



ZF + Qorix Performance. Crafted from S-CORE.

Mixed-Criticality on Linux – Deterministic, Scalable, Program-Oriented

Who this is for

OEMs and Tier-1 suppliers exploring Linux-based SDV architectures that must support safety-relevant and non-safety workloads on shared compute platforms.

What the demo shows

This demonstrator is built on the Qorix Performance Stack – a safety-aligned runtime platform that enables deterministic execution, communication, and functional separation for mixed-criticality workloads on Linux.

- ▶ Mixed-criticality workloads running on a Linux-based SDV platform
- ▶ Safety-informed runtime behaviour delivered by the Qorix Performance Stack
- ▶ Strong isolation and predictable timing across safety and non-safety domains
- ▶ Consistent, measurable execution behaviour for real automotive workloads
- ▶ Program-oriented runtime control enabling scalable SDV architectures
- ▶ Qorix Performance used as the unified runtime layer for workload management, scheduling and lifecycle control

Why it matters

OEMs increasingly pursue Linux-centric SDV approaches – but require safety alignment, determinism and predictable execution to make them viable for vehicle programs.

This demonstrator highlights:

- ▶ How mixed-criticality workloads can run reliably on Linux
- ▶ How Qorix Performance provides the deterministic execution, communication paths and separation, extending Linux offeror real automotive use
- ▶ How open-source-aligned stacks can be integrated into program-ready automotive platforms
- ▶ How safety-informed runtime behavior can be achieved without compromising flexibility

In essence: it shows how Linux can evolve into a viable SDV building block when paired with a deterministic runtime platform of Qorix Performance.

▶ Linux for SDVs – viable, deterministic and program-ready.

ZF's setup demonstrates how Qorix Performance brings safety-aligned runtime control to open-source-based automotive platforms.

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