Power monitoring system “powermanager” for one of the largest sawmills in Europe

The 43-hectare site of Ziegler Holzindustrie KG is situated in Plößberg, in the Upper Palatinate region of Germany, surrounded by pinewood forests. Things are very busy. Saw blades are rotating, planning and sorting machines are constantly in operation. The company’s own cogeneration plant is producing energy and heating for the drying plants. The company processes approximately 1.6 million solid cubic meters of spruce and pine per year, some 45 percent of which is sold in the German market, with 55 percent being exported worldwide. It employs around 420 people at the site. This makes Ziegler Holzindustrie KG one of Europe’s biggest sawmills. The power consumption is similarly high: At 27 GWh per year, the consumption is roughly the same as that of a small town of 9,000 inhabitants, including commercial operations. With this in mind, managing directors Stefan and Wilhelm Ziegler decided in 2012 to review total power consumption of its plant and equipment. How much power do the five sawmills, four wood processing stations, the dry kiln, the cogeneration unit, administration and four round wood stations actually use?

End user
Ziegler Holzindustrie KG, Plößberg, Germany

System integrator
Siemens Division LMV (Low and Medium Voltage)

Realization
2012
Details of the solution
As a technical basis an energy monitoring system was required, which acquires with measuring instruments the energy flows in all areas of production and analyzes the energy consumption on the basis of these data.

The energy monitoring software „powermanager“ provides the optimal technical basis to support an operative energy monitoring system according to DIN EN ISO 50001.

The system records software based and with 50 measuring devices (7KM PAC) the energy flows in all production systems. The data is collected, analyzed as well as archived and thus cost center reports are generated.

This means that Ziegler can precisely analyze its power consumption and pinpoint savings potential. "Thanks to power monitoring from Siemens, we reduced our electricity consumption by around three percent in the first year alone", says Claus Böckl, the business administration manager in charge of the project at Ziegler.

And this was possible even though the company also invested in two new kilns at the same time. In addition, network quality has improved, which leads to much lower down times. A particular highlight is that a unique mobile measuring device, based on 7KM PAC4200 was developed in cooperation with Siemens and Ziegler. It reports errors for example from the substations and can be used for pre-post analyzes for energy savings actions.

Technical details about the power monitoring system "powermanager"
The PC-based power monitoring software “powermanager” is based on the SCADA system SIMATIC WinCC Open Architecture and is in combination with the measuring devices an ideal solution for power monitoring. The “powermanager” records energy and power values as well as electrical parameters such as current, voltage or power factor (cos phi). It is possible not just to display the values, but also to monitor and archive them to perform analyses at a later time. "We have a longterm ECG for our factory", says Josef Lindner, who is responsible for the technical supervision of the energy monitoring system. To optimize power demand, this data can be displayed and then compared in the form of a load curve. Quick consumption analyses are possible by means of the supplied cost center reports or by means of freely structured reports according to individual requirements.

Software functions
- Recording and visualization of measured energy values
- Limit monitoring using freely configurable alarms
- Display of load profile or any other measured variables as a characteristic curve
- Predefined reports for the allocation of consumption and the resulting costs to any cost centers
Freely configurable reports based on MS Excel
- Monitoring of circuit breaker statuses
- Preconfigured project settings enable you to get started easily

**Advantages / Benefits**
- Lower engineering costs through extensive preferences in the software
- High efficiency even for small systems due to a low initial investment
- Direct access also through web
- Comprehensive functions, such as Reporting included in the basic package
- Customization and extensions with option packages at any time
- Identify optimization and savings through transparency in power distribution
- Important milestone for energy management systems, e.g. in build up according to the standard
- TUEV approved power monitoring system according to ISO 50001
Reference report
Energy

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Pictures

All the energy data under control: Using the powermanager software, the sawmill can record almost all the energy parameters and analyze them precisely

Topology of the power monitoring system with powermanager
Reference report
Energy

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Screenshots

Power monitoring software powermanager