

FEV Signature Solutions Service Oriented Vehicle Diagnostic Platform

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Accelerate your SDV transformation with service-oriented diagnostics that seamlessly bridge your current ECU landscape to data-driven architectures

FEV offers

- ▶ Customizable SOVD all-in one platform for OEMs, Tier-x suppliers, and fleet operators, including web-client and vehicle SOVD software stack – to move from ECU addresses to RESTful services.
- ▶ Fully in-house developed, ASAM-compliant stack ensuring maximum flexibility, security, and independence from third-party tools
- ▶ End-to-end integration from cloud infrastructure to in-vehicle adapters



Why FEV

- ▶ **20+ years of experience** in vehicle diagnostics with a track record of delivering cutting-edge, reliable solutions to leading automotive clients
- ▶ **Flexible, modular architecture** designed to adapt easily to your existing workflows and future SDV infrastructures
- ▶ **White box option** to enable you to use FEV's solution as basis for its own development
- ▶ **Future-ready architecture** designed to scale toward SDV and cross-domain diagnostics

Understanding service-oriented vehicle diagnostics

FROM ECU ADDRESSES TO RESTFUL SERVICES

What is SOVD?

SOVD turns diagnostics into dynamic, discoverable RESTful services instead of ECU addresses.

What is the shift?

From hardware-bound protocols to a unified HTTP/JSON API over OpenAPI.

Why SOVD matters

Unlocks remote diagnostics, OTA-aligned workflows, and faster SDV innovation.



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In-vehicle

In-vehicle self-diagnostic capability to identify and troubleshoot faults.



Proximity

Access to the vehicle via a local wired or wireless interface (e.g., workshop tester, Wi-Fi, Bluetooth, Ethernet) within physical range.



Remote

Access to the vehicle over the cloud from anywhere, enabling fleet-wide remote diagnostics, monitoring, and software updates.

SOVD Modes



ASAM

Association for Standardization of Automation and Measuring Systems

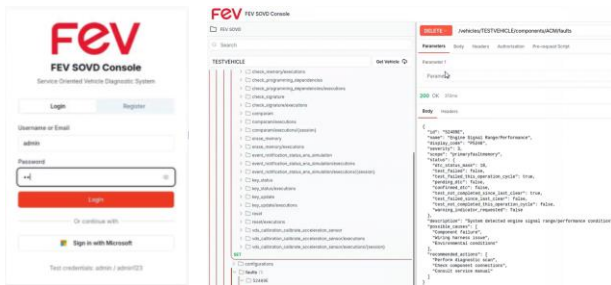
SOVD abstracts diagnostics from low-level ECU addressing and exposes vehicle health through a RESTful HTTP/JSON API - ASAM-standardized, SDV-ready, SoA & DDS compatible and interoperable with UDS over DoCAN/DoIP.

Selected reference projects

Innovation project

SOVD Software Stack
Development, Req. and Sys.
Engineering

- Customized SOVD platforms tailored to OEM and ESP requirements.
- SOVD implementation in SDV Workbench
- Robust SOVD infrastructure with RESTful APIs and standardized interfaces.
- Predictive maintenance (PdM) services as SaaS for operational cost reduction.



OEM SOVD systems engineering

Diagnostic strategy for NEXT-GEN
Zonal E/E Architecture

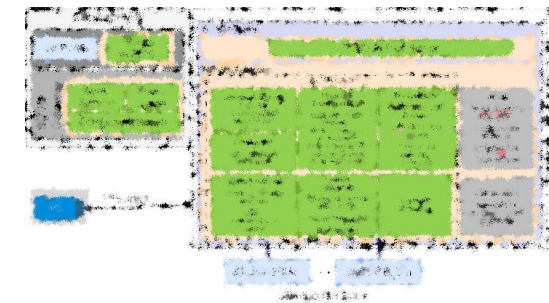
- SOVD specification generation for next generation E/E architecture covering API design, versioning, entity definition, service discovery definition, capability description, adapter for chassis diagnostic/classic diagnostic/HPC diag, CySe and OTA updates, in-vehicle network ethernet
- SOVD architecture generation covering vehicle diagnostic level, zonal diagnostic level
- Generation of HPC diagnostics command routing specification/configuration



OEM SOVD SW – HPC integration

SOVD Web Client and
HPC Software Integration

- Integration of FEV's in-house asset into OEM's Vehicle HPC
- SOVD architecture generation covering vehicle diagnostic level, zonal diagnostic level
- Generation of HPC diagnostics command routing specification/configuration



FEV core assets: Your diagnostic starting point

EMPOWERING SOFTWARE-DEFINED VEHICLES WITH SCALABLE, END-TO-END DIAGNOSTIC SOLUTION

**Modern
web-based
client interface**

Dual-access SOVD client

Pre-configured interfaces for both cloud (remote) and laptop (proximity) use cases.

**Secure
channels**

Security deployment

Implementation of secure diagnostic sessions using TLS 1.3, JWT, and OAuth2.

**Modular
SOVD server
and UDS
stack**

In-vehicle HPC system

Production-ready HPC software bridging REST APIs to classic vehicle protocols.

**Unified
diagnostics**
Dev., prod.
and aftersales

Lifecycle diagnostics support

Continuous engineering for production line testing and after-sales service optimization.

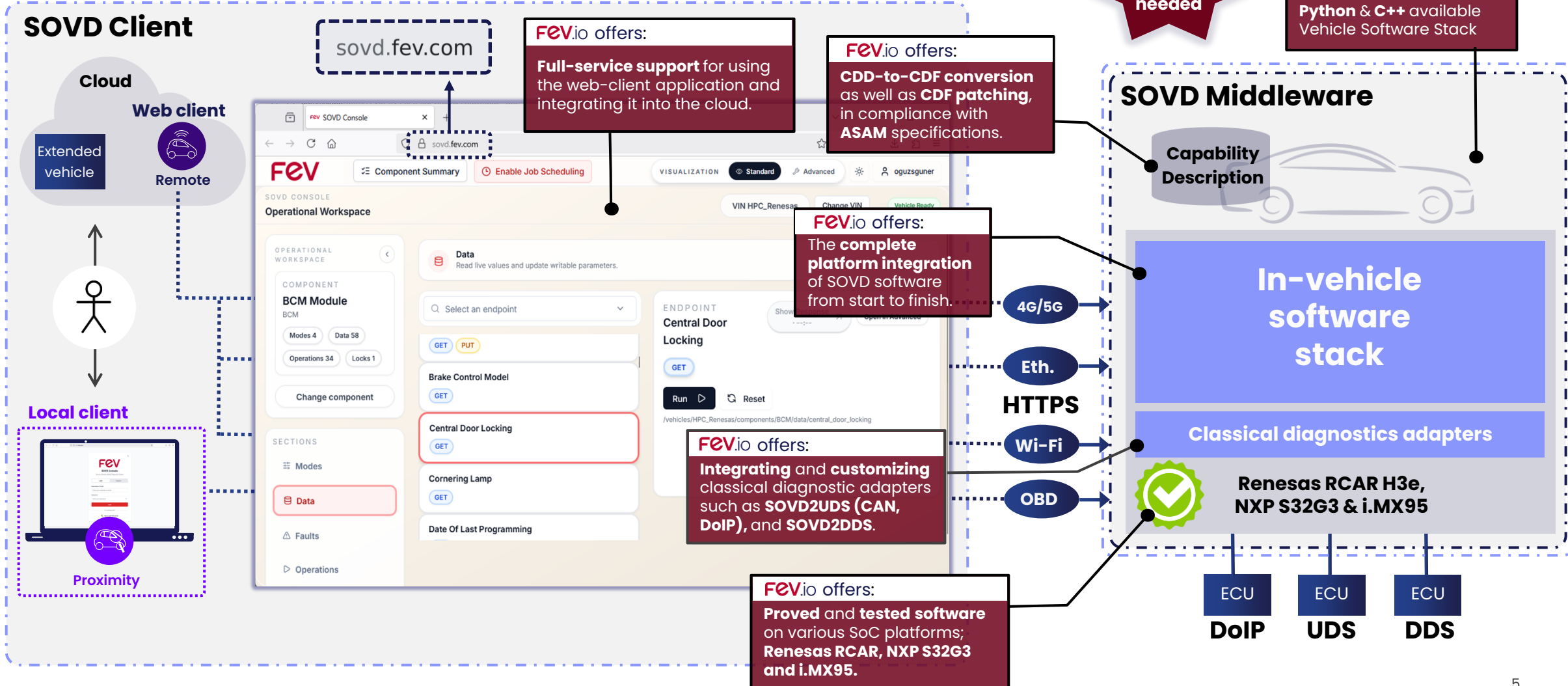
Standardized diagnostics

Across the entire vehicle lifecycle — from engineering bench to customer garage.

Benefit from FEV's SOVD connectivity architecture

END-TO-END SOLUTION OF FEV'S IN-HOUSE ASSET

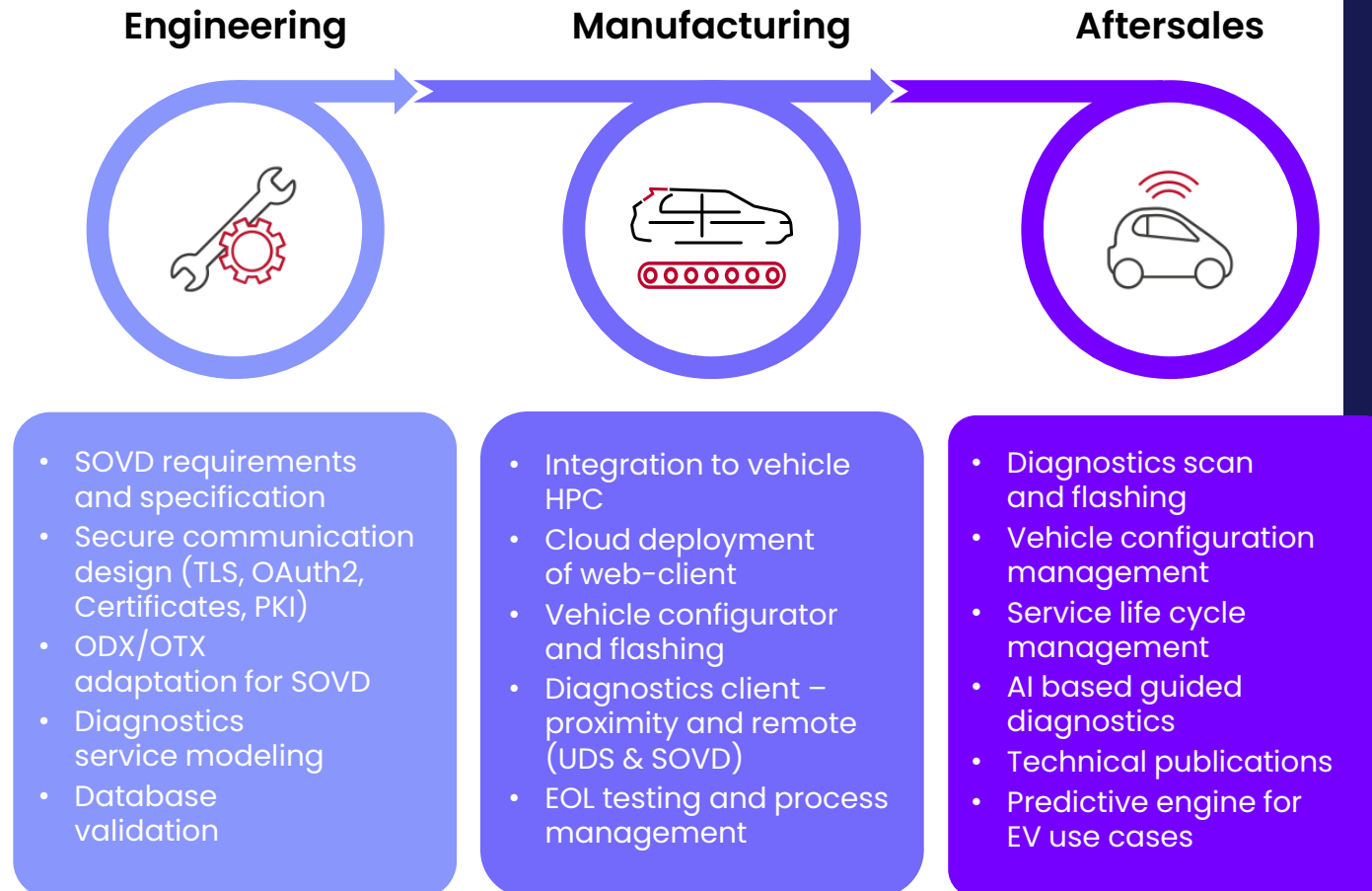
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FEV's SOVD capability and service offerings

DRIVING DIAGNOSTICS EXCELLENCE ACROSS THE VEHICLE LIFECYCLE

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SOVD Service Offerings

System & Requirements Engineering

Specification Engineering

E2E Architecture Integration

Legacy Protocol Mapping

Automated Test script generation and validation

HPC/ECU Integration

System & Vehicle Testing

Lifecycle Diagnostics Support

Get in touch with us for further information



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