VDA German Association of the Automotive Industry

Position

Artificial Intelligence Act

Contents

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Executive Summary

The European AI regulation will have a massive impact on companies in the automotive and supplier industry. In the forthcoming trilogue, changes need to be made and more industry perspectives need to be taken into account. Otherwise there is a risk of losing competitiveness. The German Association of the Automotive Industry (VDA) identifies a need for adjustment in the following points:

1. The definition of the “safety component” is still insufficient for the classification of a high-risk AI system.

2. The current application-related classification of high-risk systems could result in all AI systems in and around the vehicle being classified as high-risk.

3. Conformity assessments by third parties mean additional work and should therefore only be used where absolutely necessary.

4. It is necessary to build on existing norms and standards.

5. General-purpose AI systems (GPAI) should be subject to the same risk-based assessment as other AI applications.

6. The requirements of the AI Act should not apply to open source.

7. Risk management requirements that go beyond Articles 9 and 10 are not required.

8. The requirements for data / data sets (Art. 10 (2–5)) sometimes go too far and must be made more practical.

9. The demand for transparency must not collide with the protection of trade secrets.

10. The establishment of living laboratories is to be welcomed, but there is still a need for improvement with regard to the precise design of these.

11. The need for continuous human monitoring of high-risk AI systems could complicate the adoption of automated or autonomous driving capabilities.

12. Double regulations, for example in the area of cyber security, must be avoided.

13. Guidelines for AI developers should be introduced so that abstract formulations in the legal text can be implemented in a practical and legally compliant manner.

1 European Regulation on Artificial Intelligence

In April 2021, the EU Commission presented a proposal for the “Artificial Intelligence Act” (AI Act) of the European Parliament and Council.[1] The AI Act is the world’s first regulatory approach for artificial intelligence and will also have a massive impact on the vehicle and supplier industry.

The core element of the present Commission draft is a risk-based regulatory approach that differentiates AI systems according to their assumed risk potential. Comprehensive requirements apply to “high-risk systems”. The use of certain systems with “unacceptable risk” is prohibited.

The German Association of the Automotive Industry (VDA) welcomes the creation of a legal framework for the legally compliant use of artificial intelligence (AI) in Germany and Europe. A regulatory approach should create legal certainty for providers, developers and users – at the same time, care must be taken to ensure that the requirements for providers of AI applications are practicable and implementable, otherwise the European AI ecosystem is at risk of losing the ability to innovate. The VDA regards AI as a key technology to pave the way to more efficient and safer mobility in Germany and Europe. It is already widely used in the vehicle and supplier industry. Further fields of application will be added in the future.

Type approval for vehicles is explicitly excluded from the regulatory framework of the AI Act (Art. 2 (2)). The VDA supports this sector-specific approach of the Commission to regulate the use of AI in the vehicle through the corresponding vehicle-specific legal framework. However, Recital 29 states that the provisions of the AI Act are to be introduced into existing legal acts such as the EU Regulation 2018/858 on motor vehicle type approval. The requirements of the AI Act will have to be transferred sector-specifically with high resource expenditure.

On June 14, 2023, the European Parliament voted on the numerous compromise amendments to the Commission draft and determined its own position for the upcoming trilogue. It is planned to adopt the AI Act before the end of this year. It will come into force two years later. The VDA identified a considerable need for changes to the present draft compromise.

[1] COM (2021) 206: Proposal for a regulation of the European Parliament and of the Council laying down harmonized rules in the field of artificial intelligence and amending certain legal acts of the Union.

2 Importance of AI for the Vehicle and Supplier Industry

In the vehicle and supplier industry, AI applications are used in the entire value creation process: from research and development to production and sales and use of the vehicle to after-sales. However, it is important to emphasize that products or processes with, end-to-end AI applications' have not yet been used in vehicles. AI applications are currently embedded in conventional software and are solely used to support and optimize existing applications and systems.

Examples in the vehicle context for AI applications:

Driver assistance systems or autonomous / automated driving functions can only develop their full potential with AI. The camera systems used for this combine image processing algorithms with AI methods. In addition, systems for voice recognition and camera-based fatigue and alertness monitoring are based on artificial intelligence. In the future it will also be possible to open and close your own vehicle using facial recognition.

AI applications are already being used in vehicle production today, whether for the maintenance of systems and machines (predictive maintenance) or the optimization of test processes for the materials used. AI applications make it possible to determine that gear parts do not fit optimally by detecting acoustic anomalies. In battery production, too, AI systems can use pattern recognition to determine whether an installed part is defec-tive. A final example is the development of new rim designs, where the possibilities of AI can be used.

3 Change Requirements

3.1 Definition of an AI System and a Safety Component (Art. 3)

The definition of the "safety component" is still insufficient for the classification of a high-risk AI system.

Such a definition according to Article 3 (14) would also classify purely technical processes with no risk potential, such as in the context of the development, manufacture or monitoring of products and systems, as high-risk AI systems. All vehicle components that are relevant for approval could also currently be understood as "safety components". We welcome the deletion of the term "property" from the definition in the position of the EU Parliament. The newly introduced restriction in Article 3 (14) regarding the delimitation of a safety component ("component of a product or of a system which fulfils a safety function for that product or system") is also positive. Since this is a term that needs to be interpreted, it should be explained at least in the recitals that these are functions whose safety relevance results from the fact that high availability must be guaranteed or that a malfunction or failure directly causes a hazard or violation of legal interests.

The general definition of AI in Article 3 (1) has long been a subject of discussion. **The VDA welcomes the conceptual narrowing of the definition** and the orientation towards the international AI definition of the OECD / NIST / ISO-IEC 22989:2022.

In the trilogue it must be ensured that normal software applications in the vehicle do not fall under the regulatory framework of Article 3 (1). Furthermore, the AI software, like any other software, must be understood as a product from a regulatory point of view (cf. European Product Safety Regulation). Machines and systems that act autonomously in the human environment but do not use machine learning methods should be clearly excluded from the AI-VO. From this it can be deduced that **for the automotive industry more detailed descriptions must be provided in a delegated legal act or via sector-specific statements.**

3.2 Definition of High-Risk AI Systems (Art. 6 (1) & (2) / Annex II & III)

The current application-based classification of high-risk systems could result in all AI systems in and around the vehicle being classified as high-risk. The VDA makes concrete suggestions for this:

A High-risk AI system is a system that "is required to undergo a third-party conformity assessment with a view to the placing on the market or putting into service of that product pursuant to the Union harmonisation legislation listed in Annex II" (Art. 6 (1)). These high-risk AI systems are said to pose a "significant risk to health, safety or fundamental rights". Annex III lists specific fields of application in which high-risk AI systems can be involved: For example, in the area of "critical infrastructure" (Annex III, 2), "general and vocational education" (Annex III, 3) or in "Employment, human resource management and access to self-employment" (Annex III, 4).

Further clarification is required here so that not all AI systems in and around the vehicle are classified as high risk. It is unclear whether this definition also includes the 'backend' of the vehicles or whether the regulatory framework only refers to the road infrastructure. The VDA therefore proposes harmonizing the term "critical infrastructure" with the definition of the CER guideline (Art. 2 (4)). It is recommended to specify that the regulatory framework relates exclusively to AI-supported infrastructure components in road traffic outside of vehicles (e.g. AI supported traffic lights or barriers).

Article 6 (2) should be amended so that EU regulation for harmonization in Annex II will be performed in a sector-specific manner. With regard to the automotive industry, it would be conceivable that it could itself determine when there is a high-risk component in this sector in order to adequately take into account the variety of roles that an AI system can play in the vehicle.

Only those components or systems should be considered "safety components" whose failure directly endangers the health and safety of people. If a hazard only arises indirectly, e.g. through a user's reaction to the failure, it should not be classified as a security component. An only indirect causality can be assumed, for example, if it is an AI system of a comfort function (e.g. infotainment).

Example – AI-based In-car voice assistants

Suppose a driver interacts with an AI-based voice system in the vehicle. Due to a malfunction, the speech system gives nonsensical answers. The driver now conducts a "dialogue" with the system, is distracted by this and steers the vehicle into oncoming traffic, which leads to an accident. The malfunction of the speech system only indirectly leads to the accident, as the driver's reaction was an essential part of the causal chain. In this case, the speech system is not to be regarded as a safety component.

The phenomenon described in this example is already adequately addressed by the established guidelines on "driver distraction" and therefore does not require any AI-specific regulation.

The classification according to use cases does not yet reflect the different functions that an AI system can take on.

The planned possibility of having Annex III continuously adapted by the EU Commission is intended to take account of the development dynamics of AI. This possibility of later expanding Annex III leads to legal uncertainty for companies. A possible regular reevaluation should therefore be based on clearly defined criteria. The duration of the development cycles in the automotive industry must be taken into account. Fixed transitional periods of at least 24 months should apply to the inclusion of new sectors.

3.3 Conformity assessment by Third Parties (Art. 6 (1))

Conformity assessments by third parties involve additional effort and costs. They should therefore only be used where absolutely necessary.

Some high-risk AI systems are subject to third-party conformity assessment / testing before they are placed on the market or put into service.

Article 43 (1) provides for a third-party conformity assessment for high-risk AI-systems for which "the provider has not applied or has applied only in part harmonised standards referred to in Article 40, or where such harmonised standards do not exist and common specifications referred to in Article 41 are not available". Notes on the conformity assessment procedure in this case can be found in Annex VII. Article 43 (2) provides for an "internal control" by the system providers for high-risk AI systems according to Annex III. Rules for "internal control" can be found in Appendix VI. In the trilogue, it must be clarified when the AI applications should be evaluated by an internal control or by a third party. A review of all high-risk systems by third parties should be rejected for reasons of practicability. It is already foreseeable today that the current testing organizations will face challenges in providing the necessary resources to adequately test AI applications in motor vehicles. For this reason, the VDA suggests introducing independent internal inspection and assessment bodies (so-called Type C bodies according to DIN EN ISO / IEV 17020). This is already established practice in other European industries.

3.4 Standardization (Art. 40)

Existing norms and standards in the AI regulation should be used as a basis.

The EU Commission aims to introduce a delegated act. This delegated act is intended to supplement EU Regulation 2018/858 on the approval and market surveillance of motor vehicles. This could ensure that AI applications in vehicles remain regulated on a sectoral basis.

The VDA appeals to the EU Parliament and the Council to continuously agree to this approach in the further legislative process. In particular, it should be ensured that the competence to issue such sector-specific regulations includes enough flexibility that appropriate adjustments to the requirements of the AI regulation remain possible.

The VDA welcomes the introduction of a specific delegated act that refers to existing norms and standards for AI and declares them to be applicable. The technical expertise lies with the participants in these standardization organizations and they can react quickly to new developments or market requirements.

A completely new technical European standardization in the field of AI is not necessary. Various technical standards have existed for years and have become established in the industry. In order to keep the cost-benefit ratio as efficient as possible for industry, such standardization activities should take place at ISO / IEC level. This is already happening in the ISO / IEC JTC1 TC42 AI, among others.

The VDA is explicitly in favor of retaining the vehicle-specific approval procedures (Article 80). In the vehicle type approval, it is checked whether all EU regulations – in particular those relating to vehicle safety – are complied with for new vehicle models. Consequently, the draft AI regulation excludes vehicle-specific requirements. So far, it is unclear when a high-risk AI system actually exists. It depends on which regulations apply to the respective AI application. The vehicle type approval should therefore regulate how the definition of AI for the vehicle sector is specified and when a high-risk system is present. Likewise, specific requirements for the vehicle sector can be defined.

3.5 General-purpose AI Systems (GPAI) (Art. 3 (1b), Art. 4, Art. 52) and Generative AI Systems (Art. 3 (1b), Art. 4, Art. 28b, Art. 52)

GPAI and especially Generative AI systems should be subject to the same risk-based assessment as other AI applications.

New regulations of the EU Parliament are intended to regulate the use of general-purpose AI applications (GPAI). A delegated act is intended to ensure that general purpose systems meet the same requirements as high-risk AI systems.

The term “General Purpose AI” is not yet clearly defined outside of the AI Act. According to the AI Act, GPAI are AI systems that do not have a specific purpose, but are able to guarantee general functions such as image or speech recognition, the generation of videos, or the answering of questions, and may be integrated into other (high-risk) AI systems.

A basic classification of all GPAI as high-risk AI systems is not plausible in terms of content and makes neither economic nor political sense, as this would create obstacles to innovation. The requirements of Article 52 point in the right direction for generative AI systems, but the VDA does not support the inclusion of GPAI in Annex III or Article 52 of the AI Act, as this contradicts the risk-based approach. The risk of GPAI follows from the respective use cases. For this reason, it is impossible for manufacturers of GPAI to implement a comprehensive risk management system as would be required for high-risk AI systems.

In addition, there is a need for clarification as to whether and when parts of the work of an AI in the development of actually conventional software lead to the applicability of the AI Act via the definition of Article 3 (1b) (e.g. ChatGPT writes a conventional program part without machine learning and this is incorporated into a product).

In Article 28b, the European Parliament has introduced new obligations for the providers of foundation models and generative AI. In the further legislative process, efforts must be made to clarify the content of these terms.

With a view to the entire value chain, the VDA is committed to ensuring that downstream providers of AI applications are not burdened with excessive obligations, such as the obligation to disclose training material specified in Article 28b (4). With regard to collaboration in the value chain, it is unclear how the originating provider has to support the downstream provider. This lack of clarity arises from the statements in Articles 28 and 28b, in which varying terms (deployer / provider) are used. The VDA is pushing for a clear separation between deployer and provider in the legislative process.

In Article 28a, the EU Parliament introduced provisions on the inappropriateness of contract clauses that apply to high-risk AI systems. The VDA demands that the provisions of Article 28a not only remain limited to SMEs and start-ups, as is currently the case, but also apply to all companies in general. This extension would help to counteract unfair contract design.

3.6 Open Source

The requirements in the AI Act should not apply to open source.

The high demands on the developers of AI systems would currently also apply to open source AI, e.g. with regard to data quality. Legal liability claims for open-source GPAI models could also be based on the AI Act, thereby undermining their development.

However, open source AI is to be rated positively. It can contribute to more transparency and help to identify and mitigate possible negative effects of AI, e.g. due to distortions in the underlying data set.

In an earlier draft version, the European Council excluded open source AI from the regulatory framework of the AI Act. Open source should only fall under the regulatory framework when used in a high-risk AI system. This passage needs to be reinstated. Otherwise, this will have a significant negative impact on European AI research and development.

3.7 Risk Management Systems (Art. 9 & 10)

The regulations in Articles 9 and 10 effectively protect fundamental rights. Further regulations are not necessary.

If a company uses a high-risk AI system, it must set up, apply, document and maintain a risk management system. This applies to the entire life cycle of the AI system. Articles 9 and 10 protect fundamental rights and minimize risks when using AI. The definition of the “fundamental rights impact” discussed by some EU parliamentarians is unclear and corresponding mechanisms are already clearly regulated by other laws.

Vehicle applications with and without AI are already being developed with risk management systems, e.g. for reasons of liability. Experience shows that there were no shortcomings during or after a product launch.

3.8 Data Processing Requirements (Art. 10)

Some requirements for data / data sets sometimes go too far. These requirements need to be made more practical.

Training models for data in high-risk AI systems must be developed with data sets for training, validation and test that meet the specified quality criteria (Article 10 (2–5)). Article 10 (3) formulates high requirements for the quality of the data on which high-risk AI systems are based. Paragraph 2f) mentions an "examination in view of possible biases" without, however, defining bias.

Article 10 (2) e) & g) (3) and (4) go too far in their depth of regulation and can only be fulfilled in practice for a few AI systems.

If the high data quality requirements are not met, the companies involved face high penalties. The systems are often trained or developed by providers not based in the EU, so that corresponding systems either cannot be used in the EU, which would be a competitive disadvantage, or the risk is shifted to the OEM or Tier 1.

Furthermore, the implementation of the provisions of Article 10 requires special AI and data analysis skills that not every company has. Companies that commission "AI service providers" (e.g. "AI-as-a-Service") with the development of AI systems would need them certify that they have followed the regulations of Article 10. The obligations should therefore only apply to the relevant service providers or providers of the trained systems.

The methods and rules for the proof to be provided are not clearly regulated in regulatory terms: Since there are no standards for the criteria mentioned in Art 10 (2), (3) and (4), the assessment of whether the data meet these criteria is purely subjective. Also, public opinion about "data gaps", "shortcomings", "availability", "appropriate statistical properties", "bias", etc., generally or for a specific product, could change over time as new insights, new sensors or other data sources become available. This means that developers of AI systems have to take a high legal risk in order to develop such AI systems, bring them to market and keep them there in the long term. This could significantly weaken Europe's ability to innovate and overall economic growth. The paragraphs should be turned into recommendations. All other risks resulting from poor data are reflected by general risk management.

The requirement to select training and test data sets in such a way that bias / discrimination / unfair treatment is avoided or minimized is fundamentally understandable and justified. The automotive industry supports both appropriate investigations before commissioning and their verification during operation. This is not just a legal and ethical requirement, but an essential quality feature of AI systems, especially in the high-risk area.

However, the addressees of the requirement must also be legally able to create and use corresponding data records, namely in the form of sufficient permission for the corresponding data collection. Consequently, the requirement can only be implemented in connection with correspondingly liberal data protection regulations. The regulation in Article 10 is currently threatening to collide with European data protection law.

It must also be checked whether and to what extent providers of AI systems can use training and test data without violating the principles of the European General Data Protection Regulation (GDPR).

3.9 Transparency Obligations (Art. 52)

The demand for transparency must not conflict with the protection of trade secrets.

Confirmability and transparency are important prerequisites for the acceptance of AI systems. For this reason, Article 52 introduces transparency obligations for providers and users of certain AI systems. However, it needs to be specified what is to be understood by the formulated exception for the communication to natural persons during the interaction: The wording “obvious from the circumstances and the context of use” (Art. 52 (1)) is unspecific.

Transparency requirements should be formulated in a manner appropriate to the risk and be suitable to be accordingly developed. A description of an AI system that is appropriate for the addressee could include the intended purpose and application instructions of the system, taking into account the aforementioned principle of risk adequacy, in order not to place excessive transparency requirements on low-risk systems. The VDA considers disclosure of the data sets used to be too extensive and problematic with regard to the GDPR requirements. The training data and its selection and use could involve trade secrets.

The requirement for clear labeling of an AI application can be supported in particular if the system creates the illusion of a human actor (e.g. a chatbot with natural speech output and possibly also a human appearance on the display).

Appropriate labeling solutions are already being practiced by VDA member companies today: Appropriate labels are attached to the machines in the production area to inform employees about the use of AI.

In the vehicle itself, no further special labels should be used due to the expected future increase in AI use. Instead, the VDA recommends simple markings, e.g. in manuals, instead of AI notes in the human-machine interface (HMI), otherwise user-friendliness will suffers significantly.

3.10 Use of Regulatory Sandboxes (Art. 53 / 54)

The establishment of regulatory sandboxes is welcome. However, there is still room for improvement with regard to the precise design.

The establishment of regulatory sandboxes should be clearly regulated in Articles 53 and 54. The aim should be for companies of different sizes to get access to the regulatory sandboxes without major bureaucratic processes.

It is currently unclear what exactly the regulatory sandboxes would enable – moreover, the establishment of regulatory sandboxes is not mandatory for the member states. It is also unclear whether regulatory sandboxes refer to a “real laboratory” or also to the possibility of testing AI technologies (including high-risk AI systems) without a full assessment. Testing AI, e.g. in road traffic, even without full approval, but with the appropriate registration, would be very

helpful, useful and welcome for automotive companies. In regulatory sandboxes, new autonomous AI driving functions can be tested with prototype vehicles under real road conditions. Their creation should be automatic upon request. The innovative power of Europe is hampered by a lack of regulatory sandboxes.

It would also be welcomed if, after using such a regulatory sandbox, the companies were certified by a supervisory authority that they meet the requirements of the AI Act. This could lead to additional global competitive advantages.

3.11 Human Oversight of High-Risk AI Systems (Art. 14)

Human supervision of high-risk AI systems according to Article 14 (1) could make the introduction of automated or autonomous driving functions more difficult.

According to Article 14 (1), high-risk AI systems must be designed in such a way that they "can be effectively overseen by natural persons". This is intended to prevent or minimize risks to "health, safety or fundamental rights" (Art. 14 (2)). Human supervision is already required by law for automated driver assistance systems.

However, human monitoring of AI systems is not possible in all cases, since the decision logic is not always comprehensible to humans. In the case of technical systems, it will not always be possible for people to monitor them for actual reasons. If monitoring had to be maintained without technical aids, this would be the end of a whole range of such products and systems! Article 14 should therefore be limited to the basic requirements for human supervision. Rules that cannot be implemented in practice should be avoided. In addition, it remains unclear whether the term "oversight" refers to real monitoring by a human being or also to technical possibilities in the sense of a warning lamp notifying a person. The phrase "can be effectively overseen" could mean that human supervision could impede the intended functioning of safety-related AI functions such as an emergency braking function. This could lead to serious accidents.

In addition, it should be avoided that AI applications that are intended to make continuous human monitoring obsolete (e.g. level 3 or especially level 4 vehicle systems) are confronted with this requirement. Accordingly, a specification should be made or, alternatively, a sector- or application-related opening clause should be provided.

3.12 Avoid Double Regulation

There is a risk of regulatory overlap or contradiction for high-risk AI systems, e.g. in cyber security (Art. 15) or in data protection.

Rather than introducing new regulations, an addition to the existing regulations in the automotive sector would be welcome. The vehicle-specific UN-R155 already requires comprehensive measures for cyber security. This UN regulation is implemented by the EU regulation 2019/2144 in the European legal area. Article 15 of the AI Act is irrelevant in this case.

In addition, there should be no duplicate requirements, e.g. for the market surveillance of the systems. Double regulation through the rules of the GDPR must also be avoided. This would result in additional administrative costs and legal uncertainties. There is currently a lack of technical norms and standards that would provide support for economic actors. This would lead to digital products being developed without the appropriate guard rails, while liability regulations would be tightened at the same time.

3.13 Introduction of Guidelines for AI Developers

Concrete guidelines are necessary so that abstract formulations in the legal text can be implemented in a practical and legally compliant manner.

In addition to the legal text, an application-oriented guide must be created. In this, the regulations should be “translated” in a practical and understandable way for AI developers, e.g. with corresponding checklists and step-by-step instructions.

Guidelines can support developers, for example, in answering the question of when an AI system poses a high risk or how it can be ensured that data sets do not contain any bias. An interesting approach is the NISTs[2] “AI Risk Management Framework 1.0”. This guide offers AI developers simple steps for the development process and the operation of AI systems. The EU could orientate itself on this in order to avoid too big differences in the risk management practice. This could reduce transaction costs in transatlantic trade.

[2] NIST = US National Institute of Standards and Technology

4 Summary

In summary, it can be said that the AI Act will affect both users and developers of AI systems. The regulation will have a major impact on the European market, but also on the non-European market.

The VDA endorses the EU's approach to regulating AI and recognizes that progress has been made towards more workable regulation over the course of the negotiation process. In addition, the scope of the regulations has been continuously expanded in view of current developments such as General Purpose AI (GPAI). After two years of negotiations, the VDA is calling on those involved in the legislative process to quickly bring the negotiation process to a successful conclusion in order to create legal certainty for the use and development of AI in Germany and Europe. From the point of view of the VDA member companies, the AI Act is still determined too much by a perspective that overemphasizes the risks of AI and undermines the opportunities of this technology for the European economy.

The AI Act requirements for vehicles must be integrated into the existing type approval process in order to avoid overlaps. The harmonization of UNECE regulations and European law must be continuously ensured.

If the need for change presented in this statement is taken into account in the trilogue, the VDA sees opportunities for Europe to remain a globally important AI innovation location for the automotive industry in the future.

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The German Association of the Automotive Industry (VDA) consolidates more than 650 manufacturers and suppliers under one roof. The members develop and produce cars and trucks, software, trailers, superstructures, buses, parts and accessories as well as new mobility offers.

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 politics, the media, and social groups. We work for electric mobility, climate-neutral drives, the implementation of climate targets, securing raw materials, digitization and networking 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 IAA MOBILITY and of IAA TRANSPOR-TATION, the world's most important platform for the future of the commercial vehicle industry.

If you notice any errors, omissions or ambiguities in these recommendations, please contact VDA without delay so that these errors can be rectified.

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