DIGITALEUROPE

17 MARCH 2020

DIGITALEUROPE Initial Recommendations for the Revision of the Battery Directive in 2020

In October 2020, the European Commission will publish their proposal for a revision of the Battery Directive 2013/56/EU as one of the first deliverables of the Green Deal.[1] Batteries will play a crucial part in the digitalisation and electrification of a circular economy. DIGITALEUROPE members drive forward many of the innovations related to battery-containing devices which will be so crucial in the servitisation and dematerialisation aspects of the transition towards a circular economy. At the same time the environmental challenges associated with batteries need creative solutions that will keep up with the innovation of the years to come. In the following, we set out to share our initial recommendations for the revision process of the only European legislation dedicated solely to batteries.

DIGITALEUROPE recommends:

1. Transform the Directive into a regulation while differentiating on targets and timelines by battery chemistries and product groups
2. Change the calculation method from “Placed on the Market” to “Available for Collection”, which would allow to set a higher collection target for lithium batteries.
3. Legally oblige all WEEE treatment operators to report on the batteries collected (“all actors” principle) and enforce battery removal and reporting.
4. In light of the envisaged link to e-mobility, adopt a differentiated approach to industrial and portable batteries.
5. Apply ecomodulation on batteries embedded in WEEE via WEEE ecomodulation only.

[1] COM(2019) 640 final: “The European Green Deal”, Annex Roadmap, 11.12.2019; https://ec.europa.eu/info/sites/info/files/european-green-deal-communication-annex-roadmap_en.pdf

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6. Develop a European Recycling Innovation Strategy in line with innovation trends in the ICT sector and set recycling efficiency target for lithium batteries.

7. Safeguard the current removability provision (Art. 11) or respect the principle enshrined in the current wording of balancing lifetime and removability.

We attach further elaborations as background to our recommendations and would be delighted to discuss our perspectives with the European Commission and all relevant stakeholders.

DIGITALEUROPE Position on Governance Questions for the Revision of the Battery Directive in 2020

The evaluation of the Battery Directive has emphasised that one of the major successes of the directive has been the implementation of extended producer responsibility.[2] Indeed, the report states that producers take responsibility by financing compliance schemes across the EU with more than EUR 100 million annually.

However, the report also states that "the Directive cannot sufficiently incorporate easily technical novelties"[3] such as lithium-ion batteries. DIGITALEUROPE is aware that the revision of the battery directive will have to confront the difficult task of regulating an industry that notoriously outpaces regulation with its innovations. Not only battery chemistries but also their form factor is changing at high pace. Some examples of battery technologies being explored are printable, bendable, foldable, transparent and nanobatteries. What technology will make it successfully to the marketplace is yet to be seen, hence it is an arduous task to regulate the unknown. Regulation needs to be sufficiently flexible to allow for these innovations to be developed and brought to market. At the same time, these innovations need a regulatory framework that offers enough certainty in terms of sustainability requirements, market conditions, transport, use, disposal and safety.

Given the producers' financial commitment to the success of the directive and bearing in mind that it is the producers that drive the innovation referenced here, DIGITALEUROPE would like to recommend:

- **Transform the directive into a regulation.** True to its dual purpose of minimising negative impacts of batteries on the environment and ensuring the functioning of the internal market, a regulation can deliver a more harmonised high level of environmental protection and a level playing field across all Member States. Full harmonisation across Member States of the explicit requirements for design and labelling of product containing batteries is of great importance to our Members. However, DIGITALEUROPE would discourage the legislator to establish a system similar to the ErP Directive to develop product specific implementing measures ('Lots'). Product design should continue to be regulated under ErP rather than in a competing piece of legislation.

[2] Evaluation Report SWD(2019) 1300

[3] Evaluation Report SWD(2019) 1300, p.49

- **Differentiate targets and timelines** for collection, recycling and product characteristics (like substances, removability) by product group and chemistry, and set measures in place that allow flexible adjustments under democratic control going forward. If the European Commission is considering integrating e-mobility and batteries into the new regulation as an implementing measure, it should consider that sectorial approaches need to differ and should not be copied 1:1.

DIGITALEUROPE Position on Definitions & Classifications for the Revision of the Battery Directive in 2020

The Battery Directive is in need of a technology update: Lithium batteries today are classified under the Battery Directive as “other batteries” but constitute about 17% of all portable batteries placed on the market.[4] Especially in light of the growing importance of e-mobility and the associated growth of industrial lithium batteries, the European Commission should indeed consider calling lithium batteries out explicitly. While the Commission is clarifying definitions, DIGITALEUROPE recommends:

- **Continue adopting a differentiated approach to industrial and portable batteries** to acknowledge the differences in producer responsibility challenges applying to industrial and portable lithium batteries.

- **Aligning the classification and categorisation of batteries across regulations**, in particular the Batteries Directive, the List of Waste, the Waste Shipment Regulation, the Waste Statistics Regulation and potentially others. In this context, it will also be important to provide clear guidance on whether lithium batteries should be considered hazardous under the Waste Shipment Regulation or not.

- **Clarifying that power banks and similar new products are considered a battery, rather than WEEE**. Generally, li-ion batteries need an electronic system called Battery Management System (BMS). The existence of a BMS nor related nor additional functions such as a display of state of charge must not lead to the conclusion that a battery is an electrical and electronic equipment.

[4] Evaluation Report SWD(2019) 1300

DIGITALEUROPE Position on Collection Targets & Methodology for the Revision of the Battery Directive in 2020

As noted in the Commission's evaluation report[5], consumer electronics represent the biggest sector using lithium batteries globally – usually as portable batteries in electronic devices. DIGITALEUROPE represents many of the manufacturers that are responsible for putting over 75% of the portable lithium batteries (about 38% of all lithium batteries) on the European market.[6] DIGITALEUROPE is concerned with the ability of Member States to meet the collection target for waste portable batteries, particularly in times when the amount of batteries put on the EU market will increase significantly in the next years.[7]

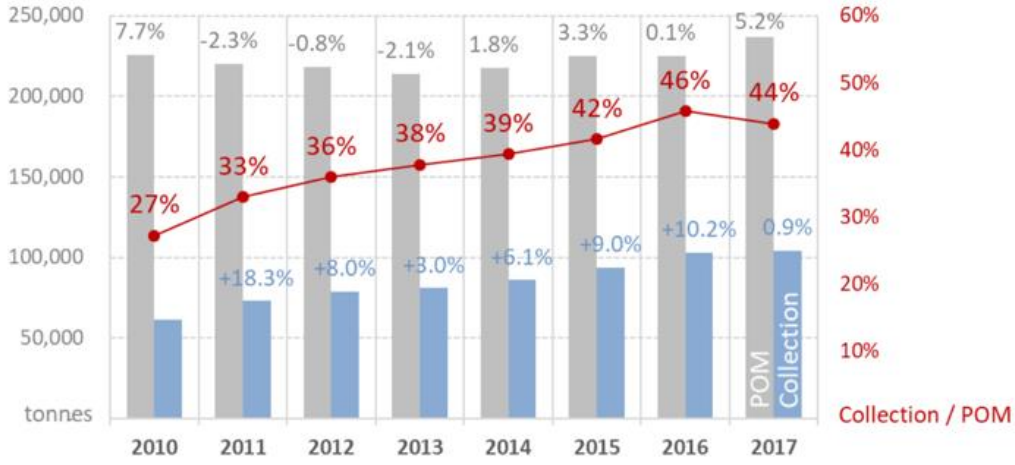

Figure 1: EEA + Switzerland, portable battery POM and collection tonnages 2010 – 2016

According to the European Portable Battery Association (EPBA)[8], 20 out of 31 countries reached or exceeded a collection rate of at least 45% as of 2017. In other words, ten EU Member States (and Norway) have not met their targets in 2017. Overall, EU collection rates slightly declined from 46% in 2016 to 44% in 2017.

DIGITALEUROPE recommends taking decisive action to address this problem:

[5] Commission Staff Working Document SWD(2019) 1300 final on the evaluation of the Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC, 09.04.2019; https://ec.europa.eu/environment/waste/batteries/pdf/evaluation_report_batteries_directive.pdf

[6] Calculation based on table 5 in the Evaluation Report SWD(2019) 1300, p.20

[7] Evaluation Report SWD(2019) 1300

[8] EPBA with Perchards Sagis EPR: The Collection of Waste Portable Batteries in Europe in view of the achievability of the collection targets set by the Batteries Directive 2006/66/EC, Update Dec 2018; https://www.epbaeurope.net/wp-content/uploads/2019/03/Report-on-the-portable-battery-collection-rates-2017-data.pdf

1) **Change the calculation method to Available for Collection (AfC), which would allow to set a higher collection target.** AfC is better aligned with future battery technologies, more accurate and immediately related to measuring success, and incentivises lifetime prolongation through circular economy strategies. Eucobat has shown that achieving the 45% collection rate (PoM) in France actually means ~70% of all batteries were collected (AfC).[9] They have also shown that PoM favours battery technologies in decline and that AfC is more appropriate to incentivise collection for battery technologies that have increasing market share. While the Placed on the Market (PoM) methodology assumes batteries are available for collection after 3 years, Bebat has demonstrated repeatedly that rechargeable batteries only become available for collection after 5-10 years on average[10]. The total lifespan of IT devices with embedded batteries like laptops and smartphones is also longer than three years given the increased prevalence of circular sencarios such as reuse, repair or refurbishment which are ignored under the POM methodology. A move to AfC would also improve the enforceability of the Battery Directive: This calculation based on Recharge/ProSUM data for lithium batteries PoM and AfC shows that the 45% collection target based on POM would not have been achievable in any given year between 2006 and 2017 because it exceeds the amount of batteries AfC.

2) **Legally oblige all WEEE treatment operators to report on the batteries collected ("all actors" principle) and enforce battery removal and reporting.** DIGITALEUROPE has stated in the past that there are significant flows of batteries beyond the producer take-back schemes which are not accounted for.[11] While "batteries in EEE contribute around 20% to 30% of portable batteries placed on the market", many WEEE collected have a positive value and hence may disappear after collection before they can be recycled, including the embedded batteries. What is

[9] Eucobat ICBR Presentation, 26.09.2019;

https://www.eucobat.eu/sites/default/files/2019-01/2018-08-29%20ICBR%20-%20FH.pdf

[10] Bebat Annual Report 2018;

https://cms.bebat.be/sites/default/files/2019-04/EN-Bebat-jaarverslag-2018_0.pdf

[11] DIGITALEUROPE: Initial recommendations for the upcoming review of the battery directive 2013/56/EU

Brussels, 04.04. 2016; https://www.DIGITALEUROPE.org/wp/wp-content/uploads/2019/01/DIGITALEUROPE%20Initial%20Recommendations%20Review%20Battery%20Directive.pdf

worse, the “share of batteries removed from WEEE is on average [only] 7%”[12] despite the legal removal obligation in the WEEE Directive (Annex VII with Art 8.2). Reporting is hence underestimating the total collected and recycled portable battery volume.

3) **Collection rate for lithium batteries**: Next to batteries in IT products, the advent of e-mobility (e-bikes, e-scooters, e-cars) has broadened the discussion significantly. There is a clear need to differentiate between industrial and portable batteries also in the li-ion space. For li-ion batteries embedded in WEEE, it might be most pressing to establish a reporting system that solves for the unaccounted and unreported volumes in WEEE.

[12] EPBA with Perchards Sagis EPR: The Collection of Waste Portable Batteries in Europe in view of the achievability of the collection targets set by the Batteries Directive 2006/66/EC, Update Dec 2017; https://www.epbaeurope.net/wp-content/uploads/2018/03/Report-on-the-portable-battery-collection-rates-Update-Dec-17.pdf

DIGITALEUROPE Position on Ecomodulation for the Revision of the Battery Directive in 2020

Related to the revision of the Battery Directive but independently of it, the European Commission is currently considering eco-modulation guidance criteria for WEEE and batteries. Eunomia, as commissioned by the European Commission, has shared the following recommendations for ecomodulation on batteries at their second stakeholder workshop in 2019.

DIGITALEUROPE believes that ecomodulation on batteries should not apply to batteries embedded in WEEE, as WEEE will already see its own form of ecomodulation. Combining these two would make the administration of ecomodulated fees too complicated.

If, however, the European Commission is considering not excluding batteries embedded in WEEE, then DIGITALEUROPE would feel that one could support ecomodulation on the basis of the following criteria: rechargeability, charge capacity (mAh), battery lifetime defined by test standards.

Modulation on the basis of recycling rate of the type of battery seems to be a less appropriate criteria than reflecting the cost of recycling of the chemistry or the product. Modulating on the basis of embedded carbon seems not to be appropriate because the lifetime emissions of a rechargeable battery depend heavily on the type of energy used to recharge it. While modulation based on recycled content in the battery in theory sounds interesting, this seems to be a premature criterium given the amount of batteries on the market with recycled content.

DIGITALEUROPE Position on Battery Recycling for the Revision of the Battery Directive in 2020

For the sake of a more circular economy, the IT sector would like to see higher material recovery rates from end- of-life products. Even if waste products and batteries are collected, many materials are not recovered or at rates below 70%.[13] DIGITALEUROPE advocates for an innovation agenda for the European recycling sector. Known to be one of the best performing recycling industries globally from an environmental perspective, we see a role for the European Commission in assisting the recycling sector retaining and increasing their competitive advantage.

Battery technologies are further developing, and innovation in ICT is moving fast. New product categories are entering the market (such as wearables and IoT), and existing products increase their durability through new features such as water proofing. Some of these innovations will be challenging for the recycling sector. Fortunately, we have a few years of time lag between introduction of innovations on the market and devices reaching their end of life. Such is the window of opportunity to prepare our recycling capabilities. At the same time, market pull factors and regulatory push factors will further increase the demand for high-quality recycled content in our move to a circular economy. This is a formidable economic opportunity, which requires investment and innovation for the recycling sector and has the potential to tie in with automation, AI and robotic digital agendas.

According to existing law[14], batteries have to be removed from WEEE during the recycling process. However, batteries embedded in WEEE are currently at risk of being lost material streams. This comes at an environmental and safety risk. DIGITALEUROPE has indication that nearly 80% of European WEEE recycling facilities engage in manual disassembly, whereas the others use either an automated process or shredding. The high costs of innovative recycling technology make it difficult for recyclers to keep up with the innovations in the products they receive for EoL treatment and many recyclers struggle in the pursuit of a technology-driven strategy to sort, disassemble and treat products.

DIGITALEUROPE predicts that innovation in recycling will increase the environmental benefits of recycling even further by creating cleaner waste streams, which allow for material recovery in dedicated smelting and refining processes.

To this end, DIGITALEUROPE recommends:

[13] DIGITALEUROPE Position Paper 2016

[14] EU Batteries Directive FAQ: *'Batteries and accumulators incorporated in waste electrical and electronic equipment (WEEE) can be collected on the basis of the WEEE Directive. However, after collection, they must be removed from the appliance (electronic equipment) in accordance with Article 8(2) and Annex VII (as well as Article 3 (l)) of the WEEE Directive and they count towards the collection targets laid down in the Batteries Directive. These batteries and accumulators must be recycled as required by the Batteries Directive.'*

- **Consider a recycling efficiency target for lithium batteries** in view of the increasing importance of lithium batteries, potentially focused on some priority target materials. This would be the best strategy to support innovation towards recycled content in batteries.
- **Develop a European Recycling Innovation Strategy and provide innovation financing for recycling technology** through Horizon 2020 or other European funding instruments. Europe has to start investing in recycling technology the same way it does in supporting other manufacturing innovations. In the spirit of the digital agenda and advanced manufacturing, there are likely European jobs and growth creation opportunities in an even more high-tech recycling industry. [15]
- **Shredding without previous removal should be permissible only for batteries below a certain size or charge capacity**, so to avoid thermal events. About a quarter of thermal incidents for WEEE could be avoided if batteries were not subjected to shredding. We believe this is an imperfect solution, both from a compliance and from an environmental perspective. Screening and sorting technologies (chemical sniffers, x-ray, visual recognition...) could be deployed to avoid involuntarily catching batteries in WEEE streams.
- **Support the uptake of recycling best practices and innovations.** From our experience, subpar storage strategies are responsible for a way over a third of thermal incidents. A significant amount of incidents are related to removal and treatment. DIGITALEUROPE believes that the deployment of best practices and innovations in this space (ranging from discharge solutions to sorting and disassembly technology) could help avoiding a significant portion of the incident rate.
- **Incentivise cooperation between recyclers and manufacturers to create knowledge-sharing on bonding technologies.** DIGITALEUROPE believes that recyclers could benefit greatly from a joint project with manufacturers on temperature sensitivity for debonding purposes of adhesives. Some of the learnings could potentially be applied with additional investments of only a few thousand euros, with significant upsides to cycle times or improved safety. Compared to requests to change or prohibit product designs, we believe this is the overall more cost-effective and innovation-friendly solution.

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[15] Disassembly and sorting robots have been pioneered by the likes of AMP Robotics, Apple, Tomra and ZenRobotics,

Global Recycling 2/2018: http://www.eu-recycling.com/flips/gr22018/gr22018.html#15

Recycling Magazine, 23.04.2018: https://www.recycling-magazine.com/2018/04/23/zenrobotics-expands-its-line-of-waste-sorting-robots/

The Robot Report, 14.11.2019: https://www.therobotreport.com/amp-robotics-raises-16m-recycling-robots-ai/

Waste Management World, 08.11.2019: https://waste-management-world.com/a/big-data-ai-and-deep-learning-tomra-sorting-recycling-s-ecomondo-unveil

- **Uphold the requirement to provide removal instructions for appliances with incorporated batteries.** Art 11 in its current formulation suggests that instructions on safe removal by "either the end-user or by independent qualified professionals" shall be provided. DIGITALEUROPE, with APPLiA and the WEEE Forum, has pioneered an online solution for recyclers[16]. The Commission has acknowledged the I4R Platform as best practice. If the Commission seeks to change this provision, DIGITALEUROPE suggests to codify that only products with consumer-removable batteries have to be accompanied by instructions for consumers, whereas products with professional-removable batteries need not include such in-box information, but shall be subject to a manufacturer obligation to provide, by electrical means, instructions to recyclers – ideally on a product category rather than product model basis to ensure scalability for recyclers.
- **Consider labelling requirements to be nuanced by applications and battery categories.** On colour coding, DIGITALEUROPE recommends to follow the standardisation recommendation to not apply colour coding to batteries below a certain size.[17] Whereas the identification of batteries in some waste streams is reported to be challenging, DIGITALEUROPE is convinced that in particular batteries embedded in electronics are easy to identify as lithium-ion batteries by their soft poaches, by the devices they are integrated in and oftentimes the voluntary implementation of the existing label with the Li-ion symbol.
- A duplication of labelling requirements should be avoided. The provision of removal instructions could theoretically be done via QR codes on batteries, but the more pragmatic solution might be the use of an online platform like I4R. Many product architectures are comparable across brands from a recycling perspective, and many batteries would not lend themselves to QR codes due to their small size. An online platform can generalise across product models and provide a more scalable basis for removal operators.

[16] https://i4rplatform.staging.wpengine.com

[17] IEC 62902:2019 specifies colour codes for batteries according to their chemistry. The markings are to be applied to secondary batteries with a volume of more than 900 cm3.

DIGITALEUROPE Position on Battery Removability for the Revision of the Battery Directive in 2020

The Circular Economy agenda has introduced an increased policy emphasis on the product conception phase with a view to durability, reuse, repair, refurbishment, remanufacturing and eventually recycling. DIGITALEUROPE members contribute significantly to the circular economy by living these practices every day.[18]

Circularity is closely linked to longevity. It is always preferable for a device to last as long as possible by designing for durability. Designing products to minimize the instances of premature failure reduces the dependence on customers to initiate repairs and avoids the customer inconvenience or disruption of a repair. This is especially important for mobile devices such as smartphones, where accidental damage is the cause of 95% of smartphone failures according to market estimates[19]. We are therefore thinking long and hard about ways to reduce premature product failure. Significant innovation and creativity is being invested and our industry is pioneering numerous ways of preventing this.

In 2015, liquid damage to smartphones is estimated to have caused damages in excess of $96.7 bn.[20] More than a third of accidental damages were caused by liquids in 2015 - nearly 900,000 smartphones damaged daily.[21] The scale of unnecessary waste created is significant. Since then, manufacturers have developed means of achieving water resistance. Today, the vast majority of premium smartphones have some water resistancy (standards such as IP67, IP68 or waterresistant coatings), minimizing what was previously a significant source of failure.

Similarly, a common failure mode was cracked display glass. More than 95 million smartphones were damaged from drops in 2016, equivalent to “roughly $29.8 bn worth of smartphones”.[22] The development of more durable glass that resists damage from accidental scratches or drops, and its increasing uptake, has led to innovations such as Gorilla Glass and Diamond Glass.

Implementing innovations like this into products may have implications on the type of fasteners used to adhere the components to one another. The current wording in Art.11 of the Battery Directive has allowed the IT industry to continue innovating and address

[18] DIGITALEUROPE: The Contribution of the digital industry to repair, remanufacturing and refurbishment in a circular economy, April 2017; https://www.DIGITALEUROPE.org/wp/wp-content/uploads/2019/01/The%20Contribution%20of%20the%20Digital%20Industry%20in%20a%20Circular%20Economy%2020170412.pdf

[19] IDC Market Research, 2017; https://blog-idcuk.com/a-problem-with-mobile-phones-that-is-no-longer-acceptable-part-i/

[20] IDC Market Research, 2017; https://blog-idcuk.com/a-problem-with-mobile-phones-that-is-no-longer-acceptable-part-i/

[21] IDC Market Research, 2017; https://blog-idcuk.com/a-problem-with-mobile-phones-that-is-no-longer-acceptable-part-i/

[22] IDC Market Research, 2017; https://www.cnbc.com/2018/04/26/the-race-is-on-to-make-iphone-screen-glass-unbreakable.html

the two most common smartphone failures, while imposing a clear design objective of enabling battery removal at end-of-life.

Overall, in our sector, we have seen further miniaturisation over the last years, leading to resource efficiency increases through thinner and lighter products, and more integrated circuitry. These innovations have been achieved while increasing battery longevity - despite increased computing power demands. We believe these innovations were enabled by the flexibility that the current wording of Art. 11 and the corresponding FAQ awards.

The Battery Directive acknowledges that there may be a trade-off between durability and replaceability. Hence, as the Commission's Evaluation Report states, the Directive "does not require batteries to be 'replaceable.'"[23] during the lifetime of the device (unless the battery is a lifetime limiting factor) but only removable at end of life. Removability at end-of-life should continue to be a design requirement in most situations. In addition, the Directive and its FAQ establish a principle of design choice to either make the battery out-live the device or make the battery replaceable.[24] The recent JRC report on material efficiency in smartphones has explored this trade-off in more detail, and for smartphones, suggests that longevity (measured by indicators such as battery cycles and water resistance) may be a leading consideration to prescribe battery replaceability or removability.[25]

For many product designs manufacturers have chosen a middle-way between a design for consumer-replaceable or recycler-removable batteries: replaceability by professional repair operators. In a previous position paper[26], DIGITALEUROPE has outlined that there are good reasons for manufacturers to be allowed to choose professional service replaceability: it is a pre-condition for the functionality and usability of many existing and future products, has a positive effect on material efficiency, enhances products' performance and reliability, ensures product safety and compliance with safety legislation, and ensures proper collection and treatment of waste batteries.

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[23] Evaluation Report SWD(2019) 1300, p.42

[24] Art. 11 requires batteries to be *'readily removed by qualified professionals that are independent of the manufacturer. Appliances in which batteries and accumulators are incorporated shall be accompanied by instructions on how those batteries and accumulators can be safely removed by either the end-user or by independent qualified professionals.'* The EU Commission's FAQ clarifies that "readily removable" means *'that it should be possible to remove them without delay or difficulty and at a reasonable cost, where needed using the instructions provided'*; and further clarifies that *'Waste batteries should be removable from appliances during the lifetime of the appliance if the batteries have a shorter lifetime than the appliance, or at the latest at the end of the life of the appliance.'*

[25] JRC, Guidance for the Assessment of Material Efficiency: Application to Smartphones, January 2020, p.120

https://publications.jrc.ec.europa.eu/repository/bitstream/JRC116106/jrc116106_jrc_e4c_task2_smartphones_final_publ_id.pdf

[26] DIGITALEUROPE: Initial recommendations for the upcoming review of the battery directive 2013/56/EU

Brussels, 04.04. 2016; https://www.DIGITALEUROPE.org/wp/wp-content/uploads/2019/01/DIGITALEUROPE%20Initial%20Recommendations%20Review%20Battery%20Directive.pdf

The Commission's Evaluation Report seems to be indicating a future review of Art. 11 by noting that the "wording of the provisions on removability (Article 11) makes their implementation difficult" [27] For the upcoming revision of the Batteries Directive, DIGITALEUROPE recommends:

- **Safeguard the current wording of Art. 11 or respect the principle enshrined in the current wording** by finding similar language that is sufficiently clear to impact design decisions and sufficiently flexible to allow for innovation as to how to achieve the aim. For instance, the Commission may wish to strengthen the provision with a reference to battery replaceability during the lifetime, unless certain durability or longevity requirements are met. For some product designs, the Commission may need to consider transition periods or grandfathering provisions if the provisions are made more restrictive.

- **Future-proof the Batteries Directive against future innovations including embedded batteries.** Wearables are but one example of a growing product category, which by nature of their highly portable nature, come with even more tightly integrated batteries and the need to ensure protection against liquids (sweat, water, rain) and accidental damage. The justification to remove lithium batteries from waste electronics diminishes for very small capacity batteries typically used in wearable devices. Recyclers should be given the choice whether to deal with wearables as part of the WEEE stream with batteries left unremoved or as part of the batteries waste stream as a full WEEE device. One could consider excluding batteries from Art.11 if they do not limit the lifespan of the device and do not pose safety hazards during end-of-life treatment should the battery not be removed prior (e.g. for certain battery chemistries below a given a certain capacity threshold).

- **Prescriptive re-use obligations should be nuanced by sectors/applications.** Whereas it may make sense to consider re-use for larger, industrial batteries, small portable batteries do not lend themselves to re-use in the same way, as indicated in the Commission's Evaluation Report[28].

[27] Evaluation Report SWD(2019) 1300, p.42

[28] Evaluation Report SWD(2019) 1300

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About DIGITALEUROPE

DIGITALEUROPE represents the digital technology industry in Europe. Our members include some of the world's largest IT, telecoms and consumer electronics companies and national associations from every part of Europe. DIGITALEUROPE wants European businesses and citizens to benefit fully from digital technologies and for Europe to grow, attract and sustain the world's best digital technology companies. DIGITALEUROPE ensures industry participation in the development and implementation of EU policies.

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National Trade Associations

Austria: IOÖ
Belarus: INFOPARK
Belgium: AGORIA
Croatia: Croatian Chamber of Economy
Cyprus: CITEA
Denmark: DI Digital, IT BRANCHEN, Dansk Erhverv
Estonia: ITL
Finland: TIF
France: AFNUM, Syntec Numérique, Tech in France
Germany: BITKOM, ZVEI
Greece: SEPE
Hungary: IVSZ
Ireland: Technology Ireland
Italy: Anitec-Assinform
Lithuania: INFOBALT
Luxembourg: APSI
Netherlands: NLdigital, FIAR
Norway: Abelia
Poland: KIGEIT, PIIT, ZIPSEE
Portugal: AGEFE
Romania: ANIS, APDETIC
Slovakia: ITAS
Slovenia: GZS
Spain: AMETIC
Sweden: Teknikföretagen, IT&Telekomföretagen
Switzerland: SWICO
Turkey: Digital Turkey Platform, ECID
Ukraine: IT UKRAINE
United Kingdom: techUK