HMI CONCEPTS FOR NEXT VEHICLE GENERATIONS

In the video clip "The Tangible Future of the Vehicle Interior“, Preh provides an outlook on near-series HMI solutions for the next vehicle generations with increasing degrees of autonomous driving. The focus here is on flexible and variable technical design solutions combined with intuitive usability. Technologies are combined in various areas of the interior:

As an important control center, the **multifunction steering wheel** integrates numerous controls close to the thumb. Not only are closed surfaces with concise haptic feedback used here, but they are combined with tried-and-tested controls such as buttons or rotary rollers.

In the area of the former **center stack** and the **center console**, Preh engineers ensure maximum variability and proven haptics. This allows the touchscreen to take on a slightly angled shape, with a multifunctional turn/push/tilt control attached in the lower third without any breakthroughs. This classic and proven control element significantly contributes to easier function selection in increasingly complex touchscreen menus. The menu contents in and around the rotary actuator can be designed with maximum variability and at the same time be structured very clearly. As a result, function selection becomes much clearer, simpler and more intuitive for the driver. Compared to pure touch surfaces, this reduces distraction from road traffic and having to avert the driver's gaze.

A closed control panel is integrated in the area in front of the center armrest, which can be equipped with an optional touchpad function, a rotary dial or a lever for selecting the driving mode. Here, too, is an interplay of freely designable, closed surface and haptic elements. Holographic images, which are based on augmented reality, are a prospect for Preh, especially for driving.

The development of the new **door control module** is also based on this. In autonomous driving mode, this changes its position when the seat is moved backwards so that it remains within reach. In autonomous mode, the control surface can of course offer a wider range of functions including, in particular, those that involve a prolonged averting of the driver's gaze.

More detailed descriptions of each of the areas touched on here—multifunction steering wheel, center stack, center console and door control module—can be found in the following articles: "The multifunction steering wheel - formerly an equipment option, today a control center", "Rotary actuator on closed display surface", "The center armrest as a functional all-rounder" and "Door control panel for variable seat position".