The EU Automotive Action Plan: Implementation elements under the Chips JU

CNECT MT

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European Commission

Automotive Action plan (AAP) and Strategic Dialogue
Digital topics feature heavily in the Strategic Dialogue and Automotive Action Plan

Ursula von der Leyen
President

Jan 30 – Kick-off
Mar 3 – Closing with Pres VdL

Henna Virkkunen
EVP

Stephane Séjourné
EVP

Roxana Mînzatu
EVP

Wopke Hoekstra
Commissioner

Apostolos Tzitzikostas
Commissioner

Dialogues with 5 other EVPs/Commissioners

**Feb 17, Strategic Dialogue** with EVP Virkkunen

26 participants, 4 Focus topics

① *Software-Defined Vehicles (SDVs) for connected, autonomous, and electric mobility*

② *Automotive Hardware and critical technologies*

③ *Data Access and Pooling*

④ *Regulatory simplification*

*Hand-over of the "**Declaration to collaborate on an EU Software-Defined Vehicle**" signed by 15 OEMs, Tier 1 suppliers, and DE, FR, IT Automotive associations*
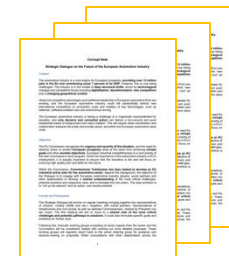
March 5 – Publication of the Action Plan for Automotive

The outcome of this dialogue is a comprehensive Action Plan

5 Chapters:

Innovation and Digitalisation

Decarbonisation

Competitiveness and supply resilience

Skills and Social dimension

Level playing field and business environ.

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AAP: Chapter on Innovation and Digitalisation

Actions to regain a leadership position in Software-enabled, AI powered, Connected and Autonomous vehicles

High relevance for Digital Vehicle

Digital Vehicle	Data	Batteries	Regulatory framework

Detailed next

European Connected and Autonomous Vehicle Alliance

Common architecture elements, shared European hardware and software building blocks as well as standardisation

Vehicle data, functions, resources

Measures to allow the full automotive ecosystem to reap the benefits of data from connected vehicles, while taking into account cybersecurity

Next-Gen battery Tech

Support the whole EU value chain of next generation batteries, including recycling, and partnerships in advanced manufacturing and advanced materials

Regulatory cross-border test-beds

At least three large-scale cross-border testbeds, related regulatory sandboxes and European Automated Driving Corridors to allow for at-scale pilot deployment of AVs

Cybersecurity

Follow up on an on-going cybersecurity risk assessment on connected vehicles

Competition

Assessment whether the existing EU competition framework on vertical agreements in aftermarkets is still fit for purpose

Harmonised single market on AVs

i) Rules on automated driving systems by 2026;
ii) Harmonised rules for testing of ADAS and ADS on public roads by 2026
iii) Harmonised deployment rules across EU

Funding

2025-27 EUR 1 bn
(joint public & private investment: Chips JU & HE partnerships)

2025-2027 EUR 362 Mn
(HE Batt4EU partnership)

Option for a Joint Undertaking for Automotive under FP 10 – 2028 ++

Catalysing private investments for innovation under the Clean Industrial Deal
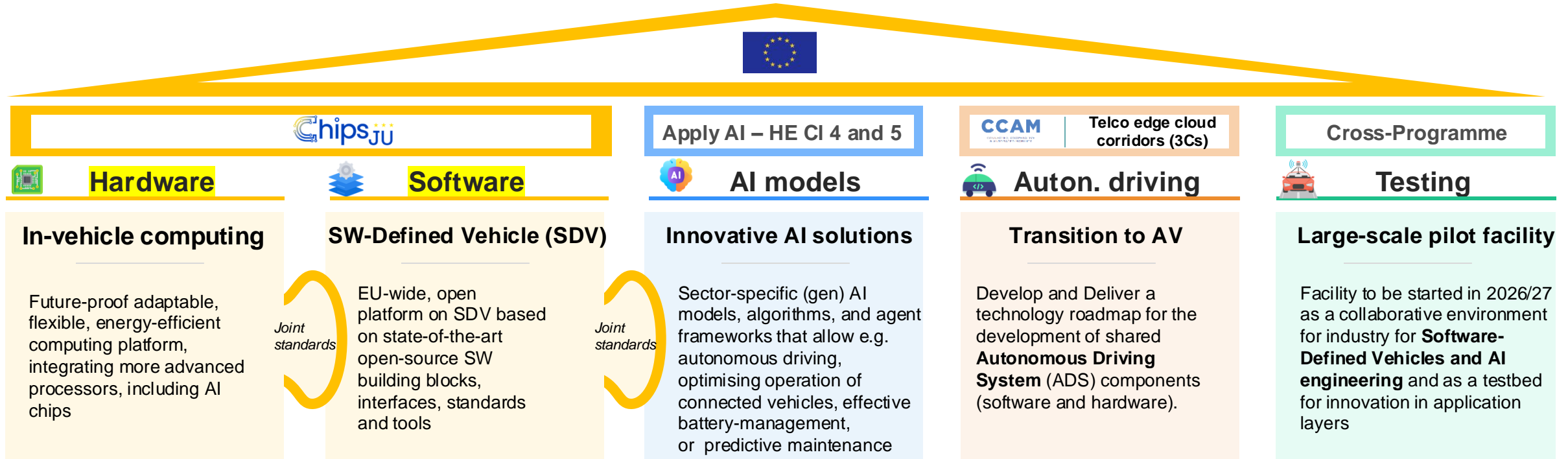*(InvestEU for Clean Tech and Clean Mobility)*

Future IPCEI by Member States
*(Clean, Connected, Autonomous Vehicle – DE, FR, SL and IT leading)*

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European Connected and Automated Vehicle Alliance

ChipsJU		Apply AI – HE CI 4 and 5	CCAM — Telco edge cloud corridors (3Cs)	Cross-Programme
Hardware	**Software**	**AI models**	**Auton. driving**	**Testing**
In-vehicle computing	**SW-Defined Vehicle (SDV)**	**Innovative AI solutions**	**Transition to AV**	**Large-scale pilot facility**
Future-proof adaptable, flexible, energy-efficient computing platform, integrating more advanced processors, including AI chips	EU-wide, open platform on SDV based on state-of-the-art open-source SW building blocks, interfaces, standards and tools	Sector-specific (gen) AI models, algorithms, and agent frameworks that allow e.g. autonomous driving, optimising operation of connected vehicles, effective battery-management, or predictive maintenance	Develop and Deliver a technology roadmap for the development of shared **Autonomous Driving System** (ADS) components (software and hardware).	Facility to be started in 2026/27 as a collaborative environment for industry for **Software-Defined Vehicles and AI engineering** and as a testbed for innovation in application layers

Joint standards   *Joint standards*

EU needs to build its own industrial capacities for the SW and IT hardware needed for clean, connected and automated vehicles.

The Alliance will build on the preparatory work of the **European Vehicle of the Future Initiative**, **and Horizon Europe automotive-related Partnerships**

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Overiview of the Digital Vehicle ecosystem

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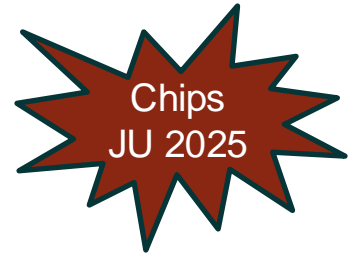
Development framework
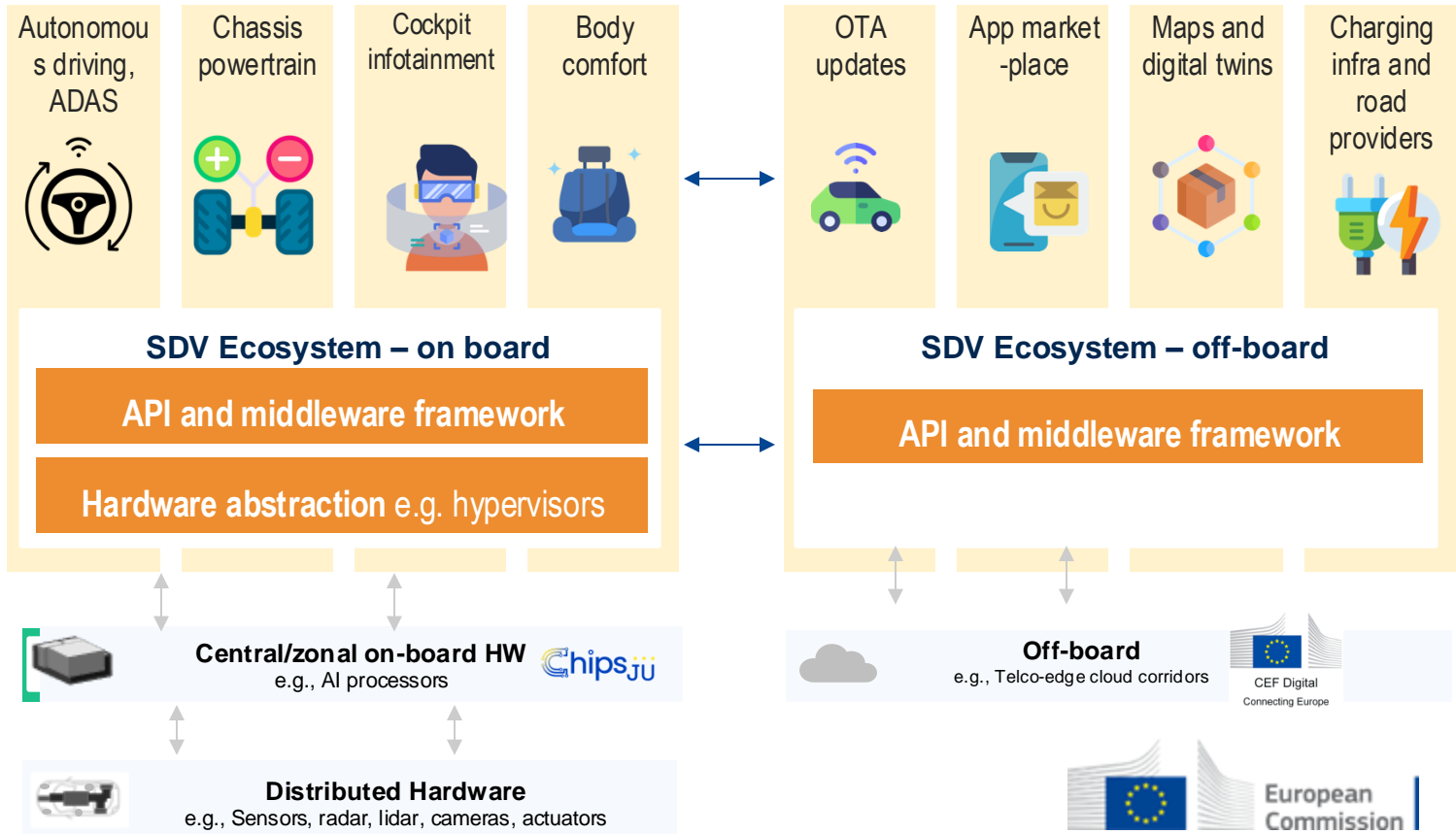
Applications: EV, ADAS

SW platform: SDV Ecosystem

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HW platform: RISC-V, Chiplets
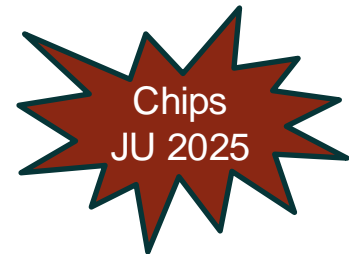
Development and Engineering Framework Toolboxes and Tool Integration

| Autonomous driving, ADAS | Chassis powertrain | Cockpit infotainment | Body comfort | OTA updates | App market-place | Maps and digital twins | Charging infra and road providers |

SDV Ecosystem – on board

API and middleware framework

Hardware abstraction e.g. hypervisors

SDV Ecosystem – off-board

API and middleware framework

Central/zonal on-board HW e.g., AI processors

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Off-board e.g., Telco-edge cloud corridors

Distributed Hardware e.g., Sensors, radar, lidar, cameras, actuators

CEF Digital Connecting Europe

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Automotive Hardware
Automotive Action Plan

1
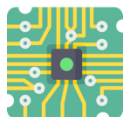
Advanced AI Accelerators

Development of AI-chips to reduce strategic dependencies but faces strategic dependencies on higher-end automotive application processors

2

RISC-V Automotive Hardware

Open, **royalty-free Instruction Set** for any stakeholder to build solutions and services on + RISC-V reference architecture and core IP.

3

Chiplets

Optimised Chips for automotive to meet **customised functions** to meet reliability, safety, security requirements

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TRISTAN RISC-V
RISC-V Chip architecture
€54 m (*15m EU*)

ISOLDE RISC-V
RISC-V Domain specific ecosystems
€ >39m (*12m EU*)

RIGOLETTO (in prep)
RISC-V for Automotive
€ >60m (*20m EU*)

RISC-V
RISC-V Automotive platform
€ >350m (*80m EU*)

Chiplets
European Automotive Chiplet system
€ >60m (*20m EU*)

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Software-Defined Vehicles
Automotive Action Plan

1

HW/SW Abstraction

Abstraction layer ensures efficient integration of various hardware platforms while **maintaining compatibility** with the evolving software stack.

Modular and scalable to build SDV systems while **reducing dependencies** and vendor lock-in

2

Middleware and API framework

Middleware layer that bridges the hardware/OS and application layers.

Standardized middleware stack provides essential services such as **communication protocols, security mechanisms, and data management**

3

Automated DevOps tools

Integrated DevOps toolchain simplify adoption and use of new software layers, streamlining processes such as continuous **integration, testing, deployment, and monitoring.**

Use of **emerging AI tools** to **improve productivity** in the SW engineering process

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| HAL4SDV Systems Safety Security Software | Hardware Abstraction € 64m (18m EU) | Shift2SDV (in prep) | Service oriented Framework € >60m (20m EU) | AI Tools | AI Dev Tools for SDV € >60m (20m EU) |

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Chips JU: Project Pipeline

In WP/call planned

Proposal for future WP – to be further discussed

Project details

	2024	2025	2026	2027	2028	2029	2030

Digital vehicle

Coordination

Digital Vehicle **Co-ordination and support**

FEDERATE — Budget: **€ 2m** (*2m EU*)

SDV

Hardware Abstraction layer for SDV

HAL4SDV — Budget: **€ 64m** (*18m EU*)

Service-oriented framework for SDV (Shift2SDV)

Shift2SDV (in prep) | Total budget **tbc** (*20m EU*)

AI-assisted SW engineering for SDV

2025 WP | *20m EU*

Mature/converge SDV building blocks

Planned for 2026 WP

Automotive HW

RISC-V generic IP

TRISTAN — Total budget: **€ 54m** (*15m EU*)

RISC-V domain-specific ecosystems

ISOLDE — Total budget: **€ 39m** (*11.5m EU*)

RISC-V for Automotive

RIGOLETTO (in prep) | Total budget **tbc** (*20m EU*)

RISC-V Automotive HW Platform

2025 WP | *80m EU*

European Automotive Chiplet System

2025 WP | *20m EU*

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Engage in an ecosystem approach

- Keep in mind Europe's strategic autonomy

- From OEMs and Tier1s to IDMs and tool providers

- Horizontal and vertical collaboration

- Platforms: ecosystem – market place – standards – piloting - …

- Consider Open Source as a key vehicle for collaboration

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