Yanfeng and IEE customize vehicle interiors for Smart Cabin Concepts

New technology for touchless interaction with interiors

Stuttgart, Germany – 4 September 2019. Yanfeng, one of the world’s leading automotive suppliers and a specialist in Smart Cabin concepts, and IEE, a leading provider of sensor solutions in the automotive sector, are jointly developing an integrated technology vision for the vehicle interiors of the future. “Active Space” is their interpretation of an interactive interior in an autonomous, level 5 vehicle.

New forms of mobility, such as autonomous driving, ride-sharing and car-sharing, are changing automotive interiors. If driving tasks are largely eliminated or require less time, this frees drivers up for other activities. That is why the interiors of the future will have to cover a variety of different use case scenarios. Intuitive, interactive, and convenient concepts always focused on the user experience will play an increasingly important role. Therefore, Yanfeng is pursuing its Smart Cabin approach for intelligent passenger compartments, in which functional surfaces, health and wellness features and connectivity are seamlessly integrated into the interior in the future.

“New mobility services, such as autonomous ride-sharing, pose enormous challenges for us as interiors experts – but also give us the opportunity to be creative and come up with something new,” explained Han Hendriks, Chief Technology Officer at Yanfeng Technology. “With Active Space, we are giving passengers a way to interact with the vehicle and thereby bringing our Smart Cabin vision to life.”

In its Experience in Motion 2020 (XiM20) concept car, Yanfeng shows how this technology vision might actually look in a Smart Cabin concept for fully autonomous vehicles.
Press Release

Interactive interior experience with intuitive control

Active Space portrays the all-encompassing experience that may be offered with sensor technology and surface integration in the interiors of the future. Integrated into the rear zone of the XiM20 cabin, Active Space offers occupants a way to retreat from the hustle and bustle of everyday life and create a feel-good atmosphere through playful interaction. The intuitive and interactive sensor solution is based on Yanfeng’s interior design and smart surfaces as well as IEE’s sensor technology. A near-infrared stereo camera serves as input device and captures the vehicle interior, while powerful algorithms used in conjunction with the Smart Cabin Controller control the lighting experience on the translucent textile surfaces in real-time based on the analyzed movements. In this way, Active Space offers a tailored human-machine interface (HMI) solution that integrates seamlessly into interior surfaces.

In the XiM20, the smart surfaces switch between four different modes, depending on the situation. For example, there is a blue Energy mode and a violet/orange Relax mode. When the UV surface sanitizer is activated, Active Space displays blue bubbles. In stand-by mode, the surfaces stay white. In general, Active Space can also be configured with customized designs. Travelers can interact intuitively with the vehicle thanks to the combination of sensor technology and smart surfaces. In a further step, it is conceivable that individual operating functions for the audio or air conditioning systems, for example, might be controlled via Active Space.

“We have combined our expertise through this strategic partnership with Yanfeng so that passengers can try out the mobility of tomorrow as a unique experience,” said Alain Schumacher, CTO of IEE. “Our customers benefit in that we can offer them everything needed for an integrated system from which various potential applications can be derived.” Yanfeng and IEE already signed a memorandum of understanding at the IAA 2017 to combine their complementary skills and jointly develop integrated smart solutions. The equal partnership has already produced a multitude of successful applications.
Press Release

The latest result of the partnership is the Active Space technology vision, which is currently in concept status and may feature in real-life mobility solutions from 2035 onwards. In addition to the seamless integration of Active Space into headliners, there is also potential for it to find its way into B-pillars and front seat backrests.

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About Yanfeng:
Yanfeng is a leading global automotive supplier, focusing on interior, exterior, seating, cockpit electronics and passive safety, and is exploring new business actively. Yanfeng has more than 240 branches and approximately 68,000 employees worldwide. The technical team of 7,000 experts is in 13 R&D centers and other regional offices, with complete capabilities including engineering & software development, styling, and test validation. Focusing on Smart Cabin and lightweight technology, Yanfeng supports automakers to explore future mobile spaces and provide leading cabin solutions. For more information, please visit www.yfai.com or www.yanfeng.com.

About IEE:
IEE S.A. is an established manufacturer and supplier of advanced sensing solutions for cars interior, building management and security, and exploring new application possibilities for footwear/healthcare and other industries. Founded in 1989 and headquartered in Luxembourg, it operates in Europe, America, and Asia, employing 4,100 people worldwide. The company has a great focus on research and development, aiming to find innovative technologies that make people’s lives better, safer, and more comfortable. For more information, please visit https://www.iee.lu/en