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528 - Connected Car Legislation Guide

The Connected Car Legislation Guide provides an indepth 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.

#535



Autonomous Car Legislation Guide

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















FREQUENCY









PUBLICATION FORMAT















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









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THE AUTONOMOUS CAR LEGISLATION GUIDE





Autonomous Car Legislation Guide

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 AV regulations in EU/UK
Bharat NCAP
HOT Cars Act (USA)
 AV legislation (Australia)
EU road safety policy
 AV state-wise legislation (USA)
 UNECE Regulations on vehicle safety
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Introduction



Introduction

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.

Section	Content			
Bird's Eye View	Overview of trends and insights relevant to the legislation guides series			
Executive Summary	This section highlights some of the recently enforced and introduced regulations/legislations/guidelines			
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.			
Analysis	Key events and activities that are impacting the autonomous car development			
Summary Tables	Summarizing the legislative activities identified in the associated Excel spreadsheet where some laws are seeing an increasing level of activities and are nearing enforcement while some haven't seen the light of the day after being introduced and debated several times.			
Next Steps	Can SBD help you with any unanswered questions?			

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.



Example slides from the report





Global



What? Snapshot of key regulatory activities



Introduced*

Legislation/Regulations recently introduced

Proposal for establishing a new Task Force on Automated Driving Systems (TF ADS)

The task force is required to develop a new draft UN Regulation focusing on ADS not covered by other UN Regulations.

Regulations on High-Precision Map Management (Hangzhou)

The regulation governs the activities of collecting, storing, transmitting, processing, producing and using high-precision map data for intelligent networked vehicles within the administrative area of Hangzhou.

Automated Vehicles Bill (UK)

The new proposed bill regulates the use of automated vehicles on roads and in other public places and to make other provision in relation to vehicle automation.

Lidar Technology Security (SB 3624 Illinois)

SB 3624 mandates that Illinois state infrastructure must not include LIDAR equipment from specific countries (Similar provision in Missouri state is defined by HB 1416)

HB 7 act in Kentucky

The Bill sets out a framework for the operation of fully autonomous vehicles on public highways in Kentucky

Enforced/Published**

Legislation/Regulations recently enforced

UNECE regulations (150, 157, 158)

New amendments to UNECE Regulation 151, 157 and 158 come into effect from June 2023 (No new enforced laws)

Regulations on Suzhou Intelligent Vehicle Network Development Promotion

The regulation has been approved by the Standing Committee of the Provincial People's Congress and is in force since December $1^{\rm st}$, 2023

Autonomous Vehicle Approval and Operation Ordinance (Germany)

Germany's road traffic laws commenced for the use of up to SAE/ISO level 4 autonomous vehicles through the Act with regards to Autonomous Driving

In-vehicle Cameras (SB 296 California)

This bill would require a manufacturer of a new motor vehicle that is equipped with one or more in-vehicle cameras to disclose that fact, as specified.

Sale of Autonomous Vehicles (HB 806)

The enforced act authorizes an autonomous vehicle converter to sell, transfer, lease, offer for sale, or resell a converted autonomous vehicle or a motor vehicle purchased with the intent to convert the motor vehicle into a converted autonomous vehicle

^{*}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.



State-level HOT Car policies may come ahead of the federal law

Legislation Overview

Status

Introduced

Draft

Enforced



According to the data collected by KidsandCars.org, at least 8,000 children left alone in hot cars or as a result of gaining access independently into unoccupied cars between 1990 and 2020. Of those, over 990 children have been killed due to heatstroke and more than 1,200 children were injured. This is the second most common cause of non-traffic child fatalities from vehicles, the first being accidental back-overs. The US government and safety advocates have pushed for a mandatory active safety system that can determine if a baby has been unknowingly left in a vehicle and will trigger a series of alarms or flashing lights. This would help prevent the child from dying or being injured due to exposure in an overheated vehicle.

Details

Hot Cars Act within the Infrastructure Investment and Jobs Act 2021

In 2021, the Biden government signed the Infrastructure Investment and Jobs Act (<u>H.R. 3684</u>) wherein special provisions were made for the Hot Cars Act. This includes a mandate to the US DoT to come with a comprehensive plan to sign Hot Cars Act into a law (either as a special legislation on its own or part of a broader active safety/ADAS regulation). The deadline for the same is two years within the signing of IIJA 2021.

According to Janette Fennell, president of Kids and Car Safety, "Anything short of mandating the use of optimal and inexpensive occupant detection and alert technology would be a travesty and needlessly jeopardizes the lives of millions of children. Without detection and alert systems, children will continue to die in hot cars."



Source: Kids & Car Safety

Key takeaways

A lot of carmakers are already providing some sort of rear-seat reminders as part of their safety package. However, most of these systems rely on door-based warnings only and do very little to detect and report the presence of rear-occupants. Despite massive support from the industry and safety advocates, it remains to be seen if the Hot Cars Act is passed as a separate mandate or incorporated within the SELF-DRIVE Car Act as a provision and how the industry reacts to it.

What's New?

SB 554 (Florida) is one step closer to being a law

Senate Bill 554, also called Ariya's Act, would designate April as "Hot Car Death Prevention Month," and it requires the Department of Children and Families, the Department of Health, local governments, and other agencies to sponsor events that educate the public on HOT Cars deaths. (Link)





UN Regulation on Vulnerable Road Users

Regulation overview

Status

Introduced

Draft



Enforced

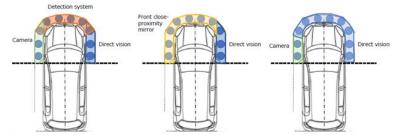


The United Nations Economic Commission for Europe (UNECE) is responsible for the World Forum for Harmonization of Vehicle Regulations (WP.29). This working party aims to produce global standards for vehicle regulations. Within the WP29 of UNECE, the working party on safety covers both passive and active technologies with the aim of ensuring global harmonization of technology standards. Three UN Agreements, adopted in 1958, 1997 and 1998, provide the legal framework allowing member states attending the WP.29 sessions to establish regulatory instruments related to vehicle safety.

Details

Drivers cannot fully see all areas around passenger cars and light trucks by looking through the windows or in conventional mirrors specially at very low speeds (~20 km/h). In Japan, for instance, pedestrians account for 35.6% of such fatalities while the number is more than 50% in Britain.

Two new UN regulations have been adopted recently by **UNECE's World Forum for the Harmonization of Vehicle Regulations (WP.29)** to targeting collision avoidance technology for vulnerable road users (pedestrian, cyclists). The new UN regulation aims to reduce to the greatest possible extent the blind spots at the front and lateral sides of the vehicle that exist in the transition zone between the area covered by conventional mirrors or by front and lateral view camera systems



Sample of compliance options for new regulation: Allows for technology neutral approach

Source: UNECE

Key takeaways

Activities are ongoing within UNECE to modify/replace existing vehicle safety regulations to accommodate autonomous vehicles. Vehicle manufacturers proposing new models for Type Approval will be required to comply with the UNECE regulations. In addition, vehicle manufacturers and suppliers are supporting these modifications through lobbying of national governments.

What's New?

UN proposes a new regulation for the roll-out of additional driver assistance systems

The new regulation builds on UN Regulation No. 79 adopted in 2018 and covers a broader range of technologies to be introduced in new models. The new regulation aims to allow the approval of a combination of driving control assistance features, including assistance to braking, accelerating, and overtaking. It doesn't cover fully autonomous driving. (Link)

Some recently introduced UNECE regulations:

UNECE proposes a task force draft a UN Regulation focusing on ADAS not covered by other UN Regulations. (Link)

UN Regulation 166 related to driver's awareness to VRUs is effective since June 2023 (Link)

UNECE proposes a new amendment in UN Regulation 167 Vulnerable Road Users Direct Vision. (Link)

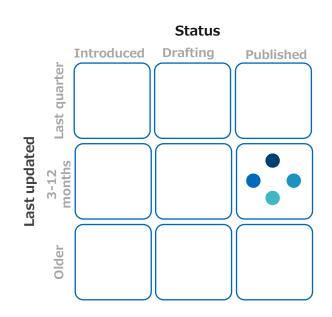
Summary Tables USA



USA – Best Practices & Guidelines

Latest activity vs status

About the policy activity placement in the grid



Name of the law	Recent development(s)	Next activity/milestone			
Automated Vehicles in Rural America	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.	No recent activities reported since the publishing			
Preparing for the Future of Transportation (AV 3.0)	The U.S. transportation system provides significant benefits in terms of mobility, granting widespread access to jobs, goods, and services. It also serves to connect remote regions to the broader national economy.	No significant updates			
USDOT Automated Vehicles 2.0 Activities (AV 2.0)	The Vision for Safety 2.0 envisions a collaborative effort involving the industry, state and local governments, safety and mobility advocates, and the public to chart the course for the implementation of automated vehicles and technologies.	Entry into force from 13.08.2023			
ITS America National V2X Deployment Plan	In August of 2022, the USDOT organized a V2X Summit with the aim of deliberating on the next steps. Eager participants advocated for a nationwide implementation of a V2X system to enhance safety. The USDOT pledged to formulate a roadmap for the execution of this comprehensive national deployment.	No significant updates			

Key highlights

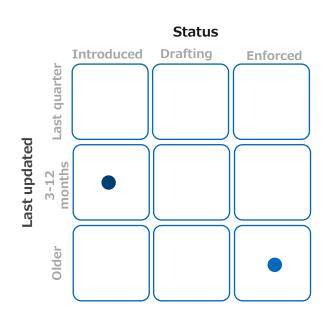
- To date, however, most AV testing and development is taking place in cities or and suburbs and fails to examine specific issues that rural populations commonly experience, such as traveling long distances for routine errands or medical appointments. This is problematic for widespread, equitable, and successful implementation to ensure that AVs and their benefits become a reality for all.
- Vision for Safety 2.0 aims for a collaborative approach, involving industry, governments, advocates, and the public to guide the implementation of automated vehicles. Building on previous policies and incorporating feedback, it establishes a foundation for the secure deployment of advanced driver assistance technologies. The guidance is voluntary, emphasizing best practices and prioritizing safety.



EU – Regulation & Legislation

Latest activity vs status

About the policy activity placement in the grid



Name of the law	Recent development(s)	Next activity/milestone			
UK's Automated Vehicles Bill [HL]	The mandate regulates the use of automated vehicles on roads and in other public places and makes other provisions in relation to vehicle automation.	Further review of the law is underway, no timeline for mandate			
Regulation (EU) 2019/2144 (European Union)	The regulation establishes requirements for the type- approval of vehicles, and of systems, components and separate technical units designed and constructed for vehicles, regarding their general characteristics and safety, and to the protection and safety of vehicle occupants and vulnerable road users.	No new changes in GSR recently (mandate timelines intact)			

Key highlights

• Members of UK parliament voted on amendment 28, which would require the Secretary of State to establish a council to advise on the implementation of the legislation and the roll out of self-driving vehicles within six months of the bill becoming law (but it is under review)

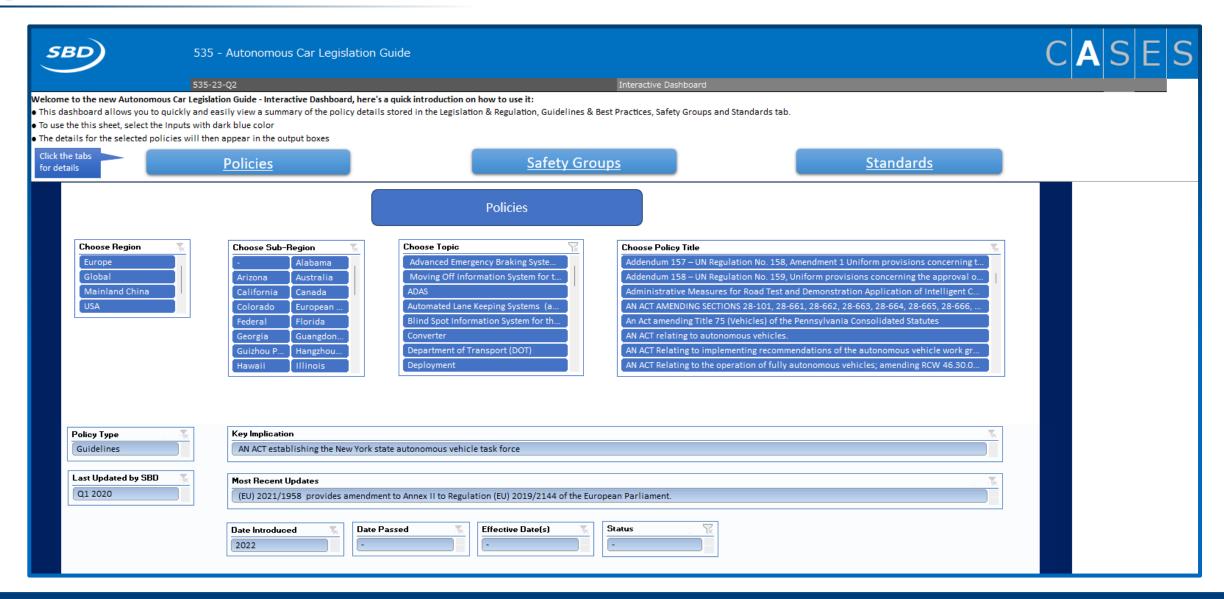


What the Excel Version Contains







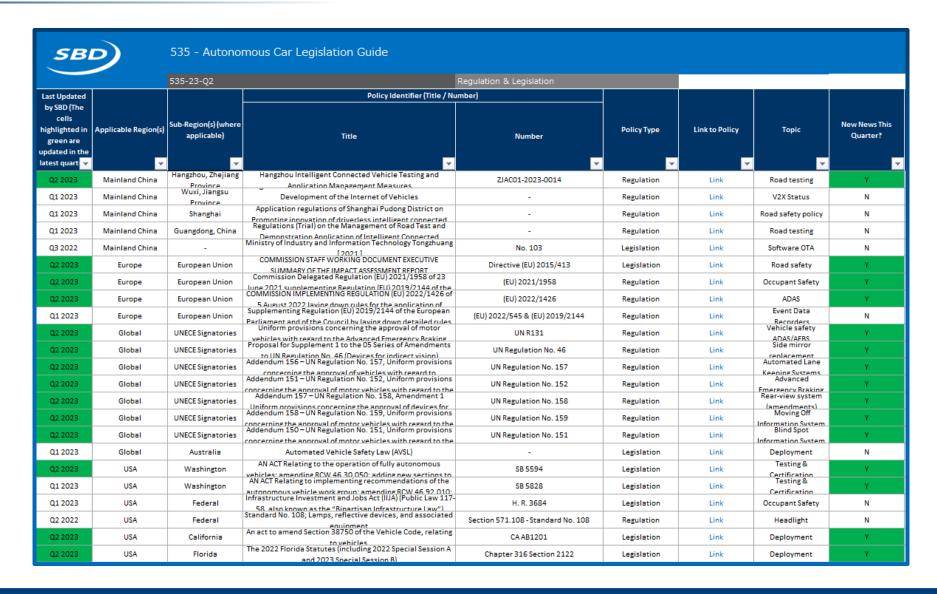


Excel Data Points: 13,000+

Regulations & Legislations covered:

Excel Tabs:

60+







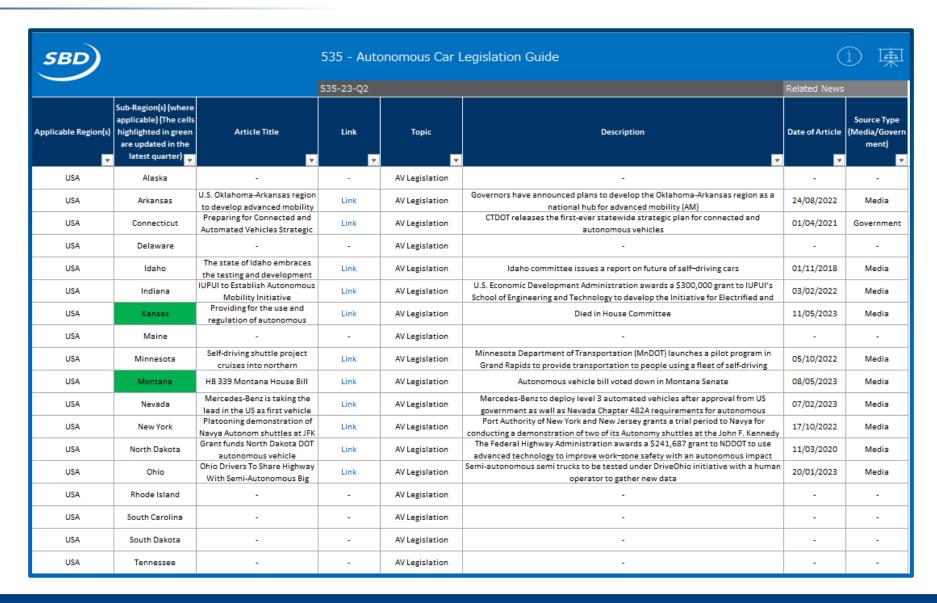
SBE	•		535 - Auto	onomous Car Legislation Guide				i)	С	A	S	Е	S
			535-23-Q2				Standards						
Last Updated by SBD (The cells	Applicable	Standard Identifier	Link to	Topic	Key Implications	Most recent updates	Link to Update (where	Date	Date Published	Revised Date	Status		Safety
highlighted in green are updated in t	Region(s)	(Title / Number)	Standard	·	· ·		applicable)	Introduced	_	applicable)	~	Vision Zero	Pedestrian Safety
Q2 2023	Mainland China	T/CESA 1240.1—2023	Link	Artificial intelligence - Automatic delivery vehicle automatic	This document specifies the requirements for the description	This document is applicable to	Link	13/01/2023	13/01/2023		Published - Curr		
Q2 2023	Mainland China	T/CESA 1240.2—2023	Link	driving system - Definition and requirements of simulation Artificial intelligence - Automatic delivery vehicle automatic driving system - Definition and requirements of simulation	of the simulation test scenarios (within the range of urban This document specifies the requirements for the description of the simulation test scenarios (within the closed park) of the	the simulation test of the This document is applicable to		13/01/2023	13/01/2023	-	Published - Curr	-	-
Q2 2023	Mainland China	T/ITS 0185-2022	Link	Road safety classification for autonomous driving	This document specifies the basic requirements for automatic driving open road safety grading, risk level assessment	-	-	05/12/2022	05/12/2022	-	Published - Curr	-	Υ
Q2 2023	Mainland China	T/ITS 0187.1—2022	Link	Operational design conditions of autonomous vehicle of commercial Part 1: Definition specification	This document specifies the general requirements,	-	-	05/12/2022	05/12/2022	-	Published - Curr	-	-
Q2 2023	Mainland China	T/ITS 0131—2022	Link	Mini and Medium Commercial Vehicle—Field Testing Methods and Requirements for Automated Driving Functions	This document applies to small and medium-sized pure electric self-driving vehicles (level 14 and above) engaged in	-	-	30/12/2022	30/12/2022	-	Published - Curr	-	-
Q2 2023	Mainland China	T/CHTS 10075-2022	Link	Technical Requirements for Accident Liability Data Collecting and Analyzing of Autonomous Driving Vehicles	It is applicable to the monitoring requirements of relevant data collection, transmission, storage and accident analysis			26/12/2022	09/01/2023	-	Published - Curr	-	Υ
Q2 2023	Mainland China	20214420-Q-339	Link	Intelligent and connected vehicle-Data storage system for automated driving (Draft for comment)	The standard stipulates that the autonomous driving data storage system should store five types of data: hasic	-	-	05/05/2023	-	-	Draft / In Develo	-	-
Q1 2023	Mainland China	T/CHTS 10075-2022	Link	Technical Requirements for Accident Liability Data Collecting and Analyzing of Autonomous Driving Vehicles	Self-driving vehicles (including test vehicles) need to be strictly supervised when driving under automatic driving status	In order to standardize the data collection and analysis of	Link	26/12/2022	09/01/2023	-	Published - Curr	-	-
Q1 2023	Mainland China	T/SSITS 2002—2022	Link	Low speed Automated driving Sweeping truck-Safety Specification	The corresponding standards apply not only to driverless passenger vehicles, but also to vehicles for other driving	This standard specifies the technical requirements	Link	23/12/2022	01/01/2023	-	Published - Curr	-	-
Q3 2022	Mainland China	-	Link	China to set self-driving standard	The establishment of the self-driving standard regulates China's autonomous driving test field. This standard will be	-	Link	-	-	-	Draft / In Develo	-	-
Q2 2023	Global	J2396_201705	Link	Definitions and Experimental Measures Related to the Specification of Driver Visual Behavior Using Video Based	The revised version of J2396 addresses the definitions and experimental measures related to driver visual behavior. It	-	-	14/07/2000	-	26/05/2017	Current-Revised	-	-
Q2 2023	Global	J2657_201912	Link	Tire Pressure Monitoring Systems for Light Duty Highway Vehicles	To establish overall performance guidelines, test methods, and minimum performance levels for a TPMS	-	-	16/12/2004	-	10/12/2019	Current-Reaffire	-	-
Q2 2023	Global	J2848/2_202303	Link	Tire Pressure Systems - Maintenance (ATIS) Type For Medium and Heavy Duty Highway Vehicles	Today the world of mobility is served extensively by tires which are pneumatic in design. To function correctly, these	-	-	30/06/2011	-	01/03/2023	Current-Reaffirn	-	-
Q2 2023	Global	J2831_202007	Link	Development of Design and Engineering Recommendations for In-Vehicle Alphanumeric Messages	Information/design recommendations contained in this report apply to OFM (embedded) and aftermarket systems	-	-	26/04/2012	-	29/07/2020	Current-Stabiliz	-	-
Q2 2023	Global	J3122_202005	Link	Test Target Correlation - Radar Characteristics	Surrogate targets are used throughout the automotive industry to safely and reneatably test active safety systems as	-	-	28/05/2020	-	-	Current-Issued	-	-
Q1 2023	Global	J3216_202107	Link	Taxonomy and Definitions for Terms Related to Cooperative Driving Automation for On-Road Motor Vehicles	This document describes machine-to-machine (M2M) communication to enable cooperation between two or more	-	-	07/05/2020	-	16/07/2021	Current-Revised	-	-
Q1 2023	Global	J2944_202302	Link	Operational Definitions of Driving Performance Measures and Statistics	This Recommended Practice, Operational Definitions of Driving Performance Measures and Statistics, provides	-	-	30/06/2015	-	06/02/2023	Current-Reaffire	-	-
Q1 2023	Global	J3234/1_202201	Link	Active Safety Roadside Metal Guardrail Surrogate Recommendation	The scope of this document is to provide the design specifications/requirements for metal guardrail surrogates	-	-	21/01/2022	-	-	Current-Issued	-	-
Q1 2023	Global	J2354_201906	Link	Message Sets for (ATIS)	Advanced Traveler Information Systems (ATIS)	-	-	27/11/1999	-	11/06/2019	Current-Stabiliz	-	-
Q1 2023	Global	J1674_201807	Link	Early Acquisition and Preservation of Information in a Motor Vehicle Crash	This document is intended to guide early data collectors whose objectives include documenting information related to	-	-	01/06/1998	-	12/07/2018	Current-Revised	-	-
Q1 2023	Global	J2395_200202	Link	ITS In-Vehicle Message Priority	VMP - Practice applies to both Original Equipment Manufacturer (OFM) and aftermarket ITS message-generating	-	-	07/02/2002	-	-	Current-Issued	-	-
Q1 2023	Global	J2313_199909	Link	On-Board Land Vehicle Mayday Reporting Interface	Interface between an on-vehicle Mayday detection, reporting system and the off-vehicle response center that will manage	-	-	28/09/1999	-	-	Current-Issued	-	-

Excel Data Points: 13,000+

Regulations & Legislations covered:

Excel Tabs:

60+



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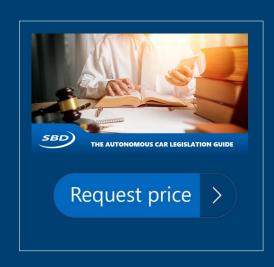
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