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# DIGITALEUROPE's vision for sustainable consumers: consumer information, repair and product lifetimes

## ○ ▼ ▼ ✓ Executive summary

The European Green Deal and the New Circular Economy Action Plan have set out a historically ambitious agenda for environmental policy. DIGITALEUROPE's members have long led the way with environmental progress, and many have put forward ground-breaking commitments and programmes to deliver innovative products and services in a sustainable way.

DIGITALEUROPE's members empower consumers to take part in the circular economy through numerous strategies, including providing transparent information on the sustainability credentials of our products and services, facilitating access to repair, and providing extended product guarantees, offering trade-in programs and refurbished products.

In this paper, DIGITALEUROPE builds on its previous work¹ and shares its vision for a sustainable consumer policy agenda at the intersection of consumer, ecodesign and repair policies. Our recommendations identify four key areas of action for EU legislators:

- **Empowering consumers by paving the way towards online information provision** in the digital age, based on EU-wide harmonised methodology and product-specific standardisation.
- Protecting consumers by defining 'Right to Repair' as consumer access to high quality, safe and secure repair option in all cases, recognising the importance of manufacturer-led repair networks.
- Upholding existing legislation for consumer protection against premature obsolescence, while unleashing competitive dynamics of the marketplace with regards to commercial extended warranties and reliability innovations.

<sup>&</sup>lt;sup>1</sup> DIGITALEUROPE 2019, A Comprehensive EU Product Policy Framework

#### >> Support and facilitate repair and refurbishment professionals.

As the EU institutions work to elaborate on the announced proposals, DIGITALEUROPE stresses the need to ensure balanced requirements that promote sustainable purchasing, offer high-levels of consumer protection and enable industry's ability to provide innovative products and services.

# ○ **▼ ▼ Table of Contents**

•	Executive summary	1
•	Consumer information	4
	Information provision in the digital age	4
	Drafting new information requirements	6
	Ensuring a holistic approach	7
•	Repair	8
	Right to repair	8
	Manufacturer-led repair networks	9
	Ensuring safety and security	10
	Traceability of repair	11
	Warranty and liability implications of failed repairs	11
•	Premature Obsolescence	12
	Second-hand market for consumer electronics	12
	Existing consumer protection to combat premature obsolescence	13
	Commercial options for additional protection	14
	Difficulties defining product lifetimes	14

#### ○ **▼ ★** Consumer information

The IT sector leads the way in providing consumers with environmental product information to help them make informed purchases. Our industry is already subject to a robust regulatory regime of transparency requirements, including everything from energy labelling, use of substances, conflict minerals and end-of-life removal of priority components<sup>2</sup>.

In addition, many DIGITALEUROPE members go beyond legal requirements in providing environmental information of materials and products on carbon footprint, materials used, repair options, battery health and more. We're also very engaged in implementing soft law (such as voluntary international standards, responsible sourcing, the UN Global Compact, SBTi and CDP) and other voluntary initiatives.

For product policy, the EU should:

- Consider how to streamline the multitude of information requirements stemming from different regulations;
- Ensure information requirements are proportionate, feasible, cost-effective, and respect business confidentiality;
- Draft information provision requirements so that they result in useful and actionable information for their target audiences;
- Take into account technological advances, for instance, by considering the usefulness of e-labels over physical labels.

# Information provision in the digital age

Environmental consumer information has been studied extensively and DIGITALEUROPE requests the European institutions to take these findings into account.

Use transparent criteria and promote environmental literacy. As a 2019 DEFRA study<sup>3</sup> showed, environmental labels can influence purchasing decisions. However, it noted that environmental literacy is crucial: the "more

We comply with transparency requirements under ErP Regulation, Regulation EU 2017/821, REACh, RoHS, SCiP Database and participate in the I4R Platform based on WEEE and Batteries Directive.

<sup>&</sup>lt;sup>3</sup> WRAP 2019 for DEFRA, "<u>The Effectiveness of Providing Environmental Sustainability Information on Products in influencing purchasing behaviours</u>", p. 2

the consumers understand what the label means, the more likely they are to be willing to pay more."

When the effect of different environmental (such as remanufactured, recycled) and conventional labels was tested on single-use cameras, it was found that before consumers had environmental literacy, demand was focused on recycled and conventional cameras. In contrast, after education about remanufacturing, the market for remanufactured and recycled was highest and conventional was lowest.

Any EU regulation to disclose the environmental performance of products should require green claims to be verified by robust standards (such as ISO 14021) to avoid false claims and confusion.

Shift from physical labels to digital provision of information. Online provision of information offers the ability to convey more data in a targeted way, for instance, with hyper-local push notifications. Online information is also much easier to update if the manufacturer provides extra or new data. This may be required when software updates enhance the performance and therefore scoring of a device.

It should also be noted that consumers make most of their purchasing decisions *before* going to shops.<sup>4</sup> More than 80% of customers use a combination of online and offline research before a purchase. In the case of electronic devices, over 50% of consumers surveyed used their mobile phones to research while physically browsing in-store.<sup>5</sup> The importance of online consumer research before purchasing decisions is supported by Ecorys<sup>6</sup>, who additionally points out that traditional offline labels need adaptation to be effective in an eCommerce environment.

Consider the intended audience of information. DIGITALEUROPE fully supports transparency: providing information is essential to empowering consumers to participate in the circular economy. However, not all information is appropriate or useful to disclose to consumers. The EU institutions should, therefore, establish audience-specific disclosure levels and decentralised databases not managed by a central institution, particularly

<sup>&</sup>lt;sup>4</sup> BEUC, 2019, "Consumers at the Centre of the Drive to Sustainability – BEUC's view on the European Green Deal"

<sup>&</sup>lt;sup>5</sup> Google Insights, 2018, Consumer Journey Study

<sup>&</sup>lt;sup>6</sup> Ecorys, Tilburg University and GfK for the European Commission, 2014, "<u>Study on the effects on consumer behaviour of online sustainability information displays – Final report</u>", p. 96

given the potentially sensitive nature of some of the information that may be included.<sup>7</sup>

ICT tools (e.g. blockchain digital ledgers) could, for instance, be used instead to verify and certify environmental labelling, enabling transparency and preventing greenwashing whilst protecting sensitive information.

DIGITALEUROPE members are developing measures to achieve greater transparency on environmental attributes in products via leading the way in supply chain transparency (e.g. responsible sourcing of minerals) and recycling information (I4R platform).

#### **Drafting new information requirements**

There is currently a proliferation of labelling and information requirements. It is vital to **streamline the obligations and ensure a coherent approach** to avoid a counter-productive situation where the increase in consumer information becomes confusing and reduces the impact on purchase intent. In addition, criteria for information provision should be aligned with other policy measures, (e.g. Green Public Procurement or eco-modulation) to ensure incentives are not contradictory.

Currently, the provision of information on durability, repairability, recycled content, recyclability are under discussion. In terms of labelling for those criteria, DIGITALEUROPE supports the JRC findings<sup>8</sup> that any label needs to possess "representativeness at EU level", have "fair applicability to a broad scope of repair/upgrade strategies", be easy to understand, objective and reproducible. DIGITALEUROPE, therefore, puts forward the following recommendations:

- A single, EU-wide methodology. Currently, as shown by a 2019 JRC study<sup>9</sup>, there are at least 12 different initiatives on measuring repairability, as well as national initiatives. A clear EU definition and a harmonised criterion to measure and verify the environmental labelling of products are therefore required to establish proper incentives for selling into the EU market. Otherwise, we risk creating confusion among consumers, a fragmented Single Market and unfair competition.
- Base any scoring on product-specific EU standardisation work. Product-specific criteria are important to ensure fairness and representativeness of

<sup>&</sup>lt;sup>7</sup> EN45559 can serve as a good guideline to derive target group specific Product Material Efficiency means.

<sup>&</sup>lt;sup>8</sup> JRC, 2019, "<u>Technical Reports Analysis & Development of a Scoring System for Repair and Upgrade of Products</u>", p. 133

<sup>&</sup>lt;sup>9</sup> Ibid.

the scorings. The JRC found that CEN-CENELEC-JTC10 prEN 45554 project is "the most robust discussion ground" for product-specific EU standardisation work and underlined that "a scoring system has to be tailored to reflect specificities of groups/types of products". <sup>10</sup>

- If a label is required, make it an integrated durability & repairability label. As the JRC notes, "for some product groups, reliability could have higher importance than reparability and upgradeability". 11 No repair label should incentivise putting low-quality products that easily break, but are repairable, on the market. A European Commission study has shown that the effect of such information is "strongest when durability and reparability information was presented together". It showed that durability is more important for consumer decisions, whereas "reparability only marginally led participants to choose products with overall better CE credentials". 12
- Empower consumers with understandable and straightforward sustainability labels. Sustainability labels designed for consumer empowerment need to be understandable by the consumer to indicate whether a product can be repaired easily at low cost or not. If all results are aggregated under a single score, there will always be a risk of misinterpretation, depending on the consumers' conditions of use and the product being examined.<sup>13</sup> Information used for the scoring matrix should be transparent and indicate the factors included in the sustainability labelling criteria.

# **Ensuring a holistic approach**

Information requirements should be considered as just one tool, as part of a wider set of measures, to achieve desired policy objectives. In some cases, policy objectives such as attaining higher recycled content could be better achieved with a **different set of policy measures**.

For example, the need for recycled material to be available in sufficient quality and quantity (flexibility, degradability, haptics, colour) and an acceptable price to re-enter into ICT products have not been taken into consideration and requires more dialogue throughout the value chain. This can only be achieved by

<sup>11</sup> *Id.*, p.131

<sup>&</sup>lt;sup>10</sup> Ibid.

<sup>&</sup>lt;sup>12</sup> LE Europe, VVA, Ipsos, ConPolicy, Trinomics for the European Commission, 2018, "Behavioral Study on Consumers' Engagement in the Circular Economy", pp. 11 & 179

<sup>&</sup>lt;sup>13</sup> JRC, 2019, "<u>Technical Reports Analysis & Development of a Scoring System for Repair and Upgrade of Products"</u>, p. 132

promoting and incentivising advancement in the recycling infrastructure (by supporting R&D expenditures on recycling and funding through Horizon projects) as well as creating effective take-back systems, secondary raw material markets, creating means for increasing consumers' recycling habits and promoting initiatives to develop markets for second-hand products as well as renting/leasing of products.

### ○ ▼ ▼ ✓ Repair

The ICT sector is considered a priority sector for repairability. DIGITALEUROPE members already treat repair, refurbishment and remanufacturing activities as part of their everyday business practice<sup>14</sup>. Many manufacturers, especially but not only in the B2B environment, have their own repair network already in place, including reverse logistics and take-back schemes. Through these activities, our members are helping to reduce environmental footprint, create jobs and deliver real benefits to the consumers. These services are also an integral part of ensuring customer satisfaction and trust in brands.

DIGITALEUROPE members, and their repair networks, perform millions of repairs annually. Their repair and remanufacturing facilities are situated across multiple EU Member States and form part of the circular economy backbone of the ICT industry in Europe. European policymakers should bear the existing infrastructure in mind when debating future policy interventions.

# Right to repair

We believe consumers are entitled to high-quality repairs that preserve the functionality of the product, are safe, secure and protect privacy. As the EU institutions work to develop the proposed 'Right to Repair' or 'repairability mandates', DIGITALEUROPE recommends that:

The 'Right to Repair' should ensure consumers have access to high quality, safe and secure repair options in all cases. DIGITALEUROPE believes that consumers have a rightful expectation of a repair remedy of quality, safety and security. However, this does not mean that repairs can be carried out safely and successfully by consumers themselves, nor that they should in all cases have the right or ability to do so themselves. Especially for high-complexity devices, consumer-led repairs could impact the integrity of

<sup>&</sup>lt;sup>14</sup> DIGITALEUROPE, 2017, "The contribution of the Digital Industry to repair, remanufacturing and refurbishment in a Circular Economy"

the repaired device, and such unintended outcomes should be reflected in any future regulation.

When designing the 'Right to Repair', consideration should be given to ensuring quality and consumer safety, security and privacy. Repairs that jeopardise the quality or safety of a product not only endanger persons and property but may have legal liability and brand implications for manufacturers.

The Product Liability Directive's recent revision (2018/246) questions who will be the manufacturer in case of repair and refurbishment. Other considerations include, but are not limited to, confidential proprietary knowledge<sup>15</sup> and intellectual property rights. The obligation should also be designed in a way as not to create unnecessary burdens on the manufacturer.

The existing 'Right to Repair' provision in the freshly reformed Waste Framework Directive<sup>16</sup> strikes a good balance in this regard. It establishes that spare parts, repair instructions, etc. should be made available if this does not compromise safety or quality, nor IPR. These three boundary conditions of accepted European law must be reflected in the future' Right to Repair' or repairability mandate proposals.

#### Manufacturer-led repair networks

DIGITALEUROPE believes the 'Right to Repair' should be focused on the availability of repair options that ensure consumers have access to high quality, safe and secure repairs, instead of only consumer-led repair. The established manufacturer-associated repair networks provide consumers with convenient access to such repair options. Furthermore, these networks are the source of jobs and high-quality service in a circular economy. They are optimised for efficiency, and therefore minimise environmental impacts beyond what would be possible via consumer-led repair models.<sup>17</sup>

Manufacturer-associated repair networks may include reverse logistics and takeback schemes. They also maintain product production and repair data, accurately predict demand for spare parts, minimise overstocking and reduce resource and material consumption. Legislation should not dismiss this approach

<sup>&</sup>lt;sup>15</sup> Wharton, Upenn, 2019, "Regulating Consumers' Rights to Repair Products: The Debate Between Convenience and Intellectual Property Rights"

<sup>&</sup>lt;sup>16</sup> Waste Framework Directive, Art 9(1)

<sup>&</sup>lt;sup>17</sup> DEFRA (2018) HM Government, "Our Waste, Our resource: A Strategy for England"

and factor in these benefits, the high-skilled jobs and inherent consumer protection.

For many products, manufacturers have supported a balance between a design for consumer-replaceable, or recycler-removable (replaceability by professional, trained repair operators) components.

In a previous position paper,<sup>18</sup> DIGITALEUROPE outlined the key reasons why manufacturers should continue to choose professional service replaceability through a network of certified technical partners, particularly to perform warranty and out-of-warranty repairs:

- It is a pre-condition for the functionality and usability of many existing and future products;
- It encourages positive impacts on material efficiency, enhances product performance, product lifetime and reliability;
- It also ensures compliance with safety legislation and provides for appropriate collection and treatment of waste.

This approach would also enable manufacturers to deploy the right repair strategy for the right product group as repairability criteria and strategies must be product-group specific (e.g. printers, notebooks, desktops).

### **Ensuring safety and security**

Most electronics are highly-integrated products, and improper handling of some components or alterations threaten consumer safety and may lead to severe injuries such as burns, blindness, and in some cases, damage to property caused by fire incidents.

A repair that is carried out by a trained technician using genuine parts is the most reliable and safest repair a manufacturer can provide to its customers. For highly sophisticated electronics, a repair will require "appropriate technical skills that most consumers do not have. If a product is not properly repaired, consumer safety could be compromised", as recognised by the JRC.<sup>19</sup> The safety and quality of the repair can be ensured if we recognise the trusted status of certified repair networks and refurbishment/remanufacturing facilities. Technical training must be recognised in support of any repair legislation.

<sup>&</sup>lt;sup>18</sup> DIGITALEUROPE, 2016, "<u>Initial recommendations for the upcoming review of the battery directive 2013/56/EU</u>"

<sup>&</sup>lt;sup>19</sup> JRC, 2019, "<u>Technical Reports Analysis & Development of a Scoring System for Repair and Upgrade of Products"</u>, p. 132

The right to repair legislation should also consider cybersecurity concerns as much as physical safety. In the highly connected and digitalised world of IT today, unauthorised access increases the risk of creating a gateway into the electronic network of the device owner, increasing vulnerability against hackers and loss of sensitive personal, financial or professional information.<sup>20</sup>

#### **Traceability of repair**

Traceability needs to be taken into consideration for any future repair legislation. Manufactures have processes in place that track repairs completed through their servicer network; this allows traceability of repairs in case of follow up issues. Opening up this domain to third-party servicing inhibits the ability for manufacturers to track repairs made to products and has the potential to create issues in determining liability if the source of the repairs cannot be readily identified. Traceability is also crucial because improper repair or servicing can be a cause of health and safety risks (such as appliance fires). Finally, traceability assists insurance companies and other entities if the incident requires investigation.

#### Warranty and liability implications of failed repairs

The implications for manufacturer-provided warranties are important to consider in the context of 'Right to Repair' legislation. Customers should be made aware of the potential warranty implications of a failed repair service carried out by an independent repair provider. Future costs of repair might become a burden for the consumer as manufacturers are not liable for damages to the product resulting from independent third party services.

Opening up this domain to third-party servicing without building appropriate mechanisms for traceability inhibits the ability for manufacturers to track repairs made to products and has the potential to create issues in determining liability if the source of the repairs cannot be readily identified. ICT tools could be used to ensure traceability. If an independent third-party servicer has access to a manufacturer's parts, software, firmware, and a product malfunctions, or is rendered unsafe, due to improper repair by an independent service provider, it will be very challenging to ascertain which party is liable. The consumer requires the same level of protection as they would under a manufacturers' repair. This legal ambiguity might cause extra costs for the consumer or increased replacement of products, which would be against the intent of any proposed

<sup>&</sup>lt;sup>20</sup> Association of Home Appliance Manufacturers (AHAM), "Protect Security and Safety in Appliance Repairs"

legislation.<sup>21</sup> The manufacturer maybe increasingly exposed to product safety claims caused by a third party repair provider.

#### ○ ▼ ▼ ✓ Premature Obsolescence

DIGITALEUROPE believes that design and technological improvements should not be associated with premature obsolescence, particularly in the context of the digital technology industry. Innovation is the core driver of our sector. Digital solutions are transforming and contributing to the well-being and enhancement of our society and environment, and at the same time shaping consumer expectations. Introducing a product reflects our industry's best efforts to keep pace with consumer expectations and tastes. The speed at which this occurs reflects the extremely competitive atmosphere in which we operate as well as rapidly increasing consumer expectations.

The technology sector is unfairly accused of implementing engineering solutions that result in planned or premature obsolescence of devices. While there is no agreed definition of premature obsolescence<sup>22</sup>, the term is often used to refer to an alleged policy, business practice or marketing strategy whereby manufacturers deliberately shorten the lifetime of a product in order to ensure a constant, or recurring, purchase pattern. DIGITALEUROPE forcefully rejects such practices.

#### Second-hand market for consumer electronics

In the context of arguments around short-lived electronics, many ignore the reality of the flourishing second-hand market for electronic devices. Devices are often traded-in or sold on by consumers demonstrating that there is still residual value and use for such devices<sup>23</sup>. This already is providing a significant market opportunity for companies in the refurbishment and remanufacturing business and also for those wanting to sell digital services on the related platforms (e.g. apps, streaming). The ICT remanufacturing/refurbishment business in the EU alone accounts for an annual turnover of € 3.1bn attributed to EEE.<sup>24</sup>

<sup>&</sup>lt;sup>21</sup> LG Letter, 2018, HB4747 (Digital Fair Repair Act),

<sup>&</sup>lt;sup>22</sup> A most recent attempt at finding a definition is pursued under the PROMPT Project: https://prompt-project.eu/project/

<sup>&</sup>lt;sup>23</sup> Deloitte Global, 2016, "Global Mobile Consumer Survey 2016 - Trends from around the World".

<sup>&</sup>lt;sup>24</sup> European Remanufacturing Network, 2015, "Remanufacturing Market Study".

Deloitte conservatively predicted in 2016 that there was \$17 billion market for used smartphones. DC predicted in the same year that the used smartphone market would fast-grow to \$30bn by 2020, outperforming the overall smartphone market four to five times. However, the market for used IT equipment is even larger – WRAP estimated that in the UK alone in 2013, the value of two to three-year-old laptops in the UK was £720 million. DIGITALEUROPE members actively support the used IT equipment market via efforts to prolong the life of electronics through repair, reuse, refurbishment and remanufacturing.

# Existing consumer protection to combat premature obsolescence

Consumers have an obvious interest in durable, reliable devices and manufacturers understand that reliability is critical to building a trusted brand. It is in a manufacturer's interest for the long-term satisfaction of its customer base to live up to this promise.

However, to ensure legal protection for European consumers, over the years, the EU has created a robust regulatory framework to combat unfair commercial practices. DIGITALEUROPE would like to point out that legislation already exists that provides strong protection:

#### Existing repair and consumer protection legislation:

The 2019 revision of the **Sales of Goods Directive** (2019/771) provides strong consumer protections against sellers of faulty products. These rights include the right to have a faulty product repair or replaced free of charge, or to obtain a refund or a price reduction within a period of two years from the delivery of the product. n its most recent revision, durability was introduced as a conformity requirement, as well as the option for a producer to offer consumers a commercial guarantee for durability. Traders will now also be responsible for the conformity of the digital content (software/apps) provided together with the product. Defects to the digital content will be treated as

<sup>&</sup>lt;sup>25</sup> Deloitte, 2016, "<u>Technology, Media & Telecommunications Predictions 2016</u>".

<sup>&</sup>lt;sup>26</sup> International Data Corporation, 2016, "<u>Worldwide Market for Used Smartphones Forecast to Grow to 222.6 Million Units in 2020, According to IDC</u>", "<u>Worldwide Used Smartphone Forecast 2016-2020</u>".

<sup>&</sup>lt;sup>27</sup> Green Alliance, 2015, "A circular economy for smart devices. Opportunities in the US, UK and India"

<sup>&</sup>lt;sup>28</sup> DIGITALEUROPE, 2017, "<u>The contribution of the Digital Industry to repair, remanufacturing and refurbishment in a Circular Economy</u>"

- defects to the hardware and enable consumers to ask for a repair, replacement or reimbursement. Traders also have to supply consumers with updates which are necessary to maintain conformity of the product.
- The **Waste Framework Directive** (2018/851) already imposes access to spare parts and repair instructions under certain boundary conditions.

#### **Existing planned obsolescence legislation:**

Under the **Unfair Commercial Practices Directive** (2019/2161) a trader who fails to inform the consumer that a product has been designed with a limited lifetime might be considered to have omitted to provide material information and, thus, could be found liable for unfair commercial practice.

#### **Commercial options for additional protection**

The current policy debate suggests that legislation should go further by prolonging the warranty period or by imposing lifetime information, e.g. at point of sale.

Extended warranty service contracts are already available for consumers that seek additional protection. Our sector, like many others, has seen the introduction of commercial guarantees, extended service plans and plans covering accidental damage from handling which provide consumers with the choice of extra levels of protection. These service plans are used competitively between manufacturers, both to extend the period of coverage or the scope (e.g. accidental damage, loss).

We believe that consumer choice is important. However, many customers do not put a premium on this peace of mind and would prefer not to pay for it. DIGITALEUROPE would like to point out that forcing longer guarantees through legislation or other schemes may stifle both competition and consumer choice while increasing prices for all consumers. It is estimated that an extension of the legal protection period to five years would increase, on average, the cost of goods by 29,4%.<sup>29</sup>

# Difficulties defining product lifetimes

DIGITALEUROPE believes that establishing an objective, reliable, comparable and verifiable tool to assess and determine a product's lifetime would be particularly challenging. Our products are complex by design and a product's lifetime is highly dependent on the use of the final customer. Lifetime information

<sup>&</sup>lt;sup>29</sup> DIGITALEUROPE, 2017 "Views on suggestions to include the concept of "expected lifespan" to the proposed Tangible Goods Directive"

is also already implicitly factored into brand reputation and customer proposition of certain product characteristics. However, if there are attempts to establish product-specific standardisations on durability and reparability, they must be derived by CEN/CENELEC or ETSI.

In addition, the market functions and reacts to consumer demand, as evidenced by the development of innovations such as Gorilla Glass & Diamond Glass to reduce problems with displays as well as water resistance (IP67, IP68, water-resistant coatings). DIGITALEUROPE has discussed those innovations in more detail before in a related position paper<sup>30</sup>, and other measures are taken by manufacturers to prolong the life of products.<sup>31</sup>

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<sup>&</sup>lt;sup>30</sup> DIGITALEUROPE, 2020, "Initial recommendations for the revision of the EU Battery Directive",

<sup>31</sup> DIGITALEUROPE, 2017, "Views on suggestions to include the concept of "expected lifespan" to the proposed Tangible Goods Directive"

#### **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.

# **DIGITALEUROPE Membership**

#### **Corporate Members**

Accenture, Airbus, Amazon, AMD, Apple, Arçelik, Bayer, Bosch, Bose, Bristol-Myers Squibb, Brother, Canon, Cisco, DATEV, Dell, Dropbox, Eli Lilly & Company, Epson, Ericsson, Facebook, Fujitsu, Google, Graphcore, Hewlett Packard Enterprise, Hitachi, HP Inc., HSBC, Huawei, Intel, Johnson & Johnson, JVC Kenwood Group, Konica Minolta, Kyocera, Lenovo, Lexmark, LG Electronics, Mastercard, METRO, Microsoft, Mitsubishi Electric Europe, Motorola Solutions, MSD Europe Inc., NEC, Nokia, Nvidia Ltd., Océ, Oki, Oracle, Palo Alto Networks, Panasonic Europe, Philips, Qualcomm, Red Hat, Ricoh, Roche, Rockwell Automation, Samsung, SAP, SAS, Schneider Electric, Sharp Electronics, Siemens, Siemens Healthineers, Sony, Swatch Group, Tata Consultancy Services, Technicolor, Texas Instruments, Toshiba, TP Vision, UnitedHealth Group, Visa, VMware, Xerox.

#### **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: Nederland ICT,

FIAR

Norway: Abelia

Poland: KIGEIT, PIIT, ZIPSEE

Portugal: AGEFE

Romania: ANIS, APDETIC

Slovakia: ITAS Slovenia: GZS Spain: AMETIC Sweden: Foreningen Teknikföretagen i Sverige, IT&Telekomföretagen Switzerland: SWICO

Turkey: Digital Turkey Platform,

**ECID** 

Ukraine: IT UKRAINE United Kingdom: techUK