

The EU Digital Product Passport shapes the future of value chains: What it is and how to prepare now



Executive summary

We, as humanity, need to move toward more circularity to live within planetary boundaries and enable future economic growth. As a tool to create transparency and unlock circularity, the European Commission (EC) proposes Digital Product Passports (DPPs) that share product information across the entire product lifecycle. The EC is currently drafting a regulation on DPPs with final approval expected in 2024 and implementation for the first product groups in 2026/7.

The European Union (EU) DPP is a first-of-its-kind regulatory circularity tool. However, many elements in the EU DPP across scope (e.g., application level), tech (data storage, carrier, and access) and data (data requirements and governance) remain open with different levels of maturity. Because the EC is developing DPPs that are product group specific, there also is a risk of facing a long timeline for broad DPP implementation across industries. However, moving quickly and unlocking DPP-enabled transparency early can help decouple economic growth from resource extraction, waste streams and carbon emissions, thereby significantly affecting the wellbeing of the planet and humanity.

Accordingly, in developing the DPP regulation further, it is important to consider speed to impact given the urgency of the circularity challenge and the benefits to corporates of avoiding regulatory uncertainties.

This report provides an illustrative example of what a DPP could look like and how it will affect key players in the value chain. One of the prioritized industries that the EC regulation will cover is electronics, given the environmental impact and growing e-waste problem.

The EU DPP will impact most companies in the coming years. Companies can benefit from taking early action now as they can influence regulation, improve compliance and resilience, unlock investment synergies, and increase transparency. Key actions to get started with are (1) engaging in shaping the emerging DPP regulation, (2) assessing the company's current data availability and starting to fill the gaps, (3) enabling the organization across departments to adapt to the coming DPP implementation and (4) planning for changes in the tech setup.

In the end, the success of the EU DPP implementation will largely depend on how companies, NGOs and the EC collaborate to find realistic and impactful solutions quickly. The earlier the EC communicates clear guidance, the easier it will be for companies to prepare and the quicker a transition toward circularity can be enabled.

This report is part of a series of WBCSD x BCG publications on the topic of the EU DPP (see Figure 1). While it provides a summary of the key findings of our research, please refer to our additional publications for more detailed analyses of the EU DPP regulation and how companies can prepare now.

Three DPP publications with different purposes

Figure 1: Overview of WBCSD x BCG DPP publications, including a description of content and purpose

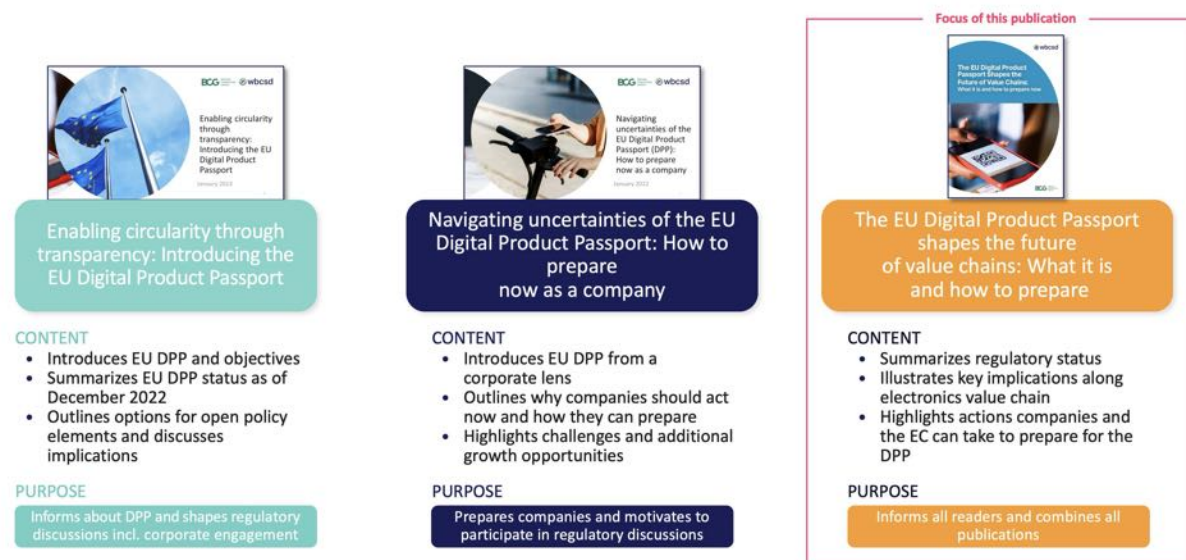


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1. Going circular is needed to grow within planetary boundaries and offers USD \$4.5 trillion in value

We consume more resources than our planet can provide, limiting our future growth

The world has gone from 9.1% circularity in 2018 to 8.6% in 2020, highlighting a downward trend toward a more linear economy¹. One major driver of this development is the way we currently consume resources. Within only five decades, we have more than tripled our natural resource use, mainly fueled by virgin and non-renewable resource use². Today, the amounts of resources we extract from our planet exceed 90 billion tons per year. Only 25% of which are renewable (biomass), showing that our current economic growth primarily depends on fossil resources².

Current resource consumption pushes planetary boundaries beyond their sustainable levels, leading to significant negative impacts on the environment. For example, our linear consumption patterns are responsible for 50% of global climate change and 90% of global biodiversity loss and water stress². This behavior currently requires 1.8 planets per year, and, if nothing changes, this is expected to increase to 2.3 planets by 2040³. Given we only have one planet, current levels of economic growth based on finite sources cannot be sustained in the medium- to long-term.

Circularity enables future growth decoupled from planetary exploitation

To prosper in the future, we need a shift from the current linear to a circular economy. This will offer opportunities to tap into USD \$4.5 trillion of value in circularity⁴ and secure a sustainable future. Part of this value can be unlocked by increasing the circularity of waste streams. For example, recycling rates for the environmentally most critical waste streams are currently only at 25-35%³. By increasing these recycling rates to 80-90%, we can achieve CO₂ savings of 40-50 billion tons by 2040³ (for reference, this is more than global CO₂ emissions for the entire year of 2019, which corresponded to 36.7 billion tons)⁵ and foster resource consumption that respects planetary boundaries.

Recycling is just one of many ways to improve circularity of resources. Additional ways to increase circularity include circular business models and design as well as extending products' lifespans through practices such as enhanced use, reuse, repair, repurpose, etc., which could be enabled by quality data and information. Currently, we do not track and trace resources, lifecycle extension and end-of-life (EoL) activities along global value chains (VCs). Thus, we lack transparency and VC collaborations to drive and monitor efforts that increase circularity. Overcoming this challenge will be a crucial task for value chains putting us on a path of moving away from extracting more resources than our planet can provide. DPPs are one tool that can help drive this transition.

2. EU proposes Digital Product Passports as circularity tool but leaves many elements open

A strong tool to drive transparency and enable circularity

A DPP is a structured collection of product-related data across a product's lifecycle. Thus, DPPs share information for every product placed on the EU market across the entire VC. As proposed by the EC, DPPs should serve as a key tool to create transparency on products, thereby promoting the transition to the circular economy and supporting economic growth.

Specifically, DPPs have the potential to make the environmental impact of products visible, traceable, and easily accessible to relevant VC actors. This will increase transparency and circular VC collaboration that facilitate circular designs (e.g., designs for recyclability) and closed-loop activities (e.g., repair, refurbishment, recycling). Given the broad scope of the regulation and the EU market size, DPPs have significant potential to scale the circularity of products and materials.

Furthermore, DPPs will have a global impact beyond EU market boundaries as the EC plans to enforce the regulation also on imported products, their components, and intermediary products, with importers being held responsible for ensuring compliance. It will significantly impact global value chains, obliging suppliers and producers around the world to collect and report the required DPP data. Furthermore, this could potentially trigger other international regulators to adopt DPPs in the future.

Several voluntary examples of DPPs already exist that are largely driven by industries or industry organizations. Most of them, however, are in early development stages and industry-specific rather than broadly applied or required through regulation.

EU as first mover: Aim for DPP approval by 2024 with further timeline to be detailed

The EC is the first large regulator aiming for mandatory DPP implementation across a range of products and industries. The EC hopes to reach the final approval of the Eco-design for Sustainable Products Regulation (ESPR), that includes the DPP, in 2024.

More details will be provided in delegated acts per product group over the coming years. First product groups are expected to be covered by DPP regulation in 2026/7. Beyond the DPP implementation, the delegated acts per product group are expected to entail eco-design and performance requirements to further foster circularity. The EC has already specified eight priority industries (i.e., electronics, vehicles, textiles, plastics, construction and buildings, furniture, and chemicals)ⁱ.

ⁱ Packaging will not receive a separate set of rules but will be treated as component of a product placed on the market.

In total, delegated acts for 13+ product groupsⁱⁱ are expected to be drafted by 2030, with a draft for batteries already existing and coming into force in 2027 (for further reading on the regulatory process, refer to our separate publication [here](#)). Beyond these first indications, the implementation timeline remains largely uncertain.

Companies face high uncertainty as many DPP topics remain open

Much uncertainty remains around the implementation of the DPP, making it difficult for companies to foresee how it will apply to them. Multiple topics are not yet sufficiently defined and a total of eight key open topics were identified and analyzedⁱⁱⁱ (see Figure 2 and the rest of this chapter; for a more detailed analysis of the open policy topics and related option space, please refer to our separate publication [here](#)).

1. Product groups: The EC plans to implement DPPs per product group. However, a framework on how to prioritize the different product groups is yet to be defined. The EC could implement the DPP product group by product group (e.g., first laptops, then clothing, etc.) considering, for example, their environmental impact. However, given the complexity of the regulation and differences between product groups, this could significantly slow down the regulatory process.

Alternatively, the EC could go industry by industry and regulate product groups within a prioritized industry first (e.g., within electronics: first laptops, then smartphones, etc.). This way, a set of rules for one product group could serve as a template for another product group in the same industry and give initial guidance for companies operating in the industry, creating alignment between product groups while speeding up the regulatory process. This approach, however, may lead to less polluting product groups being covered first, thereby delaying potential impact.

2. Company size: The EC plans to implement the DPP across all companies. Although it ensures clear expectations, streamlined implementation and full transparency for all VC actors, it could overburden SMEs and thus slow down implementation. An alternative option is to apply DPPs to large corporations first with SMEs to follow later, or to large corporations only, excluding SMEs. While the latter option could decrease complexity as fewer stakeholders are involved, it would risk shifting all complexity to large companies and losing full VC transparency.

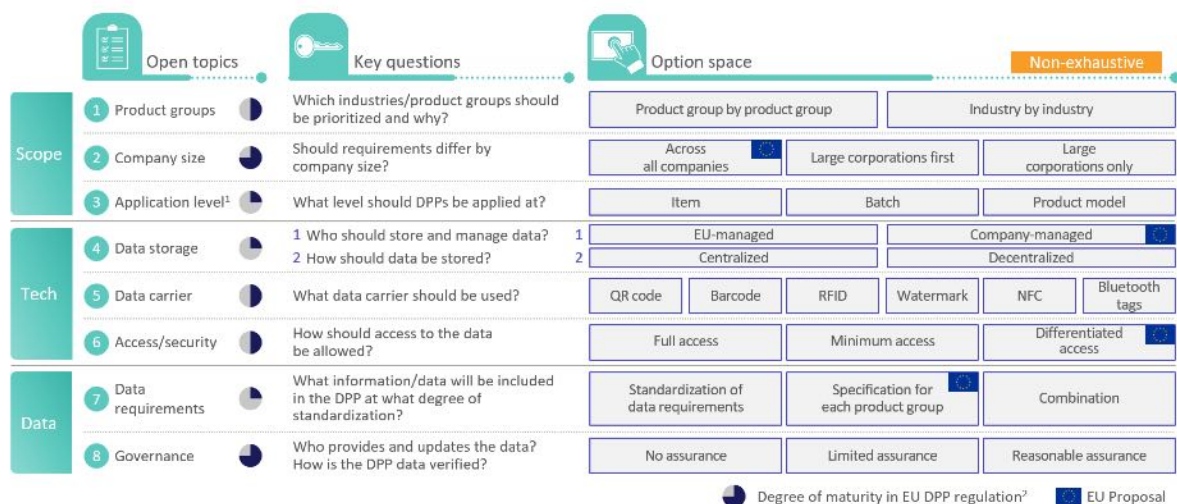
3. Application level: The EC plans to apply DPPs at an item, batch, or product model level, which will be decided for each product group individually. The item level (unique DPP per individual item) enables tracking of products along the VC, e.g., including an individual item's repair history, thus offering high accuracy and transparency on product circularity. However, this may be complex for some companies to implement and is currently restricted to the upstream and use phases, as most EoL operators currently operate bulk-based and thus would not be able to scan individual items in their current setup.

ⁱⁱ The EC defines product groups as "a set of products that serve similar purposes and are similar in terms of use, or have similar functional properties, and are similar in terms of consumer perception"; how this definition will translate into the final breakdown of industries into product groups currently remains unclear (state December 2022).

ⁱⁱⁱ Besides the current proposal for the ESPR, the EC's proposal for the Battery Regulation also informed the analysis behind this report, as batteries are the first products to receive DPPs.

Alternatively, DPPs could be implemented at a product model level (DPP shared by several products of the same model) to achieve greater simplicity and speed, as well as lower costs, but at the risk of compromising transparency. Applying DPPs at a batch level adds moderate complexity at little additional environmental value, as tracking of products would be limited to upstream and only until the batch is taken apart.

Figure 2: Overview of open topics in the DPP regulation and option space



4. Data storage: Currently, the EC plans to let companies store the DPP data in their preferred storage option. While that allows companies to integrate the DPP storage with existing systems, companies would have to make significant investments in the design and setup of supporting IT architecture. Also, this will likely lead to the creation of multiple different data storage solutions across VCs and product groups. This may add significant complexity, as EoL operators, for example, would need to be able to access a large number of different data storage solutions. Therefore, streamlining the data storage is beneficial, reducing costs and saving complexity. This could either be achieved by the EC providing clear guidelines for a company-managed system (e.g., based on a data exchange protocol) or through an EU-managed platform. However, even if the EU manages the system, this does not eliminate the cost of data storage for companies, as they would still need to invest in aligning their internal systems with the EU-managed platform.

Once it has been decided whether data storage is EU- or company-managed, the EC or companies, respectively, can choose whether to store data centralized or decentralized. Centralized storage options, such as cloud storage, offer significant benefits due to wide use, ease of implementation and low cost. Decentralized options such as the blockchain offer fewer benefits given their high cost and novelty, but allow for higher data security, transparency, and traceability.

5. Data carrier: The EC will set out general guidelines on data carriers and specify a list of preferred data carriers per product group. In the current proposal for the Battery Regulation, the EC favors QR codes, which could be an indication for other product groups. QR codes are relatively affordable, durable and already widely used.

Generally, there are many potential data carriers: newer and more expensive (e.g., digital watermark, NFC^{iv}, Bluetooth tags) and more established technologies (e.g., barcode, RFID^v). In product groups where barcodes are already widely used, they are likely the most affordable and easy to implement option. Moving forward, each product group-specific delegated act is expected to contain a list of acceptable data carriers which is subject to changes as newer data carrier technologies mature.

6. Data access: The EC aims to differentiate data access by stakeholder group, but details are yet to be specified. Differentiated access provides each stakeholder with data at the granularity level they need to make decisions. This allows for balancing transparency and security while reducing information overload and complexity across the VC. A different approach is full access for all stakeholders, which could be quickly implemented, as no access rules need to be established, but raises major data security and IP protection issues. A third option could be to grant minimum access; however, this would damage transparency, thus limiting the circularity potential of DPPs.

7. Data requirements: The EC currently suggests overarching data categories (e.g., ease of repair, maintenance, upgrading, re-use, remanufacturing, and refurbishment) and plans to specify data points per product group. While this approach offers high environmental impact as reporting can be tailored to the environmental issues of a specific product group, it limits comparability, increases complexity and costs for companies, and slows down DPP implementation. To enable companies to prepare early and reduce uncertainty, data requirements could be standardized across industries, but this could limit their relevance in specific product groups. Alternatively, a combination of standardizing and specifying data points could enable companies to start measuring and collecting standardized data points early while ensuring the inclusion of key product-group specific data points with high environmental relevance.

8. Data governance: According to the EC, the actor who places the product on the EU market is legally responsible for collecting, providing and updating the required DPP information. However, the EC does not lay out any details on how the quality of reported DPP data is verified. While self-regulation without assurance would make it easier and cheaper for companies to implement DPPs, it could lead to significant data quality issues limiting circular VC collaboration and transparency. To enable higher data quality and create trust, reasonable or limited assurance^{vi} for key data points could be considered although these approaches would increase complexity and cost for companies.

It is important to note that for most of these eight open policy topics, an EC mandate is expected to ensure alignment across VCs and impact of the DPP toward circularity. Data storage and carriers are the only two topics where a recommendation would suffice as different tech solutions could exist next to one another as long as minimum guidance is provided.

^{iv} Near-field communication

^v Radio-frequency identification

^{vi} Limited assurance refers to the verification of a number of key data points, whereas reasonable assurance would cover all data points provided by the economic actor

DPP at risk of hindering early adoption if the European Commission does not clarify implementation

While initial elements are outlined in the ESPR and the draft battery passport, the slow regulatory process, unclear timeline, and open topics show that significant uncertainties prevail, which could hinder early adoption by corporates and risks losing corporate involvement in the policy development.

Given the pressing environmental issues, the EC needs to make a tradeoff between spending significant time on finding an optimal solution and improving circularity quickly. Involving companies and industry representatives early on in discussing DPP options and scenarios will ease implementation and increase the potential of DPPs living up to their promises in practice.

3. A DPP scenario: How DPPs could shape the future of electronics

The EU DPP will radically change how data is shared across global value chains

The EU DPP will bring radical change to global VCs and will create the transparency required to uncover and tackle current environmental issues. To visualize this, this report takes a closer look at the VCs of electronic devices as an example for the DPP implementation.

While the DPP will affect the majority of industries, the EC declared electronics to be one of the prioritized ones for the DPP implementation. Despite increasing regulation (e.g., through the EU WEEE Directive), e-waste currently is the fastest growing waste stream in the world⁶ with a notoriously low recycling rate (only 17.4%⁵). It is thus critical to reduce the negative environmental impact of electronic products such as laptops and smartphones, particularly at their EoL. Enhanced transparency via DPPs can enable greater access to the USD \$57 billion material value stored in e-waste⁵. Electronics VCs are a relevant case to illustrate practical implications of the DPP due to their high environmental impact, short product lifespans, and large waste footprints. The EC's final definition of the product groups for electronics currently remains unclear and could, e.g., group together all handheld electronic devices or focus on one product, such as smartphones, specifically.

Furthermore, electronic devices often have large waste footprints from mining and beneficiation. For a laptop, for example, the waste footprint is 400 times higher than its own weight.⁷ Beyond that, most electronic devices are complex products that, at scale, contain large amounts of valuable and scarce raw materials, some of which are hazardous if not appropriately recycled. Currently, detailed information on the use phase and EoL activities is lacking, e.g., tracking of recycling rates to enable the devices' full potential recyclability (which is up to 93% for a laptop).⁸ While repair and take-back options are evolving, they are still nascent, often lacking the required data and information. This highlights the critical need for leveraging data via the DPP to enable transparency and collaboration among VC actors to improve product design and environmental performance.

While there are many uncertainties regarding how the EC will implement the DPP, Figure 3 depicts a possible DPP scenario for electronic devices. This scenario should not be understood as a policy recommendation, but rather seen as one of many ways in which the DPP could take form. In the following sections, the key implications of this DPP scenario on electronics brands will be discussed with regard to data carrier, data access, data requirements and governance.

A new normal for electronics brands

Brands will likely be affected by the DPP implementation immediately and to the highest extent, as the regulation comes with new requirements on data reporting for each product placed on the EU market. Brands play a key role in the VC of electronic devices, as they determine the lifecycle of products by managing suppliers and production. With much of electronics' energy impact coming from production and large amounts of e-waste piling up once the devices are disposed of, brands could have a great impact by changing their approach to product design and circularity. For tablets, for example, approximately 72% of their total energy impact is coming from the

production phase of their lifecycle,⁸ where brands could have a significant impact on potential reductions. To which degree DPPs really enable transparency and the move toward circularity, however, ultimately depends on how this new normal for data sharing is implemented.

Figure 3: A possible short-term DPP scenario for electronic devices based on corporate and expert interviews. (Source: BCG analysis)

	Speed to impact	Highest environmental impact	Leveling competition	Hybrid
Product group vs. industry implementation not assessed as EU definition of product groups remains unclear				
Scope	1 Product groups 2 Company size 3 Application level ¹	Only large corp. affected by DPP, not SMEs Model level (i.e., one DPP for products of same model) Company-managed with EC guidance ²	Include SMEs at a later point in time Item level allows for downstream tracking EU-managed platform for DPP data storage	Include SMEs right away Batch level for more detailed data
Tech	4 Data storage 5 Data carrier 6 Data access	QR code/barcode used as data carrier Full data access by all players across VC Fully standardized across all product groups & industries	Other options exist (e.g., NFC, RFID, Watermark, etc.), however given their higher cost, lower user-friendliness and more difficult implementation they are less likely to be implemented for electronics in the medium-run. Min. data access for higher (IP) protection	Differentiated access for security & transparency Mix of standardization & specification Limited assurance to verify key data
Data	7 Data requirements 8 Data governance	No assurance ³ , self-regulation with spot checks Reasonable assurance to ensure data quality	Tailor data requirements to product group Reasonable assurance to ensure data quality	

EC suggestion based on DPP and battery regulation⁴ Short-term electronics DPP scenario based on interviews⁵

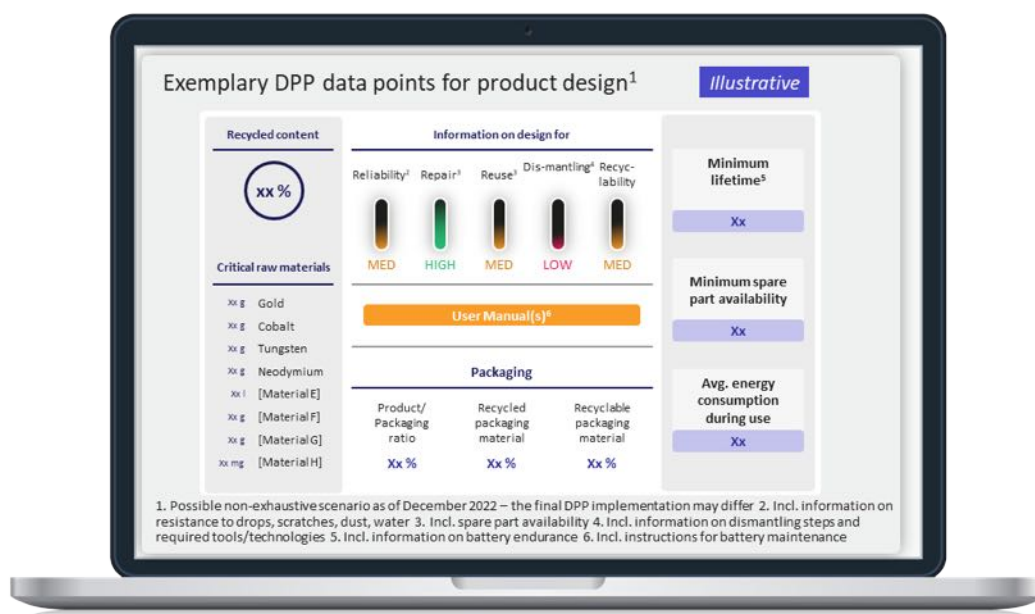
1. Choice of application level depends on ambition: Although, model level easier to implement in short-run, only item level allows detailed downstream tracking in long-run 2. EC needs to provide clear guidelines (e.g., data exchange protocol) to ensure interoperability of data storage solutions 3. Not considered feasible in long-run, once DPP linked to performance requirements limited assurance will be necessary 4. Electronics-specific proposal does not yet exist 5. Scenario and implications based on interviews with corporates, WBCSD and BCG experts

Data carrier: To enable access to the DPP data, in this scenario, brands will equip their products with a data carrier. Given that QR and barcodes are widely used, these data carriers will likely be applied to electronic devices by the majority of brands. Both codes can either be engraved into the product or printed onto a label. This requires brands to revise their product or label design, in case existing barcodes cannot be used, but adds little complexity beyond that.

Data access: Other actors can use QR code readers, like the ones in smartphones, to access the DPP data. Data access would be differentiated per VC actor based on their specific data needs. This allows brands to provide detailed data without risking their IP, especially if data is aggregated on a need-to-know basis^{vii} (e.g., customers obtaining access to a few aggregated sustainability data points rather than the detailed bill of materials). Beyond that, differentiated access could allow brands to obtain DPP information from other VC actors, such as product-specific recycling rates from EoL operators. This could enable brands to increase the circularity of their electronic devices.

^{vii} Data aggregation not currently proposed by EC but could further increase the benefits of differentiated access by balancing transparency and data security.

Figure 4: Illustrative dashboard of exemplary data requirements for the design stage of an electronics device lifecycle; Note: Final data requirements and format remain unclear – below visual for illustration only. (Source: BCG analysis)



Data requirements: In this DPP scenario, a combination of standardized and specified data requirements would be applied.

Standardized data points that apply across product groups and industries could include information such as bill of materials, design information and packaging data (see Figure 4). They could build on existing international standards and regulations and be communicated early to allow brands to prepare for data collection by investing in building the required capabilities. Moreover, it reduces the complexity brands face as standardized data applies to all products the brand sells, making it easier to communicate product sustainability across departments in the organization. Standardization would likely increase the quality of data brands receive from suppliers, as it is much easier for suppliers to provide standardized data, especially since they frequently supply multiple brands.

Product group-specific data requirements could include energy consumption during use, minimum product lifetime or the like (see Figure 4). Product group-specific data requirements introduce some complexity for brands, as they need to collect different data across their product portfolio. On the flipside, this allows them to get a more detailed view of the environmental performance of their products and thus work toward higher circularity and eco-design.

Data governance: Beyond this, the DPP could be self-regulatory to limit the burden and additional cost for brands. To ensure data quality and enable trust and collaboration across the VC, checks could be performed where customer complaints are raised. Beyond that, DPP regulation could be tied to existing anti-greenwashing and data-tampering regulations that already apply to brands. Given that the DPP will closely be linked to eco-design requirements, which the EC already proposes in the Battery Regulation, limited assurance of the affected data points might be introduced as soon as those come into force to ensure the verification of DPP data that potential penalties will be based on.

In sum, the DPP will introduce key changes to the way electronics brands report their data and can unlock new levels of transparency that may inspire more circularity in the VC. To fully unlock the DPP's value potential, the entire VC needs to collaborate, and especially downstream actors would have to mirror changes made upstream.

For optimal DPP implementation, the downstream VC actors need to mirror upstream changes

In the electronics VC, EoL operators play an essential role, given the complexity of parts and materials used. Thus, collectors, disassemblers and recyclers are instrumental to the retrieval of valuable materials from e-waste.

In the short term, the DPP is likely to have more impact upstream and facilitate communication and collaboration across the VC rather than significantly improving the disassembly and recycling of electronic devices. This is due to the fact that tracking parts and components will be difficult once the device is disassembled and many EoL operators currently work in large bulks and with standardized processes for electronics regardless of brand or model. This leads to traceability being lost after the use phase of most devices.

Going forward, collaboration between the EC and EoL operators will be needed to ensure that DPPs will add value downstream. There may be optimization potential if the DPP data is used and implemented in connection with smart technology to enable automatic sorting, disassembly, and data collection. The DPP could provide EoL operators with a variety of information on product architecture, parts, components, and optimal disassembly. Therefore, the DPP could increase the disassembly and recycling quality as well as increase circularity if implemented in line with EoL operators' needs.

All in all, many topics in the downstream DPP implementation remain open such as the loss of traceability if e-waste is exported outside the EU. Therefore, full downstream traceability will remain a future scenario that the EC cannot solve alone but only in collaboration with EoL operators and other regulators.

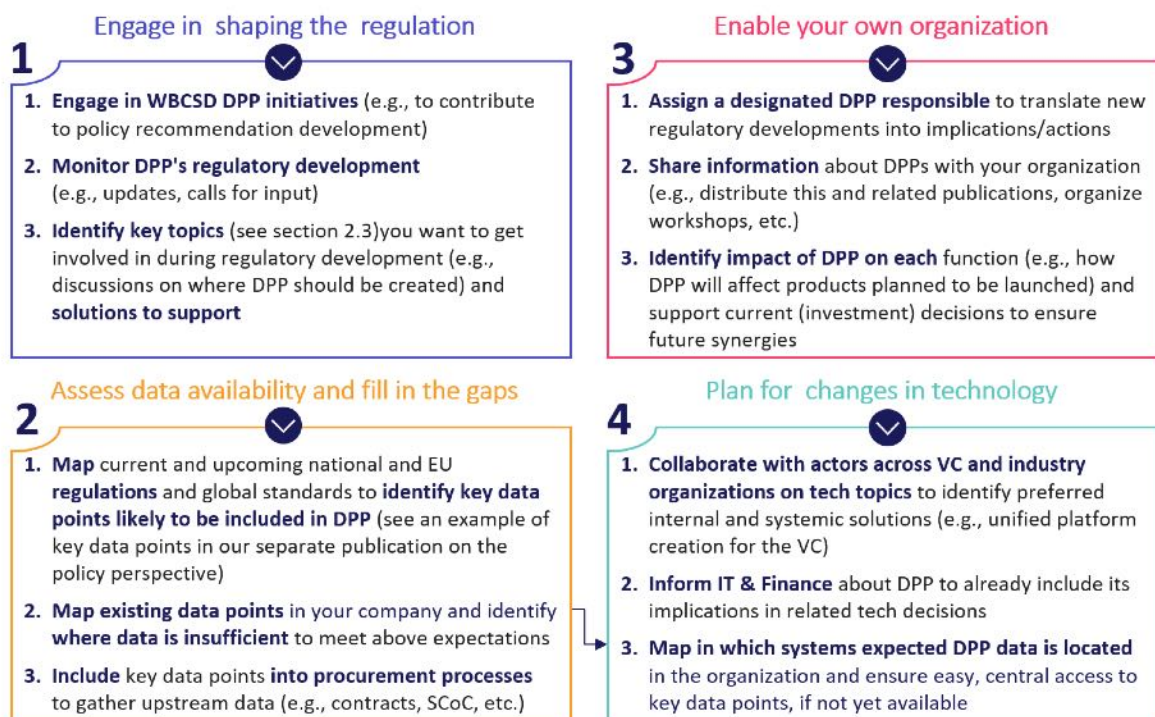
4. Corporates can unlock value by taking early action

Even though the above focuses on a DPP scenario for electronics, most product groups will face similar implications over the coming years. Other prioritized industries, such as textiles, plastics, construction and vehicles, will similarly be covered in the regulation. Companies across all industries can take action to prepare for the DPP implementation today to ensure their organization is equipped for the future reporting and circular economy transformation. Figure 5 shows four key actions that companies can take, with immediate next steps to embark on the journey right now.

Although the DPP implementation will present a number of challenges, these can be mitigated by acting early and engaging in the four actions outlined below. Nevertheless, companies need to keep these challenges in mind when preparing for the DPP. These challenges include balancing transparency and data security, ensuring interoperability of DPP requirements with existing reporting processes and IT systems, collaborating across the VC, for example, with suppliers outside the EU, and dealing with the current uncertainties of the DPP regulation.

Beyond mitigating the above challenges, acting now creates a window of opportunity for companies to mitigate future risks and unlock multiple benefits. Companies can influence regulation and thus reduce the risk of unexpected and undesired outcomes. They will benefit in the future from investment synergies by optimizing resource and budget allocation related to the DPP implementation. Additionally, moving ahead of the regulation will allow companies to set DPP industry standards and benefit from improved customer loyalty and product positioning (for more details on the benefits and opportunities of the DPP please refer to our separate publication [here](#)).

Figure 5: Four actions with immediate next steps to prepare for the DPP
(Source: BCG analysis)



1. Engage in shaping the regulation

While specific regulation for DPPs is still in the making, companies can seize the opportunity to engage in shaping it and ensuring its effectiveness. Specifically, companies can contribute to discussing open topics (e.g., application level, data management) and shaping decisions around these through stakeholder consultations. Business perspective and knowledge is important to ensure that the DPP will not become a bureaucratic burden but a useful tool for increased transparency. Beyond that, some topics might only be partially or not at all addressed by the EC. For example, definitions of DPP data points (e.g., recyclability) remain largely unclear. The technical implementation of DPPs across VCs is likely to be left for companies to decide. This is where early collaborations with various VC actors and NGOs can help set industry standards and fill in the regulatory gaps. Already today, companies can engage with NGOs to shape the DPP regulation, among others, by suggesting which regulatory setup the WBCSD should position as desirable toward the EC across scope, tech and data topics.

2. Assess data availability and fill the gaps

Companies can already assess which product data is currently available, identify data gaps, and start collecting missing data. Already existing regulations and standards provide sufficient guidance for initial preparations and data gathering. To unlock synergies and create transparency early on, companies can start establishing links with ESG reports and Life Cycle Assessments, regulatory requirements, and global standards; adjust data at product level (either item, batch, or product model) and organize data collection processes, especially upstream, where data collection can take significant time and effort.

More specifically, companies can start mapping the data points that will likely be included in the DPP and additional upcoming regulations or global standards to get a view of the data requirements they may face in the coming years. Beyond that, companies can map the data that is available internally to identify potential gaps with upcoming requirements and start filling these.

3. Enable your own organization

The DPP implementation will ‘touch’ most departments in a company. A dedicated DPP expert (e.g., from the Sustainability and/or Public Affairs team) can ensure that all relevant teams are informed and involved in the process to avoid siloed implementation. This way, the DPP can be implemented not just as an additional requirement but as a tool that can benefit the company and help it reach its circularity goals. For example, marketing and sales departments can use the DPP to improve customer engagement and communicate products’ sustainability. Product design teams can collect data during use and EoL to improve products’ eco-design and functionality. Companies can get started today by sharing DPP-related materials within their organization to create awareness about the upcoming EU DPP regulation, including e.g., the set of publications at hand. Companies can further engage on DPP topics with their Legal and Public Affairs teams and identify what the DPP will mean for the organization’s different functions.

4. Plan for changes in technology

The EC is likely to provide general guidance for technological aspects of the DPP, focusing on key principles and goals, rather than specifying which technologies to use. Companies can thus assess which options could be most suitable for data storage and access or which data carrier works best for their products. For many companies, the DPP implementation will likely require an additional layer on top of the existing data architecture rather than a completely new technology setup. Planning for it early and considering future implications of the DPP when making current tech decisions will help to avoid issues with tech integration and additional investments to fix them. The main focus of the implementation should be on the interoperability of systems inside the company and across the VC. Therefore, starting the discussion around potential tech solutions with VC stakeholders today can enable advantages in the future. With mandatory DPPs on the horizon for many industries, companies can begin engaging in these four key actions now to prepare for the DPP implementation early without risking overinvestment and myopic decision-making.

5. While uncertainties remain the time to engage in the EU DPP discussion is now

In sum, the EU DPP is a first-of-its-kind circularity tool that is still early in its development. Therefore, many topics currently remain open. Finding the optimal solutions will be a difficult task requiring to carefully balance the speed to impact with the complexity of implementation to ensure a smooth DPP roll-out. Although implementing the DPP is a very complex undertaking, great value can be unlocked if companies, NGOs and the EC work together shoulder to shoulder.

In detailing the DPP regulation, a balanced approach between the quickest and optimal options will be needed to enable companies to prepare for the DPP. The EC can help companies prepare by giving clear guidance prior to finalizing the regulation and reduce complexity by considering standardization in alignment with existing international standards. To further reduce complexity and lower costs for companies, the EC could consider implementing DPPs in waves to speed up the process and communicate minimum requirements earlier. This would allow companies to prepare accordingly and thereby unlock potential impact toward circularity earlier. Furthermore, it would facilitate the alignment of product-group-specific DPP regulations and ensure a coherent DPP implementation across industries and VCs.

Despite the remaining uncertainties, there are multiple actions that companies can already take now to prepare their organization for the DPP implementation. In collaboration with NGOs and industry organizations, companies can advance industry standards to guide the DPP implementation and test DPP solutions early on. Beyond engaging in regulatory discussions to shape the policies, companies can begin identifying data requirements, availability, and gaps, discuss the DPP topic and implications with internal functions and plan technology changes in line with DPP expectations. Beyond that, companies are encouraged to engage with the WBCSD and BCG on DPP-related topics to shape regulatory discussions and advance DPP thinking, as well as to collaborate on actions for DPP implementation.

While the DPP implementation is crucial in enabling transparency, it is essential to keep eco-design and circularity considerations in mind. Companies can use the obtained transparency to create more circular products and reduce waste and resource consumption. The EC can incentivize circularity across Europe by linking performance requirements to the DPP data. Leveraging the transparency that the DPP can create for improving circularity will not only open up additional value potential for companies but also enable utilizing already extracted resources more efficiently to achieve less wasteful consumption within planetary boundaries.

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Disclaimer

This publication is the result of a collaboration by WBCSD stakeholders, BCG experts and external contributors. The intention of this publication is to educate about the upcoming EU DPP regulation, highlighting current uncertainties, including what aspects can still be impacted and outlining key immediate actions for companies to prepare. A range of stakeholders was interviewed and reviewed drafts. Input and feedback from stakeholders listed above were incorporated in a balanced way. This does not mean, however, that every stakeholder agrees with every view. This is best knowledge as of December 2022, but changes to DPP topics can occur quickly.

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