

Position

# Smart Regulation for Smart Vehicles

Time to update EU digital policy



## Executive summary

The competitiveness and the future of the European automotive industry – and thus its contribution to a strong Europe – depend crucially on European digital policy. In the VDA's view, if the European automotive industry is to remain competitive in an increasingly digital and connected world, the European Commission will have to introduce both better regulatory conditions and additional measures. The key requirement is an efficient and consistent regulatory environment. The VDA also sees the following framework conditions and measures as necessary:

- **Software-defined vehicles (SDV):** European standards are essential. The increasing complexity of the software can be handled only by an open software ecosystem with free and open source software (FOSS). The Commission should actively promote both, and dismantle existing regulatory hurdles.
- **Vehicle-generated data:** Data-based services offer innovative vehicle functions and new business opportunities – and are therefore essential to the competitiveness of the European automotive industry. The Commission should support the VDA's ADAXO concept to help ensure the functional safety and cybersecurity of vehicles and the protection of the data generated.
- **Cybersecurity:** UNECE Regulation No. 155 and the EU Cyber Resilience Act (CRA) are introducing new, stricter rules for **vehicle cybersecurity**. If these rules are to be implemented effectively and efficiently, the input required must be reduced by eliminating contradictory requirements and duplicate reporting obligations.
- **Automated and autonomous driving:** Following the creation of the EU legal framework for small series, it should now be extended to include large series. A harmonized approval process in the Member States and the swift adaptation of the national road traffic laws are likewise necessary, as are incentives for the local expansion of the infrastructure and positive communication that encourages acceptance.
- **Artificial intelligence (AI):** Today it is already clear how fundamentally AI will influence the mobility of the future along the entire automotive value chain. The Commission should support European competitiveness by bringing in strategic promotional measures, a European AI ecosystem and a legally secure and innovation-friendly legislative framework.
- **International data transfer:** Smooth sharing of data between the international economic areas, in particular the EU and China and the U.S., is essential for innovative vehicle technologies, data-based services and global production networks – and therefore also essential to the European automotive industry's international competitiveness and its ability to innovate.

# 1 Digital roadmap: shaping the future of mobility with a consistent legal framework

During recent legislative cycles, the European Commission has passed many laws and regulations in the field of digitization which affect the automotive industry, including the AI Act, the Data Act and the Directive on Network and Information Security (NIS 2 Directive). The associated implementation and reporting obligations now impose considerable burdens on both large and small companies in the sector.

First, the adaptations that are required for data security, privacy protection and handling digital services are associated with high financial and administrative costs that entail disadvantages for the companies in international competition. Second, they also face disadvantages due to contradicting regulatory requirements. Vehicle data platforms for instance must simultaneously satisfy the provisions of the GDPR (“privacy by design”) regarding data protection, of the NIS 2 (“security by design”) regarding security, and of the Data Act (“access by design”) to strengthen digital business models. Contradictory requirements often make it difficult for companies to find compliant solutions that are also efficient. A consistent regulatory environment is also mentioned as needing action in the Draghi Report<sup>1</sup>, by the BMDV Innovation Club<sup>2</sup> and by the Council of the European Union<sup>3</sup>.

We call on the Commission to do the following:

- To maintain operational capability and international competitiveness, in the field of digitization the Commission should create a consistent and efficient regulatory environment by reviewing and simplifying the existing rules, and resolving contradictions arising from multiple regulation, before additional regulations and laws are introduced. This includes harmonizing EU regulations with UNECE and the WTO.

In the first step, the Commission is recommended to create a central contact point for questions concerning regulation – alongside the Commission’s Regulatory Scrutiny Board – which will support companies in navigating the various legal requirements and help in identifying and eliminating duplicated regulations.

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<sup>1</sup> Draghi Report 2024, Automotive Objective No. 3: “Ensure that a coherent digital policy for the automotive sector is in place”

<sup>2</sup> [BMDV \(German Federal Ministry for Digital and Transport\) Innovation Club 2024: Make it Simple: Our blueprint for a more innovative Europe](#)

<sup>3</sup> [European Council of the European Union 2024: Conclusions on the future of EU digital policy](#)

## 2 Next generation vehicles: prerequisites for software-defined vehicles (SDV)

To survive in the increasing global competition, the automotive industry must – while **upholding European values** – develop **internationally competitive automotive software architectures** that customers will see as distinct from non-European offerings.

The **growing complexity of the vehicle software**, especially due to the relocation of services out of the vehicle and into the cloud, presents both OEMs and suppliers with increasing challenges that **a company can no longer handle on its own**. Simultaneously, **free and open source software (FOSS)** is becoming ever more important in the development of automotive software.

To overcome these challenges on a permanent basis and to stay competitive, appropriate **standards** and an **open software ecosystem** with **shared software components** (open source) will be necessary. The Draghi Report<sup>4</sup> also underscores the necessity of joint European projects in areas such as software-defined vehicles.

We call on the Commission to do the following:

- The Commission should support the creation of the necessary practicable, European **SDV standards**.
- The Commission should actively encourage the founding of an open, **pre-competitive software ecosystem** and **cooperative schemes for developing standardized software**, by supporting appropriate **publicly financed projects** and driving forward innovative solutions.
- The Commission should dismantle regulatory hurdles that hinder the **development or use of FOSS**.

## 3 Big Data on wheels: handling vehicle data responsibly

Maintaining the competitiveness of the European automotive industry demands that a comprehensive range of **vehicle-data-based services** be available. They will offer vehicle users **innovative functions** and simultaneously create **attractive business opportunities** for the manufacturers, suppliers and service providers. According to the Draghi Report<sup>5</sup>, they can also **contribute to decarbonization**.

The required **third-party access to vehicle-generated data** and possibly also to the **activation of vehicle functions** will be regulated by the **Data Act** and, in the future, possibly by a **regulation** specific to the automotive sector.

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<sup>4</sup> Draghi Report 2024, Automotive Objective No. 8: "Support common European projects in the most innovative areas, such as affordable European EVs, software-defined vehicle and autonomous driving (SDV and AD) solutions of the future, and the circularity value chain."

<sup>5</sup> Draghi Report 2024, Digitalisation and advanced technologies: "Digitalisation can also contribute to Europe's decarbonisation."

We call on the Commission to do the following:

- In the legislative process for a potential **sector regulation** the automotive industry should be involved at an early stage, particularly on the subjects of existing **duplications and contradictions**, possible **involvement in existing regulations**, maintaining **functional safety, cybersecurity, type-approval conformity** of the vehicle, and **protection of personal data** of vehicle users, plus **protection of intellectual property and trade secrets** (cf. VDA Position “In-vehicle Data, Functions and Resources”<sup>6</sup>).
- The Commission should reject **unauthorized direct access** for third parties to vehicle data, functions and resources for reasons of road safety and cybersecurity, and instead should support the VDA’s **ADAXO concept**<sup>7</sup> worked out between the OEMs and the suppliers, with which vehicle-generated data can be made available fairly and securely via an “extended vehicle,” in conformity with the Data Act.

## 4 Shield for intelligent cars: cybersecurity as a basic pillar of modern mobility

The top priority for the German automotive industry is the cybersecurity of its vehicles and of the attendant systems. **Users’ privacy** must be guaranteed, **industrial espionage and sabotage** must be prevented, and **vehicle occupants and the vehicle environment** protected against risks resulting from cyberattacks on networked vehicles. The relevant regulatory requirements have increased significantly not least in view of the deteriorating **geopolitical situation**,<sup>8</sup> specifically in the form of UNECE Regulation No. 155, the Cyber Resilience Act (CRA) and the NIS 2 Directive. In the context of competitiveness, the costs and work needed to implement the regulation-based **measures for certification and submitting notifications** should be kept as small as possible, in particular for SMEs.

**Cybersecurity during international data transfer** is also of great importance for the automotive industry as a basis for international development, production, distribution and product surveillance.

We call on the Commission to do the following:

- When fleshing out registration, certification, and reporting and notification obligations, the Commission should eliminate **contradictions and duplications among the regulatory requirements** and promote harmonized implementation in the Member States.<sup>9</sup> Furthermore, clarity is needed as to **which regulations apply to which manufacturer groups** in the automotive industry.
- Cyberattacks are frequently carried out by insiders, i.e. employees of the company itself. To minimize such risks, the Commission should create legal options for background checks and for **authorizing and authenticating members of the workforce**.
- The prerequisite for vehicle cybersecurity is regular and secure over-the-air updates for the cybersecurity management systems. The Commission should work towards **globally harmonized regulations** for the security of the necessary **international data network**.

<sup>6</sup> [VDA Position “In-vehicle Data, Functions and Resources”](#)

<sup>7</sup> [VDA Position “ADAXO: Automotive Data Access – Extended and Open”](#)

<sup>8</sup> Draghi Report 2024, Sectoral Policy Transport: “Transport is a critical infrastructure exposed to terrorist and hybrid threats including cyber attacks.”

<sup>9</sup> Draghi Report 2024, Sectoral Policy High-speed/capacity broadband networks Objective 3: “Simplify and harmonise the cybersecurity and Lawful Interception regulation, and improve cooperation among EU cybersecurity agencies.”

- On September 26, 2024, the US Department of Commerce published a Notice of Proposed Rulemaking<sup>10</sup> to prohibit the **use of software and hardware from China or Russia for connected and automated vehicles in the U.S.** in order to protect national security. So in line with the VDA's position, the Commission should work to keep the negative effects of this regulation on the European automotive industry to a minimum.

## 5 Autonomous driving on course for success: making the future of mobility secure and innovative

Autonomous driving offers the European Union wide-ranging opportunities: **improving road safety** by minimizing human error and road accidents, **reducing fuel consumption and emissions** through efficient driving, and **improving the traffic flow** based on integrating autonomous vehicles into intelligent traffic management systems.

To remain a **leader in highly automated driving**, the European automotive industry needs a **competitive regulatory framework**. To this end, the Implementing Regulation EU 2022/1426<sup>11</sup> on uniform procedures and technical specifications for the type-approval of the automated driving system (ADS) of fully automated vehicles created a legal EU framework for small vehicle series for **automated and autonomous driving**. However, to develop viable business models, the next step – **extension to include large vehicle series** – must be driven forward.

We call on the Commission to bring about the following:

- Creation of an **unbureaucratic and harmonized approval process** for vehicles and routes in the Member States.
- **Prompt and harmonized revision of the national road traffic laws** in the Member States, in order to standardize the approval and operation of highly automated (Level IV) vehicles across Europe.
- Promotion of **incentive systems in the Member States to create the local preconditions needed for highly automated driving**, in order to compensate for the initial cost disadvantages and entrepreneurial risks (e.g. promotion of transport companies, support for connecting rural areas).
- **Global cooperation** at the UNECE level and in the field of technical standardization is of great importance for vehicle security and should continue to be supported by the Commission.
- The Commission should **adopt a clear position in favour of autonomous driving** to send out a visible signal that will boost acceptance of the new technology among the public – which is critical to success.

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<sup>10</sup> [US Bureau of Industry and Security: Proposed Rule to Secure Connected Vehicle Supply Chains from Foreign Adversary Threats](#)

<sup>11</sup> [Implementing regulation \(EU\) 2022/1426 of the Commission with detailed provisions on the implementation of Regulation \(EU\) 2019/2144 of the European Parliament and of the Council as regards uniform procedures and technical specifications for the type-approval of the automated driving system \(ADS\) of fully automated vehicles](#)

## 6 Artificial intelligence in the passing lane: the key to a smart industry

Today artificial intelligence (AI) is already being increasingly used in vehicles and **along the entire automotive value chain**, and will have a key role in the design of future mobility. By passing the AI Act, the Commission has introduced a regulation that is very relevant to the automotive industry, whose implementation in national law is intended to take into consideration the demands from the industry formulated in the VDA position “Artificial Intelligence Act”<sup>12</sup>, in order to ensure that the regulation is **applicable in practice, legally secure and open to innovation**. The most important elements here are **strategic promotion**, a specifically European AI ecosystem with the necessary **European infrastructure for AI**, and the creation of a **legally secure and innovation-friendly legislative framework**. The potentials in terms of the scope and coordination of European **investments in establishing an AI ecosystem** have also been highlighted by the European Court of Auditors in its special report<sup>13</sup>.

From the viewpoint of the automotive industry, in the case of the expected **delegated acts for the type approval regulations** in particular, early and close cooperation is desirable to avoid inconsistencies with existing rules, development methods and the latest technology.

We call on the Commission to bring about the following:

- Instruments for promoting innovation (e.g. **regulatory sandboxes**) must be set up promptly by the Member States (cf. the Draghi Report<sup>14</sup>).
- Consistent **standards** must be published to clarify vague legal terminology.
- The Commission should act soon to provide **interpretation aids for “high risk AI”** and clear guidelines for implementation, which contain specific examples from actual practice. Including experts from the industry in the planned governance structures, in particular the AI Advisory Forum, is essential to success.
- In the view of the automotive industry, an **AI Liability Directive** is not necessary. The current draft of the new Product Liability Directive covers autonomous and learning software systems and applications, and is therefore sufficient.
- The development of the technical infrastructure – especially in the field of high performance computer centres, quantum computers and the semiconductor industry – must be driven forward to reduce existing strategic dependencies (cf. the Draghi Report<sup>15</sup>).

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<sup>12</sup> [VDA Position Artificial Intelligence Act](#)

<sup>13</sup> [European Court of Auditors: Special report 08/2024: EU Artificial intelligence ambition \(europa.eu\)](#)

<sup>14</sup> Draghi Report 2024: Computing and AI Objective 3: “Leverage the EU-wide coordination and harmonisation of national AI sandbox regimes and ensure harmonised and simplified implementation of the GDPR.”

<sup>15</sup> Draghi Report 2024: Computing and AI Objective 1: “Increase the computational capacity dedicated to the training and fine-tuning of AI models and create an EU-wide framework for providing ‘computing capital’ to innovative SMEs in the EU.”

## 7 Thinking globally: international data transfer for connected mobility

Sharing data across borders enables seamless worldwide cooperation among vehicle-makers and suppliers and is a basic prerequisite for developing, optimizing and integrating innovative technologies such as autonomous or connected vehicles. Access to global data markets also allows the improved analysis and use of Big Data, which can be utilized, for example, to provide tailored, databased services to customers. Sharing production data and best practices can help in enhancing efficiency and quality in global production networks.

For the German automotive industry, data-sharing in particular with the core markets **China and the U.S.** is hugely important both economically and technologically. These markets not only offer considerable sales potential; they are also key to the development and implementation of new technologies and services, and thus to the competitiveness of the German automotive industry. In this context the MoU<sup>16</sup> was signed between the Cyberspace Administration of China (CAC) and the German Federal Ministry for Digital and Transport (BMDV) in June 2024.

We call on the Commission to do the following:

- The European Commission should work towards smooth international data transfer that represents a necessary precondition for the competitiveness and innovative ability of the automotive industry at the global level.

### Contacts

**Dr. Marcus Bollig**

Managing Director for Product and Value Creation Division

[marcus.bollig@vda.de](mailto:marcus.bollig@vda.de)

**Martin Lorenz**

Head of Department Security, Data & Digitization

[martin.lorenz@vda.de](mailto:martin.lorenz@vda.de)

**Eva-Marie Beckmann**

Policy Advisor

[eva-maria.beckmann@vda.de](mailto:eva-maria.beckmann@vda.de)

**Dr. Julian Weber**

Expert

[julian.weber@vda.de](mailto:julian.weber@vda.de)

**Sebastian Witte**

Expert

[sebastian.witte@vda.de](mailto:sebastian.witte@vda.de)

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<sup>16</sup> [Federal Ministry for Digital and Transport: Germany and China sign Memorandum of Understanding on a dialogue format for cross-border data transfer](#)



The German Association of the Automotive Industry (VDA) unites around 620 manufacturers and suppliers under one roof. Its members develop and produce cars and trucks, software, trailers, bodies, buses, parts and accessories, and ever new mobility offerings.

We represent the interests of the automotive industry and stand for modern, future-oriented multimodal mobility on the way to climate neutrality. The VDA represents the interests of its members in dealings with politics, the media, and other groups in society.

We work to promote electric mobility, climate-neutral drives, the implementation of climate targets, securing raw materials, digitization and connectivity as well as German engineering. We are committed to a competitive business and innovation location. Our industry ensures prosperity in Germany: more than 780,000 people are directly employed in the German automotive industry.

The VDA is the organizer of the largest international mobility platform, the IAA MOBILITY, and the IAA TRANSPORTATION, the world's most important platform for the future of the commercial vehicle industry.

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