Expectation and reality are often far apart

Sample calculations demonstrate the strength of condition-based prognostics

Zurich/Berlin/Cleveland, August 2016. Particularly in operations where large machines are in use and the overall processes depend on a smoothly functioning plant, companies have so far relied on fixed maintenance schedules and diagnostic tools. However, "Predictive Analytics" is gaining in relevance: This approach sends early warning signals and can anticipate malfunctions shortly before they occur. It provides diagnostic information about the current condition of the plant and also provides clues for the root cause analysis. However, Predictive Analytics remains vague about the future. Cassantec AG eliminates this vagueness by calculating explicit forecasts and probabilities when malfunctions will occur. The algorithm Cassantec Prognostics helps businesses adjust their maintenance management to the needs of the plant. Cassantec does so by reinterpreting the collected data so that the time windows for possible malfunctions are known well in advance. A change in the maintenance strategy is mostly reflected in lower maintenance costs and higher system availability and it helps in making better decisions regarding plant and equipment maintenance. Cassantec CEO Moritz von Plate illustrates with a few examples where companies can save money.

Example 1: Cement plant

"Companies often underestimate how many millions in potential savings are available in maintenance," says von Plate. For example, if a cement plant produces about 1.8 million tons of cement a year, the budget for maintenance is often more than 7 million euros per year. Thanks to the prognostic approach which helps to generate equipment specific maintenance plans, the plant manager can reduce the maintenance costs by as much as 25 to 30 percent because of the reduced number of unplanned events. With Cassantec's help downtime of approximately 40 days, which companies can expect based on past experience, can be reduced to about 32 or 33 days. The maintenance costs are reduced by more than 2 million euros.

Example 2: Paper mill

Similar results can be had with paper mills. Moritz von Plate continues, "Our Prognostics go beyond condition monitoring." The maintenance cost per year for a paper mill that produces

Press contact: Borgmeier Public Relations, Daniel Engelhardt, Lange Straße 112, 27749 Delmenhorst, Tel: +49 4221-9345-617, Fax: +49 4221-1520-50, engelhardt@borgmeier.de

about 500,000 tons of paper a year are approximately 26 million euros. Of that amount more than 5 million euros alone are caused by unplanned downtime resulting in revenue loss and additional work. With an optimized maintenance plan the company saves between 6.4 and 7.7 million euros on maintenance costs. The costs for overtime due to maintenance management for the paper mill is then only about 3.7 to 4 million euros. Thus, the total maintenance costs are reduced to 18.1 to 19.5 million euros. "With our approach we can reduce costs by up to 30 percent by reducing unplanned downtime by 23 to 27 percent," von Plate explains.

Example 3: Oil refineries

The average maintenance costs in an oil refinery which produces 200,000 barrels per day are about 35 million euros. By using Cassantec Prognostics a cost reduction of up to 2 million euros is possible. The operator can save of up to another 1 million euros during regular plant turnarounds. As is the case in the other plants, the plant availability can be improved. A reduction in the downtime of around 30% can be achieved. Thus, companies reduce additional operating costs.

Conclusion: Expectations get closer to reality

The results clearly show that by using the prognostic approach it is possible to reduce costs by an average of up to 30 percent. The methodology is particularly suitable for plants and machinery with components that are constantly in operation and show signs of wear and tear over time. Moritz von Plate continues, "The value of using Cassantec Prognostics is evident on the many levels on which a company undertakes cost reductions through an improved maintenance strategy." Both increased plant availability and better maintenance measures provide for long-term cost savings in the overall operations management. Bundling of maintenance interventions and avoiding unnecessary maintenance work provide for further reductions in operating costs. In addition, companies get a tool that protects them from making critical decisions "based on gut feel". "We provide a data-based approach, which allows making rational decisions. This way we align the operators' expectations with the actual plant condition." von Plate concludes.

Further information can be found at www.cassantec.com

About Cassantec

Founded as a public limited company in Zurich in 2007, Cassantec and its German subsidiary are specialised in providing customers with highly advanced prognostic solutions. With offices in Zurich, Berlin and Cleveland/USA the company delivers precise forecasts about the condition of equipment and components. Based on such forecasts the operators can derive optimal courses of action. With its prognostic approach the company distinguishes itself from other established monitoring and diagnostic service providers. Cassantec Prognostics is based on new and unique combinations of mathematical methods. They determine condition trends, risk profiles of malfunctions and the remaining useful life of a broad range of machines and equipment. The company can provide references from the power, oil and gas, and process industries and the transport sector. Cassantec is promoted by the Swiss Commission for Technology and Innovation (CTI) for its innovative prognostic solution and cooperates with leading universities and industry partners. The name Cassantec (which is an abbreviation of Cassandra Technologies) refers to the figure of Cassandra in Greek mythology who warns of impending dangers.