Society for Automotive Engineers & J3016 Standard

Defining the Future of Automated Driving Systems

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About SAE International: A Legacy of Mobility Leadership

Founded in 1905

Established by pioneering engineers, including **Henry Ford** and **Andrew Riker**, setting the foundation for global mobility standards.

Global Reach & Impact

A membership of **120,000+ professionals** across over 100 countries, driving global engineering consensus.

Mission: Advancing Mobility

Dedicated to advancing knowledge and engineering quality across automotive, aerospace, and mobility sectors worldwide.

Standardization Authority

Headquartered in Warrendale, Pennsylvania, USA, acting as the **global leader** in technical standards development.

The SAE J3016 Standard: The Foundation of Autonomy

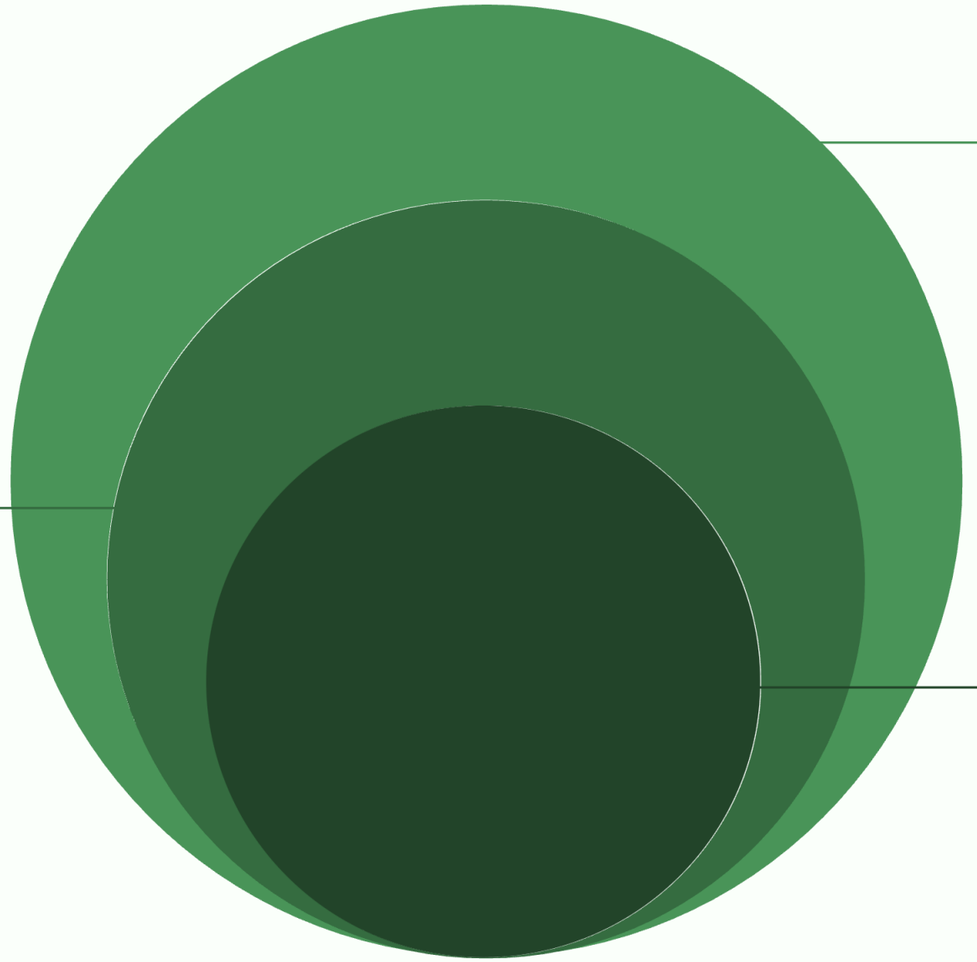
The SAE J3016 Recommended Practice defines a taxonomy for six levels of motor vehicle driving automation–from **no automation** (Level 0) to **full automation** (Level 5).

Level 5

Full automation, vehicle handles all driving tasks

Level 3–4

Conditional to high automation, machine assists and intervenes. **3-5: Automated Driving System** handles the driving tasks and monitoring (Automated Driving Features).



Level 0–2

Human Driver must monitor the driving environment at all times (Driver Support Features).

Why SAE J3016 Matters: Clarity, Safety, and Global Alignment

The J3016 standard is critical because it provides an unambiguous framework, mitigating risk and confusion in a rapidly evolving industry.

1

Provides a Common Language

Establishes a universal, precise lexicon, allowing engineers, regulators, and consumers to discuss automation capabilities accurately.

2

Avoids Marketing Confusion

Clarifies the operational capabilities and limitations of vehicle systems, preventing the overstatement of driver assistance features.

3

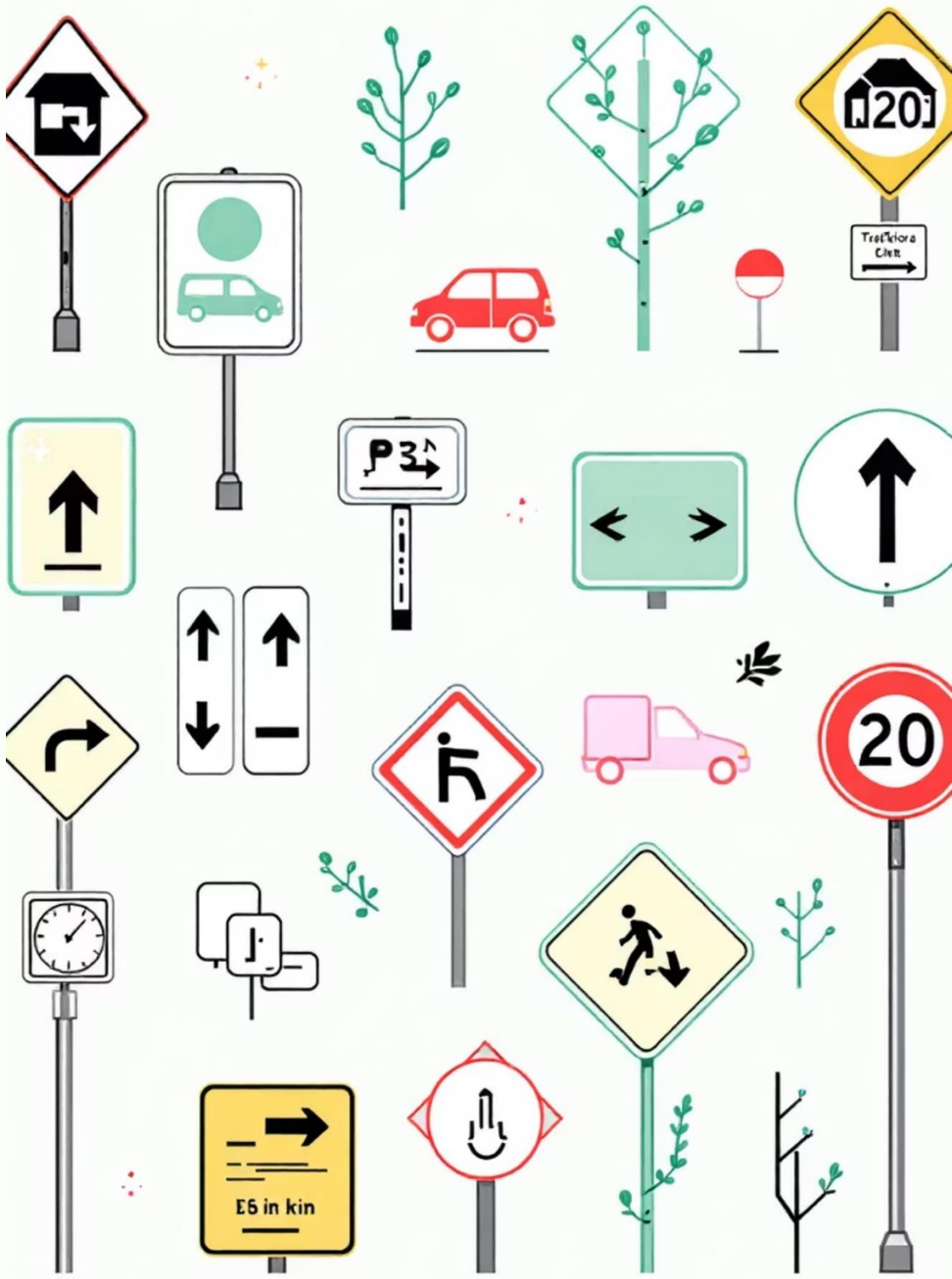
Promotes Safety & Accountability

Clearly defines which entity (human or machine) is responsible for monitoring the environment and executing dynamic driving tasks at each level.

4

Global Regulatory Benchmark

Internationally recognized by key regulatory bodies, including NHTSA (US), ISO, and UNECE (Global).



Global Impact & Applications of the J3016 Standard

Industry Adoption

Major global automakers and technology leaders–including Tesla, Waymo, GM, Ford, and others–use J3016 as the basis for developing and communicating their automation features.

Shaping Future Policy

The standard forms the essential framework for governmental policy, international vehicle safety regulations, and infrastructure planning worldwide.

Building Consumer Trust

Transparent classification helps set realistic expectations for system performance and driver engagement requirements.

Informing Ethical Frameworks

J3016 assists in the development of ethical guidelines for AI-driven transportation decisions and liability assignment.

Driving R&D Focus

It directs R&D efforts toward overcoming specific technical hurdles required to advance from one level of automation to the next.

Key Takeaways and References

> **The SAE J3016 standard** is the non-negotiable global taxonomy for automated driving systems, ensuring a consistent understanding of capabilities and responsibilities across the industry and regulatory landscape.

References for Further Reading

- SAE International. **SAE J3016™ Standard (2024)** - Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles.
- NHTSA. **Automated Vehicles Policy Framework** - Guidance on safe integration into the US road system.
- U.S. DOT. **Automated Vehicles 4.0 Overview** - Interagency strategy for the development and deployment of automated vehicles.
- SAE.org - **About SAE International** - Organizational mission, vision, and governance.