

TWG·FAS
Manifesto & Working Mode
Technical Working Group for Formal Automotive Systems

Working Draft

July 26, 2026

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1 Preamble

The Technical Working Group for Formal Automotive Systems (TWG-FAS) is an independent, non-profit, vendor-neutral initiative dedicated to the development of open standards for formal behavioral representation in automotive systems.

Our objective is to establish openly specified, verifiable and interoperable foundations for future AI-driven mobility systems.

TWG-FAS exists to enable collaboration between industry, academia, regulators, open-source communities and independent researchers.

Participation is voluntary and open.

2 Mission

The mission of TWG-FAS is:

1. To develop open, publicly available standards.
2. To improve interoperability across automotive ecosystems.
3. To support safety, verification and certification activities.
4. To promote transparent engineering processes.
5. To create vendor-neutral technical foundations.
6. To foster scientific and industrial collaboration.

3 Core Principles

3.1 Openness

All specifications shall be publicly accessible.

Technical discussions, decisions and working drafts should be published whenever legally possible.

3.2 Vendor Neutrality

No company, institution, individual, government body or technology provider shall control the direction of the standard.

The standard shall remain independent of any specific product or commercial implementation.

3.3 Interoperability

Standards shall be designed to enable independent implementations and portable tooling.

A conforming implementation must not require the use of proprietary technology.

3.4 Transparency

Decision processes, voting outcomes and technical rationales shall be documented.

Technical disagreements are considered valuable engineering input.

3.5 Consensus

TWG-FAS seeks consensus rather than majority rule wherever practical.

When consensus cannot be achieved, decisions may be made through a transparent voting process.

3.6 Technical Merit

Arguments shall be evaluated on technical merit, evidence and reasoning rather than organizational status, seniority or commercial influence.

4 Ethical Charter

Members agree to uphold the following principles:

1. Respectful communication.
2. Evidence-based technical discussion.
3. Honest disclosure of limitations and assumptions.
4. Attribution of ideas and contributions.
5. Responsible handling of safety-critical topics.
6. Rejection of discrimination and harassment.
7. Commitment to constructive collaboration.

The working group shall maintain a professional and welcoming environment for all participants.

5 Code of Conduct

All participants shall:

- Act professionally.
- Treat others with respect.
- Critique ideas rather than people.
- Avoid personal attacks.
- Avoid disruptive behavior.
- Disclose known conflicts of interest.
- Support an inclusive technical culture.

Violations may result in moderation actions or suspension from working group activities.

6 Non-Profit Character

TWG-FAS is not established to generate profit.

The initiative exists for:

- Standardization
- Research collaboration
- Knowledge sharing
- Public benefit
- Technical advancement

Membership shall not provide exclusive commercial advantage.

No participant shall receive privileged access to specifications.

7 Governance

7.1 Founding Members

Founding members initiate and organize the working group.

Their role is administrative rather than authoritative.

7.2 Contributors

Any individual or organization may contribute proposals, comments, drafts, implementations or review feedback.

7.3 Editors

Editors maintain technical documents and working drafts.

Editors do not possess veto authority.

7.4 Working Groups

Specialized working groups may be created for topics including:

- VML Language Design
- Formal Semantics
- Verification
- Runtime Monitoring
- Conformance Testing
- Reference Implementations

8 Standards Development Process

The development lifecycle consists of:

1. Problem Statement
2. Proposal Draft
3. Public Review
4. Working Draft
5. Candidate Standard
6. Reference Implementations
7. Conformance Validation
8. Standard Publication

All stages should be publicly visible whenever possible.

9 Intellectual Property Policy

Contributors retain ownership of their original work.

By contributing to TWG·FAS specifications, contributors grant the right to publish, distribute and maintain contributions as part of the standardization process.

Contributors are encouraged to disclose patents that may be essential for implementation.

10 Licensing Model

10.1 Standards and Specifications

Specification texts shall be published under:

Creative Commons Attribution 4.0 (CC-BY-4.0)

This permits:

- commercial use
- academic use
- redistribution
- translation
- derivative works

provided attribution is maintained.

10.2 Reference Implementations

Reference software shall preferably use:

Apache License 2.0

to enable broad industrial and academic adoption.

10.3 Patent Commitment

Participants are encouraged to provide royalty-free licenses for essential claims required to implement the standard.

The goal is unrestricted implementation by any party.

11 Conformance and Certification

TWG-FAS may publish:

- Conformance test suites
- Validation procedures
- Reference datasets
- Compliance guidelines

Conformance shall be based on objective technical criteria.

12 Relationship to Regulation

TWG-FAS does not act as a regulatory body.

The group seeks constructive collaboration with regulators, certification authorities and standardization organizations.

13 Long-Term Vision

TWG-FAS aims to create a globally recognized open ecosystem for formal automotive behavior representation.

The initiative believes that future automotive AI systems require formal, transparent and verifiable interfaces between human intent, machine reasoning and vehicle behavior.

Open standards are the foundation for interoperability, trust, scientific progress and long-term technological sustainability.

14 Manifesto Statement

Natural language belongs to engineering.

Formal languages belong to runtime systems.

Open standards belong to everyone.

TWG-FAS is committed to building an open, transparent and vendor-neutral foundation for the next generation of safe and verifiable automotive intelligence.