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528 – Connected Car Legislation Guide

The Connected Car Legislation Guide provides an in-depth analysis of how and where legislation is impacting on automotive connected services.

It identifies the threats and opportunities generated by government mandates, licensing requirements, restrictions, policies, and guidelines within Europe, USA, China, Russia and Brazil.

Autonomous
Car

#535

Autonomous Car Legislation Tracker

The footprint of vehicle autonomy within the automotive industry has grown to the point where an increasing number of legacy automakers and new players are developing, trialing, or implementing new ADAS and autonomous driving systems. At the same time, the global ecosystem for these technologies is developing at varying rates based on their maturity while OEMs work to raise consumer awareness and gain their trust.

However, one of the largest obstacles faced by OEMs navigating this ecosystem is the legal landscape that surrounds it. This landscape has been growing in tandem with the development of autonomous vehicles and ADAS, and encompasses a series of guidelines, regulations, and groups that mutually aim to ensure all autonomous technologies are safe for road use and that they are developed, tested, and rolled out appropriately.

The Autonomous Car Legislation Guide takes a deep dive into the legal landscape for autonomous technologies to analyze how and where legislation is impacting vehicle autonomy. It works to identify the threats, implications, and opportunities posed by a number of legislative and regulatory activities and understand how these activities vary by region. As a live resource, the guide is updated quarterly with the latest information and updates from the legal space for automated vehicle technologies.

COVERAGE



GLOBAL



NA



CHINA



EUROPE

FREQUENCY



ANNUALLY



QUARTERLY



ONE-OFF

PUBLICATION FORMAT



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POWERPOINT



EXCEL



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PAGES



50+

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Key questions answered

- > What new legislative requirements will be enforced for ADAS technologies to improve safety further?
- > What are, and what are expected to be, the NCAP requirements?
- > What exactly are the regulations in place requiring?
- > How does safety legislation vary by region?

This research supports



PRODUCT PLANNERS



ENGINEERS

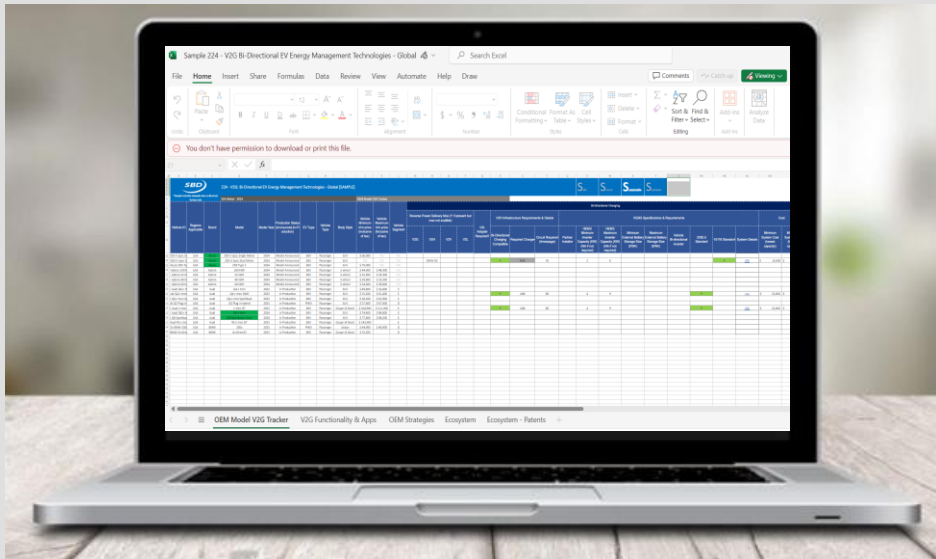
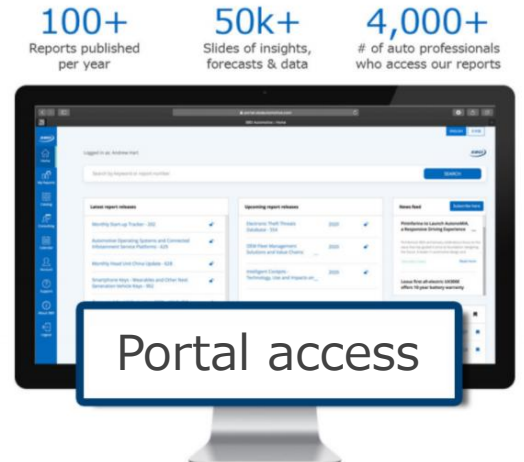


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View Excel Data Sheet Sample

Autonomous Car Legislation Tracker

For a deep dive into the legal landscape for autonomous technologies

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Autonomous Car Legislation Tracker

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- HOT Cars Act (USA)
- AV legislation (Australia)
- EU road safety policy
- AV state-wise legislation (USA)
- UNECE Regulations on vehicle safety
- V2X status (various regions)
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- AV/ADAS standards

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Introduction


Industry is proactively introducing more ADAS ahead of policy deadlines

With more cars being introduced with active safety and ADAS, the automotive industry is facing regulatory hurdles previously seen in other industries that have progressed along the technology adoption lifecycle. Government bodies are increasingly taking note of the fast pace of this industry and the issues (more importantly the impact of these issues) that prevail due to such growth.

Key areas include passenger safety, active safety systems, liability, cybersecurity, technology regulations and access to wireless spectrum, among others. Legislators and SMEs have started to proactively address these issues in ways that ensure consumer protection but not at the expense of development. In short, the regulatory groundwork that the government bodies are undertaking must spur innovation and rapid deployment rather than impede progress.

The **Autonomous Car Legislation Guide** provides an inside scoop on the policy activities taking place across the globe. In doing so, it details the scope of these policies, identifies the various organizations responsible, the legal status of bills, and the timeline of activities. It also includes some peripheral legal aspects that may have a direct or indirect impact on autonomous car development in the near-foreseeable future.

Note: This guide only highlights the actual regulatory activities and does not give any recommendations. This guide's analytical and forward-looking statements shouldn't be construed as legal advice.

Layer	Section	Conclusion
STRATEGY & IMPACT	Executive Summary	This section highlights some of the recently enforced and introduced regulations/legislations/guidelines across the regions
	The Basics	A brief overview of the different type of legal aspects (regulation, legislation, standards etc.) covered in this report along with the regions in focus.
LEARNING & ACTION	What's New?	Not applicable
	Analysis	Key regulatory activities that are impacting the autonomous car development and best practices published by the authorities
CORE INSIGHTS	Summary Tables	In summary, legislative activities are increasing, and some laws are nearing enforcement. In contrast, some haven't seen the light of day after being introduced and debated several times.
DATA DEEP DIVE IN EXCEL	Deep Dive	 View and analyze deep data in your own way
	Geographies	
	Legislations/Regulations	
	Standards	
	Definitions	
CONTEXT	Birds Eye View	An overview of the tangential trends to this topic, as identified in SBD's neighboring products
	Future Outlook	Not applicable
	Next Steps	Can SBD help you with any unanswered questions?

Example slides from the report



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What? Snapshot of key regulatory activities

Introduced*

Legislation/Regulations recently introduced

Enforced/Published**

Legislation/Regulations recently enforced

Global

Although no gazette notification has been published but Indian government is planning Bharat NCAP 2.0 that will include ADAS tests

Australian Design Rule 98/00

Australian government mandates AEB (car-to-car) on all new vehicles

China

No new major regulations introduced in China recently (Q1 2025)

Testing of ICVs (Changsha, Hunan Province)

Supports night-time testing of AVs and simplify the requirements by providing temporary licenses

Commercialization of autonomous driving (Wuhan)

This is the first local administrative regulatory document for autonomous driving vehicles in Wuhan.

Europe

No new major regulations introduced in Europe recently (Q1 2025)

Euro NCAP has published the 2026, including HMI interface guidelines. It lays special emphasis on crash prevention and assisted driving

USA

Lidar technology security (Illinois, SB 2363)

SB 2363 proposes prohibition of sourcing lidar and its associated components from country of concern (such as Russia, Cuba, Venezuela, North Korea, China, Iran)

Criminal offenses related to AVs (Texas, HB38370)

The bill introduces specific requirements for autonomous vehicle manufacturers and operators, including mandatory safety certifications, insurance coverage, and adherence to traffic regulations.

AV Testing Permit Requirement (Washington, PR26-0104)

This bill establishes permit requirements and safety protocols for autonomous vehicle testing to ensure regulatory compliance and public safety (effective since Mar.04, 2025)

*In some regions (primarily outside the US) the word 'issued', and 'proposed' are used for the legislation instead of introduced

**Standards and Guidelines/Best Practices are often not enforceable by law. They are introduced and reviewed by the subject experts before being published.



EC wants a dedicated 'alliance' for autonomous vehicles

Regulation overview

Status	Introduced	Draft	✓	Enforced
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The Regulation (EU) 2019/2144, also known as the amended Vehicle General Safety Regulation (GSR), has been in force since July 2022 for new vehicle types and all new vehicles from July 2024. The law imposes a range of (see the table) active safety and Advanced Driver Assistant Systems (ADAS) depending on the type of vehicle. For example, cars/mini-vans will need additional features like **an emergency lane-keeping system and advanced braking system**, which is not mandated for trucks. Similarly, **blind spot warning** systems are mandatory in commercial vehicles, not passenger cars. Similarly, the UK government is also proposing a holistic **automated vehicle regulation (introduced in late 2023 and finally enforced in May 2024)**.

Details

Mandatory ADAS and active safety features applicable from July 2024

GSR was initially proposed in 2018 and the European Parliament and EU Member States subsequently adopted it in November 2019 after a series of amendments. It is expected to save over **25,000 lives and avoid at least 140,000 serious injuries by 2038**.

The GSR also sets some foundation for the broader automated vehicle legislation. Although the GSR does not directly set out the technical rules for automated vehicles but **delegates this power to the European Commission to publish technical rules for automated vehicles** that are closely aligned with UNECE level for SAE Level 3 vehicle autonomy.

Name of the system	Vehicle category	Mandated by
Driver drowsiness and attention warning	M1, N1, M2, N2, M3, N3	2022 (New type), 2024 (All vehicles)
Intelligent speed assistance	M1, N1, M2, N2, M3, N3	2022 (New type), 2024 (All vehicles)
Emergency lane keeping system	M1, N1	2022 (New type), 2024 (All vehicles)
Event data recorder	M1, N1	2022 (New type), 2024 (All vehicles)
Advanced Emergency Braking system (AEB)	M1, N1	2022 (New type), 2024 (All vehicles)
Blind Spot Warning Systems	N2, N3	2022 (New type), 2024 (All vehicles)
Advanced emergency braking for VRUs	M1, N1	2024 (New type), 2026 (All vehicles)

M1, N1: Passenger cars, multipurpose vans; M2, M3: Minibuses, full-size bus; N2, N3: Trucks

What's New?

EC President proposes a new European Connected and Autonomous Vehicle Alliance

The alliance will focus on developing large-scale testbeds and regulatory 'sandboxes' to test and refine autonomous vehicles. The Commission will further develop the regulatory framework for AVs. These actions will be supported by joint public-private investments of around €1billion backed by the Horizon Europe Programme over the 2025-2027 period. More [here](#)

Automated Vehicle Bill becomes a law in the UK

The Automated Vehicles Bill has received Royal Assent on 20th May 2024 following agreement by both Houses on the bill text. This means self-driving vehicles can be rolled out on British roads as soon as 2026. [\(Link\)](#)

Key takeaways

So far, automakers in Europe have acted proactively and offered various ADAS system as standard fit on many models which is driven by both GSR requirements and pursuit of obtaining a higher score in Euro NCAP safety tests. But the regulatory journey towards fully autonomous vehicle has just begun. UK that was once behind in terms of any holistic AV regulation has now expedited the process with the newly enforced AV Bill. SBD believes at least some European member states are likely to do the same and enforce their own regulations that will be in line with broader UNECE regulations.



Trump government is looking to ease AV regulations

Legislation Overview

Status ☒ Introduced ☐ Draft ☐ Enforced



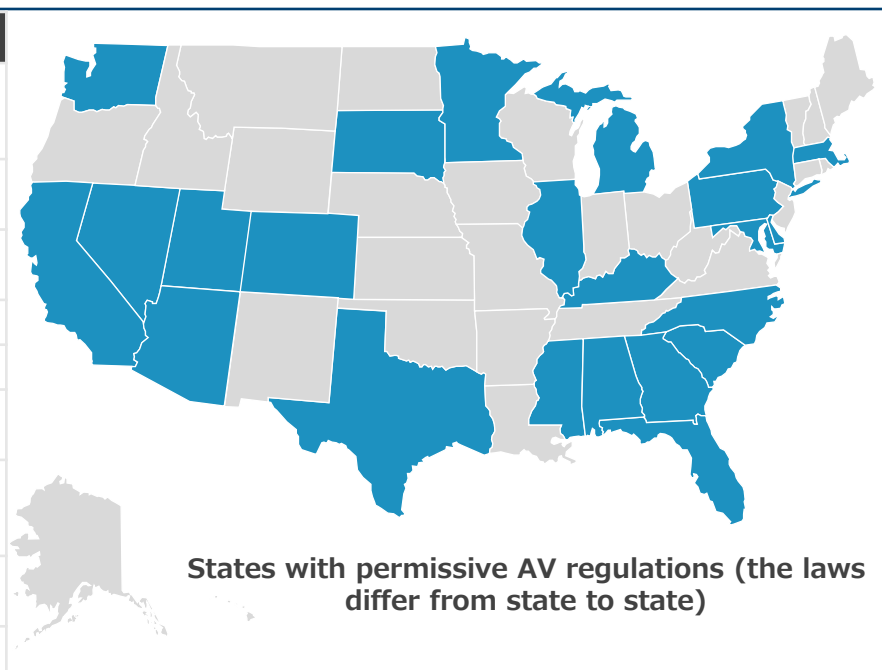
Details

The federal structure of the USA authorizes individual states to have their own laws related to higher-level autonomy. As autonomous driving moves from the laboratory and into a testing phase, states in the USA are beginning to introduce legislation that controls the use of this new technology. The laws are focused on public trials (with or without safety drivers) conducted by companies like Waymo, Cruise, Lyft, Uber in addition to the automotive OEMs.

With these trials picking both in numbers and maturity, the state governments are taking cognizance of the safety concerns and potential liability issues if a collision occurs that will eventually help them form regulations.

What's New?

State	Additional Information
California	New bill (AB 2286) mandates reporting collisions, deactivations, and requires human operators for AV testing.
Delaware	SB 258 modified, no AV over 10001 pounds can operate without a safety driver
Alabama	It grants permission for automated vehicle to operate on state public roads.
Massachusetts	An Act relative to the safety of autonomous vehicles.
Mississippi	FAVE Act allows AV testing w/o safety driver onboard
New York	A00539 amends the vehicle and traffic law in relation to autonomous vehicle driving
Nevada	An act requiring the Director of the Department of Motor Vehicles to accept certain proof of ownership for AVs
Texas	Establishes a task force to make guidelines and recommendations for AV trials
Washington	Rules regarding AV operations without a safety driver



Autonomous Vehicle Industry Association publishes policy framework for AVs

More [here](#)

US president is reportedly working on a federal regulatory framework for AV development

Trump names Elon Musk as the co-head of upcoming administration's government efficiency department. Republican Representatives Sam Graves of Missouri and Garret Graves of Louisiana have also been considered to lead the department. More [here](#)

US politicians propose a new rule that would prohibit U.S. investments in certain Chinese owned or backed companies. This could have implications on trading, acquisitions, and other financial collaborations of/with Chinese connected and autonomous vehicle manufacturers.

Key takeaways

Until late 2024, only a few AV trials have been conducted in the US without a safety operator, taking place under stringent conditions (night trials only, low speed, fewer passengers etc). Although this is not a major barrier it restricts the types of trials that can be conducted on public roads. The AV developers have often stressed the concern about legislation sometimes being 'too prescriptive' in nature, stifling innovation and making it difficult for them to assess and unlock the real benefits of vehicle autonomy.



USA – Best Practices & Guidelines

Latest activity vs status

About the policy activity placement in the grid

		Status		
		Introduced	Drafting	Published
Last updated	Last quarter			1
	3-12 months			2 3
	Older			

S. No	Name of the law	Recent development(s)	Next activity/milestone
1	ADS-equipped Vehicle Safety, Transparency, and Evaluation Program (Federal)	The US federal government has proposed new rules for self-driving cars, allowing companies with ADS-equipped vehicles to contribute data for regulatory oversight. This initiative, part of the National Roadway Safety Strategy, includes new exemption processes to support the responsible development of autonomous vehicle technology.	Effective from 02-01-2025
2	Autonomous Ground Vehicle Security Guide (Federal)	The Autonomous Ground Vehicle Security Guide offers Transportation Systems Sector partners a framework to understand and mitigate cyber-physical threats to AGVs, addressing both enterprise- and asset-level security risks.	NA
3	Automated Vehicles in Rural America (Federal)	The Automated Driving Systems for Rural America research is exploring how self-driving cars can improve safety and transportation options in areas often lacking public transport.	NA

Key highlights

- The US federal government is actively seeking to balance the promotion of autonomous vehicle (AV) technology with the need for robust safety oversight, as evidenced by the introduction of the AV STEP program, data collection requirements, and new exemption processes. This highlights a deliberate effort to manage the responsible deployment of AVs while fostering innovation.
- The Autonomous Ground Vehicle (AGV) Security Guide provides a comprehensive framework for transportation sector organizations to recognize and counteract potential cyber and physical threats to AGVs. This guide addresses security risks at both the organizational and individual AGV levels, helping to safeguard these autonomous vehicles and the systems they operate within.



China – Regulation & Legislation

Latest activity vs status

About the policy activity placement in the grid

		Status		
		Introduced	Drafting	Enforced
Last updated	Last quarter			1 2 3
	3-12 months			
	Older			

S. No	Name of the law	Recent development(s)	Next activity/milestone
1	Notice on Further Strengthening the Management of Access, Recall, and Software Online Upgrade of Intelligent Connected Vehicles	The regulation adds technical parameters for combined driving assistance systems to vehicle specifications and mandates companies to submit detailed testing plans, risk assessments, and test reports to the State Administration for Market Regulation, while enhancing incident reporting and analysis mechanisms..	Enforced on Feb. 2025
2	Work Plan for Demonstrating and Operating Intelligent Connected Vehicles (Autonomous Driving) Applications in Different Mixed Driving Environments (Second Edition)	The plan outlines key requirements for demonstration operations, including eligibility criteria for operating entities, vehicle standards, safety management, and accident handling procedures.	Enforced on Nov. 2024
3	Management Rules for Intelligent Connected Vehicle Highway Testing in Chongqing (Draft for Comments)	The rules aim to regulate testing activities on highways, ensuring safety while promoting the development of intelligent connected vehicle technologies.	Enforced on Nov. 2024

Key highlights

- China is advancing its regulatory framework for autonomous driving by integrating **safety-first principles, structured testing protocols, and controlled real-world deployment**. The government fosters innovation while ensuring compliance through enhanced monitoring, stricter technical requirements, and well-defined testing guidelines, paving the way for broader commercialization of autonomous driving technologies.
- The above 3 regulations mandate detailed technical specifications for road testing. This indicates a move toward stricter oversight of autonomous driving systems to ensure reliability and safety. Establishing clear rules for testing will support the development of advanced self-driving technologies while prioritizing road safety.

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 THE AUTONOMOUS CAR LEGISLATION GUIDE

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