

What Rules Should Apply to Smart Consumer Goods?

Goods with Embedded Digital Content in the Borderland Between the Digital Content Directive and “Normal” Contract Law

by Karin Sein*

Abstract: The European Commission’s approach in the “Proposal of Digital Content Directive” to regulate digital content contracts based on the object, rather than the type of contract, has led to a situation where a component of a product (the embedded digital content) can end up being subject to a contractual regime different from that applicable to the rest of the “smart” product. Different solutions have been proposed to solve this situation: firstly, one could apply goods rules to the whole product, including embedded digital content; alternatively, one could

use split rules and subject the hardware of the product to goods rules and embedded digital content to digital content rules. One could even imagine subjecting the whole good to the digital content rules – an approach that would mean a major shift for the existing sales and leasing law. The article discusses the legal consequences of these different options, describes their advantages and disadvantages, and concludes that while there is no ideal solution to be found, the split-approach would be preferable.

Keywords: Smart consumer goods; goods with embedded digital content; Digital Content Directive; contract law

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Recommended citation: Karin Sein, What Rules Should Apply to Smart Consumer Goods? Goods with Embedded Digital Content in the Borderland Between the Digital Content Directive and “Normal” Contract Law, 8 (2017) JIPITEC 96 para 1.

A. Introduction

1 At the end of 2015, the European Commission published a proposal for the so-called Digital Content Directive (DCD),¹ aiming to harmonise certain legal aspects of consumer contracts for the supply of digital content. Intensive academic discussion has already taken place regarding the standards of conformity of the digital content, as well as concerning the consumer’s remedies in case

a defective digital content has been delivered to him.² There has been less discussion about how to deal with the so-called smart products, or products embedded with digital content, such as fridges that order milk when running low, smart TVs, cars with built-in software, or coffee machines searching the web for the newest coffee recipes. These goods are

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1 Proposal for a Directive of the European Parliament and of the Council on certain aspects concerning contracts for the supply of digital content, COM (2015) 634 of 9.12.2015.

2 *Spindler*, ERCL 2016, 183, 204-217; *Faber*, Bereitstellungspflicht, Mangelbegriff und Beweislast im DIRM-E, and *Koch*, Rechtsbehelfe des Verbrauchers bei Verträgen über digitale Inhalte, in: *Wendehorst/Zöchling-Jud* (Hg), Ein neues Vertragsrecht für den digitalen Binnenmarkt? Zu den Richtlinienvorschlägen der Europäischen Kommission vom Dezember 2015, Manz 2016, 89-131 and 131-159; *Zoll*, EuCML 2016, 250-253; *Schmidt-Kessel*, *Erlar*, *Grimm*, *Kramme*, GPR 2016, 54-70; *Metzger*, JIPITEC 2017, 2-8.

characterised by combining tangible hardware with embedded digital content (mostly software) and they frequently also have internet connectivity.³ While the goods as tangible items are subject to national provisions of consumer sales contracts (based on the Consumer Sales Directive (CSD)⁴ at present and according to the vision of the European Commission as regards distance selling, also on the new Online Sales Directive (OSD)⁵ in the future), the question arises as to which rules should apply to the goods containing digital content. Should they be the rules for the supply of digital content or those for consumer sales, or both at the same time?⁶

- 2 The origin of this problem lies in the innovative approach of the European Commission to set out rules of the DCD on the basis of the object of contracts (digital content). National laws, as well as for example, CSD, Consumer Credit Directive⁷ or Package Travel Directive,⁸ on the contrary, proceed not from the object of the contract but from the typology of the contracts, i.e. from the specific obligations of the parties. This brings about a completely new situation where a component of a product could be subject to a legal regime different from that applicable to the rest of the product. Such legal situation has

³ These items may or may not constitute the so-called Internet of Things. They may have their own IP-address but they can also interconnect via other protocols such as Bluetooth. *Wendehorst*, *Consumer Contracts and the Internet of Things*, in: *Schulze/Staudenmayer* (eds), *Digital Revolution: Challenges for Contract Law in Practice*, Nomos 2016, 189. The Explanatory Memorandum of the DCD describes goods with embedded digital content as ‘smart’ goods, as they combine features of tangible goods and of digital content. Explanatory Memorandum of the DCD Proposal, 11.

⁴ Directive 1999/44/EC of the European Parliament and of the Council of 25 May 1999 on certain aspects of the sale of consumer goods and associated guarantees, OJ L 171 of 7.7.1999.

⁵ Proposal for a Directive of the European Parliament and of the Council on certain aspects concerning contracts for the online and other distance sales of goods, COM (2015) 635 of 9.12.2015. One must bear in mind that the OSD Proposal is based on the principle of maximum harmonisation and will be applicable only to goods sold online whereas the offline consumer sales contracts are governed by the national transposing norms of the minimum-harmonizing CSD.

⁶ See on that, *Wendehorst*, *Hybride Produkte und hybrider Vertrieb – Sind die Richtlinienentwürfe vom 9. Dezember 2015 fit für den digitalen Binnenmarkt?*, in: *Wendehorst/Zöchling-Jud*, 46-56; *Lurger*, *Anwendungsbereich und kaufvertragliche Ausrichtung der DIRM- und FWRL Entwürfe*, in: *Wendehorst/Zöchling-Jud*, 27-28.

⁷ Directive 2008/48/EC of the European Parliament and of the Council of 23 April 2008 on credit agreements for consumers and repealing Council Directive 87/102/EEC, OJ L 133/66 of 22.5.2008.

⁸ Directive (EU) 2015/2302 of the European Parliament and of the Council of 25 November 2015 on package travel and linked travel arrangements, amending Regulation (EC) No 2006/2004 and Directive 2011/83/EU of the European Parliament and of the Council and repealing Council Directive 90/314/EEC, OJ L 326/1 of 11.12.2015.

not occurred prior to now as there are no special contract law rules with regard to, for instance, products including Bluetooth or nanomaterials.⁹ Yet, as the European Commission has opted to base rules for digital content on the object of the contract, it is necessary to find a rule that would enable us to solve problems arising from such double regulation.

- 3 In the DCD and OSD proposals, the European Commission follows the principle of applying solely the goods rules to a product which is essentially an “ordinary product”.¹⁰ Several academics, on the other hand, argue that the rules on digital content should apply to digital content regardless of whether the content has been supplied separately or embedded in a product.¹¹ Similar amendments have also been proposed by the members of the European Parliament making it necessary to find a solution on this specific issue during the further legislative process of the DCD proposal. This article will highlight the most important differences and specific problems that might arise under one or another regulatory choice by using the examples of everyday consumer goods with embedded digital content. Firstly, two main regulatory options with regard to embedded digital content are described (B.). Secondly, legal consequences of those different regulatory choices are analysed (C.). Finally, the advantages and disadvantages of those different choices are underlined, and a way forward is suggested (D.).

B. Regulatory options with regard to embedded digital content

I. Option 1: goods rules applied to both hardware and embedded digital content

- 4 Firstly, with regards to embedded digital content, there is the possibility within the DCD proposal that only goods rules apply while digital content rules do not (option 1). It is noteworthy that there is no express provision on delimiting the scope of application of DCD and goods rules in the Articles of the DCD. The delimitation rule is somewhat concealed in recital 11 DCD, which states that: “this Directive should not apply to digital content which is embedded in goods in such a way that it operates

⁹ It is worth mentioning that the predecessor of the DCD-Proposal, the Proposal for Common European Sales Law (CESL) did contain rules on digital content but no rules on embedded digital content.

¹⁰ Recital 11 DCD, recital 13 OSD.

¹¹ *Wendehorst*, in: *Wendehorst/Zöchling-Jud*, 56; *Spindler*, *ERCL* 2016, 189.

as an integral part of the goods and its functions are subordinate to the main functionalities of the goods.”¹² A comparable rule is provided in recital 13 OSD.¹³

- 5 Thus, a general rule according to the current proposals for DCD and OSD is that if (i) digital content operates as an integral part of the goods and (ii) its functions are subordinate to the main functionalities of the good, then the good falls within the field of application of the rules on goods, not the rules on digital content. This means that for the majority of smart goods – such as connected cars, smartphones, smartwatches, SmartTVs and smart kitchen appliances – only national consumer sales rules harmonised by the OSD and CSD will apply.¹⁴ Staudenmayer calls this a pragmatic approach, which should ensure that these provisions are future-proof; using the example of software integrated in a washing machine whereby such software contributes to washing the clothes, it falls within the scope of goods rules.¹⁵ Likewise, upon purchase of a laptop or a smartphone, the goods rules would apply to both the laptop or phone hardware and the operating system because the operating system is an integral part of the good and subordinate to its main functionalities.¹⁶ On the other hand, for instance MS Office installed to a computer as an add-on, or an app downloaded to a smartphone would be subject only to the rules of DCD as such software is not subordinated to the main functionalities of the laptop or smartphone and is thus not covered by the definition of embedded content of the DCD-proposal.

12 Manko has called this solution a problematic legislative technique. Manko, Contracts for supply of digital content. A legal analysis of the Commission’s proposal for a new directive. In-Depth Analysis for the European Parliament, <http://www.europarl.europa.eu/RegData/etudes/IDAN/2016/582048/EPRS_IDA%282016%29582048_EN.pdf>, 11.

13 Recital 13 OSD states: “This Directive should apply to digital content integrated in goods such as household appliances or toys where the digital content is embedded in such a way that its functions are subordinate to the main functionalities of the goods and it operates as an integral part of the goods.”

14 Wendehorst, in: *Wendehorst/Zöchling-Jud*, 52.

15 Staudenmayer, ZEuP 2016, 800-801.

16 Wendehorst rightly points out that this will finally depend upon which functionalities of the laptop are owed to the consumer. The operating system will fall under the goods rules only if the consumer may expect to receive a laptop, which is ready for installation of the usual software. Wendehorst, in: *Wendehorst/Zöchling-Jud*, 53. Therefore, if a consumer first buys a laptop and later on an operating system from the same seller, the operating system does not constitute an embedded software and will thus be subject to the DCD. This is so even despite the fact that according to the wording of recital 11 DCD it makes no difference whether the digital content became part of the good before or after the contract was concluded.

- 6 Central to option 1 is the question of what constitutes embedded digital content, as goods rules apply to embedded digital content only and not to other types of digital content. The definition of embedded digital content thus determines the amount of software in a smartphone or some other smart good to which goods rules apply. In connection with the definition of embedded digital content proposed by the Commission, the main problem lies in interpreting the notion of “subordinate to the main functionalities of the good”. What to consider the main function of e.g. a smartphone can vary significantly among different consumers and probably also over time. By way of illustration, my mother uses the phone mainly for making calls, whereas my teenage daughter uses a phone for apps and accessing the internet, and instead of making calls she prefers messaging her friends on social networking sites and apps. This simple example alone shows that there is no uniform average consumer’s understanding of what constitutes the main functionality of a smartphone. To give another example, an autonomous driving software of a car clearly constitutes a main functionality of a self-driving car. “Normal” navigation software, on the other hand, cannot be regarded as main functionality of a car as a car can be driven without it. Therefore, it would fall under the DCD. From the software producer’s as well as from the consumer’s point of view, however, it is very hard to understand why a navigation software of a normal car should fall within the scope of DCD whereas navigation software, which is part of an autonomous driving software, falls under goods rules. Furthermore, a definition of an embedded digital content that requires it to be “an integral part of the good” might not be future-proof, as it is – or may become – technically possible to run crucial software such as operational software on the cloud rather than embedding it into the smart good.

- 7 Wendehorst has put forward an alternative definition of embedded digital content that avoids using the criterion of “subordinate to the main functionalities of the good”. She suggests to define embedded digital content as “digital content which has been installed by or with the assent of the seller, producer or another person in the chain of transactions and which (i) operates as an integral part of the goods and cannot easily be de-installed by the average consumer using this type of goods; or (ii) is necessary for the conformity of the goods with the contract”.¹⁷ Thus, for software to be embedded digital content, it needs to be installed into the good by one or another authorised person. Second, such

17 Wendehorst, Sale of goods and supply of digital content – two worlds apart? Study for the JURI Committee of the European Parliament, <https://polcms.secure.europarl.europa.eu/cmsdata/upload/f897bc4f-95d1-44c4-930a-3c0a55b983da/pe%20556%20928%20EN_final.pdf>, 13.

software should either be an “integral part” of the goods, which cannot easily be de-installed by the average consumer,¹⁸ or necessary for the conformity of the goods with the contract.

- 8 This definition is, on the one hand, more future-proof, as it avoids the ambiguous concept of “subordination to the main functionalities of the good”. On the other hand, it introduces a new concept, that of “necessary for the conformity of the goods with the contract” which, combined with the criterion of installation, enables digital content placed outside of a good to also be regarded as embedded digital content. An example could be a digital bracelet for tracking fitness-related metrics, with the necessary software running “in the cloud”.¹⁹ Following this definition, goods rules would cover even more digital content than according to the Commission proposal. However, this definition was not suggested as an amendment to the DCD proposal but to the OSD proposal, that is, for the “digitalisation” of sales law. Taking into account that the “digitalisation” of sales law on the EU level is politically improbable now,²⁰ this definition of embedded digital content is not usable for the DCD proposal as it currently stands – and was not proposed as such. If one wants to stick to option 1, a workable definition might be the slightly modified one defining embedded software as pre-installed digital content, which operates as an integral part of the goods and cannot easily be de-installed by the consumer.²¹
- 9 The example of fitness bracelet used above also illustrates the problems concerning demarcation of embedded digital content and mixed contracts (Art. 3(6) DCD). Article 3(6) DCD states: “Where a contract includes elements in addition to the supply of digital content, this Directive shall only apply to the obligations and remedies of the parties as supplier and consumer of the digital content.” Thus, in the case of a mixed contract, the part of the contract concerning digital content is covered by DCD, whereas the remaining parts of the contract are governed by the rules on the respective type of contract. This means that if a smart good is

supplied together with a separate digital content, the supply of that separate digital content will fall under the DCD.²² For example, if the supplier of a fitness bracelet sells under the same contract, both the bracelet (a good) and software (an app) which is located separately but necessary to use the bracelet, this is a mixed contract according to Art. 3(6) DCD with the consequence that goods rules apply to the bracelet and DCD rules apply to the app.

- 10 This in turn raises the legal policy question regarding why goods rules should apply to embedded digital content while DCD applies to apps or other software not integrated into the good but equally necessary to use the good.²³ Furthermore, drawing a line between embedded digital content and mixed contracts may become very difficult for example in a situation such as where a consumer buys a car with an in-built satellite navigation system including maps which are regularly updated via the internet.²⁴ Is this a case of embedded software (meaning that rules on goods apply to the car, navigation software and maps) or mixed contract (meaning that rules on goods apply to the car, possibly also to the navigation software, while maps are covered by the rules on digital content)?²⁵ One should probably assume that built-in navigation software is not an embedded digital content at all, as strictly speaking navigation guidance is not “subordinate to the main functionalities of the car.” And whether and why would the situation be different when additional maps or added functions of navigation software are activated only later at separate cost and possibly under separate agreement?²⁶ These examples

18 Thus, pre-installed apps such as Hangouts or Google Maps would also qualify as embedded digital content underlying goods rules, as an average consumer is not able to de-install them easily. However, it is unclear whether they are operating as an “integral part of the good”.

19 Wendehorst, Sale of goods and supply of digital content – two worlds apart? Study for the JURI Committee of the European Parliament, <https://polcms.secure.europarl.europa.eu/cmsdata/upload/f897bc4f-95d1-44c4-930a-3c0a55b983da/pe%20556%20928%20EN_final.pdf>, 13.

20 Wendehorst, in: *Wendehorst/Zöchling-Jud*, 56.

21 Such definition can be found in amendment proposal No 397 to the Gebhardt-Voss Draft Report, <<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2f%2fEP%2f%2fNONSGML%2bCOMPARL%2bPE-599.502%2b02%2bDOC%2bPDF%2bV0%2f%2fEN>>.

22 *European Law Institute*, Statement on the European Commission’s Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 10. Lurger argues that app-controlled domestic appliances could constitute mixed contract under Art. 3 (6) DCD. Lurger, in: *Wendehorst/Zöchling-Jud*, 28.

23 Wendehorst, in: *Wendehorst/Zöchling-Jud*, 54-55; Spindler, ERCL 2016, 189.

24 A similar example concerning a separate satnav unit and not a navigation software integrated into a car is brought in the ELI Statement on the DCD proposal. They bring forward a justified argument that it is unclear whether the pre-installed maps are an integral part of the satnav unit or whether they come as part of a mixed contract. Moreover, it is not clear whether the pre-installed maps can be seen as an embedded digital content at all as they are not “subordinate to the main functionalities of the good, they are essential.” *European Law Institute*, Statement on the European Commission’s Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 10.

25 Lurger, in: *Wendehorst/Zöchling-Jud*, 28.

26 For example, Volkswagen connected car has an in-built satellite navigation system but you can get traffic updates and information on the nearest fuel station prices and

show one of the main weaknesses of option 1: any definition of embedded digital content would run into problems with demarcation of embedded digital content and mixed contracts, and hence the legal policy questions concerning the applicability of one or another legal regime to a substantially similar situation.

II. Option 2: goods rules to hardware, DCD to digital content

- 11 Under option 2, the rules of DCD would apply to any digital content, including embedded digital content, while hardware would be subject to the rules on goods.²⁷ Accordingly, as regards for instance smartphones, rules on goods would only apply to hardware, whereas anything else (OS [operating system], pre-installed apps or apps installed later) would fall under rules on digital content. In option 2, definition of embedded digital content is irrelevant, as nothing depends on this: goods are covered by goods rules, digital content (either embedded or not) is covered by digital content rules. If one chooses option 2, problems will rather arise upon identifying the origin of defects of smart goods, as sometimes it can be very burdensome to find out whether a smart TV is not working due to a problem with hardware or software.
- 12 Another question that arises in connection with option 2 is which are the provisions to rely upon e.g. for terminating a smart good contract or reducing the price if only one component (hardware or software) is non-conforming. In case of non-conforming integrated software (such as the OS of a smartphone), it is impossible to terminate the contract partially that is only regarding the embedded software. Rather, the consumer would prefer to return the entire phone should repair of the non-conformity of the OS fail. Similar problems arise as to other remedies the consumer might want to exercise against the trader. Therefore, when choosing option 2, rules on goods should additionally provide that any non-conformity of the embedded digital content also mean non-conformity of the goods.²⁸ This is

weather reports only if you buy a separate subscription with a separate supplier. See <<http://www.vwcarnetconnect.com/guide-inform/>>. This subscription does not constitute embedded software nor even a mixed contract, but is rather an entirely separate contract concluded with a different contract party for the supply of special digital content.

27 Wendehorst calls it a combination solution. *Wendehorst*, in: *Wendehorst/Zöchling-Jud*, 55.

28 *European Law Institute*, Statement on the European Commission's Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 11.

the solution used in Section 16 of the UK Consumer Rights Act 2015.²⁹ It is important to stress that only the non-conformity of embedded digital content would bring about the non-conformity of the entire good: the responsibility for apps or other software that are later installed by the consumer lies with their supplier and their defects do not bring about non-conformity of the smartphone.

- 13 To solve problems arising under option 2, the ELI has proposed in its Statement the following rule: *"The consumer should be entitled to /.../ exercise the appropriate rights under sale of goods law, but she could equally choose to make a claim on the basis that the problem lies in the digital content, in which case the consumer should be entitled to proceed under the DCD. If the consumer claims that the problem lies in the digital content the burden of proof that the problem really lies in the hardware should be on the supplier."*³⁰ Here, a consumer is allowed to choose which rules – either those on goods or those on digital content – to rely upon according to the source of non-conformity as identified by the consumer. A positive aspect of this solution is that the burden of proof as regards the source of non-conformity is imposed on the trader; namely, the trader can for instance, prove that the smartphone is not working due to a mechanical defect of its case and not due to a software failure. The author is nevertheless of the opinion that DCD should also not apply where it is obvious from the nature of the goods or from the nature of the lack of conformity that the lack of conformity lies in the hardware of the good. This would preclude odd situations where, say, a brand-new vacuum cleaner containing a limited amount of embedded digital content would be expected to fall under the rules of digital content although the obvious reason why it does not function is not a software problem but a clog in the hose. Further, it is important that under option 2 not only the DCD provisions on the remedies of the consumer would be applicable to embedded digital content. As will be shown below, other provisions of DCD are also relevant for embedded digital content.
- 14 As a modified option 2, it is suggested to apply the DCD rules to the whole smart good (including embedded

eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 11.

29 Section 16 (1) of the Consumer Rights Act states:

"(1) Goods (whether or not they conform otherwise to a contract to supply goods) do not conform to it if – (a) the goods are an item that includes digital content, and (b) the digital content does not conform to the contract to supply that content."

30 *European Law Institute*, Statement on the European Commission's Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 12.

digital content) unless the trader proves that the defect lies within the hardware.³¹ This would mean that as a rule, DCD would apply both to hardware and to software of the smart good. Choosing this solution would mean that in the future, selling and leasing of a considerable amount of consumer goods would underlie DCD as more and more goods are containing some kind of digital content. In order to avoid inconsistencies and unwanted consequences, one should then make clear that certain domestic or European goods rules remain applicable instead or in addition to the DCD. For example, the seller of a smart product must not only make available the embedded digital content (Art. 5 DCD), but also hand over the good itself. Similarly, Art. 20 CRD³² must be applicable to the smart good, as the DCD does not contain rules on passing of risk.

C. Legal consequences of different options

I. Data as counter-performance

15 Unlike the CSD and OSD, Art. 3 (1) DCD provides that the consumer's counter-performance may take the form of active provision of his or her personal data or any other data. In other words, active provision of personal or other data by the consumer triggers the application of DCD and makes available the remedies provided therein against the trader. This is an innovative provision³³ up-to-date with market reality and such a concept has not been used before in EU consumer or other contract law. Neither CSD nor OSD treat data as counter-performance and this concept is unknown in the national laws of the Member States.³⁴

31 Amendment proposal No 464 to the Gebhardt-Voss Draft Report, <<http://www.europarl.europa.eu/sites/getDoc.do?pubRef=-%2f%2fEP%2f%2fNONSGML%2bCOMPARL%2bPE-599.502%2b02%2bDOC%2bPDF%2bVO%2f%2fEN>>.

32 Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council, OJ L 304/64 of 22.11.2011.

33 Schmidt-Kessel, Erler, Grimm, Kramme, GPR 2016, 57.

34 But see the Opinion 4/2107 of the European Data Protection Supervisor suggesting to avoid using the notion of "data as counter-performance" but rather to apply the DCD to services where a price is not paid but which are normally provided for "remuneration". Opinion 4/2017 on the Proposal for a Directive on certain aspects concerning contracts for the supply of digital content, <https://edps.europa.eu/sites/edp/files/publication/17-03-14_opinion_digital_content_en.pdf>, 10-11. Furthermore, Dix and Schantz are of the opinion that Art. 7 (4) GDPR casts a shadow over the whole concept of data as a counter-performance.

16 Therefore, under option 1 (only goods rules to smart goods) data provided to the trader by the consumer cannot be considered as payment and depending on whether the consumer makes any monetary payments for such good or not, the contract is governed by the rules on sales contracts or those on gratuitous contracts. This outcome is questionable from the legal policy perspective if the software integrated in the good which the trader presents as a "gift" to the consumer on promotional purposes later, enables the trader to gather commercially valuable data on the consumer. In that case, the consumer essentially pays for a "free" product in the same way as is paid for the "free" Facebook, for instance. This consequence is rendered unfair by the fact that depending on national law, the trader would be able to rely on the restricted liability of the donor where the provisions regarding gratuitous contracts apply. For example, according to Estonian law, the donor is generally held liable for the lack of conformity only in the case of intention or gross negligence (Subsection 264 (2) of the Law of Obligations Act).³⁵ Therefore in many cases, the consumer would have no remedies against the trader.

17 Under option 2 (DCD rules apply to digital content), the supplier would not be able to rely on the regime of gratuitous contract and its possible liability restrictions. It would be possible to consider at least the embedded software as received for counter-performance and the consumer would thus be able to rely on the provisions of DCD on legal remedies. The consumer could for instance request repair of the smart good or in certain cases terminate the contract and demand that his or her personal data or user-generated content were no longer used or returned (Art. 12 (3) and (5) and Art. 13 (2) DCD).

II. Conformity criteria

18 A significant difference between DCD and OCD proposals and CSD concerns the conformity criteria of the contract object. While Art. 2 (2) CSD and Articles 4 and 5 OCD are combining the subjective and the objective criteria, the wording of Art. 6 DCD indicates the prevalence of the subjective standard, that is, the characteristics of the digital content that have been agreed upon by the parties. This approach has been repeatedly criticised for reducing the level of consumer protection and leaving the consumer at the mercy of the supplier's standard terms and

Dix, ZEuP 2017, 4; Schantz, NJW 2016, 1845.

35 RT I, 31.12.2016, 7. On the liability restrictions of the supplier of "free" digital content under German law, see Faust, Digitale Wirtschaft – Analoges Recht: Braucht das BGB ein Update?, Gutachten, A zum 71. DJT 2016, 63 et seq; Spindler, JZ 2016, 811.

product information.³⁶

- 19 For example, under Art. 2 (2) CSD, a car has to show the quality and performance that are normal in goods of the same type and which the consumer can reasonably expect. This does not apply only if at the time the contract was concluded, the consumer was aware, or could not reasonably be unaware of, the lack of conformity (Art. 2 (3) CSD). A similar rule has been set out in Art. 5 (a) and (c) OSD. Under option 1, the conformity of embedded digital content would also be tested according to these provisions, this is under a combined objective and subjective test. Under option 2 however, digital content such as the operating system of a smartphone or anti-lock brake software of a car should be just as required by the contract (Art. 6 (1) DCD), even if the quality as described in the contract is below average. The latter, though, holds on the condition that the corresponding contract term is transparent.
- 20 As in terms of conformity criteria, the goods rules provide for higher consumer protection levels than the rules on digital content, it seems that consumers would benefit more from option 1 as only the goods rules would apply to a connected car and its integrated software. Nevertheless, the critics point out that the minimum standards required for digital content (e.g. functionality and interoperability) under Art. 6 (1) (a) DCD will in this case not apply to embedded digital content leading to a serious gap in consumer protection.³⁷ This could in turn be challenged by saying that both functionality and interoperability can be subsumed under the objective standard of the purpose and quality of a smart good. For example, in the German legal literature and case law, it is held that where software is sold together with a computer, the hardware must be suitable for running that software, and the use of the software must not be hindered by any technical barriers overcoming of which would require cooperation with the software producer. Otherwise, the computer as a good would lack conformity with the contract.³⁸
- 21 The same applies to (cyber)security as a criterion of conformity with the contract. Article 6 (1) (a) DCD clearly states that security of the digital content is a part of conformity with the contract. So, if the rules of digital content were to apply, a smart fridge which can easily be hacked due to security holes in its software would also clearly lack conformity to the contract – notwithstanding if the fridge was sold or rented. The rules on goods – which would be applicable to the embedded software of a smart fridge under option 1 – do not expressly refer to security as a conformity criterion. Nevertheless, it could be quite easy to achieve by way of interpretation that security problems of embedded software constitute non-conformity of a smart good, for instance, where the embedded software of a smart baby monitor or smart home system makes it susceptible to hackers.³⁹ Indeed, the need for an internet-connected good to conform to the normally expected level of internet security in order to meet the objective conformity standard of the good is easily justifiable.
- 22 If DCD sticks to the subjective conformity criteria, option 2 (DCD rules apply to embedded digital content) would in the author's view clearly mean lowering the consumer protection level in comparison to option 1. In that case, for instance a smartphone seller could apply the "as is" clause also to the operating system of the smartphone or the in-built software of a washing machine, on the condition that this is transparently stated in standard conditions. Yet, if the opinions of legal scholars and consumer protection stakeholders are heard during the further legislative process of the DCD-proposal, and the combination of subjective and objective criteria is accepted, the choice between options 1 and 2 is not of critical importance any longer.

III. Burden of proof

- 23 Art. 3 (1) CSD, Art. 10 DCD, and Art 8 (1) OCD all build on the principle that the seller or supplier is responsible only for the lack of conformity which existed at the moment of delivery. All of these directives also set out time-limits within which the burden of proof is reversed in favour of the consumer.

lack of conformity shall inevitably remain rather abstract according to Faust, as any catalogues of criteria would soon become out of date with the development of technology. *Faust, Digitale Wirtschaft – Analoges Recht: Braucht das BGB ein Update?, Gutachten, A zum 71. DJT 2016, 43 et seq.*

- 39 See different real-life incidents of cybersecurity in *Verbruggen, Wolters, Hildebrandt, Sieburgh, Jansen, Towards Harmonised Duties of Care and Diligence in Cybersecurity*, <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2814101>. They suggest that cybersecurity be included in objective criteria of the OSD as well as for other ICT goods and services.

36 *Spindler*, ERCL, 198-199; *European Law Institute*, Statement on the European Commission's Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 4; *Lurger*, in: *Wendehorst/Zöchling-Jud*, 40; *Faber* in: *Wendehorst/Zöchling-Jud*, 105-106.

37 *European Law Institute*, Statement on the European Commission's Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 2-3.

38 *Westermann* in: *Münchener Kommentar zum BGB*, 7th edn 2016, § 434 BGB, para 75. Faust argues that applying the conformity test to digital content is not more difficult than applying it to ordinary goods: it needs to be construed by the court also in the latter case. In addition, the notion of

The length of these periods varies, however. Art. 5 (3) CSD provides that any lack of conformity which becomes apparent within six months of delivery of the goods is presumed to have existed at the time of delivery unless this presumption is incompatible with the nature of the goods or the nature of the lack of conformity. To put it otherwise, CSD is based on the rule that a lack of conformity which became evident within the first six months was presumably existing at the time of delivery of the good and this triggers the liability of the seller.⁴⁰ Art. 8 (3) OCD extends this period for 2 years, whereas Art. 9 (1) DCD for an indefinite period. To be more precise, DCD establishes a reversed rule whereby the burden of proof with respect to the conformity is always on the supplier.⁴¹

- 24 Where a lack of conformity of the OS of a smartphone or a problem with the washing-machine software manifests in the eighth month of usage, under option 1 it would be for the consumer to establish that the phone or the machine (i.e. the software embedded with it) was non-conforming already upon its delivery.⁴² It is obvious that this would be very burdensome for the consumer.⁴³ The same problem arises in case of smart TVs, smart fridges and other connected goods.
- 25 Under option 2, the consumer could rely on the provisions of the DCD. This means that if a software bug makes its first appearance in the eighth month of usage, the supplier would still have to prove that the software was in conformity with the contract at the time the car or mobile phone was delivered. If the trader fails to do so, the consumer is entitled to use remedies, e.g., to demand repair. This result would obviously be more favourable for the consumer than option 1 whereby the consumer, in order to be entitled to use a remedy, has to prove that the

software of a car or a smartphone was lacking conformity already at the time of delivery. However, there could be a situation where the embedded software becomes infected with malware only after the software has been supplied to the consumer. In such a case, the supplier is liable only if considered to have provided guarantee for the product or if there exists an additional contractual obligation covering software updates and supplements.

- 26 More complex cases arise where it is unclear whether the cause of a non-conformity lies in software or hardware. For instance, a smart TV does not turn on or “crashes” in its tenth month of usage; is it for the consumer to supply evidence that the TV hardware was lacking conformity at the time of supply, or is it for the supplier to prove that the embedded software was conforming to the requirements when supplied? Under option 1 the burden of proof lies within the consumer: in the absence of commercial guarantee, (s)he has to prove that the TV or software embedded within it was non-conforming already at the time of delivery. Under option 2, the burden of proof regarding the embedded software lies with the supplier. Here, the European Law Institute rightly has proposed an additional rule whereby the supplier can prove that the cause of non-conformity lies in hardware;⁴⁴ if that is the case, then goods rules (CSD, OSD) apply. In that case, the consumer would be able to make a claim against the supplier of the TV arguing that as the fault is presumably in software⁴⁵ and was presumably there already at the time of delivery of the TV, (s)he is entitled to use a remedy - for instance, demand the supplier to fix the OS of the smart TV.⁴⁶
- 27 In practice, the question of whether the digital content was lacking conformity at the time of delivery or not is generally one for an expert. Therefore, rules on the burden of proof are of significance also for questions such as who must pay the costs of expertise if it appears that the lack

40 According to the CJEU ruling in *Faber* it is for the consumer to prove the existence of the lack of conformity and that it became apparent within the first six months but not the cause or origin of that lack of conformity. Judgement in *Faber*, C-497/13, ECLI:EU:C:2015:357, para 75. Thus, a consumer can seek remedies against the supplier already if the latter does not succeed to prove that the cause of origin of the lack of conformity lies in circumstances which arose after the delivery of the good. *Ritter, Schwichtenberg*, VuR 2017, 51.

41 *Westphalen*, EuZW 2017, 378. According to recital 32, the reason for such rule is “the specific nature of digital content with its high complexity as well as the supplier’s better knowledge and access to know how, technical information and high-tech assistance” as well as the better position of the supplier to assess whether the lack of conformity with the contract is due to incompatibility of the consumer’s digital environment with the technical requirements for the digital content.

42 The situation is different, of course, in case of a sales guarantee.

43 *Spindler*, JZ 2016, 809. See further *Ritter, Schwichtenberg*, VuR 2017, 51.

44 *European Law Institute*, Statement on the European Commission’s Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 11-12.

45 We have to remember that the supplier is also supposed to prove the conformity of the digital content, Art. 9 (1) DCD. *Faber*, however, correctly points out that the wording of this provision is not quite clear as to what exactly the reversed burden of proof actually relates. *Faber*, in: *Wendehorst/Zöchling-Jud*, 120-122.

46 The above analysis does not concern situations where it is unclear whether, for instance, crashing of a smart phone is caused by problems of its OS (embedded digital content) or later downloaded apps (other digital content). The author suggests that on this occasion the consumer should be entitled under Art. 9 (1) DCD to use a remedy against either the supplier of the OS or the supplier of apps, who would then have to prove, in order to escape liability, that the lack of conformity was not caused by his software.

of conformity did not exist at the time of delivery but had causes brought about by the consumer. If a lack of conformity becomes apparent during the period within which the burden of proof is reversed in favour of the consumer, the supplier is required, at least under Estonian law, to pay the costs of expertise even if the non-conformity was caused by the consumer.⁴⁷ It is unclear whether this question is a matter of national law or not. On the one hand, it might be argued that the costs of expert reports are a specific case of compensation for damages which is not governed by the directives and falls thus within the scope of national law. On the other hand, the question could also be regarded as lying within the scope of application of the directive(s). Namely, if the national law would be able to provide that expertise costs would in any case be borne by the consumer, then the consumer would not be entitled to repair of the smart good free of charge if it turns out that the good was in fact non-conforming already at the delivery stage.⁴⁸

- 28 Finally, it should be noted that the application of paragraphs (2) and (3) of Art. 9 DCD to embedded digital content would be justified as these provisions better reflect the specificity of digital content by requiring the consumer to cooperate with the supplier to establish the lack of conformity, i.e. to assess the consumer's digital environment. This again supports application of option 2 over option 1.

IV. Time limits

- 29 According to Art. 5 (1) CSD, the consumer can pursue a remedy for a non-conformity that becomes apparent within two years from delivery. As CSD is a directive based on minimum harmonisation, setting out such time-limit is not obligatory for the Member States and not all Member States have done this.⁴⁹ Art. 14 OSD similarly provides that the consumer is entitled to a remedy for the lack of conformity with the contract of the goods where the lack of conformity becomes apparent within two years. However, as OSD is based on maximum harmonisation, the Member States cannot provide a more favourable regime for the consumers. According to the current version of DCD, there is no time limit for the supplier's liability⁵⁰

47 Varul, Kull, Kõve, Käerdi, Võlaõigusseadus II. Kommenteeritud väljaanne, 2007, 50.

48 Compare similar arguments in Weber und Putz and Quelle cases decided by the CJEU. Judgements in *Quelle*, C-404/06, ECLI:EU:C:2008:231, paras 28 et seq and *Weber und Putz*, C-65/09 and C-87/09, ECLI:EU:C:2011:396, paras 45 et seq.

49 Schulte-Nölke, Twigg-Flesner, Ebers (ed.), EC Consumer Law Compendium - Comparative Analysis, <http://ec.europa.eu/consumers/archive/cons_int/safe_shop/acquis/comp_analysis_en.pdf>, 641 et seq.

50 Critical on that Faber, in: *Wendehorst/Zöchling Jud*, 128-129.

because the digital content is not subject to wear and tear like "normal" goods.⁵¹ The duration of the liability of a supplier of digital content is determined by national prescription periods.⁵² Likewise, the liability of a lessor of a good with embedded digital content (for instance a connected car or tablet computer) depends on national prescription periods, as this matter has not been harmonised by EU rules.

- 30 As regards embedded digital content, option 1 would mean that the consumer would generally be able to seek remedy against the trader under the rules on goods, that is, on the condition that the lack of conformity of the digital content became apparent within two years as from the delivery of the good (Art. 5 (1) CSD, Art. 14 OCD). After the expiry of this two-year guarantee period there would only remain a theoretical possibility for the consumer to claim against the producer of the digital content if such possibility is provided for the consumer in national law. In the absence of a legal relationship (producer's guarantee) between the consumer and the producer of digital content, the consumer is not entitled to repair of the digital content after the 2 years have elapsed.
- 31 Under option 2 the consumer could file claims related to, for instance, physical faults of a connected car according to rules on goods; that is on the presumption that the lack of conformity became apparent within two years. As regards defective embedded digital content, such as anti-lock brake software, the consumer could use remedies until the end of the national prescription period. Thus, a seller (or a lessor) of a car should take into account that the duration of his liability for the digital content embedded with the car can be longer (or shorter, as the case may be) than that for the car.

V. Remedies

- 32 As for products with integrated software, the central question is whether the consumer can resort to remedies under rules on goods or those on digital content. It is important to understand that while in the case of certain remedies such as repair or compensation for damages it would be possible, in theory, to use a remedy under rules of goods for the goods component and a remedy under the DCD for the digital content component of a product, the remedies of price reduction and termination of the contract can only be applied to the good as a whole and not just to malfunctioning software or defective

51 Recital 43 of DCD.

52 *Spindler*, ERCL 2016, 213. Lurger has criticized this solution as an impediment for full harmonisation. *Lurger* in: *Wendehorst/Zöchling-Jud*, 19.

hardware. Therefore at least in the case of these remedies, relying on either one or the other of the two regimes would be feasible, but not combining both. For this reason, it has rightly been suggested that if option 2 was to apply, the consumer should be entitled to choose which regime to rely on while the trader could avoid the application of the chosen regime by establishing that the defect lies with the other component of the smart good.⁵³

- 33 Under option 1, the consumer could resort to remedies provided in the CSD and OSD. Thus, according to the principle of the hierarchy of remedies, the consumer should first give the seller an opportunity to cure the non-conformity of a smart good and only resort to price reduction or termination of the contract as a second option.⁵⁴ Preconditions for termination depend on the regime being applied: under Art. 3 (6) CSD, the lack of conformity must not be minor, whereas Art. 9 (3) OSD permits termination of the contract for whatever lack of conformity.⁵⁵ Termination of contract in case of leased goods would be possible according to the provisions of national law. The provisions of the DCD would have no significance under option 1 and in a particular case, the decisive question would be if and under which circumstances a defective embedded software or, for instance, its incompatibility means lack of conformity of the good as a whole, and if and under which circumstances this constitutes a minor non-conformity. For instance, is the monthly crashing of the OS of a tablet computer or of a smart TV a minor lack of conformity in respect of the good as a whole?
- 34 Under option 2, the consumer could rely on the remedies of the DCD. While the principle of hierarchy of remedies applies also according to Art. 12 (3) DCD, and the price reduction rules do not differ considerably from those provided for the sale of goods, the termination provisions of DCD contain several specific rules regarding both the grounds for and effects of termination. According to Art. 12 (5) DCD, the consumer may terminate the contract only if the lack of conformity with the contract impairs functionality, interoperability and other main performance features of the digital content such as its accessibility, continuity and security.⁵⁶ The advantage of such rule is in clearly binding

the right to termination to the effect of the lack of conformity on the specific performance features of the digital content such as interoperability, continuity or security. Furthermore, under these circumstances the consumer is protected also by the second sentence of Art. 12 (5) DCD, according to which the burden of proof that the lack of conformity with the contract does not impair functionality, interoperability and other main performance features of the digital content shall be on the supplier. Thus, option 2 is adequately reflecting the particular features of digital content while also being more favourable for the consumer. On the other hand, under option 2, Art. 13 (3), the DCD would also be protecting the suppliers, allowing them to terminate a sales contract of a connected car and also to disable the user account of the consumer.⁵⁷

VI. Special rules concerning long-term contracts

1. Right to terminate after 1 year

- 35 As for long-term contracts, Art. 16 DCD entitles the consumer to terminate the contract at any time after the expiration of the first 12 month period. This provision could be meaningful in respect of embedded digital content only in the context of long-term contracts concerning smart goods, such as a lease of a connected car, since sales contracts cannot be regarded as long-term contracts. Under option 1, this provision would not be applicable to smart goods with embedded digital content and hence in this matter only possibilities offered by domestic legislation would be available.⁵⁸
- 36 Option 2 would not give any legal advantage to a consumer who buys a smart good, because the consumer cannot choose to terminate the contract partly, i.e. only as regards the OS of a smartphone, for instance. Partial termination would only be possible in the case of a mixed contract (Art. 3 (6) DCD), for instance a bundled contract for the sale or lease of a smart TV with video on-demand services, whereby the consequences of such termination underlie national law.⁵⁹

53 *European Law Institute*, Statement on the European Commission's Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 10 et seq. In this case one also needs a rule that non-conformity of embedded digital content constitutes a defect of the good. *Ibid.*

54 Art. 3 (3) CSD, Art. 9 (3) OSD.

55 In this sense also *Lurger*, in: *Wendehorst/Zöchling-Jud*, 22.

56 Spindler suggests clarifying that also minor non-conformities may add up and entitle the consumer to terminate. *Spindler*, ERCP 2016, 206-207.

57 Unless, in a particular case, the sale of a connected car can be considered a mixed contract so that the termination of consumer's user account would be already justified under Art. 3 (6), Art. 13 (3) DCD.

58 For instance, according to Estonian law a lessee of a movable may extraordinarily cancel a lease contract by giving 30 days' notice, if this is a B2C contract (§ 322 of LOA).

59 See recital 20 of DCD and *Wendehorst* in: *Wendehorst/Zöchling-Jud*, 52.

37 Article 16 DCD may become tricky under a modified option 2, whereby DCD rules would apply not only to the digital content but also to the whole good. In this case applicability of Art. 16 DCD could even be interpreted as allowing termination of a 5-year lease contract of a connected car after 1 year. If the legislator chooses to use modified option 2, such a consequence should clearly be avoided.

2. Supplier's right to unilaterally modify contract

38 For long-term contracts, Art. 15 DCD gives suppliers the right to unilaterally alter functionality, interoperability and other main performance features of the digital content such as its accessibility, continuity and security, to the extent those alterations adversely affect access to or use of the digital content by the consumer. The supplier can exercise this right only if certain conditions under subparagraphs (a) – (d) of Art. 15 (1) are met. Leaving aside questions such as whether the supplier should have such right at all, what the alterations are that adversely affect the consumer and whether the supplier should always be able to make alterations positively affecting the consumer,⁶⁰ under option 1 it would be legitimate to ask why should a seller of a smart fridge be denied the right to alter the fridge's food management software to bring it in line with changes in a digital environment. Or why shouldn't a seller or lessor of a smartphone be able to alter its embedded software online if the predispositions of subparagraphs (a) – (d) of Art. 15 (1) DCD are met? This would be even more incomprehensible considering if the car trader would later provide this software separately on a CD or USB key he would be allowed to modify it under Art. 15 DCD, as according to Art. 3 (3) DCD the software supplied on a durable medium would fall under the rules of DCD.

39 Legal difficulties related to smart goods mostly stem from the fact that while the sale of the goods themselves is a one-time transaction, the software embedded in the goods is by nature leading to a long-term contractual relationship.⁶¹ This indicates

60 As an example, such right has been granted to the lessor under Estonian rules on lease contracts (§§ 283-284 of LOA). True, under Estonian law, only a thing, i.e. a tangible item can be the object of a lease contract (§ 274 of LOA). It cannot be precluded, though, that the courts would apply by analogy the provisions concerning lease contracts to digital content.

61 The European Law Institute's Statement on the DCD raises even the question whether we should re-consider the whole concept of sales contract. *European Law Institute*, Statement on the European Commission's Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 12.

again that option 2, which would enable to apply the long-term contracts rules of DCD to embedded digital content, is better fitted to the nature of smart goods. True, modifying embedded digital content remains possible also under option 1, but in that case traders have to follow the national rules concerning unfair terms which currently differ from Member State to Member State.

VII. Specific rules regarding personal data

40 Ultimately, the application to digital content of one or the other set of rules also determines whether the specific data provisions of the DCD will be applied; in particular, the rules concerning the effects of termination in relation to consumer data provided to the supplier (Art. 13 (b) and (c) DCD). These provisions would not be applicable under option 1. It has already been claimed that such a result would lead to a serious gap in consumer protection.⁶² Nevertheless, a consumer who has purchased or leased a smart good (a data subject according to General Data Protection Regulation, GDPR⁶³) would preserve the rights given by the GDPR even if provisions on digital content are not applied, and the European Data Protection Supervisor has already warned that two parallel regimes could create legal confusion.⁶⁴

1. Obligation to refrain from the use of consumer data

41 Where the consumer terminates the contract, the supplier shall take all measures which could be expected in order to refrain from the use of the counter-performance other than money which the consumer has provided in exchange for the digital content and any other data collected by the supplier in relation to the supply of the digital content including any content provided by the consumer

62 *European Law Institute*, Statement on the European Commission's Proposed Directive on the Supply of Digital Content to Consumers, <http://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Statement_on_DCD.pdf>, 10.

63 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ L 119/1 of 4.5.2016.

64 Opinion 4/2017 on the Proposal for a Directive on certain aspects concerning contracts for the supply of digital content, <https://edps.europa.eu/sites/edp/files/publication/17-03-14_opinion_digital_content_en.pdf>, 8-19.

with the exception of the content which has been generated jointly by the consumer and others who continue to make use of the content (Art. 13 (2) (b) DCD). Put simply, the supplier has to stop using the consumer's personal as well as any other data and user-generated content (such as photos, music files, videos or poems created by the consumer and uploaded onto social media).

42 A similar obligation may result for the data controller from Articles 17 and 18 GDPR. The outcomes are not legally identical however. On the one hand, the obligation provided under subparagraph (b) of Art. 13 (2) DCD to refrain from using the consumer's data is somewhat narrower than the obligation to erase personal data provided in Art. 17 GDPR, as refraining from the use of data does not necessarily imply their deletion. On the other hand, the said obligation under DCD is broader than the right to restriction of processing established in Art. 18 GDPR, the latter being provisional in nature while the obligation to refrain from using data upon termination of contract being of permanent character.⁶⁵ The two measures are also distinguished by purpose: Art. 13 (2) (b) DCD intends to regulate the restitution consequences deriving to the parties' relationship from the termination of a contract. Art. 17 GDPR, on the other hand, is largely associated with the fundamental rights of the data subject and aims, inter alia, to strike a balance between the data subject's fundamental right to privacy (right to be forgotten) and other fundamental rights such as freedom of the press.⁶⁶ In addition, Art. 17 GDPR is an expression of the principles of data minimisation and fair and transparent data processing.⁶⁷

43 The point in time at which the data controller should stop using the data is also different according to Art. 17 (1) (a) GDPR and Art. 13 (2) DCD. Under the GDPR the data controller must refrain from using the personal data as soon as the data are no longer necessary in relation to the purposes for which they were collected or otherwise processed (Art. 17 (1) (a) GDPR) or when the data subject withdraws his consent and where there are no other legal grounds for the processing (Art. 17 (1) (b) GDPR). Further, Art. 17 (1) (c) GDPR provides that the data controller is required to erase data in certain cases where the data subject objects to the processing of his data and there are no overriding legitimate grounds for the processing. According to Art. 13 (2) DCD, the obligation to refrain from the use of data arises when the consumer terminates the contract

for the supply of digital content. These moments in time may, but do not necessarily coincide, and thus the coexistence of two parallel regimes would indeed be confusing for the trader and the consumer alike. The supplier may even get the impression from the provision of Art. 13 (2) (b) DCD that a valid (i.e. non-terminated) contract for the supply of digital content in any case constitutes a legitimate interest to use the consumer's personal data.

44 It follows from the above that, as regards personal data, the consumer's right to claim refraining from the use of his or her personal data is sufficiently protected under the GDPR and thus the level of protection of consumer rights would not be notably lower under option 1. However, the use of option 2 would be more advantageous to the consumer by putting an obligation on the supplier to also refrain from the use of other data⁶⁸ and user-generated content after the termination. In relation to the latter, Art. 13 (2) (b) DCD in conjunction with Art. 19 DCD would also invalidate clauses often contained in the standard contractual terms whereby the consumer grants the trader a licence for the use of his or her user-generated content also after the termination of the contract.

2. Obligation to return consumer data and user-generated content.

45 According to Art. 13 (2) (c) DCD, the supplier shall in the event of termination provide the consumer with technical means to retrieve all content provided by the consumer and any other data produced or generated through the consumer's use of the digital content to the extent that data has been retained by the supplier. The consumer shall be entitled to retrieve the content free of charge, without significant inconvenience, in reasonable time and in a commonly used data format. It should be underlined that contrary to subparagraph (b) of Art. 13 (2) DCD the wording of subparagraph (c) does not include the consumer's personal data but only "other data", and user-generated content.

46 For personal data, a comparable right of the consumer as the data subject is laid down in Article 20 GDPR.⁶⁹ This article, providing for data

65 However, even upon termination of the contract the supplier can retain a limited right to the use of data for the establishment, exercise or defence of legal claims under Art. 17 (3) GDPR.

66 Recital 65 of GDPR.

67 Paal in: Paal/Pauly (ed.), *Datenschutz-Grundverordnung*, 2017, Art. 17 para 7.

68 In the future, however, most of consumer data will be considered personal data within the meaning of GDPR. Opinion 4/2017 on the Proposal for a Directive on certain aspects concerning contracts for the supply of digital content, <https://edps.europa.eu/sites/edp/files/publication/17-03-14_opinion_digital_content_en.pdf>, 11>. Therefore the importance of "other data" in Art. 13 (2) DCD will diminish considerably.

69 See a profound comparative analysis of both regimes by Janal, *JIPITEC* 2017, 59 et seq. She criticizes the current

portability, grants the data subject both the right to demand that the personal data be transferred to him or her, and the right to have the personal data transmitted directly from one controller to another, where technically feasible. Personal data can be requested by the consumer in a commonly used data format and as a rule, free of charge (Art. 12 (5) GDPR). Nevertheless, GDPR does not provide for the right to demand transfer of user-generated content (which is not necessarily personal data, like nature photos taken with a tablet computer) or other data (such as anonymised technical data created by the consumer's connected car).⁷⁰ The consumer can claim this only under Art. 13 (2) (c) DCD. In addition, Art. 13 (2) (c) DCD stresses that the consumer is entitled to receive the data in reasonable time and without significant inconvenience.

- 47 Regarding the choice between options 1 and 2, option 1 would leave the destiny of data upon the termination of contract to be determined solely by rules on goods. In other words, the consumer's right to receive data and demand refraining from the use of data would be limited to what has been provided in the GDPR, that is only personal data. In any case, the consumer would not be entitled to demand refraining from the use of any other data generated by embedded digital content or user-generated data, nor to claim the return of such data.
- 48 Under option 2, the consumer would be able to demand this pursuant to Art. 13 (2) DCD. The consumer would have such right also in relation to leased items containing embedded digital content. This would be the case for instance, where a consumer has leased a car and when he returns it, wishes to receive the anonymised technical data gathered by the car; or where a consumer has leased a smart phone or tablet computer and used it for taking nature photos. Under option 2, also the consumer who is a lessee would be able to demand return of such data.

D. Pros and cons of the options

- 49 Before weighing up the different options, it should be underlined that neither the application of rules on goods nor the application of rules on digital content determines who it is that the consumer should approach as regards a non-conformity of embedded digital content. Notwithstanding whether the European legislator chose option 1 or 2, the consumer can use remedies only against his or her

contracting party. For instance, in the case of the lack of conformity of the OS or pre-installed apps of a smart phone, the consumer can turn to the store which sold the phone. The question is simply which is the legal regime that ought to be used as the basis for assessing the consumer's claims.

- 50 Similarly, neither of the options would solve the problems arising from the fact that a third party comes into play to enable the consumer uses a functionality of a smart good (even if the necessary software has been integrated into the product).⁷¹ Regulating such situations needs supplementary legislative action.
- 51 The most obvious advantage of option 1 is the fact that at least at first sight a general principle applying goods rules to goods would be clearer and more understandable - goods are goods, even if smart. For both ordinary consumers and lawyers not specialising in IT law, such splitting of applicable legal regime whereby, for instance, a smart TV would be subjected in parallel to the provisions on digital content and those on goods, would be confusing and highly complicated. Indeed, traders' liability for other kinds of in-built technology (such as Bluetooth) is governed by rules on goods. On the other hand, as there is no special contract law directive concerning such technologies, it is obvious that such legal problems do not arise. Not least important is the fact that under option 1 it would not be necessary to establish whether a non-conformity has its origin in software or hardware, in order to determine the applicable set of rules.
- 52 As a negative aspect of option 1, those applying the law would be confronted with complicated problems of delimitation where they need to draw a line between cases of embedded digital content and mixed contracts.⁷² Moreover, one also has to decide what constitutes a main functionality or the essential characteristics of a good - a concept that is changing in time and can lead to arbitrary results.
- 53 Option 2 would avoid these delimitation problems: rules on digital content are always applied to digital content regardless of whether it is embedded in a good or downloaded later. Thus, opting for option 2 would solve the inconsistency of regulatory policy that would evolve under option 1. Namely, in case of option 1 the software additionally supplied to the consumer (such as an additional set of navigation maps for a car, but probably also updates to the OS of a phone) would be treated differently under the law than original embedded software. Likewise, the transfer of certain functionalities of

wording of Art. 13 (2) DCD for being applicable only to certain cases of termination and for not containing a reasonability restriction.

⁷⁰ Janal, JIPITEC 2017, 67.

⁷¹ For more on these problems, see *Wendehorst*, in: *Wendehorst/Zöchling-Jud*, 60-66.

⁷² *Wendehorst*, in: *Wendehorst/Zöchling-Jud*, 56.

domestic appliances from inside the goods to the cloud environment would have different legal consequences than leaving the software performing these functions into the goods.⁷³ E.g. where a consumer is using a remote control for TV (which includes appropriate software), it would be governed by goods rules under option 1, as there is embedded software subordinated to the main functionalities of the TV set. By contrast, where the particular TV manufacturer has replaced the “normal” remote control with a remote control app that can be installed to the consumer’s smart phone,⁷⁴ the rules on digital content would be applied to the app under option 1, as there is no software embedded into the product. Thus, the software performing the function of TV control would be governed by goods rules on one occasion and rules on digital content on the other.

- 54 One more advantage of option 2 would be the possibility to apply digital content rules to the embedded content of goods not only to sales contracts but also in the case of lease agreements, currently uncovered by EU law. Leasing and sharing things instead of buying them is a growing trend; increasingly consumers prefer to lease a car, TV, laptop, or even a smartphone. Similarly, e-books and downloadable software are being supplanted by streaming and cloud services. Thus, under option 2, both the national provisions concerning lease agreements and the provisions of DCD would apply to a leased connected car or smart TV. Under that solution the lessor of a connected car would be required to return his or her “other data” to the consumer (Art. 13 (2) (b) DCD) upon termination of the lease agreement because of the non-conformity of its anti-lock brake software. The consumer could also benefit from its more favourable provisions regarding burden of proof and supplier’s liability (Art. 9 (1) and Art. 10 DCD). The trader, on the other hand, would be allowed to make necessary modifications in the software if the preconditions of Art. 15 DCD are met. Depending on the rules of national lease law this could be more (or less) favourable for the consumer, but would in any case establish EU-wide uniform rules for businesses.
- 55 The modified option 2 – applying DCD both to embedded digital content as well as to the hardware would solve certain problems while at the same time creating new ones. Applying Art. 16 to the whole smart good would mean that the consumer could terminate a 5-year lease contract of a car after one year just because it has some embedded digital content in it – and nowadays most of the cars do.

Moreover, if taken literally, Art. 15 would entitle the supplier to modify not only the embedded digital content but also the hardware of the good. If sales rules would not apply to smart goods anymore, then the application of the commercial guarantees provisions of CSD and OSD would be excluded and it is unclear whether the passing of risk rules of Art. 20 CRD remain applicable. Quite clearly, these consequences cannot be intended.

- 56 As the legislative process in EU seems to exclude “digitalisation” of sales law at the moment, the principle that any digital content, including embedded digital content is governed by the rules of DCD (option 2) would be preferable. To save the consumer from facing the difficult problems of proof, that is, establishing whether a non-conformity of a smart good lies with digital content or hardware, it would be necessary to adopt the rule which would enable the consumer to rely on rules on digital content, except where the trader proves that the non-conformity lies within hardware. This exception could be supplemented by the clause familiar from Art. 5 (3) CSD: “unless this presumption is incompatible with the nature of the goods or the nature of the lack of conformity”. The split contractual regime is no doubt complicated from the legal point of view but at least avoids arbitrary results and inconsistencies of option 1 and would also be more beneficial for the consumer.

E. Conclusion

- 57 The approach taken by the European Commission - regulating contracts for the supply of digital content based on their object - has led to a situation where the legislator has to choose whether to subject one component of smart goods (embedded digital content) to a legal regime different from that applicable to the other parts of such a good. In principle, there are two options up for discussion: (i) apply goods rules to the entire smart good, including embedded digital content; or (ii) apply goods rules to goods and the rules of DCD to (also embedded) digital content. A modified option 2 would be to subject the whole smart good (including hardware) to the DCD rules.
- 58 If to prefer option 1, the scope of application of the provisions of DCD depends on the definition of embedded digital content. The narrower it is defined the less there will be smart goods subject solely to the rules on goods (for instance, DCD would be applied to later downloaded apps of a smartphone whereas rules on goods would only be applied to operating systems and probably also to pre-installed apps). And the other way round, the broader the definition of embedded digital content, the more often smart

⁷³ Cf. Spindler, ERCL 2016, 189; Wendehorst in: Wendehorst/Zöchling-Jud, 54-55.

⁷⁴ See, for instance, Samsung Smart TV and Samsung Remote App. <http://www.samsung.com/global/article/articleDetailView.do?atcl_id=20>.

goods are covered by goods rules only. It should be emphasised that the definition of embedded content is of substantial significance only regarding option 1: under option 2, DCD would apply to any kind of digital content, either embedded or not.

- 59 Option 2 has a number of substantial and regulatory policy advantages; namely, the fact that in that case the provisions of the DCD would also apply to leased goods with embedded digital content and avoids substantial inconsistencies. Choosing option 2, however, creates a split-regime for the smart good and poses the difficult question of whether and how to prove which component of a good (hardware or digital content) is the source of the non-conformity and which rules to rely on when deciding on the consumer's remedy. Ultimately, the answer depends on who should bear the proof-related risks deriving from the increasingly complicated nature of smart goods. As it is mostly impossible for the consumer to prove the source of origin of a defect without an expert opinion, the risk should be borne by the trader, except where the source component of the lack of conformity is obvious.
- 60 Modification of option 2 - i.e. subjecting the whole smart good to the DCD unless the trader proves that the defect lies within hardware - would mean a major shift in the European and national contract law as the sale or lease of all smart goods would then be subject to the DCD and not the CSD, OSD or national leasing law. Applying e.g. Art. 5, 15 or 16 DCD and not applying commercial guarantees provisions of CSD or OSD to the hardware would lead to clearly unwanted consequences.
- 61 One must also bear in mind that opting for one or another option will not solve numerous legal problems associated with digital goods and services and IoT. In any case, adopting the DCD would mean adding a next layer to the already intricate system of rules regarding consumer contracts. Thus, a connected car or a smart fridge bought using a consumer credit would be subject to no less than five EU directives concerning consumer rights: CSD (or if bought on-line, OSD), DCD (which would certainly apply to later software updates), Consumer Credit Directive (or, if the loan for buying a connected car is secured by mortgage, then Mortgage Credit Directive), CRD, and Unfair Terms Directive. In other words, the legal framework applicable to buying smart goods will be at least as complicated as their technology.