

News release

STMicroelectronics and trinamiX collaborate on behind-OLED face authentication solution to be showcased live at IFA 2022

- Companies will demonstrate full facial authentication solution for smartphone integration and for applications behind OLED screens
- Solution combines high-performance near-infrared global-shutter image sensor from ST and sophisticated trinamiX algorithm
- Certified for use in mobile payments according to IIFAA, Android™, and FIDO standards

Ludwigshafen (Germany), and Geneva (Switzerland) 24.08.2022 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, and trinamiX, a wholly owned subsidiary of BASF SE and pioneer of new biometric technologies, today announced their collaboration on a reference design for face authentication. The solution performs behind an OLED screen and on the security level required for mobile payments. A demonstration of this system will be first presented live at IFA 2022 in Berlin on September 2-6.

The joint development and reference design for smartphone OEMs is a full system implementation that integrates illumination, a camera module that combines ST's global-shutter image sensor with enhanced near-infrared (NIR) sensitivity ([VD56G3](#)), and trinamiX's patent-protected algorithms running on the processor. The system offers a contactless, fast, and reliable authentication method for integration into smartphones and other products requiring user authentication. The solution's strength lies in a unique technology, which uses skin detection to verify a user's liveness. In addition to verifying the user's identity, it effectively differentiates between skin and other materials, to recognize fake presentations like photos, hyper-realistic masks, and deepfakes.

"The collaboration with ST provides us with very small, high-performance image sensors at a competitive price point. This is particularly important for our products in the consumer electronics sector," said Stefan Metz, Head of Smartphone Business Asia at trinamiX. "Furthermore, trinamiX Face Authentication can fully operate behind OLED while maintaining the highest security levels. If required, the high NIR sensitivity of ST's image sensors supports the easy integration of our solution behind display." According to Metz, smartphone manufacturers are thus offered a powerful, attractive package: "During the development of our smartphone reference design, we focused on particularly compact hardware sizes without compromising the performance."

"ST's advanced image sensors use the company's process technologies that enable class-leading pixel size while offering both high sensitivity and low crosstalk, delivering significant improvements in performance, size, and system integration. The collaboration with trinamiX provides ST with additional opportunities to extend our support to technologies, use cases, and ecosystems addressing the thriving under-display market in Personal Electronics and beyond," said David Maucotel, Head of the PEIM (Personal Electronics, Industrial and Mass Market) Product Business Line of Imaging Division, ST.

In 2021, trinamiX Face Authentication was approved for Android integration and certified according to the high biometric security requirements of Android Biometric Class 3, IFAA Biometric Face Security Test Requirement, and FIDO Level C – the FIDO alliance’s soon-to-be top standard.

A demonstration of the joint system for face authentication will debut at IFA 2022 (hall 20, booth 242), taking place in Berlin, Germany on September 2-6. Customer presentations as well as appointments during the fair can be requested at info@trinamix.de.

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About trinamiX GmbH

trinamiX GmbH develops cutting-edge biometric and mobile NIR spectroscopy solutions, which are used in both consumer electronics and industrial designs. The company’s products enable humans and machines to better capture data with the goal of understanding the world around us. This results in improved decision making as well as stronger biometric security. trinamiX, based in Ludwigshafen (Germany), was founded in 2015 as a wholly owned subsidiary of BASF SE. The company employs over 200 people worldwide and holds more than 300 patents and patent applications.

For further information visit www.trinamixsensing.com

About STMicroelectronics

At ST, we are 48,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and connectivity. ST is committed to becoming carbon neutral by 2027.

Further information can be found at www.st.com