



# Universal EPS and Universal battery/charger

Ecodesign Working Plan 2020-2024

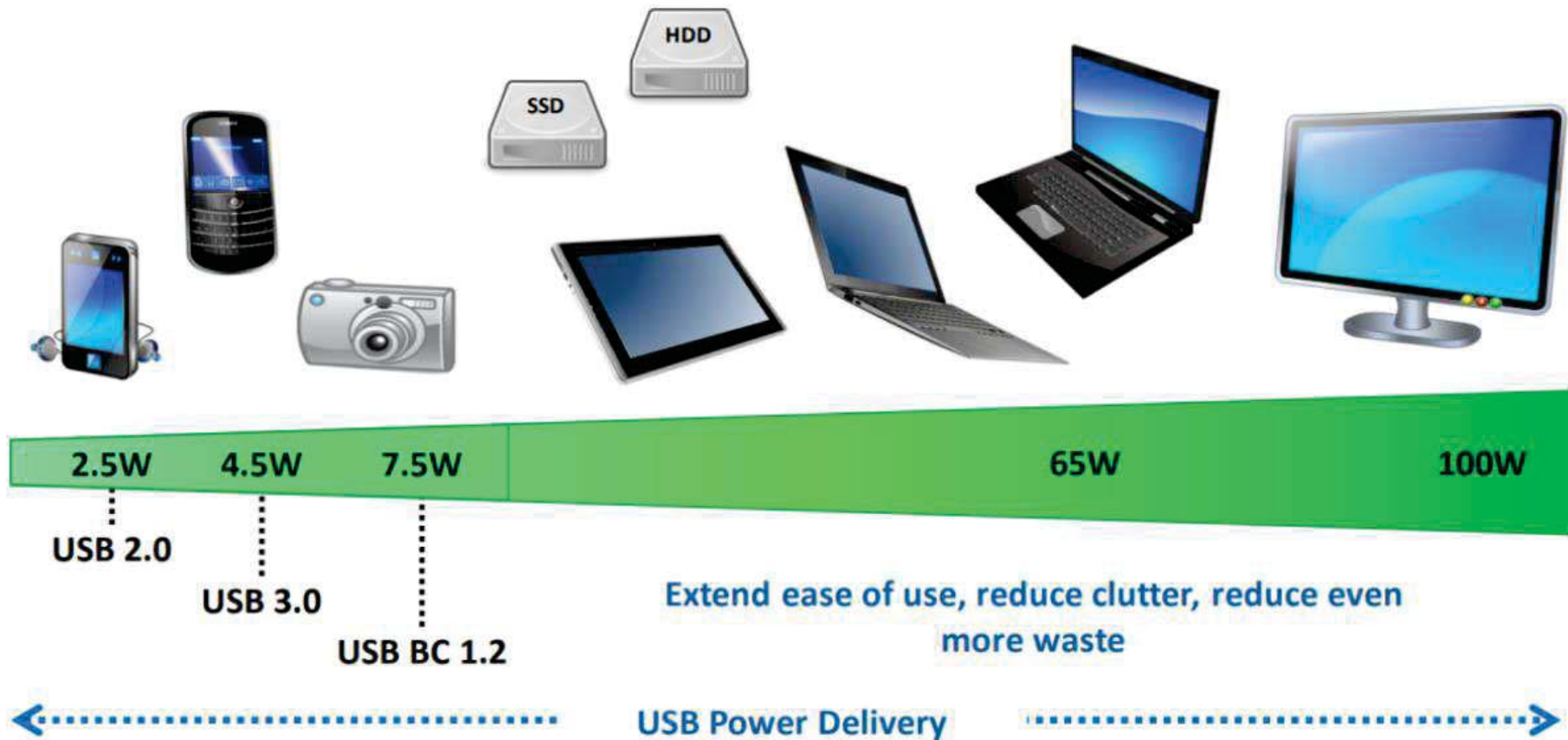
*Preliminary work:*

*10. Universal EPS*

*16. Universal battery/charger*

*EC internal use only*

# L. 10: Universal External Power Supply

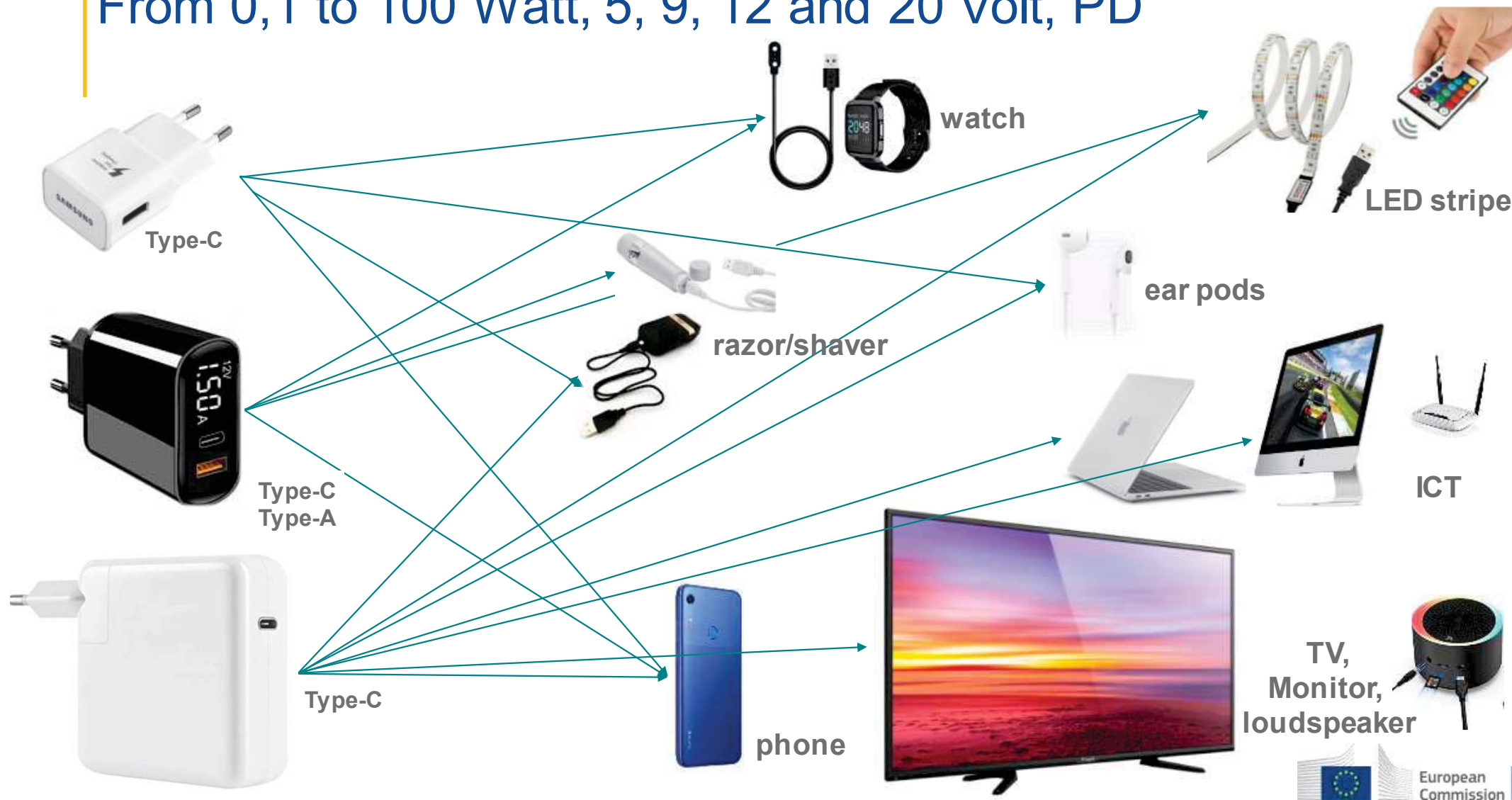


USB-IF developing USB for over 20 years

# Existing standards and recommendations (most of)

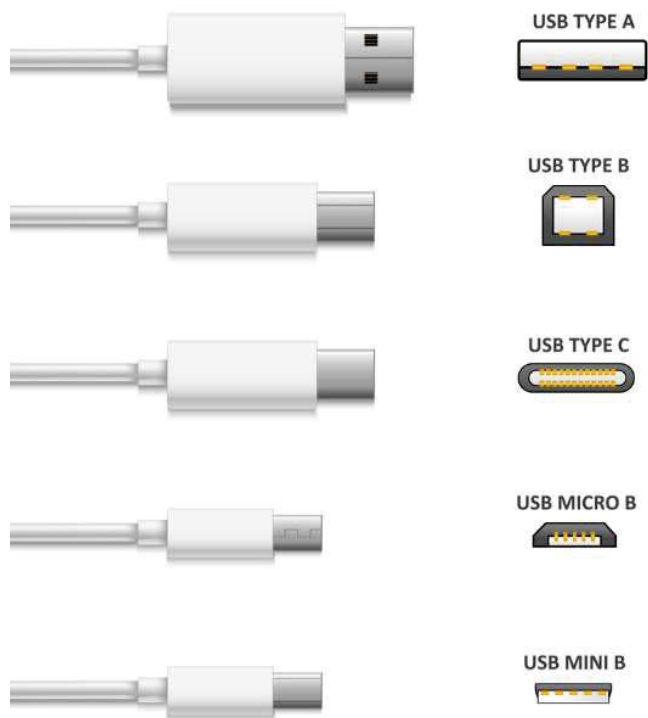
- EN-IEC 62680-1-1 on Universal Serial Bus 4 (USB4™)
- EN-IEC 62680-1-2 on USB **Power Delivery** specification
- EN-IEC 62680-1-4 on USB Type-C™ Authentication Specification
- EN-IEC 62680-2-3 on Universal Serial Bus 4 (USB4™) Specification
- EN-IEC 62680-3-1 on USB Serial Bus Specification
- EN-IEC 62684 on Interoperability specifications on **common external power supplies** for use with data-enabled mobile telephones
- ITU-T L.1000 on Universal power adapter and charger solution for mobile terminals and other hand-held ICT devices
- ITU-T L.1001 on External universal power adapter solutions for stationary information and communication technology devices
- ITU-T L.1002 on External universal power adapter solutions for portable information and communication technology devices
- ITU-T L.1005 on Test suites for assessment of the **universal charger solution**
- EN 50563: The measurement standard on no-load power and average active efficiency
- active modes

From 0,1 to 100 Watt, 5, 9, 12 and 20 Volt, PD



# USB connectors for Universal EPS

part of USB specs



compatible



Lightning

**Cords on the market (as product itself):  
from 5cm to 5 m, differ in A/W supported**



**Qi pods  
(wireless charging)**

# Wireless “charging”: a coil/pad for the U-EPS?



Qi is supported by Apple, Asus, BlackBerry, Google, HTC, Huawei, LG, Motorola Mobility, Nokia, Samsung, Sharp Sony, Xiaomi, ...

A “contactless connector” (inductive coil), supporting USB, up to 65W (future 100W?)

# Possible hard/soft policy approach

(making unbundling feasible)

- Amending the horizontal Ecodesign EPS Regulation 2019/1782 to properly fit the requirements on 0-100 Watt, 5-20 Volt Universal EPSs (for safe/reliable/durable EPS/cable/product). The PD standard crucial for safety/durability.
- Allowance-based approach, providing an incentive to suppliers for unbundling the U-EPS in mass market products (smartphones/tablets, computers, displays, routers...). Products sold with unbundled EPS shall indicate the minimal power/requirements for the 3<sup>rd</sup>-party U-EPS. Also products now with an internal power supply could move to the U-EPS.
- Simple “labelling” of U-EPS, to stimulate competition (Wi-Fi like logo? 3-classes label?)
- Information campaigns (user awareness, EU value)

## Expected results:

- A U-EPS product per-se may be cheaper (on avg.): mass production, competition, no lock-in, ...
- Unbundling, manufacturers would sell the powered product at lower cost (incentive to adopt the U-EPS)
- Longer/independent lifetime for the powered product (moving out the power supply)



# Quick wins, soft approach (current Ecodesign WP, waiting for the new EWP)

## **Ecodesign Regulations on smartphones/tablets, computers, (displays)...**

- Incentive to “unbundle” the U-EPS as “gift” on energy efficiency minimal requirements: “the power used during the test is measured at the DC-input” (instead of the AC input as usual). About 10% allowance
- No “mandatory” requirements (e.g. no mandatory connector) but “condition” on use of the allowance (unbundling of a “standard” U-EPS, with standard connectors, PD support, etc.)
- Information requirements: minimal power that the U-EPS has to deliver



## L. 16: Universal battery/charger



Currently: each brand its battery/charger

# Virtually identical, all incompatible



Same voltages (e.g. 9, 12, 18), function, cells, different form-factor and connector



# An exploding market!

LIDL



ALDI



Cleaning (incl. domestic vacuum cleaners), garden, professional/DIY tools,

# Main issues

- An exploding market (Li-ion cells cost went down 90% in last 10 years)
- Multiplication of incompatible batteries
- Multiplication of incompatible chargers
- Consumers' lock-in
- Change of brand at EoL → disposal of batteries and their charger
- OEM spare battery/charger cost is higher (no competition, locked-in customers), possibly inducing to disposal of the entire set for a failing part

In short: unnecessary/avoidable material consumption, shorter lifetime, WEEE, higher costs for consumers, inconvenience.

# Thank you

*EC internal use only*



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