Press release

Fraunhofer at GPEC 2026

Technologies for Identifying Deepfakes, Cyberattacks and Drone Threats

Artificial intelligence, advanced sensor technologies and immersive simulation are opening new possibilities for law enforcement and public security agencies. From May 20 to 22, 2026, the Fraunhofer-Gesellschaft will present new internal security solutions at the GPEC General Police Equipment Exhibitions & Conference in Leipzig. These will include technologies for analyzing digital evidence, identifying threats at an early stage and training personnel in realistic environments. Under the theme "Internal Security Made by Fraunhofer—Forensics · Surveillance · Training," four Fraunhofer institutes will demonstrate how their developments can be applied in practice at Hall 2, Booth J32.

On all three days of the exhibition, researchers will offer short presentations and live demonstrations, providing insights into specific applications and current research. Visitors will have the opportunity to engage directly with researchers and discuss specific use cases for these technologies in law enforcement and public security.

Technologies for more efficient investigations and informed situational assessments

The Fraunhofer Institute for Computer Graphics Research IGD will showcase application-ready technologies designed to help law enforcement and public security agencies accelerate investigations, improve situational assessments and support decision-making in complex operational scenarios.

For example, the institute will demonstrate CultArm3D, a solution for the standardized 3D digitization of evidence developed in cooperation with the spin-off Verus Digital GmbH. Physical evidence is captured in precise 3D models using a fully automated, contactless process that delivers high measurement accuracy and reliable color fidelity. The results can be used in court proceedings, stored in structured archives and examined from any location.

Additional technologies support enhanced identity verification and suspect identification: Techniques for detecting face morphing attacks can identify manipulated ID photos, while AI-

based methods enable real-time identification of individuals in crowds and support situational assessments during large-scale incidents.

Fraunhofer IGD will also present an event camera with exceptionally fast response times for identifying drones and other objects. Interactive tools for analyzing cyber and network data process large volumes of data visually, helping analysts recognize anomalies more quickly.

The institute will also demonstrate the Next Reality platform, a training environment for security personnel. The 5D simulation tool combines virtual reality with real-world effects to replicate highly realistic training scenarios such as emergency helicopter landings on water.

Digital media forensics: reliable detection of manipulation

The Fraunhofer Institute for Digital Media Technology IDMT will present its Audio Forensic Toolbox, a set of tools for analyzing media content. Investigative authorities and public security agencies can use this to detect manipulation and artificial content, analyze reuse and dissemination patterns and actively authenticate recordings.

In addition to identifying anomalies and distribution patterns, the toolbox supports forensically sound assessments and verifications of the authenticity, provenance and evidentiary value of recordings.

Systematic analysis of digital traces

The Fraunhofer Institute for Secure Information Technology SIT will present technologies for analyzing digital evidence and supporting investigations in the digital domain. These include text forensics systems that can distinguish between AI-generated and human-authored texts.

The institute will also demonstrate methods for identifying CSAM (child sexual abuse materials). These analytical tools help authorities analyze large volumes of data more efficiently, identify suspicious content more quickly and systematically preserve digital evidence.

Identifying AI-generated images and detecting drones

The Fraunhofer Institute for Optronics, System Technologies and Image Exploitation IOSB will present technologies for assessing digital image content and detecting drones.

RealOrRender combines deep learning classification with a method that evaluates how well an image can be reconstructed using a generative model. This significantly improves the ability to determine whether an image is authentic or AI-generated. Explainable AI processes also help users to understand how the system formed its assessment.

The institute will also demonstrate MODEAS, a system that uses video sensors to detect and classify drones and offers the option of integrating additional sensors such as radar. The captured data is fused into an integrated 2D and 3D visualization, enabling frontline personnel to quickly and reliably assess and document potential threats.

Innovations for real-world use: early threat detection and response

Visitors to the joint booth at the exhibition will learn how Fraunhofer applies its technologies to help law enforcement and public security agencies detect digital and physical threats early and respond effectively.

Visit the Fraunhofer-Gesellschaft's joint booth at GPEC 2026 between May 20 and 22 (Hall 2, Booth J32).

Further information:

GPEC – Fraunhofer IGD

GPEC 2026 – Fraunhofer SIT

GPEC General Police Equipment Exhibition & Conference® – Fraunhofer IOSB

GPEC 2026 – Fraunhofer IDMT

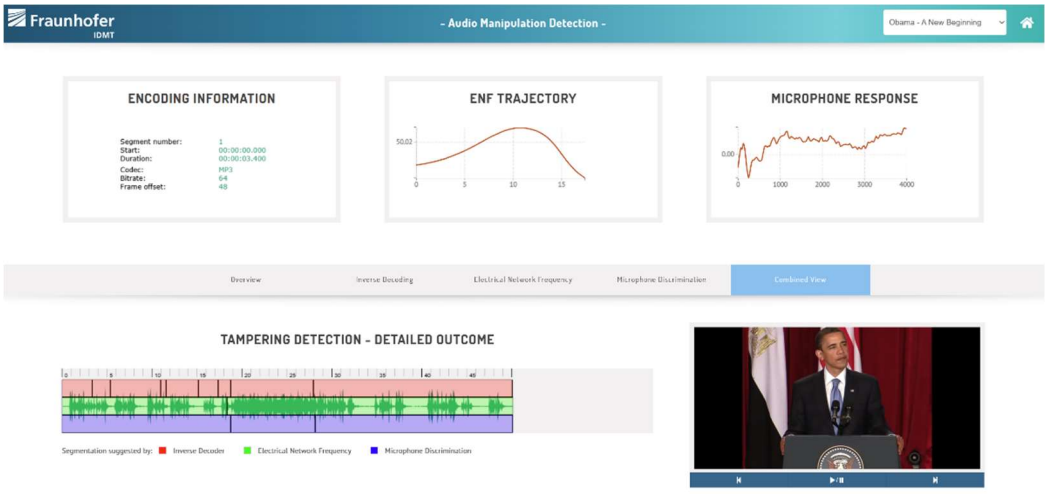

Fig. 1 Audio manipulation detection is one of the forensic audio analysis tools developed by Fraunhofer IDMT. It helps users understand how the material was recorded, coded or processed. © Fraunhofer IDMT

Fig. 2 Fraunhofer IGD is working on methods of detecting and preventing face morphing attacks where two faces are blended as a means of deceiving biometric systems. © Fraunhofer IGD

The Fraunhofer-Gesellschaft, headquartered in Germany, is one of the world's leading organizations for applied research. It plays a major role in innovation by prioritizing research on cutting-edge technologies and the transfer of results to industry to strengthen Germany's industrial base and for the benefit of society as a whole. Founded in 1949, the Fraunhofer-Gesellschaft currently operates 74 institutes and research units throughout Germany. Its roughly 30,000 employees, predominantly scientists and engineers, work with an annual business volume of 3.6 billion euros; 3.2 billion euros of this stems from contract research.

Contact

Contact person

Monika Landgraf
Fraunhofer-Gesellschaft, Munich
Director of Corporate Communications
Phone: +49 89 1205-1333
presse@zv.fraunhofer.de

www.fraunhofer.de