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CONTRACTUAL LIABILITY FOR DEFECTIVE IoT PRODUCTS – WHAT CAN THE UK LEARN FROM THE EU APPROACH?

Siobhan McConnell¹

I. Introduction

The advent of digital technology and its use by consumers has led to significant challenges for the law in ensuring that there is a system of contractual rights and remedies that is fit for purpose for the modern era. Buying and using digital content, for example, downloading books and music, is commonplace.² Alongside this, the popularity of products linked to the Internet of Things (‘IoT’) like ‘smart’ phones, televisions and wearables increases each year.³ The development of a workable legal framework in relation to defective IoT products has proven challenging. This article focuses on the contractual rights and remedies of consumers who purchase defective IoT products, contrasting UK law, under the Consumer Rights Act 2015 (‘CRA’), with two new EU directives, the Digital Content Directive⁴ and the Sale of Goods Directive⁵ (‘the Directives’). This article reviews the background of both the UK and EU legal frameworks and then compares the differing legal approaches, considering which provides a clearer, more comprehensive and effective system of rights and remedies for consumers of IoT products. Such a comparison has not been undertaken since the Directives were finalised and is particularly relevant given Brexit and the potential for divergence between the two legal systems. There is little analysis of how the CRA applies to IoT products and this article considers

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³ Statista estimates that by 2025 there will be 75.44 billion IoT connected devices, www.statista.com/statistics/471264/iot-number-of-connected-devices-worldwide.
what the UK can learn from the EU approach and makes recommendations as to how the CRA should be adapted following Brexit.

To some extent, the UK led the way in embracing legal protection for consumers of digital content. The UK government recognised relatively early that applying laws based on nineteenth century merchant trading practices\textsuperscript{6} to the modern era was unsatisfactory, commissioning the Bradgate report in 2009.\textsuperscript{7} The CRA, enacted in October 2015, adopted many of the recommendations in the Bradgate report. The CRA provides a system of bespoke rights and remedies for consumers of digital content, irrespective of whether it is acquired in a tangible or intangible format, recognising digital content as sui generis i.e. in its own distinct category, separate from goods and services. Although it is clear that the CRA covers IoT products, its effectiveness in the context of such products has not been considered in detail.\textsuperscript{8} At the time the CRA was drafted, there was limited discussion of the particular legal challenges IoT products present. In contrast, the debate around IoT products was much more prevalent when the EU was creating its legal framework. EU legislative bodies appeared late to respond to the legal issues created by digital technology and have grappled with issues surrounding digital content, especially IoT products, for the last few years. What appeared to be a fairly simple task, i.e. the introduction of rights and remedies for digital content, raised more questions than answers, particularly in relation to IoT products. In considering the differing approaches, this article firstly examines what is meant by the IoT and briefly summarises the challenges IoT products present in terms of contractual liability. It then explores the Bradgate report and the development of the EU legislative approach. This article then compares the differing legal systems and considers how, following Brexit, the UK should adapt the CRA to create a workable, fit for purpose and future-proof system that benefits consumers and inspires consumer confidence.

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\textsuperscript{8} Most of the fairly limited comparison comes from the context of discussions during the development of EU law.
II. What is the IoT?

There is no set definition of the IoT. Davies refers to the IoT as “a global, distributed network (or networks) of physical objects that are capable of sensing or acting on their environment, and able to communicate with each other, other machines or computers.” Both the EU and the UK have recognised the importance of the IoT, the UK government’s view being that the IoT could have a more significant effect on society than the first digital revolution. The IoT involves a “constellation of IoT actors” including retailers, software developers, component manufacturers and cloud providers. IoT products usually involve not only tangible goods but also embedded software, software maintenance arrangements, a supply of digital infrastructure and the processing and exploitation of user data encompassing a range of parties, not just the business supplying the tangible goods. Wendehorst notes such products require “a revolutionary change for contract law” because consumers enter into contracts and quasi-contracts with not only the seller but also third party providers of software and services. There can be several contracts involved, e.g. retailer terms and conditions, terms of service and end-user licence agreements. These documents can be incredibly complex, hard to understand and difficult to access – consumers often not reading the provisions and simply clicking through and accepting the contractual terms. IoT products involve an “inseparable mixture of hardware, software and service.” When an IoT product is defective it may be difficult for the seller and the

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10 Ibid., p.1. See also European IoT challenges and opportunities, 2019-2014, Alliance of Internet of Things Innovation.
14 Ibid., p. 9.
15 Noto La Diega & Walden, n. 12, p. 6 - when purchasing a Nest a UK consumer would need to read 13 legal documents to understand their rights and obligations.
17 Noto La Diega & Walden, n.12, p. 8.
consumer to understand their legal rights and responsibilities, especially where third parties are involved in the operation of the product.\textsuperscript{18} It may be hard to identify the source of the defect and who is liable.\textsuperscript{19} A workable system was needed which could effectively balance the competing interests of businesses and consumers. The need for change in the UK was identified at an early stage, particularly as the “electronic digital revolution...brought a new dimension to the consumer-trader relationship.”\textsuperscript{20} The Bradgate report, published in 2010, clearly outlined the main issues and many of its recommendations were incorporated into the CRA.

\section*{III. The Bradgate Report}

The Bradgate report recognised the importance of digital technology to consumers and businesses, acknowledging the need for consumer law to be clear, accessible and understandable to consumers.\textsuperscript{21} The report did not mention the IoT, unsurprising, given that there was a much more limited discussion of the IoT at this time. The report considered the difficulties in establishing what rights consumers had when a digital product is defective or not as described and recognised this as being “a serious weakness in the law.”\textsuperscript{22} The report noted that the different approaches taken by the courts when considering defective digital products had created “illogical distinctions” between similar transactions.\textsuperscript{23} For example, in St Albans City and District Council v International Computers Ltd,\textsuperscript{24} the view was that software could only be classified as goods if provided in a tangible format, although the common law might step in to provide similar protection for intangible software to that found in the Sale of Goods Act 1979. This presented an unsatisfactory result in that the same software would provide consumers with different rights and remedies depending on how it was supplied i.e. a

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\item Ibid. Complexity of goods has long been recognised as an area of difficulty for consumers – see Final Report of the Committee on Consumer Protection (Molony Committee), Board of Trade, Cmd 1781/1962 para. 42-44.
\item Bradgate, n. 7, para 61, p. 26.
\item Ibid., para. 173, p. 62.
\item Ibid., para. 22, p. 4.
\item [1996] 4 All ER 481.
\end{enumerate}
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consumer would enjoy stronger rights if the supply was in a tangible format. In Beta Computers (Europe) Ltd v Adobe Systems (Europe) Ltd\textsuperscript{25} the court viewed a supply of software as a sui generis contract. The report recognised that intangible software could also be defined as a service.\textsuperscript{26} The report noted the potential for the UK to lead in this area\textsuperscript{27}, suggesting that digital products do not fit into any particular category, being neither goods nor services, and contracts for their supply should be treated sui generis.\textsuperscript{28} The report recommended that when acquiring digital products consumers should have similar rights and remedies to those enjoyed when acquiring goods\textsuperscript{29}, adapted as necessary to reflect the particular nature of digital products. This approach was based on a key principle underlying UK consumer law i.e. that the law should reflect and give effect to the reasonable expectations of the contracting parties.\textsuperscript{30} Steyn also acknowledges the importance of an objective theory of contract law in a modern legal system - the reasonable expectations of both parties should be central to the law of contract.\textsuperscript{31} This key principle was reflected in the Sale of Goods Act 1979 and was adopted in the CRA in terms of statutory rights for digital content. It also has a place, alongside the importance of the principle of the confident consumer, in the development of the EU approach.

IV. The development of the EU approach

In December 2015 the Commission proposed the Digital Content Directive and the Sale of Goods Directive which are maximum harmonisation directives.\textsuperscript{32} At this point the Sale of Goods Directive only applied to contracts for online and other distance sales of goods. The aim of the Directives was

\textsuperscript{25} [1996] FSR 367.
\textsuperscript{26} Bradgate, n. 7, p. 44.
\textsuperscript{27} Ibid., para. 5, p. 10.
\textsuperscript{28} Ibid., paras. 170-171, p. 62.
\textsuperscript{29} Ibid., para. 181, p. 64.
\textsuperscript{30} Ibid., para. 36, p. 18.
to promote growth through the development of a Digital Single Market.\textsuperscript{33} The Directives would remove “contract law-related barriers hindering cross-border trade”\textsuperscript{34}, reducing complexity, uncertainty and cost.

It is well recognised that EU legislators focus on protecting consumers when creating EU law.\textsuperscript{35} Over time, there has also been a concerted push to harmonise Member States’ consumer laws,\textsuperscript{36} so as to provide clarity and protection to consumers. Enhancing consumer confidence is critical, particularly in the context of cross-border consumers, in order to promote economic activity within the EU marketplace. Consumers need to feel confident in using that marketplace\textsuperscript{37}, undeterred by differences or deficiencies in national laws.\textsuperscript{38} As Wilhelmsson notes, “the well protected, ‘confident consumer’ is seen as important for internal-market reasons” and has been used to justify minimum and total harmonisation approaches.\textsuperscript{39} Consumer confidence also plays a key role in promoting consumer policies that seek to encourage supplier innovation in terms of product development – as consumers gain more confidence in product quality, they exercise product choice, encouraging suppliers to compete for custom, and driving innovation.\textsuperscript{40}

The initial draft Digital Content Directive created rights in relation to intangible digital content and digital content supplied in a durable medium that exclusively carried the digital content (e.g. a DVD).\textsuperscript{41}

\textsuperscript{33}Ibid.
\textsuperscript{34} Ibid.
\textsuperscript{37} The Bradgate report also recognised the importance of the confident consumer, n. 7, para. 9, p. 11.
\textsuperscript{38} Wilhelmsson, n. 35, p.320.
\textsuperscript{39} Ibid.
\textsuperscript{40} Twigg-Flesner, n. 16, p. 410. See also Department for Business Innovation & Skills, Empowering and Protecting Consumers – Government response to the consultation on institutional reform, 2012, p. 4, for the UK government view on the importance of consumer confidence in driving innovation.
\textsuperscript{41} First draft DCD, n. 32, art 3(1) and (3).
How IoT products should be treated created considerable debate. The initial draft recognised the importance of digital content in relation to the IoT but specified that issues of liability relating to the IoT should be dealt with separately.\(^{42}\) The Digital Content Directive would not apply to digital content embedded in goods “in such a way that it operates as an integral part of the goods and its functions are subordinate to the main functionalities of the goods.”\(^{43}\) Legal issues concerning such goods would be left to the laws of Member States but at this point the proposed Sale of Goods Directive only covered online and other distance sales contracts, not all sales contracts. This approach would inevitably have created problems given that the outdated provisions of the Consumer Sales Directive (“CSD 1999”) would still apply to such goods.\(^{44}\) The provisions in the CSD 1999 would not reflect the benefits provided for intangible digital content and services under the Digital Content Directive, such as bespoke conformity criteria.\(^{45}\) There were further criticisms of this approach. Commentators recognised that the definition of digital content used in the Digital Content Directive was so broad that it could be argued that it did not actually exclude IoT products, even though that was its stated intention.\(^{46}\) This would lead to potential confusion for businesses and consumers. Further, Sein notes the difficulties of interpretation inherent in the drafting. When is digital content integral? When are its functions subordinate to the main functionality of the goods? This could be open to interpretation and perceived in different ways by different parties.\(^{47}\) In addition, the digital content embedded in an

\(^{42}\) Ibid., recital 17.
\(^{43}\) Ibid., recital 11.
\(^{45}\) First draft DCD, n.32, art 6.
\(^{47}\) K. 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”, JIPITEC, p. 98. Sein highlights these difficulties using the example of a smartphone, noting there is no ‘uniform average consumer understanding of what constitutes the main functionality of a smartphone’, some using it purely for calls, others mainly for surfing, some for both. See also Mak ibid., p. 8. See also R. MANKO, Contracts for the supply of digital content, a legal analysis of the Commission’s proposal for a new directive, EPRS in-depth analysis, PE 582.048, 2016, p. 12 -13.
IoT product would be subject to rules differing to those applying to separate intangible digital content required to use the product, with the outdated CSD 1999 applying to the IoT product but related apps covered by the Digital Content Directive. The purchaser of the app would enjoy clearer and more beneficial rights than the purchaser of the IoT product. Sein emphasises the difficulties of this approach – in particular the legal policy questions of the application of differing legal regimes to broadly similar situations. This was an issue also identified by the Bradgate report.

The EU Parliament took a different approach, proposing that the Digital Content Directive should apply to goods where digital content and services was embedded in goods i.e. pre-installed content that operates as an integral part of the goods and that could not easily be deinstalled. The Digital Content Directive would apply to such goods unless the supplier proved the fault was with the hardware - then the CSD 1999 would apply. The co-rapporteurs stated that excluding such goods would cause confusion for consumers in terms of understanding their rights. The final Parliamentary report took a similar approach, explicitly stating that the Digital Content Directive should apply to IoT devices, noting the future importance of IoT products. However, the Digital Content Directive would only apply to the digital content or service, with the CSD 1999 applying to the rest of the goods. Again, this would lead to difficulties for consumers as they would struggle to identify the source of a defect in an IoT product, i.e. hardware or software, and face the application of two contrasting legal regimes. The approach taken by the CRA avoided this problem. It is clear that neither the approach of the Commission nor Parliament would have enabled the legislators to fulfil the stated aims of the Directives.

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50 Sein, n. 47, p. 99.
51 Bradgate, n. 7.
52 Draft European Parliament Report on the first draft DCD, PE592.444v01-00, 2016, art 2a and 3a.
53 Ibid., art 3a.
54 European Parliament Report on the first draft DCD, PE592.444v02-00, 2017, art 1b and 3 and p.90.
The key change came in October 2017 when the Commission proposed the repeal of the CSD 1999, introducing a new set of rules for all consumer sales whether made at a distance or face-to-face.\(^5^5\) This provided for a much more constructive approach – enabling the EU to refresh and refine the existing laws and to adopt bespoke provisions relating to digital content across both Directives. This would provide for a much more streamlined and workable solution for IoT products, avoiding the split regime approach that would undoubtedly have impacted on consumer confidence. As will be seen in the following comparison of the key provisions of the CRA and the resulting Directives, the Directives create a clearer and more bespoke framework for IoT products than the CRA.

V. The CRA and the Directives

The following section considers and contrasts some of the main provisions of the CRA and the Directives, focusing on the scope of the legislation and the key contractual rights and remedies. It also makes some recommendations on how the CRA should be adapted given the likely divergence between the legal systems of the EU and the UK following Brexit.

A. SCOPE

1. Application to IoT products

The CRA applies to contracts for the supply of digital content between businesses (termed ‘traders’) and consumers.\(^5^6\) The CRA defines digital content as data “produced and supplied in digital form.”\(^5^7\) The CRA takes a holistic approach and its rights apply to digital content provided in a tangible format, e.g. in an IoT product like a wearable fitness watch, or in an intangible format, e.g. an app linked to the wearable. The Directives adopt the same definition of digital content and also include digital services, separating out liability depending on the nature of the digital content or service. The Digital Content Directive applies to contracts for the supply of intangible digital content or digital services by


\(^{56}\) Consumer Rights Act 2015 (CRA) s 1(1) and s 2(3) – only an individual can be a consumer.

\(^{57}\) CRA, s 2(9). This definition is a copy out of the definition used in art. 2 (11) of the Consumer Rights Directive n. 36.
traders. The Sale of Goods Directive applies to standard sale of goods contracts, including goods with digital elements i.e. “tangible movable items that incorporate or are inter-connected with digital content or a digital service in such a way that the absence of the digital content or digital service would prevent the goods from performing their functions.” Clearly this definition would include IoT products. In practice, the separation of liability has little impact as many of the provisions relevant to an IoT product (whether it be the tangible product or intangible digital content or service for use with the product) are very similar in both Directives.

The CRA recognises mixed contracts where both goods and digital content are supplied so this would clearly include an IoT product. Generally, the CRA treats a defective IoT product in the same way as goods – a consumer has rights and remedies against the trader (which could be a retailer or manufacturer, depending on whoever the consumer purchased the product from) that are almost identical to those for goods. This straightforward approach lacks complexity and is easy for consumers to understand. However, Wendehorst notes problems with the CRA approach as it does not take account of linked and ancillary contracts inherent in IoT products. One example provided is the acquisition of a wearable that only functions if the consumer downloads a particular fitness app supplied by a third party software producer onto a mobile, Wendehorst noting the personal and functional link between the two contracts and the two different traders. As noted, the Sale of Goods Directive applies to tangible goods with inter-connected or incorporated digital content or services. The focus on digital content and services being ‘incorporated’ or ‘inter-connected’ with goods appears to reflect more accurately the realities of how the IoT works and makes the CRA seem outdated. In addition, the Sale of Goods Directive clearly attempts to address the issue noted by Wendehorst.

58 The DCD also covers contracts for the supply of content carried exclusively in a tangible medium e.g. a DVD, art. 3 (3). The DCD uses ‘trader’ for seller and the SGD uses ‘seller’.
59 SGD, art. 2(5)(b).
60 CRA, s 1(4), s 1(5), s1(6) and s 16.
61 Wendehorst, n. 13, p. 7 and p. 12.
62 SGD, art. 2(5)(b).
63 Ibid., art 3(3).
The Sale of Goods Directive applies if the digital content or service incorporated or inter-connected with the goods is supplied by the seller or a third party, recognising the importance of third parties in the operation of IoT products. The recitals to the Sale of Goods Directive provide guidance on its application. Whether the supply of incorporated/inter-connected digital content or services forms part of a sales contract depends on the contract content and will include digital content or services explicitly required by the contract. It covers contracts where the supply of the digital content or service would be considered normal or that the consumer would reasonably expect given the type of goods. An example provided is a wearable fitness watch – the wearable would be a good with digital elements which works with an app provided under the sales contract which is downloaded on a smart phone. The app would be the inter-connected digital element. The Sale of Goods Directive would apply even if the content or service is provided by a third party. If there is any doubt on whether the supply of digital content or service forms part of the contract then the Sale of Goods Directive will apply. The contractual relationship between the parties should be unaffected by the fact a consumer has to agree to a licensing agreement with a third party to benefit from the digital content or service. The Sale of Goods Directive recognises that contracts for the supply of digital content or services not forming part of the sales contract are separate and fall within the Digital Content Directive e.g. where a sleep tracking app is downloaded to a smart phone for use with a wearable. It is submitted that the CRA must be amended to deal with linked and/or ancillary contracts so that it is clearer to the consumer who is liable should a problem arise. Placing all primary liability on the trader may be appealing. However, adopting the approach in the Sale of Goods Directive may be unpalatable for UK retailers who are far removed from both the manufacturing process and the ongoing operational aspects of the IoT product. One option might be to consider further the concept of joint and several contractual liability for manufacturers and sellers, placing more accountability on the party

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64 Ibid., art. 3(3).
65 Ibid., recital 15.
66 Ibid., recital 15.
67 Ibid., art. 3(3).
68 Ibid., recital 15.
responsible for the defect, usually the manufacturer.69 However, given the complexity of IoT products, the manufacturer may not always be responsible for the defect and liability could be extended to include all parties involved. This may present the contractual ‘revolution’ needed to deal with IoT products but would require a significant change in consumer law, potentially affecting not just IoT products but all sale of goods contracts.

From a UK business perspective, it is also important to note that the Sale of Goods Act 1979, which covers business-to-business sale of goods contracts, does not contain any digital content liability provisions. This leaves a lacuna of liability where a business facing a consumer claim will not have an identical claim against its supplier.70 This position creates ongoing contractual uncertainty for business-to-business contracts for the supply of digital content, particularly as between an IoT product manufacturer and retailer. Arguments around the exclusion of businesses - particularly small and medium sized businesses - from benefitting from digital content provisions continue to gather pace.71 The possibility of clarifying the position of IoT products in the CRA will undoubtedly strengthen the compelling argument for the inclusion of similar digital content and services provisions in the Sale of Goods Act 1979.

2. Categorisation of digital content

The CRA places digital content in a bespoke category, following the recommendations in the Bradgate report. EU Member States have struggled with how to categorise digital content and various approaches have been taken.72 This has led to legal uncertainty with different countries taking different stands.73 The Digital Content Directive itself does not resolve this issue and leaves

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70 All of the issues noted in the Bradgate report, n. 7, would still be relevant here.
72 Manko, n. 47, p. 10-11.
classification to individual Member States. This may lead to future difficulties as different countries may continue to take different approaches, some classifying such contracts as sale, service or rental contracts,\textsuperscript{74} which could cause confusion for consumers - particularly if buying cross-border - and also problems with dispute resolution.\textsuperscript{75} The CRA should retain its sui generis approach.

3. Consideration

The key rights under the CRA apply where a consumer pays for digital content\textsuperscript{76} (e.g. buying a wearable) or where it is supplied free with paid for goods, services or other digital content\textsuperscript{77} (e.g. buying a wearable with free access to online resources). The Sale of Goods Directive applies where a consumer pays a seller for goods\textsuperscript{78} whilst the Digital Content Directive applies where a consumer pays a trader for intangible digital content or digital services.\textsuperscript{79} The Digital Content Directive also covers contracts where the consumer provides personal data as consideration for the digital content or service.\textsuperscript{80} The CRA does not cover such contracts. It is clear that the CRA should be extended to cover ‘personal data’ contracts, particularly since, as Mak notes, this is becoming a more important method of contracting and such an approach creates equality amongst suppliers.\textsuperscript{81} The CRA allows for such an extension where an amendment would protect consumers from significant detriment.\textsuperscript{82} There seems to be no compelling reason why the CRA should not be adapted in this way, particularly as the value of personal data may be perceived by consumers as equal to or of even more value than financial payment\textsuperscript{83} and when it is frequently provided to download apps associated with an IoT product, e.g.

\textsuperscript{74} Fauvarque-Cosson, n. 46, p. 25.
\textsuperscript{75} Hoekstra & Diker-Vanberg, n. 49, p. 109.
\textsuperscript{76} CRA, s 33(1).
\textsuperscript{77} Ibid., s 33(2).
\textsuperscript{78} SGD, art. 2 (1) and 3.
\textsuperscript{79} DCD, art. 3(1). It also covers digital content carried exclusively in a tangible medium n. 58.
\textsuperscript{80} DCD, art. 3(1).
\textsuperscript{81} Mak, n.46, p. 10.
\textsuperscript{82} CRA, s33(5).
\textsuperscript{83} Mak, n. 46, p. 18. See also Hoekstra & Diker-Vanberg, n. 49, p. 102 where personal data is a “valuable commodity”.
health history provided by a consumer to obtain an app for an individually updated training plan for use with a wearable.

B. RIGHTS

1. General approach

As recommended by the Bradgate report, the CRA treats digital content in the same way as tangible goods, providing consumers of IoT products with the same rights. The Sale of Goods Directive mirrors this approach and treats goods and goods with digital elements (IoT products) in broadly the same way. The conformity requirements, burden of proof and liability provisions are the same for goods and IoT products with specific clauses added where appropriate to reflect issues surrounding such products. 84

2. Conformity criteria

Under the CRA, digital content must be of satisfactory quality, fit for any particular purpose and be as described. 85 Using these familiar provisions provides comfort to traders and consumers. As the Bradgate report acknowledged, many traders and consumers thought such rights existed anyway, so reflecting the provisions for goods inspires confidence in both parties, providing a recognisable legal setting for both. The statutory rights relating to quality and fitness for particular purpose are the cornerstone of any claim relating to defective digital content. Digital content will be of satisfactory quality if it meets the standard a reasonable person would consider satisfactory, taking into account its description, price and other relevant circumstances e.g. fitness for purpose, freedom from minor defects, safety and durability. 86 Public statements made by a trader or producer of digital content e.g. in advertising are also relevant. 87 A trader will not be liable if a fault is specifically notified to a

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84 For example see SGD, art. 7(3) and (4) (updates), art. 10 (liability of the seller) and art. 11 (3) burden of proof.
85 CRA, s 34(1).
86 Ibid., s 35(3).
87 Ibid., s 36(1).
88 Bradgate, n. 7, para. 177, p. 63.
89 CRA, s 34(2) and (3).
90 Ibid., s 34(5) – (7).
consumer before a contract is concluded.\textsuperscript{91} The standard of quality is assessed in the same way as for goods so there would be higher quality expectations for an expensive IoT product than there would be for an inexpensive product. Traders must provide information about digital content to consumers pre-contract, i.e. its main characteristics, functionality and compatibility with hardware and software.\textsuperscript{92} This information becomes a term of the contract\textsuperscript{93} forming part of the description of the goods and so could form part of the assessment of satisfactory quality.\textsuperscript{94} However, in contrast with the Directives, these provisions are not explicit ‘relevant circumstances’\textsuperscript{95} for the purposes of assessing quality and in fact the Directives go much further.

The Sale of Goods Directive stipulates that to conform to contract, goods with digital elements must comply with objective\textsuperscript{96} requirements. These are based on the CSD 1999\textsuperscript{97} but updated to reflect the nature of digital content and services. The Digital Content Directive contains identical criteria for intangible digital content and services.\textsuperscript{98} Goods must be fit for the purposes for which goods of the same type would normally be used, taking into account any applicable EU or national law, technical standard or sector-specific industry code of conduct.\textsuperscript{99} Goods must also possess qualities and other features (including durability, functionality, compatibility and security) normal for goods of that type and which the consumer may reasonably expect given the nature of the goods and taking into account any public statements.\textsuperscript{100} In comparison to the CRA, the Directives provide conformity criteria that are much more tailored to IoT products and which are much more explicit.

\begin{footnotes}
\footnotetext[91]{Ibid., s 34(4).}
\footnotetext[92]{The Consumer Contracts (Information, Cancellation and Additional Charges) Regulations 2013 schedule 1 paragraphs (a), (j) and (k) and schedule 2 paragraphs (a), (v) and (w). These Regulations implemented some of the requirements of Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on Consumer Rights.}
\footnotetext[93]{CRA, s 36(3).}
\footnotetext[94]{Ibid., s 34(2). The information provided could also be construed as public statements for the purpose of assessing quality – s. s 34(2)(c) and (5).}
\footnotetext[95]{CRA, s 34(3) and n. 89 for examples of explicit relevant circumstances.}
\footnotetext[96]{SGD, art. 7. The DCD contains similar provisions for intangible digital content and services – see art. 8.}
\footnotetext[97]{The conformity requirements of the CRA also incorporate the relevant parts of the CSD 1999.}
\footnotetext[98]{DCD, art. 8.}
\footnotetext[99]{SGD, art. 7(1)(a).}
\footnotetext[100]{Ibid., art. 7(1)(d).}
\end{footnotes}
It is a similar position with subjective conformity criteria. Under the CRA, if a consumer makes known to a trader (expressly or impliedly) any particular purpose for which digital content is required and the trader supplies content on that basis, the content must be reasonably fit for that purpose, even if it is unusual.\textsuperscript{101} There is no breach where a consumer does not rely or it is unreasonable to rely on a trader’s skill or judgment.\textsuperscript{102} The Sale of Goods Directive stipulates that goods must be fit for any particular purpose the consumer makes known to the seller and in respect of which the seller has given acceptance.\textsuperscript{103} This differs to the CRA approach where no explicit acceptance is required for the right to apply.\textsuperscript{104} Changing the CRA to reflect this position is unlikely as it would involve altering an established statutory provision that is supported by a significant body of case law.\textsuperscript{105} The subjective conformity provisions in the Sale of Goods Directive again reflect the specific issues IoT products present.\textsuperscript{106} Such goods must possess the functionality, compatibility, interoperability and other features required by the contract and be supplied with updates as required by the contract.\textsuperscript{107} Overall, the approach taken by the Directives is much more bespoke than the CRA in terms of including specific conformity requirements relevant to IoT products, creating a more up to date, clearer and arguably future-proof set of rights.

3. \textit{Updates}

Under the CRA, traders can modify digital content after supply, e.g. to update software, provided any contract allows for updates. Updated content must meet expected standards i.e. be of satisfactory quality.\textsuperscript{108} Many IoT products will need to be updated but there is no statutory obligation on traders

\textsuperscript{101} CRA, s 35(1), (3).
\textsuperscript{102} Ibid., s 35(4). These provisions are based on s14 (3) of the Sale of Goods Act 1979 and there is a significant body of case law that clarifies how fitness for particular purpose operates in a sale of goods context with many cases involving consumers. See for example, Jewson Limited v Kelly [2003] EWCA Civ 1030.
\textsuperscript{103} SGD, art. 6 (b).
\textsuperscript{104} Simply supplying the goods is sufficient.
\textsuperscript{105} See Priest v Last [1903] 2KB 148, Grant v Australian Knitting Mills Ltd [1936] AC 85 and Jewson Limited v Kelly n. 102.
\textsuperscript{106} SGD, art. 6 (a). The DCD contains similar provisions for intangible digital content and services – see art. 7.
\textsuperscript{107} SGD, art. 6(a) and (d).
\textsuperscript{108} CRA, s 40.
to do so. In contrast, under the Sale of Goods Directive, the seller must inform and supply the consumer with updates, including security updates, necessary to keep goods with digital elements conforming to contract.\textsuperscript{109} The time period for this obligation varies.\textsuperscript{110} If the contract is for a continuous supply of digital content or service over a period of time, which will include many IoT products, the seller is expected to provide updates during that period.\textsuperscript{111} If the consumer fails to install updates supplied within a reasonable time the seller will not be liable for any lack of conformity.\textsuperscript{112} This positive obligation on sellers will be particularly useful for consumers given the nature of IoT products and places EU consumers at a distinct contractual advantage to UK consumers. The CRA should adopt this approach.

\textbf{C. REMEDIES}

Under the CRA an IoT product will not conform to the contract if its digital content is defective e.g. is not of satisfactory quality.\textsuperscript{113} The remedies available are those that apply to goods and it is a tiered remedy system. There is a short-term (30 day) right to reject the IoT product and this entitles a consumer to a full refund.\textsuperscript{114} If 30 days has passed the consumer may require a repair or replacement.\textsuperscript{115} The trader can choose whether to repair or replace the IoT product and has one opportunity to carry out the repair or replacement. If the repair or replacement does not work, is impossible or is not carried out within a reasonable time and without significant inconvenience to the consumer, the consumer can either require a price reduction or exercise the final right to reject,

\textsuperscript{109} SGD, art. 7(3).
\textsuperscript{110} For a single act of supply of digital content or service the updates required equate to those a consumer might reasonably expect given the type and purpose of the goods, the digital elements and the circumstances and nature of the contract – SGD, art. 7(3)(a).
\textsuperscript{111} Ibid., art. 7(3)(b).
\textsuperscript{112} Ibid., art. 7(4).
\textsuperscript{113} CRA, s 16.
\textsuperscript{114} Ibid., s 19(3), s 20 and s 22. The 30 day period begins the first day after all of ownership, delivery and trader installation (if applicable) have happened – see s22(3).
\textsuperscript{115} Ibid., s 23. A consumer may select repair or replacement during the 30 day short-term right to reject period. This pauses the 30 day period until the repaired or replaced goods are returned to the consumer and the short-term right to reject is extended accordingly, see s 22 (6) to (8).
obtaining a refund\textsuperscript{116} and treating the contract as at an end.\textsuperscript{117} The remedies available differ if intangible digital content provided under a contract is defective. In this situation, a consumer is entitled to a repair or replacement or, in certain circumstances, a price reduction.\textsuperscript{118} There is no right to reject intangible digital content (short-term or otherwise) and a trader is not limited to one attempt at repair or replacement. The rationale for excluding rejection is that intangible digital content cannot be rejected in any meaningful sense.\textsuperscript{119} Allowing more than one repair or replacement discourages consumers from seeking a price reduction by reporting minor issues that would be fixed by contractual updates anyway.\textsuperscript{120} There has been criticism that the mixture of common law and civil remedies provided by the CRA creates an “underlying tension” between the two approaches.\textsuperscript{121} The UK has been reluctant to give up the right to reject which is seen as a cornerstone of consumer confidence and expectation, having only recently been included as a statutory remedy in the CRA, a “welcome clarification”\textsuperscript{122} given the difficulties of the principle of acceptance\textsuperscript{123} created by the Sale of Goods Act 1979. The common law and Euro-style remedies co-exist giving consumers a choice of remedies. It may be that the remedies are “the most convoluted and challenging” part of the CRA.\textsuperscript{124} Giliker notes that the correct approach for dealing with defective goods is left unresolved.\textsuperscript{125} EU directives have been adopted but the focus is on domestic, not European law, however, it is unlikely that, following Brexit, the UK will remove the Euro-style remedies that are now familiar to UK consumers.\textsuperscript{126} It

\textsuperscript{116} Ibid., s 24. After 6 months any refund may be subject to a deduction for use of the product by the consumer.
\textsuperscript{117} Ibid., s 20(4). Technically, a consumer does not terminate the contract but treats it as at an end due to the breach by the trader.
\textsuperscript{118} Ibid., s 43 and s 44.
\textsuperscript{119} Explanatory notes to the CRA, para. 205.
\textsuperscript{120} Ibid., para. 204.
\textsuperscript{122} Ibid., p. 87.
\textsuperscript{124} Samuels, n.20, p. 165.
\textsuperscript{125} Giliker, n. 121, p. 87-88.
\textsuperscript{126} Ibid., p. 88.
appears that the remedies require little alteration and some of the provisions in the Directives, noted below, would clearly disadvantage UK consumers.

Under the Sale of Goods Directive, a consumer enjoys the tiered remedies of repair or replacement, price reduction and contract termination in respect of a defective IoT product.\textsuperscript{127} More than one attempt to repair or replace is possible. The consumer can obtain a proportionate price reduction or terminate the sales contract\textsuperscript{128} in prescribed circumstances e.g. if the lack of conformity appears despite the repair/replace. Again, the Digital Content Directive takes a similar approach for intangible digital content although with an obligation to bring the content or service into conformity with the contract rather than to repair/replace.\textsuperscript{129} There is no specific short-term right to reject in the Sale of Goods Directive but it allows Member States to provide such a right.\textsuperscript{130} UK consumers are in a more advantageous position to consumers in EU Member States that choose not to do so.

Under the Sale of Goods Directive a consumer can claim an immediate price reduction or termination of contract if the lack of conformity is serious enough to justify either remedy.\textsuperscript{131} This provision has also been adopted in the Digital Content Directive\textsuperscript{132} and will be of particular interest as this is a ‘new’ remedy in comparison to the CSD 1999. It will enable consumers to argue they should receive their money back immediately rather than allowing sellers to repair or replace an IoT product, or, in the case of intangible digital content or service, achieve conformity with the contract. The recitals explain why this type of provision was added, i.e. to cover an issue so serious that a consumer cannot be expected to have confidence in the ability of the seller to resolve the problem, e.g. where the consumer cannot use the goods and cannot be expected to trust that a repair or replacement would fix the defect.\textsuperscript{133} However, what is meant by ‘serious’ is open to interpretation and therefore dispute.

\begin{itemize}
\item \textsuperscript{127} SGD, art. 13(1).
\item \textsuperscript{128} Ibid., art 13(4).
\item \textsuperscript{129} DCD, art. 14.
\item \textsuperscript{130} SGD, art. 3(7). Earlier drafts omitted this.
\item \textsuperscript{131} SGD, art. 13(4)(c).
\item \textsuperscript{132} DCD, art. 14(4)(d).
\item \textsuperscript{133} SGD, recital 52.
\end{itemize}
The CRA provides no similar provision and it is unnecessary for IoT products anyway, given the range of remedies consumers enjoy, in particular the short-term and final rights to reject. In addition, under the Sale of Goods Directive, a consumer cannot terminate the contract if the lack of conformity is minor. The Digital Content Directive mirrors this for contracts for paid for digital content or services. This provision reflects the position set out in the CSD 1999 and is not one that the UK has ever adopted in either the Sale of Goods Act 1979 or the CRA. In fact, the UK courts have taken quite the opposite approach, for example, in Clegg v Andersson (t/a Nordic Marine) where Hale LJ recognised that “In some cases, such as a high priced quality product, the customer may be entitled to expect that it is free from even minor defects, in other words perfect or nearly so.” Again, whether a defect is minor is open to interpretation and this creates uncertainty for EU businesses and consumers. The Sale of Goods Directive does stipulate that the burden of proof as to whether the lack of conformity is minor is on the seller. However, this may provide little comfort to a consumer in dispute with a seller, particularly when it comes to a complex IoT product. This provision was initially excluded from the draft Sale of Goods Directive, giving consumers more protection by providing “a strong incentive to remedy all cases of a lack of conformity at an early stage”, and it appears to be a missed opportunity in terms of the purported aims of the Directives.

One change needed to the CRA remedies relates to ‘personal data’ contracts. Under the Digital Content Directive, where personal data is provided in return for digital content, the contract can be terminated for minor breach because the price reduction remedy is unavailable. On termination the trader must cease to use and must make available any digital content provided by the consumer

134 Ibid., art. 13(5).
135 DCD, art. 14(6).
136 CSD 1999 art. 3(6).
138 Ibid., para. 72. Freedom from minor defects is also an aspect of quality relevant to assessing a breach of the statutory right in relation to quality – CRA s. 9(3)(c) and s 34(3)(b).
139 Beale, n. 71, p. 16.
140 SGD, art. 13(5).
141 Proposal for the SGD, n. 32.
142 Ibid., recital 29.
143 DCD, recital 67 and art. 14(6) where the provision only applies to paid for digital content and services.
The CRA should adopt similar provisions when extending its remit to cover such contracts.

D. SERVICES

The scope of the Directives is broader than the CRA in that the Directives incorporate digital services as well as digital content. As noted, under the Directives, consumers of IoT products have significant rights and remedies in relation to digital services, usually a key part of an IoT product. This approach more accurately reflects the nature of IoT products. UK consumers have less protection. The CRA gives no special recognition to digital services which are treated in the same way as any other service. Under the CRA, any service must be performed with reasonable care and skill. For a claim to be successful, the consumer has to show that the trader did not provide the service in the same way as any other service provider acting reasonably would have done. This contrasts with the strict liability approach taken for goods. In effect, the CRA subjects the service element of an IoT product to a different regime to that for digital content. This is a major drawback of the CRA and it brings a degree of uncertainty for the consumer, it being more difficult to prove a lack of reasonable care and skill. Many factors will be relevant – the nature of the trade, usual practice and whether there are accepted standards and codes of practice. This contrasts with the approach taken under the Directives where the trader can be liable without fault, providing “a significant increase on consumer protection.”

The CRA should be adapted to recognise digital services. One option could be to address the terminology used. The Bradgate report recognised that the use of the term ‘product’ in the Unfair

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144 Ibid., art. 16 (2) – (5). Personal data is protected separately by the provisions of 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.

145 CRA, s 49(1).

146 Bolam v Friern Hospital Management Committee [1957] 2 All ER 118.

147 Samuels, n. 20, p. 175.

148 Ibid.

149 Beale, n.71, p. 22.
Commercial Practices Directive\textsuperscript{150} to denote goods and services had merit.\textsuperscript{151} The report noted that many services are sold as standard bundles and it could make sense to treat such services as products, equivalent to goods. Noto La Diega and Walden also recognise the potential need for a rethinking of the concept of a ‘product’ in relation to the IoT given the “increasingly inextricable mixture” of goods, software, data and services.\textsuperscript{152} The remedies for breach of the service should also be aligned with the provisions for digital content.

E. TIME LIMITS

For an IoT product, where the contract provides for a continuous supply of digital content or digital service, the seller will be liable for any lack of conformity of the digital content or service that occurs or becomes apparent within 2 years of delivery. If the contract provides for continuous supply for more than 2 years, the seller is liable for any lack of conformity that occurs or becomes apparent within the period of time during which the content or service is to be supplied under the sales contract.\textsuperscript{153} Clearly this will cover many IoT products like wearables. The Digital Content Directive takes a similar approach.\textsuperscript{154} Under the CRA, consumers have 6 years to bring a claim in relation to any defects\textsuperscript{155} so there is no need for any change in approach. However, further consideration is needed of the length of the 6 month presumption of non-conformity set out in the CRA.\textsuperscript{156} Any fault appearing in the first 6 months of delivery is presumed to have existed at the date of delivery, placing the consumer in a stronger position when it comes to establishing trader liability, as the burden of proof is on the trader during that period. The Directives extend the presumption of non-conformity to 1 year\textsuperscript{157} and the Sale of Goods Directive permits Member States to introduce a 2 year period.\textsuperscript{158}


\footnotesize{\textsuperscript{151} Bradgate, n. 7, para. 146, p. 55.}

\footnotesize{\textsuperscript{152} Noto La Diega & Walden, n. 12, p. 20.}

\footnotesize{\textsuperscript{153} SGD, art. 10(2).}

\footnotesize{\textsuperscript{154} DCD, art. 11.}

\footnotesize{\textsuperscript{155} Limitation Act 1980 s. 5.}

\footnotesize{\textsuperscript{156} CRA, s19(14) and s 42(9) - introduced by the CSD 1999, art. 5(3).}

\footnotesize{\textsuperscript{157} SGD, art. 11(1) and DCD, art. 12.}

\footnotesize{\textsuperscript{158} SGD, art. 11(2).}
Further, for goods like IoT products where there is a contract to provide a continuous supply of digital content or service over a period of time, the burden of proof as to whether the digital content or service conforms to contract will be on the seller during the entire contract period, even if this is longer than 2 years.\textsuperscript{159} The Digital Content Directive takes a similar approach.\textsuperscript{160} Such an extension would clearly be of significant benefit to UK consumers but may well be resisted by the business community. Again, this issue comes back to the complexity of IoT products and also the potential need to adjust the position for business-to-business contracts in order to feed liability back up the distribution chain more effectively. Given the nature of IoT products, changes are not just needed at a business-to-consumer contract level; a much broader consideration involving business-to-business contracts is also required.

VI. Conclusion

This article considered the particular challenges in creating a workable legal system for defective IoT products. It examined the development of the differing approaches of the UK and the EU and found some commonality in purpose but differing results. The analysis of the CRA indicated that it provides a good starting point for a legal framework for defective IoT products but that it does not fully address some key issues relevant to such products. The Directives have had the advantage of timing - being drafted at a later point where a discussion of the IoT and its challenges was more pervasive. This enabled legislators to consider some of the key legal and practical issues IoT products present and to accommodate those issues fairly effectively. The result is that the Directives appear more modern, future-proof and attuned to the issues IoT products present. Brexit creates a point of divergence between the UK and the EU. There is a risk that, as Giliker argues, the CRA reflects EU directives in a way that “becomes dated over time, rendering EU law of diminishing relevance.”\textsuperscript{161} The existence of the Directives brings this dilemma into sharp relief. There are clear differences between the two legal

\textsuperscript{159} Ibid., art. 11(3).
\textsuperscript{160} DCD, art. 12.
\textsuperscript{161} Giliker, n. 121, p. 102.
systems and it would be an oversight for the UK to fail to adopt at least some of the key provisions of the Directives. The CRA should cover contracts where personal data is provided in return for digital content, should have updated conformity criteria, should include digital services and should extend the burden of proof period in line with the Directives. The CRA should moreover place a duty on traders to supply updates and recognise the importance of ancillary/linked contracts to IoT products. The UK should resist making significant changes to remedies (e.g. recognising no termination for minor breach) and the requirement for traders to accept particular purposes before liability can be established. Whilst many of the recommended changes may disadvantage businesses in the short-term, the longer-term benefits of adopting a high standard of consumer protection are clear in respect of the importance of inspiring consumer confidence and enhancing the ability to sell to as wide a range of customers as possible in a market that is expanding year on year. The argument that EU law should continue to influence UK consumer law, whilst controversial, is particularly compelling in this area.¹⁶² The UK has much to gain from the approach taken in the Directives. Adopting many of the provisions would enhance consumer protection, preserve a key premise of consumer law in terms of reflecting the reasonable expectations of both businesses and consumers, and promote the confident consumer.

¹⁶² Ibid., p. 102.