are in operation in the central heating facility at the Lollar factory. Its task is to provide reliable heating for the building and generate hot water and process heat for the paint shop. Thanks to the gas-powered CHP unit, Bosch Thermotechnik saves some 250,000 euros a year in energy costs. Since 2012 it has been supporting the supply of heat at the site and at the same time also producing electric power. This decentral



*Bosch CHP: 240 kW electrical output, 374 kW thermal output*

generated power is fed directly into the factory's mains network for internal consumption. The entire investment had already paid off in just 18 months. The CO<sub>2</sub> output is also significantly lower thanks to combined energy generation, and this has been reduced by around 340 tons per year.



*Bosch compressed air and heat system*

Since 2015 the Lollar factory has also been operating a compressed air and heat system. Particularly in industrial applications, compressed air generation creates high power costs and energy losses. Here the system concept from Bosch that is used demonstrates its advantages: instead of an electric motor, a natural gas-powered engine drives the compressor. The energy costs for operating with gas are significantly lower. Further, the compressed air and heat system utilizes the fuel cost-effectively. It recovers valuable waste heat from the engine and compressor and transfers this almost completely to the heat network. Based on an assumed utilization of 90 percent through the year, the annual saving is over 50,000 euros. The environment also benefits from 50 percent less CO<sub>2</sub> emissions

A complex heating system demands intelligent control technology. In order to achieve perfect interaction of the individual plants, Bosch Thermotechnik uses the Master Energy Control (MEC) system. It controls the entire heat distribution and switches in the energy generators as they are needed. Integrated monitoring functions continuously monitor the operating state, the temperatures and the output and consumption data. This creates transparency for optimum energy operation.

As a pioneer in the heating sector, Bosch Thermotechnik is constantly driving to increase energy efficiency and to network systems intelligently. This applies not only to its own range of products and services but also to its own production sites. The systematic optimization at the Lollar factory has achieved a significant reduction in energy consumption and emissions output. Groundbreaking technology, such as the MEC control system, ensures that it will also remain so in future.



*MEC System for multivalent systems*

**Bosch Industriekessel GmbH**  
Nuernberger Strasse 73  
91710 Gunzenhausen  
Germany  
Tel. +49 9831 56-253  
Fax +49 9831 56-92253  
sales@bosch-industrial.com

**Bosch KWK Systeme GmbH**  
Justus-Kilian-Strasse 29-33  
35457 Lollar  
Germany  
Tel. +49 6406 9103-0  
Fax +49 6406 9103-30  
bhkw@de.bosch.com

info@bosch-industrial.com  
www.bosch-industrial.com  
www.bosch-industrial.com/YouTube