

Intelligent user interfaces with premium surfaces made of PU

On its Sensitive Surface Days in February 2013, Engel Austria GmbH demonstrated its expertise in the production of intelligent electronic plastic products with high-quality polyurethane surfaces. Plastic processors from Australia and Japan even travelled to Austria to spend two days learning about how innovative technologies could be used to operate plastic surfaces with electronic intelligence. The event was attended by more than 140 participants.

The partners who hosted the event with Engel were **Magna Exteriors & Interiors, Plastic Electronic, Formquadrat, Schöfer, Hennecke, and Votteler.**

[image_0]

Gentle touches and direct interaction allow sensitive surfaces to dissolve the boundaries between drivers, vehicles, and smartphones in the automotive sector. Intelligent plastic surfaces, which are replacing mechanical buttons, sliders, and control dials with the help of capacitive electronics, are now being paid plenty of attention in other sectors too, however.

Besides car suppliers, the Sensitive Surface Days were mainly attended by companies from the teletronics, white goods, and medical technology industries, and the event offered them an interesting mix of theory and practical experience. The presentations covered path-breaking production technologies, market potential, and visions, among other things, before the participants were given the opportunity to watch a production cell in operation live.[image_1_right]

On an **Engel duo 2050/350 pico** injection moulding machine automated with a **viper 12** and a **viper 20** linear robot, installation-ready centre consoles for cars were made in just one work step using the Engel **clearmelt** method after starting with capacitive sheets. The pre-moulded three-dimensional sheets were inserted into the mould by the viper 12 robot, overmoulded with a thermoplastic, and then flow-coated with polyurethane. The transparent polyurethane top layer makes the surfaces extremely durable and also gives them a classy appearance.

The technology, which Engel is marketing under the name of **Sensitive Surface** in cooperation with its system partners, is based, among other things, on the Engel clearmelt process and the **touchskin** technology by Plastic Electronic in Linz, Austria. Other partners involved in this project are Hennecke GmbH in Sankt Augustin, Germany (polyurethane processing), Schöfer in Schwertberg, Austria (mould making), and Magna Exterior & Interior Systems in Munich, Germany (application).

“Sensitive surface technology revolutionises the interface between man and machine”, says **Michael Fischer**, Engel Austria's Technology Sales Director. “The integrated production process opens up completely new liberties to product designers and significantly reduces manufacturing costs at the same time. The centre consoles presented, for example, cost 30 % less to make using this new method. Since no assembly is required, productivity is increased sharply too.”

The exchange of information and intensive networking among the participants was also very important to the initiators of the first Sensitive Surface Days at Engel's premises. “Sensitive surface projects require lots of different expertise,” says Michael Fischer. “In this dynamic growth market we can only be successful in the long term if we work closely with other companies who are leaders in their field.”

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