

Background information

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Virtual press conference myPNOZ

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Cross development for batch size 1 – How Pilz achieves Industrie 4.0 objectives in terms of concept, process and product with myPNOZ

We refer to our new safety relay in terms of “safety in batch size 1”!

As Pilz we were there right at the start of Industrie 4.0, helping to shape the initiative!

By actively collaborating in many internal and external projects we have been able to contribute our particular expertise in safe automation.

Networking is a keyword in the context of Industrie 4.0: only through networking is it possible to optimise not just one production step but a whole value added chain. Ideally this value added chain encompasses all the phases of a product's lifecycle – from the basic product idea through to development, production, application, maintenance and potential recycling.

A further challenge in industry lies in designing large series production in a way that it is also economical to manufacture a batch size 1 product.

With our new myPNOZ, Pilz has designed and developed a completely new product line based on this philosophy.

How have we managed it? – myPNOZ is a company-wide effort, involving almost every area. It is deeply rooted in our IT and OT environment; from the individually created function range through to shipping and invoicing, it triggers all the necessary processes.

To do this we have adapted the company's structures and created new ones where necessary. We have done this in two steps:

Step 1 involves all the structures at head office: We rethought the whole procedure, from the idea, development, technical implementation and ordering through to the production and test process. This was only possible due to the close connection and seamless integration of the IT and OT tools. Now we can manufacture batch size 1 in a customer-specific combination, economically and in an ideal time scale.

In step 2 we are concerned with further decentralising individualisation in the production process and rolling it out globally to the Pilz Group. Our aim here is that each Pilz subsidiary worldwide should quickly implement the concept established with myPNOZ.

The quality, test and documentation processes, including the associated tools, have been expanded and adapted accordingly. All the relevant staff will be given training so that in 2021, this year in other words, all users worldwide will be able to order their individual combination as batch size 1 and have it supplied directly from the Pilz subsidiary that supports them. In order to implement this we have developed standardised production facilities, which use software to monitor production of a myPNOZ in the subsidiary.

So the actual challenge or achievement lay not in developing a new positive-guided relay, including approvals. Pilz has proven its ability to do that on many occasions. The challenge lay in providing users with a completely new way of obtaining “their” solution for “their” safety application in a timely manner.

Let’s take a quick look back at the “old”, conventional way: if a guard is to be used to achieve the protection objective, the appropriate products will need to be selected in terms of both function and safety. As each machine must always have an emergency stop as a secondary protective measure, several products will need to be selected. It is up to the user to guarantee how these are combined and interact, but generally the products need to be ordered separately and then brought together.

It’s different with myPNOZ. With knowledge of the safety level and if appropriate the sensors and actuators, the “myPNOZ Creator” is called up. This online tool is a product catalogue, selection guide and engineering platform in one and includes simulation, documentation and an ordering tool.

In other words: the individual modules in a myPNOZ are produced and assembled in accordance with the customer's requirements. The completed myPNOZ is then tested, given its own individual label and shipped. So the user receives a pre-assembled device, ready to install.

We could only have achieved this through agile working within our company. We started developing the product, tool and process almost simultaneously, constantly synchronising in order to achieve this

innovative result. A high degree of agility was also needed: of minds, methods and technology.

Our PNOZ has now been on the market for over 30 years. The concept of our new myPNOZ goes even further than the concepts of our safety relays of the past 30 years. For the first time it allows the user to simply assemble a combination of safety functions in one safety relay, optimised to fit the application. So the latest addition to the range is the world's first safety relay produced in batch size 1.

Generally speaking, myPNOZ represents a new generation of modular safety relays at Pilz, bridging the gap between the classic safety relay and our programmable safe small controllers PNOZmulti. In a nutshell, the myPNOZ is a logical development of our PNOZ range.

Pilz Group

The Pilz Group is a global supplier of products, systems and services for automation technology. The family business is based in Ostfildern and employs around 2,500 staff. With 42 subsidiaries and branches around the world, Pilz supplies safe solutions for human, machine and the environment.

The technology leader offers complete automation solutions comprising sensor, control and drive technology – including systems for industrial communication, diagnostics and visualisation. Consulting, engineering and training round off its international range of services. Pilz solutions are used in many industries beyond mechanical engineering, such as intralogistics, railway technology or the robotics sector for example.

www.pilz.com

Pilz on social networks:

On our social media channels we provide background information about the company as well as the people at Pilz and report on the latest news from automation technology.

 www.pilz.com/facebook
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