

The word "PERSEUS" is written in a blue, stylized, italicized sans-serif font. It is flanked by two horizontal blue lines that taper to points at the ends.

PERSEUS

Be Simple, Be Secure



CONTENTS

PART 01

PEGASUS

Type-1 Hypervisor

PERSEUS' Type-1 automotive hypervisor safely isolates and runs multiple operating systems across **CPU and MCU** architectures, with **ISO 26262 ASIL-D certification**.

PART 02

TACHYON

Linux Boot Optimization

A Linux Fast Boot solution that maintains the Linux environment while **reducing system boot time to 1.5 seconds or less** for faster system startup.

PART 03

AEGIS

Secure Hypervisor

A system-level security hypervisor that provides **complete OS isolation** and resource access control, preventing cyberattacks from spreading across operating systems and protecting each OS.

PART 04

AEGIS-let & GAIA

Secure Boot & Kernel

AEGIS-LET

A **lightweight TrustZone-based secure kernel** that provides ECU-level security, even in resource-constrained embedded environments.

GAIA

A **secure bootloader for MCUs** that supports secure boot and system initialization, providing the foundation for hypervisor-based multi-OS environments.

PEGASUS

Type-1 Hypervisor

Automotive Hypervisor Platform for Multi-OS Integration and Execution



Fewer
ECUs



Lower
HW Costs

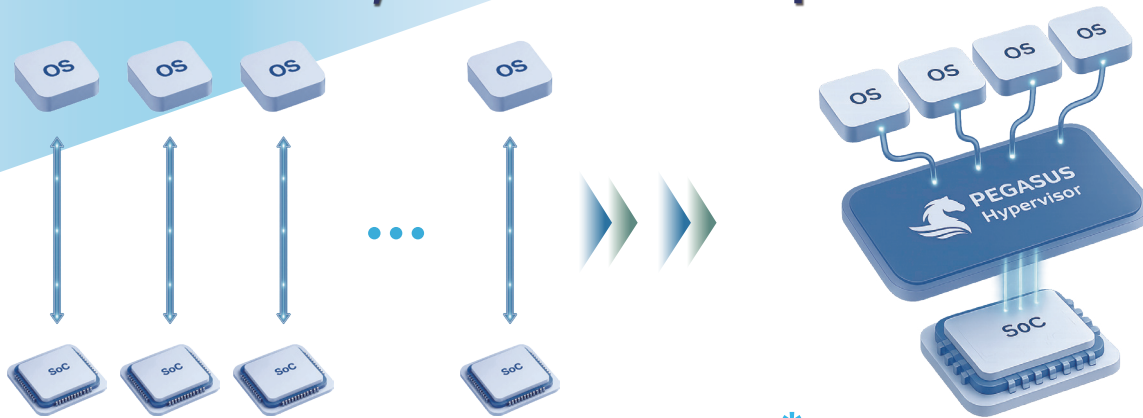


Secure OS
Isolation



Simplified SDV
Architecture

**"Simplifying SDV Architecture for
Faster, Safer Vehicle Development"**



WITHOUT PEGASUS
Dedicated Hardware for Each OS

*** WITH PEGASUS**
Single SoC for Multiple OSs

✓ Certified



ISO 26262 ASIL-D

ISO 26262 ASIL-D certified and
ASPICE Level 2 compliant, ensuring
functional safety and system reliability.

✓ Why Pegasus ?



OS Isolation
& Stability



Multiple OSs
Running on
a Single SoC



Functional Safety
& Development
Quality

✓ Architecture Coverage

Automotive SW Reuse with Hypervisor

Existing OSs and applications
can be reused without
modification through the
hypervisor.

Standard VirtIO Support

Standard VirtIO interface support
ensures compatibility with various
OS environments, including Android
Automotive.

✓ Supported Environment

* Processor



CPU / MCU
Support

* Guest OS



* Programming Languages

RUST C C++

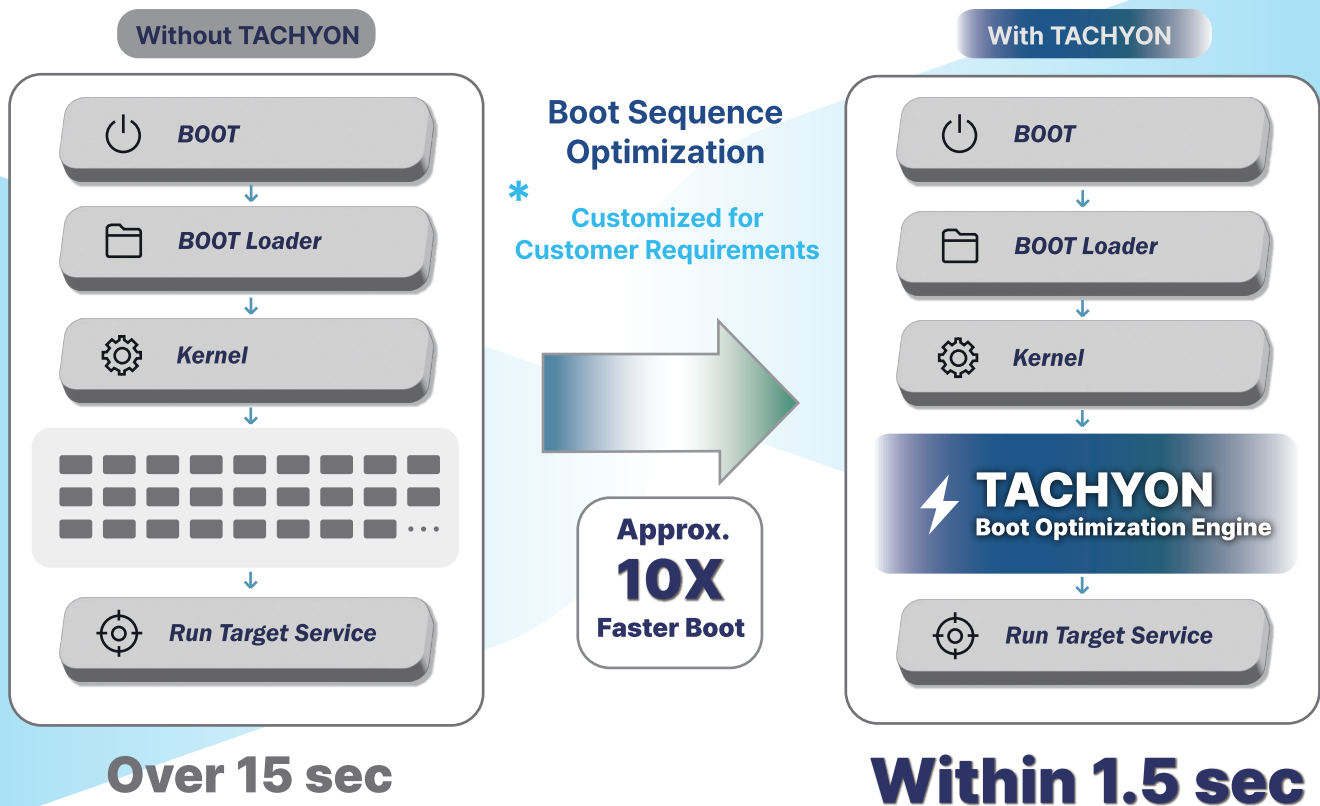
* Supported Platforms



TACHYON

Linux Boot Optimization

Fast Boot Solution that improves boot performance while preserving the existing Linux environment.



✓ Boot Performance Comparison

15 SEC+
BEFORE



1.5 SEC
AFTER

✓ Key Benefits



Faster
Boot



High System
Compatibility



Broad H/W
Support

✓ Boot Optimization Scope

Provides fast, predictable Linux boot through end-to-end boot optimization.



✓ Supported Environment

* Processor



* Guest OS



* Programming Languages



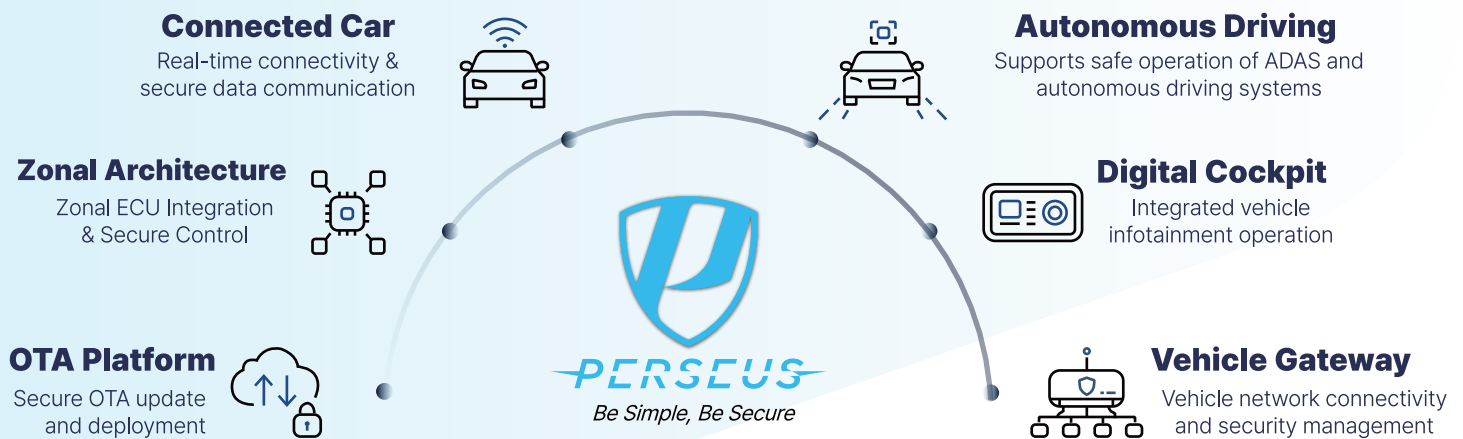
* Supported Platforms



AEGIS

Secure Hypervisor

Type-1 Security Hypervisor for Automotive SDV Environments

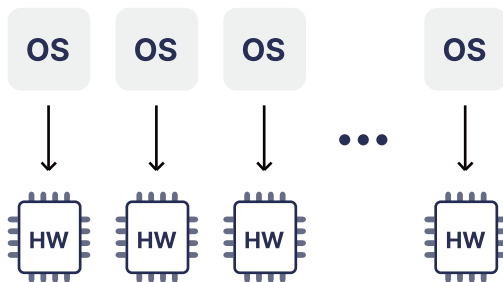


✓ Security Isolation Architecture

Provides independent execution environments through secure OS isolation, protecting the system from cyberattacks.

WITHOUT AEGIS

Vulnerable to External Attacks



- ✓ No security isolation between OSs
- ✓ Vulnerable to hacking and propagation
- ✓ System instability due to fault propagation

WITH AEGIS

Secure OS Isolation & Execution

Safety-Critical OS Linux Android AUTOSAR OS



AEGIS SECURE HYPERVISOR



- ✓ Secure isolation between OSs
- ✓ Blocks Hacking & Propagation
- ✓ Enhances system stability

✓ Core Technologies

* Virtualization

Type-1 Hypervisor
OS Isolation
Device Virtualization

AEGIS Core Technology
Integrating
Virtualization & Security

* Security

Resource Control
Secure Communication
Mixed-Criticality Support

✓ Key Benefits

- 1 Proprietary IP Technology
- 2 Robust Security
- 3 High System Compatibility
- 4 Real-Time Protection

✓ Supported Environment

* Processor



* Guest OS



* Programming Languages



* Supported Platforms



AEGIS-let & GAIA

Secure Boot & Kernel

Security & Boot Control Solution for Embedded and SDV Systems

"From Trusted Boot to Secure Execution"



AEGIS-let

TrustZone-Based RTOS

Secure OS technology running in the Secure Domain protects critical functions and data from external threats.

✓ Key Features



Secure Execution
with TrustZone



Secure /
Non-Secure
Domain Isolation



Lightweight,
Low Overhead



GAIA

Secure Bootloader

Verifies system integrity at startup and allows only trusted software to run, ensuring system integrity and reliability.

✓ Key Features



Secure Boot
Support



System Integrity
Verification
at Boot



Root of
Trust-Based
Chain of Trust

"AEGIS-let + GAIA = Embedded Security Solution"

AEGIS-let

Secure
Kernel

Security at Runtime



GAIA

Secure
Boot

**Boot Integrity
Assurance**



Trusted Security Environment

- Trusted System Initialization
- Critical Asset Protection
- Secure Execution
- Embedded & SDV Platform Support

✓ Supported Environment

* Processor



AEGIS-let
CPU / MCU Support



GAIA
MCU Support

* Programming Languages

RUST



* Supported Platforms

Infineon

NVIDIA

NXP

RENESAS

TEXAS
INSTRUMENTS

ST
Microelectronics



PERSEUS

With over 18 years of experience in hypervisor
and secure container development,
we support global automotive brands in achieving
enhanced security and performance in connected environments.

Global Ecosystem Partners



arm



SOAFEE



C-Lab
Outside



www.cyberperseus.com



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Contact us to
discuss your system
architecture needs.

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Germany | Munich

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ABOUT PERSEUS

the Foundation of SDV



PERSEUS develops core platform technologies that enhance the safety and performance of automotive software.

Based on Hypervisor, Boot Optimization, and Secure Boot technologies, we provide a reliable software platform for the SDV era.



Scan the QR code for detailed solution and technical information.

Be Simple, Be Secure