

A modular approach

Cement companies need to equip themselves for the challenges of Industry 4.0 if they are to thrive in the age of digitalisation. A range of modular solutions from Claudius Peters enables producers to collect data and interlink with suppliers to optimise both existing and new plants.

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To survive and prosper in the age of Industry 4.0, companies must become agile organisations. New capabilities, new ways of thinking, new structures and new methods of communication are essential to this process of conversion. To equip themselves for the challenges ahead, companies must become experts in networked thinking, open communication and across-the-board collaboration.

Claudius Peters has developed its modular Smart Solutions, which collect data and interlink customer expertise with that of a range of suppliers, to enable the optimisation of existing process plants. Each module can be combined and used in a variety of ways.

CP Portal/Customer Portal

Imagine a scenario where you are at the centre of intelligent data, with continuous access to important information and documents, anywhere and on every device. Where you could receive data via a QR code while in the plant, for components which had already been installed. This is CP Portal.

Continuously adapted to customers' changing requirements, CP Portal has been designed to bring considerable enhancements to overall plant efficiency. A simple, intuitive user interface enables the interlinking of data from many sources, using retrospective QR coding.

The user receives important and comprehensive information during all project phases, with all QR codes and orders since 1994 made available upon request. Further services are currently under development and will be able to be retrieved via the CP Portal. The CP Portal module can also be scaled for extended requirements, allowing the customer to determine step-by-step which plants and machines to integrate into their portal. CP Smart Engineering enables this to be carried out quickly and efficiently.



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Documents and data from the customer's system can then be simply interlinked. Customers have the option of storing this data on the cloud, or in their own server infrastructure.

CP Smart Engineering

Imagine having a digital twin of your plant made available in just minutes. What if you could allocate documents and data by means of your TAG numbers? What if you could access a platform which incorporates your own plant structure? All this is possible with Aucotec's Engineering Base platform. Its multi-layer server architecture, along with its Process Configuration Management (PCM) tools developed by Claudius Peters, enables the fast creation of a central interdisciplinary data source to create a complete digital twin of a plant.

The PCM enables configuration of a customer's plant in just a few minutes. Developed process modules and intelligently-linked functions allow the creation of data models incorporating process flow diagrams, piping and instrumentation diagrams, as well as functions, devices and installation sites. With this data, customers can digitalise their documentation and link it to other data, defining their own standard symbols and plant structure functions.

CP Plant View

What if you could virtually walk through your existing plant? Or if you could find your documentation via 360° digital images? What if you were able to share and discuss issues online with any partner anywhere? Since 2014 Claudius Peters has been developing and enhancing CP Plant View, which enables 360° plant views and tours. With a similar functionality to Google's Street View, this facility is integrated into plant documentation, following erection and commissioning.

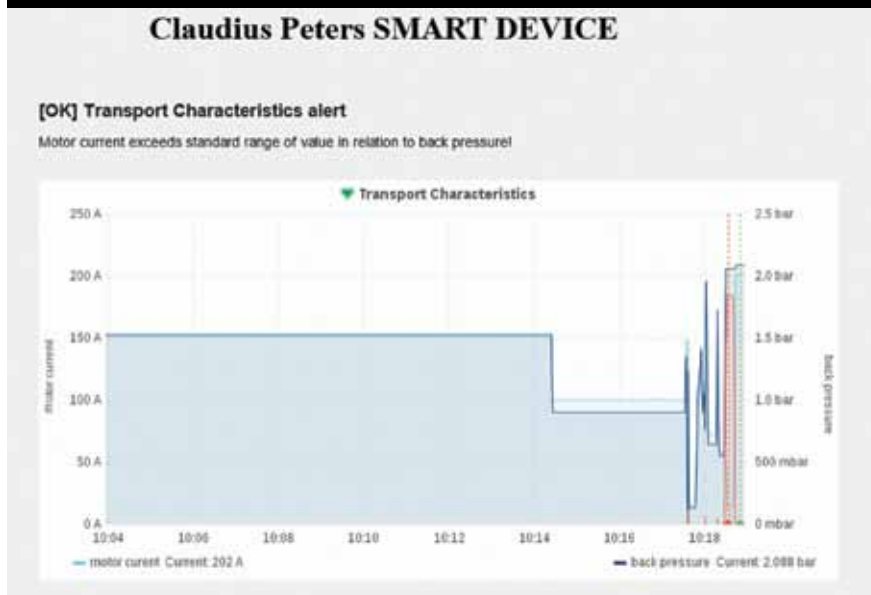
CP Plant View can also be integrated with CP Portal, allowing you to 'walk' through your plant then enter the CP Portal for the documentation and extended information. This module can also be developed for existing plants and installations. CP Plant View can be shown virtually on a smartphone.

According to one customer, "This type of plant tour is perfect for our maintenance personnel. Our colleagues can orientate themselves via images and easily find the required information on the CP Portal."

CP Smart Design

What if you could follow a 3D plant design live and online? What if all revisions of the 2D/3D design could be viewed and compared with each other online? And what if all of this functionality was

Figure 1: with CP Smart Connect, the customer's plant structure, which either exists or is created with CP Smart Engineering, is imported into the system



available without CAD software and viewable on any device?

Building Information Modelling (BIM) is a much talked-about technology. Claudius Peters has been offering this service to its customers and suppliers for some time now. For current and new projects, partners can access planning and the documentation in several approved areas, download and upload information, and enter their comments, questions and modification requests online. They then have the option of contacting the appropriate staff member to handle their request.

As a way to faster and more efficient project processing, CP Smart Design is proving popular with customers. "At first we were a bit sceptical. However, the experience of cooperation between ourselves and Claudius Peters has been very impressive. We can now even take pictures with the tablet and/or the smartphone of the site and integrate it in

the BIM platform. From now on the BIM platform will be prescribed for our future projects," said one customer.

CP Smart Device

Interlinking data with machines normally entails modern equipment. However, Claudius Peters has developed a retrofit concept which can interlink existing technology with older machines and plants, collecting data and making it available outside the plant. The CP Smart Device can easily be configured for a range of applications locally or remotely. Additional and affordable measuring devices can be retrofitted as required. CP Smart Device gives the customer constant access to all collected operating data, and complete control over how data is shared with others.

The data, which is not stored on the cloud, is written into a database in a standard format and then visualised. Rules can be defined as to how and when

CP Smart Device contacts personnel, via email or SMS. Monitoring systems can also make use of the device for predictive maintenance purposes.

Because CP Smart Device makes PLC data available outside the plant, machine and plant conditions are able to be checked from outside. Customers can view trends over hours, days, weeks or months without interfering with the control of the plant. The device can be installed at the plant, at the switchboard or made available as a mobile unit.

CP Smart Connect

Because individual suppliers are involved in developing their own online and remote strategies, customers are invariably confronted with the problem of diverse heterogenic systems. CP Smart Connect, from the Langley Holdings group of companies, is an ideal solution to this issue.

This module enables plant operators to connect with the correct resources at the touch of a button and receive prompt help and support. All solutions are recorded for subsequent use. The customer's plant structure, which either exists or is created with CP Smart Engineering, is imported into the system after which internal experts and external partners for all machines, devices and plant parts are entered once. Further functions, such as maintenance instructions and monitoring, can be easily integrated (see Figure 1). The result is increased productivity and availability, enhanced knowledge and expertise, along with lower maintenance costs. CP Smart Connect can be easily connected with the CP Portal and CP Smart Device.

Conclusion

The advent of Industry 4.0 has enabled Claudius Peters to develop new technologies, concepts and ideas for improved cooperation between customers and suppliers. According to one Claudius Peters customer, "I thought that Industry 4.0 only means collecting data without real use for me, but I was wrong. I find it unbelievable that you could assist me in my aim of reducing costs through intelligent interlinking of my experts with my suppliers."

Through the cross-linking of data and machines, cross-platform collaboration and taking a holistic outlook, Claudius Peters is able to continuously understand and provide solutions to the challenges facing its customers. ■



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