How smart IT solutions improve data analysis in power plant service

What started as a small start-up in a backyard in Berlin is now one of the most important companies in Germany. Werner von Siemens established his workshop in October 1847, and just two years later, he constructed the first telegraph connection in Europe. Today, the technology corporation is active in 190 countries, with 125 locations just in Germany. This company, which is traded on the DAX 30 exchange, has about 379,000 employees worldwide.

The Siemens Gas and Power Division is one wheel in this huge drive. To ensure that all of the processes interact efficiently here, in 2016 Siemens launched a productivity offensive for power plant service. The objective was to analyze in which areas unnecessary costs, such as excessively high material expenses, can be prevented. With several thousand various measures, more than 5,000 different data sets, and over 8,000 employees in the business unit, the investigations were complex and time-consuming. “The analyses were nearly obsolete by the time the results were available,” explains Tony Adam, Data Intelligence and Automation Manager. For this reason, he started searching for user-friendly alternatives to the inconvenient Excel spreadsheets. With the introduction of Alteryx, he not only made new knowledge accessible to his colleagues, but he also performed groundbreaking work.

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Laborious detail work caused outdated information and took a great deal of time

"The data for the unit’s productivity offensive comes together here where we work. We collect it in an internal system," explains Tony Adam. "But because we didn’t have our own visual interface in the past, we initially created makeshift visualizations with Excel and PowerPoint. Of course, when we did this we quickly noticed that they were, on one hand, much too static, and on the other hand, not transparent enough."

So the first important step was to switch to Tableau to improve the visualization. "This way we were able to display the results of the analysis more dynamically, and users could filter them based on their needs. But the actual problem with the time-consuming and complicated provision of data was still not solved. I still had to program my own macros with VBA code. Particularly problematic was moving from one financial year to another: Because the output format always changed then, every time I had to go into the 3,000 lines of code in order to adjust it. So we had tremendous problems in keeping the data current."

"We also allowed the macros to run just once a week because they were so extensive," says Tony Adam, describing his tiresome work. "Each time it took several hours. In this way, with additional corrections and new run-through phases I lost up to four days of working time per month, and in addition, I was only able to deliver an update just once a week. Not only that, but often this work was in vain. Because the data was updated just once a week, many employees did not even work with it. For them, the data was often simply already outdated and therefore useless."

Increased productivity thanks to Alteryx

"The big change came about with Alteryx," continues Tony Adam. "A colleague recommended the self-service software to me, so I wanted to try it out for myself. And I have to say: I love it!" Alteryx provided automation, so repetitive tasks, such as manually updating the data, are no longer necessary, and the employees can focus more on the analysis. In addition to the time saved, Alteryx also improved the quality of the analysis. Because the dashboards are automatically updated in three-hour cycles, the data is never outdated. "Now many more employees work with the data," explains Tony Adam. "While before we were constantly asked about the status of the data and if they could even be used, now my colleagues are using the dashboards all the time and trust them, too. That increases productivity tremendously and sustainably because there is no need to confirm the data two and three times in each instance."
Alteryx enables employees to use all existing data

Moreover, because Alteryx is user-friendly and so easy to learn, these are two pivotal reasons that the employees like Alteryx so much. With Alteryx, employees in a wide variety of departments can be trained as citizen data scientists. In the case of the Siemens Gas and Power Unit, the software is mainly used in middle management for specific process optimization. The brief learning period was one of the reasons that Siemens is using Alteryx. “It was important to us that the new software for data analysis did not require any programming skills, but can instead be learned and applied quickly and easily,” says Tony Adam. Following a one-time set-up, Siemens employees can now analyze the data relevant to them with just a few clicks.

With the newly gained transparency, employees understand the system better and can look at their objectives more clearly. Even management is now looking at the data regularly because it is prepared in a targeted manner. This provides crucial added value for the entire company.

“It was also important to us that the analysis processes would be transferable,” says Tony Adam. “My colleagues in the Smart Infrastructure area could simply transfer our models by using the copy and paste functions and get started right away,” he adds. “Because we were able to work so well with the software, we also recommended it internally.”

Furthermore, an internal community that has formed at Siemens is responding to questions about Alteryx. It is led by Tony Adam. In the community, colleagues are helping each other with technical documents and exchanging information on processes, tips and tricks. The number of employees of the Siemens Alteryx Community has increased by a factor of four within just a few months. “Alteryx has developed real momentum at Siemens. The software is spreading like wildfire in the company due to personal recommendations. Of course, as the department that introduced Alteryx, for us this is a great success!”