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**Consistent
process monitoring
optimizes costs**



Technology and process know-how – the keys to success

ComoNeo plus technical support: the win-win solution from Kistler

Sepal's success as a leading manufacturer of injection-molded plastic components, mainly for the automotive market, is founded on two critical factors: cutting-edge technology and systematic expansion of inhouse process expertise. Kistler's ComoNeo system features intuitive operation, and is backed by allround technical support – and these advantages have convinced Sepal that Kistler is their ideal partner.

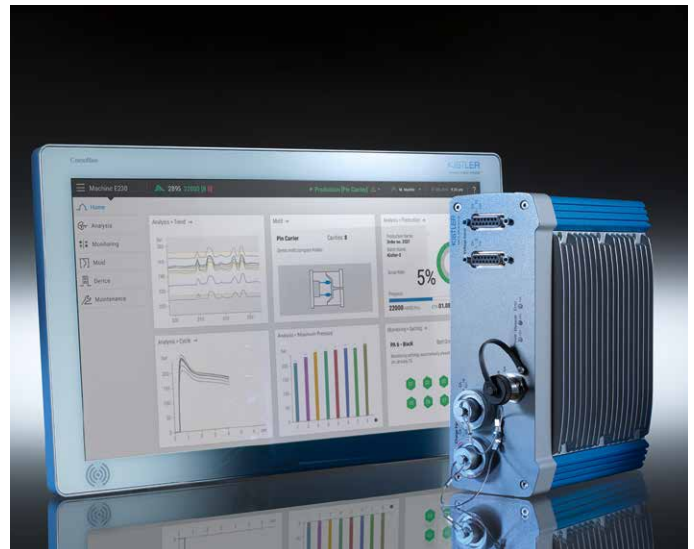
Sepal, a member of the international Faiveley Plast group of companies, numbers among the global leaders in the injection molding production sector. Thanks to an extensive product range and all-round advisory expertise, Sepal can provide its customers with customized solutions that offer a high real net output ratio in this extremely dynamic market environment where strict statutory regulation is in force. Based in France, Sepal develops, designs and produces high-performance custom injection-molded components for the demanding automotive market. Covers for the automotive supply sector account for around 80% of the company's total output. In addition, Sepal supplies precise and technical parts for other industries such as the aerospace, construction, building services and electronics sectors.

Process know-how: an investment that pays dividends

Customers appreciate Sepal because it operates a large number of electric machines that ensure high process reproducibility – in contrast to their hydraulic counterparts. Sepal continues to develop its manufacturing processes in order to guarantee product attributes such as precision, functionality and long service lifetimes. However, this development work can only take place if inputs include highly specific employee know-how as a complement to technological innovation. This is why Sepal decided to adopt a clear corporate strategy after a change of management in 2015: it calls for a consistent focus on quality linked to continuous optimization of process know-how across the board.

For Philippe Rose, Production Manager at Sepal, this focus makes absolute sense: "We've improved communication among the different project teams, and that's enabled us to make all our production processes substantially leaner." To continue optimizing Sepal's processes, the company regularly invests part of its profit in expanding process know-how, as Rose explains: "That's the only way our firm can guarantee outstanding production capabilities for our customers in the long term."

Marc-Antoine Meurisse, an industrial technician at Sepal, is equally convinced that a high level of staff expertise is critical to the company's success. To enhance in-company skills over the long term and continue developing inhouse process know-how, Sepal works with the Centre de formation de la plasturgie (CFP), a training institute based in Lyon. As one of the world's leading institutes for plastics processing, the CFP is of enormous importance to technical developers. Sylvain Fontaine, R&D manager at Sepal. He believes that exchanging ideas with other specialists is always valuable and, what's more, it yields tangible results: "As our employees' understanding of the processes has become deeper, production on our plants has become more stable – that much is clear.

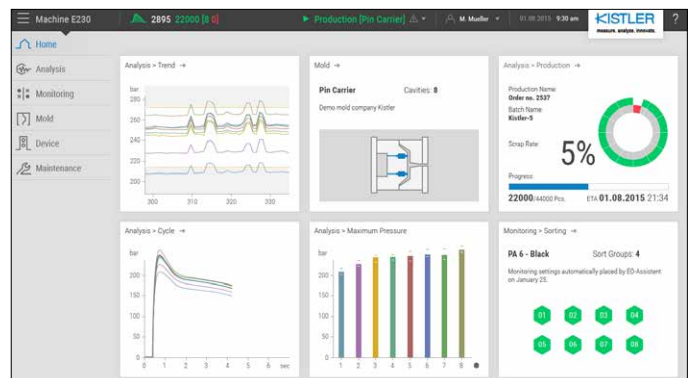


ComoNeo: the process monitoring system that maximizes efficiency for injection molding.

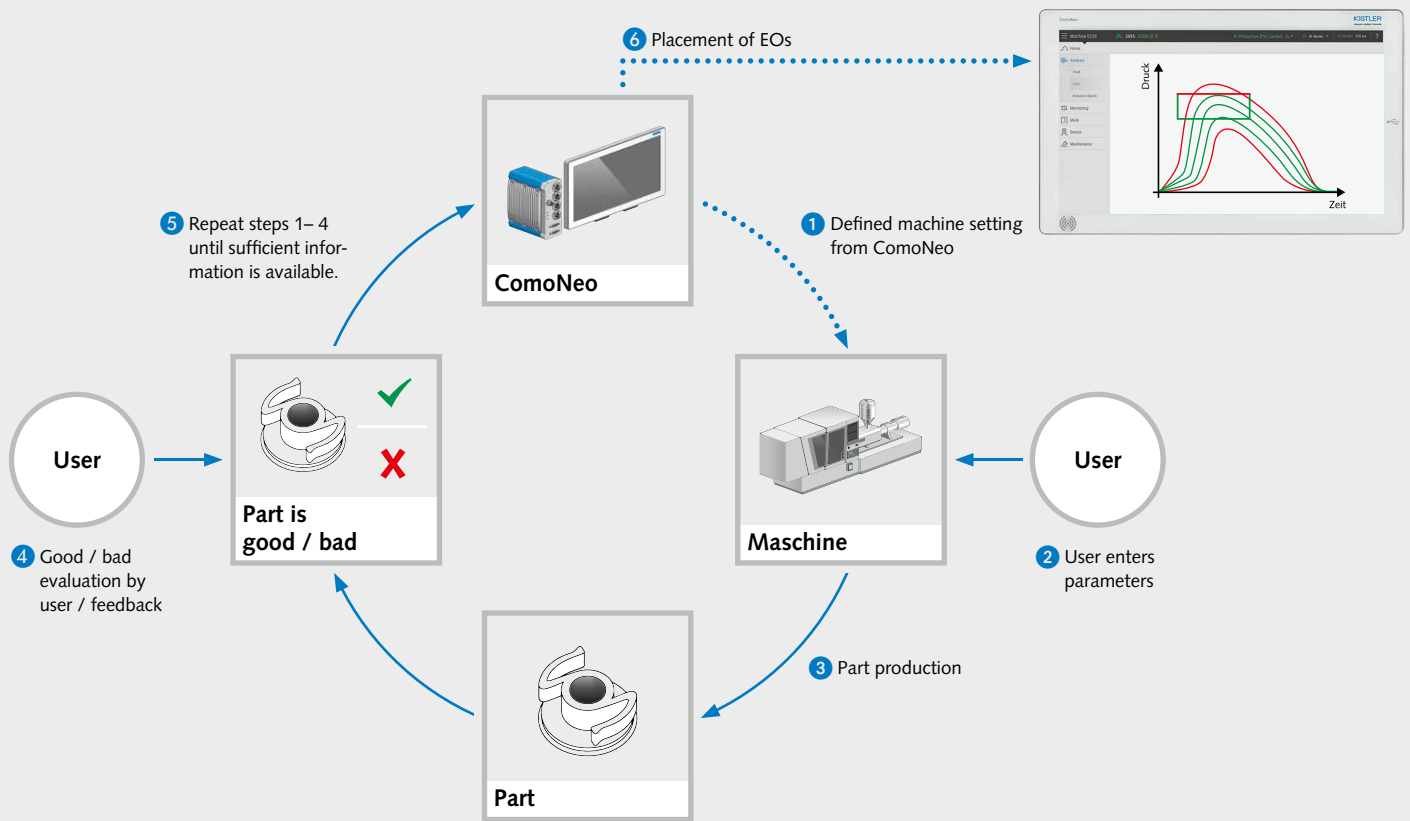
We use cavity pressure to monitor the processes during production. For over ten years, we've been operating Kistler's Type 9211 pressure sensors for indirect measurements." As Sylvain Fontaine points out, an understanding of cavity pressure is crucial in order to meet customers' requirements for OPPM (zero parts per million): "Cavity pressure is the most informative process variable because it describes conditions immediately – while the molded part is actually being created. At that point, our indepth process know-how helps us to determine the perfect reference curve right from the start, so we can set optimal scrap limits. That means we can guarantee OPPM with minimum pseudoscrap – good parts that are separated out incorrectly because the defined scrap limits are too wide. All things considered, this has contributed toward another huge productivity boost, which has also played an active part in our company's success."

Kistler's convincing advantages: ComoNeo and technical support

Sepal's specialists also came into contact with Kistler's experts during support training at the CFP. The technical discussions on that occasion had a beneficial result: Sébastien Baccou, Application Specialist Plastics at Kistler, presented Kistler's newly launched ComoNeo process monitoring system at Sepal



Dashboard: all the relevant process data is grouped together on this homepage to give a transparent display of the current process status.



In the first step, all the process parameters are defined and then they are verified with pressure sensors. This allows precise definition of the EOs.

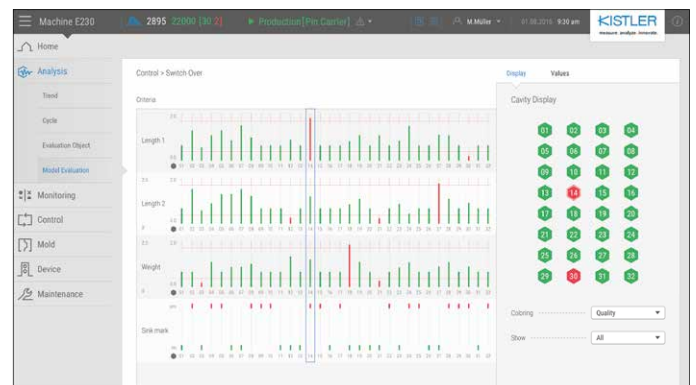
in June 2016. This system monitors and evaluates the quality of an injection-molded part on the basis of cavity pressure, making it possible to separate good and bad parts during production. The system convinced Sepal's entire line management, as Meurisse notes: "ComoNeo offers clear advantages over our previous monitoring systems: this system makes the entire bandwidth of cavity pressure monitoring methods available – from process fluctuation monitoring and automated switchover point optimization all the way through to online quality prediction, as a high-end solution that allows direct calculation and evaluation of the component's characteristics. That persuaded us to fit ComoNeo on all our machines that were still equipped with competitor products."

Meurisse adds that ComoNeo's intuitive, modern user interface is very much in line with the needs of Sepal's production technicians: employees now have a fast overview of production status and progression at all times. "We don't have time for detailed analyses of process data during production. While production is running, we must be able to see at a glance how the machine is producing, and where any weak points are appearing."

But according to Sylvain Fontaine, the Kistler experts' enormous stock of know-how was another of the key reasons why Sepal is now operating Kistler's userfriendly ComoNeo process monitoring system: "Sébastien Baccou was the first person who could correctly interpret Sepal's cavity pressure curves. But one thing was also clear to Kistler's specialists from the outset: to ensure perfect production of the manufactured parts, all the process parameters must be correctly set in advance, and the temperatures of each injection unit must be verified." Once the pro-

cesses are correctly set, production will yield optimal added value, Fontaine explains.

Another benefit: ComoNeo eliminates the need for manual quality checks, with monthly savings of up to EUR 2500 per plant. The result: amortization of the investment was completed in a mere three months. As Sylvain Fontaine emphasizes, excellent RoI on this scale can only be attained if the employees have the necessary application expertise at their disposal: "And Kistler is exactly the right partner for us to ensure that this knowledge is available here in house."



Online quality prediction: high-end process monitoring – ComoNeo directly predicts the component characteristics and evaluates quality on the basis of preset tolerance values.

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