



FROM HARDWARE TO CODE: OVERCOMING THE CHALLENGES IN SOFTWARE-DEFINED VEHICLE PLATFORMS



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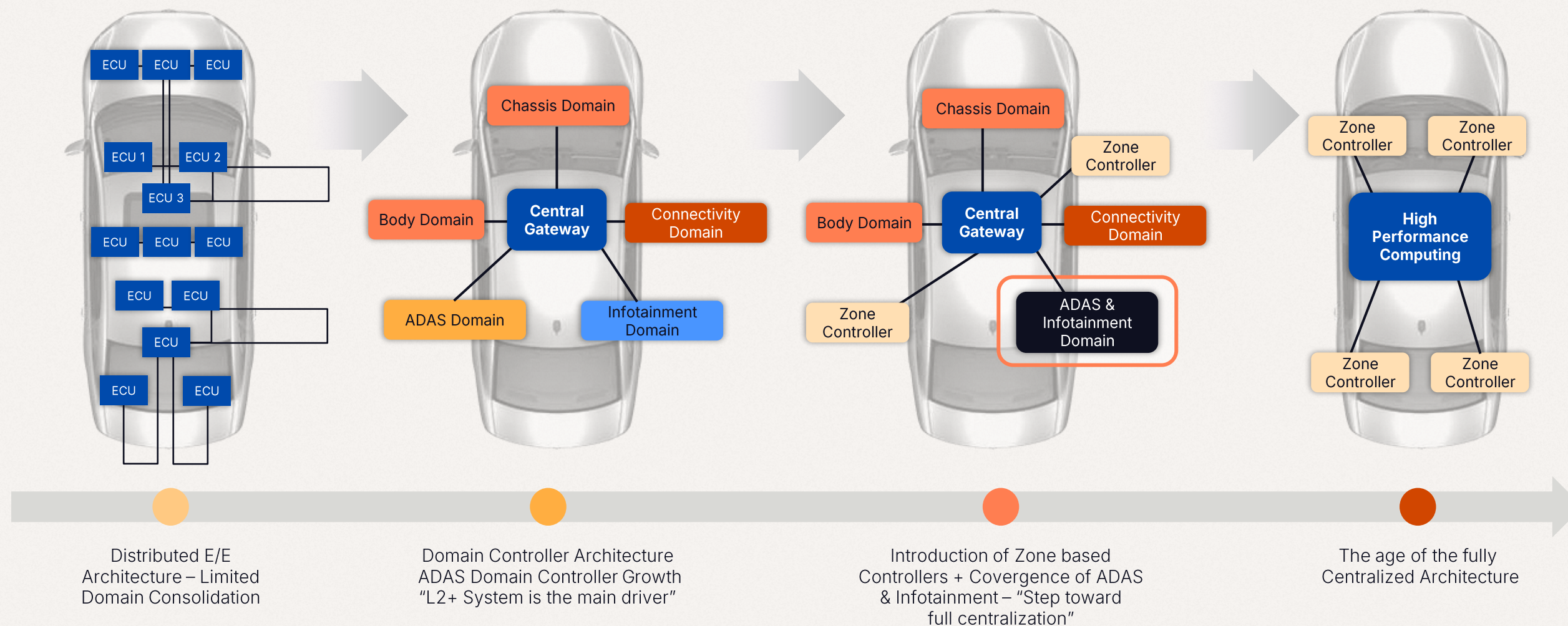
FROM HARDWARE TO CODE: OVERCOMING THE CHALLENGES IN SOFTWARE-DEFINED VEHICLE PLATFORMS



**“Software is the
new Hardware”**

STEVE JOBS

WHY SDV, WHY NOW?



SDV is not a trend; it's the new operating model for automotive value.

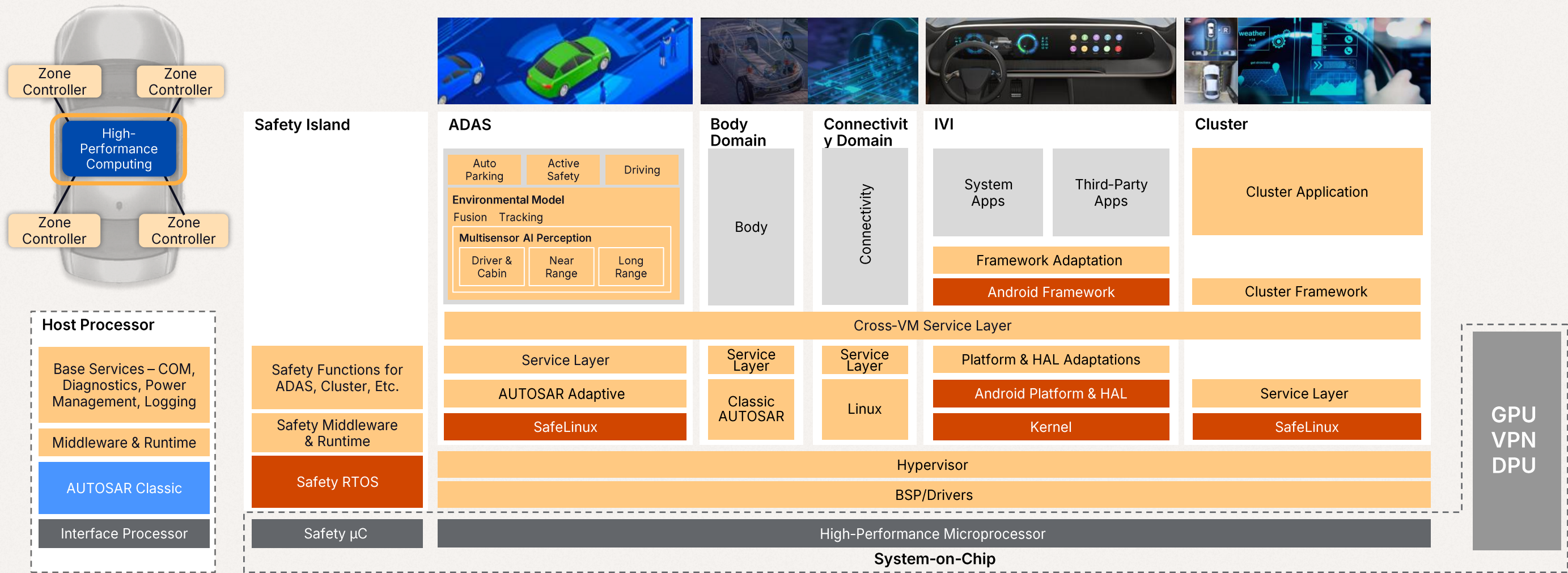
THE SDV PROMISE VS REALITY GAP



Everyone wants the benefits; few can execute consistently.

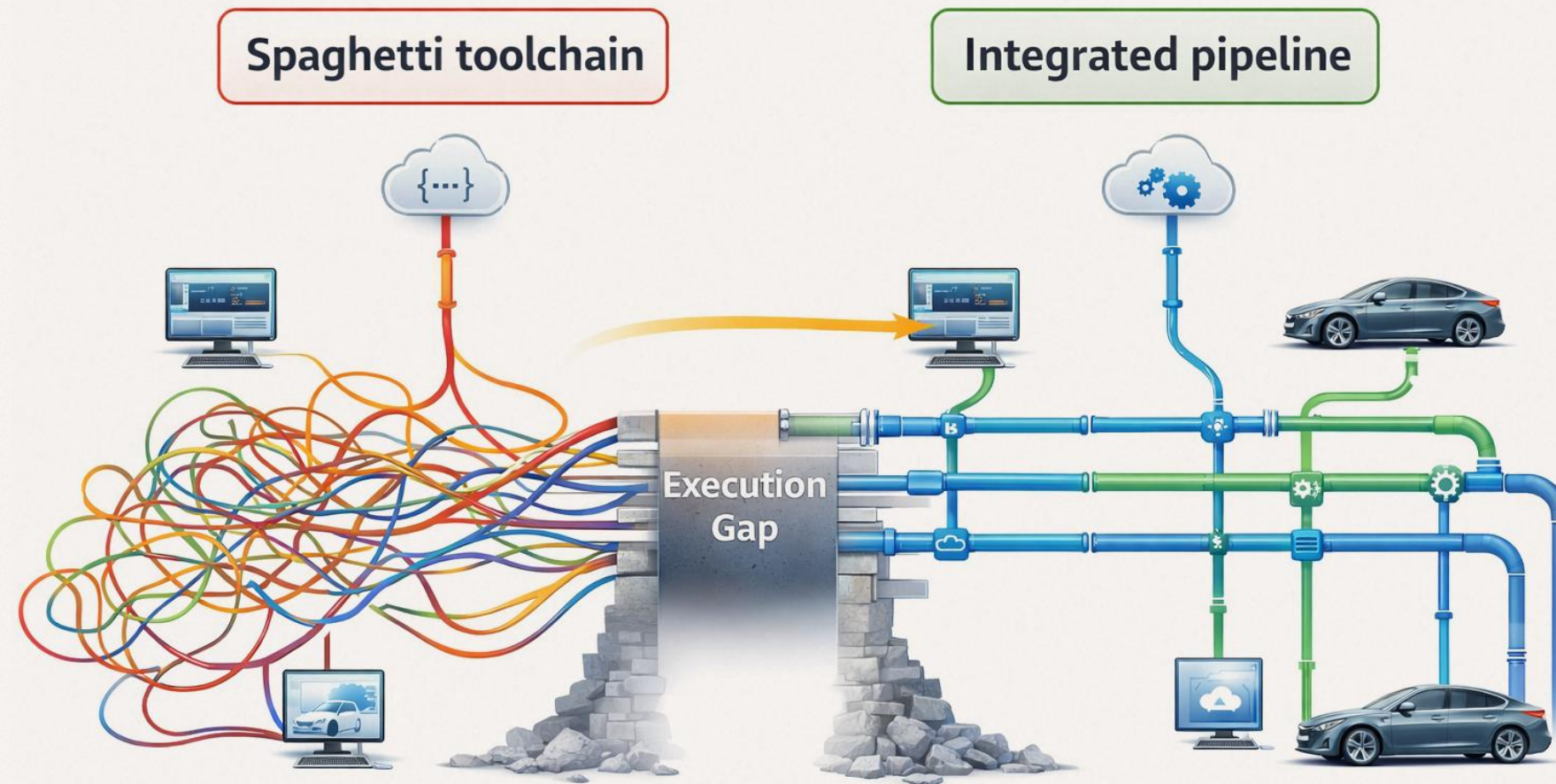
CHALLENGE 1: ARCHITECTURAL COMPLEXITY

MIXED CRITICALITY



SDV = distributed, mixed-criticality software at scale.

CHALLENGE 2: INTEGRATION & TOOLCHAIN CHAOS



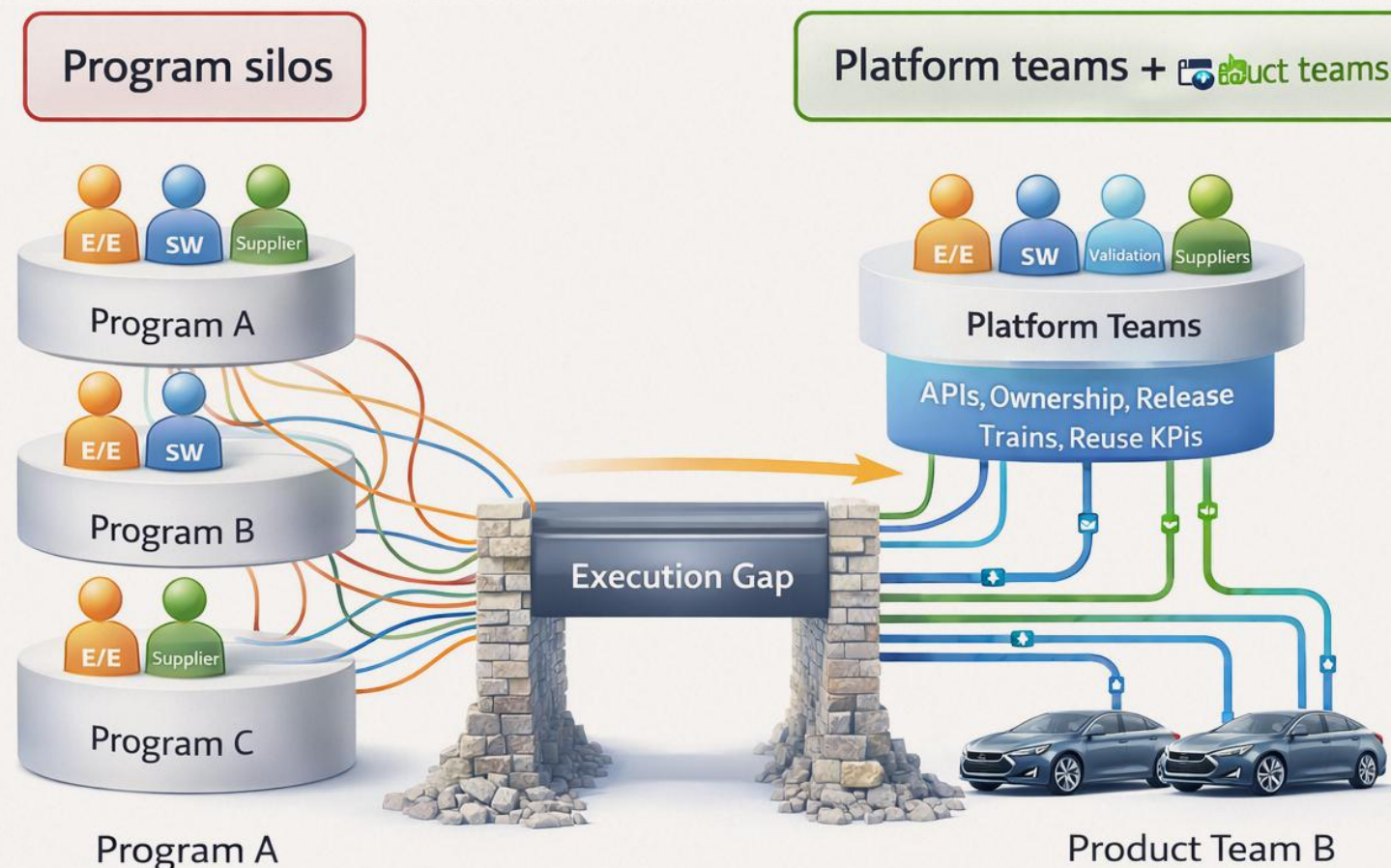
Tooling fragmentation creates late surprises and rework.

CHALLENGE 3: SPEED VS SAFETY/SECURITY



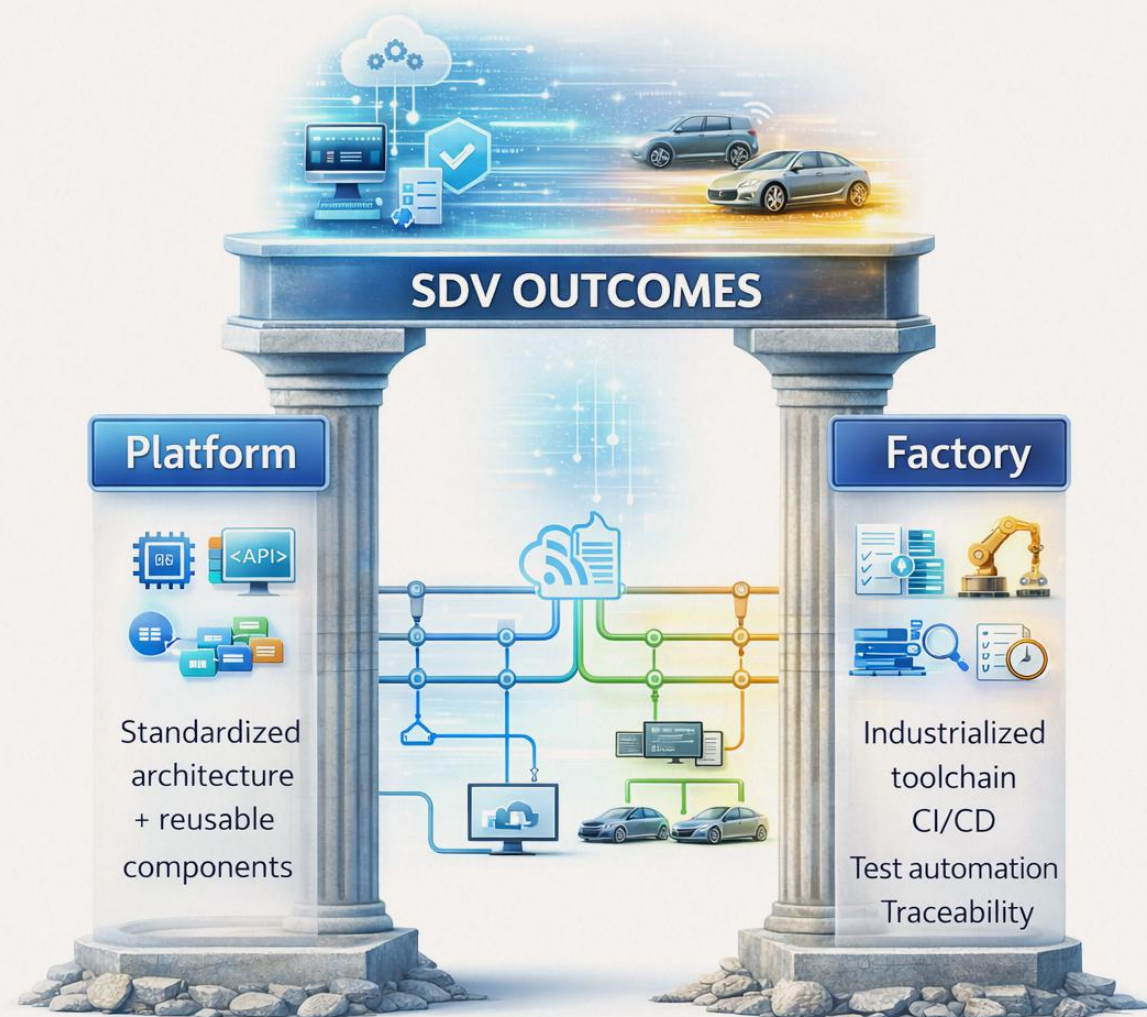
The answer is not slower development – it's automated assurance

CHALLENGE 4: ORGANIZATION & OPERATING MODEL



SDV is 50% engineering, 50% operating model

TURNING POINT: WHAT ACTUALLY WORKS

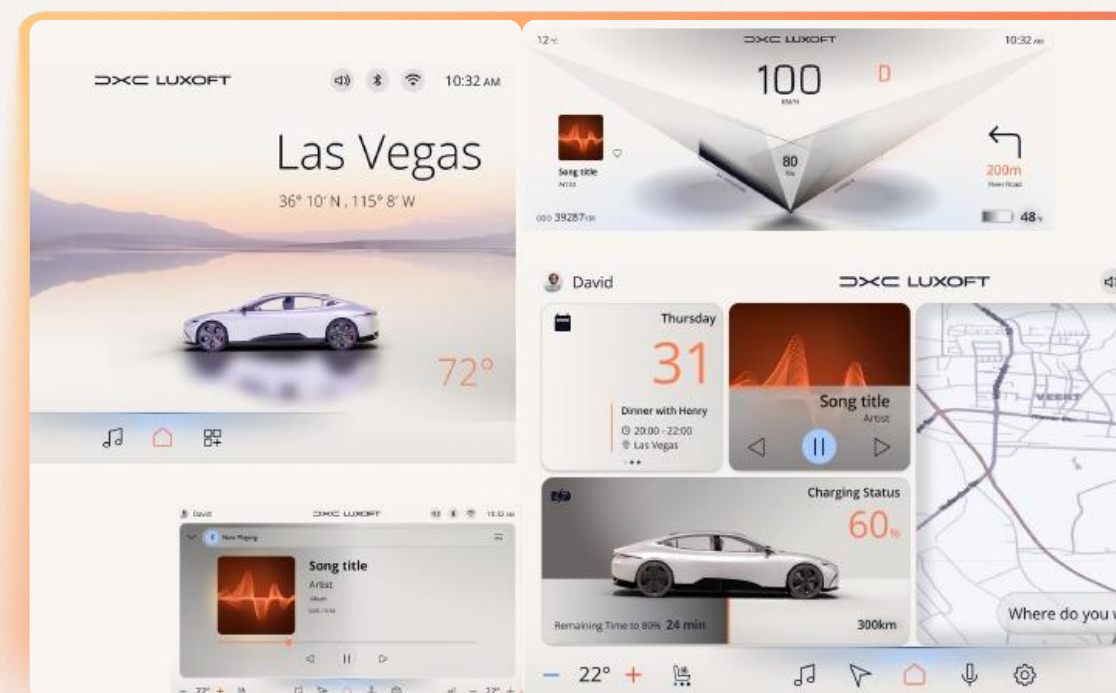


The winning pattern = "Platform + Factory" => AMBER

DXC LUXOFT SOLUTION STORY AMBER

Automotive made better

- AMBER gives carmakers the freedom to innovate, accelerate delivery and stay future-ready
- Platform
 - End-to-end SDV software platform across OS, middleware, cloud, cockpit, and ADAS
 - Standardized, modular, reusable, white-box, production-grade solutions leveraging the AMBER platform and assets
- Software Factory
 - CI/CD pipeline, build automation. Test infrastructure
 - Cloud based
- Trusted partner delivering speed, quality, and future-ready innovation



DXC Luxoft brings end-to-end SDV engineering and industrialization.

INTRODUCING AMBER: THE EXECUTION ACCELERATOR

Digital Cockpit Platform, ++Development Kit

▪ Embedded Offerings

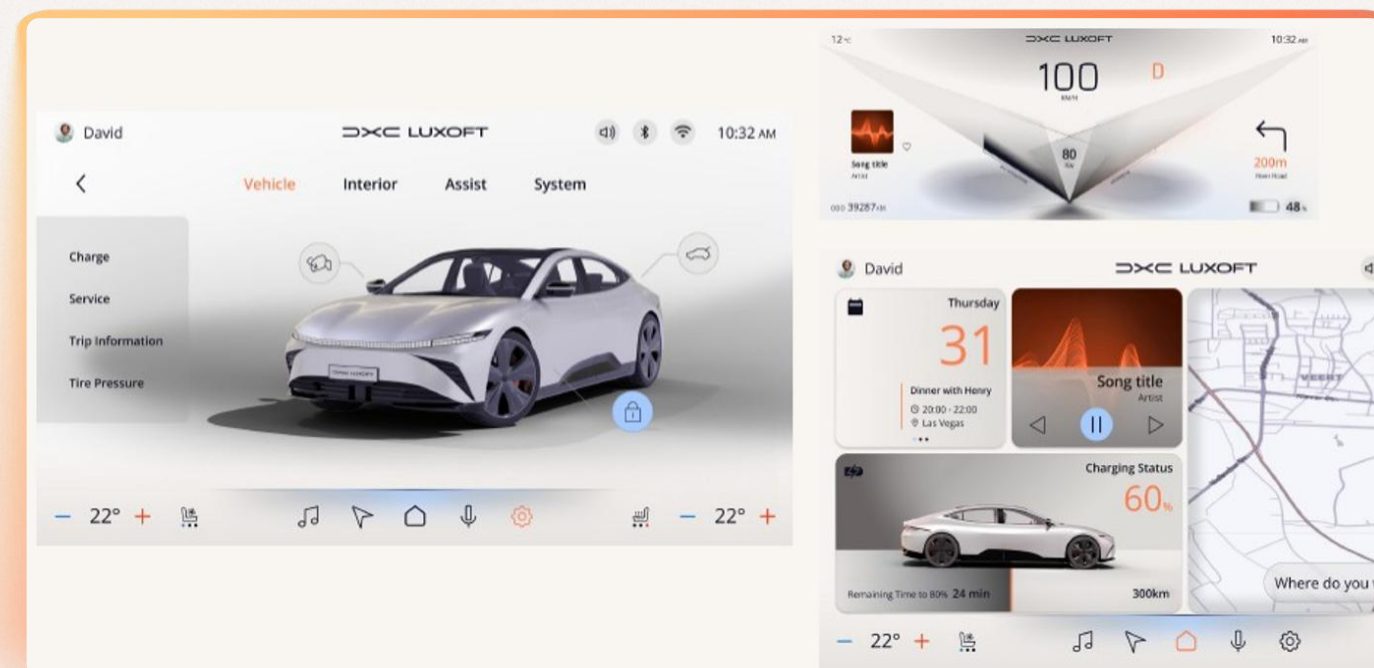
- In Vehicle Infotainment: AAOS based
- APPS: Android Auto, CarPlay, Media , 3D, ...
- 3rd Party: SoundHound Speech/ Assistance, HERE-, Mapbox-, MapmyIndia- Navigation, ACCESS AppStore, ...
- Instrument Cluster: Incl. Safe Renderer
- Middleware: OS agnostic

▪ Cloud Offerings

- Software Factory

▪ Process compliance

- ASPICE L2
- Cybersecurity UN155/156, ISO 21434
- FOSS usage compliance ISO 5230



AMBER helps operationalize the “Platform + Factory” model.

HOW AMBER TACKLES THE CHALLENGES



Freedom from Lock-ins

Break free from vendor lock-in with a hardware-independent platform that adapts to any vehicle architecture.



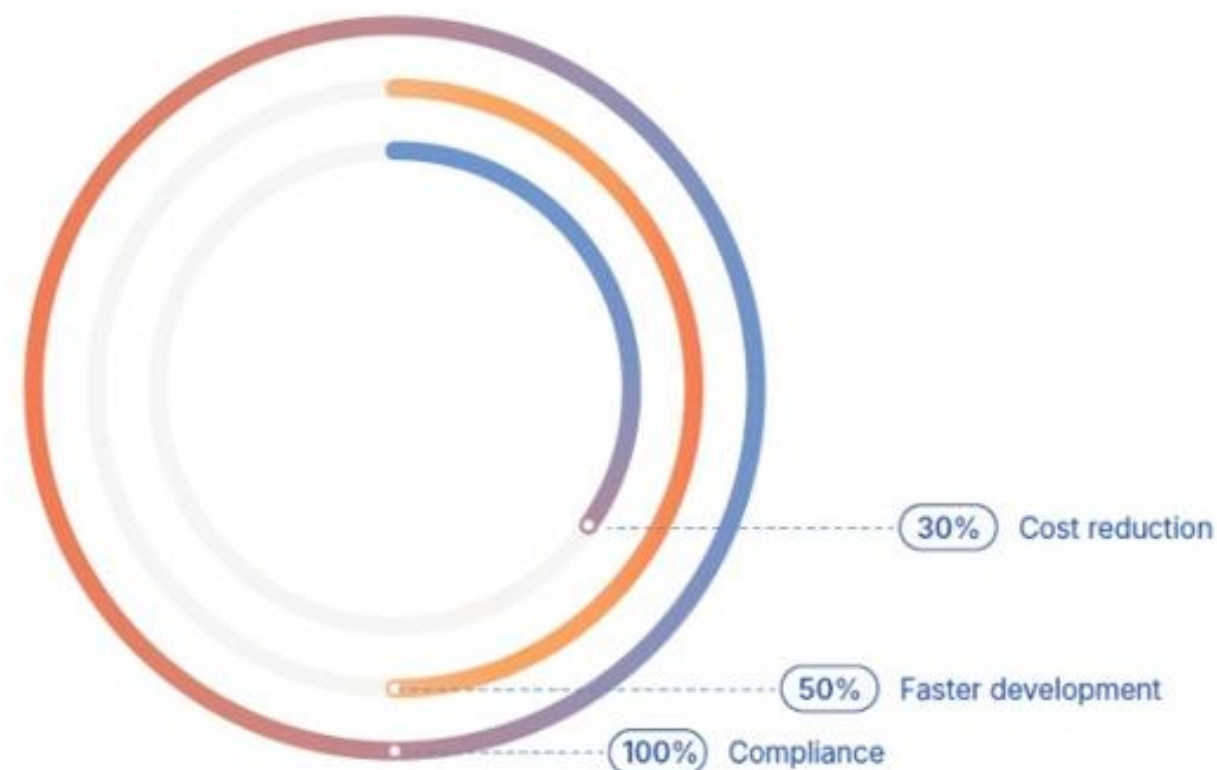
Cost Savings

Cut costs and speed up delivery with a standardized approach that eliminates redundant development.



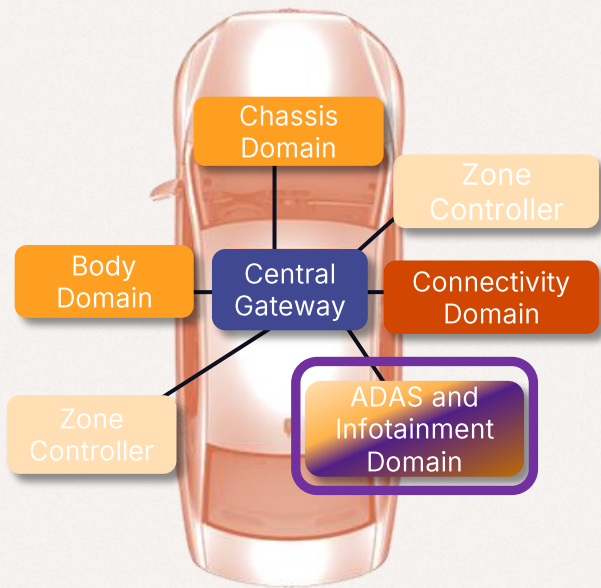
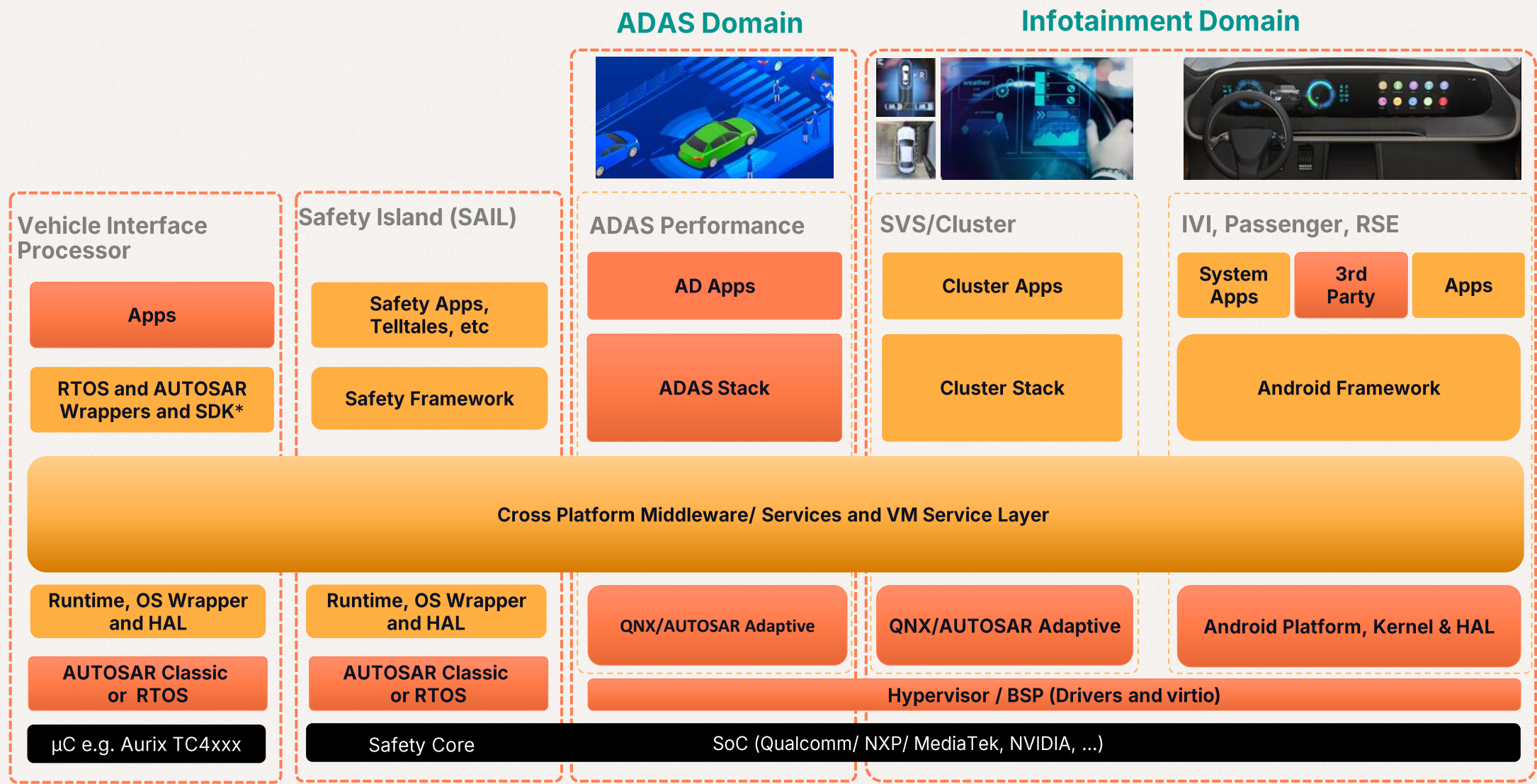
Automotive Compliance

Focus on innovation while we handle compliance, security, safety and maintenance for you.



Tie AMBER directly to each pain point (the “so what”)

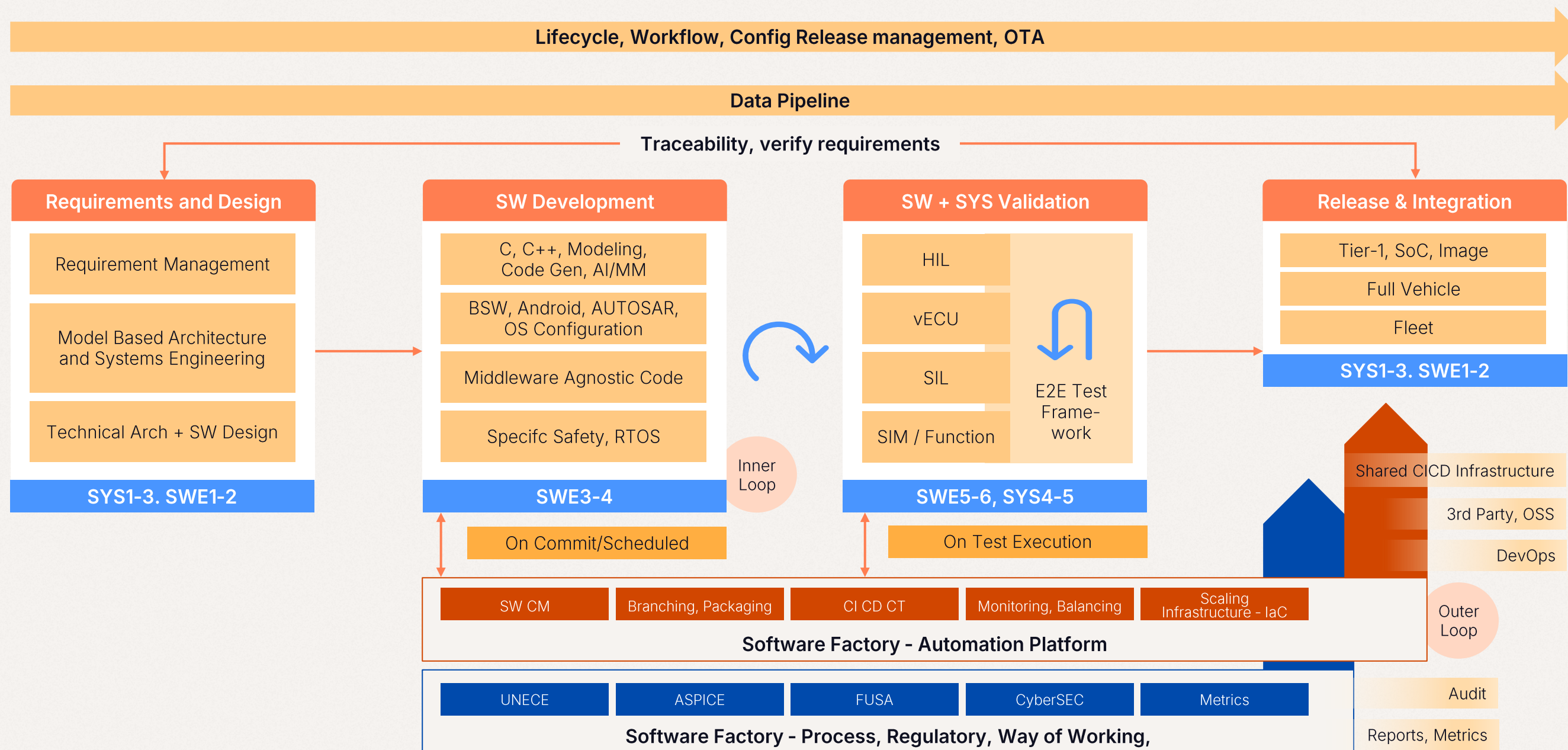
AMBER SYSTEM ARCHITECTURE



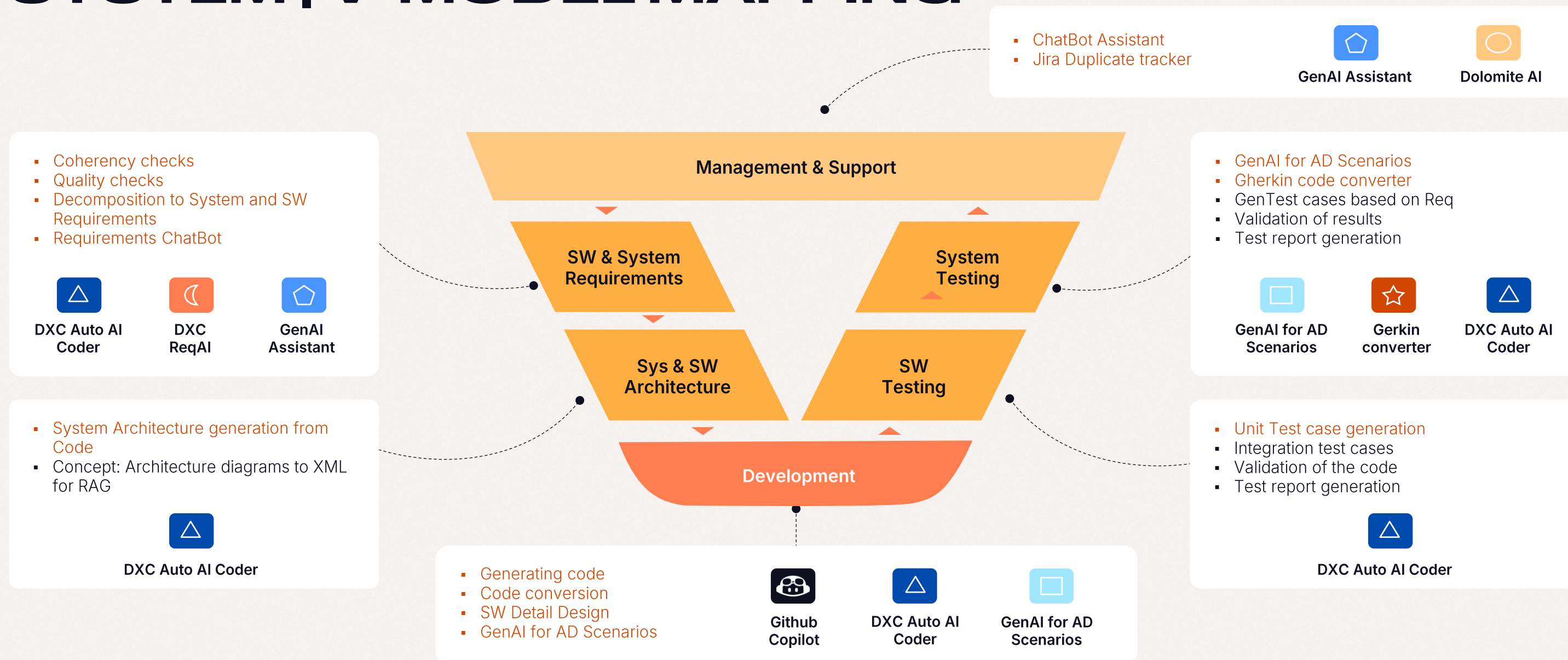
Hardware Targets

- QC SA8295P, SA8255P, SA7255P, SA8775P <WIP>
 - QNX HV, OS, AAOS 14, 15, 16, ..)
- Other SoCs: NXP, Renesas, NVIDIA <Roadmap>

SW FACTORY VALUE CREATION TOOLCHAIN



AI ACCELERATORS EMBEDDED SYSTEM | V-MODEL MAPPING



AD HOC SERVICES - AMBER KNOW HOW



CarPlay

Apple CarPlay connectivity with Seamless iPhone integration.

Development & Integration



Android Auto

Google Android Auto projection. Smartphone mirroring.

Development & Integration



Customer Specific Middleware

Middleware layer Vehicle services, data management.

OEM specific MW Development & Integration (e,g S-Core).



Digital Cluster

Development Services.

Safe Renderer, Cluster applications, FuSa pre-certifications Development & Integration



3rd Party IP Integration

Integration of 3rd Party IP for Navigation, Speech, AI Assistance, App-Store, AR, Audio/Video/Tuner.

Development & Integration



AAOS Upgrade Service

Full AAOS upgrade service, incl. compliance testing.

Service



Vehicle Emulator Cloud

Cloud-based vehicle simulation. Remote development environment.

Development & Integration



Customer Specific Software Factory

CI/CD pipeline, build automation. Test infrastructure.

Development & Integration



OEM Certification Support

Support for OEM certification & compliance testing (AAOS, AA, CP). Documentation, test reports.

Service



Maintenance Support

Support for OEM/Tier-1 Digital Cockpit.

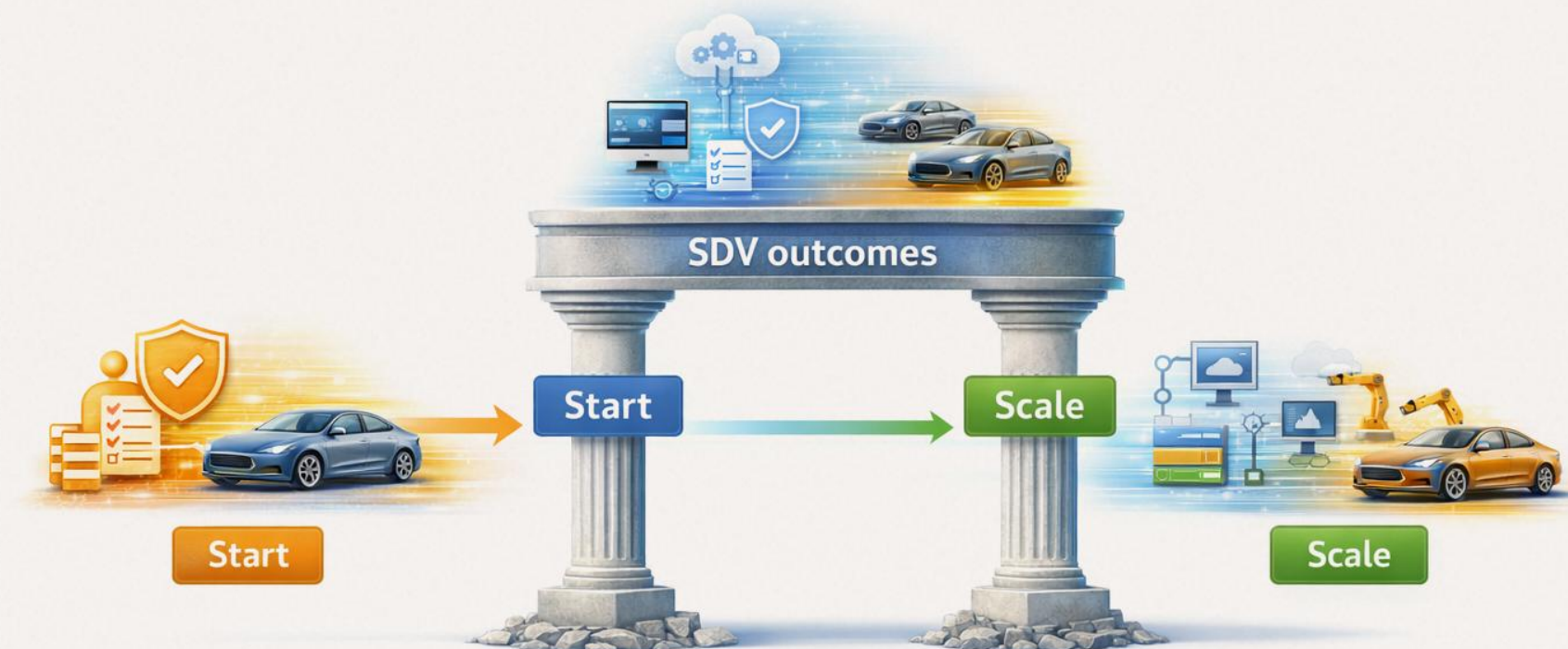
Service

Show an end-to-end SDV software factory flow.

TAKEAWAYS & CALL TO ACTION

3 Takeaways

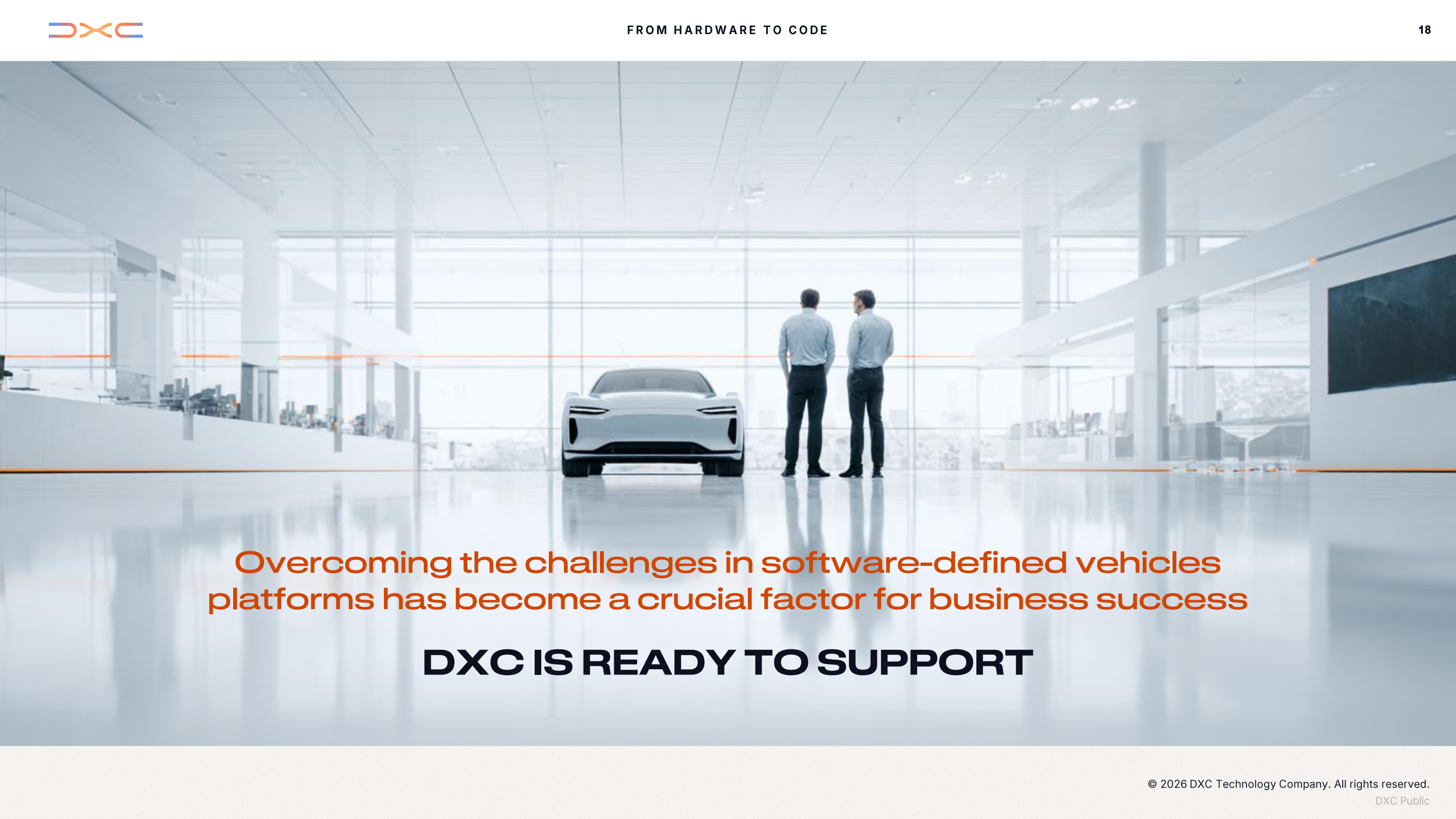
1. SDV success requires platform thinking
2. Speed + safety happens through automated assurance
3. Execution scales only with an industrialized software factory



Start → Standardize → Scale

Start with one domain, define the platform interfaces, build the factory, then scale.

Your next vehicle launch is a software launch.

A futuristic, sleek, light blue car is positioned in the center of a large, modern office space. Two men in light blue shirts and dark trousers stand behind the car, looking out a large window that offers a view of a city skyline. The office has a high ceiling with exposed ductwork and large pillars. The floor is highly reflective, showing the car and the men. The overall atmosphere is clean, modern, and high-tech.

Overcoming the challenges in software-defined vehicles
platforms has become a crucial factor for business success

DXC IS READY TO SUPPORT



IMPOSSIBLE. DELIVERED.