



Software-Defined Vehicle Support and Coordination Project

D1.4 Third Project Report M30

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1 Executive Summary

This third periodic project report summarizes the work and results achieved by the FEDERATE consortium during months **M25–M30 (October 2025 to March 2026)**. FEDERATE is a Coordination and Support Action (CSA) supporting the European Commission’s *Vehicle of the Future* initiative by fostering an open, collaborative ecosystem for Software-Defined Vehicles (SDV). The reporting period marks an important consolidation phase, during which FEDERATE transitioned from conceptual alignment and requirement collection toward tangible ecosystem impact, concrete open-source implementations, and a strengthened European SDV community.

Across all five work packages, the project progressed in line with its objectives and planning, with **all due milestones reached, no materialized risks, and no significant deviations in cost or schedule**. Project coordination is supported by regular core team meetings, consortium-wide communication, and continuous risk and quality management. During this period, the consortium also supported the European Commission in starting up **ECAVA (European Connected and Autonomous Vehicle Alliance)**, laying the groundwork for long-term sustainability beyond the CSA lifetime.

From a technical and ecosystem perspective, FEDERATE made substantial advances in strengthening a **common understanding of non-differentiating SDV building blocks**. The FEDERATE GitHub repository continued to grow and matured into a central reference point, now containing more than **150 building block descriptions**. A major highlight in M25–M30 was the close alignment with real-world implementations, most notably through the **public release of Eclipse S-CORE 0.5 alpha**, which represents a first safety-oriented, open, European SDV core platform. Individual S-CORE components were successfully mapped and documented as FEDERATE building blocks, demonstrating FEDERATE’s role as a pragmatic bridge between high-level requirements, open-source development, and production-oriented software.

In parallel, FEDERATE strengthened alignment across ongoing European RDI projects and initiatives (e.g. Shift2SDV, CODE4EV, HAL4SDV, TwinLoop, Eclipse SDV), ensuring coherence between architectural concepts, roadmaps, and dissemination activities. Strategic discussions within WP4 and contributions to ECAVA working groups further supported the emergence of shared development models, business considerations for open source, and a coordinated European SDV roadmap.

Community building and dissemination activities continued to scale significantly. By the end of M30, the FEDERATE ecosystem comprised **71 partner organizations** (28 core and 43 associated partners), supported by **390 subscribed individuals**. Online reach expanded strongly, with **more than 1,300 LinkedIn followers** and over **110,000 impressions** in the reporting period alone. FEDERATE organized and contributed to numerous events, webinars, Tech Talks, and conferences, including the **2nd SDV Convergence Conference in Brussels**, reinforcing dialogue between industry, research, open-source communities, and policymakers.

Overall, the M25–M30 period demonstrates that FEDERATE is **well on track to achieve its objectives**. The project has successfully evolved from coordination and vision alignment toward concrete, visible impact on Europe’s SDV ecosystem. With strong stakeholder engagement, growing adoption of open building blocks, and increasing alignment with ECAVA and other European initiatives, FEDERATE is well positioned to deliver its final results and ensure continuity beyond the project lifetime.

2 Introduction

2.1 Introduction - Purpose of this Document

This report summarizes the consortium's work during M25-M30 of the project, focusing on the achievement of the project objectives.

2.1.1 Project Objectives (according to section 1.1.2 of the DoA)

The Coordination and Support Action (CSA) FEDERATE aims to support the activities of the EC's **SDV of the Future** (SDVoF) initiative, now called *Vehicle of the Future Initiative*¹.

This includes the support of related Chips JU, Horizon Europe-Programs (2Zero and CCAM) and national funded Research, Development and Innovation (RDI) projects, as well as related SDV Initiatives (like Eclipse SDV Working Group, COVESA, SOAFEE, and AUTOSAR). The goal is to establish an **open-source ecosystem for SDV** development.

In detail, the FEDERATE targets to:

Objective 1: Collect and evaluate **future trends** (automated driving, V2X, EdgeAI at the SDV and the connected infrastructure) to predict SDV related ones and derive high-level requirements for stakeholders (industry, government, research and community) and to deduce definitions of common non-differentiating building blocks (software components, containers, SDKs, services, ...) that are reusable and scalable across departments and companies, taking into account already existing high level requirements from the stakeholders and those already worked out in the Sherpa group meetings.

Objective 2: Derive a **common understanding (glossary)** about building blocks in a layered service-oriented architecture with harmonized interfaces and required functionalities and features by organizing workshops with stakeholders and the community, and to strengthen the collaboration.

Objective 3: Prepare and maintain a **roadmap** on how to create the identified non-differentiating building blocks of an open SDV ecosystem. Identify and advise relevant RDI funding programs for missing building blocks, tools and technology developments.

Objective 4: Help to create a **vibrant SDV community** in Europe and furthermore, monitor the performance of the CSA initiative by measuring the activities as well as the support of the stakeholders and the community during the project lifetime.

Objective 5: Foster a **European initiative**, which continues the work of the CSA (FEDERATE) to orchestrate a strong open European collaborative community in maintaining and developing a European Software-defined vehicle Ecosystem.

The work towards the above-mentioned goals that was carried out in M25-M30 of the project is described in the following chapters.

¹ <https://digital-strategy.ec.europa.eu/en/policies/vehicle-future-initiative>

3 Explanation of the Work Carried out by the Beneficiaries and Overview of the Progress

3.1 WP1 Project Coordination

The objective of WP1 is to ensure an effective and efficient project flow while adhering to the schedule, budget and overall project objectives. FEDERATE is well on track to archive all objectives as planned. Cost monitoring detected no significant deviations from planning. Risk monitoring is continuously done; none of the risks have become active so far.

After having achieved all due milestones of Y2, the next 2 Milestones (MS8 and MS9) were due at the end of this reporting period:

#	Title	Partner	Month	Verification	check
MS8	Feedback on repository II	ViF	30	Received feedback on high-level requirements in repository ≥ 150 (aggregated).	In response to our work and the collected high-level requirements, we currently have more than 150 Building Block descriptions.
MS9	Members of European SDV ecosystem II	VDIVDE	30	Members (organizations) of European SDV ecosystem ≥ 60 .	Currently, the project boasts 71 partners — 28 core partners and 43 associated partners. Additionally, 390 individuals actively follow the ecosystem through newsletter and event subscriptions. On LinkedIn, FEDERATE has attracted 1,313 followers

3.1.1 Summary of Results Achieved during Reporting Period

The results in this WP can be summarized as follows:

- Project execution is according to plan
- All due milestones have been reached and were validated
- no significant cost deviations
- new amendment to the grant agreement has been started
- FEDERATE provided organizational support to start up ECAVA
- FEDERATE organized 2nd Convergence Conference

The following deliverables have been submitted in M25-M30:

- D1.4 (this document; due M30, submitted M31)

Major risks and (if applicable) fallback solutions etc.:

Project risks are continuously monitored and updated if required. No risk materialized so far.

3.1.2 Key Achievements during Reporting Period on Task Level

Task 1.1 Project Management (AVL)

Just as in Y1 and Y2, the Project management continued through M25-M30 based on weekly core team meetings, and a monthly all-consortium info meeting.

The Core Team meetings check on status, risks, progress, and upcoming activities of each of the 5 work packages. The project execution is according to plan, and all due milestones were met. No significant deviations in costs were detected.

During the reporting period the negotiation for a third amendment to the grant agreement started, covering:

- Renaming of partner Continental (DE + FR) to Aumovio
- add ST Grenoble 2 as AFFILIATED entity of the existing ST legal entity
- BMW – shift of some effort to WP4
- Budget shift NXP (exited) to VDIVDE
- Minor cost shifts between categories for some partners
- The plan for a cost-neutral project extension by 2 months to use the Paris Motor Show (October 2026) as co-location for the 3rd Ecosystem summit
- In line with that the shift of the due date of M36 deliverables to M38

2nd Convergence Conference

In addressing **Objective 2** (“Derive a common understanding (glossary) about building blocks”) and **Objective 4** (Help to create a vibrant SDV community in Europe), FEDERATE organized the **2nd Convergence Conference (2. CC)** in Brussels on October 6-7, 2025. The goal is to align RDI activities across funded projects towards SOP-ready SDV middleware in open source.

The event brought together the key actors shaping Europe’s SDV ecosystem. It helped to align the major European research initiatives with the strategic needs of the automotive industry to accelerate the formation of an open-source, European-governed software stack that will support globally competitive SDV production by 2030 (“Code-First”).

Participants included representatives from OEMs, Tier suppliers, major EU research and funding programs, as well as open-source SDV platforms. In total, approximately 70 specialists and decision-makers across the SDV landscape attended and continued the dialogue between industry, research, and open-source communities. Just like the 1st CC in February 2025, the 2nd CC program was chaired by Dirk Walliser, EU Technical Ambassador for the Digital Vehicle, with organizational support from the FEDERATE.

3rd General Assembly Meeting

Kindly hosted by Aumovio France, the 3rd GA took place on 21-OCT-2025 in Toulouse, France. The preceding Day (20-OCT-2025) was used for an in-depth WP2 workshop.

Successful Y2 Review on 28-NOV-2025 in Brussels

The FEDERATE Team reported on the efforts and results of Y2. In the “General Project Review Consolidated Report”, the assessment stated, “The project has fully achieved its objectives and milestones for the period”, adding that the on-site review in Brussels on 28/Nov/2025 was well-organized. The deliverables were provided in due time before the review, and the review meeting was well-structured, with good time keeping, demonstrating efficient coordination. The overall impression of the project during the review was good.

Particular highlights were mentioned:

- The project is well coordinated and well managed
- Presentations’ quality was good, using well-structured slides.
- The recommendations from Review 1 were well addressed.
- The overall quality of the deliverables is good
- The project has demonstrated a high awareness of the main challenges and avenues to overcome behind the development of SDV systems and ecosystem.
- The project is well-supported by high-level stakeholders in the automotive industry, especially OEM and Tier 1.

Recommendations from this review were well received and analyzed by the consortium. These resulted in several actions being enacted in Y3.

Supporting the start-up of ECAVA

Addressing **Objective 5** (“Foster a **European initiative**, which continues the work of the CSA (FEDERATE) to orchestrate a strong open European collaborative community in maintaining and developing a European Software-defined vehicle Ecosystem”, FEDERATE FEDERATE/WP1 supported the EC to start ECAVA.

ECAVA, the European Connected and Autonomous Vehicle Alliance, through setting up and managing the central ECAVA document repository, see screenshot below, and in organizational work (communication, setting up working groups etc.)

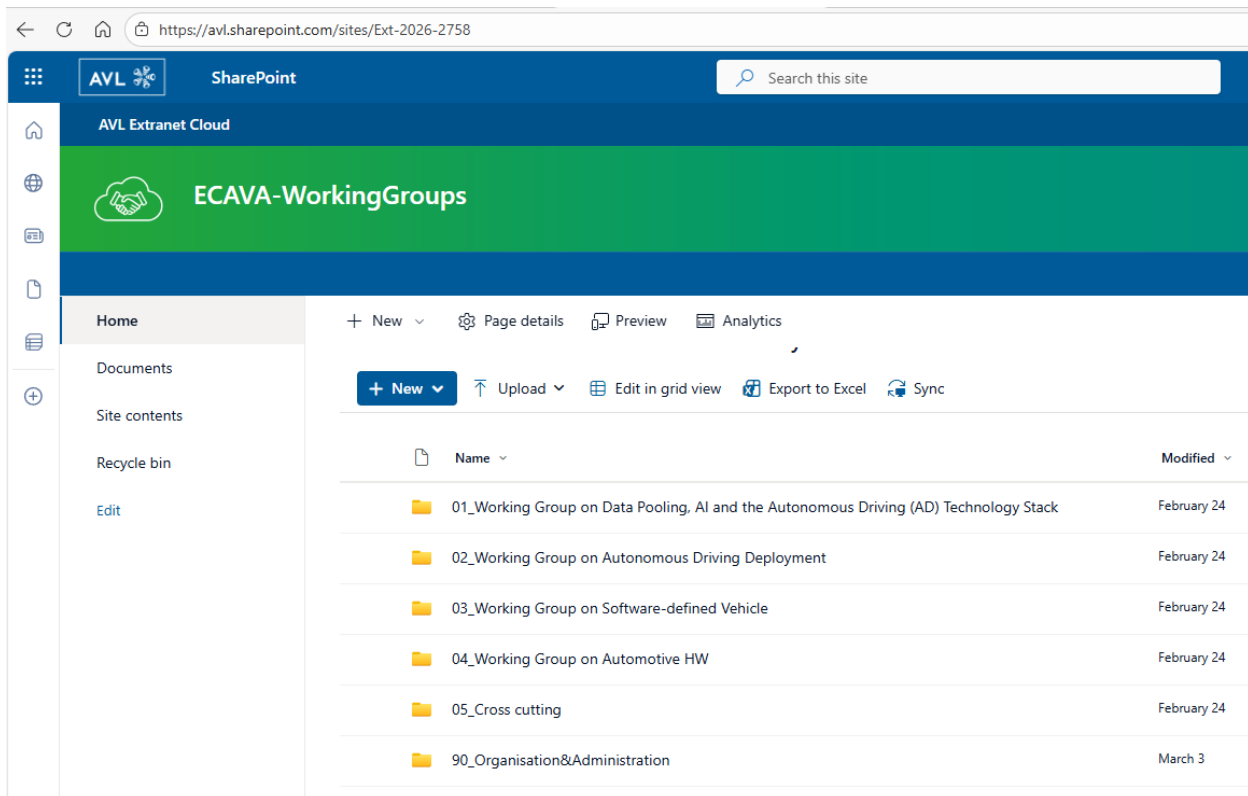


Figure 1: Screen shot of the entry page of the ECAVA SharePoint hosted by AVL

Task 1.2. Project Risk Management (VDIVDE)

The risk monitoring and management process of the FEDERATE project is ongoing. The process from risk identification through risk assessment and risk mitigation to risk control is outlined. Moreover, possible risk categories identified at the beginning of the project and upfront activities for risk prevention and measures for risk mitigation are presented.

3.1.3 Deviations from Plan

No significant deviations were reported.

3.2 WP2 Technology and High-Level Requirements Solicitation

In the project phase leading up to Month 30, Work Package 2 has continued to play a pivotal role in driving coordination, collaboration, and knowledge consolidation within the FEDERATE project. WP2 focuses on strengthening the scientific and technological backbone of FEDERATE's vision by facilitating structured stakeholder engagement, fostering a harmonized understanding of non-differentiating building blocks, and aligning community activities together with WP4 across multiple ongoing projects. Furthermore, WP2 supports together with WP3 the FEDERATE GitHub Repository Maintenance.

Bi-weekly coordination meetings have remained a cornerstone of WP2 activities, offering a regular platform for alignment and exchange. These sessions included a series of Scientific Board presentations which are increasingly being replaced by openTechTalks. WP2 is responsible for identifying topics, organizing, planning and hosting openTechTalks, to which the entire Software-Defined Vehicle of the Future (SDVoF) community and the partner projects HAL4SDV and Shift2SDV are invited.

Ongoing discussions have actively supported Objective 1, helping to monitor future trends and derive shared high-level requirements for reusable and scalable building blocks that address cross-sector needs in industry, research, and public policy.

3.2.1 Summary of results achieved during reporting period

The results in this WP can be summarized as follows:

- WP2 Partners are active in the ECAVA SDV WG and support the Core Team.
- WP2 presented the project and the SDVoF initiative to interested parties at Embedded World and held some interesting discussions.
- Contributions to the FEDERATE GitHub repository
- Building Block visualization based on the FEDERATE GitHub repository was built as a MSc student project by UOULU
- Discussion forum for closer collaboration between hardware-focused RISC-V projects and the SDVoF community.
- Integration framework for hardware tool building blocks into the FEDERATE GitHub repository.
- Initialization of the Common Reference Integration Implementation Platform (CRIIP) in Shift2SDV as response to the open source high-level requirements
- Scientific Board Presentation GenAI-empowered revolution in automotive: from specification to wheels
- openTechTalk about AUTOSAR deployment strategies
- openTechTalk about AXINI: model-based testing
- openTechTalk about lessons learned from ROS2, vehicle data extraction, and ELROB convoying scenarios with ROS Data and OpenPilot
- Organized presentation at the 3rd Convergence Conference planned for May 27+28,2026, by NVIDIA about AlphaMayo from the core development and research team

The following deliverables have been submitted:

- D2.2 Second Report of high-level requirement list (M24)
- D2.7 Second Technology Forecast Report (M24).

Major risks and (if applicable) fallback solutions etc.:

Project risks have been identified and are continuously monitored and updated if required.

No increased risk is currently visible.

3.2.2 Key Achievements during Reporting Period on Task Level

Task T2.1: High-level requirement solicitation (VIF) [M1-M36]

T2.1 organizes the openTechTalk series listed above. In T2.1 we have discussions on overall high-level requirements for the SDV with respect to open-source solutions. T2.1 collaborates in bi-weekly repository maintenance sessions, and T2.1 contributes to the refinement of the GitHub structure. To this end, the S-BB structure has been refined to such an extent that current safety and security standards, as well as processes, can be intuitively located, stored, and retrieved. To add a first set of BBs work is being carried out in parallel to the corresponding BB descriptions for the most relevant items like ISO26262, ISO21434, ISO 21448 or ISO24089. A refinement of the structure was discussed to improve support for hardware-related components. To improve integration, a key change was proposed: inserting a new layer called '1b HWAbstractionLayer' between the existing layers '1 HWLaxer' and '2a OSLayer'. The newly added layer also requires the renaming of '1 HWLayer' to '1a HWLayer'.

T2.1 also prepares continuous input to WP2 sessions for the architecture discussion with a focus on best practices, shared APIs, interfaces, and patterns. Another activity was the skills and training management for building blocks.

T2.1 still addresses the issue to motivate and ensure sustainability of open-source projects, that develop software for use in industrial safety-critical environments. To this end, requirements were collected, and a workshop was held. In addition, the lack of business cases for industrial open-source software in general will be assessed and discussed.

Task T2.2: SDV technology capturing, tracking, gap analysis, forecasts and glossary (UOULU)

The Gap Analysis and Technology Forecast Report, Version 2 (D2.7) was orchestrated and written during the reporting period and published in October 2025. This report continued, extended, and deepened the first Gap Analysis and Technology Forecast Report from the first year of the project (D2.6) published in September 2024. In these reports, we highlighted the academic and industrial perspectives on the key building blocks required to define, implement, and evaluate the software-defined vehicle concept in practice. A version of the report was also submitted under peer-reviewed journal and gained more feedback from the academic community. The resubmission of the journal article will be completed in the last reporting period of the project.

3.2.3 Work carried out in this work package per beneficiary

BMW: Regular involvement in WP2 bi-weekly meetings supported ongoing dialogue on the development and organization of SDV building blocks.

MBAG: Irregular involvement in the WP2 bi-weekly meetings

AMPERE: Participation in regular WP2 bi-weekly meetings and active participation in the core team of ECAVA WG SDV, bridging both initiatives and guiding the SDV strategic direction.

CARIAD: CARIAD provided OEM-level input to discussions on high-level SDV requirements and architectural principles within FEDERATE and ECAVA exchanges. The contributions focused on production readiness, interoperability, and long-term maintainability of non-differentiating software building blocks, complementing

the technical work of WP2 partners.

AUMOVIO-DE: AUMOVIO Germany supported horizontal coordination between WP2 and WP4, ensuring that conceptual and methodological elements discussed in WP2 were consistently reflected in FEDERATE roadmap and dissemination artefacts (e.g. D4.6, example CODE4EV). This is to strengthen coherence across FEDERATE work packages and avoid fragmentation between technical, methodological, and strategic outputs.

AUMOVIO-FR: Participation in regular WP2 bi-weekly meetings. Organization and participation to the 3rd General Assembly meeting hosted in AUMOVIO France in Toulouse. Exchange with the CODE4EV project leader to initiate BB documentation within the FEDERATE GitHub repository. Preparation of documentation for the AUMOVIO open-source project released on Eclipse, leveraging the eCAL project as the communication middleware layer for rapid prototyping.

EB: Active participation in regular WP2 bi-weekly meetings. EB also actively participated in the SDV and AI working groups of ECAVA.

UOULU: Participated in the WP2 activities in bi-weekly meetings and technical discussions. Participation in FEDERATE F2F in Toulouse. UOULU invited some speakers for tech talks to share their experiences, especially with ROS2. UOULU coordinated the MSc student project that built an actionable visualization from the FEDERATE GitHub repository building blocks, which can help to introduce the BB structure in a more explainable manner. UOULU coordinated the deliverable D2.7 Technology Forecast and Gap Analysis report, that was also submitted as a journal article for a prestigious scientific venue. Even if the article was rejected, some helpful feedback was gathered, and the article will be resubmitted before the end of the project. UOULU will seek to join ECAVA soon after internal discussions.

RWTH: Participation in regular WP2 meetings. Preparation of open-source development environment requirements.

Infineon: no PM in WP 2

TUM: Final steps towards enabling integration of locally deployable GenAI models (LLMs and VLMs) for adoption within automotive toolchains aiming requirements validation, design space exploration, code generation and testing. Moreover, TUM also covered additional aspects when it comes to adoption of GenAI-enabled automotive methodologies, such as functional safety and security analysis, as well as leveraging agentic AI approaches. Initial works towards GenAI-based approach for automotive supply chain analysis.

VIF: As WP Lead, VIF organizes and hosts the bi-weekly WP2 meeting, during which current topics are actively discussed. Furthermore, relevant topics are selected and suitable partners for an openTechTalk are identified, contacted, and invited. The openTechTalks are hosted by VIF, promoted in collaboration with WP5, and all partners and partner projects are invited. Another activity in which the VIF actively participates is the maintenance, upkeep, and expansion of the FEDERATE GitHub repository. Here, work is being carried out on updating the structure with a refinement of the S-BB folders and the development of BB descriptions for the new S-BB structure. Another cross-project activity is advancing and promoting the CRIIP initiative (Shift2SDV) and idea (FEDERATE). This is being done by developing an integration concept for incorporating CRIIP into the FEDERATE BB GitHub repository, with the goal of making the BB from the repository reusable across projects,

thereby reducing integration and maintenance effort and increasing development speed.

FZI: Participation in regular WP2 meetings. Participation in FEDERATE F2F in Toulouse. Giving a talk and participation to a panel during the German conference on autonomous connected driving (AVF Conference, Berlin, Dec. 2025) on requirements and lessons learned from open source SDV activities towards open source for Automated Driving. Organization of an exchange between FEDERATE and the German national initiative on future mobility “EcosystemMobility-4.0”. Preparation of an information point on SDVs and open source for the FZI Open House (event with around 300 participants from industry, politics, and academics), collecting further perspectives and requirements. Preparation for giving an overview of the EcosystemMobility-4.0 to the FEDERATE partners.

VECTOR: Participation in regular WP2 meetings. Given a tech talk about AUTOSAR Deployment Patterns and how similar visual approaches would benefit the SDV building block idea. Supporting Alignment and Exchange between S-CORE and AUTOSAR project.

VERUM:

Active participation in the initiatives around the scientific board. Investigation of ways to apply Verum’s knowledge and technology of formal methods to Software Defined Vehicles. Attended the face-to-face meeting of the scientific board and the GA meeting the day thereafter in Toulouse. Matching the findings of the WP2 meetings with Verum’s activities in Shift2SDV. Together with Virtual Vehicle present on Embedded World 2026. Participated in the ECAVA initiative as a successor to FEDERATE.

3.2.4 Deviations from Plan

None.

3.3 WP3 Common Understanding

3.3.1 Summary of Results Achieved during Reporting Period

The results in this WP can be summarized as follows:

- Contributed to the expansion of the VDA/Eclipse Foundation Memorandum of Understanding from 11 to 32 global industry signatories, reinforcing the collaborative framework for open-source SDV software development.
- Participated in the EU Open Source Policy Summit 2026 in Brussels, engaging in the dedicated automotive industry panel on competitiveness and open source, connecting FEDERATE’s building block approach to European digital sovereignty policy.
- Actively contributed to the ECAVA Working Group SDV meeting in Brussels, shaping strategic discussions on open-source business models, agile project working modes, and SDV ecosystem interoperability.
- Supported the successful public release of Eclipse S-CORE 0.5 alpha in November 2025, the first milestone delivery of an open, safety-certifiable automotive software platform under the Eclipse SDV Working Group.

- Expanded the FEDERATE Building Blocks repository through PR #102, adding 1,047 lines across 8 files, including five detailed S-CORE component building blocks (logging, kyron, lifecycle, orchestration, persistency) and two additional open-source building blocks (Eclipse Oniro, DustDDS).
- Established a direct mapping between the FEDERATE building block catalog and real-world S-CORE implementations, demonstrating the catalog's role as a practical reference for production-grade open-source SDV components.
- Contributed expert-level presentations on software foundations and system architectures for safe automated driving, through Dr. Andreas Westendorf (ETAS GmbH).
- Continued to strengthen FEDERATE's network across OEMs, Tier 1 suppliers, research institutions, and open-source foundations through sustained industry engagement and outreach.

3.3.2 Key Achievements during Reporting Period on Task Level

Task T3.1: Refine definition of modular building blocks and create prioritized backlog (ETAS)

3.3.2.1 Expansion of the FEDERATE Building Blocks Repository: Pull Request #102

Pull Request #102, titled "More detailed S-CORE building blocks, plus other additions," was submitted to the CSA-FEDERATE/Proposed-BuildingBlocks repository on 11 February 2026 and merged into the main branch on 12 February 2026. The PR was authored by Daniel (AnotherDaniel) and reviewed and approved by Peter Priller (prillerp). With 1,047 line additions across 8 changed files, this contribution represents a significant expansion of the repository's coverage, particularly in the area of S-CORE component building blocks.

Reference: <https://github.com/CSA-FEDERATE/Proposed-BuildingBlocks/pull/102>

3.3.2.1.1 New Eclipse S-CORE Component Building Blocks

Several individual S-CORE components were added as dedicated building block entries, providing more granular and detailed descriptions of the S-CORE ecosystem within the FEDERATE catalog. These additions directly correspond to the core modules of the S-CORE 0.5 alpha release:

- Eclipse S-CORE Logging (BB-SC/2b-MWLayer/Diagnostics/) – A logging service for S-CORE systems, providing essential diagnostic capabilities. The implementation is available at <https://github.com/eclipse-score/logging> and is governed by ISO 26262. The building block runs on QNX and Linux platforms and is licensed under APL-2.0.
- Eclipse S-CORE Kyron (BB-SC/2b-MWLayer/Execution-Management/) – A safe async runtime for Rust, designed for safety-critical automotive applications. Available at <https://github.com/eclipse-score/kyron>, this component supports QNX and Linux and is governed by ISO 26262.
- Eclipse S-CORE Lifecycle (BB-SC/2b-MWLayer/Execution-Management/) – A portable and high-performance implementation of lifecycle management for S-CORE, including a Launch Manager and

Health Monitor. The Launch Manager supports multiple operating systems (Linux, QNX7, QNX8), process group management, startup/shutdown dependency configuration, and failure recovery. The Health Monitor provides alive supervision, deadline supervision, logical supervision, and external watchdog integration. Implemented in C++ with Rust language bindings, the component is available at <https://github.com/eclipse-score/lifecycle>.

- Eclipse S-CORE Orchestration (BB-SC/2b-MWLayer/Execution-Management/) – Provides orchestration as a declarative model to define cause-effect chains of actions. Available at <https://github.com/eclipse-score/orchestrator>, it is governed by ISO 26262 and runs on QNX and Linux.
- Eclipse S-CORE Persistency (BB-SC/2b-MWLayer/Storage/) – Provides a Key-Value Store using TinyJSON for data persistence, with Adler32-based data validation, depending only on the Rust standard library. Available at <https://github.com/eclipse-score/persistency> and designed for QNX and Linux platforms.

3.3.2.1.2 Additional Open-Source Building Blocks

Beyond the Eclipse S-CORE components, the PR also added building block descriptions for established open-source projects:

- Eclipse Oniro (BB-SC/2a-OSLayer/Stacks/) – An open-source, vendor-neutral Operating System managed by the Eclipse Foundation, built upon OpenHarmony. Oniro extends the OpenHarmony code base with add-ons for European and global markets, including ReactNative support, an Eclipse Theia-based IDE, and the Servo web engine. Licensed under APL-2.0.
- DustDDS (BB-SC/2b-MWLayer/Communication/RTPS-Types/) – A native Rust implementation of the Data Distribution Service (DDS) middleware using the Real-time Publisher-Subscriber (RTPS) wire protocol, developed by S2E Software Systems. Available at <https://github.com/s2e-systems/dust-dds> and licensed under APL-2.0.

3.3.2.1.3 Strategic Significance

This pull request is notable for several reasons:

- It establishes a direct and detailed link between the FEDERATE Building Blocks catalog and the individual components of the Eclipse S-CORE platform. By representing each S-CORE module as a dedicated building block with standardized metadata, the repository now provides a more granular view of the S-CORE architecture, making it easier for developers and stakeholders to understand and evaluate individual components.
- All new S-CORE building blocks are marked with "First public release available" status, reflecting the S-CORE 0.5 release milestone and demonstrating that these are not merely conceptual proposals but components with actual, publicly available implementations.

- The addition of Eclipse Oniro and DustDDS broadens the repository's coverage of the open-source SDV ecosystem beyond Eclipse S-CORE, incorporating components at the OS layer and alternative middleware implementations.
- The contributions follow the standardized building block template established in earlier reporting periods, including metadata fields for governance references (ISO 26262), licensing information (APL-2.0), platform compatibility, and maturity badges. This consistency facilitates comparison and integration across the catalog.

Task T3.2: Alignment with running projects about implementation of building blocks (ETAS)

3.3.2.2 Eclipse S-CORE 0.5 Alpha Release

On 11 November 2025, the public release of Eclipse S-CORE 0.5 alpha (Safe Open Vehicle Core) marked a decisive step towards open and safety-certified software solutions for the automotive industry. Developed under the auspices of the Eclipse Foundation and its SDV Working Group, S-CORE unites leading industry players to create a shared platform for the next generation of software-defined vehicles.

The release of version 0.5 alpha fulfilled a key milestone set out in the original VDA/Eclipse Foundation Memorandum of Understanding, demonstrating that coordinated open-source development can produce series-capable, certifiable technology for the automotive industry. A full version release is planned for the end of 2026, targeting vehicle programs with start-of-production by 2030.

3.3.2.2.1 Technical Foundation

Modern vehicles rely on Electronic Control Units (ECUs) powered by increasingly complex software platforms. While standards have improved interoperability, the industry has long lacked a widely adopted solution for safety-critical, service-oriented platforms – especially those required for advanced functions such as ADAS. Until now, manufacturers had to choose between proprietary developments, single-supplier strategies, or comprehensive in-house solutions – each of which brought significant compromises in integration effort, speed of innovation, and quality assurance.

With Eclipse S-CORE, an open platform is being created that is collaboratively developed and freely available to all market participants. Version 0.5 alpha provides a technical foundation with core modules enabling:

- Reliable communication between software components
- Safe execution of mixed-criticality workloads
- Persistent data storage across power cycles
- Essential base functionalities such as logging

The development processes are externally audited and comply with key automotive standards including ASPICE (quality management), ISO 26262 (functional safety), and ISO/SAE 21434 (cybersecurity).

3.3.2.2.2 Industry Involvement and ETAS Contribution

ETAS plays a pivotal role in the development of Eclipse S-CORE, having made significant contributions to architecture design, process definition, toolchain development, and system integration – ensuring that S-CORE

meets the demanding requirements of real-world automotive applications. With extensive experience in safety-critical software platforms, ETAS has been instrumental in shaping both the technical excellence and practical applicability of S-CORE across the industry.

Looking ahead, ETAS will act as a key distributor for Eclipse S-CORE as part of the ETAS Vehicle Platform Suite, providing integration support, long-term maintenance, and certification to meet the highest safety and cybersecurity standards. In this role, ETAS bridges the gap between the open development community and reliable series deployment in production vehicles.

3.3.2.2.3 Openness and Collaboration Model

Openness is at the heart of Eclipse S-CORE – not only in terms of source code but also regarding organizational structures, processes, and toolchains. This transparency encourages broad participation from OEMs, suppliers, software vendors, universities, and authorities worldwide. By reusing proven solutions and adopting a code-first development approach rather than lengthy specification phases, Eclipse S-CORE accelerates innovation while upholding uncompromising standards for safety and reliability.

The shared platform model offers substantial advantages: automotive manufacturers can significantly reduce integration effort and maintenance costs; suppliers benefit from faster project implementation and greater consistency; standardized interfaces enable application and SoC providers to reach new customer segments.

3.3.2.2.4 Relevance to FEDERATE

The Eclipse S-CORE 0.5 release represents a tangible realization of the vision that FEDERATE has been working towards: an ecosystem of non-differentiating, reusable, and certifiable software building blocks for SDV development. The individual Eclipse S-CORE components – covering communication, execution management, logging, persistency, and orchestration – are directly represented in the FEDERATE Building Blocks catalog, demonstrating the practical link between FEDERATE's cataloging and standardization work and real-world open-source implementations.

Further information about Eclipse S-CORE can be found at <https://eclipse.dev/score/> with the code repository available at <https://github.com/eclipse-score>.

Reference: <https://www.etas.com/ww/en/about-etas/press-room/press-releases/eclipse-s-core-0-5-alpha-a-major-step-forward-for-open-and-safe-automotive-software-platforms/>

Task 3.3: Identification of new standardization initiatives for successfully implemented building blocks (FZI [M25- M36])

3.3.2.3 Industry Engagement and Outreach

Ensuring that FEDERATE's objectives are effectively communicated to the broader automotive ecosystem is a crucial component of WP3's strategy. By actively participating in relevant industry gatherings, WP3 aims to not only showcase the project's progress but also to establish strategic partnerships, receive feedback, and influence the direction of SDV software development. Below is a detailed account of WP3's participation in key events during this reporting period.

3.3.2.3.1 VDA/Eclipse Foundation MoU Expansion Announcement

Location: Berlin/Stuttgart (press announcement), Germany

Date: 7 January 2026

The Eclipse Foundation and the Verband der Automobilindustrie (VDA) announced a significant expansion of their global ecosystem for accelerating the development of software-defined vehicles (SDVs), implemented within the Eclipse SDV Working Group. The Memorandum of Understanding (MoU), originally launched in June 2025 with 11 signatories, has grown to encompass 32 global companies representing leading players across the entire automotive value chain.

The expanded collaboration includes major new participants such as 42dot, Accenture, AVL, Capgemini, Coretura, Cummins, ECARX, Elektrobit, Infineon, LEAR, LG Electronics, Michelin, MOBIS, Qualcomm, QNX, Red Hat, Schaeffler, Stellantis, Traton, T-Systems, and Useblocks, joining the founding members AUMOVIO, BMW, Bosch, ETAS, Hella, Mercedes-Benz, Qorix, Valeo, Vector, Volkswagen, and ZF.

The participating companies expect that collaborative open-source development will yield significant benefits, including up to 40% less effort for development, integration, and maintenance of non-differentiating software, up to 30% faster time-to-market through shared automotive-quality components, improved interoperability between suppliers and vehicle platforms, and higher sustainability and long-term maintainability of software. Detlef Zerfowski contributed to promoting and communicating the FEDERATE project's alignment with the MoU initiative, reinforcing the connection between FEDERATE's building block catalog work and the broader industry commitment to open, collaborative SDV software development.

Reference: https://www.vda.de/de/presse/Pressemeldungen/2026/260107_PM_Innovation-im-Automotive-Sektor-durch-offene-Zusammenarbeit

3.3.2.3.2 EU Open Source Policy Summit 2026

Location: Brussels, Belgium

Date: 30 January 2026

The EU Open Source Policy Summit 2026, organized by OpenForum Europe, brought together leaders from the public and private sectors under the proposition that open source delivers digital sovereignty. The summit addressed the full spectrum of policy and implementation challenges shaping the European digital agenda, including the automotive sector's shift to collaborative software development, open-source security in the context of the Cyber Resilience Act (CRA), cloud market interoperability, and the need for trusted, open infrastructure for AI and digital identity.

The summit featured a dedicated panel session "Deep Dive: Competitiveness & Open Source in the Automotive Industry" (16:10–16:50), which examined how open source can strengthen competitiveness across the automotive value chain. Panelists considered how collaborative platforms support interoperability, reduce duplication, and enable long-term capability, and how these industry efforts align with the European Commission's Automotive Action Plan and broader transport innovation agenda. The discussion addressed the regulatory and organizational conditions needed to sustain shared development, ensure safety and compliance, and support deployment at scale, and explored how insights from software-defined vehicle initiatives can inform open approaches across other strategic sectors.

Detlef Zerfowski participated in this summit, representing FEDERATE's perspective on open-source software building blocks for SDVs and contributing to the automotive industry panel discussions.

Reference: <https://summit.openforumeurope.org>

3.3.2.3.3 ECAVA Working Group SDV Meeting

Location: Brussels, Belgium

Date: 5–6 February 2026

The European Council for Automotive R&D (ECAVA) Working Group on Software-Defined Vehicles convened for a dedicated meeting in Brussels. The discussions centered on three major topic areas:

- * Business Model for Open Source: Addressing the need for real industry commitment beyond MoU signatures, defining clear business models and value propositions for open-source collaboration across the automotive value chain, and establishing metrics to evaluate outcomes and deliverables through technical and business KPIs.
- * Project Working Mode: Defining a development strategy to create mature software by executing funded projects in agile "Product Increment" style working modes, agreeing on use cases (e.g. Diagnostics), establishing common integration pipelines, and focusing on tangible, production-ready software outcomes.
- * SDV Ecosystem Interoperability: Ensuring compatibility of the SDV ecosystem with existing ("legacy") platforms, tools, and processes, developing guidelines for modular software architecture, and clarifying how open-source software can be complementary through a "pick & choose" approach.

Additionally, a proposal was made to set up a Commercial Vehicle sub-group, reflecting the growing interest in extending SDV standardization efforts to the commercial vehicle segment.

Detlef Zerfowski actively participated in the ECAVA WG SDV meeting, contributing to the discussions on SDV ecosystem scope, business models, and interoperability strategies.

3.3.2.3.4 Impact of Participation

Through these outreach activities during the third reporting period, WP3 has successfully:

- Reinforced FEDERATE's position within the expanding VDA/Eclipse Foundation MoU ecosystem, now comprising 32 global industry partners committed to collaborative open-source SDV development.
- Contributed to high-level European policy discourse on open source and digital sovereignty, positioning FEDERATE's building block approach within the broader EU industrial strategy.
- Engaged in strategic working group discussions at ECAVA on business models, development methodologies, and interoperability for the SDV ecosystem.
- Strengthened collaboration with OEMs, Tier 1 suppliers, research institutions, and regulatory agencies, fostering greater industry alignment on software standardization for SDVs.

Task 3.3: Identification of new standardization initiatives for successfully implemented building blocks (FZI) [M25- M36]

The following deliverables have been submitted:

- D3.2 Second Prioritized backlog report (M24)
- D3.5 Second Orchestrated backlog report (M24)

Major risks and (if applicable) fallback solutions etc.:

Continuous risk monitoring is established; no risk materialized

3.3.3 Work carried out in this work package per beneficiary

AVL: supports WP3 as main maintainer of the Github repository (<https://github.com/CSA-FEDERATE/Proposed-BuildingBlocks>) . During the RP, an automated monthly release has been implemented on GitHub, generating release notes (“what has changed” and an updated a table (xlsx File) from the content for analysis.

BMW: Participation in meetings and discussions within FEDERATE. BMW is actively promoting SDV and FEDERATE activities at public events.

MBAG: Participation in the FEDERATE meetings and discussions.

AMPERE: Active participation in FEDERATE and ECAVA SDV Working Group meetings to ensure effective cross-fertilization between the two initiatives and to maximize their positive impact on the European SDV ecosystem.

CARIAD: CARIAD participated actively in ECAVA Working Group SDV meetings and FEDERATE alignment discussions. CARIAD contributed OEM perspectives on open-source collaboration models, SDV ecosystem interoperability, and alignment of building block concepts with series production, certification, and industrial deployment requirements

FORD: FORD conducted several meetings with the Eclipse SDV Working Group to explore how we could contribute to the initiative and to discuss the requirements and opportunities for joining S-CORE.

AUMOVIO-DE:

Participation in the ECAVA Working Group kick-off meetings in Brussels on 5 - 6 February 2026, including SDV-relevant sessions. AUMOVIO contributed as an ECAVA member to early working-group coordination and alignment between ECAVA priorities and ongoing FEDERATE and European SDV activities.

AUMOVIO-FR: No activity.

EB: No activity

TTTECH: Participated in Federate related activities in ECAVA events and working group on SDV. It cooperated

in defining related deliverables about unified, open and competitive European SDV ecosystem. **TTTECH** was also involved in alignment and coordination with other SDV/related projects, with HAL4SDV, Shift2SDV and Code4EV. **TTTECH** supported the consolidation of a shared technical understanding across the SDV ecosystem and contributed to strengthening the foundation for reusable, production-relevant software building blocks.

VALEO: Contributed to the Y2 review preparation and meeting in Brussels. Key contributions included defining building blocks for the Communication Middleware Abstraction Layer-DDS Gateway (Eclipse S-CORE) and the Software Monitoring Tool (HAL4SDV).

ZF: Strong participation in implementation of the building blocks in the Eclipse SDV working group. Working on two building blocks OpenSOVD (reference implementation of service-oriented vehicle diagnostics) and Eclipse Hephaestus (standardized software development kit). Exchange with CRIIP initiative of V2C within Shift2SDV project.

FSG: Participation in the ECAVA Working Group kickoff meetings in Brussels on 5 - 6 February 2026. Support of ECAVA activities through the SDV WG. Also lead SDV WG within PFA to define and share French ecosystem position. Joined CLEPA expert group and made the link with FEDERATE & ECAVA activities.

IFAG: Participation in regular meetings and technical discussions. Realized technical discussions with the Rigoletto project regarding a potential contribution to the Federate BB ecosystem. Initiated discussions with ShapeFuture project regarding consideration within the FEDERATE roadmap.

ST: no activity

AVL-DE: no activity (shifted to WP4).

ETAS: Orchestration of Building Block Repository within GitHub. Advertising for a collaborative approach to several external events and conferences.

VERUM: Main activities took place in WP2, Scientific board.

VDIVDE: Participation in the ECAVA Working Group kick-off meetings in Brussels on 5 - 6 February 2026. Support of the ECAVA activities through the SDV WG. Planning of a joined annual event between FEDERATE and ECAVA within WP5 to support the handover of the project results.

ECL: Organization of the MoU SDV Breakfast, participation in ECAVA kick off meeting, and governance of the Eclipse SDV working group at large and Eclipse S-CORE. Installment of the Eclipse X-CORE Platform Council, a subcommittee in the Eclipse SDV WG that supports Eclipse S-CORE with non-technical topics.

3.3.4 Deviations from Plan

No significant deviations were reported.

3.4 WP4 Strategic recommendation

3.4.1 Summary of Results Achieved during Reporting Period

The results in this WP can be summarized as follows:

The focus of WP4 is to foster cooperation and use of commonly shared Software BB's in SDV funded research and development projects as well as across industry. An important part is to identify research projects focusing on vehicular software architecture, HW/SW implementation-focused projects, and application-focused projects in CCAM and 2ZERO. WP4 actively builds a bridge between projects, including but not limited to: HAL4SDV, Shift2SDV, Rigoletto, Code4EV, EcoMobility.

The following deliverables have been submitted:

- D4.2 Second Version of Recommendations for building block realization (M24)
- D4.5 Strategic Roadmap - Second Version (M24)

Major risks and (if applicable) fallback solutions etc.:

Continuous risk monitoring is established; no risk materialized

3.4.2 Key Achievements during Reporting Period on Task Level

Task T4.1: Orchestrated building block backlog (MBAG)

The deliverable of the second version of the orchestrated BB backlog recommendation was finished adding more recommendations on selected building Blocks that should be implemented by various projects.

Task T4.2: Alignment recommendations for future calls (AUMOVIO)

Task T4.2 delivered a consolidated and structured set of alignment recommendations for future European and national funding calls in the SDV domain.

Building on the FEDERATE vision and building block framework, the task continued establishing a **cross-project overview of ongoing and emerging SDV initiatives**, including Chips JU, CCAM and 2ZERO projects, as well as SDV associations and open-source initiatives. The results are documented through a harmonized representation of project objectives, timelines, maturity levels, and expected contributions to the SDV ecosystem, as reflected in Deliverable D4.5.

A key result of T4.2 is the **improved transparency on how different publicly funded projects contribute to shared SDV goals**, and how their outcomes can be sequenced and combined across funding programs.

The alignment recommendations were validated and discussed with the European Commission in the context of the Year-2 Review in Brussels and through exchanges with related initiatives (e.g. Code4EV) and emerging coordination frameworks such as ECAVA. As a result, T4.2 provides **actionable guidance for shaping future calls**, supporting coherent investment planning and long-term structuring of the European SDV ecosystem beyond individual projects.

Task T4.3: Create and update roadmap for realization of vision of SDV Ecosystem program (VDIVDE)

During the reporting period, the national and European SDV Ecosystem has been monitored. Projects and activities have been identified, and exchange meetings were executed. An example for the identified national

activities is the German Ecosystem Mobility 4.0, which focuses an open-source driven autonomous driving approach. In addition, the starting phase of the European Connected and Automated Vehicle Alliance (ECAVA) has been accompanied and supported. Urgent topics and needs of the community are addressed in the updated vision & roadmap document, which is currently under review. With the input of the upcoming Convergence Conference in May, further needs and topics will be discussed and considered in the final version.

3.4.3 Work Carried out in this Work Package per Beneficiary

AVL: contacts periodically relevant research projects, to provide input from the SDV initiative to the project, train about the BB repository (see WP3) and the underlying ideas of the vehicle of the future initiative and collecting updates from the projects. AVL also co-hosts WP4 meetings if needed.

AVL-DE: Participation in the bi-weekly WP4 meetings. In addition, new contacts were initiated to foster exchange with other projects (e.g. Mod2SDV, AI4SDV). Contributions to a monitoring document were shared and will be consolidated into the central outcomes. This serves to support the preparation of the updated roadmap document.

BMW: Organization of the bi-weekly WP4 meetings, coordinating and promoting open-source activities in open-source consortia, e.g. COVESA and Eclipse.

MBAG: Regular participation in the WP4 bi-weekly and coordinating the inputs for the deliverable mentioned above. Writing of the deliverable 4.1 and collecting the needed information and recommendations from the stakeholders in this topic.

AMPERE: Building on its involvement in the AI4SDV, CHASSIS, and SHIFT2SDV projects and the forthcoming ECAVA Collaboration Platform, AMPERE contributed strategic OEM-level input to WP4 discussions on the long-term positioning of the European SDV ecosystem, focusing on scalability, strategic autonomy, and impact.

CARIAD: CARIAD contributed strategic input to WP4 discussions on the long-term positioning of the European SDV ecosystem. The activities focused on software sovereignty, governance and sustainability of open-source building blocks, and alignment of FEDERATE recommendations with future ECAVA, Chips-JU, and Horizon Europe calls from an OEM perspective.

AUMOVIO-FR: Participation to the regular WP4 bi-weekly meeting for coordination purposes. Documentation of task 4.2 status for the strategic roadmap, prepared for the 3rd General Assembly and the EC2 meeting. Review of the 2nd version of the SDVoF vision and Roadmap paper shared with ECAVA Group. Discussion with the AENAS office to identify Chips-JU projects potentially relevant in the final version of the strategic road-map deliverable, including software-oriented projects (EcoMobility, Shape Future, OPEVA) and hardware-oriented project (TURANDOT and CHASSIS). Alignment with the Eclipse OpenHardware project, including an initial presentation of the activity, in relation to TRISTAN, ISOLDE and RIGILETTO RISC-V chips-JU project) and to explore a potential extension of FEDERATE GitHub documentation to cover open-source hardware.

Initiation of the final deliverable D4.6 Strategic Roadmap from task 4.2.

AUMOVIO-DE: Active coordination and alignment between FEDERATE and the Horizon Europe project CODE4EV, ensuring consistency between CODE4EV outcomes and the FEDERATE SDV roadmap. AUMOVIO

Germany initiated and chaired multiple FEDERATE / Code4EV alignment meetings. Continuous facilitation of knowledge exchange e.g. in ECAVA. AUMOVIO Germany supported the positioning of ECAVA as a bridging and coordination layer across public funding, standardization, and deployment activities.

EB: EB has applied for the MOD2SDV project. EB also actively contributes to the CODE4EV, Shift2SDV and HAL4SDV projects.

FSG: Participation in the bi-weekly. Shared FEDERATE and ECAVA information to CLEPA expert group. Coordinated creation of French PFA WG on SDV, including liaison with French DGE.

VDIVDE: Strong participation in the bi-weekly WP4 meetings, partly moderating it. New contacts have been initiated (e.g. “Ecosystem Mobility 4.0”), and exchange meetings have been moderated. A monitoring document has been established to summarize all exchange meetings and key outcomes. It is meant to act as an input for the updated roadmap document.

3.4.4 Deviations from Plan

No significant deviations were reported.

3.5 WP5 Ecosystem Building & Dissemination

3.5.1 Summary of Results Achieved during Reporting Period

The results in this WP can be summarized as follows:

- Date and location set for the final FEDERATE SDV Ecosystem Summit on 12 October 2026
- 1,311 followers reached on FEDERATE LinkedIn account
- Overall impression rate on LinkedIn account increased by more than 189%, reaching a total of 110,578 impressions within six months
- Total of 28 posts were published on FEDERATE LinkedIn account
- Two FEDERATE webinars were released
- One live Tech Talk session released
- Two FEDERATE Newsletters published and distributed to 390 subscribers
- FEDERATE website demonstrated steady growth in user engagement, attracting approximately 1,500 users and around 1,400 unique visitors
- FEDERATE partners attended more than 17 events presenting FEDERATE and SDVoF initiative

The following deliverables have been submitted:

- D5.2 SDV Ecosystem progress report (M24)
- D5.4 SDV open source progress report (M24)
- D5.6 Second Dissemination and Communication Activities report (M24)
- D5.10 Second Year data management report (M24)

Major risks and (if applicable) fallback solutions etc.:

No major risks identified under WP5.

3.5.2 Key Achievements during Reporting Period on Task Level

Task T5.1: Creation of an Open SDV Ecosystem Forum (VDIVDE)

FEDERATE has successfully achieved the milestone "MS9," which aimed to onboard at least 60 members into the European SDV Ecosystem. Currently, the project boasts 71 partners — 28 core partners and 43 associated partners. Additionally, 390 individuals actively follow the ecosystem through newsletter and event subscriptions. On LinkedIn, FEDERATE has attracted 1,313 followers, further expanding its reach and impact. This growth underscores the project's increasing influence and collaboration within the industry.

Task T5.2: Organization of community solicitation workshops (VDIVDE)

FEDERATE has taken several measures to organize community solicitation workshops. In the reporting period, two webinars have been organized and moderated by FEDERATE to facilitate the onboarding into the SDV Ecosystem. Several FEDERATE TechTalks enabled a deeper technical exploration of specialized topics. At the beginning of the reporting period, the Convergence Conference (6 Oct – 7 Oct 2025) in Brussels enabled a deep strategic exchange between high-level decision makers of the SDV community. Additionally, a hackathon has been organized through Eclipse to generate new impacts on the community.

Task T5.3: European SDV Conference (METIS)

During the M25–M30 period of the project, FEDERATE remained a key driver in organizing and engaging in major SDV-related project event, supporting stakeholder collaboration, highlighting European initiatives, and promoting open dialogue across the SDV ecosystem.

a) Organization of FEDERATE participation at *Open Community Experience (OCX26)*

Date & Location: 21-23 April, Brussels, Belgium.

Focus: Engaging the open-source and developer communities with the SDVoF vision, architecture, and motivation

Audience: developers, architects, researchers, and public officials

Contribution: FEDERATE will be showcased at OCX26 at its' dedicated booth.

Tasks performed by METIS: organization of the registration process for the attendees from FEDERATE (ETAS, VDI/VDE), preparation of communicational material for the booth, delivery of branded visuals to represent FEDERATE following the format of the event.

2. Preparation of the 2026 European SDV Ecosystem Summit

From M25 to M30, preparation tasks for the last FEDERATE SDV conference - "*European SDV Ecosystem Summit 2026*" - were initiated for the event scheduled to take place on 12 October 2026 in Paris, France.

Key milestones include:

- Brainstorming on the event concept, host, date, and name of the event finalized
- Creating draft agenda
- Building invitee list for the targeted outreach
- Designing save-the-date announcement and official invitation
- Preparing for the event announcement and registration on the FEDERATE website
- Looking for the best options for catering and photography services

- Reaching out to the professional moderator of the event
- Taking care of the design of merchandise and communication material (e.g. notebooks, name tags, leaflets)
- Starting event promotion via FEDERATE social media channels and network partners

Based on lessons learned from the organization of previous FEDERATE events, the METIS team is also considering the implementation of additional measures to help reduce the no-show rate at the final FEDERATE event. These steps aim to improve participant commitment and ensure stronger attendance, thereby maximizing engagement and the overall impact of the event.

Task T5.4: Organization of SDV Hackathons (ECL)

In the reporting period, one hackathon was executed, and another event was planned. The Eclipse SDV Hackathon 2025 took place from September 30 to October 2, 2025, simultaneously in two cities: Berlin (at the Bosch Innovation Campus) and Porto (at 42 Porto). The event attracted a total of 102 participants, who formed 22 teams. These participants were primarily developers, students, and automotive enthusiasts, focusing on software-defined vehicle (SDV) technologies. They worked on challenges related to SDV tooling and blueprints, guided by hack coaches from leading organizations such as ETAS, Red Hat, Elektrobit, T-Systems, and Bosch. The preparation of the upcoming (28 – 29 April 2026) SDV Hackfest was also executed by Eclipse. The SDV Hackfest at Esslingen University focuses on implementing and validating a predefined SDV architecture using Eclipse SDV components. Unlike the broader hackathon, this event is execution-driven, integrating open-source projects with OEM vehicles and simulation platforms. It will involve 76 industry experts, researchers, and students.

Task 5.5 Dissemination and communication activities, incl. tools and materials (METIS)

During the M25–M30 reporting period, dissemination and communication activities of the FEDERATE project, led by METIS, showed strong growth and impact across digital and physical channels. The project expanded its online presence, reaching 1,311 LinkedIn followers and over 110,000 impressions, supported by a mix of organic and sponsored content, while the website attracted around 1,500 users from a global audience. Newsletters, webinars, and Tech Talks further strengthened stakeholder engagement, with increasing open rates and participation. In parallel, FEDERATE partners participated in more than 17 major international events, reinforcing the project's visibility and positioning within the Software-Defined Vehicle and advanced mobility ecosystem. Overall, these combined efforts enhanced knowledge exchange, fostered collaboration, and supported the uptake of FEDERATE results across the European and global innovation landscape.

3.5.2.1 Social Media

Between M25 - M30, FEDERATE's LinkedIn presence continued to grow steadily, reaching 1,311 followers. The audience demonstrated strong interest from a range of professional fields, including engineering, business development, research, and related domains, reflecting the project's broad relevance across the innovation ecosystem. In terms of organizational reach, the highest share of followers came from large companies with more than 10,001 employees (approximately 28.6%), highlighting strong engagement from major industry actors.

Geographically, interest in FEDERATE content was particularly notable in countries such as Germany, France, Turkey, India, and the United Kingdom, among others. Over the same period, the overall impression rate

increased by more than 189%, reaching a total of 110,578 impressions within six months. The most engaging content included posts on FEDERATE’s participation in EFES 2025, the FEDERATE Y2 Review, and the project General Assembly held in Toulouse, all of which significantly contributed to increased visibility and audience interaction.

During the six-month reporting period, a total of 28 posts were published, generating 21,746 organic impressions and 88,832 impressions through sponsored promotion. This indicates that while organic reach contributed to audience visibility, paid activities significantly amplified overall exposure and content dissemination.

Metrics

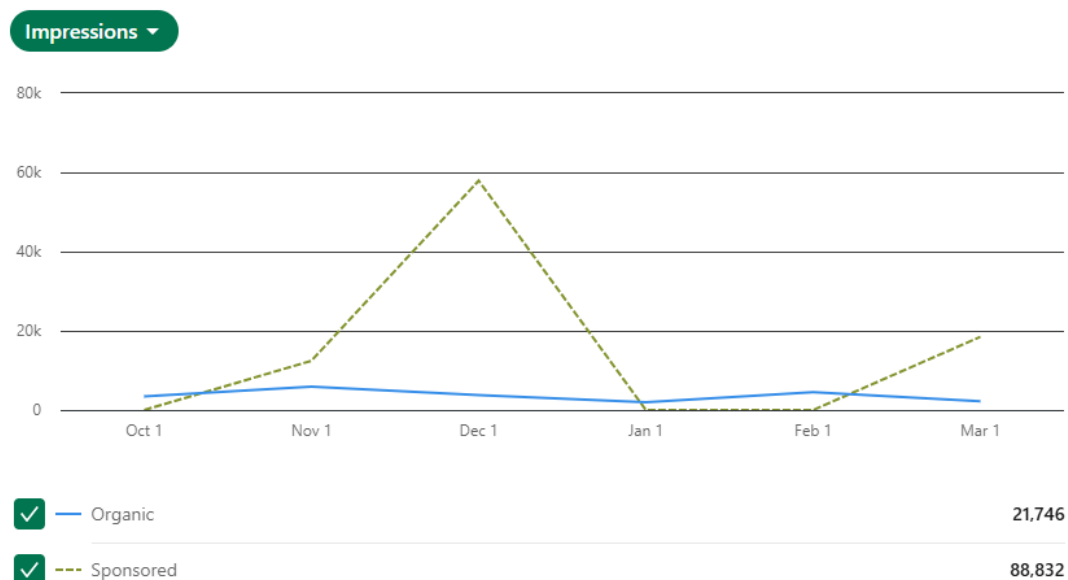


Figure 2: FEDERATE impressions on LinkedIn (M25-M30)

3.5.2.2 Attended Events

During the M25–M30 reporting period, FEDERATE partners actively engaged in a broad range of high-level external events, participating in a total of more than 17 international conferences, workshops, and industry forums across Europe and beyond. These included globally recognized platforms such as CES in Las Vegas, the HiPEAC conference in Krakow, the RTR Conference in Brussels, and Embedded World 2026 in Nuremberg. The strong presence at these events reflects FEDERATE’s commitment to positioning itself within the forefront of advanced mobility, software-defined vehicles (SDV), and open digital platform discussions.

The participation covered a diverse set of topics aligned with FEDERATE’s core objectives, including AI-driven mobility, functional safety, cybersecurity, connectivity, and open-source software ecosystems. Partners contributed through presentations, panel discussions, and strategic workshops, addressing key challenges such as validation of critical systems, post-quantum cybersecurity, and interoperability of mobility platforms. Events like the EU Open Source Policy Summit and Eclipse SDV Community Days provided important opportunities to showcase FEDERATE’s work in open-source collaboration and software supply chain

management, while gatherings such as the VDA Mobility Innovation Summit and SIA Study Day enabled engagement with industry leaders and policymakers on future mobility trends.

Overall, FEDERATE's participation in these events significantly enhanced its visibility and impact within the European and global mobility ecosystem. It facilitated knowledge exchange with key stakeholders, fostered new collaborations, and ensured alignment with related initiatives such as SDVoF, ECAVA, and CCAM. Moreover, involvement in both technical and strategic discussions allowed the consortium to gather valuable insights into emerging research and innovation challenges, supporting the continuous refinement of FEDERATE's approach to building an open, interoperable ecosystem for next-generation autonomous mobility.

Table 1: Events attended by FEDERATE partners (M25-M30)

Events (M25–M30)

Date	Location	Event	Focus	FEDERATE participants
1 Jan–9 Jan 2026	Las Vegas	CES	Future of advanced mobility	Ansgar Lindwedel (ECL)
26–28 Jan 2026	Krakov	HiPEAC + FORECAST for TechNexus	Computing systems & mobility innovation	Sara Gallian (ECL); Andreas Eckel (HAL4SDV); Edin Arnautovic (TTTech)
28–29 Jan 2026	Vienna	Strategic Workshop – TechTalk@TTTech Auto	AI, safety, CCAM, intelligent mobility	Ole Großmann (VDI/VDE)
30 Jan 2026	Brussels	EU Open Source Policy Summit 2026	Open-source software (OSS) policy	Sara Gallian (ECL); Detlef Zerfowski (ETAS)
4–5 Feb 2026	Brussels	1st ECAVA In-Person Workshop	Collaboration with working groups	Sara Gallian (ECL); Cyril Laury (FORVIA)
5 Feb 2026	Paris	SIA Study Day	Connectivity, cybersecurity, TCU standardisation	Cyril Laury (FORVIA)
10–12 Feb 2026	Brussels	RTR Conference	EU research in transport & mobility	Jörg Dubbert (VDI/VDE)
17 Feb 2026	Tampere	Networking Breakfast: European Software Defined Vehicles	SDV, business models, autonomous mobility	Ella Peltonen (UOULU)
24–25 Feb 2026	Bonn	Eclipse SDV Community Days	Software-defined vehicles, OSS	Sara Gallian (ECL)
10–12 Mar 2026	Nuremberg	embedded world 2026	SDV, embedded systems, Shift2SDV	Mario Driussi (VIF)
19–24 Mar 2026	Stuttgart	OpenChain and Friends	OSS supply chain & compliance	Detlef Zerfowski (ETAS)

Events (M25–M30)

26–27 Mar 2026	Berlin	VDA Mobility Innovation Summit	Automotive innovation & policy	Jörg Dubbert (VDI/VDE)
3 Dec 2025	Malta	EFECS 2025	SDVoF and ECAVA	Dirk Walliser (INSIDE); Peter Priller (AVL); Gabriele Keraite (METIS)
10 Nov 2025	Online	Austrian SAAM Meeting	Automated mobility strategy	Michael Paulweber (AVL)
22 Oct 2025	Stuttgart	ETAS Connections 2025	SDV & industry collaboration	Detlef Zerfowski (ETAS)
2 Oct 2025	Online	CLEPA R&I Workgroup Meeting	SDVoF & CCAM alignment	Michael Paulweber (AVL)
6 Oct 2025	Brussels	2nd SDV Convergence Conference	SDV roadmap alignment	Michael Paulweber (AVL)
8 Oct 2025	Munich	Driving the Future Symposium	AI, SDV architectures, research trends	Christian Pacha (Infineon); Michael Paulweber (AVL)

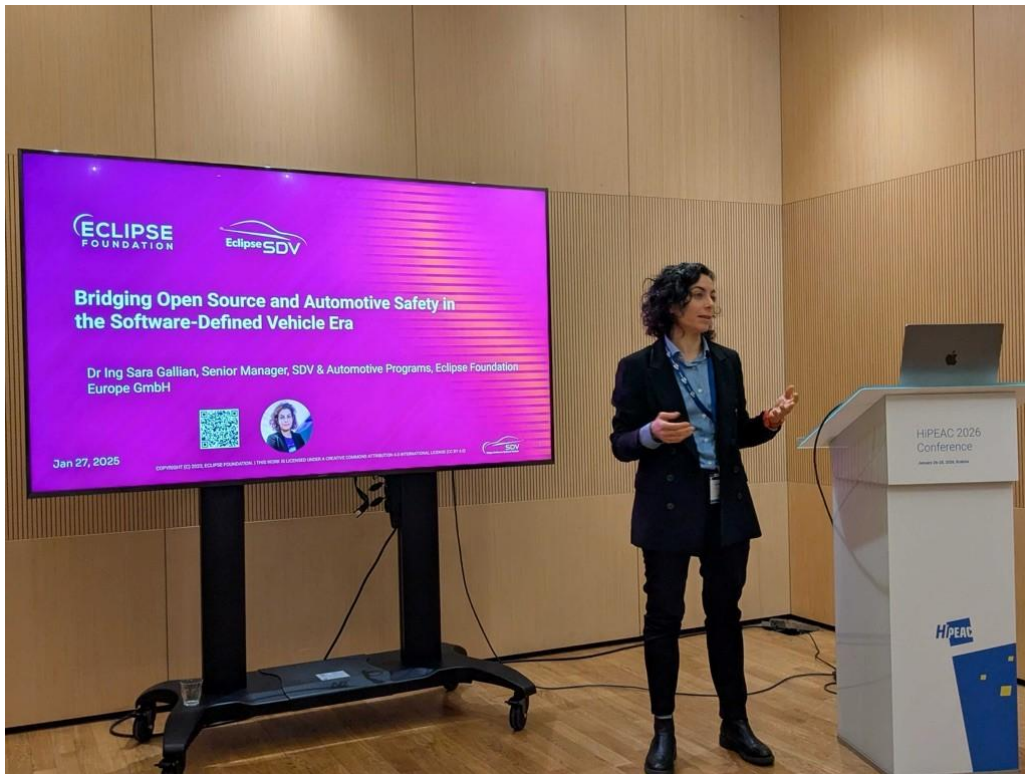


Figure 3: HIPEAC + FORECAST for TechNexus (Sara Gallian, ECL)



Figure 4: SIA Study Day (Cyril Laury, Forvia)



Figure 5: EU Open-Source Policy Summit 2026 (Detlef Zerfowski, ETAS)



Figure 6: EFECs 2025 (Peter Priller, AVL)

Key FEDERATE Events in 2025 and 2026

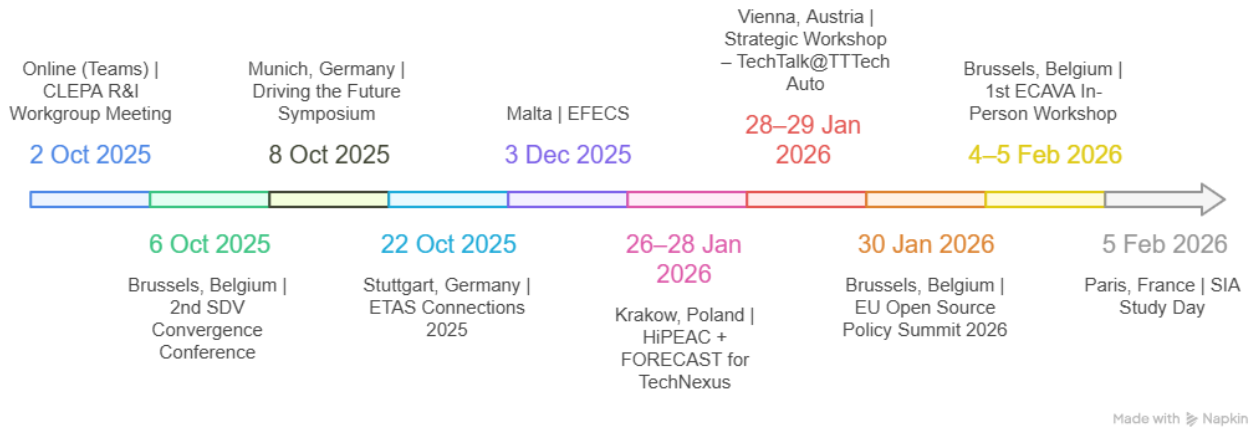


Figure 7: Key FEDERATE Events in 2025 and 2026

3.5.2.3 FEDERATE Webinars

Between M25 and M30, two webinars were released. One (organized on 2 October 2025) focused on Eclipse S-CORE, providing an overview of its architecture and project vision, while inviting the audience to explore how the Eclipse S-CORE project integrates high-performance Electronic Control Units (ECUs) into an open-source SDV core stack.

The webinar invitation was sent to 387 FEDERATE subscribers and generated a total of 538 email opens. The highest level of interest came from audiences in Germany and the United States, as illustrated in the figure below.

Top locations by opens

September 24, 2025 - April 15, 2026

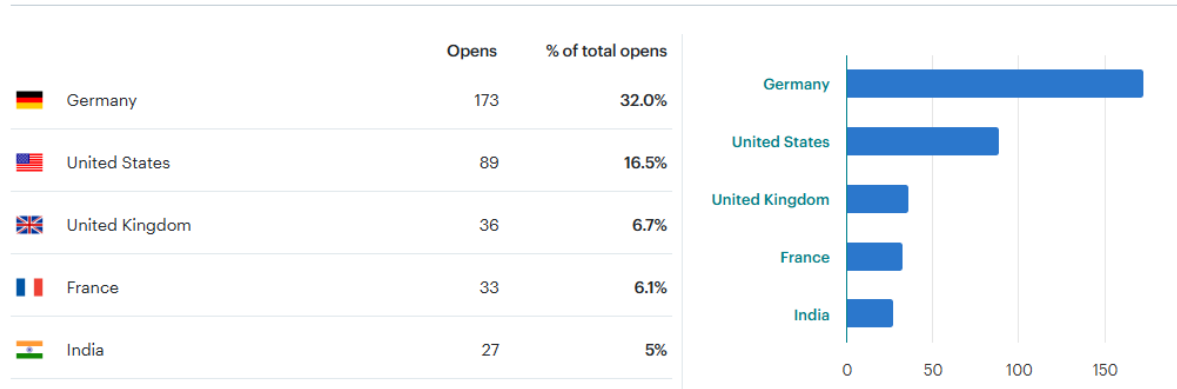


Figure 8: Top locations by opens (FEDERATE Webinar No. 4)

Another webinar was organized on 24 October 2026, titled “*RIGOLETTO (RISC-V / Infineon): Project Introduction and Synergies with SDV*,” and delivered by Knut Hufeld from Infineon AG. In contrast to the S-CORE webinar, this session was conducted as a recorded interview without a live audience, with the intention of making it available for on-demand viewing by interested participants.

Both, Eclipse S-CORE and RIGOLETTO recordings have been uploaded to the FEDERATE YouTube channel and are also accessible via the project website².



Figure 9: FEDERATE Webinar No. 4 - [4th FEDERATE Webinar ECLIPSE S-CORE project Introduction - YouTube](#)



Figure 10: FEDERATE Webinar No. 5 - [5th FEDERATE Webinar Rigoletto project introduction - YouTube](#)

² [Dissemination – Federate SDV](#)

3.5.2.4 Live Tech Talk Session

During the reporting period, an additional Tech Talk was held in November 2025, featuring Eduard Metzker from Vector Informatik, who presented on “AUTOSAR Deployment Patterns.” The session was moderated by VIF, with Mario Driussi.

The session explored how AUTOSAR, non-AUTOSAR, and open-source software (OSS) technologies can be integrated to address technical challenges in Software-Defined Vehicles (SDVs). It illustrated deployment patterns spanning from sensor and actuator levels up to high-performance computing (HPC) architectures and included three practical examples of their application in modern SDV electrical/electronic system designs.

Such Tech Talks provide added value to the FEDERATE project by fostering knowledge exchange across industry and research stakeholders, strengthening community engagement, and supporting the dissemination of practical insights that contribute to the advancement of open and collaborative SDV development.

3.5.2.5 Newsletters

Between M25 and M30, FEDERATE published two newsletters, in November 2025 and March 2026. The November 2025 edition highlighted the European Commission’s call for applications to a new industrial alliance on digital vehicles, alongside FEDERATE’s ongoing efforts to strengthen collaboration with emerging EU projects shaping the future of software-defined vehicles (SDVs). It also featured key takeaways from the Eclipse OCX 2026 Webinar Week and the FEDERATE webinar showcasing RIGOLETTO and SDV innovation, introduced Eclipse S-CORE as an open core stack for high-performance computing platforms, and announced FEDERATE’s participation in EFECs 2025³.

The November newsletter was distributed to 362 subscribers and recorded 274 opens, with the highest engagement coming from Germany, the USA, Austria, the Netherlands, and Spain.

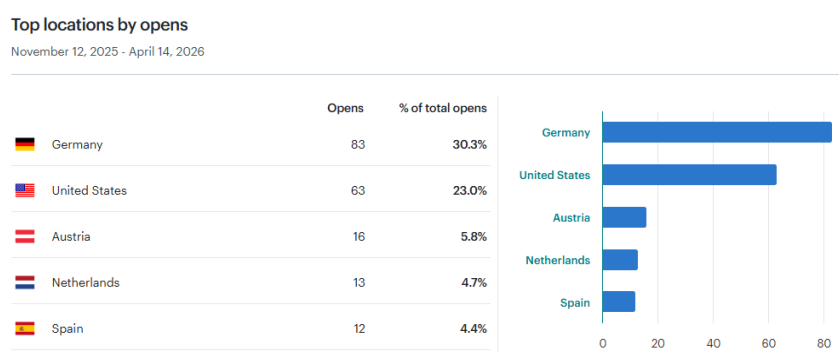


Figure 11: Top locations by opens (FEDERATE Newsletter No. 8, November 2025)

A second newsletter was published in March 2026, providing an overview of key developments across the Software-Defined Vehicle (SDV) ecosystem and the expanding open automotive software community. This

³ [FEDERATE’s eighth newsletter – 11/2025, Issue No. 8 – Federate SDV](#)

edition announced the introduction of monthly releases for the FEDERATE Building Block (BB) Repository on GitHub, aimed at facilitating collaboration and reuse among developers and partners. It also highlighted the growing global momentum for open automotive software collaboration, featuring insights from the first ECAVA Working Group meeting and updates on Eclipse S-CORE 0.5. In addition, the newsletter revisited FEDERATE’s participation at EFES 2025 in Malta, where the SDV community gathered to exchange ideas and showcase progress, and invited readers to connect with the FEDERATE team at the Open Community for Automotive⁴.

The March newsletter was sent to 367 subscribers and achieved 325 total opens, with top engagement coming from the locations listed below.

Top locations by opens

March 4, 2026 - April 14, 2026

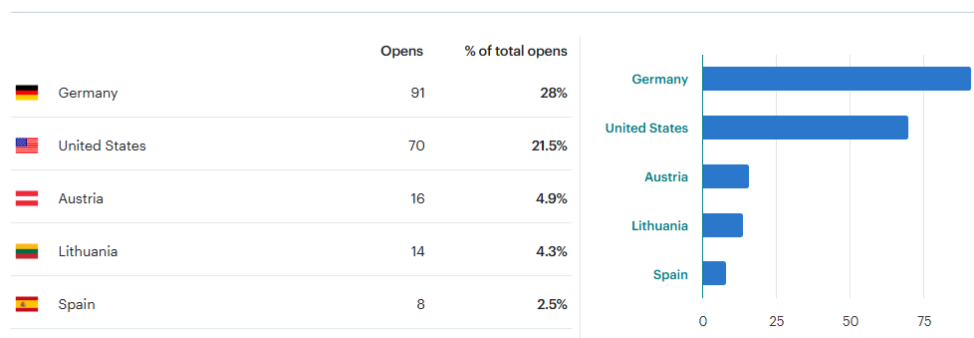


Figure 12: Top locations by opens (FEDERATE Newsletter No.9, March 2026)

The November edition focused more on external opportunities and ecosystem visibility - such as the European Commission’s industrial alliance call, key webinars, and upcoming participation at EFES 2025 - whereas the March issue placed stronger emphasis on concrete project outputs and community-building efforts, including the launch of monthly updates for the Building Block Repository, insights from the ECAVA Working Group, and advancements in Eclipse S-CORE.

Engagement also increased slightly over time, with the March newsletter achieving a higher open rate (325 out of 367) compared to November (274 out of 362), indicating growing audience interest and reach.

Currently, the database of FEDERATE newsletter subscribers includes around 400 recipients.

3.5.2.6 Website

Between M25–M30, the FEDERATE website demonstrated steady growth in user engagement, attracting approximately 1,500 users and around 1,400 unique visitors. Traffic was distributed across multiple acquisition channels, including referral, organic search, direct access, and organic social, indicating a balanced and diversified visibility of the project online. Visitors originated from a wide range of countries, including the USA,

⁴ [FEDERATE’s ninth newsletter – 03/2026, Issue No. 9 – Federate SDV](#)

Germany, China, France, India, Spain, and Japan, confirming the global reach and relevance of FEDERATE dissemination activities.

User behavior analysis shows that the most frequently accessed sections were “FEDERATE SDV,” “Consortium,” “Dissemination,” “SDV Events,” and “About,” highlighting strong interest in both the technical scope and the ecosystem behind the project. In addition, a total of 316 file downloads were recorded from 113 users, primarily from Germany, China, Sweden, and the USA. Overall, these metrics indicate not only sustained engagement with core project content but also a clear demand for downloadable resources, reinforcing the website’s role as an important dissemination and knowledge-sharing platform.

Task 5.6 Data management plan (VDIVDE)

The Data Management Plan (D5.8) describes how the tasks that must be completed within the project will affect data collection, analysis, processing, sharing, and dissemination. In the reporting period, no changes had to be applied to the plan.

Task 5.7 Quality assurance and consistency check for key reports (VDIVDE)

The Quality and Risk Management plan (D1.2) provides a detailed description of the methodology of processes and responsibilities that are necessary to ensure the quality of the project results. The defined process respected by the consortium and leads to the aimed results. No changes had to be made to the process during the reporting period.

3.5.2.7 Work Carried out in this Work Package per Beneficiary

AVL: contributes through presentations and key notes at major events, informing about the vehicle of the future initiative, and key principles (collaboration in open source, code first, ...). AVL contributes content to the quarterly newsletters, and through support in organizing ECAVA events.

AMPERE: active participation in the 1st ECAVA In-Person Workshop, in particular co-moderating the SDV dedicated session.

VDIVDE: The WP5 is led by VDI/VDE. WP5 work meetings have been carried out bi-weekly. VDI/VDE presented the work package results in the team meetings and consortium meetings. The organization of the upcoming annual event has started during the reporting period. VDI/VDE has supported METIS in the execution of the social media activities and the dissemination by taking care of the event list and participating on key community events. VDI/VDE presented the WP5 results in the 2nd annual review.

ECL: Participated in the bi-weekly WP5 meetings. Eclipse presented the project results at the 2nd annual review. In the reporting period, one hackathon was executed, and the organization process of the upcoming “Hackfest” started.

FSG: Organized and chaired SIA Study Day on Future Proofing SDV. Started organization of the next SIA Congress on SDV, CESA that will take place near Paris in February 2027 (FSG will chair it again in the person of Cyril Laury).

METIS: METIS led and coordinated FEDERATE's dissemination and communication activities, ensuring consistent growth in digital outreach, stakeholder engagement, and international visibility. In particular, METIS was responsible for managing the project's communication strategy, overseeing LinkedIn and website content, promoting newsletters and webinars, and supporting the promotion of FEDERATE's participation in key international events.

3.5.2.8 Deviations from Plan

No significant deviations were reported.

4 Effort reported by partners

Partner Short Name	PM in WP 1	PM in WP 2	PM in WP 3	PM in WP 4	PM in WP 5	Total PM per Participant
AVL (Coordinator)	3		0,5	1,1	0,5	5
BMW			0,11	0,30		0,41
MBAG		0,01	0,02	0,14		0,17
CARIAD		0,04	0,35	0,02		0,5
FORD			0,3			0,3
BOSCH						0
AUMOVIO-DE		0,04		0,29		0,33
AUMOVIO-FR		0,06	0	0,11		0,17
EB		0,09				0,09
TTTECH			0,9			0,9
VALEO		0,21				0,2
ZF			0,3			0,3
FSG				0,15	0,15	0,3
IFAG			0,44			0,44
ST						0
AVL-DE				1,0		1,0
ETAS			1,0			1,0
VER		0,36				0,36
UOULU		0,75				0,75
RWTH		0,65				0,65
TUM		1,18				1,18
VIF		1,4				1,4

VDIVDE	1,0			0,4	1,4	2,8
ECL			0,57		0,83	1,40
METIS					2,5	2,5
FZI		0,5				0,5
VECTOR		0,1				0,1
AMPERE		0,2	0,4	0,1	0,1	0,8
Total Person Months	4	5,59	4,89	3,61	5,48	23,55

Table 2: Definitions, Acronyms, Abbreviations

Definitions, Acronyms, Abbreviations	Meaning
AM	Associated Members
BB	Building Block
CCAM	Connected Collaborative Automated Mobility
CSA	Coordination Support Action
CI	Continuous Integration
CD	Continuous Deployment/Delivery
CVV	Continuous Verification & Validation
DevOps	Development (Dev) and IT Operations (Ops)
ECU	Electronic Control Unit
EdgeAI	AI running on edge devices
FEDERATE	Software-defined vehicle support and coordination project
GA	General Assembly
HPC	High-Performance Computing
HW	Hardware
NN	Neural Network
OEM	Original Equipment Manufacturer
OS	Operating System
OtA	Over the Air (Update/Upgrade)
PoC	Proof of Concept
RDI	Research Development Innovation
SOA	Service Oriented Architecture
SDV	Software-defined vehicle
SDV Ecosystem	Entirety of the corresponding technology layers (software and hardware) of a software-defined vehicle with its non-differentiating building blocks in a layered structure
SDV Ecosystem program	All RDI projects, which collaboratively work together to create hardware and software building blocks in a jointly agreed layer structure. The building blocks together with vendor specific components can (and will) be used to create OEM specific software stacks and HW platforms for software-defined vehicles
SDV RDI projects	Research, development and innovation projects in the context of the SDV Ecosystem program
SDV community	Entirety of people and institutions involved to create an SDV Ecosystem for software-defined vehicles
SW	Software
V2X	Vehicle to anything [communication]

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Figure 1: FEDERATE GA Meeting at AVL Graz, 20-NOV-2024.....	Fehler! Textmarke nicht definiert.
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7 Conclusions

During the reporting period from month 25 to month 30, the FEDERATE project has made significant progress across all work packages. The consortium successfully achieved all key milestones. Through regular meetings and OpenTechTalks, knowledge exchange and stakeholder alignment were fostered across projects. Further, the development of shared requirements for scalable, reusable building blocks across sectors was further advanced. FEDERATE actively contributed to the ECAVA Working Group SDV meeting in Brussels, shaping strategic discussions on open-source business models, agile project working modes, and SDV ecosystem interoperability. Supported the successful public release of Eclipse S-CORE 0.5 alpha in November 2025, the first milestone delivery of an open, safety-certifiable automotive software platform under the Eclipse SDV Working Group. The link between projects, including but not limited to: HAL4SDV, Shift2SDV, Rigoletto, Code4EV, EcoMobiliy was advanced and the Ecosystem further expanded.

Looking ahead, the project aims to continue its momentum by enhancing stakeholder engagement, refining the building block repository, and expanding the SDV ecosystem. The consortium remains committed to achieving the project's objectives and contributing to the advancement of SDV technologies in Europe.