



Enabling safe & secure modular UPdates, UPgrades and DynAmic Task reallocation and Execution for Software Defined Vehicles

D7.1 – Project Handbook and Quality Guidelines V1.1

DEUTSCHES ZENTRUM FÜR LUFT - UND RAUMFAHRT EV (DLR)

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Executive Summary

This handbook details management bodies, documents, and procedures which are described in the Project documents, Grant Agreement and Consortium Agreement. It also includes the Quality Plan to be followed by the project to ensure the timely delivery of all results to the European Commission.

Aim of the UP2DATE4SDV Project Handbook is to give a quick overview over the structure of the consortium and the consortium's work. The handbook lists on one hand the responsibilities of the participants and on the other the adjacent most relevant managerial aspects and strategies of the project to ensure the best progress and quality of the work.

The handbook defines the main procedures (contractual framework, project governance, project monitoring, internal communication etc.). It details the required knowledge as well as standards and quality procedures to monitor the management measures and overlooks and adjusts the risk management plan. The handbook is designed to keep the ground rules, the quality guidelines and gender equality guidelines in the mind of all participants.

This document strives to achieve the best documentation of the project. It contains information related to reporting issues, publication procedures, and other important aspects from the templates to be used for the timing issues conform to the rules and agreements.

Furthermore, this guide clarifies necessary legal and financial aspects of the Grant Agreement and Consortium Agreement by supporting beneficiaries with additional explanations.

This guide is a 'living' document and will be modified according to the project's actual needs throughout the project's lifecycle. This could include relevant changes regarding project issues and/or procedures or content like possible new expectations of the European Commission.

In the event of discrepancy between documents, this Project Handbook is overruled by the Grant Agreement including its Annexes and the Consortium Agreement as well as possibly later added amendments.

UP2DATE4SDV is a Horizon Europe research and innovation action (HORIZON-RIA) under the European Climate, Infrastructure and Environment Agency (CINEA) and it brings together twelve project partners and two affiliated partners from eight countries. The project started on July 1, 2025 and will last for 36 months until June 30, 2028.

Acronyms and Abbreviations

Abbreviation	Full Name
AD	Autonomous-Driving
CA	Consortium Agreement
CAD	Connected and Automated Driving
CCAM	Connected Cooperative and Automated Mobility
CoCo	Coordinator Contact
COTS	Commercial Off-The-Shelf
CSA	Coordination and Support Action
D	Deliverable
Diss/Expl	Dissemination/Exploitation
DoA	Description of Action
DPC	Data Privacy Coordinator
EC	European Commission
ECU	Electronic Control Unit
EU	European Union
FSIGN	Financial Signatory
GA	Grant Agreement
HAL	Hardware Abstraction Layer
HW	Hardware
IP	Intellectual Property
JU	Joint Undertaking
LEAR	Legal Entity Appointed Representative
LSIGN	Legal Signatory (LSIGN)
M	Month
MBE	Model-Based Engineering
MBSE	Model-Based System Engineering
NDA	Non-Disclosure Agreement
NFA	National Funding Authorities
OAL	OS/MW Abstraction Layer
ODDs	Operational Design Domains
ORP	Orchestration and Reconfiguration Plane
PaCo	Participant Contact
PC	Project Coordinator
PCoCo	Primary Coordinator Contact
PGA	Project General Assembly
PPR	Periodic Project Report
PU	Public
R	Report
SASE	SAfety and SEcurity
SD-CCAM-V	Software-Defined CCAM vehicles

SDV	Software Defined Vehicle
SEN	Sensitive
SoM	System-on-Module
SOTA	Software-Over-The-Air
SW	Software
SyGMA	System Grant Management https://ec.europa.eu/research/participants/grants-app/reporting/DLV-101203060
TL	Task Leader
TSN	Time Sensitive Network
UCL	Use Case Leader
V&V	Verification and validation
V2C	Vehicle to Cloud
VIT	Virtual Integration Testing
VRUs	Vulnerable Road Users
WP	Work Package
WPL	Work Package Leader

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References and Background Material

Internal Background

- [1] UP2DATE4SDV. Grant Agreement.
- [2] UP2DATE4SDV. Consortium Agreement.

External Background

- [3] European Commission. Funding & Tenders Portal. Online:
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>
- [4] European Commission. Funding & Tenders Portal – Online Manual. Online:
<https://webgate.ec.europa.eu/funding-tenders-opportunities/display/OM/Online+Manual>
- [5] European Commission. Funding & Tenders Portal – IT HowTo. Online:
<https://webgate.ec.europa.eu/funding-tenders-opportunities/spaces/IT/pages/5472259/IT+How+to>
- [6] European Commission. AGA – Annotated Grant Agreement. Online:
https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/aga_en.pdf
- [7] European Commission. Amendment Guide. Online: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/amendment-guide_en.pdf

1. Introduction

The European research project UP2DATE4SDV (Enabling safe & secure modular UPdates, UPgrades and DynAmic Task reallocation and Execution for Software-Defined Vehicles), aims to develop a comprehensive ecosystem for seamless and efficient software updates, hardware upgrades and situation-dependent reconfigurations of software-defined vehicles.

1.1. Project Outline

UP2DATE4SDV has brought together automotive hardware manufacturers, the automotive software industry and SMEs, and the best-known researchers in the field to jointly create a comprehensive ecosystem for updatable, upgradable, and reconfigurable software defined connected and automated vehicles.

To this end, a middleware solution is to be created and integrated into the current automotive open-source standards, which allows complete abstraction not only of the software running in the vehicle, but also of the installed hardware. As a result, not only can the software be continuously updated over the air over the lifetime of the vehicle and thus kept safe, secure, and up to date, but hardware components can also be easily replaced or supplemented to meet future requirements.

To achieve this, we will additionally develop a new hardware component based on established automotive systems, which will be expanded in such a way that the unavoidable overhead resulting from the update capability of the systems is minimized thanks to explicit hardware support. The overall solution is suitable for the upcoming zonal E/E architectures that have a permanent connection to the cloud.

The project therefore aims to develop and integrate methods that ensure the safety of the systems during an update by strictly separating all individual automotive applications in containers. In addition, a security layer will be introduced to prevent attacks via the cloud link or among the application modules.

Finally, we want to make it easier for automotive software developers to use our middleware by establishing a reference layer based on a hypervisor that prevents the real-time requirements of different application modules from influencing each other. Communication to the vehicle components and to the cloud is abstracted and standardized. In addition, methods are provided to automate the V&V process for each further update, upgrade or reconfiguration and to ensure security at every step.

The project focuses on the definition and development of three abstraction layers

- the hardware abstraction layer (HAL)
- the OS/MW abstraction layer (OAL) for the operating system (OS) and middleware (MW)
- as well as on the exploration and prototyping of a secure orchestration and reconfiguration layer (ORP) between the vehicle and the cloud.

This will improve the reliability and performance of the CCAM system, extend vehicle life and reduce electronic waste. In addition, the project's new modularity concepts will accelerate the transition to safer, more sustainable automated driving and enable incremental steps towards Level 4 automation and longer vehicle lifecycles

The overall UP2DATE4SDV goal is to create a comprehensive ecosystem for updatable, upgradable, and reconfigurable software-defined connected and automated vehicles. This will be achieved by developing essential abstraction layers, advanced orchestrators, and an automated robust realization environment, all while adhering to the highest safety and cybersecurity standards. To achieve this vision, the project will target the following objectives:

- O1. Creation of a reconfigurable cloud connected zonal vehicle architecture blueprint based on heterogenous COTS HW (exploiting and building on a unified HAL)
- O2. Establishing a resource composable SW deployment, execution and communication reference layer, on top of existing open-source hypervisor and OS stacks (exploiting and building on a unified OAL)
- O3. Realization of a dynamic update, orchestration & reconfiguration plane
- O4. Provide harmonized and simplified development, integration and validation processes and framework for SDV applications
- O5. Assess joint Safety and Security (SASE) of all elements from O1, O2 and O3
- O6. Demonstration of UP2DATE4SDV solution on several CCAM relevant Use Cases
- O7. Active participation around CCAM and SDV Initiative community and ecosystem

To this goal, the demonstrators and use-cases (developed in WP5) define requirements (pink arrows) for the HW and the HAL (developed in WP1), the SW and the OAL (developed in WP2) as well as for the ORP (developed in WP3). Based on that, WP1, WP2 and WP3 provide a basic functional HW-SW-demonstrator for the use-cases – UC1- after Phase 1 (M6), UC2, UC3, and UC4 after Phase 2 (M24), and finally UC5 and UC6 after Phase 3 (M36).

Besides the pure communication of results (green arrows) the proper integration of the results of WP1, WP2, WP3, and WP4 within the use-cases depends on three further cooperation aspects: the safety and security assessment (yellow arrows), the update-, upgrade-, and reconfiguration-processes and the involved component-interfaces (purple arrows), and the cloud-based MBSE-representation of actual HW-/SW-components during the DevOps cycle establishing the real-world to cloud connection according to digital twins (blue arrows). Finally, while WP6 oversees the dissemination, communication, and exploitation of the project's results, WP7 coordinates all the WP and their communication, internally as well as externally to the SDV-Initiative and to other CCAM-partnerships. Figure 1 summarizes the described interaction and communication between the work-packages (WPs) of UP2DATE4SDV.

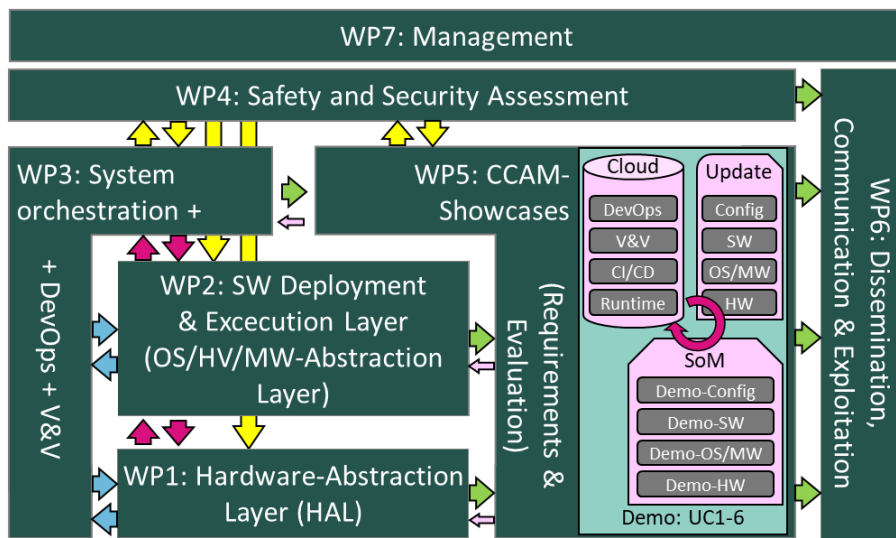


Figure 1: Overview of the UP2DATE4SDV work-packages and their Interaction.

1.2. Work-Package Outline

1.2.1. Work-Package Objectives

The main purpose of work package (WP) 7 is to guarantee the success of UP2DATE4SDV objectives by managing both at an administrative and technical level conformingly to the Grant Agreement (GA) and the Consortium Agreement (CA). This will be accomplished with

- 1.) continuous monitoring to deliver objectives within the time and budget constraints;
- 2.) ensuring a clear and effective liaison with the EC, and communication between partners;
- 3.) establishing and enforcing effective management and quality procedures;
- 4.) providing efficient operational management support;
- 5.) delivering the project data management plan

1.2.2. Work-Package Description

To monitor and control the project progress of UP2DATE4SDV, the project management consists of the following four major tasks starting from the very beginning in month M1 and running until the end of the project in M36:

- T7.1: Administrative, financial and legal management to manage the project according to the Project Management Handbook (D7.1), establishing and maintaining the central Project Management Processes by a Project Management Team, undertaking the full range of managerial, administrative, supporting, and coordinating activities like managing and transferring funds, dealing with all contractual matters, communicating with the EC, etc.
- T7.2: Project coordination, risk and quality management to perform the technical project coordination by means of monitoring the progress, coordinating the work-packages, preparing and leading technical project meetings and reviews, appointing reviewers to assess the quality of deliverables before their delivery to the EC ensuring the Quality Assurance Plan, assessing and handling project risks following the Risk Management Plan, solving technical conflicts, etc.

- T7.3: Internal communication, Data Management Plan and Open Access Plan to ensure smooth and efficient information flow between all partners and through clear communication channels, to exchange and collaborate on documents and data via collaborative tools, and to define the life cycle for all datasets and open-source data that will be collected, processed, or generated by the research project according to the main elements of the data management policy.
- T7.4 Industrial Advisory Board (IAB) Management to set up and communicate with the IAB, to prepare, coordinate and execute the evaluation and review by the IAB, as well as to consider the advice of the IAB to improve the quality of the project results.

1.2.3. Work-Package Status

In T7.1 of work-package 7 UP2DATE4SDV has successfully installed its project management team, organized the kick-off meeting, managed the payment of the pre-financing, coordinates the negotiation of the Consortium Agreement, defined central management processes, and prepared this Project Management Handbook to inform the project partners about these tools and processes to implement the project with success.

In T7.2 UP2DATE4SDV successfully implemented the previously mentioned project management processes for the technical coordination of the work-packages, organized a technical workshop-meeting to start the project in synchronization of all partners, and instantiated the Quality Assurance Process to ensure deliverable quality.

In T7.3 UP2DATE4SDV successfully installed regular online meeting and a collaboration platform for the frequent progress monitoring and a fluent exchange of technical and administrative information.

In T7.4 UP2DATE4SDV is working on the constitution of the IAB and achieved two OEMs to join the IAB while feedback of another Tier is pending.

1.3. Purpose and Scope of the Deliverable

This deliverable defines the main procedures contractual framework, project governance, project monitoring, internal communication, etc., as well as standards and quality procedures to be used throughout the project lifecycle, quality guidelines and gender equality guidelines for monitoring and management measures, and a risk management plan. It will establish and maintain the central Project Management Team and addresses the full range of managerial, administrative, supporting, and coordinating activities necessary and appropriate for the size of the project.

2. Basic Project Information

The following section provides the basic information about the project. This information is extended by the Grant Agreement - Project ID # 101 203 060 together with the following documents:

- Preamble
- Terms and Conditions (including Data Sheet)
- Annex 1: Description of the action1
- Annex 2: Estimated budget for the action
- Annex 2a: Additional information on unit costs and contributions (if applicable)
- Annex 3: Accession forms (if applicable)
- Annex 3a: Declaration on joint and several liability of affiliated entities (if applicable)
- Annex 4: Model for the financial statements
- Annex 5: Specific rules (if applicable)

The last version of the Grant Agreement and its annexes are internally available in a shared folder named “.../GrantAgreement/latest/” at the jointly accessible project teamsite.

In addition to the grant agreement, the Consortium Agreement and its attachments define the legally binding rules for the cooperation and communication of the UP2DATE4SDV consortium, as well as for the exploitation, dissemination and management of the UP2DATE4SDV project. The last version of the Consortium Agreement is internally available in a shared folder named “.../ConsortiumAgreement/latest/” at the jointly accessible project teamsite.

In case of differing or contradicting guidelines and definitions, those of the Grant Agreement and the Consortium Agreement are in force.

2.1. Beneficiaries

The beneficiaries of UP2DATE4SDV are listed in the Grant Agreement, in the Consortium Agreement, and presented in Table 1, below:

Table 1: List of the project partners (beneficiaries):

No	Organisation Name	Short name	country (short)
1	DEUTSCHES ZENTRUM FÜR LUFT - UND RAUMFAHRT EV (DLR)	DLR	GERMANY (DE)
2	IKERLAN, S. Coop	IKL	SPAIN (ES)
3	BARCELONA SUPERCOMPUTING CENTER CENTRO NACIONAL DE SUPERCOMPUTACION BSC CNS	BSC	SPAIN (ES)
4	ZettaScale Technology SARL	ZSC	FRANCE (FR)
5	TTTech Auto AG	TAAT	AUSTRIA (AT)
6	AVL List GmbH	AVL	AUSTRIA (AT)
7	AVL Araştırma Ve Mühendislik San. Ve Tic. Ltd. Şti. (affiliated)	AVL TR	Türkiye (TR)
8	STMicroelectronics (Grand Ouest) SAS	STM FR	FRANCE (FR)

9	STMicroelectronics srl	STM IT	ITALY (IT)
10	Neotera srl	NEO	ITALY (IT)
11	Kernkonzept GmbH	KK	GERMANY (DE)
12	Instituto Tecnológico de Informática	ITI	SPAIN (ES)
13	Continental Automotive Romania SRL	CON	ROMANIA (RO)
14	Continental Automotive Technologies GmbH (affiliated)	CON DE	GERMANY (DE)

2.2. Project type

UP2DATE4SDV is considered a Research and Innovation Action (RIA) – an activity aiming to establish new knowledge and to explore the feasibility of a new or improved technology, product, process, service or solution. For this purpose, RIAs may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment. Projects may contain closely connected but limited demonstration or pilot activities aiming to show technical feasibility in a near to operational environment. The TRL (Technology Readiness Level) to be reached until the project end is up to max. TRL 5.

The EU funding covers up to 100% of the project costs: https://rea.ec.europa.eu/horizon-europe-how-apply_en#types-of-projects

In Horizon Europe the term “action” is used equivalently to “project”.

2.3. Project Runtime

The UP2DATE4SDV project starts on 01.07.2025 with a runtime of 36 months with two defined periods, period 1 from 01.07.2025 to 31.12.2026 (M1-M18) and period 2 from 01.01.2027 to 30.06.2028 (M19-M36).

Table 2: Overview of the project’s runtime periods:

Project Period	Months	Period covered
1	01 - 18	01.07.2025 – 31.12.2026
2	19 - 36	01.01.2027 – 30.06.2028

2.4. Project Structure

2.4.1. Work Package List with Use Cases and Tasks

The Work Packages (WPs) are designed to provide the organizational structure for the projects. WP 1-WP 5 are technical Work-Packages, with WP 5 specifically being in charge of the use cases, and WP 6 and WP 7 are organizational ones, with WP 6 organizing dissemination, communication and exploitation activities and with WP 7 organizing the project management. That means, the main ambition of WP 6 is to fast-track the transfer of knowledge between UP2DATE4SDV and its target stakeholders while disseminating the potential benefits of UP2DATE4SDV's work, and the main purpose of WP 7 is to guarantee the success of UP2DATE4SDV objectives by managing the project at the administrative level conformingly to the GA & CA. Furthermore, WP 7 coordinates all seven WPs

and their communication, internally as well as externally, i.e. also regarding synergies and cooperation with European CCAM and SDV initiatives or related research projects like HAL4SDV, SHIFT2SDV, or the sister-project EEA4CCAM, started in parallel under the same call.

Table 3 lists all work packages together with their planned efforts in person months (PM) and runtimes in months (M). The interaction of work packages is drafted in Figure 1.

Table 3: List of Work Packages (WPs)

#WP-No	WP Title	PMs	Start	End
1	COTS HAL for node resource monitoring and controllability	121	M1	M30
2	Reconfigurable and resource composable SW deployment and execution layer	62	M1	M30
3	System orchestration, DevOps and V&V tooling	188,5	M4	M30
4	Safety and Security Assessment	73	M4	M36
5	Req. definition, demonstration and evaluation in CCAM showcase	150	M1	M36
6	Dissemination, Communication and Exploitation	45,5	M1	M36
7	Administrative and technical project management	37,5	M1	M36

2.4.2.Tasks

Below, Table 4 lists the planned tasks, their titles, timing and the responsible lead beneficiary (L) together with contribution partners (P).

Table 4: List of Tasks

Tasks	Titles	Responsible	country (short)
1.1	Identification of node level safety and security-relevant property	L: BSC, P: DLR, IKL, STM-FR, ITI, TTT, CON	M01-M06
1.2	Identification of observability and controllability channels for the selected SoCs	L: BSC, P: DLR, IKL, ZSC, STM-FR, STM-IT, KK, TTT, CON	M04-M15
1.3	SoC configurations for safety and security-relevant processes	L: BSC, P: DLR, ZSC, STM-FR, KK, ITI, TTT, CON	M04-M30
1.4	SoC and network support for monitoring services	L: ZSC, P: DLR, IKL, BSC, STM-FR, KK, ITI, TTT, CON	M04-M30
1.5	SoM based modular COTS HW platform	L: STM-FR, P: DLR, NEO, CON	M04-M30
2.1	Identification of SW deployment layer requirements and abstraction services	L: AVL, P: BSC, KK, CON, DLR, IKL, ITI, STM-FR/IT, TTT, ZSC	M01-M06
2.2	Reconfigurable and resource controllable container middleware implementations	L: KK, P: BSC, DLR, IKL, STM-FR, TTT	M04-M30

2.3	Reconfigurable and resource controllable service-oriented communication plane implementation	L: ZSC, P: BSC, DLR, TTT, IKL	M04-M30
3.1	Continuous integration, orchestration & deployment requirements	L: DLR, P: IKL, ZSC, NEO, ITI, TTT, KK, CON	M04-M06
3.2	Design and implementation Framework	L: IKL, P: ITI, DLR, CON	M04-M30
3.3	V&V Framework	L: AVL, P: IKL, ITI, CON	M04-M30
3.4	Vehicle to Cloud continuum orchestration and deployment implementation	L: NEO, P: DLR, ZSC, STMFR, TTT, CON	M04-M30
3.5	SASE update manager implementation	L: DLR, P: IKL, ZSC, NEO, KK, TTT, STM-IT, CON	M04-M30
4.1	SASE Update Process Definition	L: DLR, P: IKL, ITI, CON	M04-M12
4.2	SASE Reference Architecture Definition [M4-M30]	L: IKL, P: ITI, CON, DLR, BSC	M04-M30
4.3	SASE Mechanisms Implementation	L: IKL, P: ITI, BSC	M04-M30
4.4	Continuous Assessment	L: IKL, P: CON	M04-M36
5.1	CCAM Showcase and Metrics refinement	L: AVL, P: all	M01-M03
5.2	SDV Applications and Updates requirements	L: AVL, P: all	M01-M03
5.3	Research Demonstrator Implementation and Technical KPIs evaluation	L: DLR, P: IKL, BSC, ZSC, ITI, CON	M07-M30
5.4	CCAM Showcase Implementation and Benefits evaluation	L: AVL, P: CON, STM, NEO, DLR, IKL, ZSC, TTT, KK, ITI	M13-M36
6.1	Communication and dissemination	L: DLR, P: all	M13-M36
6.2	Standardization and open accessibility	L: AVL, P: all	M1-M36
6.3	Innovation Management, Exploitation and Sustainability	L: TTT, P: all	M1-M36
6.4	IPR Management	L: TTT, P: all	M1-M36
7.1	Administrative, financial and legal management	L: DLR, P: all	M1-M36
7.2	Project coordination, risk and quality management	L: DLR, P: all	M1-M36
7.3	Internal communication, Data Management Plan and Open Access Plan	L: DLR, P: all	M1-M36
7.4	Industrial Advisory Board (IAB) Management	L: DLR, P: all	M1-M36

2.4.3. Use Cases

Table 5 lists the planned use cases of the project according to the Grant Agreement.

Table 5: List of Use Cases

Use Case	Title
1	Updating and upgrading HW/SW in the perception chain

2	Maintaining reliability
3	Considering hardware resource constraints
4	Considering Cyber-Security
5	Perception stack upgrade and mode switching
6	Connected Automated Driving (CAD)

3. Governance Structure

The size and scope of the UP2DATE4SDV project makes it increasingly important to develop an organizational structure capable of managing its complexity. The governance structure helps to ensure that decision-making processes remain structured, transparent, and focused on the overall objectives of the action. By establishing clear structures regarding decision making, a governance structure helps to stay coordinated while fostering trust within the consortium. To give an initial overview, Figure 2 outlines the complete Governance Structure of UP2DATE4SDV.

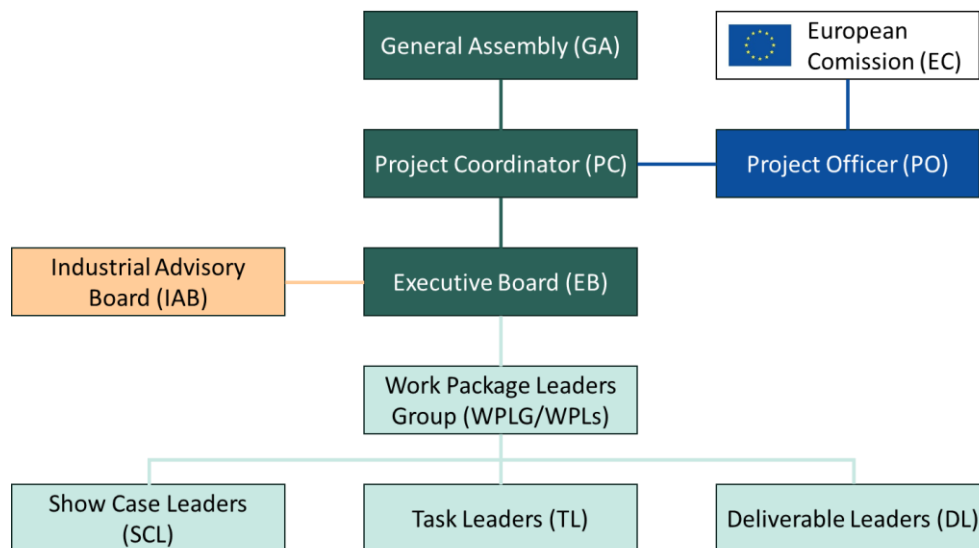


Figure 2: Overview of the Governance Structure of UP2DATE4SDV.

3.1. Project General Assembly (PGA)

The Project General Assembly is the decision-making body of the consortium and consists of one voting representative (member) per Party. GA representatives must have the authority to commit their organizations to its decisions. The GA oversees planning, organizing, and monitoring the project within budget and time constraints. Governance procedures are detailed in the Consortium Agreement (CA), signed by all partners. The CA covers responsibilities, liabilities, voting rules, intellectual property, grant distribution, and conflict resolution. The Project Coordinator chairs all meetings of the General Assembly, if not otherwise decided. As the chairperson DLR organizes ordinary meetings of the General Assembly at least once every six months and also convenes any extraordinary meeting upon written request of any Party. The Meetings are held either in person, or as an online (phone or video) conference.

3.2. Project Coordinator (PC)

The Project Coordinator is the legal entity acting as the intermediary between the Parties and the Granting Authority. Gregor Nitsche from DLR is representing the Project Coordinator. He is assisted by Karin Kuper-Thole, and, if absent, he is substituted by Kim Grüttner.

In particular, the Project Coordinator:

- monitors compliance by the Parties regarding their obligations under this Consortium Agreement and the Grant Agreement

- keeps the address list of Members and other contact persons updated and available,
- collects and reviews to verify consistency and submits reports and other deliverables including financial statements and related certification as well as specific requested documents to the Granting Authority
- prepares the meetings and agendas of General Assembly meetings, chairs the meetings, prepares the minutes of the meetings and proposes decisions and monitors the implementation of decisions taken at meetings
- transmits promptly documents and information connected with the Project to any other Party concerned
- administers the financial contribution of the Granting Authority and fulfills the financial tasks described in Section 7.2 of the CA
- provides upon request, the Parties with official copies or originals of documents that are in the sole possession of the Coordinator when such copies or originals are necessary for the Parties to present claims.
- even if one or more of the Parties is late in submission of any project deliverable, nevertheless submits the other Parties' Project deliverables and all other documents required by the Grant Agreement to the Granting Authority in time.
- is not be entitled to act or to make legally binding declarations on behalf of any other Party or of the consortium, unless explicitly stated otherwise in the Grant Agreement or the Consortium Agreement.

The established PC/PMO mailing list can be found in the Mailing-Lists.xlsx at the jointly accessible project teamsite.

3.3.Executive Board (EB)

The Executive Board (EB) – also Steering Board (SB) – combines the members of the PGA with the Work Package Leader Group (WPLG). It is organized, headed, and moderated by the PC and meets regularly on a monthly base, if no additional meetings are requested by the Work Package Leaders Group or the PGA. Goal and responsibility of the EB is

- to coordinate the project-management between all partners
- to provide a monthly WP- and project-status report to the PC and the PGA members
- to prepare the Internal Quarterly Reporting in time
- to implement a quick and lightweight information exchange, vertically: between the WPLG and the PGA; and horizontally: between all partners and thus within the PGA
- to quickly implement a PGA meeting, if urgently necessary or requested
- to coordinate the reporting to and feedback from the Industrial Advisory Board (IAB)

The established EB mailing list can be found in the Mailing-Lists.xlsx at the jointly accessible project teamsite.

3.4.Work Package Leader Group (WPLG)

The Work-Package Leader Group (WPLG) consists of the representatives of the Parties appointed to lead the Work Packages 1 – 7 and the appointed chair, to be elected by and from the members of the WPLG.

- Within the work-package meetings the Tls of each work-package issue an Internal Progress Report to their corresponding Work Package Leader upon request 14 days ahead of the relevant meeting of the WPLG.
- Ordinary meetings of the WPLG are held monthly and shall also convene upon proposal of one member, when needed.
- In case a Party leaves, the Party issues a termination report to the WPLG. The WPLG is an assessment group of the Consortium without formal decision-making power, but is still very important since this group assesses the individual and overall implementation of the project.

The established mailing-list of the WP-Leader-Group can be found in the Mailing-Lists.xlsx at the jointly accessible project teamsite.

3.5. Work Package Leader Group Leader (WPLGL)

The Work Package Leader Group Leader (WPLGL) is elected by and from the members of the WPLG and is in charge of:

- organizing, heading, moderating and documenting the WPLG meetings
- preparing the meetings and the agenda of the WPLG meetings

In UP2DATE4SDV the consortium elected the Project Coordinator Gregor Nitsche to chair the WPLG as the Work Package Leader Group Leader (WPLGL).

3.6. Work Package Leader

For each Work Package (WP) the Work Package Leader (WPL) is a representative of the Party appointed to lead the Work Package according to Annex 1 of the Grant Agreement. In particular, each WPL is responsible:

- to coordinate the completion of activities for the tasks in the relevant WP, assuring the coordination and timely execution of its tasks.
- to synchronize the activities in the WP, stimulating the interaction between all partners involved.
- to support the deliverable generation and to ensure the deliverable quality in the WP by monitoring the progress and by providing feedback on a first complete review, in time.
- to report to the WPLG about the corresponding WP and provide feedback to the WPLG, representing the corresponding WP from the WP point of view.
- for operational decisions and for guaranteeing that the partial and total objectives of the WP are accomplished, elaborating the reports of the WP and organizing the presentation of results.

Below, Table 6 lists the Work Package Leaders as agreed within the first weeks of the project.

Table 6: List of Work Package Leaders:

#	Organisation	Leader
1	BSC	Francisco Cazorla; Enrico Mezzetti

2	KK	Marcus Hähnel; Christiane Berndt
3	DLR	Patrick Uven; Henning Schlender
4	IKL	Ane Mijangos; Victor Julio Ramírez
5	AVL	Hannes Fuchs; Stefan Marksteiner
6	TAAT	Alexander Kühhas; Mohammed Abuteir
7	DLR	Gregor Nitsche; Kim Grüttner

3.7. Industrial Advisory Board (IAB)

In accordance with the Consortium Agreement (CA §6) an Industrial Advisory Board will be appointed and steered by the Project General Assembly (PGA), operationally supported by the Executive Board. The external IAB is recommended since it will provide a highly knowledgeable, external view and opinion on the project based on specific industrial expertise. The IAB assists and facilitates the decisions made by the General Assembly and the Executive Board.

The Coordinator will ensure that a non-disclosure agreement is executed between all Parties and each IAB member. The mandate of the Coordinator comprises solely the execution of the NDA as included in the CA, Attachment 5. Its terms are not less stringent than those stipulated in the CA, and it will be concluded no later than 30 days after their nomination or before any confidential information will be exchanged/disclosed, whichever date is earlier.

The last version of the IAB list is online available in a shared folder named “.../IAB/latest/” at the jointly accessible project teamsite.

4. Communication Internal

Effective and frequent communication between partners is indispensable for the success of the UP2DATE4SDV project and aims to:

- Ensure smooth and strategic decision making and problem solving.
- Make all partners aware of the progress in each task and work package.
- Exchange opinions, discuss conflicts and solutions, and clarify doubts.
- Share and validate project outputs.
- Build a trust network among the partners.

Already during the proposal preparation, the project consortium has established an excellent culture of communication that is now to be continued during the project execution phase. To this goal, the consortium will essentially communicate via email and web-conferences (phone- and video-calls). Furthermore, data-exchange will be implemented as a Sharepoint (Teamsite) at DLR combined with a confluence-based collaboration platform (AEC – Aumovio Engineering Center) at CON.

4.1. Confidentiality Rules

Any confidential information within the project needs to be used according to the conformity of the rules defined in the Consortium Agreement. In particular, the non-disclosure obligations under CA §10 apply for a period of 5 years after the final payment by the Granting Authority.

4.2. Acknowledgement of EU funding and Disclaimer

EU support must be acknowledged with the European flag emblem and the following funding statement translated into local languages, where appropriate (Article 17 of the Grant Agreement):

Disclaimer:

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the granting authority (European Climate, Infrastructure and Environment Executive Agency - CINEA). Neither the European Union nor the granting authority can be held responsible for them.”

4.3. Visual Identity – Logo, Colors, and Templates

For all activities (online or offline) conducted within the framework of the project, it is mandatory for the partners to ensure sufficient visibility of the project by making use of the official UP2DATE4SDV logo, presented in Figure 3.

The Logo and its accepted variants are internally available online at the jointly accessible project teamsite.



Figure 3: Official UP2DATE4SDV logo.

Furthermore, the consortium should make use of the RGB color codes mentioned in Figure 4. These have been established to create and maintain a visual identity of the project.

The color codes and corresponding templates in MS Word, MS PowerPoint, etc. are available online to the project consortium internally at the jointly accessible project teamsite.

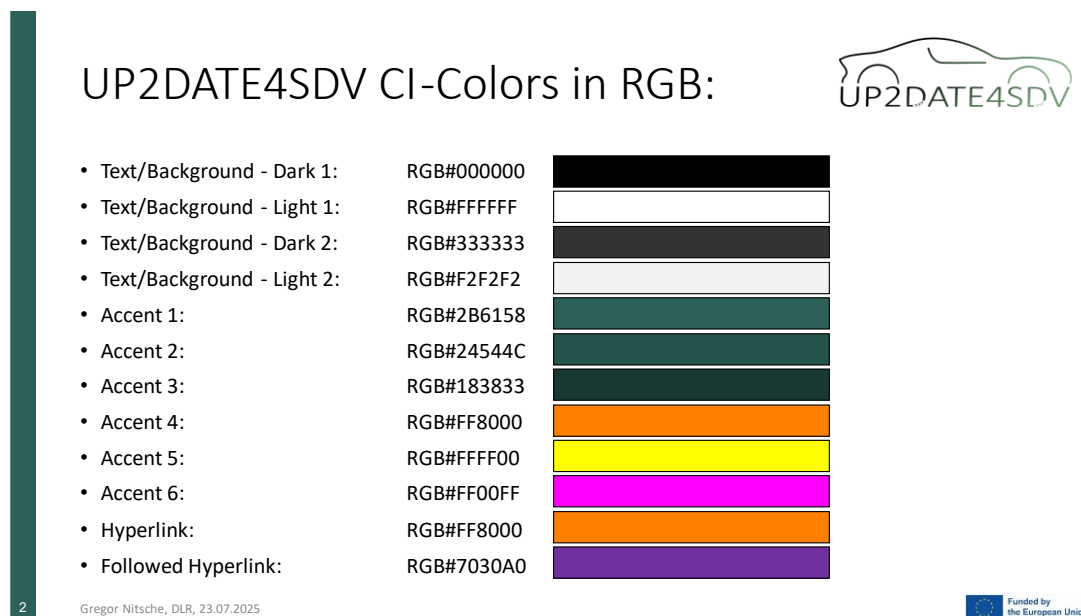


Figure 4: Visual Identity Color Codes in RGB colors:

4.4.E-Mails and Mailing Lists

Daily project communication will be done primarily through emails. When communicating per e-mail please consider the following aspects:

- To support the automated handling of E-mails, all e-mails and e-mail invitations related to UP2DATE4SDV are expected to use the project acronym in squared-brackets, i.e. [UP2DATE4SDV], right in the beginning of the e-mail subject.
- In all management and administrative communications please include the Project Coordinator and WP7 using the known functional e-mail addresses.
- In all technical communications please include the respective Work Package Leaders
- Appropriately choose the right mailing list to avoid spamming of project members.

The project organizes its contact- and access-data within an online Excel-Sheet where all participant details (name, email address, telephone number...), mailing-lists (general aim at everyone, per WP, administrative, financial, support, IAB...), as well as accessible communication- and data-platforms (Teamsites/Gitlab, AEC, etc.) are listed per partner. To keep the contact list up-to-date, the PC should be informed within two weeks by the partners whenever a member needs to be added or removed to the project, or a subscription to one of the mailing-lists or platforms needs to be changed.

The contact and access lists are available online to the project consortium internally at the jointly accessible project teamsite.

To support the project-internal communication with the PC, the EB, the PGA, in and between the work packages, as well as with the IAB additional functional mailing lists were established and can be found at the jointly accessible project teamsite.

4.5. Phone- and Video-Calls, and -Conferences

Besides e-mails, phone- and video-calls, and -conferences will be the second most often way to communicate between the project partners. For that, conference calls will be organized for different groups (e.g. work packages, work package leaders' group, etc.) and purposes (technical meeting, management meeting, reporting, etc.). For privacy reasons, the PC/DLR will host its meetings in Pexip and any project members can request DLR to install a Pexip-conference call for their purpose.

A current snapshot of the regular meeting structure of UP2DATE4SDV is presented in Table 7. A regularly updated version is available online to the project consortium internally at the jointly accessible project teamsite.

Table 7: Regular Meeting Structure

Topic/Meeting-Type	Schedule	Lead
WPLG Monthly Meeting	Last Tuesday of each month	DLR
WP7 / EB Monthly Meeting	Last Tuesday of each month	DLR
WP5-Weekly Meeting	Thursday every week	DLR
WP5 Monthly Meeting	First Thursday of each month	AVL
WP1 Monthly Meeting	Fourth Friday of each month	BSC
WP4 Monthly Meeting	First Monday of each month	IKL

When communicating per phone- or video-call please consider that:

- Agreements done by telephone or video-call or -conference shall additionally be endorsed by an e-mail to the involved dialogue partners and the PC. Alternatively, meeting minutes can be taken jointly at the Aumovio Engineering Center (AEC). In this case, the involved dialogue partners shall be appropriately documented as the participants and relevant WPLs, EB/PGA members and the PC shall be informed about the meeting by mentioning (tagging) their e-mail address preceded by an "@"-sign, i.e. typing "@<e-mail>" with <e-mail> denoting the e-mail address.
- AI readers for generation of meeting minutes are not accepted for UP2DATE4SDV meetings.

4.6. Physical Face-to-Face Meetings

Finally, physical Face-to-Face meetings systematically complete the communication structure of UP2DATE4SDV, especially for the purpose of in-depths discussions before or after a major project phase. Combining the management- and the technical perspective, such major project phases are marked by:

- the beginning of the project,
- the end of the project (M36, MS7),
- the interim reporting (M18, MS5),
- MS1, connecting the requirements-collection for the demonstrators, use-cases, and showcases with the requirements-collection in the work-packages,
- one of the milestones MS3, MS4 or MS5, feeding back feasibility and validation results on the research demonstrator into the developments for the CCAM demonstrator
- MS6, finalizing the integration and synchronization of the final verification and evaluation activities

To successfully plan and coordinate these phases, the physical Face-to-Face meetings include especially reporting, planning, problem-solving, and deciding activities at the technical, the administrative, and the management level. Besides that, getting personally known to each other's, strongly lowers communication barriers, increases communication efficiency, and develops a personal relationship with the project and forms a team spirit between its members.

Table 8: Meeting Plan

Topic/Meeting-Type	Schedule	Lead
Interim Review Meeting	M18 +/- 1 month	DLR
Final Review Meeting	M36 (latest)	DLR
General Assembly Meeting	Once within every six months	DLR
IAB Meeting	Once within M1-M9 Once within M21-M30	DLR

4.7.Data-Management: Project Teamsite, AEC-Platform & Gitlab

All relevant UP2DATE4SDV documents will be available to all partners via a Sharepoint-System (called Teamsite) that is hosted by DLR and a joint Cooperation Platform, called Aumovio Engineering Center (AEC) hosted by Aumovio (formerly Continental) CON. Both will be adjusted and extended according to the needs of the project, creating new folders or sub-folders including all working documents, final documents, legal documents, templates, and any ready-to-use documents generated by the project team members, as well as any work-data required for the execution of the project. Furthermore, for the joint writing of code and publications, a Gitlab version-control system is hosted by DLR and shared access is granted to all project members. In the following sections, these central tools to jointly collaborate on and exchange data are explained in more detail.

4.7.1.UP2DATE4SDV Teamsite

The project's Teamsite, hosted by DLR is the central element of data storage and data exchange. Teamsite-access is managed by DLR and can be requested by e-mail. After that, consortium members can access the Teamsite via the internally shared URL.

To cooperatively work on documents at the Teamsite, each such document shall have its own directory at the Teamsite together with subdirectories named “/archive” for storing each previous version and “/latest” for storing the latest version. Based on that, editing a document shall mean to:

- edit the file in the “/latest” directory without changing its file name and to leave the change-tracking to the version-control of the Teamsite. Previous versions are then available via the 3-dots-menu (“...” or “:”) of each file or directory and selecting version control (“Versionskontrolle”).
- copy the file from the “/latest” directory to the “/archive” before changing any contents in the “/latest” directory and prefix the filename of the copy in the “/archive” with “<yyyy-mm-dd>[_<nmNo>_]” – where “<yyyy-mm-dd>” denotes the current date using four digits for the year, two digits for the month and two digits for the day, and “<nmNo>” denotes an editor's short name followed by a running number, if there are many changes of different editors at one day, and if it is important to additionally store a major revision of the document redundant to the version control of the Teamsite.

To help finding and managing documents, the Teamsite provides and asks to follow a well-defined directory structure as it can be found at the teamsite. Furthermore, for meetings, events or similarly time-related subdirectories, UP2DATE4SDV also uses the prefix “<yyyy-mm-dd>[_<nmNo>_]” as defined directly above.

4.7.2. Aumovio Engineering Center (AEC) [Continental Cooperation Platform (CCP)]

The Aumovio Engineering Center (AEC) – formerly Continental Cooperation Platform (CCP) – hosted by Aumovio – formerly Continental – provides the central project management platform to jointly collect meeting minutes, report status information, plan and exchange about dissemination activities, as well as to collect and track the project’s technical requirements based on Confluence. Access to the AEC is managed by Aumovio (CON) and can be requested by e-mail to CON and DLR. After an initial login, all partners can access the via the internally shared URL.

As shown in the left side-panel of **Error! Reference source not found.**, the Management pages of UP2DATE4SDV at the AEC Confluence are structured into the central subpages “/01 - Documents”, “/02 - Project Management”, and “/03 – Work Area” with subpages for milestones, deliverables, meetings, risk and change management, dissemination, quarterly reporting, as well as a subpage with further subpages per work-package. Adding and changing pages and comments is possible via the top-right editing menu, which is where is also a three-dots-menu (“...”) providing access to change-tracking (“Änderungshistorie”).

To properly cooperate in AEC, the following Confluence mechanisms should be known and shall be extensively used, when editing the Confluence pages:

- Mention users on pages to notify them about the existence of and the information on that page by typing “@<e-mail>”, with “<e-mail>” denoting the registered e-mail address of the user to be mentioned
- Add tasks by typing “[” directly followed by “]” or clicking the checkmark in the top-menu of the editing page
- Assign tasks to a responsible user by mentioning him somewhere in the description of the task using the previously explained “@<e-mail>” syntax
- Schedule tasks with deadlines for accomplishing the task by typing “//<dd-mm-yyyy>” where “<yyyy-mm-dd>” denotes the current date using four digits for the year, two digits for the month and two digits for the day
- Regularly check own tasks by clicking the profile-icon on the top-right and selecting tasks (“Aufgaben”)
- Confirm tasks when they are accomplished by clicking to the checkmark-field of the task
- Add comments to pages, typing into the comment field below every page and mention any users you want to inform about your comment, using the previously explained “@<e-mail>” syntax
- Add inline-comments to specifically selected parts of a page, by selecting the content to be commented, pointing the mouse pointer at the selection (i.e. hover it above), and click the occurring text-bubble icon;
- Mention users in comments and inline-comments using the previously explained “@<e-mail>” syntax to inform them about your comments

- When adding new pages, check if the higher-level page(s) ask(s) you to use tags and/or templates for the page you are adding and use such tags and/or templates

4.7.3. UP2DATE4SDV Gitlab

The project's Gitlab, hosted by DLR is the version- and dev-ops control system for the collaboration on software code, publications, and other files that strongly require version-control, but also for the automation of code-compilation, -testing, and deployment. Access to the Gitlab is managed by DLR, coupled to the Teamsite-access, and can be requested by e-mail. After an initial login, it is available to all consortium members via the internally shared URL.

To learn the main mechanisms and processes of Gitlab, tutorials can be found online, e.g. at URL: <https://docs.gitlab.com/tutorials/>.

5. Communication External

Externally the official UP2DATE4SDV communication is mainly based on the following channels:

- Public Webpage
- Newsletter
- Social Media
- Paper- and Journal-Publications
- Presentations, Conferences, and Workshops
- Cooperating SDV- and CCAM-Initiatives
- IAB
- Project Officer at the European Commission
- Funding and Tenders Portal at the European Commission

To coordinate and release a subpage of the webpage, a newsletter, social media post, or publication, Confluence pages at the dissemination section of the AEC will be used to propose, optimize, review and consent to the release. While full details about the external communication will be reported in deliverable D6.1 Dissemination and Communication Report [Initial], the following sections briefly introduce to the most central external communication channels together with the corresponding preparation and release processes and deadlines to ensure the quality of and the consent to the published content and allow all partners to give feedback.

5.1. Public Webpage

Publicly accessible information about the UP2DATE4SDV project can be found on the website at url: <https://www.up2date4sdv.eu/>

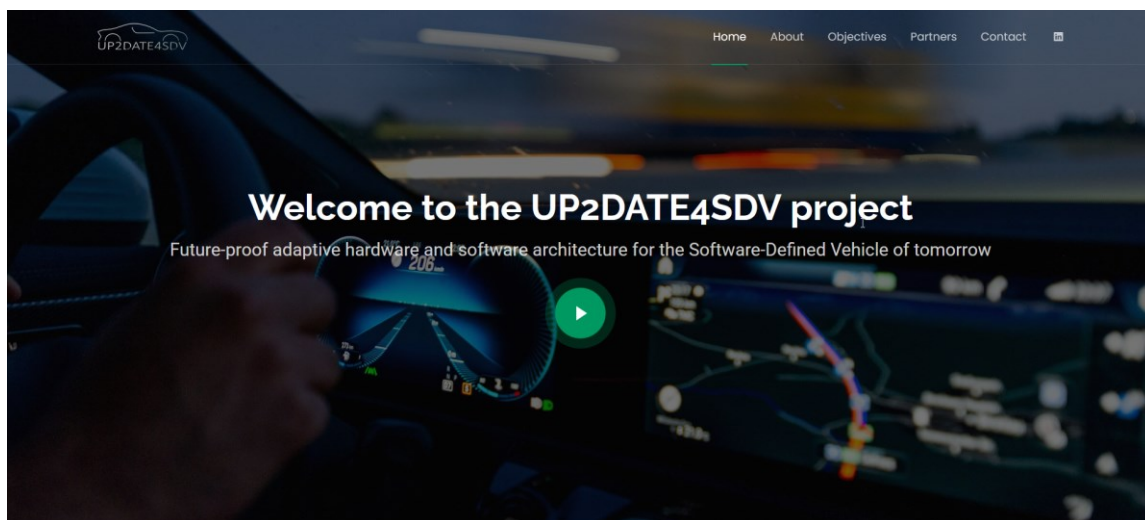


Figure 5: Landing page of the public UP2DATE4SDV website.

The corresponding preparation and release process for webpages is summarized in Table 9.

Table 9: Release process for webpages w. deadlines in TTS (Time to Submission).

Deadline: [TTS]	Task:
14 days	Prior notice of the planned webpage publication to ALL partners; setup of a publication page at the project's Confluence Space (AEC); setup of a corresponding html file at the Teamsite-directory of the webpage.
10 days	draft submission and notification to ALL partners and to a quality-review

7 days	written notice of any objection to the publication of the webpage to the project coordinator and to the publishing party/parties.
7 days	reply of the quality-review by the reviewing partner (quality gate)
5 days	revised submission to notify ALL and to be confirmed by the reviewing partner (quality gate)
3 days	last option to present and solve any remaining objections
2 days	online release of the new webpage

5.2. Newsletter

UP2DATE4SDV plans to publish a half-annual newsletter, that shall be provided as a download on the project website as well as sent across a public newsletter mailing-list, to which anyone can assign himself by request. The newsletter content will be compiled of the public news about the project state.

The corresponding preparation and release process for the newsletter is summarized in Table 10.

Table 10: Release process for w. deadlines in TTS (Time to Submission).

Deadline: [TTS]	Task:
4 weeks	Prior notice of the planned newsletter publication to ALL partners; setup of a publication page at the project's Confluence Space (AEC); setup of a corresponding newsletter directory in the dissemination section at the Teamsite.
21 days	draft submission and notification to ALL partners and to a quality-review
14 days	written notice of any objection to the publication of the newsletter to the project coordinator and to the publishing party/parties.
14 days	reply of the quality-review by the reviewing partner (quality gate)
7 days	revised submission to notify ALL and to be confirmed by the reviewing partner (quality gate)
3 days	last option to present and solve any remaining objections
2 days	online release of the newsletter

5.3. Social Media

As its social media channel, UP2DATE4SDV will use LinkedIn to regularly publish news-posts about the latest plans, activities, results, and resources. The LinkedIn-Channel can be followed under url: <https://linkedin.com/company/up2date4sdv>

The corresponding preparation and release process for social media posts is summarized in Table 11.

Table 11: Release process for social media w. deadlines in TTS (Time to Submission).

Deadline: [TTS]	Task:
3 days	setup of a publication page at the project's Confluence Space (AEC); setup of a corresponding social-media-post directory in the dissemination section at the Teamsite; draft submission to notify ALL partners and to a quality-review

2 days	written notice of any objection to the publication of the social-media post to the project coordinator and to the publishing party/parties.
2 days	reply of the quality-review by the reviewing partner (quality gate)
2 days	revised submission to notify ALL and to be confirmed by the reviewing partner (quality gate)
1 days	last option to present and solve any remaining objections
0 days	online release of the social-media post

5.4. Paper- and Journal-Publications

Scientifically the target of UP2DATE4SDV is to publish at least one conference paper and one journal article per result and to have its scientific publications openly accessible, either through Open Research Europe or through trusted repositories like ZENODO, with partners free to choose between “green” or “gold” open access. Please note, that according to the Grant Agreement only publication fees in full open access venues for scientific publications are eligible for reimbursement.

Besides that, UP2DATE4SDV aims to scientific publications, technical blogs, and open-sourcing through the Eclipse Foundation, introducing the UP2DATE4SDV technologies to the European SDV community and enabling them to test and suggest the new features.

The corresponding preparation and release process for publications is summarized in Table 12.

Table 12: Release process for publications w. deadlines in TTS (Time to Submission).

Deadline: [TTS]	Task:
45 days	Prior notice of the planned publication to ALL partners; setup of a publication page at the project’s Confluence Space (AEC); setup of a publication folder at the project’s Gitlab- or Teamsite-Repository.
3 weeks	draft submission to notify ALL partners and to a quality-review
15 days	written notice of any objection to the publication to the project coordinator and to the publishing party/parties.
2 weeks	submission of the quality-review by the reviewing partner (quality gate)
1 week	revised submission to notify ALL and to be confirmed by the reviewing partner (quality gate)
3 days	last option to present and solve any remaining objections
2 days	final submission to the submission page

Reaching each deadline, the author(s) or the internal reviewer(s), respectively, update the publication at the project’s Gitlab- or Teamsite-Repository as well as the related information concerning the publication state at the publication section of the project’s Confluence space (AEC). Objections to the publication must be raised in written form to the Coordinator and the author(s) 15 days prior to the submission deadline at latest. A solution to later criticism and recommendations shall be solved cooperatively until at least three days prior to the submission deadline. The internally agreed final version of the publication shall be submitted two days prior to the submission deadline.

5.5. Presentations, Conferences, and Workshops

Presentations, Conferences and Workshops are an essential part of the project's dissemination activities. To this end, deliverable D6.1 Dissemination and Communication Report [Initial] will present a list of presentations, conferences and workshop the project will aim at. In numbers, the scientific target of UP2DATE4SDV is to have at least one keynote and three invited speeches at major conferences. Besides that, participating in and contributing to the conferences and workshops of the open-source communities is a specific target.

5.6. SDV- and CCAM-Cooperations

UP2DATE4SDV is open and willing to cooperate and to contribute to national and international SDV- and CCAM-Initiatives like Eclipse SDV, the Horizon Europe research projects HAL4SDV, SHIFT2SDV, CODE4EV, the coordination and support action (CSA) FEDERATE, or CCAM-projects at the validation and vehicle technology level like SYNERGIES and EEA4CCAM. To this end, UP2DATE4SDV will actively search for opportunities to exchange on requirements, use-cases, concepts and technologies and to organize joint research and dissemination activities.

5.7. Industrial Advisory Board

The industrial advisory board (IAB) will be implemented as an expert network to get additional industrial input and feedback, and to support stakeholder engagement, dissemination, as well as standardization and homologation activities. It will be appointed and steered by the Project General Assembly (PGA), operationally supported by the Executive Board and it is planned to support the project mainly through two exchange meetings where UP2DATE4SDV presents its plans and results for a discussion with and review by the IAB. Section 3.7 and Section 4.6 provide further information about the IAB structure and the meeting schedule.

5.8. Project Officer (PO) at the European Commission

Central project contact at the European Commission (EC) is the Project Officer (PO) at CINEA/C/03. Please note: direct contact to project officer is not wanted. Any project communication with the PO must be implemented through the project coordinator (PC).

5.9. Funding and Tenders Portal at the European Commission

The Funding and Tenders Portal is the entry point for electronic administration of EU-funded research and innovation projects and hosts the services for managing the project throughout its lifecycle. It is located at the following url:

<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

The Funding and Tenders Portal offers flexibility in the management of access rights and roles in the projects. The roles of a user can be checked after logging into the ECAS (Electronic Commerce Authentication System) account on the Funding and Tenders Portal under the "My Roles" button (under the button bearing the name of the user).

The newest information, manuals and templates can be found on the EU Portal after log-in. This is the recommended way to receive the newest information and templates, as changes by the European Commission might occur during the project runtime. For that, please note the following information at the corresponding URLs:

Online Manual at url:

<https://webgate.ec.europa.eu/funding-tenders-opportunities/display/OM/Online+Manual>

Reporting and payments at url:

<https://webgate.ec.europa.eu/funding-tenders-opportunities/display/IT/Reporting+and+payments>

Continuous reporting on deliverables at url:

<https://webgate.ec.europa.eu/funding-tenders-opportunities/pages/viewpage.action?pageId=1867968>

After scanning the following QR code with your smartphone or tablet you can download the digital EU smartphone app “EU funding and me” to access to EU funding opportunities more intuitive and efficient. The app works in full synchronisation with the EU Funding & Tenders Portal, helping you to access your projects and other content of your interest from your mobile and tablet devices.



Figure 6: QR codes to download the "EU funding & me".

With the app, you can:

- Quickly access EU funding opportunities, share them, bookmark them and set alerts to receive funding updates
- Receive and access real-time notifications
- Subscribe to calls for proposals to receive funding updates
- Check the latest EU funding news and events
- Pin in your phone's calendar seamlessly event dates and calls deadlines
- Check the real-time status of your proposals and projects

6. Reporting

To track and report the technical and financial state of the project, the UP2DATE4SDV project uses the following types of reports:

- 11 project-internal Quarterly Reports
(M03, M06, M09, M12, M15, M21, M24, M27, M30, M33, M36)
- Continuous reporting composed of:
 - 38 Deliverables (27 Public; 11 Sensitive)
 - 7 Milestones (MS1-MS7)
- Periodic reporting composed of:
 - Interim Report for the European Commission (M18)
 - Final Report for the European Commission (M36)

An overview of the corresponding reporting periods and deadlines for these reports is given in Table 13 and Table 16. Further information on these reporting mechanisms is given in the following Sections.

Table 13: Periodic Reports

Reporting Type	Reporting Period(s)	Deadline
Internal Quarterly Report	M03, M06, M09, M12, M15, M21, M24, M27, M30, M33, M36	14 days after end of quarterly reporting period
Periodic Progress Report – Interim (Interim Report)	01.07.2025 – 31.12.2026 (M1 – M18)	60 days after end of interim reporting period
Periodic Progress Report – Final (Final Report)	01.01.2027 – 30.06.2028 (M19 – M36)	60 days after end of interim reporting period
Publication of Interim and Final Progress Reports	31.12.2026 (M18) and 30.06.2028 (M36)	30 days after end of interim and final reporting period, respectively
Interim and final report upload at the SyGMA portal of the EC	31.12.2026 (M18) and 30.06.2028 (M36)	45 days after end of interim and final reporting period, respectively

6.1. Internal Quarterly Reports

In addition to the official reports for the European Commission UP2DATE4SDV uses, internal quarterly reports which are collected online at the AEC to regularly track and communicate the project's technical, organizational, and financial status, internally. The central purpose of these quarterly reports is to internally collect and monitor the required data for the interim and the final report continuously during the project runtime and to implement a continuous status awareness, allowing for a fast identification and mitigation of project risks. Additionally, the quarterly reports allow to early detect misunderstandings and mistakes, and allows for a more fine-granular coordination of the project by providing a good financial and technical overview at all stages of the project. The results will be carefully analyzed, compiled and safeguarded and are exclusively meant for internal use, only.

To this goal, the quarterly reports collect in the end of every third month:

- Which tasks and work package were active during that phase
- Technical progress report (free text information) about each task and work package that was active during that phase
- Timely submission of all deliverables that were due during that phase
- Timely achievement of milestones during that phase
- Each partners' personnel efforts in person months per work-package during that phase
- Any delays of the deliverables and milestones that were due during that phase
- New project risks that were identified during that phase
- Occurrence and resolution of projects risks during that phase
Please note: The occurrence and resolution of risks must also be reported at the SyGMA portal at the earliest dates.
- Any other deviations to the GA-Annex "Description of the Action" that occurred during that phase.

The responsibility to gather and compile this information from/with the corresponding task leaders (TLs) and to add it to the quarterly reports is at the WPLs. The reports are accessible at the jointly accessible AEC-platform.

The Timing and process of jointly writing the quarterly report on AEC is summarized in Table 14.

Table 14: Quarterly Reporting Process

Who	Action	To Whom	Deadline
PC	○ Prepares Template at Confluence ○ Circulates Template & requests WPLs for WP-inputs	WPLs	> 1 PTD
Each WPL (+ TL)	○ Fills template on the Confluence page with information about: ○ WP status ○ Activities per TP ○ Relevant Changes in the WP: ○ regarding Milestones (MS-Goals) ○ regarding Deliverables (D-Goals) ○ Deliverable-Information & Status ○ Risk-Analysis: ○ risk-status ○ new risks ○ WP-Efforts per partner ○ WP-contribution status	Contributing Partners	> End of each quarter (EOQ)

PC	○ Reviews Quarterly Reports ○ Requests correction/completion (if required) ○ Exports the Quarterly Report as a finalized PDF ○ Informs WPLs about report completion	WPLs	1 week ATD
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6.2. Milestones

Overall, the project progress is benchmarked by achieving the milestones (MS) of the project with the submission of deliverables as agreed in the GA. Being achieved through the deliverables the milestones are as important as the project deliverables themselves. However, there are no additional documents required to justify the achievement of a milestone. Thus, the project team will consistently continue to monitor their levels of completion in the quarterly and periodic reports. According to the responsibility and using the possibility of a continuous reporting in the EU online portal (SyGMA) UP2DATE4SDV will upload the achievement of each milestone at the SyGMA portal at their due dates.

To enumerate the different milestones of the project all milestones are continuously named MSx, where x follows a running number scheme. Table 15 summarizes all project milestones with due dates.

Table 15: Overview of the UP2DATE4SDV Milestones

#	Name	Lead	Due Date	Means of Verification	WP #
MS1	UC Requirements definition	DLR	M3	D5.1 collecting the specifications of SDV applications in terms of update, upgrade and reconfiguration, the UCs refinement and the evaluation metrics.	WP5
MS2	UP2DATE4SDV specification	DLR	M6	D1.1, D2.1 and D3.1 with D5.1 will close the specification phase so that development work starts for WP1-WP4.	WP1, WP2, WP3, WP4, WP5
MS3	UP2DATE4SDV early version solution	DLR	M12	Following the delivery of key components of UP2DATE4SDV solution in M12 from WP1 (HAL and HW [D1.3&4]), WP2 (OAL [D2.2]), WP3 (Orchestrator [D3.2] and Realization Framework [D3.3]), and WP4 (SASE Update Cycle)	WP1, WP2, WP3, WP4
MS4	UP2DATE4SDV early version solution evaluation	DLR	M15	After the first integration and evaluation on research UCs of the early version solution (D5.2) and the assessment of the solution (D4.3), the evaluation on CCAM UCs start.	WP4, WP5
MS5	UP2DATE4SDV early version solution feedback	DLR	M24	After the first iteration of the early version solution within WP5 CCAM UCs, feedback is collected (D5.3) and sent to WPs 1 to 4 for further refinement of the project's solutions in second iteration.	WP5

MS6	UP2DATE4SDV final version solution and feasibility analysis	DLR	M30	After improvements motivated by D5.3 and second phase contributions, WPs 1 to 4 have delivered the final version of the project's solutions by M27. This milestone marks the start of the evaluation of the final iteration and end of the early iteration.	WP1, WP2, WP3, WP4
MS7	UP2DATE4SDV final version solution evaluation	DLR	M36	Final solution assessment feedback (D4.3), research feasibility analysis (D5.2) and CCAM UCs evaluation conclusions (D5.3)	WP4, WP5

The scheduling of milestones and deliverables allow to continuously monitor the project evolution, measure the advancements by qualitative and quantitative evaluation, define priorities and optimize the project progress by corrective measures. The project progress will be discussed in monthly EB meeting, each quarterly report and especially before each milestone through the WPLG and brought up at the PGA to be critically reviewed. The quality of the Deliverables and the Periodic Reports is of high importance since they strongly point out that the Milestones are achieved.

6.3. Deliverables

During the project lifetime of 36 months, the UP2DATE4SDV consortium will produce 38 Deliverables, (Dx.y – where x denotes the corresponding work-package of the deliverable and y follows a running number scheme) of which 27 (70 %) will be of confidentiality level “public” and 11 (30%) will be of confidentiality level “sensitive”. This section outlines the methodology that the consortium will follow to not only ensure the submission of high-quality deliverables but also to enforce that the timeline is respected. Table 17 gives an overview of all UP2DATE4SDV deliverables, together with their due dates, confidentiality levels and responsible deliverable leaders (DLs). Since we have the possibility and responsibility of a continuous reporting in the EU online portal (SyGMA) we must upload deliverables to the SyGMA portal at their due dates.

Table 16: Overview of the UP2DATE4SDV Deliverables

#	WP D #	D Name	Re spon sible	Type	C.- Level	Due Date
D23	D5.1	Demonstrator Definitions, Metrics, and Plan	AVL	R	PU	M3
D35	D7.1	Project Handbook and Quality Guidelines	DLR	R	PU	M3
D1	D1.1	Node-level SASE-relevant properties	BSC	R	PU	M6
D7	D2.1	Requirements Specification	KK	R	PU	M6
D12	D3.1	Requirements & Drafts of the Orchestration and Reconfiguration Plane (ORP)	DLR	R	PU	M6
D29	D6.1	Dissemination and Communication Report [Initial]	AVL	R	PU	M6
D30	D6.2	Exploitation Plan and IPR Management Report [Initial]	TAAT	R	SEN	M6
D36	D7.2	Data Management Plan	DLR	R	PU	M6

D8	D2.2	Container Prototype [Initial]	KK	R	PU	M12
D9	D2.3	Communication Plane Prototype [Initial]	ZSC	R	PU	M12
D13	D3.2	DevOps and V&V Framework [Initial]	AVL	R	SEN	M12
D14	D3.3	Safe and secure orchestration and reconfiguration plane [Initial]	NEO	R	PU	M12
D17	D4.1	UP2DATE4SDV Update Procedure and Architecture [Initial]	DLR	R	PU	M12
D18	D4.2	SASE Mechanisms [Initial]	IKL	R	SEN	M12
D2	D1.2	SoC observability and controllability channels	BSC	R	PU	M15
D19	D4.3	SASE Assessment [Initial]	IKL	R	SEN	M15
D24	D5.2	Basic Technology Implementation and Evaluation [Initial]	DLR	OTHER	PU	M15
D3	D1.3	Configurations and monitoring services [Initial]	ZSC	R	PU	M18
D4	D1.4	Modular System-on-Module HW platform [Initial]	STM FR	R	PU	M18
D31	D6.3	Dissemination and Communication Report [Intermediate]	AVL	R	PU	M18
D32	D6.4	Exploitation Plan and IPR Management Report [Intermediate]	TAAT	R	SEN	M18
D37	D7.3	Data Management Plan [M18]	DLR	R	PU	M18
D25	D5.3	Demonstrators Implementation and Evaluation [Initial]	AVL	OTHER	SEN	M24
D5	D1.5	Configurations and monitoring services [Final]	ZSC	OTHER	PU	M30
D6	D1.6	Modular System-on-Module HW platform [Final]	STM FR	OTHER	PU	M30
D10	D2.4	Container Prototype [Final]	KK	OTHER	PU	M30
D11	D2.5	Communication Plane Prototype [Final]	ZSC	OTHER	PU	M30
D15	D3.4	DevOps and V&V Framework [Final]	AVL	OTHER	SEN	M30
D16	D3.5	Safe and secure orchestration and reconfiguration plane [Final]	NEO	OTHER	PU	M30
D20	D4.4	UP2DATE4SDV Update Procedure and Architecture [Final]	DLR	R	PU	M30
D21	D4.5	SASE Mechanisms [Final]	IKL	OTHER	SEN	M30
D26	D5.4	Basic Technology Implementation and Evaluation [Intermediate]	DLR	OTHER	PU	M30
D22	D4.6	SASE Assessment [Final]	IKL	R	SEN	M36
D27	D5.5	Basic Technology Implementation and Evaluation [Final]	DLR	OTHER	PU	M36
D28	D5.6	Demonstrators Implementation and Evaluation [Final]	DLR	OTHER	SEN	M36
D33	D6.5	Dissemination and Communication Report [Final]	AVL	R	PU	M36

D34	D6.6	Exploitation Plan and IPR Management Report [Final]	TAAT	R	SEN	M36
D38	D7.4	Data Management Plan [M36]	DLR	R	PU	M36

6.3.1. Deliverable Types and Confidentiality Levels

As shown in Table 16, UP2DATE4SDV distinguishes two types of deliverables, which are written reports (R) and other deliverables (OTHER), which can be software code, data, etc. Additionally, there are two confidentiality levels, which are sensitive or public with the following meaning:

A.) Sensitive:

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B.) Public:

Deliverables which are flagged with the dissemination level "PUBLIC" will be published and openly accessible in line with the provisions on communication and dissemination of the Grant Agreement.

6.3.2. Deliverable Preparation Process and Timeline

Similar to the publication process for project publications, the process of the deliverable preparation and submission aims to involve the following steps:

- The responsible author (DL – Deliverable Leader) creates a copy of the deliverable template at the dedicated folder at the UP2DATE4SDV Teamsite, where sub-folders can be found for each work-package and deliverable at the subfolder /6-Deliverables of the jointly accessible project teamsite. The latest version of the deliverable template can also be found at the jointly accessible project teamsite
- Followed by copying the template, a Table of Contents (ToC) is developed by the main author (DL) and uploaded, including clear allocation of section responsibilities to the involved partners. Furthermore, the DL ensured the correct deliverable-information at the very first pages of the document and provides a timetable for the delivery of intermediate versions.
- Based on this document, the DL circulates the first ToC, time-table (TT) and the responsibility assignment for agreement to the involved partners.
- To communicate the section assignments as well as later document changes, Email communication and direct comment threads in the document should be used. Additionally, meetings can be organized to discuss further.
- Next, the DL updates the deliverable based on the feedback and change-requests to the ToC, TT, or responsibility assignments, and informs involved partners about the update.
- From that time, all involved partners should add their contributions to the deliverable in 'Track Changes' mode and within the deadlines summarized in Table 17 or within the deadlines of the TT that was specified and agreed by the main author.
- For each intermediate version the DL consolidates all inputs

- Once the first complete draft of the document is ready for internal review, the author should inform and share the link with the WPL and all involved partners.
- WPL and contributing partners provide feedback to this first complete draft within one week.
- Next, the DL updates the deliverable draft based on the received comments and provides the consolidated version to all partners for the consortium review
- Based on this second draft, all partners provide their approval or comments (in case of objections) and explicitly assigned reviewers provide a detailed quality review, considering the technical and scientific quality as well as the correct formatting and style of the document according to the rules provided within the template. For that purpose, each deliverable has assigned a responsible review-partner to review the deliverable in detail.
- Finally, the DL updates the deliverable draft based on the received comments and provides this version to the CO for approval.
- In a final review the CO approves the deliverable for submission or iterates a last revision together with the DL.
- After the deliverable is finally reviewed the coordinator uploads the final version to the EU Funding and Tenders Portal, submits it to the European Commission by electronic means, and adds the submitted version to the 'final' subfolder of the corresponding deliverable folder at the Teamsite.

Table 17 summarizes this process together with the responsibilities and deadlines of each step with deadlines given in months, weeks or days prior to deadline (PTD).

Table 17: Deliverable Process and Timeline

Who	Action	To Whom	Deadline
DL	○ Prepares Table of Content (ToC) ○ Proposes responsibility assignments on the ToC ○ Presents timetable (TT) for intermediate versions ○ Circulates ToC, TT and responsibility assignments for agreement by partnership	Contributing Partners, Reviewing Team	> 2 months PTD
DL	○ Updates ToC according to gathered comments ○ Informs involved partners	Contributing Partners	> 1,5 months PTD
Contributing Partners	○ Work on the document ○ Issue intermediate releases	Contributing Partners	Ad hoc
DL	○ Consolidates all input ○ Issues initial complete draft ○ Circulates for comments	Contributing Partners + WPL	5 weeks PTD

Contributing Partners + WPL	○ Review the document ○ Provide comments	DL	4 weeks PTD
DL	○ Documents update addressing comments received ○ Consolidates all inputs ○ Issues updated complete draft ○ Returns document for internal quality review	Consortium Review (incl. Internal Deliverable Reviewers - see following sub-section), QG	3 weeks PTD
Review Team	○ Review the document and provide comments	DL	2 weeks PTD
DL	Final editing: Update document addressing comments received	WPL, DL, QG, CO	1 week PTD
DL	Final approval (if not approved it returns immediately back to the DL for revision)	CO	3 days PTD
PC	○ Submits Deliverable to the EC Places the submitted PDF version on the project repository under the respective WP folder	EC	1 day PTD

6.3.3. Guidelines for the Quality Assurance through Peer Review

In UP2DATE4SDV the deliverables and publications will be subject to a quality review by at least three individuals: First, the responsible WPL, second, the PCO and in between one additional, explicitly chosen internal reviewer from the consortium. Among others, the following central review aspects should be considered by all reviewers to ensure the quality of the deliverables and publications:

- Completeness:
 - Is it according to the original proposal?
 - Does it contain all required chapters?
 - Does it contain all relevant aspects?
 - Does it explain its relation to the relevant related work?
- Correctness:
 - Does it contain correct information?
 - Language check.
 - Lay-out / template check.
- Consistency:
 - Are the chapters consistent with each other?
 - Is it consistent with other deliverables?
 - Does it fit to the requirements of other WPs?

6.4.Periodic Progress Reporting

To report technical and financial progress of the project to the European Commission, the following periodic reports are scheduled in addition to the internal quarterly and the continuous reporting:

- EC Interim Report: technical and financial report to the EC covering the first 18 months;
- EC Final Report: technical and financial report to the EC covering the whole project period;

To report the technical and financial progress to the EC, the Interim and the Final Report include:

The **Technical Report** with:

- **Part A** (structured tables entered to online forms from the grant management system) with
 - Cover Page
 - Summary for publication
 - web-based tables covering issues and summarizing the progress related to the project implementation (e.g. work packages, deliverables, milestones, dissemination and exploitation activities, impact on SMEs, risks, innovation, etc.)
 - Answers to a questionnaire about the economic and societal impact, especially as measured against the Horizon Europe key performance indicators and monitoring requirements.
- **Part B** (free narrative text and core part of the report that must be uploaded to the grant management tool under the Report Core tab, as a single PDF document) with:
 - Objectives and work carried out towards the objectives per WP
 - Dissemination and Exploitation activities
 - Update of the Exploitation and Dissemination Plan
 - Update of the Data management Plan
 - Follow-up of recommendations & comments from previous review(s)
 - Deviations to the work plan (Annex 1 – DoA of the Grant Agreement)
 - on task level
 - regarding the use of resources

The **Financial Report** (structured forms to be filled by each beneficiary in the grant management system (under Financial Statement drafting) with

- Direct personnel costs
- Direct costs of subcontracting
- Direct costs of Third Parties (not linked third parties)
- Direct cost of providing financial support
- Other direct costs
- Specific costs
- Additional information

A template for the individual financial reporting can be found in Annex 4 of the Grant Agreement with all the details for eligible costs, EU contribution, etc. and a sample financial statement can be found in the Periodic report template. More detailed and latest changes to the information about these periodic reports can be found at url: <https://webgate.ec.europa.eu/funding-tenders-opportunities/spaces/OM/pages/1867970/Reports+and+payment+requests> Section 7 will give an overview of these information.

6.4.1. Reporting Obligations

Please note, that the Interim and Final Reporting is a contractual obligation. The objective of these technical and financial reports ensure that project and consumed resources are in line with the planned project progress as described in the Description of the Action. That is why the cost claimed from each partner must be in line with the tasks and work done in this period. Costs are detailed at WP level. At the end of each project period the reports (Interim Report, Final Report) are compiled by the coordinator and submitted to the EC within 60 days following the end of each reporting period. This only works, if the WP Leaders compile their reports on the progress of their WPs and sends it to the coordinator on time by the given deadline. The coordinator then consolidates the provided information and sends the complete periodic technical report to the PGA for review. The approved version of the report (part B) will be uploaded to the EU SyGMA System as a PDF.

7. Financial Information

This section provides information of how to do the previously mentioned financial reporting of UP2DATE4SDV in SygMa and how to report and review the type of costs that are eligible. For in depth information study Annex 4 of the UP2DATE4SDV Grant Agreement and read the information available online at the Funding and Tender Portal after log-in at the following urls:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home>

<https://webgate.ec.europa.eu/funding-tenders-opportunities/display/OM/Online+Manual>

To continuously prepare for the interim and the final reporting, all partners will quarterly submit their used efforts in person months to the Project Coordinator by filling the quarterly report at Confluence every 3 months. For the details about the quarterly reporting, please see Section 6.1.

For the reporting periods M18 and M36, all partners will submit their individual financial report through the EC Portal's Periodic Reporting Tool, consisting of

- the individual partner's financial statements
- the individual partner's explanation on the use of resources
- the individual partner's certificates on the financial statements (CFS) (if required)

Please note, that all beneficiaries and affiliated entities must duly fill out, sign and formally submit individual financial statements to the coordinator. While beneficiaries can prepare these statements directly in the Periodic Reporting Tool at the EC Portal, the financial statements of affiliated entities must be filled out and submitted by their beneficiary.

7.1. Eligible Costs

As stated in previous section, for the reporting periods M18 and M36, all partners will submit to the Project Coordinator:

- All costs incurred in the period and the explanation of the use of the resources required by the Commission in the periodic report. Costs shall be detailed at WP level.
- Costs declared must be set out in the Annex (estimated budget for the action). Costs not foreseen might be reported and claimed, but they will have to be duly explained if the Commission is expected to accept them.
- The Cost Statement form will cover all requested information in order to allow the acceptance of costs declared as eligible costs of the project.
- Each beneficiary provides the Cost Statement of the period duly completed to the Project Coordinator in order to have the costs claimed be checked. Once the cost statement is reviewed, costs shall be completed in SyGMA, creating Individual Financial Statements per beneficiary. The tool will create automatically the Financial Statements in accordance with the Grant Agreement. Finally, the Individual Financial Statements will be signed electronically by the corresponding Project Financial Signatories (PFSIGN) appointed by each organization.

7.2. Cost Categories

Beneficiaries report the costs incurred by using the Horizon Europe eligible cost categories:

- Direct costs:

- Personnel costs
- Direct costs of subcontracting
- Direct costs of providing financial support to third parties – not applicable
- Other direct costs
 - Travel costs and related subsistence allowances
 - Equipment costs
 - Costs of other goods and services
 - The capitalized and operating costs of “large research infrastructure”
- Other cost categories
 - Internally invoiced goods and services
 - Transnational access to research infrastructure unit costs
 - Unit costs for Virtual access to research infrastructure
- Indirect costs

The levels of detail expected in the course of a sound financial management according to Chapter 1 Article 6 of the Grant Agreement are:

- Personnel costs (amounts, name, function, statute (additional or permanent), monthly rate or hourly rate and working time spent on which WP).
- Travel costs actual costs (amount by travel and by participants, name of travellers, exact dates (dd/mm/yyyy), origin/destination (from/to), and detailed purpose of the travel).
- Depreciation costs of equipment (amount claimed, nature of the equipment, price by equipment (excl. VAT), depreciation system (in years or month), % of use in the project)
- Consumables (amount by class of consumables, nature, list (when applicable), precise purpose and use of these consumables)
- Subcontracting (amount by subcontract, agreement EC (either technical annex or specific agreement (if so, please provide a copy of the agreement), nature of the tasks, name of subcontractor and link of these with the project).
- Other costs (class covering costs not covered by previous HE class – amounts by cost, very precise details about the nature of each cost).
- Indirect cost flat-rate: 25% of the eligible direct costs (categories A-D, except volunteer’s costs, subcontracting costs, financial support to third parties and exempted specific cost categories, if any)

7.3. Horizon Europe Documents to be kept – Supporting Documents of Costs Claimed

The submission of a Certificate on the Financial Statements (CFS) does NOT waive the right of the Commission to carry out its own audit which may be launched at any time and up to 5 years after the end of the project. Therefore, all beneficiaries have to keep UP2DATE4SDV supporting documentation up to 5 years after payment of the balance. The following list summarizes all supporting documents (per cost category) that may be requested by an auditor:

Table 18: Documents of claimed costs to support an Audit

Type of Cost	Supporting Documentation
Personnel Costs	○ Employment contracts (or other independent/legal justification of personnel costs claimed) ○ Ledgers/ accounts, payroll records ○ Time Sheets ○ Detailed breakdown and justification of the productive hours denominator used for calculation of hourly rates
Subcontracting	○ Invoices ○ Proof of payment ○ Original deliverables from the subcontractors ○ Evidence of own internal management and supervision procedures to confirm completion of work required to specifications needed and reasonableness costs claimed in connection therewith.
Consumables	○ Invoices ○ Proof of payment ○ In case of rented equipment: Rental contract, inventory list of the rented equipment; proof of the investment values of the rented equipment ○ Records concerning computer usage, if applicable.
Travel Expenses	○ Transport tickets, including boarding passes, hotel bills... ○ Invoices ○ Mission approval forms ○ A report, records, minutes etc. indicating purpose and participants of the meetings.
Indirect costs	○ Full documentation concerning the calculation of the overhead costs and back-up documentation such as disaggregated balance sheet ○ Analysis, reconciliation and summary of final breakdown of overhead (by category of expense) charged to the project.
Bank statements (PC)	○ Proof relation to the payments of the EC contributions and the distribution among partners.
General ledger/ Management Accounts	○ Salient extracts and reconciliations of costs claimed to underlying accounting records/general ledger to facilitate easy verification of costs claimed and their eligibility.

Certificate on Financial Statement (CFS)	○ Copies of any auditor certification statements issued with a claim for cost reimbursement.
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7.4. Instructions for the Electronic Signature by a PFSIGN

For each project financial signatory (PFSIGN) to finally sign the Financial Report electronically, the following steps are necessary:

- The Project Financial signatory (PFSIGN) logs on to the Funding and Tenders Portal with his/her ECAS account
- Once logged in, go to the tab “My project”, select “Actions” and click “Manage project” on the top right side of UP2DATE4SDV.
- On the next screen the PFSIGN has in the beneficiary’s Financial Statement the option “Sign and Submit” available. After checking that everything is correctly filled, click “Sign and Submit”.
- The tool will ask to enter again the PFSIGN’s ECAS password in order to sign electronically

7.5. Payments

The Grant Agreement establishes the payments to be made from the Commission to the Coordinator. The beneficiaries are not paid individually by the granting authority. The Coordinator will distribute the payments to the partners according to the rules of the Grant Agreement summarized in Table 19 and the constraints and schedules the consortium agreed on in the Consortium Agreement.

Table 19: Reporting and Payment Schedule according to the Grant Agreement:

# Report No	Reporting Period - starting Months	Reporting Period - ending Months	Report Type	Reporting Deadline plus PFSIGN signature on Form C	Payment Type	Payment Deadline (Time to Pay)
					Initial Pre-financing	30 days from entry into force/ 10 days before starting date whichever is the Latest
1	1	18	Periodic Report	60 days after Reporting Period	Interim Payment	90 days from receiving Periodic Report
2	19	36	Periodic Report	60 days after Reporting Period	Final Payment	90 days from receiving Periodic Report

8. Critical Risk- and Quality Management

For the implementation of UP2DATE4SDV possible risks and mitigation measures have been analyzed and defined on a WP basis according to Table 20. However, during the project runtime not foreseeable risks may occur, which is why a mandatory routine is important to identify any risk or delay early.

The WPLs monitor for potential risks in their WPs and inform the Coordinator depending on the height of the risk either at once or – if it is just a potential for a risk in the future - in the quarterly reports, see Section 6.1.

Informed by the Coordinator the PGA assesses the risks, takes into account the feedback/reports from the WP leaders and decide if high, medium or low risks exists and which impact the risk might have on time, quality or costs:

in case of middle or low risk, appropriate measures for mitigation will be proposed to the WP leader.

in case of high risk, immediate action will be taken and the General Assembly will come together to discuss appropriate steps.

If mitigations to the action plan, such as major re-allocation of staff efforts or budget, become necessary, the coordinator informs the General Assembly which will vote. If fundamental changes to the action become necessary, the coordinator will inform the EC, on behalf of the consortium, asking for advice and permission to amend the action plan.

Table 20: Critical risks & risk management strategy

Risk No	Description	WP No	Proposed Mitigation Measures
1	Difficulties to provide monitoring services due to the limited or inaccessible documentation of the HPC or the selected platform complexity. (L: L / S:M)	1	The main partner in charge of monitoring services (BSC) already has a strong expertise in the characterization of complex platforms. Moreover, the platform and the associated observability channels selection phase will bias the selection towards the most controllable one's meeting UC's needs.
2	Difficulties in defining a container format and description that adequately captures all the UC needed for updatable uKernel containers. (L: M / S:M)	2	The main partner working on the containers (KK) has a long history of expertise in consulting for and building of hierarchical microkernel architectures and also leads the SOAFEE µKernel OCI WG, facilitating further industry input. It is expected that the container definitions can also be developed further as use-cases evolve.
3	Complexities during the design and implementation of the secure, trusted, and accelerated data processing and storage middleware. (L: M / S: M)	2	Build on well-established technologies and ensure that communications comply with regulations and standards designed to ensure data exchange is safe, secure, and ethical.

4	Incompatibility of selected Eclipse SDV update framework with provided SW stack and resource monitoring (L: M/ S: H)	3	Early requirements and feasibility analysis with optional fall-back solution to existing DLR proof-of-concept update framework
5	Incompatibility among the different MBSE toolchains. (L: M / S: H)	3	WP3 plans to adopt interoperability standards to overcome the digital discontinuity of the MBSE tools and technology to support the different engineering domains involved in a DT
6	Difficulties to identify standard automated test scenario to validate the models' integrations. (L: L / S: H)	3	To assure the elements are considerably early validated virtually, tests and requirements will be collected from all the consortium and stakeholders (T5.1 and T3.1)
7	Difficulties to provide an updatable and reconfigurable SDV archit. positively assessed by certification authorities. (L: L, S: M)	4	During definition assessment workshops will be held with certification authorities to assess the certifiability. Moreover, IAB with automotive experts will review the progress periodically and the consortium already has vast experience
8	Difficulties to provide reliable and deterministic connectivity and execution after integrating SASE mechanisms. (L: L, S: H)	4	To optimize SASE mechanisms and continuously monitor network and execution performance to meet the determinism requirements.
9	Complexity of AI SASE patterns that could impact on performance and reliability. (L: M, S: H)	4	IKL and BSC already has experience and T4.3 employs a phased integration with continuous testing and optimization to keep balance between SASE and performance
10	Unexpected effort to integrate UP2DATE4SDV solution in use-cases. (L: L, S: H)	5	There will be a feasibility analysis on a research demonstrator before deploying solution in final CCAM showcases. Moreover, selected project features will be evaluated on industrial use cases.
11	Risk of high integration work in UC not related to the project solution for use-cases (e.g. updating perception function to project HW). (L: H, S: M)	5	In case the effort is too high, mock-up functions /algorithms in the demonstrations will be used to limit the integration work not related to the core values of the proposal.
12	Technical risks associated with the strong dependency of the other use cases on the use case 1 (L: M/ S: H)	5	We have chosen this hierarchy of use-cases in order to have a use-case centric tool and technology development throughout the whole project (and to demonstrated directly the benefit to CCAM). Furthermore, it allows us the manage possible risks, mainly due to delayed availability of technical results for

			the use-cases. - On the dependency side UC1 is the core use-case on which all other use-cases are dependent. This will have highest priority within the first 12 month. - UC2, UC3 and UC4 add safety and security specific extensions to the base use-case (UC1). In case UC1 should require more effort, we plan to remove this effort from UC2, UC3 and UC4 in order to guarantee the completion of UC1 - UC5 and UC6 will be conducted in parallel in the last 12 months of the project. Both are mainly dependent on UC1 again. Even if UC2, UC3 and UC4 should fail entirely, the work on UC5 and UC6 can be started. - The complexity of UC5 and UC6 can be scaled during the project by modifying the amount of software we are running on our hardware platform
13	Technical risks associated with the failure of use case 1. (L: M/ S: H)	5	According to the work plan UC1 should be available in month 12. If the completion of UC1 should be delayed after month 12 we will draw effort from UC2, UC3 and/or UC4 in the following order of priority (from low (most likely to draw effort from) to high (least likely to draw effort from): - UC2: Maintaining reliability (dedicated safety extension of UC1) - UC3: Considering hardware resource constraints (demonstration of HW independent SW deployment and reconfiguration based on UC1) - UC4: Considering Cyber-Security (dedicated security extension of UC1) This mitigation plan allows us to still realise UC5 and UC6 to demonstrate the use of our technological solution in CCAM applications. In the case that UC1 should be delayed after month 18 (even though the above mitigation plan has been activated) additional action has to be taken (to be decided during the M18 review together with the PO and experts).
14	Limited outreach to key target groups. (L: L, S: M)	6	A review of the DEC plan will be carried out to optimise resource allocation and activities.
15	Partners run out of budget due to changes or over expenditure (L: L, S: M)	7	The budget has been carefully prepared. Expenditures will be reviewed on a six-monthly basis. The PC will help the

			partners with internal redistributions/modifications
16	The beneficiary 6 - AVL LIST GMBH should not be able to continue working in the project. (L: M/ S: M)	7	In this case Beneficiary 7 - AVL TR (affiliated) will change its status form affiliated partner to “regular” partner and take over the most critical responsibilities form beneficiary 6 – AVL LIST GMBH. The compensation for task that cannot be shifted to Beneficiary 7 - AVL TR will be compensated by other partners. To be discussed and agreed upon the rules set in the CA. In this case DLR is available to take over the main critical tasks form AVL, provided that DLR is allowed to use AVL tools provided and used in the project, especially in the use cases. To be discussed and agreed upon the rules set in the CA.
17	The Beneficiary 13 - CONTINENTAL AUTOMOTIVE ROMANIA SRL should not be able to continue working in the project. (L: M/ S: M)	7	In this case Beneficiary 14 – Continental Automotive Technologies GmbH will change its status form affiliated partner to “regular” partner and take over the most critical responsibilities form Beneficiary 13 - CONTINENTAL AUTOMOTIVE ROMANIA SRL. The compensation for task that cannot be shifted to Beneficiary 14 – Continental Automotive Technologies GmbH will be compensated by other partners. To be discussed and agreed upon the rules set in the CA

9. Project Changes

This section outlines how to handle deviations from and changes of the project plan from the Grant Agreement of UP2DATE4SDV which might become necessary because of unforeseen events and circumstances. While some changes do not require an official amendment of the Grant Agreement most changes do. In general, from a strictly legal perspective, amendments are necessary whenever there is a need to change the Grant Agreement (including changes to its Annexes). which is explained in the following subsections.

9.1.Changes which require an Amendment

The basic principle of the project is to carry out the tasks and activities within the scheduled time and resources as foreseen in the Grant Agreement. Consequently, any changes to the Grant Agreement (e.g. data or options specific to that agreement) or its annexes, must be done through a formal amendment directly in the EC Portal, confirmed by electronic signature.

Any changes in the status of a beneficiary shall be communicated to the Coordinator as soon as possible. The Coordinator shall resolve queries and advise the beneficiaries. If required, the Project Coordinator will contact the responsible EC Project Officer and request clarifications and procedures to be followed.

All the issues with an impact on the work and planning of the project (problems, delays, etc.) must be communicated from each partner to the WP Leader. The Work Package Leader will be responsible to deal with the raised issue and to solve it. In the case that the issue cannot be solved, the Project Coordinator will be duly informed. If needed, the problem will be transmitted to the Project General Assembly and they decide what further steps are necessary.

Significant project changes and deviations from the work planned must be dealt with in writing. The participant involved or WP Leader proposing the change should forward a written communication to the Project Coordinator explaining the reason behind the proposed changes and direct consequences in terms of budget, work program, etc.

As a general rule, an amendment to the GA is necessary whenever the GA or its annexes shall be modified. In some cases, the GA gives the parties the possibility to carry out certain modifications without an amendment to the GA. Finally, there are cases where the need for an amendment must be assessed carefully.

If an amendment to the GA is necessary, the Project Coordinator will request the amendment process to the Project Officer on behalf of the Consortium. Depending on the depth and/ or timely impact of the change it is sometimes possible after consultation with the Project officer not to open a new amendment, but to wait and report the change with a next already known upcoming amendment.

Sample list (non-exhaustive) of cases that require an amendment:

- Addition of a new beneficiary
- Addition of an affiliated entity/associated partner
- Beneficiary termination
- Removal of an affiliated entity/associated partner
- Change of coordinator
- Change of the coordinator's bank account for payments
- Changes to Annex 1 (description of the action)
- Change of the starting date, project duration or reporting periods
- Changes to Annex 2 (estimated budget) and Annex 2a, 2b, 2c, 2d, 2e, if necessary

9.2.Changes which do not require an Amendment

Some changes which do not require an amendment shall nevertheless be duly notified to the Commission. Examples of such changes are:

- budget transfers covered by the budget flexibility
- name or address changes of a participant — done directly in the Participant Register
- universal takeovers (merger/acquisition) of a participant — done directly in the Participant Register
- changes of the banking details — done directly in the Participant Register.

Small changes during the implementation of the activities and/or the plan defined in the DoA shall be understood as normal in a research project. However, these minor deviations shall be identified and explained in the description of the activities of the corresponding periodic report and corrective measures that were implemented (if any).

9.3. Amendment Process

Amendments serve to change the Grant Agreement by mutual consent of the parties. They are normally done at the initiative of the consortium, but they may also be initiated by the granting authority. Process and characteristics of such amendments to the Grant Agreement are described in Article 39 of the Annotated Grant Agreement (AGA), online accessible at url: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/aga_en.pdf

Further information can be found in the EU Grants Amendment Guide at url: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/amendment-guide_en.pdf

To request an amendment, the requesting party (i.e. usually the PCO) must prepare the amendment request directly in the EC Portal Amendment tool. If none of the available amendment clauses fit or in case of any doubts the beneficiaries should contact the granting authority, to discuss the amendment. The request must be unambiguous and complete and submitted in time (i.e. sufficiently in advance to allow proper analysis and preparation before it is due to take effect. In accordance with the project-specific internal decision-making processes (e.g. unanimity, simple or qualified majority, etc., as set out in the Consortium Agreement) the PCO has to ensure the agreement of the consortium about the amendment. Once completed, the request (with all its uploaded supporting documents) must be submitted and signed by the PLSIGN of the coordinator (on behalf of the other beneficiaries, on the basis of the mandate given in the accession forms). A request containing several changes to the Grant Agreement will be considered as one (and must either be agreed or rejected by the other party as a whole). Pending amendment requests may at any moment be withdrawn (before they have been accepted or formally rejected).

The amendment enters into force and is binding from the moment the receiving party has agreed to it (i.e. signed in the Portal Amendment tool). The amendment will take effect (i.e. the changes to the Grant Agreement will start to apply) either:

- on the day of its entry into force (i.e. day of the last signature of the amendment) or
- on the specific date(s) indicated (and agreed) in the amendment.

10. Summary and Outlook

With this deliverable, D7.1 Project Management Handbook and Quality Guidelines, UP2DATE4SDV defined its most central management structures, processes, and tools, based on the requirements and rules of the Grant Agreement and the Consortium Agreement. Using the presented and implemented communication channels, collaboration platforms, risk assessment, and publication and reporting guidelines, the project consortium will ensure high quality results according to the Grant Agreement's definition of action.

With the next deliverable D7.2 Data Management Plan a detailed explanation of the data management tools and processes will be provided. Furthermore, it will describe the life cycle for all datasets that will be collected, processed, or generated as well as the main elements of the data management policy that will be used with regard to all the datasets generated by the project, according to the guidelines on data management.