

Eclipse S-CORE

Project Status, Key Resources,
and Compliance by Design



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Automotive OSS Process Lead & Sr. OSS Community Manager

Project community



Why we do S-CORE – and where we are today



OSS – approach to address SW complexity in automotive

- Increasing **complexity** of SW-platforms in automotive
- **Qualification/ integration** as key effort drivers in automotive SW
- **SW reuse** essential to speed-up/ handle effort (esp. HPC)
- **Fragmentation/ duplicated** effort due to lack of **standards**
- **OSS** – feasible approach, yet need for accountability, quality, business model, ecosystem, ...

2 years ago:
The starting point



S-CORE – founded to build a global ecosystem

- Establish automotive software quality **standards in OSS**.
- **Establish an ecosystem** to jointly **work in collaboration**
- Industry adoption PoCs & **artifacts** (E2E)
- **Reliability** w/ strict timeline

In between:
Our progress



DELIVERY – We're heading into the “final stretch”

- Road towards “**Distribution**” offer
- **Qualified** & certified artifacts
- Industry-wide **alignment**

Today:
Current status

Global expansion

From a European to a global open source engagement



5

Initial
S-CORE
members

11

International
signees of
OSS MoU

32

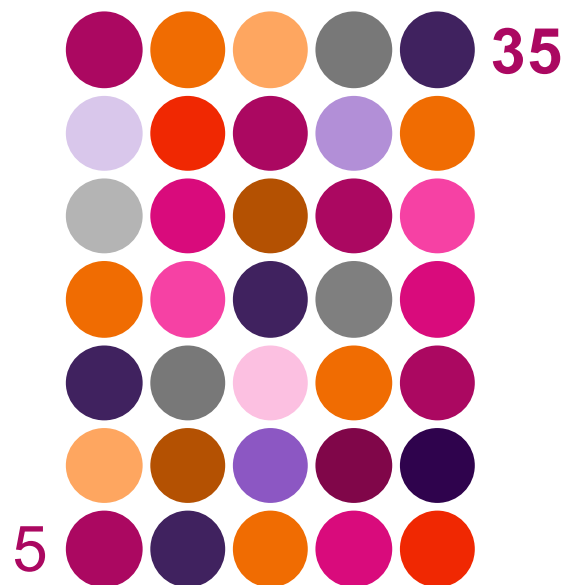
Signees -
global OSS
standard



BMW GROUP BMW Group	Frank Weber Member of the Board of Management		42dot 42 dot inc	Song Chang Hyeon CEO		HYUNDAI MOBIS Hyundai Mobis Automotive Electronics Business Unit	Dr. Ali Rezaei VP Embedded Time Digital Twin	
BOSCH Robert Bosch Group	Dr. Matthias Pillin CTO Mobility		AVL AVL List GmbH	Di Georg List Vice President Corporate Strategy		QNX QNX	John Wall Chief Operating Officer QNX Head of Product, Engineering & Services	
Continental Continental Automotive Technologies GmbH	Jean-François Tarabias Head of Architecture and Network Solutions Business Area		accenture Accenture	Dr. Christof Horn Global Lead SDV		Qualcomm Qualcomm Technologies Inc.	Nakul Duggal EVP Group GM, Automotive, Industrial and Embedded IoT, and Robotics	
ETAS ETAS GmbH	Dr. Thomas Irwin CEO		Capgemini Capgemini SE	Laurence Noël EVP Head of Global Automotive Industry		Red Hat Red Hat Inc.	Chris Wright CTO & SVP Global Engineering	
FORVIA VIAVI SYSTEM & CO. USA	Guido Schütte EVP Member of the Executive Board Electronics		coretura Coretura AB	Johan Lundén CEO		STELLANTIS Stellantis LLC	Tara Vatcher President and CEO of Platform SW Development and Architecture	
Mercedes-Benz Group Mercedes-Benz Group AG	Markus Schäfer PD Chief Technology Officer, Development & Procurement		Cummins Cummins Inc.	Jonathan Wood Vice President & Chief Technical Officer		SCHAEFFLER Schaeffler AG	Uwe Wagner Chief Technology Officer	
QORIX QORIX GmbH	Markus Schupfner CEO / Managing Director		ecarx ECARX PTE. LTD.	Nicolas Pernigat Executive VP, Head of Global R&D		TRATON TRATON SE	Niklas Klingenberg Head of Global R&D	
Valeo Valeo R&D Division	Joachim Mathes CTO Valeo Brain Division		Elektrobit Elektrobit Systems GmbH	Maria Anhalt CEO		T Systems T Systems	David Hagemann Head of Group R&D/EE Applications	
VECTOR Vector Informatik GmbH	Dr. Matthias Traub Managing Director		Infineon Infineon Technologies AG	Peter Schaefer President and CEO of the Automotive Division		USE BLOCKS Useblocks GmbH	Daniel Woste CEO	
VOLKSWAGEN GROUP Volkswagen Group AG	Dr. Michael Steiner Member of the Executive Committee Volkswagen AG, Group R&D		LEAR CORPORATION Lear Corporation	Nick Rosli President E-Systems				
ZF GROUP ZF Friedrichshafen AG	Axel Andorff Group Chief Technology Engineer		LG Electronics LG Electronics Vehicle Solution	Seok-hyun Eun President				

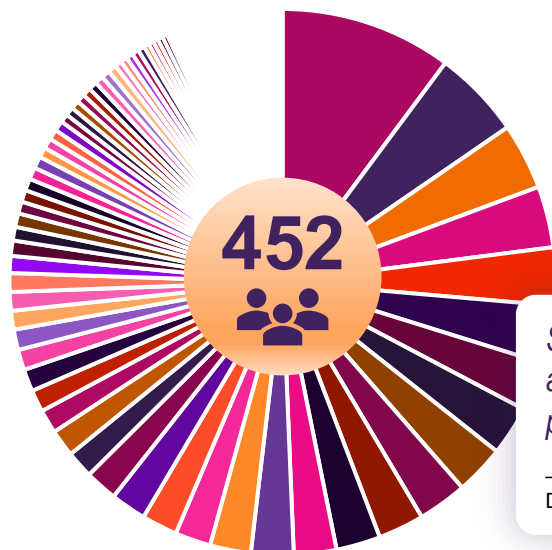
Eclipse S-CORE community growth

Ecosystem growth



From 5 initial partners
to 35 contributing companies

Developer community



Source: <https://projects.eclipse.org/projects/automotive.score/who>

With 452 total
individual contributors

S-CORE is the most active project in the Eclipse Foundation

Eclipse OSS projects:

Project	Commits	Authors	Repositor.
Eclipse Safe Open Vehicle Core	19,691	452	55
Eclipse Tractus-X	7,045	179	44
Eclipse SUMO™	5,813	41	2
Eclipse Aidge	4,471	62	18
	3,893	9	3
	3,545	39	7
	2,817	54	24
	2,758	80	8
	2,535	34	2
Eclipse Vert.x™	2,374	53	18
	143,510	4,246	1,686

*S-CORE is the most
active Eclipse Foundation
project at the moment.*

– Mike Milinkovich, Executive
Director of Eclipse Foundation

Source: [Git - Bitergia Analytics](#)

To sustainable and
increasing engagement

Commitment for Open Source and Eclipse S-CORE

”

... by aligning on a common, secure core software stack and working with well-documented hardware interfaces, we can improve safety, accelerate integration, and **enable broader reuse across OEMs and suppliers...**

— Infineon



**New way of
collaboration is
a key success
factor**

”

... by aligning our Snapdragon Digital Chassis solutions with the S-CORE community, we're empowering automakers and Tier-1 suppliers to **innovate faster and deliver intelligent, connected, and safer vehicles...**

— Qualcomm

”

By contributing to a 'code-first' ecosystem like Eclipse SDV, we are helping the industry **reduce fragmentation** and accelerate the delivery of software-defined vehicles at scale. Open source is ... an essential engine for **rapid innovation and long-term sustainability...**

— Red Hat Inc.

”

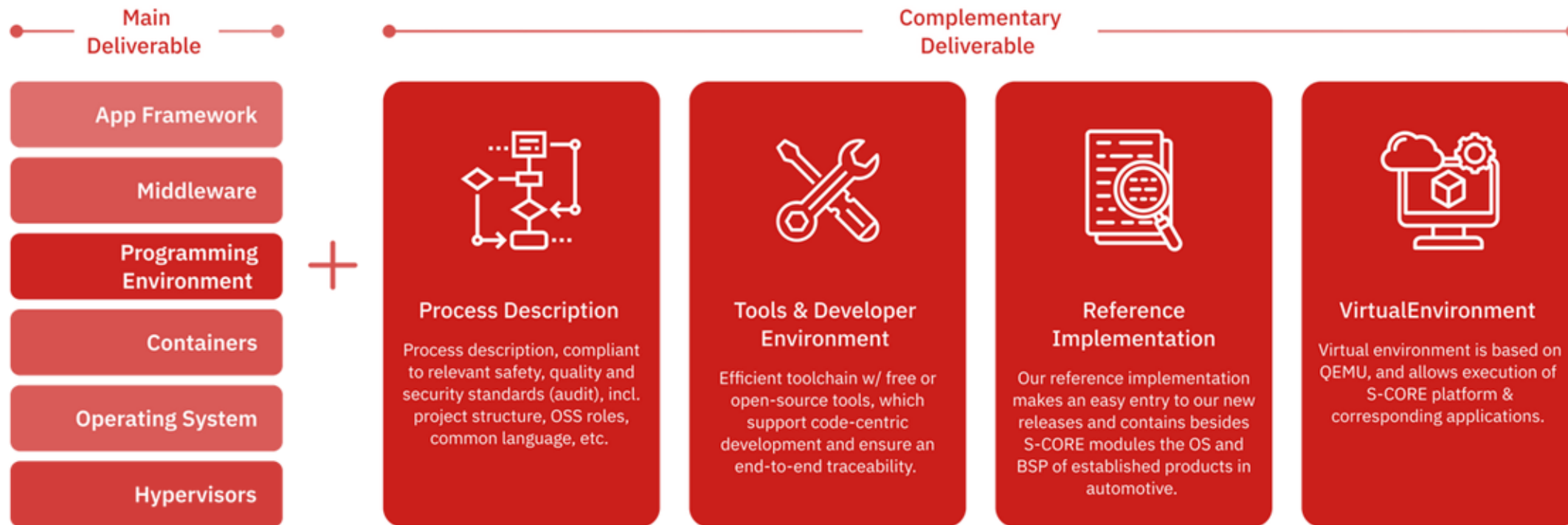
We believe open collaboration is key to **accelerating progress and managing the complexity of Software-Defined Vehicles.** By fostering shared standards and open platforms, we help build an automotive ecosystem that is interoperable, secure, and sustainable....

— Elektrobit GmbH

Scope & Deliverables

Eclipse S-CORE, a code-first, open-source software platform for onboard ECUs that the whole industry can build on.

Rather than each company independently developing and maintaining a software platform — at high cost and without direct customer value — S-CORE provides a common foundation with:



Our targets



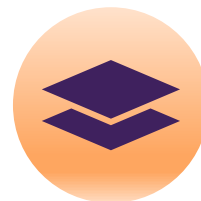
Speed

Accelerate development by working in open source with code-centric methods – **up to 30% faster time to market**



Efficiency & reuse

Up to 40% effort reduction in dev., integration & maintenance **by sharing all artefacts along development**



Compatibility & qualification

S-CORE stack as **compatible, resilient**, one-fits-all solution – **safety qualified** to automotive standards



Business model

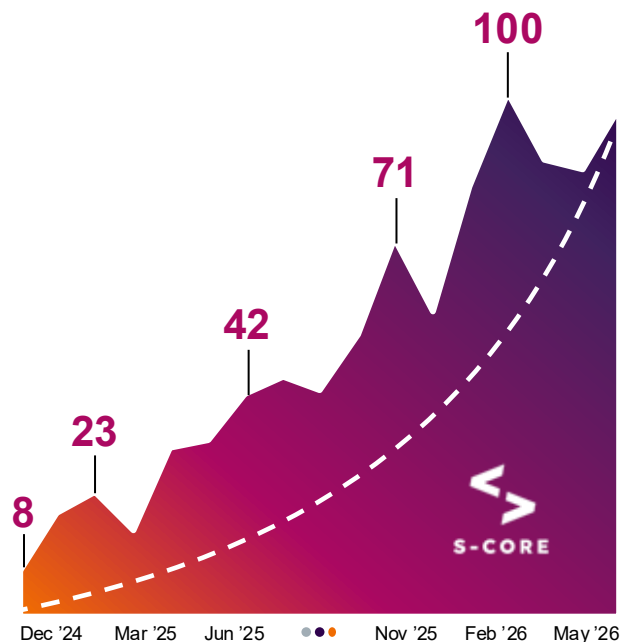
Create a **successful business model for open-source software platform**, offering opportunities to all players



Speed |

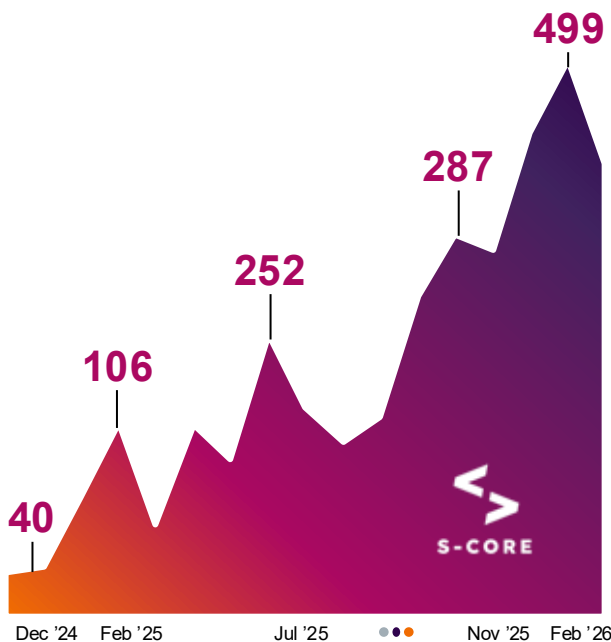
The ecosystem grows and sets the foundation for our speed

Our ecosystem is growing



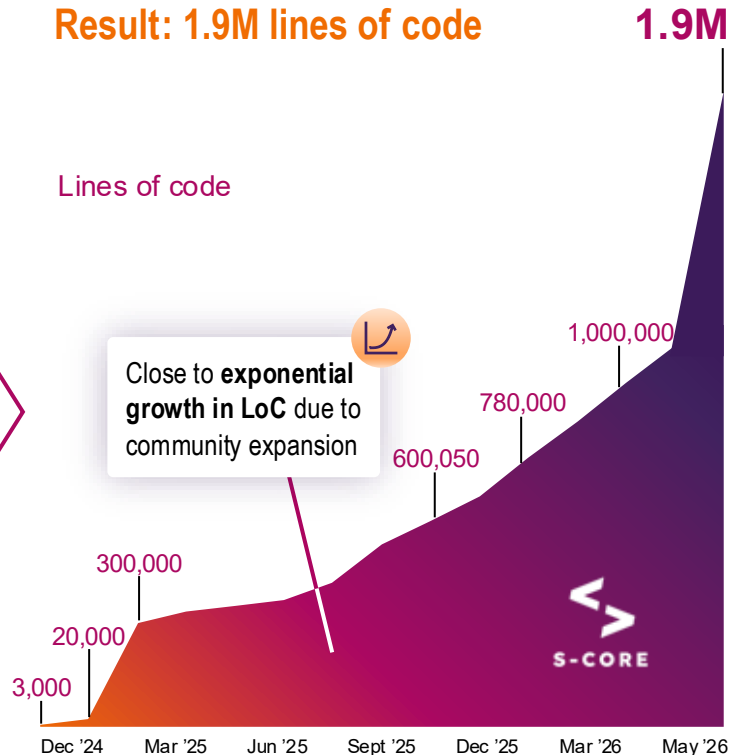
monthly active contributors

Our output & productivity increases



pull requests per month

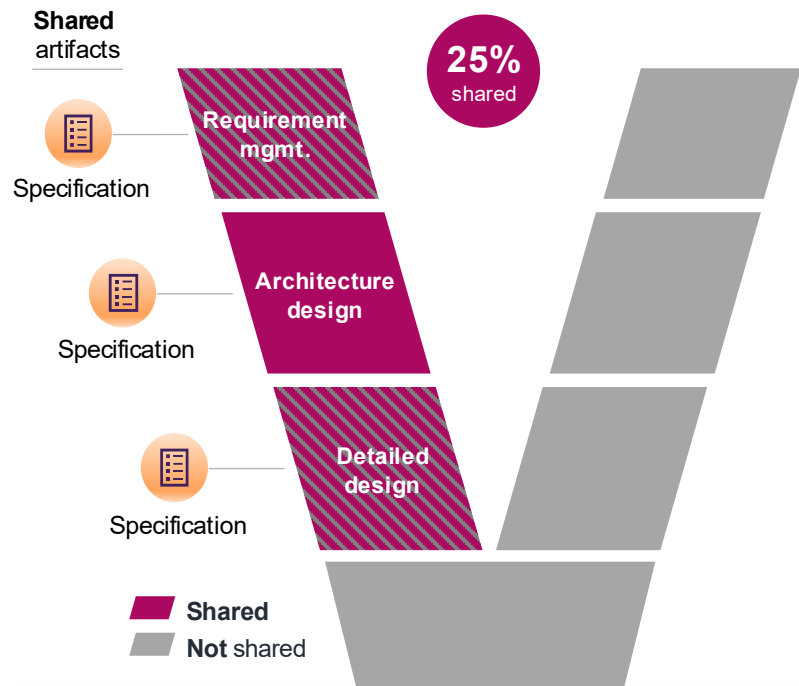
Result: 1.9M lines of code



Monthly lines of code in C++ & Rust

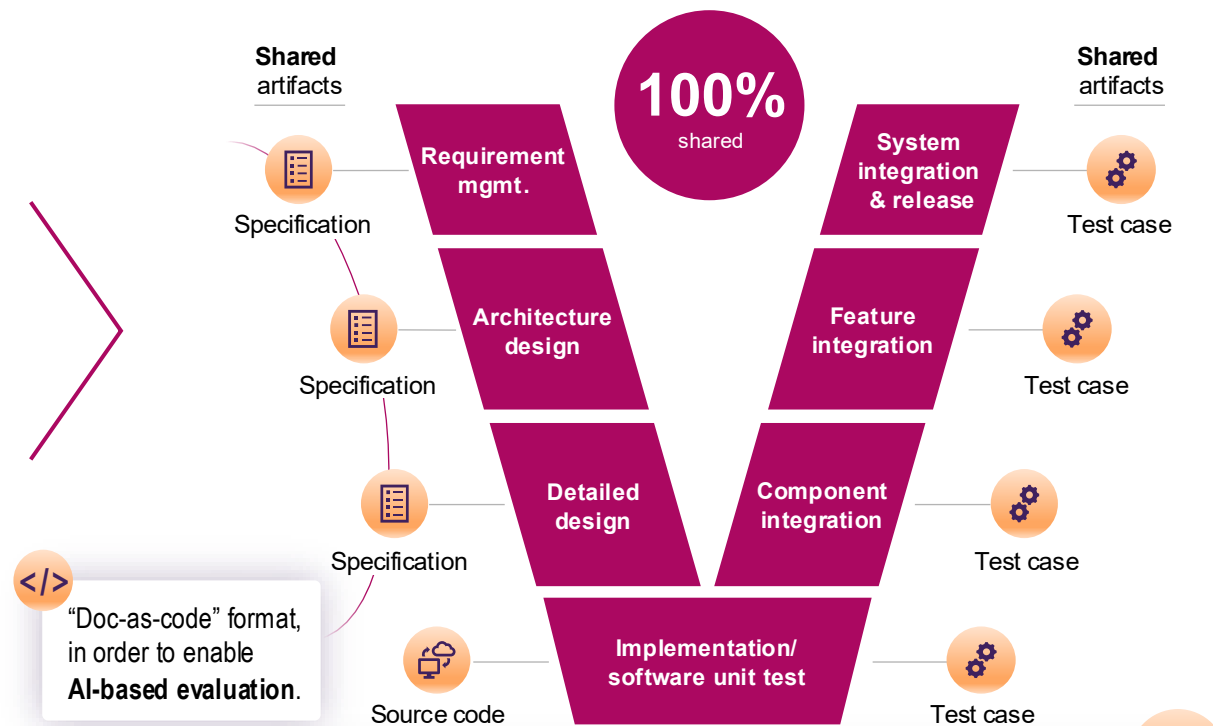
Reuse & efficiency | Collaborating on all artifacts increases efficiency

Past: High individual effort w/ spec-based standard



~75% of Software platform effort is **not shared**¹⁾ !

S-CORE approach: shared effort across all artifacts

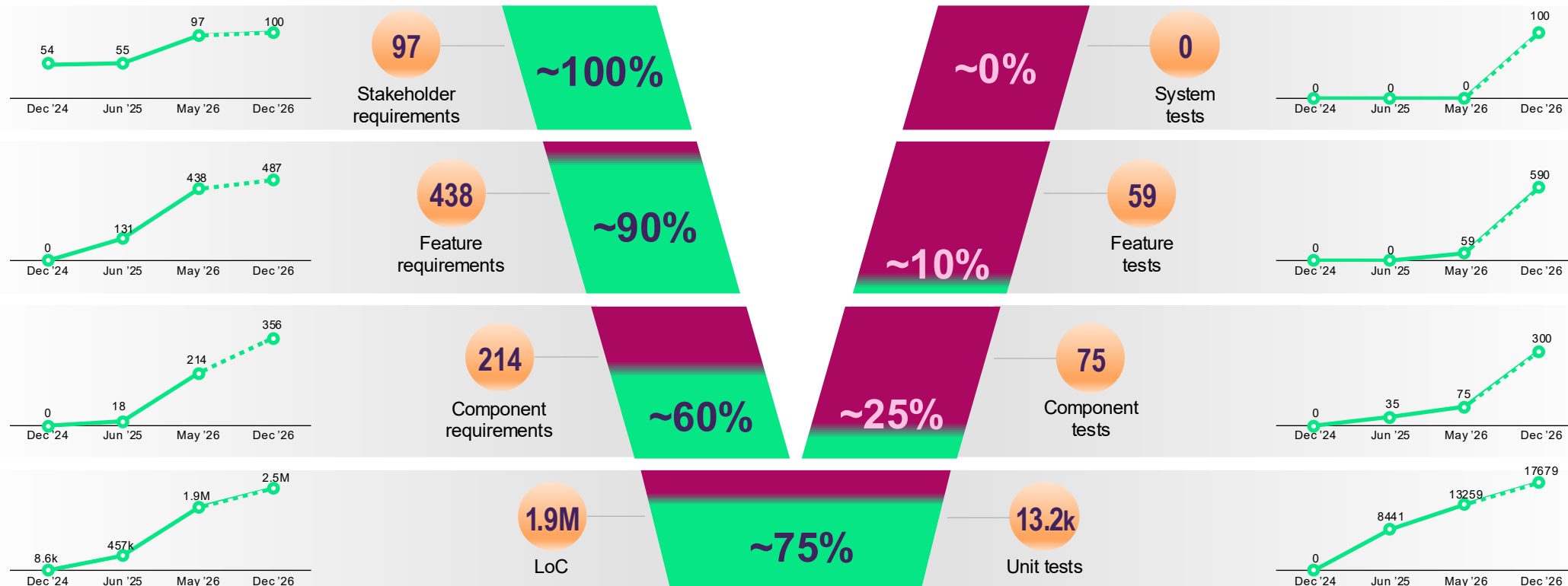


We can be **faster & more efficient** by sharing all artifacts

Reuse & efficiency | We work at high speed to deliver all artefacts in v1.0

Shared – ready (S-CORE v0.7)

Shared – ready by 12/2026 (S-CORE v1.0)



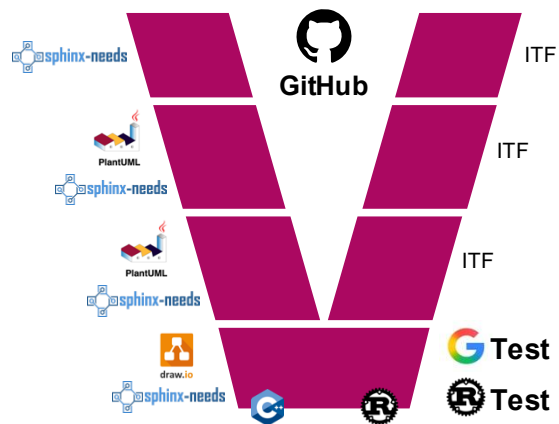
Code First

Source: [Overall Status — REF_INT documentation](#)

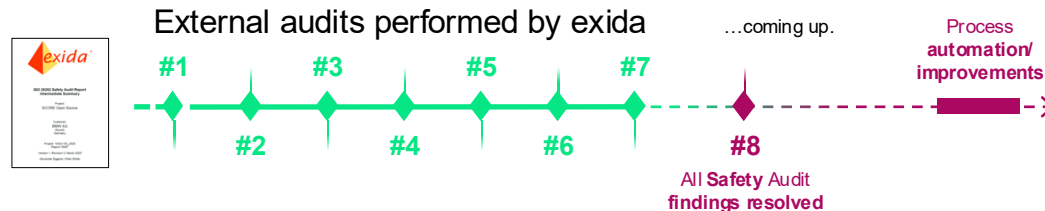


Compatibility & qualification | We've established an integrated open source toolchain and perform continuous auditing of our process

Fully open-source toolchain established.



7 external process audits completed/ findings implemented,
1 more audit to go to cover complete SW-development process.

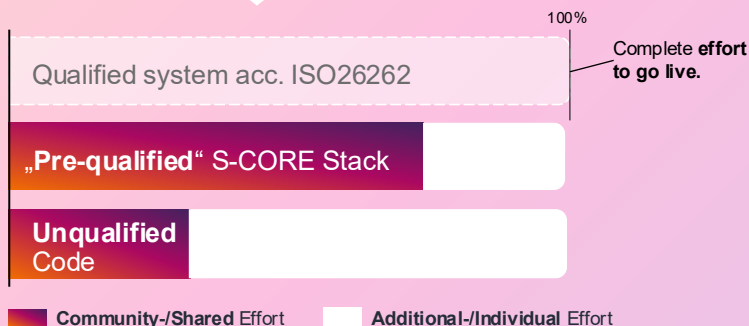


With S-CORE,
the individual effort to
qualify open source
software decreased
significantly.

Overall effort in
series project

Provided by
Eclipse S-CORE

Provided by a
"common" OSS project



"With S-CORE, the **shared content** for the industry is **increased by far**,...

... nevertheless, **some effort** is still **needed** to reach a fully qualified system.

Readiness & adoption | Target: Provide a full stack by the end of 2026

Stack readiness, S-CORE 0.8 (Today)

~75%
ready

Platform API (native APIs for Rust and C++)

Logging API	●	Configuration API	●
Persistency API	●	Fault API	○
Lifecycle & Health Mgmt.	●	Crypto API	●
Time API	●	Communication API	●

System Services

Logging Data Collection	●	Fault Mgmt.	○
Storage Mgmt.	●	Key/ Certificate Mgmt.	●
Lifecycle & Health Mgmt.	●	Diagnostic Handler	○
Config Mgmt.	●	User Capability Mgmt.	●

Common Libraries

Basic Libs C++	●
Basic Libs Rust	●

Communication

Zero-copy Communication	●
SOME-IP Gateway	●
NM	○

OS  |    

We've reached ~75% and plan to deliver **100% by the end of 2026.**



Source: Schaeffler

Schaeffler

What: Schaeffler Motion Control Platform and Software Services in cooperation with OEMs and stack vendors based on OSS SDV-Ecosystem.



Source: ETAS

ETAS

What: ETAS Vehicle SW Platform Suite. Demo applications & fixed execution order app framework in demonstrator.



Source: E CARX

Qorix

What: Qorix Performance Stack enabling IVI and ADAS on a single centralized SoC with real mixed-criticality separation.



Source: Accenture

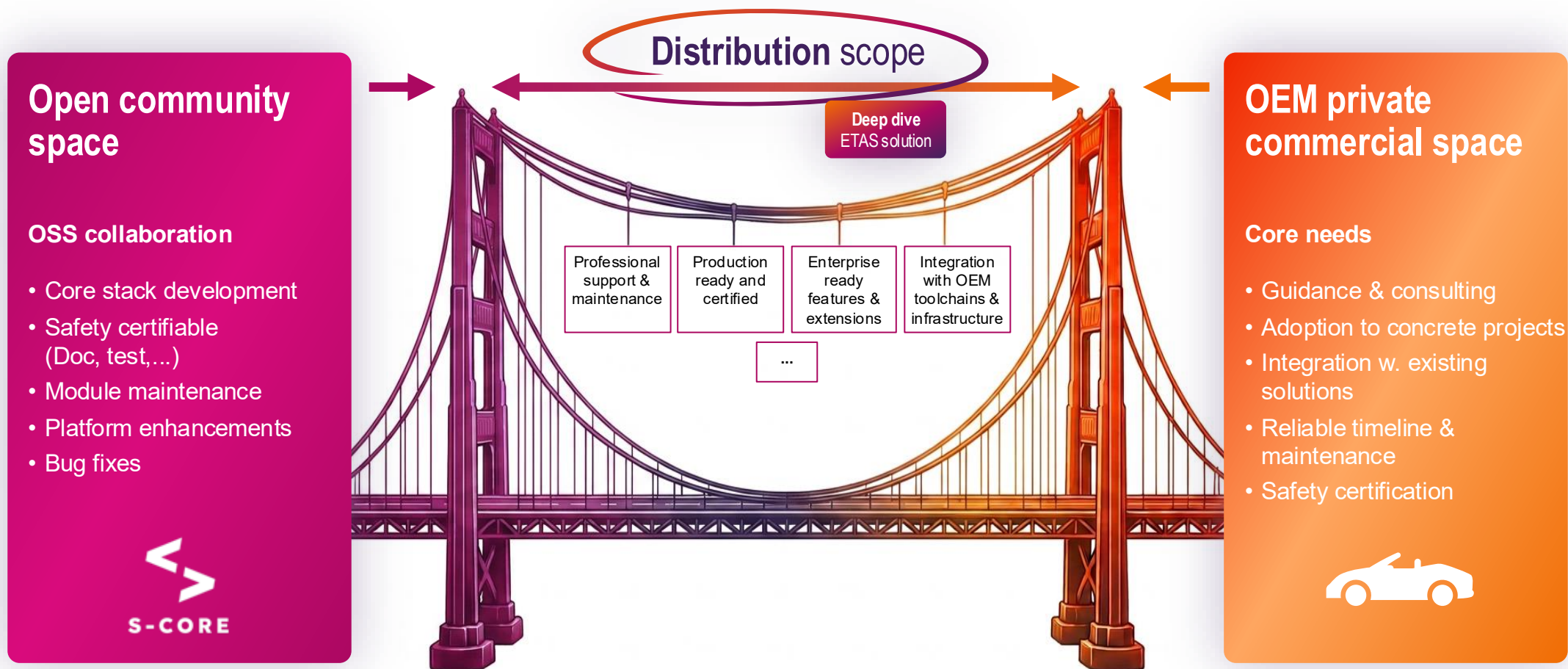
Accenture

What: Contributing to safety & security process and Fixed Execution Order Framework (FEO).

Meanwhile, first **S-CORE demonstrators** are already in place.

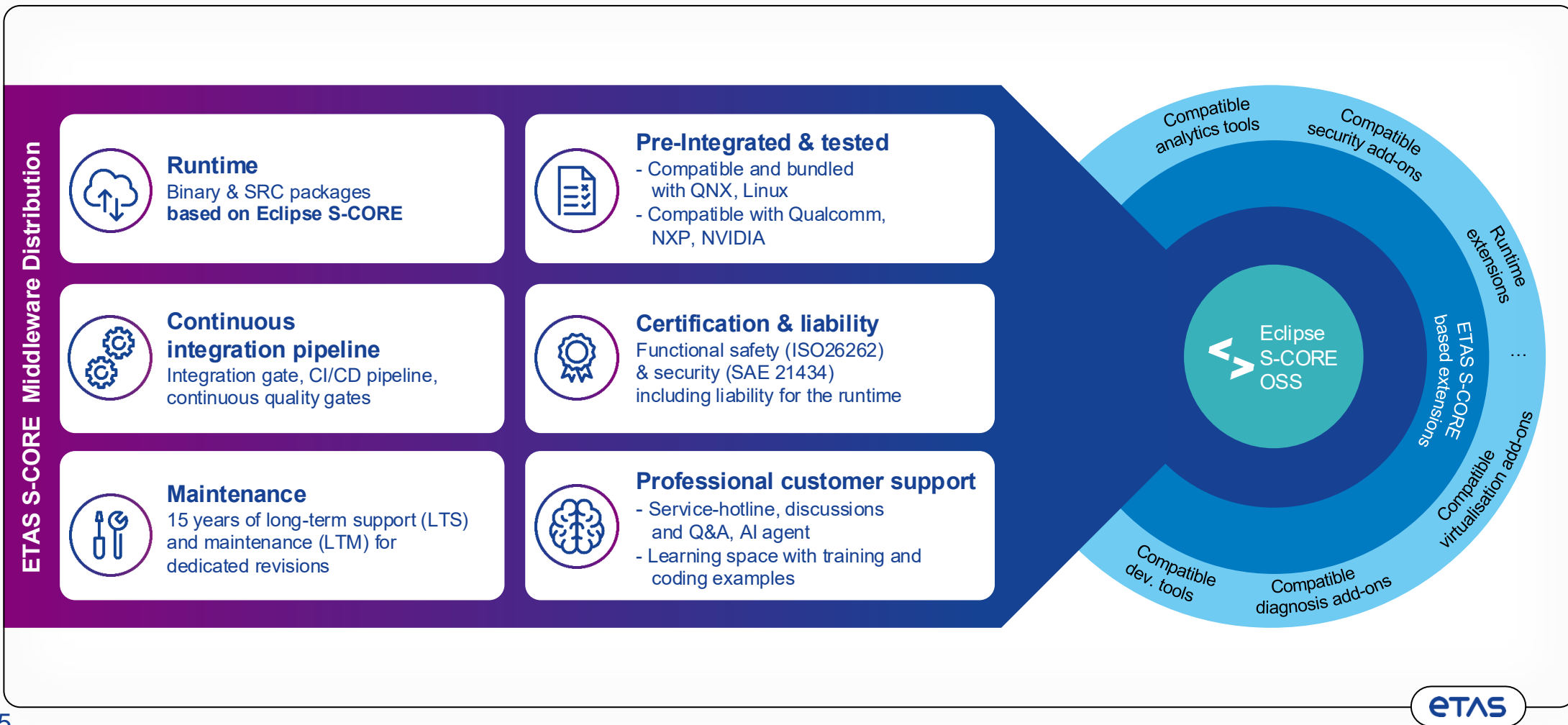


Business model | From open source to commercial solutions





Business model – example | ETAS commercial distribution offering



Business model – example | ETAS product roadmap – production ready



2024 – 2026
Foundational phase & ecosystem expansion

Focus on Eclipse S-CORE:

- Automotive-grade OSS development
- First Eclipse S-CORE releases
- Growing partner ecosystem



2026 – 2027
Productization phase

Get ready for production:

- Enable start of development at OEMs and Tiers
- Achieve feature complete
- Achieve certification



2028 ff.
Start of production & maintenance

Enable SOPs 2028:

- First vehicles with S-CORE on the road
- Scalable and maintained for future SDV generations



Experience Eclipse S-CORE on your own

Resources and starting points

How to get started?

EXPLORE



Release Notes:

Get an overview of all features and functions available in the latest S-CORE release Milestones

[Release notes \(v0.8\)](#)

Test & Deploy



Reference Integration:

The full initial integrated platform, including modules and the scramble demo, is available for exploration.



[Explore the Repo](#)

Read more



Use the S-CORE Handbook:

A detailed “how-to-guide” introducing core concepts and walking through application building step-by-step

[Open the Handbook](#)
(under rework)

Release and milestone overview

Initial V0.5 Release in November 2025:

- Establish release processes
- Lower the barrier to start using and developing
- Engage with the community

Focus:

- Prove core IPC, persistence, orchestration concept

Channels:

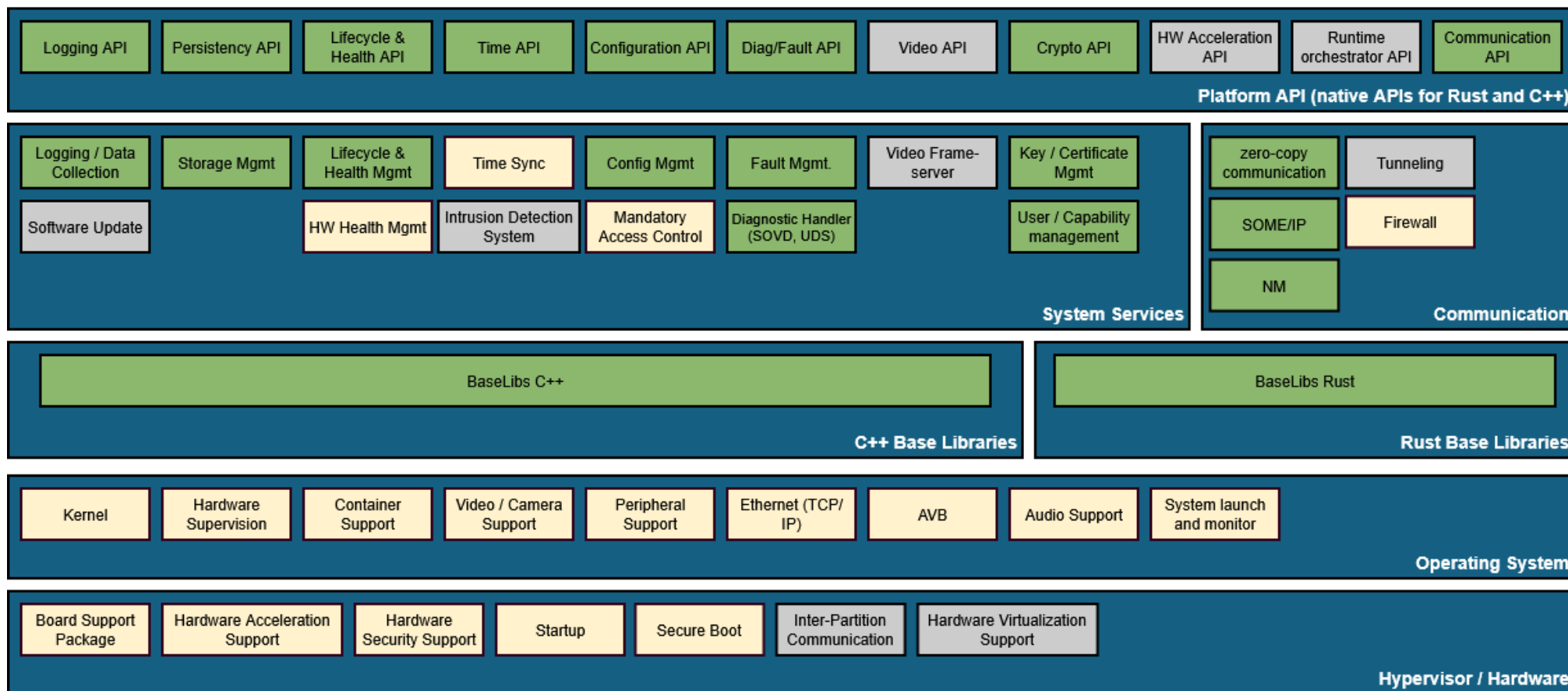
- Reference Integration Repo
- Release Documentation
- Website

Since then:

- Maturing release processes
- Adjust release cadence
- Improve communication processes

2025-11-17   Eclipse S-CORE V0.5 alpha release is out today!	
	+ v0.5 beta milestone Dec 22nd, 2025
	+ v0.6 milestone Feb 23rd, 2026 (revoked)
	+ v0.7 milestone May 11th 2026
	Latest Milestone (as of Aug 31st): v0.8 milestone July 28th 2026
	+v0.9 milestone expected CW37 2026

Eclipse S-CORE v1.0 architecture



[Link](#)

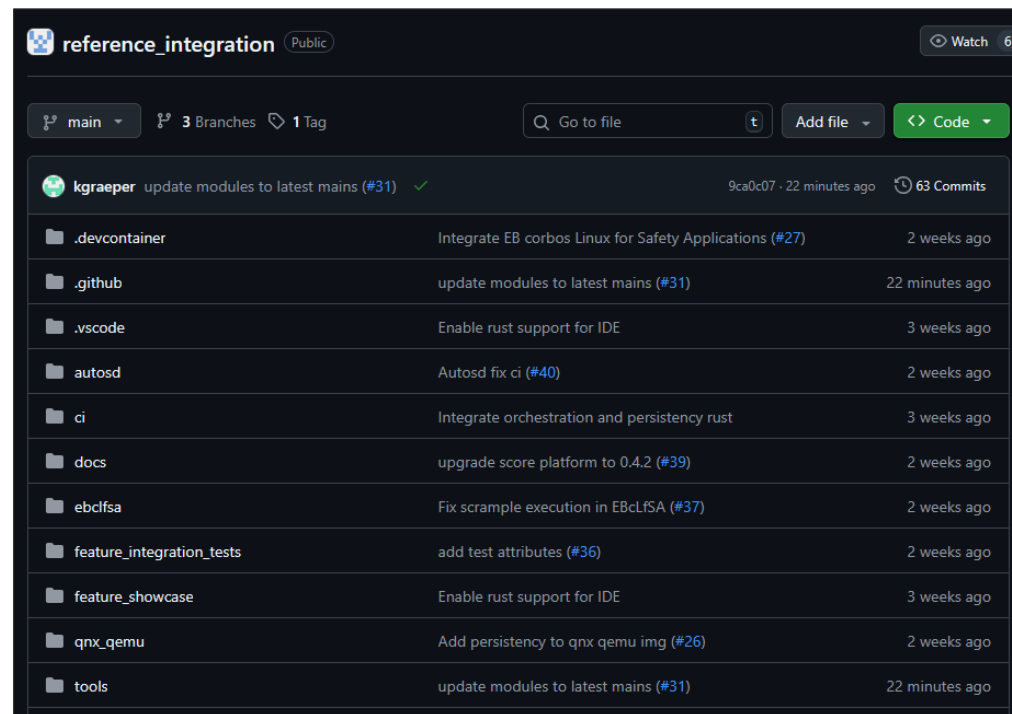
S-Core v1.0

Part of OS or HW
specific implementation

to be discussed for
future releases

Reference integration repository

- All Eclipse S-CORE modules are integrated together to ensure, that they match to each other.
- It integrates all software modules into reference images (e.g., a qnx x86 image) to verify that:
 - all module dependencies are consistent
 - modules work correctly together
 - feature requirements are fulfilled
 - Feature integration tests are executed on these reference images to validate the complete platform.

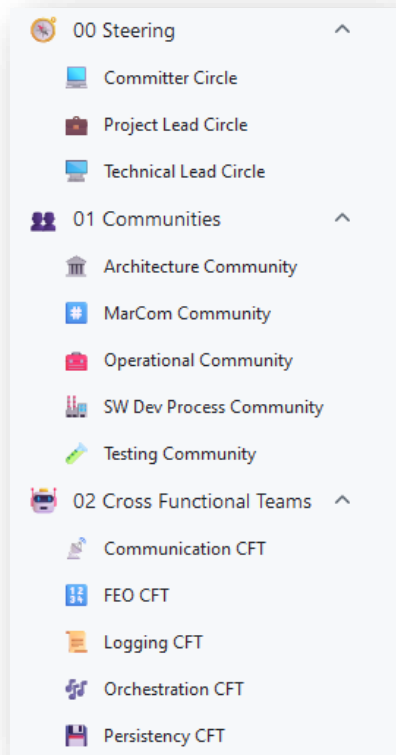


Reference Integration Dashboard:

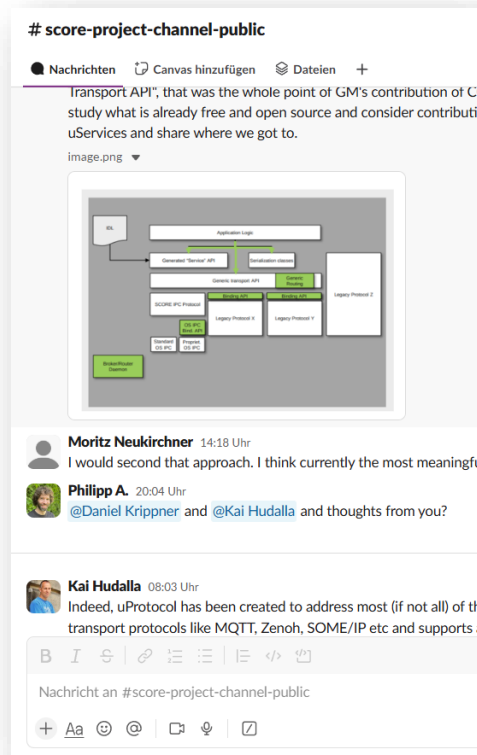
https://eclipse-score.github.io/reference_integration/main/status_dashboard.html

Get in contact & Join the community!

Discussion groups on GitHub ([link](#))



Slack Channel ([link](#))



Meetings ([link](#))

November 2025		
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Conlusion

There was never a better time to get started!

Time to deliver

1 We've built up a **working and expanding ecosystem.**

2 S-CORE will provide an **integrated SW platform** with **automotive grade.**

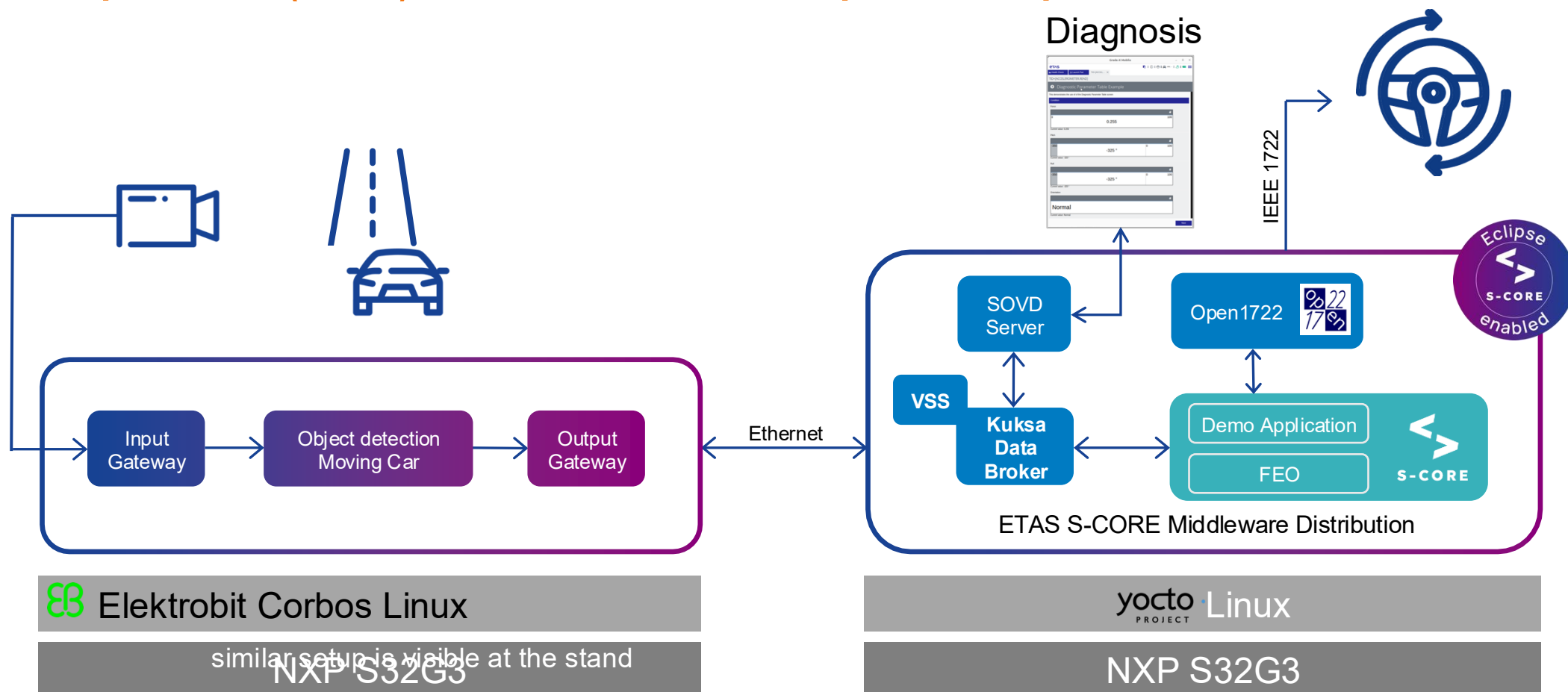
3 **Products** that include service, liability, and support **will be available soon.**

4 **Start** using it – **NOW !!**



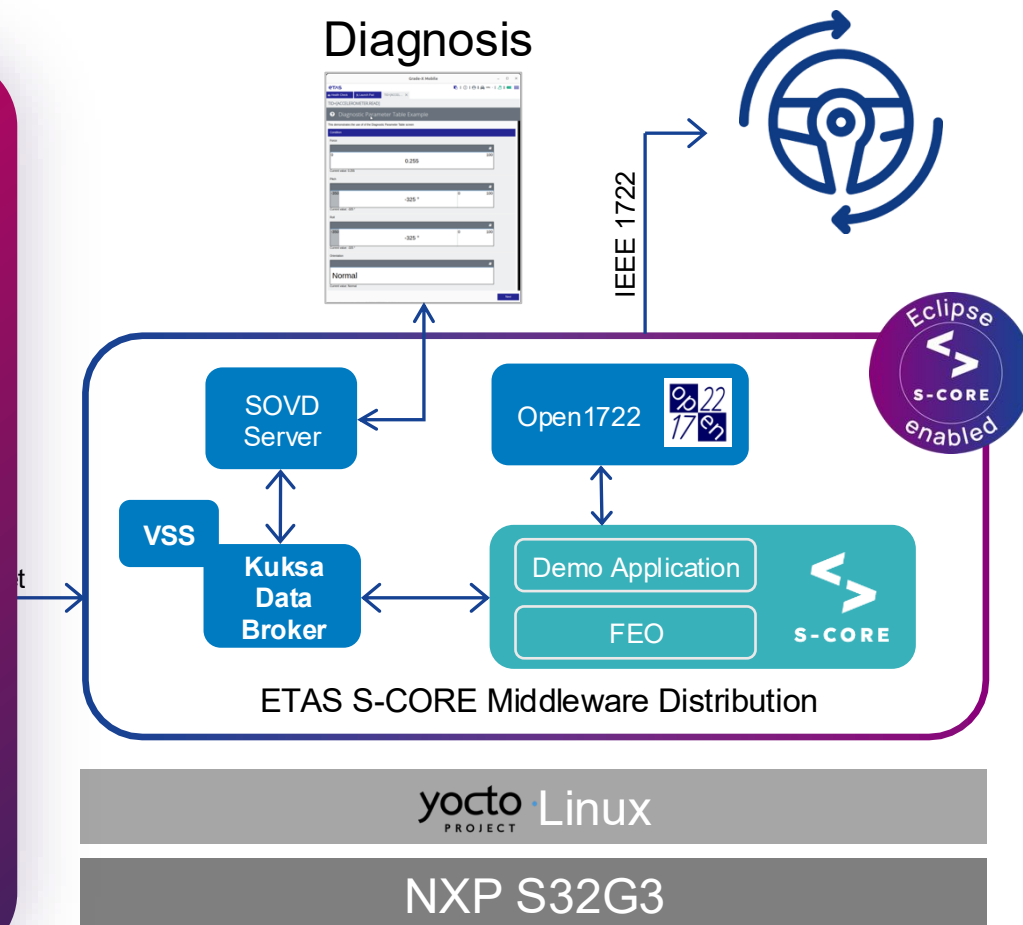
See Eclipse S-CORE in action

Eclipse stand (A5-44) at Automotive World Exposition Sep. 9th – 12th



See Eclipse S-CORE in action

Eclipse stand (A5-44) at Automotive World Exposition Sep. 9th – 12th



Join us!

We drive safe, automotive-grade
open source development – together!

