



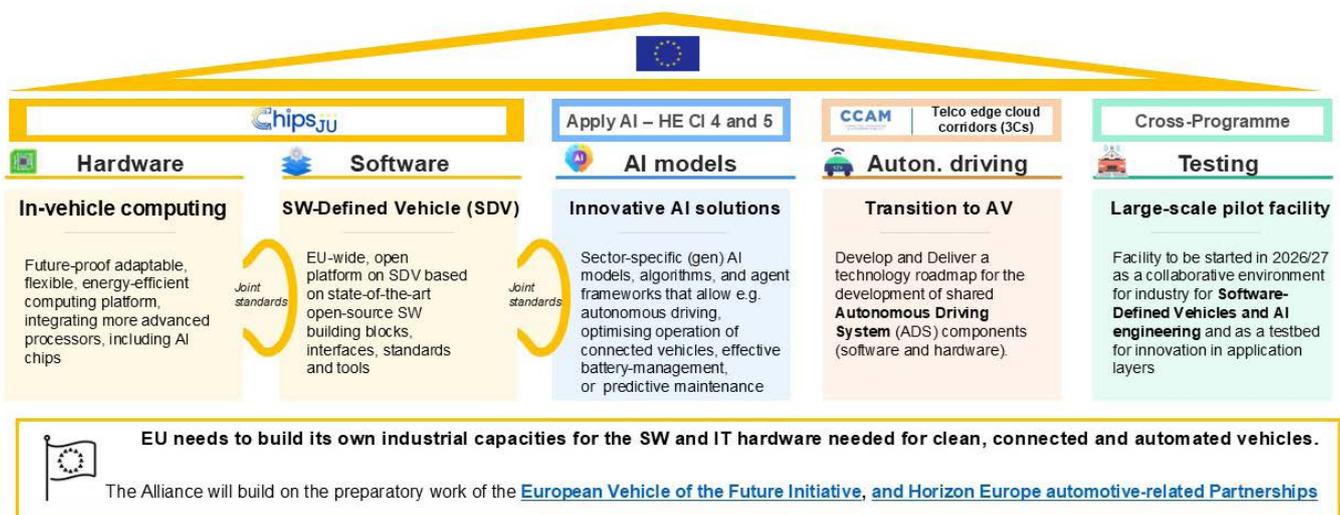
## The Automotive Action Plan: Developing the Next Generation European Digital Vehicle

The European car industry is a vital sector of our economy, providing **13 million jobs** and contributing **7% of the EU's GDP**. As the sector is facing a paradigm technological shift and a changing geopolitical context, President von der Leyen launched in January 2025 the [Strategic Dialogue on the Future of the Automotive Industry](#).

Resultantly, the Commission has presented an [Action Plan for the Automotive Industry](#). The action plan presents a gear-shift to help industry lead in the transition towards AI-powered, connected and automated vehicles.

A **dedicated European Connected and Autonomous Vehicle Alliance** will bring together Europe's automotive stakeholders to shape the development of next-generation vehicles and help develop the shared software and digital hardware needed to bring this technology to life. This effort will build upon the Vehicle of the Future Initiative under the Chips Joint Undertaking as well as other Horizon Europe partnerships like CCAM and 2ZERO.

### European Connected and Automated Vehicle Alliance



#### Key pillars of the Alliance

The focus of the Alliance is on elements which are non-differentiating towards the customer, and which are co-developed in an open-source set-up. It will target five key development activities:

EUROPEAN  
PARTNERSHIP



The Project has been accepted for funding within the CHIPS Joint Undertaking (CHIPS JU) under Call HORIZON-KDT-JU-2023-3-CSA-IA / Grant Agreement No. 101139749

**The Software Platform for Software-Defined Vehicles:** targets an EU-wide, open platform on Software-Defined Vehicles based on state-of-the-art open-source software building blocks, as well as interfaces, standards and tools.

**A future-proof computing platform** will be integrating advanced semiconductors and processors, including AI chips, providing the computing architecture and capacity required for autonomous driving, while ensuring that Software-Defined-Vehicles remain scalable and easily upgradable.

It will foster the development of **innovative AI solutions** for the Automotive Industry, e.g., autonomous driving, effective battery-management. The CCAM partnership will evolve into an ambitious technology roadmap for the development of **shared Autonomous Driving System (ADS)**.

Lastly, these technology developments will be brought together under a **large-scale distributed pilot facility**: The facility will serve as a collaborative environment and testbed for industry for **Software-Defined Vehicles and AI engineering**.

The Alliance will make available **EUR 1 billion in EU funding** for digital innovation in the automotive sector for the period 2025-2027. In addition, cybersecurity and data sharing based on the provisions of the data act are addressed.

#### Next steps

Alliance: In 2025, the Commission **will launch the Connected and Automated Vehicle Alliance and publish a guidance on the Data Act** related to vehicle data, functions and resources.

AI: The Commission has launched a **public consultation and call for Evidence on the Apply AI Strategy**, with a deadline of **4 June 2025**

SDV and Hardware: Calls for **AI-Assisted Engineering for SDV and RISC-V Hardware** close on **29 April 2025**

CCAM and 2Zero: **An info day on 2025 funding calls** will take place on **6 May 2025**

#### Background information

In March 2025, the Commission launched its Industrial Action Plan for the European Automotive Sector. Automotive is one of the key sectors highlighted in the **AI Continent** action plan.

The Commission will also support the ongoing technical work of Member States to identify a possible Important Project of Common European Interest (IPCEI) candidate for **clean, connected and autonomous vehicles**.

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## FEDERATE: A Collaborative Hub for Building Blocks in Software-Defined Vehicles

The CSA-FEDERATE GitHub repository serves as a central hub for proposed building blocks aimed at advancing Software-Defined Vehicles (SDVs). By consolidating these components, the project fosters collaboration and standardization within the SDV community. More and more research projects and community initiatives are joining forces to contribute to a common, open, and interoperable SDV architecture.

A great example of this collaborative spirit is the **HAL4SDV project** (funded under the **EU Chips Joint Undertaking**), which is not only contributing its own building block descriptions but also actively engaging in the structural refinement of the repository. In parallel, first collaboration meetings have taken place with **2Zero projects** such as **Twin-Loop and Code4EV**, both of which have expressed interest in aligning with **FEDERATE** to jointly shape the central reference hub for SDV Building Blocks in the future. Open-source community projects from the **Eclipse SDV ecosystem** are also becoming more involved, highlighting the growing momentum to align on open and reusable assets.

#### Repository Overview

This repository acts as a landing page for all proposed building blocks. The README file provides navigation to various building blocks, each categorized by specific tags that denote their function and deployment context.

#### Building Block Tags

Each building block is labelled with tags to indicate its category and deployment environment:

- **FC (Functional Cluster)**: Logical group of technically similar building blocks.
- **BB-SC (Building Block Stack Component)**: In-Vehicle / On-Board components.
- **BB-CSC (Building Block Cloud Stack Component)**: Cloud / Off-Board components.
- **BB-MU (Building Block Mock-up Unit)**: In-Vehicle / On-Board mock-up components.
- **BB-CMU (Building Block Cloud Mock-up Unit)**: Cloud / Off-Board mock-up components.
- **BB-EST (Building Block Engineering & Support Tools)**: Tools for In-Vehicle / On-Board components.
- **BB-CEST (Building Block Cloud Engineering & Support Tools)**: Tools for Cloud / Off-Board components.

- **BB-SC-TC (Building Block Stack Component Toolchain):** Toolchains for In-Vehicle / On-Board components.
- **BB-CSC-TC (Building Block Cloud Stack Component Toolchain):** Toolchains for Cloud / Off-Board components.
- **S-BB (Support Building Block):** Supportive components.

**Contributing to the Repository**

Contributions are welcome and can be made by implementing new building blocks or updating existing documentation:

- **Implementing New Building Blocks:** Follow the provided [implementation guidelines](#) to ensure consistency and compatibility.
- **Modifying the README:**

Make changes to the README base file to ensure they are captured by the README Generator. After editing, run the README Generator locally and push the updated files.

**Getting Started**

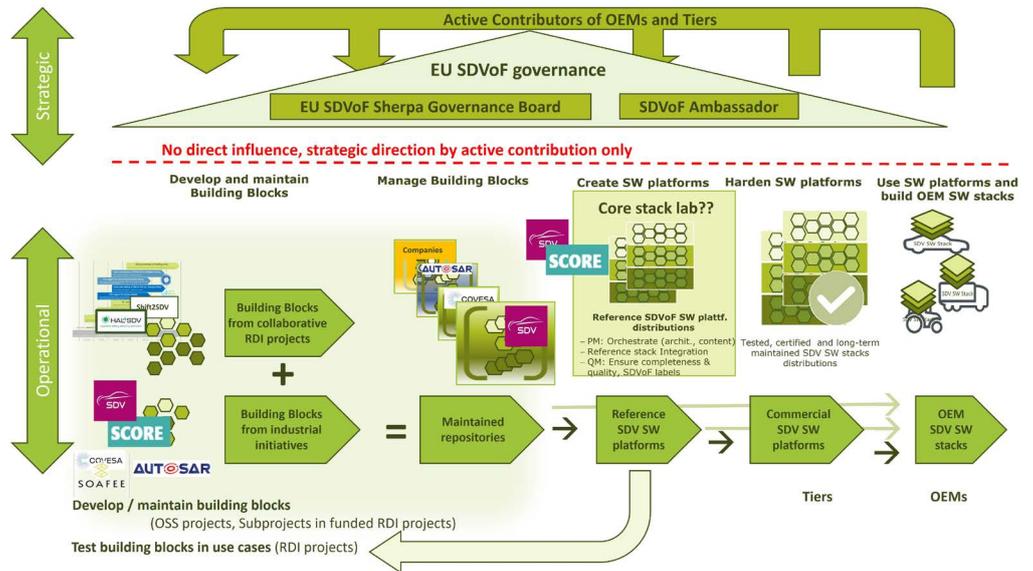
To begin contributing:

- **Explore the Repository:** Familiarize yourself with the existing building blocks and their categorizations.
- **Review Guidelines:** Consult the implementation guidelines to understand the standards and procedures.
- **Engage with the Community:** Participate in discussions and collaborate with other contributors to share insights and feedback.

*Furthermore:* To support seamless collaboration, introductory sessions and hands-on trainings are held within the projects. These sessions provide guidance on how to effectively work with the repository’s structure, building block glossary, contribution templates and processes, making it easy and straightforward for contributors to get involved.

By contributing to this repository, you can play a vital role in shaping the future of Software-Defined Vehicles!

<https://github.com/CSA-FEDERATE/Proposed-BuildingBlocks>



# In Case You Missed It: FEDERATE’s Recent Events Recap

## XEN and the Future of Automotive Virtualization: FEDERATE TechTalk Highlights

The FEDERATE project recently hosted an exciting Automotive TechTalk on the topic of open-source hypervisors in safety-critical and real-time systems, with guest speaker Stefano Stabellini from AMD. As one of the leading minds behind the XEN hypervisor and a long-time contributor to the open-source virtualisation ecosystem, Stefano Stabellini gave deep insights into the challenges and opportunities of using XEN in the automotive domain.

The session was met with great interest from both industry and research and highlighted the growing importance of open and modular virtualisation solutions for the development of SDVs. Topics included real-time behaviour under virtualisation, safety certification strategies for open-source hypervisors and practical considerations for integrating XEN into mixed-critical environments.

The feedback was very positive, and many participants expressed their interest in further open cross-project TechTalks. Therefore, the next open TechTalk is already being planned and will be advertised soon.

Stay tuned as we will continue to bring together experts and projects from across the SDV ecosystem and the open-source world. The recordings from this TechTalk are available on the FEDERATE website ([Dissemination – Federate SDV](#)).

You can watch the recording here: <https://youtu.be/VOcZILbkiVM?feature=shared>

# International Congress: SIA CESA 2025

On February 12th and 13th the CESA congress was held in Versailles. Organized by the SIA (French SAE) and under the direction of Cyril Laury, this congress was addressing the two main topics of new EE Architectures and Software-Defined Vehicles. The congress was very successful with more than 230 participants and many interesting keynotes from Ampere, Stellantis, DG CNET/MICRO and Roland Berger. FEDERATE was represented during presentations made by ETAS and Mercedes and also in a Software panel discussion led by Martin Schleicher.



# Exhibition & Conference: Embedded World 2025

At the Embedded World 2025 Exhibition & Conference, the importance of training and skills management was highlighted as a crucial factor in enabling the sustainable adoption of open-source building blocks within the SDV ecosystem. A key focus was placed on the FEDERATE Building Block Template, which now considers dedicated training references and documentation fields in greater detail. These enhancements aim to provide contributors with the resources needed to understand, adopt, and implement open-source components effectively, laying a strong foundation for long-term ecosystem growth.

Representing the FEDERATE initiative, Mario Driussi from VIF emphasized that openly accessible and well-documented training components are essential to empower both current and future contributors. Such transparency not only supports immediate collaboration but also ensures the enduring usability and relevance of open-source assets. By aligning technical development with skills development, FEDERATE is taking a significant step toward fostering an inclusive and resilient SDV community.



# FZI Open House 2025



The Mobility Forum at the #FZIOpenHouse in Karlsruhe underscored a pivotal issue for Germany's position in the global mobility sector. Under the moderation of Dr. rer. nat. Alexander Viehl, division manager at FZI, industry experts and thought leaders engaged in an insightful discussion about the potential and limitations of Open-Source Software (OSS) for the future of software-defined mobility and the competitiveness of German companies.

Michael Paulweber made a compelling argument for rethinking the OSS debate. Traditionally, vehicle software has focused on drive and control functions, but the emergence of the SDV has introduced a second layer of software. This new layer underpins innovative software-supported offerings and functionalities, with development driven by profitability and business models.

Read more:

[The Mobility Forum of the #FZIOpenHouse in Karlsruhe – Federate SDV](#)



## Up Next: FEDERATE's Event Lineup

### Driving the Future: Automotive Software Strategies 2025

The automotive industry is increasingly moving towards SDV, which is forcing manufacturers and suppliers to make far-reaching changes in development and collaboration.

What exactly these are, what the role of China could look like and what opportunities RUST and AI bring will be discussed at **Automotive Software Strategies** in Munich from May 21-22, 2025.

Other key topics will include software-defined architectures, intelligent data collection, safety and security.

Further information:

[www.ultimamedia.de/software-strategies](http://www.ultimamedia.de/software-strategies)

Get a discount of 20% by registering on

[www.ultimamedia.de](http://www.ultimamedia.de) with the promotion code: **82510112-EU20**



# Join the Pulse of the Software-Defined Vehicle in Europe!

We're thrilled to announce the European SDV Ecosystem Summit 2025 - the leading SDV Ecosystem Forum Networking Event powered by FEDERATE!

# 2025

**Date: 20 May 2025,  
09:00 - 17:00 CET**

**Location: Infineon  
Technologies AG,  
Munich, Germany**

**Registration is open  
until 11 May 2025:  
European SDV  
Ecosystem Summit  
2025 – Federate SDV**

This high-impact day will unite key voices across the automotive, tech, and research communities to shape the future of Software-Defined Vehicles in Europe and beyond. Whether you're driving innovation in automotive software, embedded systems, cloud, or open-source collaboration – this is your ecosystem to connect, co-create, and accelerate.

» See the **AGENDA** «

**We look forward to continuing the conversation in Munich!**

**FEDERATE**

registration



The automotive industry is facing tremendous challenges, caused by the increased share of complex software in modern products. The European SDV Ecosystem Summit 2025 offers the opportunity to connect with the Software-Defined Vehicle (SDV) community and gain insights into the latest developments. The event will feature engaging discussions, interactive sessions and keynote presentations, providing valuable perspectives and networking opportunities.

Stay informed about the latest development of the European SDV of the Future Initiative and its projects.

**Visit the event on  
May 20, one day before the  
Automotive Strategies.**

**It will take place at Infineon  
Technologies AG, Am Campeon  
1-15, 85579 Munich-Neubiberg.**

