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News Release

trinamiX presents innovative health and safety applications at CES 2025

- Secure Face Authentication and vital signs monitoring with just one camera module
- Non-invasive molecular biomarker check thanks to miniaturized NIR spectroscopy
- Presentation of the innovations at the trinamiX booth **#56426**, **Venetian Expo Hall**

Ludwigshafen, Germany, December 10, 2024 **– trinamiX GmbH, a subsidiary of BASF, presents innovative applications, such as vital signs monitoring and blood alcohol detection for consumer electronics, as well as biomarker measurements with smartphones at CES 2025. With this, trinamiX paves the way for greater safety and comfort in everyday life. Visitors to CES can experience how mobile devices can make previously "invisible" health indicators visible and how sensors behind vehicle displays enhance passenger safety at booth #56426 in the Venetian Expo Hall.**

“As experts in the fields of biometric imaging and NIR spectroscopy, we are dedicated to empowering consumers through groundbreaking applications, such as vital signs monitoring and biomarker measurements. A crucial aspect is the miniaturization of hardware, enabling seamless integration into consumer electronics,” says Wilfried Hermes, Director of Consumer Electronics North America and Europe at trinamiX.

trinamiX technology for vital signs monitoring

Monitoring one’s own body and obtaining information about its condition has become increasingly common. As a result, the demand for reliable data is growing, while ease of use remains a priority. With trinamiX's technology, users of smartphones, laptops and other devices can monitor their vital signs contactlessly and be assured of receiving scientifically validated information. The so-called "Beam Profile Analysis" works with near-infrared light and can not only capture parameters on the skin's surface but also penetrates the underlying skin layer, the dermis, enabling reliable heart rate measurements. Users can effortlessly keep an eye on their vital signs while working on the computer, for example. Additionally, the technology non-invasively analyzes the skin texture of the face, paving the way for exciting new applications in the cosmetics industry.

In the automotive sector, trinamiX works closely with technology partner Continental. The jointly developed "Invisible Biometrics Sensing Display" was awarded this year's CES Innovation Award Honoree. The innovative display tracks the vital signs and biometrics of persons inside using a camera and a laser projector installed behind the dashboard display to support a wide range of safety and comfort functions. Additionally, the display solution creates a 3D depth map for optimized airbag deployment decisions and reliably detects whether the seatbelt is fastened.

One technology – Multiple applications

trinamiX develops body sensing technologies aimed at creating advanced human-machine interfaces. Based on the proprietary "Beam Profile Analysis," a secure Face Authentication solution has already been developed that relies on the detection of living skin. This approach involves a detailed analysis of the

reflection of projected near-infrared laser dots. Building on this foundational technology, trinamiX is now expanding its capabilities to enable vital signs monitoring and skin structure analysis using the same hardware. The required module can be seamlessly integrated behind displays.

Miniaturized NIR spectroscopy for individual biomarker measurement

With its Consumer Spectroscopy, trinamiX positions itself as a pioneer in the miniaturization of NIR spectroscopy solutions that are small enough to be integrated into smartphones. Initial applications, such as measuring skin moisture, have already been introduced to the cosmetics market. At CES 2025, trinamiX will unveil further groundbreaking features, including non-invasive measurement of blood alcohol and lactate levels, providing new and exciting solutions for the fitness, health, and automotive industries.

trinamiX Consumer Spectroscopy harnesses the powerful analytical method of NIR spectroscopy to enable non-invasive biomarker measurements directly on the skin. The miniaturized hardware is complemented by intelligent algorithms that ensure precise analysis and interpretation of the collected data. Based on real molecular measurements, users receive informed, personalized insights, opening new possibilities for personal health management and proactive monitoring of biomarkers.

Wilfried Hermes says: “At CES 2025, we aim to raise awareness of the importance of personalized health solutions and demonstrate how our technologies can facilitate easily capture relevant vital signs and biomarkers. We look forward to engaging with innovative companies, strong development partners, and tech pioneers from around the world.”

Learn more about trinamiX's solutions at CES 2025: https://trinamixsensing.com/CES

trinamiX @ CES 2025

7th – 10th January 2025
Venetian Expo Hall, Digital Health Area
Booth **#56426**
Las Vegas, USA

Showstoppers Media-Event
7th January 2025, 6 – 10 PM
Hotel Bellagio
Las Vegas, USA

ShowStoppers – Meet the Press

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Media contact

Nicole Messmer-Pohan
E-Mail: nicole.messmer-pohan@trinamix.de
Phone: +49 172 74 70 483

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 230 people worldwide and holds more than 750 patents and patent applications.
www.trinamiXsensing.com