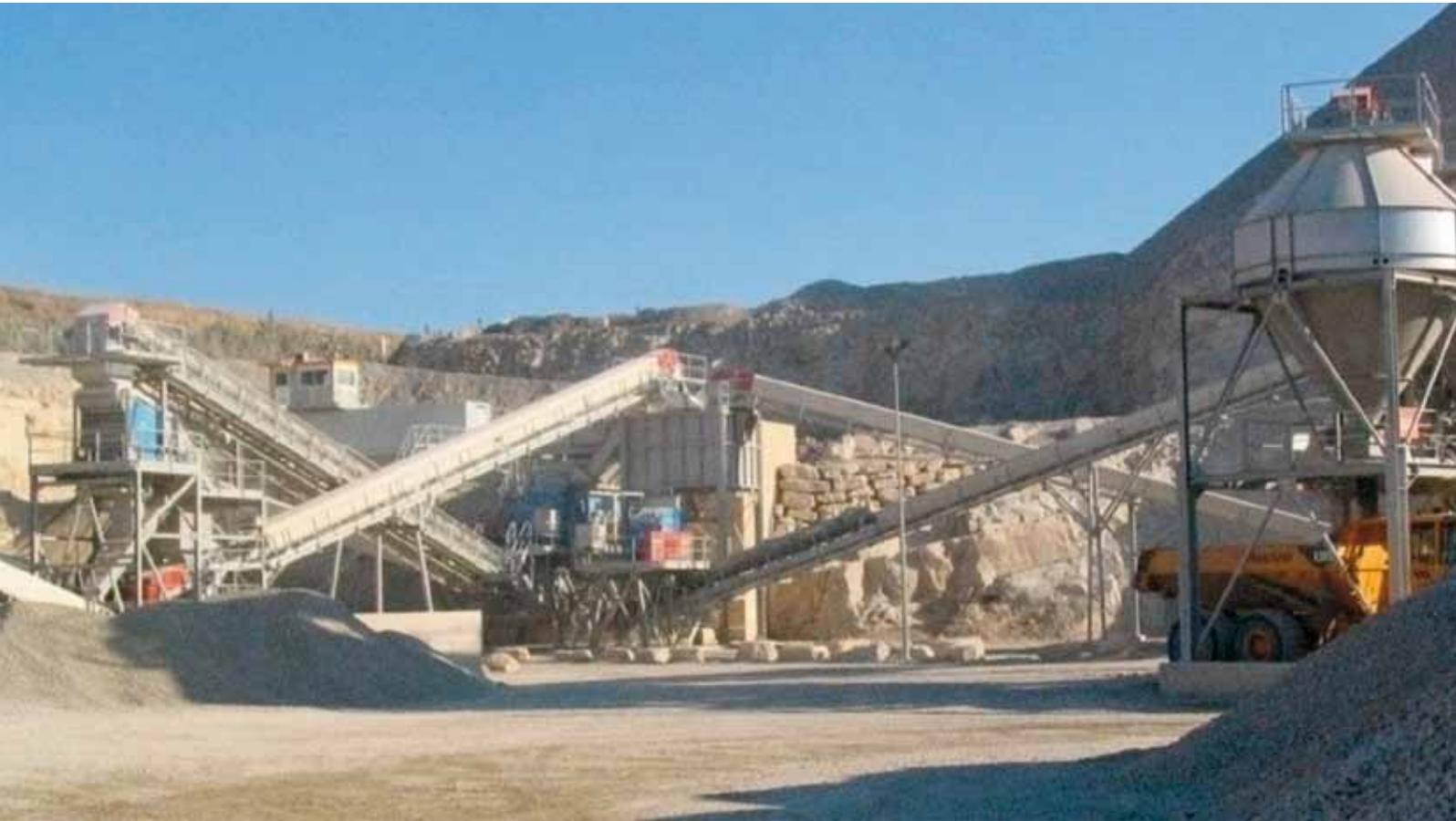


*Prefabricated automation structures at Italcementi:*

# Automatic engineering with straton and zenon

For most companies automation takes time; sometimes taking several weeks to get from a project plan to a completed system. Italcementi now creates its projects within an hour and the complete design and engineering phase takes no more than three days. This enormous acceleration was achieved by using a Wizard created by JS Automation using COPA-DATA's zenon, which is now in use in Italcementi's French plants.



## **ITALCEMENTI: MORE EFFICIENCY THANKS TO AUTOMATION**

Italcementi is one of the biggest international producers of gravel, concrete and cement. To increase the efficiency and productivity of their aggregates plants, the French subsidiary of this International group was looking for a solution that would bring with it several advantages. Paulo Pereira, Technical Manager Automation for Aggregates and Concrete, France and Belgium, "We wanted a reliable system for simplifying the creation of our projects in over 80 plants with differing automation require-

ments. We also wanted to become less dependent of subcontractors and also to lower our costs. Additionally, we wanted to make our projects easier to maintain than before. The perfect interaction of all components is very important for us. Our main criterion was a maximum degree of automation during project creation."

After considering the various solutions available on the market, Italcementi

## APPLICATION GENERATOR FOR ITALCEMENTI:

- ▶ Application Generator automatically creates projects for straton and zenon
- ▶ direct connection via I/O
- ▶ straton masters all current protocols
- ▶ zenon Reports
- ▶ zenon Industrial Maintenance Manager
- ▶ faster automation
- ▶ less time required
- ▶ simple maintenance
- ▶ independence

opted for JS Automation. The managers of Italcementi asked, "Can you automate our engineering?" and JS Automation answered with a clear "Yes". The French distributor of COPA-DATA's innovative solutions used the joint power delivered by zenon and its fully integrated soft-PLC, straton. In January 2008, JS Automation started implementing the Application Generator that would permit a completely automated engineering process. For this, they used the freely programmable interface of straton and zenon. By fall, the first four plants had been equipped with the Generator. In 2010, all plants will be using zenon, straton and the Wizard.

Hervé Seyfried, technical project manager at JS Automation, "straton and zenon were the obvious choice. This 'team of two' was the only solution on the market that easily fulfilled all requirements. The tight integration of straton and zenon made our task much easier. Additionally, straton can communicate readily with many different networks. This allows direct addressing of the machines via I/O."

### AUTOMATIC ENGINEERING: THE APPLICATION GENERATOR

Automatic engineering creates new space and liberty. Engineering times and costs

are lowered significantly, as are on-going support costs. Automatic engineering at Italcementi now means: Answering some questions about the design and then watching the Wizard create the production tool – the Application Generator performs about 90% of the required tasks automatically. This means that less expert knowledge is required in the company, which in turn means less training costs, less consulting costs and reduced dependence on external resources.

How does this Wizard by JS Automation work? After starting the Application Generator, the user defines the project using an interactive dialog. The Wizard then creates the complete automation project for straton and zenon.

straton, an IEC 61131-3 programming environment, is integrated seamlessly into the zenon HMI/SCADA system, via one single database. Functional blocks have been developed in IEC 1131-3 standard languages for all types of machines encountered on production sites. The Application Generator maintains a connection between the blocks' inputs and outputs. The process staff then only needs to configure elements such as the machines' startup and shutdown sequences, timing, alignment etc. It connects directly to I/O systems of different manufacturers such

as Wago via a network interface. If required, straton can also communicate with any PLC. But the really important thing is the tight integration of zenon and straton.

### COLLABORATIVE WORK FOR DIRECT CONTROL

zenon handles the visualization for Italcementi projects, collects data and analyzes it. This data is used, for example, by the zenon "Industrial Maintenance Manager" module (IMM) to optimize maintenance activities and to make sure there is only minimum interference with everyday operations. It allows for the exact and targeted scheduling of maintenance activities. At a glance the user sees which devices, systems and machines require maintenance and at which time. Additionally, it logs all the maintenance work performed in the past. As the data is in an SQL database, it can easily be used by other applications. In addition to seamless integration with straton, zenon features a truly open design, including over 300 communication protocols, and also with connectivity to superordinated systems. Italcementi is profiting from this teamwork, which was also one of their requirements. Many sources of error are ruled out in advance; time-consuming and expensive detours are avoided. Prac-



tice has shown that project maintenance effort has also decreased. zenon itself is really easy to use and makes work simple even for inexperienced users. Changes can be implemented at any time, even during operation - an advantage also offered by straton.

### **STRATON: POWER AT ALL LEVELS**

At Italcementi, straton plays the role of an intelligent field bus controller, communicating directly with physical inputs and outputs on the I/O level. However, the main reason for choosing straton was its capability of acting on other levels as well. On the process control level, it acts as powerful, real-time control unit in the form of a soft-PLC that receives data via all commonly found field buses. This allows for the simple use and integration of existing PLCs of many different manufacturers. By integrating straton into the independent SCADA system zenon, it can also work as the computing center. The powerful interface between zenon and

straton guarantees optimum real-time behavior and allows processing of large amounts of data in a short time. Both systems can be easily configured for redundant operation to increase security. straton makes it easy to run the HMI and the PLC on a single system, ensuring a good overview and saving costs. The straton workbench - an IEC 61131-3 programming environment - is integrated seamlessly into zenon, delivering considerable advantages for engineering tasks: redundant variable pools or variable list imports are no longer necessary. With a few mouse clicks in the straton Workbench, the user can configure the data to be shown in zenon. The straton Workbench supports all five programming languages defined in the IEC 61131-3 standard and allows for the smooth conversion of one language into any other IEC language.

### **ZENON: PERFECT TEAMWORK**

straton and the HMI/SCADA software zenon work as a team in the plants of

the Italcementi Group. zenon is provided by COPA-DATA, an innovative European company specialized in HMI/SCADA systems, and delivers striking advantages with its truly open design. Just like straton, it supports any kind of hardware and all current Windows operating systems. But above all, it can create secure networks with only a few mouse clicks. Within minutes, it creates a redundant system where every computer can be the server or the standby server. If one of them crashes, the standby server will seamlessly take over its tasks, without data loss. Additionally, zenon - just like straton - features a hot reload capability: engineering changes can be integrated during running operation without having to stop the system.

zenon also ensures a good overview. With only a few adjustments, several projects can be combined in a so-called integration project. The integration project takes over the role of an index listing all projects and providing fast access - even across plants or countries. Italcementi can

“The decision to use zenon was a very logical and obvious one. It ensures optimum connectivity to existing systems in our plants, it gives us exactly the automation that we need and it convinced us with its excellent integration with straton.”

**PAULO PEREIRA, TECHNICAL MANAGER AUTOMATION FOR AGGREGATES AND READY-MIXED CONCRETE, FRANCE AND BELGIUM**

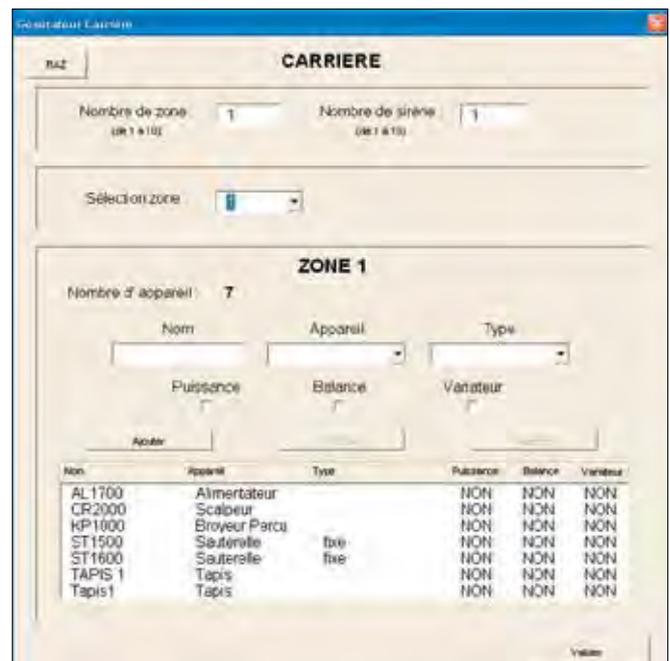
now combine any number of projects and also monitor and control them remotely. The foundation for this already exists; the actual engineering procedure required for this feature is a standard task. A finely structured user rights system allows definition for every user which projects they can view and which settings they are allowed to change.

### MORE PRODUCTIVITY, LOWER COSTS

JS Automation and zenon with straton made it easy for the Italcementi Group to specify them. zenon and straton was the only system that was able to meet all the automation requirements: a generator that would adjust to the individual requirement of the users.

Paulo Pereira explains, “The Application Generator by JS Automation reduces our engineering times by up to 90 percent. This enables us to implement even complex projects without any external support, which provides resources for other projects.”

The Application Generator lowers the effort required for engineering and maintenance. As do zenon and straton, enabling the targeted use of resources in many ways. For example, with zenon’s network functionality, it only takes a few mouse clicks to create a completely





operable network. It enables secure redundant operation and creates a clear overview – across different plants. If at any time, Italcementi wanted to combine several plants or maybe all of them and monitor, control and visualize stations remotely, that would be an easy task for JS Automation, zenon and straton.

Paulo Pereira explains, “The decision to use zenon was a very logical and obvious one. It ensures optimum connectivity to existing systems in our plants, it gives us exactly the automation that we need and it convinced us with its excellent integration with straton.”

### **JS AUTOMATION: EXPERIENCE MATTERS**

JS Automation has already implemented many different projects across France as the distribution partner of COPA-DATA, including the implementation of several automatic generators. However, the Wizard for Italcementi was by far the most innovative project. Hervé Seyfried explains, “It was fun to implement this project. With our many years of experience, we were able to make full use of

the capabilities of zenon and straton, but what really surprised us was the dramatically reduced engineering time.”

Before creating this unique Wizard, JS Automation had already demonstrated its expertise on Italcementi’s premises by implementing a weighing system. By the way, that project can be connected easily to the projects created by the Wizard.

JS Automation currently provides training for other French system integrators. All over France, if it is about automation, COPA-DATA and JS Automation make sure that well-trained integrators are available who can also rely on the support of the experts of JS Automation and COPA-DATA.