

Siemens AG, Amberg: Energy Analytics

Energy data management for increasing energy efficiency

Customer

Siemens AG, Amberg

Location

Amberg, Germany

Project

Installation of an Energy Analytics energy data management system

Implementation period

September 2012 – June 2013

Scope of delivery and performance

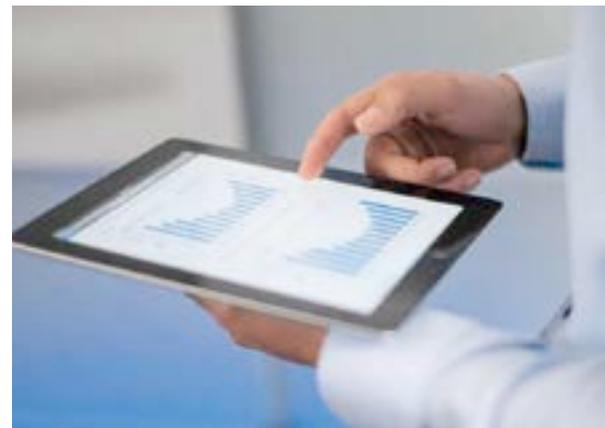
Energy Analytics

The challenge

The Siemens plant in Amberg produces globally leading products for industrial switching, such as the SIRIUS range as well as the SIMATIC S7 controller family and SIMATIC HMI control and monitoring systems. The plant is a role model not only for maintaining the highest quality, but also for increasing efficiency and environmental compatibility.

This is in full accordance with the Siemens-wide environmental program "Serve the Environment." Alone in 2012 a saving of approximately 17,000 tonnes of CO2 emissions and more than € 4.5 million in energy costs was achieved at selected Siemens locations. This is an ambitious standard for Amberg to live up to – and a good reason to build an energy management in compliance with DIN EN ISO 50001 at the location.

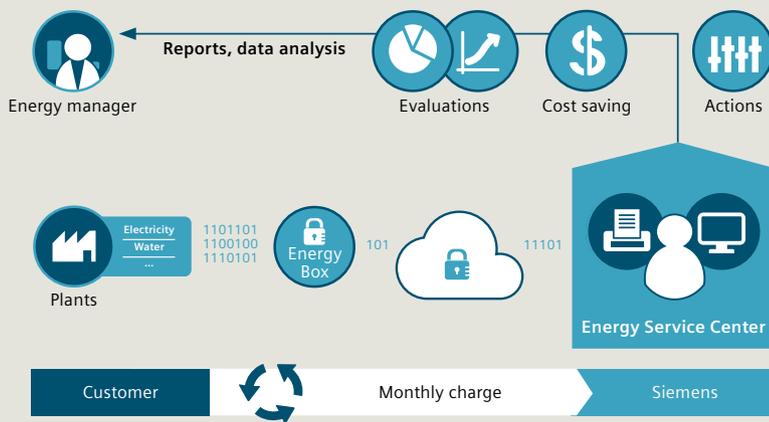
In order to ensure compliance with the legal regulations and also to implement measures for lastingly reducing consumption of energy sources and process gases, experts from the Energy Analytics Operation Center were called in.



Global access to Energy Analytics makes it possible to view current energy consumption at the Amberg plant

"First and foremost, best quality in production means saving resources. That's why we also invest in Energy Analytics."

Dr. Gunter Beitingger,
Plant Manager Amberg Electronics Plant



The energy data management concept of Siemens Industry Services boosts energy efficiency



Energy Analytics brings together people's expertise and use of systems to identify potential savings

The solution

Together with energy experts from the Energy Analytics Operation Center, energy data acquisition was optimized and comprehensive energy data management implemented in accordance with DIN EN ISO 50001. The first task was to determine the shortfall in meters and measuring points. 400 real meters and 300 virtual meters were then installed. In doing so, particular importance was placed on using in-house products such as SIMATIC AI Energy Meters for the ET 200SP, S7-1200, S7-1500, and the use of the EnergyApp for reading out energy data directly from SIMATIC CPUs. The Energy Analytics solution was superimposed on this data acquisition environment. The TIA Portal can also be used for data acquisition.

Data is transmitted via a secure connection to the Siemens Operation Center in Erlangen, where it is processed and analyzed by experienced experts. Data security has top priority. The energy team in Amberg now regularly receives informative energy reports via the web portal which the plant, and particularly the energy managers, can use as a basis for concrete saving measures.

Using Energy Analytics, it was possible, for instance, to ascertain the potential for optimizing the nitrogen consumption of the soldering systems – both in production as well as during non-production

times. As a result, consumption has been cut drastically and even reduced to zero during non-production times. The facts speak for themselves: Nitrogen consumption has been reduced by 8 percent. In addition, based on these data, machinery and infrastructure that is not being used can now be shut down for longer periods. This has been a great success: electrical energy consumption has already been reduced by 320,000 kWh.

The benefits

- Increased understanding of the consumption of plant and processes
- Effectively energy data acquisition and evaluation
- Transparency in energy demand as a baseline for additional saving potentials
- Energy cost saving of several tens of thousands of euros per year – with a payback period of less than a year
- Environmental benefits: Savings in energy and raw material requirement and reduction of CO2 emissions
- Compliance with the ISO 50001 specifications and Siemens environmental program "Serve the Environment"

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Article no. E10001-T430-A358-00-7600
GB150074 0215