DEKRA

100 YEARS SECURING THE FUTURE 1925 – 2025

<u>Strengthening Digital Trust for IoT Devices</u>

DEKRA Conducts the World's First SESIP Level 5 Evaluation for Google pKVM Hypervisor

DEKRA, a global leader in testing, inspection and certification (TIC) services, has successfully performed a Security Evaluation Standard for IoT Platforms (SESIP) Level 5 evaluation of Google's protected Kernel-based Virtual Machine (pKVM) hypervisor, under the EN-17927 SESIP standard. The certification was granted by TrustCB, making this the first-ever SESIP Level 5 certification awarded to a software component designed for large-scale consumer devices.

SESIP is a methodology designed to evaluate the security of platforms that are the foundation of connected products such as mobile devices. This certification enables efficient evaluations through reusable security claims, adapted to the needs of the Internet of Things (IoT) ecosystem. The standard defines five assurance levels, with SESIP Level 5 representing the highest. At this stage, products must demonstrate resistance against highly skilled and well-funded attackers with access to high technical expertise, advanced tools and significant time.

The evaluation process comprised software only. As a first step, DEKRA cybersecurity experts, in collaboration with Google, identified the key security requirements and defined the scope of the evaluation. The following testing phase involved extensive and complex kernel-level analysis, which included creating specialized tools tailored to the process.

"Achieving the first SESIP Level 5 certification for a software component is a major achievement for both Google and DEKRA", said Fernando Hardasmal, EVP DEKRA SD Digital & Product Solutions. *"This evaluation demonstrates DEKRA's capability and expertise to deliver the most demanding cybersecurity assessments and opens the way for future high-assurance certifications in the IoT industry."*

The pKVM is part of the Android Virtualization Framework (AVF), enabling secure isolation for sensitive workloads such as local artificial intelligence (AI) models, biometric authentication, and financial applications. The SESIP Level 5 certification of

Google's pKVM hypervisor is a landmark for mobile and IoT security, as it now provides the highest available security assurance to a component that is key to providing security for high-trust mobile applications.

"This certification is the cornerstone of the next-generation of Android's multi-layered security strategy. Many of the Trusted Execution Environments (TEE) used in the industry have not been formally certified or have only achieved lower levels of security assurance. This inconsistency creates a challenge for developers looking to build highly critical applications that require a robust and verifiable level of security. The certified pKVM changes this paradigm entirely. It provides a single, open-source, and exceptionally high-quality firmware base that all device manufacturers can build upon", explained Dave Kleidermacher, VP Engineering, Android Security & Privacy in Google.

By this milestone, DEKRA establishes a new reference in cybersecurity testing and certification, demonstrating the value of independent, high-assurance evaluations. This certification enables manufacturers and service providers to showcase the resilience of their critical mobile and IoT components, reinforcing digital trust in the technologies consumers rely on every day. The SESIP Level 5 evaluation of Google pKVM underlines DEKRA's role as a global leader in advancing security standards and shaping a safer and more secure digital future.

DEKRA Digital Trust Conference

Building on this commitment, DEKRA's upcoming [Digital Trust Conference](#) (29 to 30 October 2025) will address one of the defining questions of our time: *are we controlling technology or is technology controlling us?* Over two days of digital event, we will explore how the convergence of Artificial Intelligence, Cybersecurity, and Functional Safety can help foster a more resilient digital world.

About DEKRA
For 100 years, DEKRA has been a trusted name in safety. Founded in 1925 with the original goal of improving road safety through vehicle inspections, DEKRA has grown to become the world's largest independent, non-listed expert organization in the field of testing, inspection, and certification. Today, as a global partner, the company supports its customers with comprehensive services and solutions to drive safety and sustainability forward—fully aligned with DEKRA's anniversary motto, "Securing the Future." In 2024, DEKRA is expected to generate revenue of 4.3 billion euros. Around 48,000 employees are providing qualified and independent expert services in approximately 60 countries across five continents. DEKRA holds a Platinum rating from EcoVadis, placing it among the top 1% of the world's most sustainable companies.