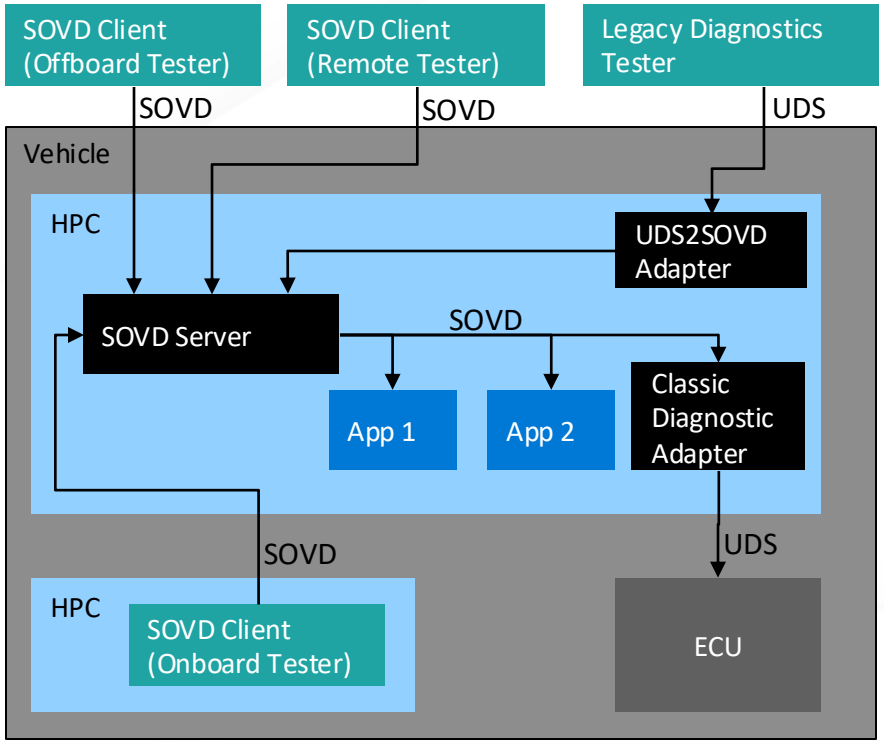
Mercedes-Benz Tech Innovation

ECLIPSE OPENSOVD IN ACTION: SHAPING THE FUTURE OF VEHICLE DIAGNOSTICS

Thilo Schmitt | Eclipse SDV Community Meetup Japan | December 11, 2025

Service-Oriented Vehicle Diagnostics (SOVD)



Fast integration: No manual modeling (ODX), faster ECU onboarding

Code-first approach: No external config files

Self-descriptive & schema-based: Dynamic introspection of capabilities and metadata

Ethernet-first & Cloud-ready: HTTP/REST = native support for connected backends

Portable client architecture: Use curl, Postman, or standard HTTP stacks—no vendor lock-in

Secure by design: Leverages proven web standards (HTTPS, OAuth, certificates) for authentication and access control

Open & extensible standard: Defined in ISO 17978

Eclipse OpenSOVD

ISO 17978

implementation according to the international standard

Eclipse S-CORE

integrated as the diagnostics subsystem

Open Source

collaborative development across industry

bridge to legacy diagnostics

enabling access to existing landscape

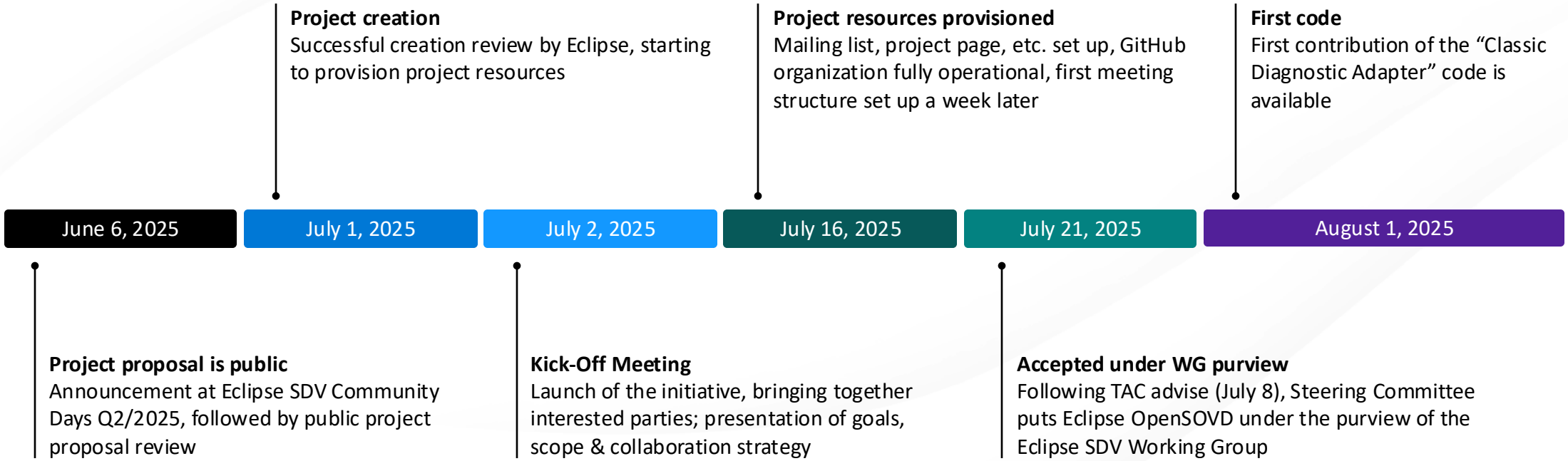
foster standard adoption

low-barrier entry & real-world value

modernize vehicle diagnostics

future-ready, for the SDV era

Project timeline until now



Project organisation

Architecture Board

Central meeting for overarching topics, decisions & strategy, project organization

Core (Server/Gateway/Client)

Provides native SOVD communication, core components

Classic Diagnostic Adapter

Bridge to legacy diagnostics, provides SOVD for UDS-based ECUs

UDS2SOVD

Adapter for UDS Clients/Tester to SOVD infrastructure

Success Stories

Open & transparent

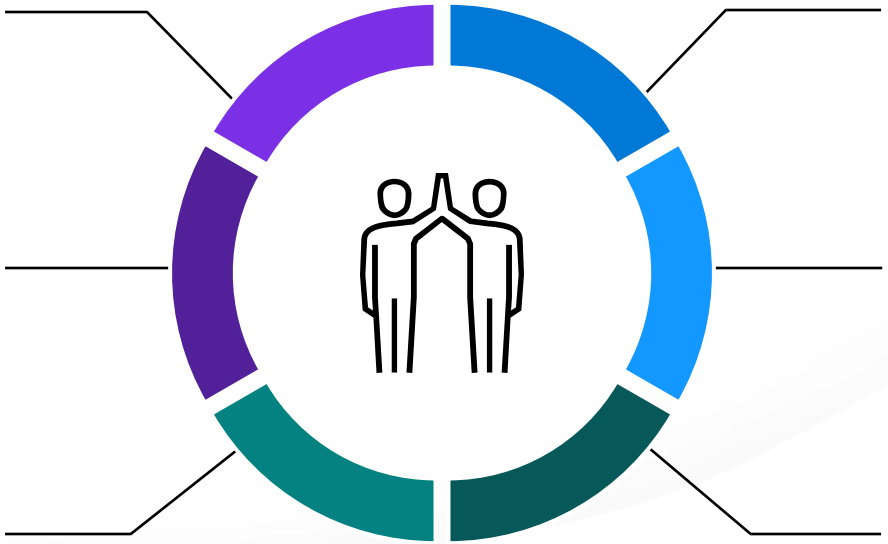
- Development in the open
- Public discussion instead of merging finalized contribution

Collaborative ownership

- Organically organized work split
- Workstream leads:
  - Core: ZF & Liebherr
  - CDA: Mercedes-Benz Tech Innovation
  - UDS2SOVD: BMW
- attendees from diverse set of parties

Industry interest

- Kick-off meetup with 120 registered attendees from 60+ organizations
- High engagement in social media
- Many inquiries coming from a wide variety of organizations



True code collaboration

- example: CDA workstream:
  - Initial Pull Request for CDA (>25K lines) by Mercedes-Benz Tech Innovation
  - reviewed by Liebherr
  - 82 conversations and 9 issues created
  - some issues already rexolved through code contribution by Valeo and d-fine

Practice to standard

- Gathering feedback and insights from the field and of real-world use cases
- Bringing learnings into standardization: implementation enriches standard

Timely progress

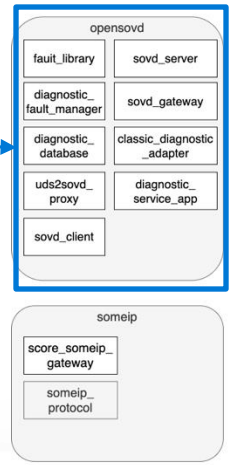
- From project creation to first code in one month
- Continuous activity (discussions, concepts, code) since then
- No hesitance, just bring the contributions and improve together

DEMO
OPENSOVD GOES CLA.

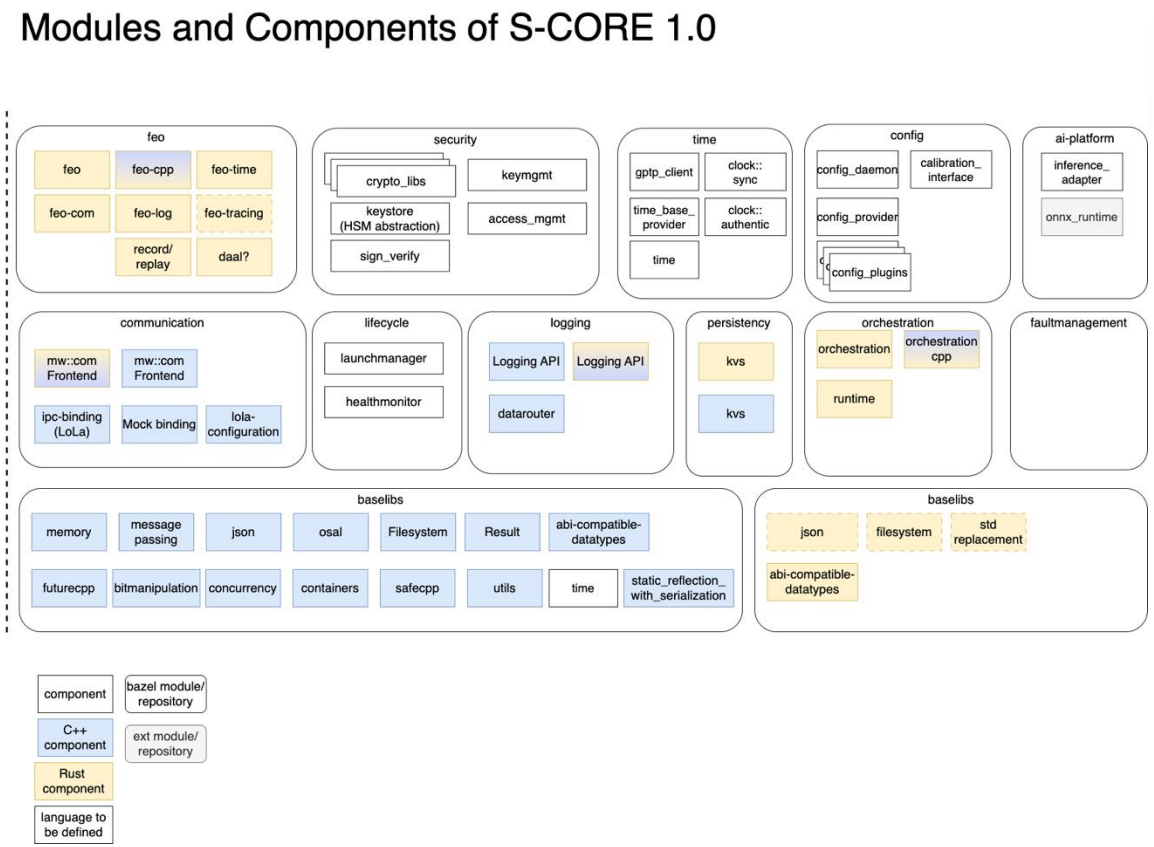
Eclipse OpenSOVD & Eclipse S-CORE: Partners for Diagnostics and SDV Platform

Standalone Diagnostic Stack

S-CORE integration



Full SDV Platform



OpenSOVD standalone: Open, lightweight, ready to use for diagnostics.

Integrated into S-CORE: Provides diagnostics as part of the SDV platform.

Collaboration: OpenSOVD and S-CORE evolve together, with clear interfaces and shared project members.

Join Eclipse OpenSOVD!

Engage in the workstreams

Find meetings in the Eclipse SDV Community Calendar or in the README in the opensovd repo on GitHub.

Join conversations

Join discussions, comment on issues or pull requests, and more on GitHub, or participate in the meetings!

Take initiative on Issues

The project outlines essential improvements and engagement opportunities in GitHub Issues—pick one and take the lead!

Jump in on code

Write code, improve or extend features, fix bugs, or review—drive the project forward with your codebase contributions!

Your one-stop for all things Eclipse OpenSOVD

https://github.com/eclipse-opensovd/opensovd

Building the Future of Vehicle Diagnostics — Together

Eclipse OpenSOVD is powered by our **community's passion and code**.
We've shown what's possible through **open collaboration**. Now, your ideas and your code can **shape the standard and solutions** of tomorrow.
Let's build the future of vehicle diagnostics — **together**!

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