Summary

Through Directive 2019/770/EU “on certain aspects concerning contracts for the supply of digital content and digital services” and Directive 2019/771/EU “on certain aspects concerning contracts for the sale of goods”, both of May 22, 2019 and passed by the European Parliament and the Council, the digital world will enter European legislation on the sale of consumer products. Member States must transpose the Directives, aiming at comprehensive harmonization at Union level, into national law by July 1, 2021; they will be effective as from January 1, 2022. With their reference to the entire body of EU law, expressly including technical standards, the Directives will pose a challenge to Member States’ lawmakers. This article focuses on the sale of vehicles, which are deemed “goods with digital elements” under the extended scope of Directive 2019/771. Only where vehicles conform in a comprehensive manner to the provisions of the European Type-Approval Regulation 2018/858, including all relevant regulatory acts and technical standards referred to therein, will the objective and subjective conformity requirements of the new Directives be met. European and national market surveillance authorities will monitor the vehicles’ conformity over a period of at least five years. This, in fact, will require an adjustment of domestic limitation periods in order to preserve consumers’ rights in cases where the contractual period of limitation is shorter than the market authorities’ timeframe for conformity checks.

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The new Directives on European sale of consumer goods law

Thoughts on the purchase of a vehicle as a “good with digital elements”

The two new Directives on European sale of consumer products law – 2019/770/EU and 2019/771/EU – create a place for the reality of EU sale of goods law and EU services law to be introduced to the digital age. The practical impact of these Directives, which are yet to be implemented, is by no means limited to assessing a product’s “conformity” with the contract. Rather, the new EU sale of goods law encompasses the entire body of Union law, including technical standards. The new Directives thus go far beyond the scope of application of the existing Directive on the sale of consumer goods (Directive 1999/44/EC – it is repealed by the new Directives as from January 1, 2020), whose purpose according to Article 1(1) is merely the approximation of the laws, regulations and administrative provisions of the Member States on certain aspects of the sale of consumer goods and associated guarantees.
in order to ensure a uniform „minimum level of consumer protection“ in the context of the internal market. The new Directives, on the contrary, seek to ensure a comprehensively „high level of consumer protection“ in line with the requirements of Article 169 TFEU (as Recital 2 of Directive 2019/771/EU explicitly states), and to increase legal certainty as regards the rules „applicable to contracts for the sale of such products“ (Recital 5 of Directive 2019/771/EU). This article focuses primarily on the sale of vehicles as examples of “goods with digital elements” as per Directive 2019/771. Two aspects will be fundamental to the application and transposition of the Directives into national law: (I) the necessary re-definition of what constitutes the “quality and nature of the goods” as a consequence of having to apply the entire Union law concerning vehicles and (II) statute of limitation issues.

I. Mandatory harmonization

The forced comprehensive application of the entire law of the EU, including its standards, poses a significant challenge to national transposition legislation and courts, but also to practitioners before court; one which cannot be tackled with conventional, purely German legal dogmatics (deutsch-rechtliche Dogmatik)\(^1\), but only through considerable efforts to rethink the law.\(^2\) It is the Directives’ wider objectives, and not merely the matter of their narrow terminology, that will be key to their practical application. In the interest of coherence and Union-wide harmonization, Article 4 of both Directives puts a stop to potential attempts at the domestic legal level to circumvent the Directives’ aims through restrictive domestic provisions. According to this Article, Member States shall not maintain or introduce, in their national law, provisions diverging from those laid down in this Directive. This also applies to “more, or less, stringent provisions to ensure a different level of consumer protection” that would diverge from the requirements of Article 169(1) TFEU. Article 22 of Directive 2019/770 and Article 21 of Directive 2019/771 prevent the agreement of any contractual terms to the detriment of the consumer, but allow contractual arrangements that go beyond the Directives’ requirements.


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\(^1\) This terminology is based on Graf von Westphalen, ZIP 2019, p. 889.


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The subject matter and purpose of Directive 2019/770 concern contracts between traders and consumers for the general supply of digital content or digital services. “Digital content”, states the definition in Article 1(1), “means data which are produced and supplied in digital form”. “Digital service” is defined in Article 1(2)(a) as “a service that allows the consumer to create, process, store or access data in digital form”. Moreover, Article 1(2)(b) includes any “service that allows the sharing of or any other interaction with data in digital form uploaded or created by the consumer or other users of that service” in the definition. In essence, the Directive’s subject matter is the use of digital devices and their complex forms of communication.


The subject matter and purpose of this Directive concern provisions regarding sales contracts between sellers and consumers. According to Article 2(5)(a), the term “goods” means “any tangible movable items; water, gas and electricity are to be considered as goods within the meaning of this Directive where they are put up for sale in a limited volume or a set quantity”. Article 2(5)(b) further states that “goods” also includes “any tangible movable items that incorporate or are inter-connected with digital content or a digital service in such a way that the absence of that digital content or digital service would prevent the goods from performing their functions (‘goods with digital elements’). Pursuant to Article 2(6), “digital content” means “data which are produced and supplied in digital form”.

Broadly speaking, the Directive thus applies to all consumer products that are bought because of their digital capabilities and functions and that only fulfill their intended and expected overall purpose in conjunction with their digital elements. As consumer products with a range of electronic and digital components, functions, modes of operation and intended purposes, vehicles also fall within this scope. Therefore, this Directive will be of considerable relevance in practice. Any Dieselgate case of the recent years in which so-called defeat devices manipulated digital systems otherwise intended to reduce harmful emissions would have to be assessed without exceptions under the new Directive. This is also true for the increasing number of safety-related recalls due to electronic and electrical defects – in the first half of 2019 more than half a million vehicles were recalled in Germany alone.

3 In contrast to the legal definition of “Dienstleistungen” provided for by the German Civil Code (Bürgerliches Gesetzbuch – BGB), the Union law term “services” encompasses services, supplies and the performance of work (Werkleistungen).


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Both Directives must be transposed into domestic law by July 1, 2021, and will be effective as from January 1, 2022.

3. The rights and interests protected by Article 169(1) TFEU

According to Recital 2 of both Directives, they are conceived as a means to realize the rights and interests enshrined in Article 169(1) TFEU, i.e. the health, safety and economic interests of consumers, at a high level of protection, whilst also taking into account environmental protection and all its personal and societal issues (Art. 191(2) TFEU). As regards the meaning of “objective conformity” of a sold product, Article 7(1)(a) requires that any existing Union law provision be taken into account that stipulates requirements for its production – and it is only in accordance with these that vehicles may be placed on the market.

This is intended to ensure that even where it is presumed that consumers are more willing to take risks when acquiring and using goods with digital elements, only safe and environmentally sustainable products that protect consumers’ health are placed on the market and that infringements, by contrast, will be sanctioned. Any implementation of Directive 2019/771, in fact, will have to include the applicable public-law product safety requirements (ProdSG – German Product Safety Act). This is a consequence of the higher-ranking Union-law principle of coherence, which factors in the interaction between safety requirements in the context of private product use and this usage’s impact on the user’s social and physical environment. Drivers of diesel vehicles equipped with an illegal defeat device are not only victims, being exposed to safety risks and their expectations as consumers regarding their vehicle’s conformity with the law not having been met, but, as long as they drive this vehicle, they are also polluters.

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5 Grabitz/Hilf/Nettesheim, Das Recht der Europäischen Union, 2019, Article 169, marginal number 11 with a reference to Article 191 TFEU, which contains provisions vis-à-vis environmental policy objectives, protection measures and international cooperation in this policy area.
9 See also German Higher State Court (Oberlandesgericht – OLG) Koblenz, judgment of 12.6.2019, 5 U 1318/18, ZIP 2019, p. 1377; for a critical discussion see Bruns, NJW 2019, p. 2211.

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4. Article 169 TFEU encompasses EU type-approval law

EU type-approval law forms part of the Directive’s implementation scope and pursues identical objectives.\(^{10}\) European type-approval law is geared towards product safety.\(^{11}\) It also spans market surveillance of in-service vehicles.

The strict regime of European safety and type-approval law does not claim to be absolute. Instead, it is shaped by certain objectives that, just as with the imperative for constant improvement in the industry, leave room for better knowledge to develop over time. The Product Liability Directive (Directive 85/374/EEC)\(^{12}\) already states in Article 6(2): “A product shall not be considered defective for the sole reason that a better product is subsequently put into circulation.” According to the legal definition provided for by the Product Safety Directive of October 3, 2001 (Directive 2001/95/EC)\(^{13}\), an inherent basic risk is acceptable even when it emanates from a “safe product” within the meaning of the Directive: “The feasibility of obtaining higher levels of safety or the availability of other products presenting a lesser degree of risk shall not constitute grounds for considering a product to be ‘dangerous’”. This is why the new Directive (Recital 5) seeks to ensure a high, and not an absolute, level of consumer protection and, based on this, develops the benchmark against which the requirements for conformity according to Articles 6 and 7 of the Directive will have to be measured in practice.

5. The BGH’s open understanding of “quality and nature” (Beschaffenheit)

In its judgment handed down on June 15, 2016\(^{14}\), the German Federal Court of Justice (Bundesgerichtshof – BGH) decided: Both factors inherent to the product as well as any relation of the product to its environment, that, according to prevailing public understanding, has an impact on the product’s value, are to be considered as the product’s “quality and nature” within the meaning of Section 434(1) BGB. The BGH derives this wide interpretation from the Sale of Consumer Goods Directive ( Directive 1999/44/EC). The Court explicitly leaves open\(^{15}\) whether, for reasons of consistency with the Directive, “quality and nature” must be interpreted in an even wider sense and cover, for instance, not only those relations to the environment that have their origin in

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\(^{10}\) Official Journal of 14.6.2018 L 151/1, p. 37, Recital 37.


\(^{14}\) VIII ZR 134/15, NJW 2016, 2874, marginal number 10.

\(^{15}\) VIII ZR 134/15, NJW 2016, 2874, marginal number 13.
the object of purchase itself, but also any real actual connection to the object of purchase.

a) Subjective and objective requirements for conformity according to the Directive

The list provided for by Article 6 of Directive 2019/771 captures these ‘relations to the environment’ as subjective requirements for conformity with the sales contract and names examples like “functionality”, “compatibility” and “interoperability”16, which will be measured against whether the goods are “fit for any purpose for which the consumer requires them”17. As far as vehicles are concerned, the meaning of the subjective requirements for conformity interact18 directly with the political, social and ecological environment into which a vehicle is to be supplied and may be utilized in keeping with its purpose. What the BGH refers to as “value” – the sum of all subjective quality and nature requirements – thus necessarily also contains these interactions with and relations to the vehicle’s environment at the subjective level because using a vehicle without these relations (for example the requirements of the German Road Traffic Regulations [Straßenverkehrsordnung], which also refer to the vehicle’s environment), is inconceivable.

Article 7(1)(a) of Directive 2019/771 refers to any existing Union law and technical standards19 and thereby supplements the subjective criteria with what the public at large may reasonably expect20 vis-à-vis the objective requirements for conformity set out in the Directive. In addition, this provision justifies these expectations through this reference and ensures they are met in practice through the instruments provided for by Union law and technical standards. According to the provision, goods shall “be fit for the purposes for which goods of the same type would normally be used, taking into

17 The definitions provided by Article 2(8)(9)(10) and (17) reflect the buyer’s expectations. These terms can also be used in the technology sphere and therefore their meaning must be analyzed and compared with the terms used in the Directive in each individual case in order to avoid confusion.
18 In this paper, the term “interaction” refers to the process-oriented approach of DIN EN ISO 9000:2015 (chapter 4.4.1), a standard for quality management systems applicable in the EU and which will be examined more in-depth later in this paper. Point 3.4.1 (Note 2) of DIN EN ISO 9000:2015 defines: “Inputs to a process are generally the outputs of other processes and outputs of a process are generally the inputs to other processes.” It is the various technical processes within a supply chain (within which the success of any given process depends on the outcome of the previous process) that interact with each other.
20 Court of Justice of the European Union (CJ), judgment of 5.3.2015, joined Cases C-503/13 and C-504/13 (defibrillators).
account, where applicable, any existing Union law and national law, technical standards or, in the absence of such technical standards, applicable sector-specific industry codes of conduct”. This now regulated context makes the quality and nature requirements an “actual connection to the object of purchase”, the meaning of which had been left open by the BGH. In the context of any legal assessment, Union-law criteria, including those in technical standards, that exist outside the written sales contract, but that are nonetheless required by the contract and for the contract, will fall into this category.

b) Contractual agreement on the “quality and nature” of the product

In its settled case law, the BGH follows the view that an agreement on the quality and nature of the product according to Section 434(1) of the BGB requires that the seller give a contractually binding warranty that the object of purchase carries all the agreed features and show their willingness to assume responsibility for any consequences resulting from a lack of such features. The BGH sets a high threshold for the conclusion of a quality and nature agreement and only deems it met in very clear cases. However, any product that is subject to a largely closed and harmonized area of the law, such as EU type-approval law or EU medical devices law, will meet this threshold. This is particularly true for Certificates of Conformity, delivered by vehicle manufacturers according to Article 18 of Directive 2007/46/EC. With this document, the vehicle manufacturer addresses the individual buyer and certifies that the vehicle complies with all Union law provisions and is free from “material defects as well as legal defects”, this being a precondition for the vehicle’s fitness for registration and its intended purpose. The Certificate thus constitutes an “actual connection to the object of purchase” within the meaning of the BGH’s jurisprudence. From the buyer’s perspective, it also represents an assurance on the part of the manufacturer that he will assume responsibility for any deviation in practice from the Certificate’s content, especially since this comprehensive declaration of conformity is a condition for registration and thus necessarily influences the buyer’s purchase decision. Moreover, the Certificate of Conformity is a prerequisite for the sales contract’s validity (Section 134 BGB) due to certain public-law provisions.

In addition, the vehicle manufacturer’s Certificate of Conformity, mandatory under Union law, can be considered as an independent warranty declaration within the

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meaning of Article 17 of Directive 2019/771\textsuperscript{25}. The most recent jurisprudence on this issue is, however, controversial, though several higher state courts have adopted views along those lines.\textsuperscript{26}

c) Material defects according to sentence 2, numbers 1 and 2 of Section 434(1) BGB

Had the BGH’s jurisprudential reasoning rejected the existence of an agreement between buyer and seller regarding the quality and nature of the product, legal appraisal would have to take the existence of a “material defect” within the meaning of sentence 2, number 1 of Section 434(1) BGB as a starting point, or, in other words: whether the object of purchase, in these cases a vehicle, is fit for the contractually intended purpose. Pursuant to sentence 2, number 2 of Section 434(1) BGB, the vehicle is deemed free from defects if it is fit for the purposes for which vehicles are normally used, and if it is of a quality and nature that corresponds to those of goods of the same type and that the buyer is entitled to reasonably expect due to the type of product. The difference between these two variants of Section 434(1) BGB is ultimately not crucial, at least not to the questions raised in this paper\textsuperscript{27}.

The BGB’s criteria to assess the existence of a material defect correspond, in essence, to the substantive provisions of Article 7(1)(d) of Directive 2019/771, laying down the subjective and objective requirements for conformity with the sales contract for goods with digital elements.

6.) New type-approval law through Regulation (EU) 2018/858

Regulation (EU) 2018/858\textsuperscript{28} has fundamentally transformed European type-approval law, which is crucial for the application of Directives 2019/770 and 2019/771, and made it much stricter. The EU has learned its lesson, in particular from the diesel emissions

\begin{itemize}
  \item \textsuperscript{25} On this point see Helmig, Phi 2016, p. 188 (192); Helmig, NJW-Aktuell 2017, p. 10; Artz/Harke NJW 2017, p. 3409; Harke VuR 2017, p. 83.
  \item \textsuperscript{26} For an overview see Riehm, NJW 2019, p. 1105; to the author’s knowledge, the most recent judgment has been OLG Koblenz, judgment of 12.6.2019, 5 U 1318/18, ZIP 2019, p. 1377; OLG Karlsruhe, order of 5.3.2019, 13 U 142/18, ZIP 2019, p. 863; it is notable that the proceedings in OLG Koblenz (ZIP 2019, p. 1377), in which further legal recourse is still possible, would not be subject to the appraisal of the BGH’s Eighth Panel, but its Sixth Panel (VI ZR 252/19), due to the OLG’s judgment against the defendant based on Section 826 BGB. The Sixth Panel deems the scope of the Section 826 liability to be very narrow, see judgment of 28.6.2016, VI ZR 536/15, ZIP 2016, p. 2023.
  \item \textsuperscript{27} BGH judgment of 20.3.2019, VIII ZR 231/18, VersR 2019, p. 766, marginal number 31.
  \item \textsuperscript{28} Official Journal of the European Union of 14.6.2018 L 151/1. Regulation 2018/858 entered into force on July 5, 2018, and will be effective as from September 1, 2020. It adopts and extends the existing powers of market surveillance authorities that have been established by the Product Safety Directive 2001/95/EC and Regulation 765/2008.
\end{itemize}
scandal that revealed an “abuse of the approval process”, and in response has taken steps at Union law level with this Regulation. It repeals the current Framework Directive (Directive 2007/46/EC), which had been applicable so far. It also establishes a close-knit network of cooperation between type approval authorities and market surveillance authorities, leaving, as a general rule, very few loopholes due to the authorities’ overlapping areas of competence and additional powers granted: Type-approval law is part of administrative law and regulates the criteria for granting type approval of vehicles, but also for its withdrawal. Market surveillance law deals with monitoring in the field and ensuring that production vehicles are in fact produced according to the approved vehicle type, and that they comply with the type approval and its specifications vis-à-vis the expected lifespan of the vehicle, its components, systems and separate technical units. Recital 10 of Regulation (EU) 2018/858 states that Member States shall take measures in response “when automotive products are encountered on the market that represent serious safety or environmental risks, that undermine the protection of consumers, or that do not comply with the type-approval requirements.” Market surveillance is a necessary post-hoc measure because authorities cannot effectively monitor whether the production of production vehicles takes place in conformity with the law. Otherwise Dieselgate would not have happened and the number of safety recalls would not be increasing.

**a) Conformity requirements under EU law**

The harmonized type-approval law of the EU requires, as a precondition for the vehicle’s fitness for type-approval and registration, that the vehicle achieve “conformity of production” in accordance with the design and production processes set out in the harmonized standard DIN EN ISO 9001:2015. This harmonized standard sets out a quality management system geared towards risk reduction, whose documented processes interact with each other and give rise to a presumption of product safety.

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30 According to the Type-Approval Directive (2007/47/EC), “conformity of production” is “one of the cornerstones of the EU type-approval system”; see also Recital 42 of the Type-Approval Regulation (2018/858).

31 Quality management system.

In the description of its own scope of application, the standard itself establishes a direct link to statutory and regulatory requirements and requires that all processes be aligned with the requirements of the “interested parties”, among them above all final consumers at the top of the supply chain. 33

The vehicle manufacturer must confirm the vehicle’s conformity of production in the Certificate of Conformity. With this certificate, the manufacturer declares that the vehicle complies with all European legislative acts, thus including production requirements and conditions under the quality management regime of DIN EN ISO 9001:2015. During the so called “initial assessment”, the type-approval authority will determine whether the vehicle manufacturer is in principle able to produce vehicles in accordance with these provisions. It is the market surveillance authorities’ task to monitor for a certain amount of time that in-service conformity is continually consistent. It is therefore fair to say that there is a “trinity of conformity” in European type-approval law: conformity of production, the Certificate of Conformity and in-service conformity. This trinity shapes the criteria vehicles must fulfill in order to meet all the requirements of conformity according to Directive 2019/771.

b) Collaboration between type-approval and market surveillance authorities

Article 7(3) of Regulation 2018/858 links the cooperative endeavors of the type-approval authorities and market surveillance authorities which work to complement each other: “For the purpose of enabling market surveillance authorities to carry out checks, approval authorities shall make available to market surveillance authorities the

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33 Chapter 4.2 of DIN EN ISO 9001:2015 states: “Due to their effect or potential effect on the organization’s ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements, the organization shall determine: a) the interested parties that are relevant to the quality management system; b) the requirements of these interested parties that are relevant to the quality management system.” See also the instructive judgment of the General Court (GC) of the European Union of January 26, 2017, Case T-474/15.

34 Article 18 of Annex IX to Directive 2007/46/EC; Article 36 of Regulation (EU) No 2018/858. The legal nature of the Certificate of Conformity has been a bone of contention in the countless legal proceedings revolving around the diesel emissions scandal. In the proceedings against prominent automotive manufacturers, deviations from what is stated in the Certificate of Conformity, for which the manufacturer is responsible, are deemed a criminal form of causing wrong entries to be made in public records (mittelbare Falschbeurkundung).

35 The automotive industry, with self-binding effect, has supplemented EN ISO 9001:2015 with the international standard by the International Automotive Task Force (IATF) 16949 because of the sector’s particularities regarding, notably, production processes and provision of evidence of their effectiveness in accordance with the ISO standard. In its capacity as a document certifying conformity, the certificate protects third parties just like the Declaration of Conformity according to Council Directive 93/42/EEC concerning medical devices; see CJ, judgment of 16.02.2017, Case C-219/15, breast implants.

necessary information related to the type-approval of the vehicles, systems, components and separate technical units that are subject to compliance verification checks. That information shall include at least the information included in the EU type-approval certificate and its attachments referred to in Article 28(1). Approval authorities shall provide that information to the market surveillance authorities without undue delay.”

c) Mandatory tests and the market surveillance authorities’ discretion

Pursuant to Article 8 of Regulation 2018/858, market surveillance authorities shall carry out regular checks – which they incidentally already do at present – “to verify that vehicles, systems, components and separate technical units comply with the relevant requirements.” In addition to the express statutory responsibilities and the market surveillance authorities' right to initiate further checks, further measures may also be triggered by, among other things, notifications from manufacturers or other authorities, but also by substantiated complaints from individual vehicle owners or consumer associations.

The cooperation between the Member States' authorities and the mutual initiation of conformity checks and market surveillance measures at Union level are coordinated according to the safeguard clauses set out in Chapter XI of Regulation 2018/858, which cannot be addressed in detail within the scope of this discussion. The “economic operators” and “distributors” concerned always have a comprehensive duty to cooperate whenever the authorities decide to take action.

7. Union law, standards and codes of conduct

The way that Directive 2019/771 now links legal provisions and standards within the context of Union law does not follow any ostensible systematic Union law logic because a uniform legal order has not been established (yet) in the European Union,

37 According to Article 3(44) of Regulation 2018/858, “economic operator” means the manufacturer, the manufacturer’s representative, the importer or the distributor.

38 This duty to cooperate with the authorities is also established by Sections 6 and 26 ff. of the German Product Safety Act (Produktsicherheitsgesetz). The manufacturers have a duty to provide comprehensive information on the vehicles selected for the market surveillance checks. Point 9.2.3 of Regulation No 83 of the UN/ECE states in this respect: “As part of the information provided for the in-service conformity control, at the request of the Approval Authority, the manufacturer shall report to the type Approval Authority on warranty claims, warranty repair works and OBD faults recorded at servicing”, according to a specific format; see Official Journal of 15.2.2019 L 45.

Despite increasing harmonization pressure. It is thus appropriate when Directive 2019/771 states in Recitals 6 and 8 that at present, Union rules are still fragmented.

Legally and politically speaking, technical standards are an integral part of Union law. Article 1 of Regulation (EU) No 1025/2012 describes the Regulation’s subject matter as establishing rules pertaining to the cooperation between European standardization organizations, national standardization bodies, Member States and the Commission in order to establish “European standards and European standardisation deliverables for products and services in support of Union legislation and policies […]”. According to Recital 26 of Regulation 1025/2012, standards should “take into account environmental impacts throughout the life cycle of products and services.” The Regulation, in Recital 5, emphasizes above all the important role of harmonized standards (EN standards). As regards products, they establish a presumption of conformity that is based on conformity assessment procedures and applicable throughout the entire Union law in support of EU Directives and their rules. Where practitioners apply Union law, and domestic law transposing EU law, to products and services, which fall – inter alia – within the scope of Directive 2019/770, they must understand and legally assess the standards as part of the legal provisions while also grasping their technical aspects. Since standards are drafted “in support of Union legislation” according to Article 1 of Regulation 1025/2012, they necessarily become an integral part of the legislation itself and of the situations regulated by the legislation. Whether the standard for a product or service is applicable, therefore, does not come down to whether the parties have agreed that the standard, because of its principally private and voluntary character, is part of the contract. Rather, the standard is applicable because it constitutes an integral part of the legislation applicable to the product or service. Its application does not depend on the consumer’s objective

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40 See the instructive CJ judgment of 27.10.2016, Case C-613/14, IWRZ 2017, p. 73, with a discussion by Graf von Westphalen.

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expectations and it has to be assumed and taken into account *sua sponte* and by virtue of submission by a party before court\(^\text{45}\).

There are no specific technical standards for a product’s design and technical fitness for purpose that would go beyond general minimum requirements or generic safety provisions\(^\text{46}\). Legislators do not pass technical specifications for specific products.

As regards the “sector-specific industry codes of conduct” mentioned in Article 7(1)(a), there is no clear definition either. Their meaning and scope of application must be inferred from the harmonized area of law that is applicable in a given case. Codes of conduct primarily set out organizational structures. They do not state how a specific product must be manufactured, but rather which organizational requirements as well as methods and procedures EU law expects with regard to design, production and production processes so that the threshold of conformity with the law is met, and how these prerequisites are put into practice. These codes are very strict and, in the automotive industry\(^\text{47}\), shaped by type-approval law. Since the harmonized standard DIN EN ISO 9001:2015, apart from its technical content regarding processes, contains organizational requirements that every company in the entire supply chain is to meet in order to ensure the flawless interaction of their cooperation processes, it is to be understood as an industry code of conduct within the meaning of Article 7(1) of Directive 2019/771\(^\text{48}\).

Only well-documented compliance with codes of conduct and applicable standards will ultimately establish the product’s presumption of conformity with the law within the meaning of the subjective and objective requirements of Articles 6 and 7 of Directive 2019/771.

### 8. Application of ISO 26262:2018 to digital elements in vehicles

Currently, the most important international standard for “digital elements” that aims to ensure a vehicle’s functional safety is ISO 26262:2018.\(^\text{49}\) Like DIN EN ISO 9001:2015,

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\(^\text{45}\) This poses a great challenge to the conclusiveness of a party’s case in the context of legal proceedings. This hurdle has led many a case involving standards to fail ultimately, such as the ‘breast implants’ case: BGH, judgment of 22.6.2017, VII ZR 36/14, marginal numbers 30 and 34.

\(^\text{46}\) Comparable to the provisions referred to in number 4 of Section 1(2) of the German Product Liability Act (*Produkthaftungsgesetz* - ProdHaftG).

\(^\text{47}\) A similar situation can be found for medical devices, for example.

\(^\text{48}\) This may also give rise to the liability or exclude the liability of manufacturers supplying individual parts pursuant to Section 1(3) ProdHaftG; “Blue Guide” 2016, Official Journal of 26.7.2016 C 272, p. 28 ff.

\(^\text{49}\) This standard is only available in English. "Road vehicles – Functional safety": “This document describes a framework for functional safety to assist the development of safety-related E/E systems. The framework is intended to be used to integrate functional safety activities into a company-specific development framework. Some requirements have a clear technical focus to implement functional
ISO 26262:2018 is a technical standard for processes and lays down process steps in the design and production of a digital system\(^{52}\) so as to contribute towards the attainment of a predefined safety goal that the overall vehicular system is to meet\(^{53}\). As this standard is applicable to individual digital systems of the vehicle only (e.g. an autopilot or a control unit for the exhaust system), this standard necessarily requires there be a quality management system in accordance with DIN EN ISO 9001:2015\(^{54}\) in order to ensure safety at vehicle level, including the individual separate digital elements\(^{55}\).

This is why ISO 26262:2018 is essential for determining and assessing the conformity of those digital elements that fall within the scope of “compatibility”, “functionality”, “interoperability” and “durability” as defined by Article 2, as well as the conformity of, for instance, assistance systems, autopilots, infotainment devices or internet

\(^{50}\) ISO 26262-10:2018, Chapter 4.4 (a) and (b). On the older version ISO 26262:2001 see Helmig, Phi 2012, p. 32; Helmig, InTeR 2013, p. 28. This concerns the two terms “compatibility” and “interoperability” mentioned in Directive 2019/771.

\(^{51}\) ISO 26262-1:2018: “controllability: Ability to avoid a specific harm or damage through the timely reaction of the persons involved, possibly with support from external measures.”

\(^{52}\) “Confirmation measures” within an assessment hierarchy in order to ensure that downstream producers may continue design and production based on a confirmed “work product”.

\(^{53}\) ISO 26262 determines one of four possible safety levels (A to D) that are attributed to a specific system, the so called Automotive Safety Integrity Level (ASIL). In Part I, point 3.6, the standard defines: “ASIL: one of four levels to specify the item’s or element’s necessary ISO 26262 requirements and safety measures to apply for avoiding an unreasonable risk, with D representing the most stringent an A the least stringent level.” The standard’s term for “system” (“item”) can be seen as being equivalent to the Directive’s term “digital element”.

\(^{54}\) A harmonized EN standard that, by virtue of its publication in the Official Journal of 11.12.2015, has been of binding effect since September 15, 2018, see Official Journal of 12.8.2016 C 293/68.

\(^{55}\) ISO 26262-2:2018, Chapter 5.1 and Chapter 5.3.1, Chapter 5.4.5.

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connections ("interconnectivity"). Control units for emission control systems (exhaust gas systems) or hybrid drives also fall into this category\textsuperscript{56}. It is only with these digital elements that the vehicle can fulfill all its functions within the meaning of Recital 13 of the Directive\textsuperscript{57}. However, the standards do not cover all risks in connection with digital products, leaving out, for example, a short lifespan and electronic components that are no longer available or compatible as spare parts.

II. Legal and technical process-oriented thinking

The underlying technical process-oriented thinking of both standards is quite comparable to legal process-oriented thinking: In order to reach a certain technical or legal objective, specific assumptions have to be made. These must be reliably documented (i.e. objectively checkable and verifiable) and based on sound reasoning regarding why they were chosen and what they should cover. The assumptions must be geared toward the ultimate goal and capable of justifying final decisions. The justification criteria, in turn, must be reliably documented (i.e. objectively checkable and verifiable) in order to justify that they are, in fact, fit to produce admissible results (be it a product or a legal assessment). What is problematic about this mode of thinking is that every process step is inevitably based on a set of technical data or legal requirements and conditions that may be variously correct, false or incomplete because selecting individual assumptions comes with an inherent evaluation. This is why, from a technical as well as legal perspective, providing evidence that the correct "risk reduction measures" have been chosen takes up the lion’s share of maintaining

\textsuperscript{56} Regulation (EU) No 2017/1151, Official Journal of 7.7.2017 L 175/1; according to Article 2(18), “emission control system” means “in the context of the OBD system, the electronic engine management controller and any emission-related component in the exhaust or evaporative system which supplies an input to or receives an output from this controller.”

\textsuperscript{57} This has already been applicable under Directive 1999/44/EC, which the CJ will soon have to deal with: In Case C-244/19, the Commercial Court in Vienna (Handelsgericht Wien) submitted a request for a preliminary ruling and referred to the CJ four questions on the admissibility of a defeat device within the meaning of Regulation 715/207 under the conditions named therein. According to question five, the Commercial Court in Vienna sought guidance as to whether Article 3(6) of Directive 1999/44/EC must be interpreted as meaning that, when a vehicle has been installed with an inadmissible “switch logic”, this does not constitute a “minor breach of contract”, see Official Journal of 27.5.2019 C 182/24. The case has been withdrawn (Official Journal of 26.8.2019, C 200/40), presumably because the parties reached an out-of-court settlement. To the author’s knowledge, the State Court (Landgericht – LG) Gera has submitted the same or a very similar request to the CJ with its decision in proceeding 7 O 1104/18, published on 17.5.2019. The LG’s reference also deals with the question of conformity according to Directive 1999/44/EC, a question that the Commercial Court in Vienna had raised as well; in its assessment, the Court will have to take into account, \textit{sua sponte}, the provisions of Directive 93/13/EEC on unfair terms in consumer contracts as well as Directive 2005/29/EC. Under European law, the CJ has exclusive jurisdiction over these issues; see the instructive discussion by Ferves/Gsell, NJW 2019, p. 2569.
the necessary and required rigorous processes\textsuperscript{58}. The entire technical and organizational process environment is subject to the burden of proof rule laid down by Article 11(1) of Directive 2019/771, a rule that is comparable to its counterpart under German law.

1. Residual risks when applying the standard

However, certain risks remain, even if standards and codes of conduct are adhered to, and the ability to control them depends on technological progress and its impact on the development of the standards and on the development of the law. Allow me to clarify with two examples:

Firstly, hacking attacks pose a risk to any software-controlled electronic element. Pursuant to Article 5(3)(f) of Regulation (EU) 2017/1151\textsuperscript{59}, an implementing regulation that supplements Regulation (EC) No 715/2007 (prohibition of defeat devices), the vehicle manufacturer must prevent unauthorized “tampering” with the emission control units and “modification of the emission control computer, odometer including the recording of mileage values”. Successful hacking attacks constitute “tampering”. Just like Regulation 2017/1151, Article 5(3)(f) and 5(7) of Regulation 692/2008\textsuperscript{60} require the manufacturer submit a description of the measures taken to prevent tampering with and modification of the emission control computer, including the facility for updating (Article 5(7))\textsuperscript{61}. Experience has shown, however, that when compared to vehicle manufacturers, hackers are usually ahead of the game. To name but one of numerous examples, they were able to throw a Tesla S off course in just a few seconds\textsuperscript{62}.

\textsuperscript{58} This includes inter alia failure mode and effects analysis (FMEA), statistical process control (SPC) and technical inspections of incoming goods (in contrast to the German commercial-law inspection of incoming goods according to Section 377 of the German Commercial Code \textit{Handelsgesetzbuch} – HGB), this technical in-process inspection according to DIN EN ISO 9001:2015 must ensure that the purchased part or component complies with the technical specifications; the wording of Chapter 7.4. of the predecessor, DIN EN ISO 9001:2008, was clearer in this regard). These inspections must provide sound end-of-line testing results in order to determine whether the system is fit to be integrated at the system’s interfaces at the next level of the supply chain; another risk reduction measure would be to only use measuring and calibration methods that have been confirmed by an accredited laboratory. It is only with the aforementioned technical inspection of incoming goods that the conformity of production requirements according to DIN EN ISO 9001:2015 can be met.

\textsuperscript{59} Official Journal of 7.7.2017 L 175/1.

\textsuperscript{60} Official Journal of 28.7.2008 L 199 (of 27.7.2017 for the consolidated version); at the time of writing, the Regulation was last modified through Regulation 2018/1832, Official Journal of 27.11.2018 L 301.

\textsuperscript{61} Point 2.3 of Annex I to Regulation 692/2008 states among other things: “Any vehicle with an emission control computer shall include features to prevent modification, except as authorised by the manufacturer.”

\textsuperscript{62} \url{https://www.faz.net/aktuell/wirtschaft/diginomics/hacker-konnten-tesla-model-s-in-sekunden-knacken-15782260.html}; \url{https://www.autobild.de/artikel/tesla-china-hacker-manipulieren-autopiloten-14737265.html}

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Targeted hacking attacks cannot be foreseen. For this reason, vehicle manufacturers employ hackers and have them identify security gaps without bias. Even according to the strict processes of ISO 26262:2018\textsuperscript{63}, there is no absolute and sustainable protection against hacking attacks. They always compromise an individual system’s functional safety, the latter being the standard’s ultimate objective, and its interactions with other systems at vehicle level\textsuperscript{64}.

Secondly, Union law sets out far-reaching requirements regarding the durability of digital emission control devices as well as components – whether the latter be of a digital or non-digital nature – that can impact upon them, for instance the hoses used in pollution control devices to carry exhaust gas to the digital elements that measure it. Pursuant to Article 5(5) of Regulation 2017/1151, the manufacturer shall ensure these components’ durability throughout the entire lifespan of the vehicle\textsuperscript{65}.

The ambiguity of and distinction between the terms “durability of pollution control devices” and “lifespan of the vehicle” cannot be discussed in detail at this point. Regulation 2018/1831 of November 5, 2018, provides a clear overview to clarify terms such as “durability” and “life”, as well as deadlines and other relevant timeframes\textsuperscript{66}.

The underlying assumption of the term “durability” is that if the durability of pollution control devices is verified within the time frames or mileage laid down in Article 9 of Regulation 2017/1151, it is also assumed to last for the vehicle’s entire life\textsuperscript{67}. The legal assessment of such a technical assumption is problematic and, to the author’s knowledge, has not yet been subject to judicial examination.

Neither Union law nor technical standards, cutting-edge research nor state-of-the-art technology provide reliable methods and procedures that would allow for sound conclusions as to how statutory durability and lifespan requirements can be met so

\textsuperscript{63} ISO 26262 defines: „residual risk: risk remaining after the deployment of safety measures (Part 1, point 3.126).\textsuperscript{\textsuperscript{64}} ISO 26262-2:2018, Chapter 5.4.2.3.\textsuperscript{65} Regulation No 83 of the United Nations Economic Commission for Europe (UN/ECE) – Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements (Official Journal of 15.2.2019 L 45/1) defines “pollution control devices” as “those components of a vehicle that control and/or limit exhaust and evaporative emissions”. UN/ECE Regulations are directly applicable Union law according to Article 35 of the Type-Approval Directive 2007/46/EC.\textsuperscript{66} Commission Regulation (EU) 2018/1832 of 5.11.2018, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) 2017/1151 for the purpose of improving the emission type approval tests and procedures for light passenger and commercial vehicles, including those for in-service conformity and real-driving emissions and introducing devices for monitoring the consumption of fuel and electric energy; Official Journal of the European Union of 27.11.2018 L 301/1.\textsuperscript{67} The relevant provisions of UN/ECE Resolution No 83, too, suffer from these vague assumptions. In the context of the Type V Test, point 1.2 assumes that the whole vehicle durability test represents an aging test of 160,000 km and this test is to be performed driven on a test track, on the road or on a chassis dynamometer.
that, in turn, safety and durability requirements are fulfilled. Practitioners have found a way through working with assumptions. In a nutshell, they determine certain test types based on empirical testing and experience and consider the results from this, gathered over a certain period of time, as reliable proof of a vehicle’s assumed lifespan and/or a component’s durability. To this end, Regulation 2017/1151, for instance, draws on the provisions of UN/ECE Regulation No 83, which assumes a durable lifespan of up to five years or a mileage of 100,000 km if a vehicle, specifically aligned with the test type, meets the testing requirements at the moment of testing.

2. Facilitation of the plaintiff’s burden of proof

Union law considerably facilitates the plaintiff’s burden of proof: Article 53(8) of Regulation 2018/858 provides individual registration holders with the authorities’ entire knowledge about the infringement they discovered: This possibility and the initiation of corrective measures on the part of the market surveillance authorities not only provide evidence by the authorities demonstrating that the Certificate of Conformity is false, but also why it is false. The plaintiff and the courts may request access and disclosure according to, for example, Section 429 of the German Code of Civil Procedure (Zivilprozessordnung – ZPO).

III. Impact on periods of limitation

As a general rule, a vehicle owner will be liable for his car from the moment it enters into service upon registration. Entry into service means “the first use, for its intended purpose, in the Union, of a vehicle […]”68. Thereafter, the requirements for in-service conformity checks are applicable “until 5 years after the last Certificate of Conformity or individual approval certificate is issued for vehicles of that in-service conformity family”69.

In order to check in-service conformity, the authorities use vehicles that have between 15,000 km (or are six months old) and 100,000 km (or are five years old). For testing evaporative emissions70, the vehicle must have between 30 000 km (or be 12 months old) and 100 000 km (or be five years old). In most cases, therefore, the consequences

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68 Article 3(52) of Regulation 2018/858.
69 The term “vehicle family” refers to several vehicle types that share common characteristics of design or functions, for instance according to the test types used in emissions tests. In this context, Regulation 2017/1151 (Article 5(3)(g)) refers to UN/ECE Regulation No 83 (Official Journal of the European Union of 03.7.2015 L 172/1).
70 According to Article 3(7) of Regulation 715/2007, “evaporative emissions” means “the hydrocarbon vapors emitted from the fuel system of a vehicle other than those from tailpipe emissions”.

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of measures taken by market surveillance authorities will hit the consumer only after the general period of limitation of two years has expired.

In order to also cover the possible consequences from measures that type-approval authorities and market surveillance authorities take after the two-year limitation period, national legislation must seize the opportunity provided for by Article 14(5) of the Directive of extending the period of limitation. This would preserve the remedies that the consumer is entitled to because the Directive stipulates the manufacturer’s liability for material defects. Referring the consumer to the general German provision to claim damages for breach of contract, i.e. Section 280 BGB, would not be consistent with the Directive because the consumer’s comprehensive Union law protection would not be ensured. This is also true when bearing in mind that the consumer will only learn of the defect after the authorities have completed their measures and ordered the manufacturer to present a plan of remedial measures.71

This provision is indeed in keeping with Article 14(1) of Directive 2019/771. According to the latter as well as the previous Directive 1999/44/EC, repairs shall be carried out free of charge and without any significant inconvenience to the consumer. However, this only applies within the general limitation period of two years.

Article 53(8) contains – somewhat inconsistently – a cost regulation that works to the benefit of individual registration holders and facilitates the enforcement of their rights: “Where a corrective measure is considered to be justified in accordance with this Article […] that measure shall be available free of charge to holders of registrations for the affected vehicles72. Where repairs have been carried out at the registration holder’s expense before the adoption of the corrective measure73, the manufacturer shall reimburse the cost of such repairs up to the cost of the repairs required by that corrective measure.” This provision cannot substitute a clear regulation of limitation periods through European contracts of purchase law.

IV. Conclusion


73 According to point 9.2.3 of UN/ECE Regulation No 83, the manufacturer must report to the type approval authority on warranty claims, warranty repair works and OBD faults recorded at servicing. This information will then be taken into account a propos the reimbursement of the costs.

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2. When assessing the consistency of any application with the Directive’s requirements, this should be benchmarked against the entire law of the European Union, including applicable standards.

3. Vehicles as consumer products with digital elements only conform with the sales contract if they comply with all provisions under European type-approval law, including its far-reaching technical standards. Contracts on the purchase of vehicles are always based on an agreement on the “quality and nature” of the product within the meaning of the BGH’s jurisprudence.

4. Measures taken by market surveillance authorities may affect the consumer after the general period of limitation has expired. Limitation periods thus must not be shorter than the potential impact of the market authorities’ measures.

Translated from German into English by Dr. Charlotte P. Kieslich
charlotte.kieslich@web.de