

# From Building Blocks to SOP



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# Open Source Is About User Freedom

## Freedom 0

-to **run** the program, for any purpose

## Freedom 1

-to **study** how the program works, and **change** it to make it do what you wish

## Freedom 2

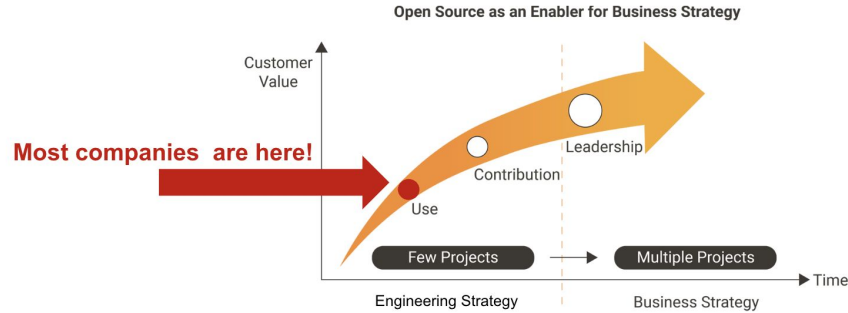
-to **redistribute** copies

## Freedom 3

-to distribute copies of your **modified** versions to others

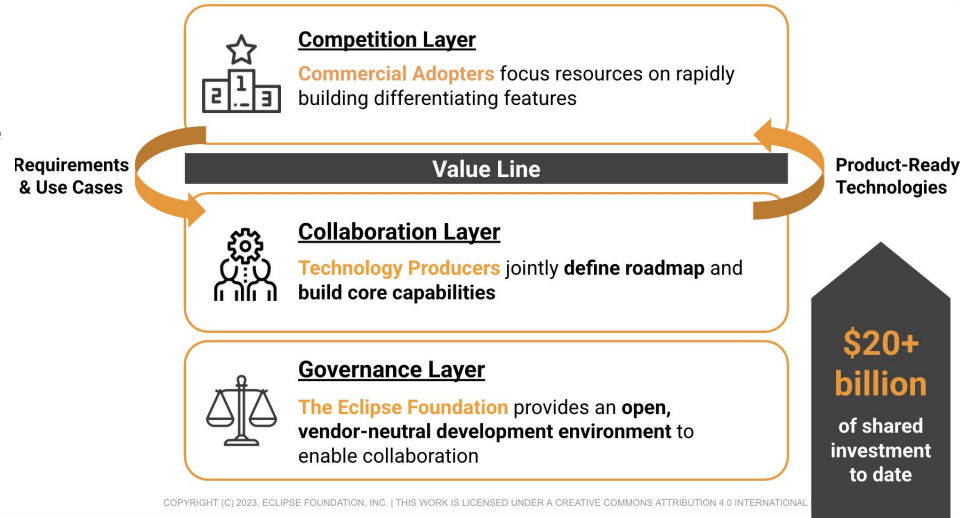
# Open source as a strategic enabler: Working Groups

87% of companies with more than 2 000 employees use OSS\*, but most are users.



Participation in open source has emerged as a potent force for competitive advantage

\*Source Forrester & Gartner <https://www.gartner.com/newsroom/id/801412>



# Eclipse Software Defined Vehicle Working Group

The mission of the Eclipse Software Defined Vehicle (SDV) Working Group is to provide a **forum** for individuals and organizations to build and promote **open source software, specifications, and open collaboration models** needed to create a **scalable, modular, extensible, industry-ready open source licensed vehicle software platform** to support in-vehicle and around the vehicle systems development and deployment.

>30 projects

**SDV.Dev:** toolchains and workflows

**SDV.Ops:** Cloud based mobility solutions

**SDV.Edge:** In-vehicle software stack (OS and Middleware)

Wide  
spectrum of  
OS Projects

Governance

**Code First**

Active Participation

Vendor Neutrality

Transparency

Openness



Community

**60 Members**

Quarterly Community Days  
for developers

Yearly Hackathon

Yearly Automotive Open

Source Summit for decision

makes



# Welcome to the Open Source world

## Industry Wish List for Collaboration:

- Reduce Complexity
- Standardize below value line building blocks
- Improve SW Sustainability & Maintenance
- Improve SW Reusability
- Improve SW maturity and component certifiability (A-Spice, ISO 26262)



## The Open Source World:

- Openness: Publicly accessible code.
- Collaboration: Community-driven and professional.
- Freedom: Permissive modification and distribution.
- Transparency: Open development processes.
- Merit: Contributions guided by expertise.
- Community: Driven by diverse motivations, with shared standards.



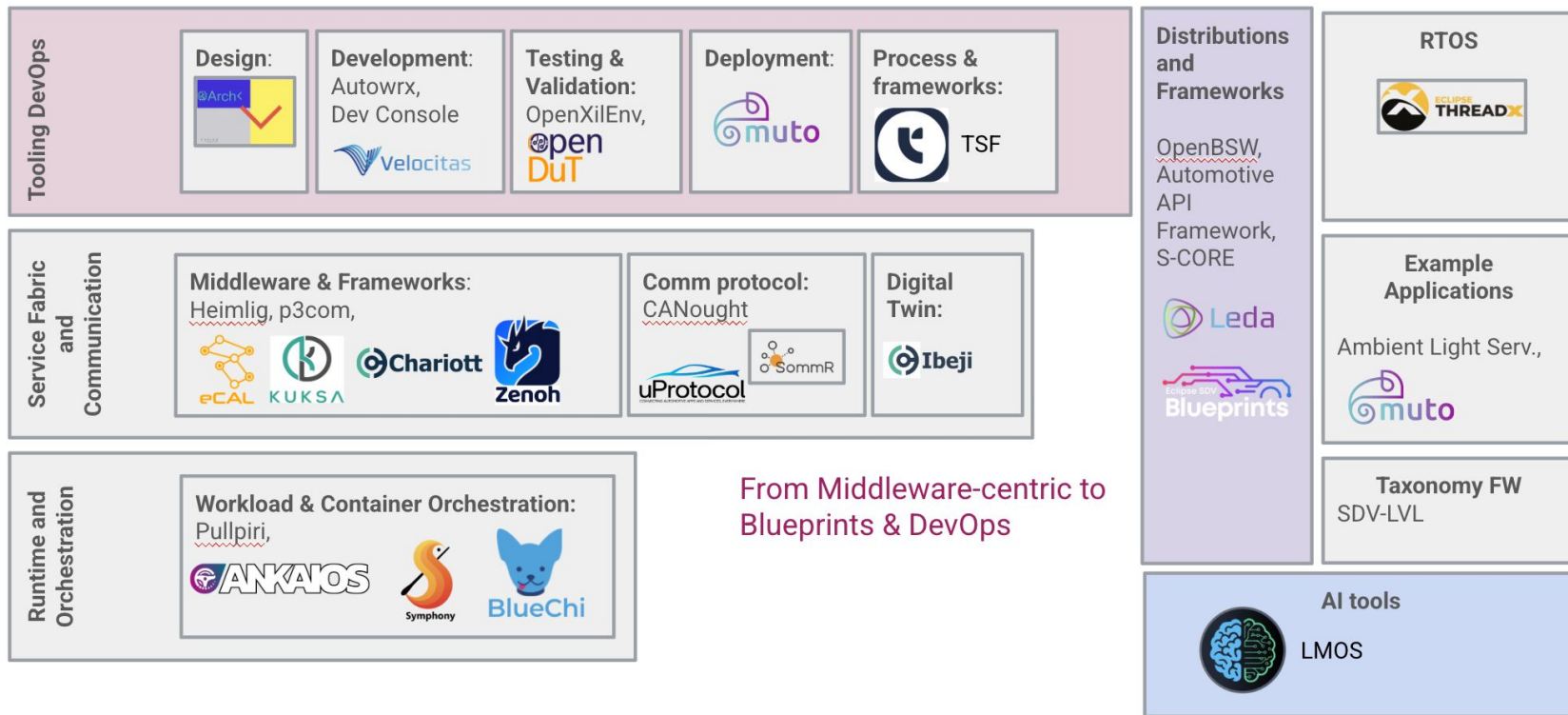
Established governance

Project Landscape

Special interest groups as collaboration of the willing

Process and best practices

# Eclipse SDV Projects Landscape - Building Blocks



# Organizational fragmentation vs competing projects

**Organizational Fragmentation** means duplicating interfaces and structures in orchestrating initiatives.

- Use existing structures and don't create new ones.
- That only costs time that we don't have!

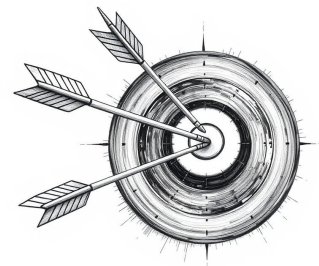


**Building blocks competition:** multiple competing projects addressing the technical issue.

- No kingmakers. Similar or competitive projects are not excluded for reasons of overlap or competition.
- No single stack. Encourage interoperability for the emergence of a variety of stacks and distributions to serve the community and adopters.

**Why?**

- The value of a project is decided by adoption, not control
- All projects will find a level playing field
- Merging projects and collaboration between projects is way easier than between organisation
- Different languages & classes of performance
- Different licensing
- ...



# Eclipse Trustable SW framework & adoptions



**Eclipse Trustable Software Framework** project focuses on practical approaches to understanding risks in software engineering and systematically tracks a set of statements.

The Trustable Tenets:



## 1. Provenance

Know where it comes from, who is responsible, and have confidence in them

## 2. Construction

Know how to build it - **reproducibly** - from source

## 3. Changes

Upgrade it and be confident it will not break or regress

## 4. Expectations

Know what it must do, and what it must not do

## 5. Results

It does what it must do, and does not do what it must not do

## 6. Confidence

Measure and declare our confidence that it will not cause harm

uProtocol



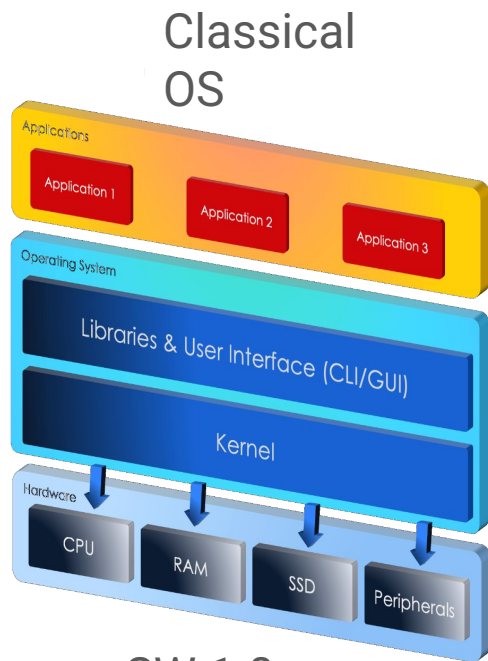
**ECLIPSE**  
FOUNDATION  
Bylaws and ECA  
Dev. Process  
Safety Process



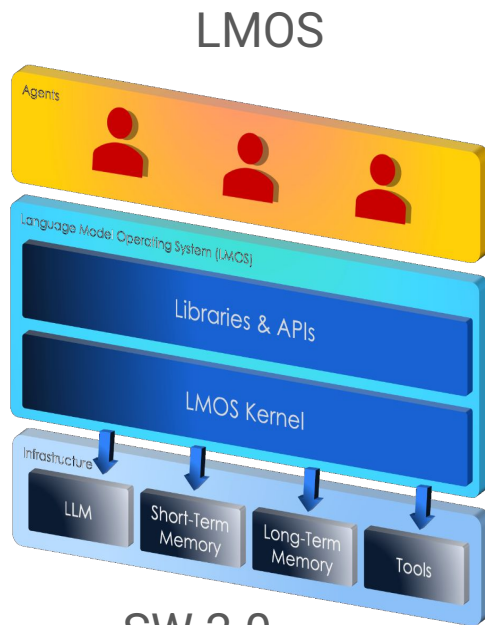


# AI meets SDV WG: Eclipse LMOS

**Eclipse LMOS** is an open-source, sovereign, vendor-neutral platform to build and run enterprise-ready multi-agent systems on cloud or on-prem.



SW 1.0



SW 2.0

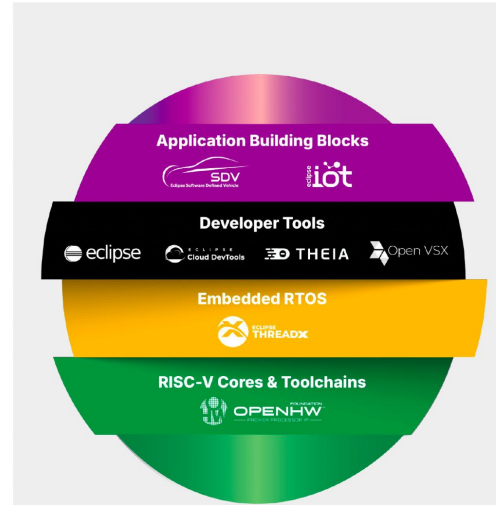
ARC: Kotlink DSL

Eclipse SDV  
**Fleet Management**  
Blueprint

# Towards an end to end OS solution

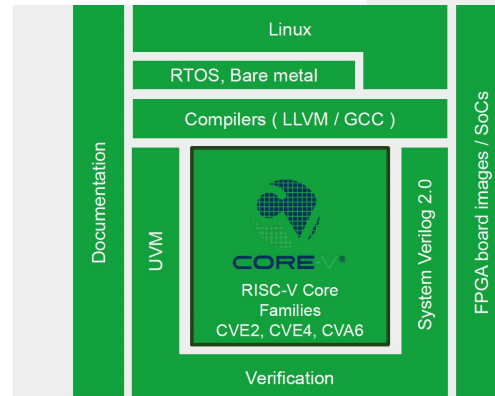
## The Only Comprehensive Open Source RISC-V stack

For automotive and other  
safety-critical applications



## OpenHW Foundation Brings Open Source to Hardware Too

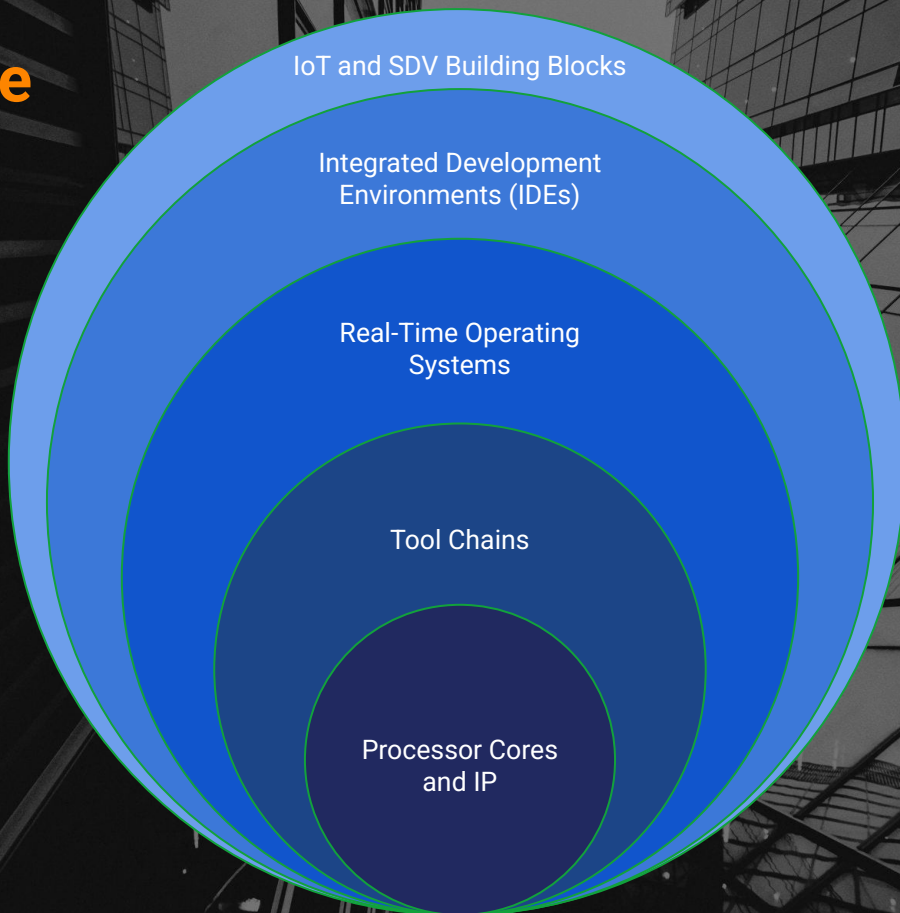
The industry's only industrial-grade,  
verified open source processor IP



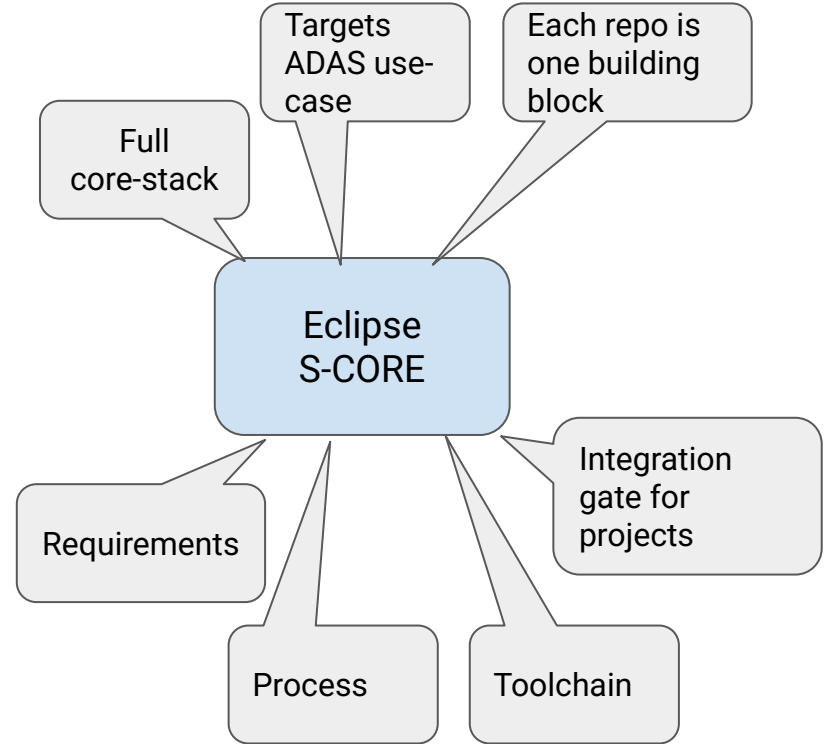
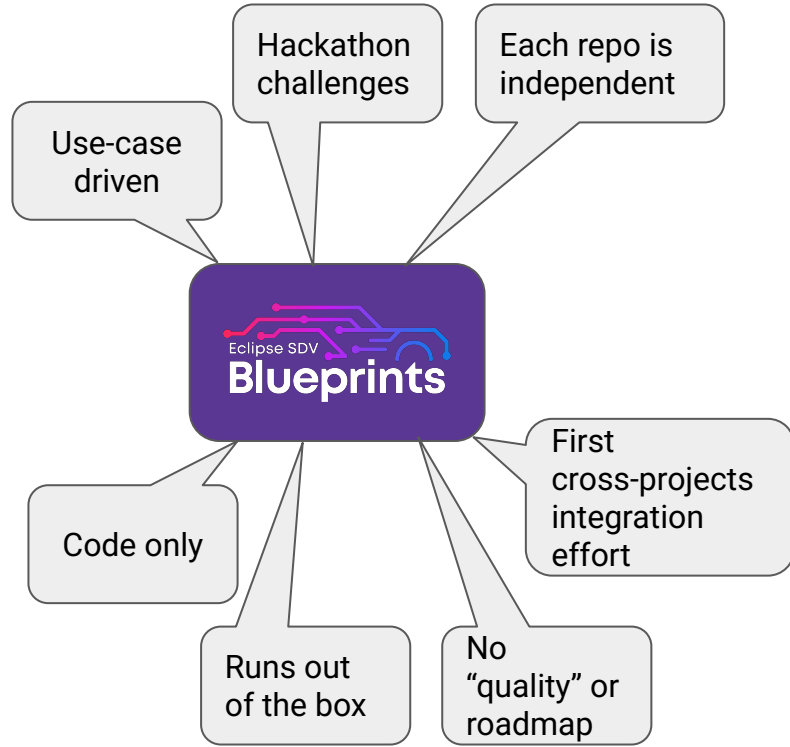
**ECLIPSE  
THREADX**

**The First Open Source  
Real-Time Operating System  
Certified for Safety-Critical  
Applications**

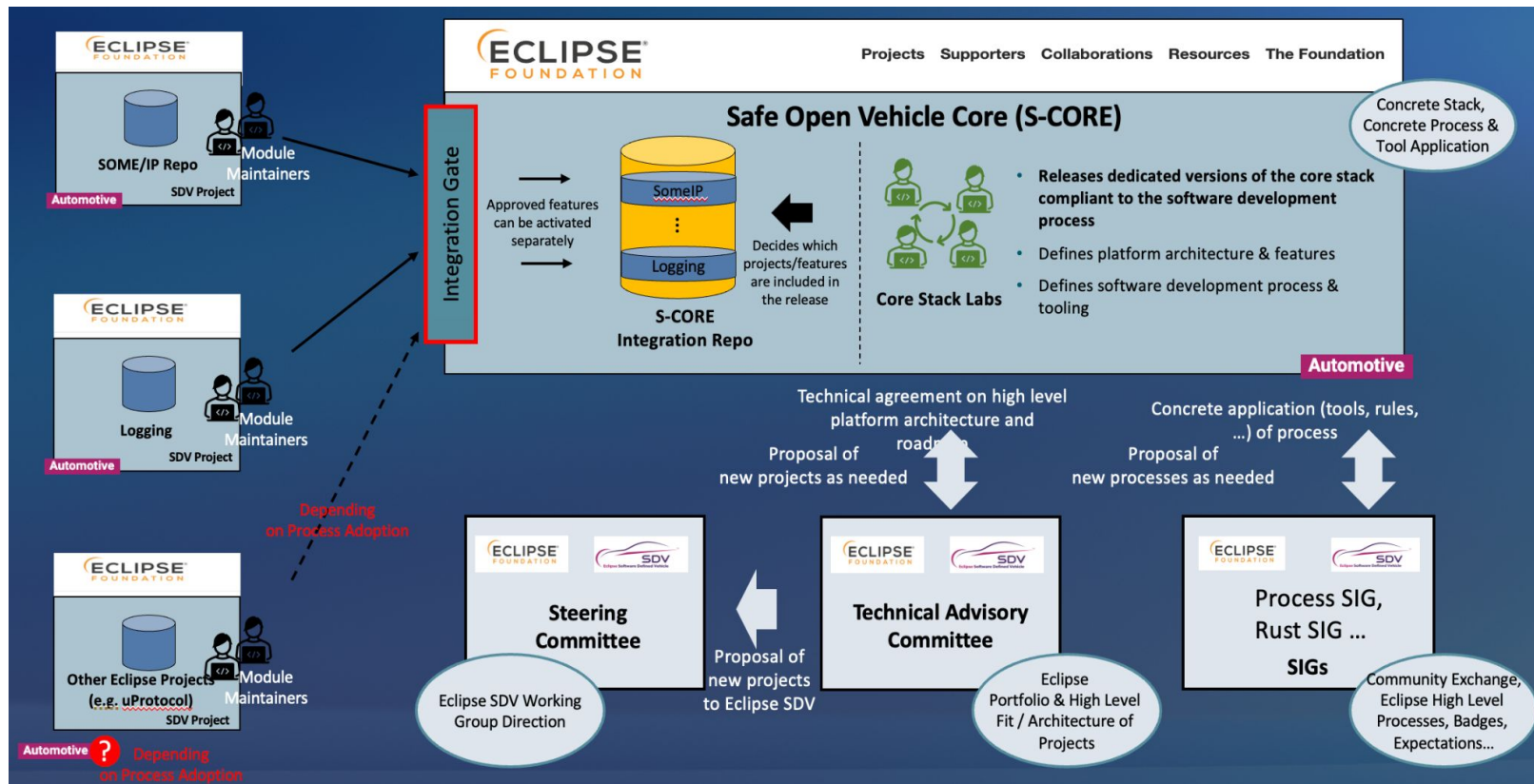
# Towards a Comprehensive Open Source Embedded RISC-V stack



# Integration projects to date



# Eclipse S-CORE in the Eclipse SDV Landscape







Strategic SDV Collaboration  
Starts at **SDV Community Days**

Join the next  
**SDV Community Days at IAV**

Hybrid | Gifhorn, Germany | 4 - 5 June 2025



Register now!



OPEN COMMUNITY EXPERIENCE



SAVE THE DATE!

Europe's flagship open  
innovation event for  
automotive leaders.

**21-23 April 2026 | Brussels,  
Belgium**