

Circular innovation and sectors

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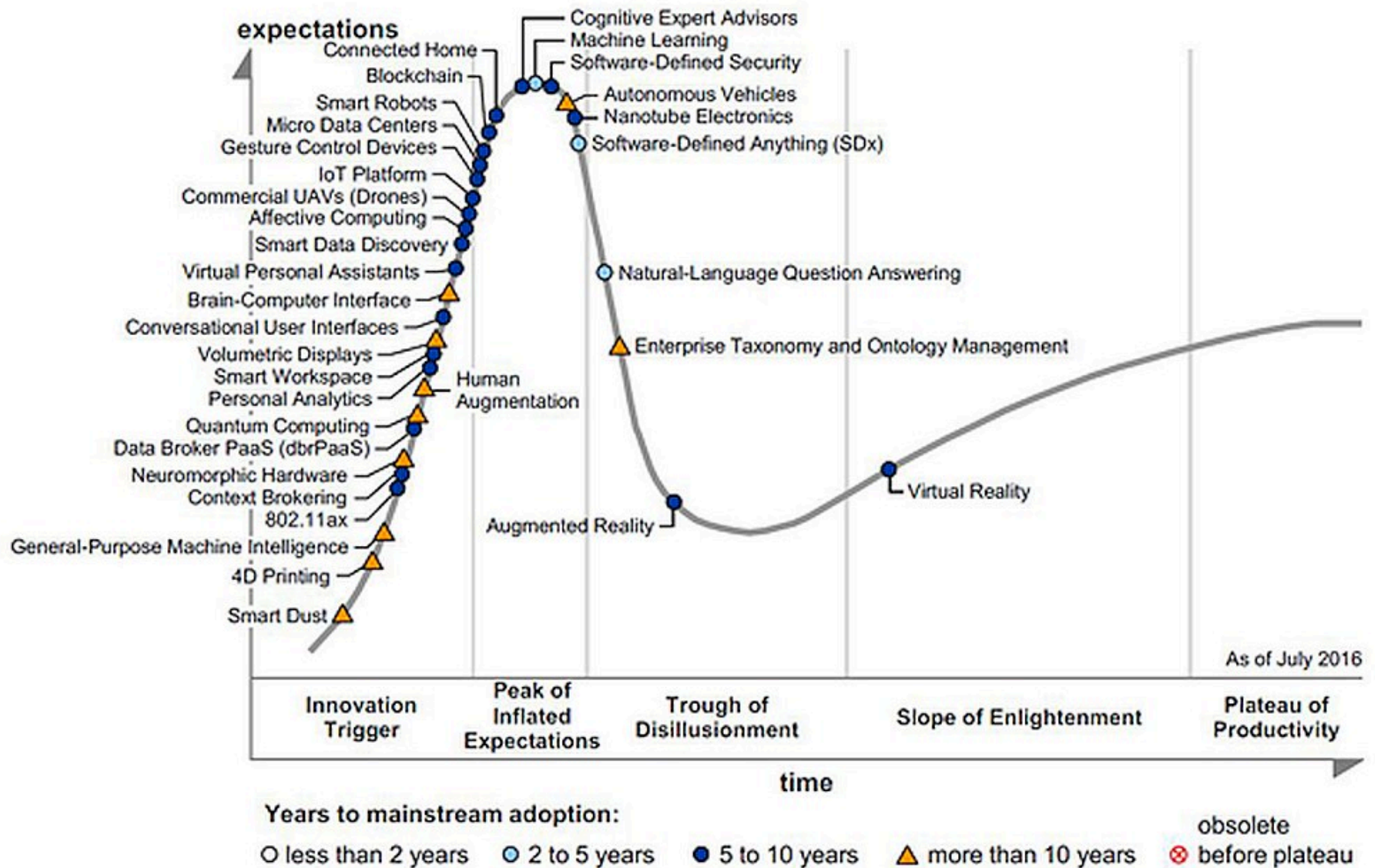
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Adapted from an earlier presentation



Technology and circular innovation

- Circular innovation = technical + circular models + cooperation
- Technology is not a driver, but an enabler. Examples:
- Application of IoT (component traceability)
- Anticipated maintenance & -returns (AI)
- Robotisation (of disassembly, delivery, takeback)
- Recognition of products / components / materials using artificial intelligence
- Bitcoin, blockchain
- Separation technology



Source: Gartner (July 2016)

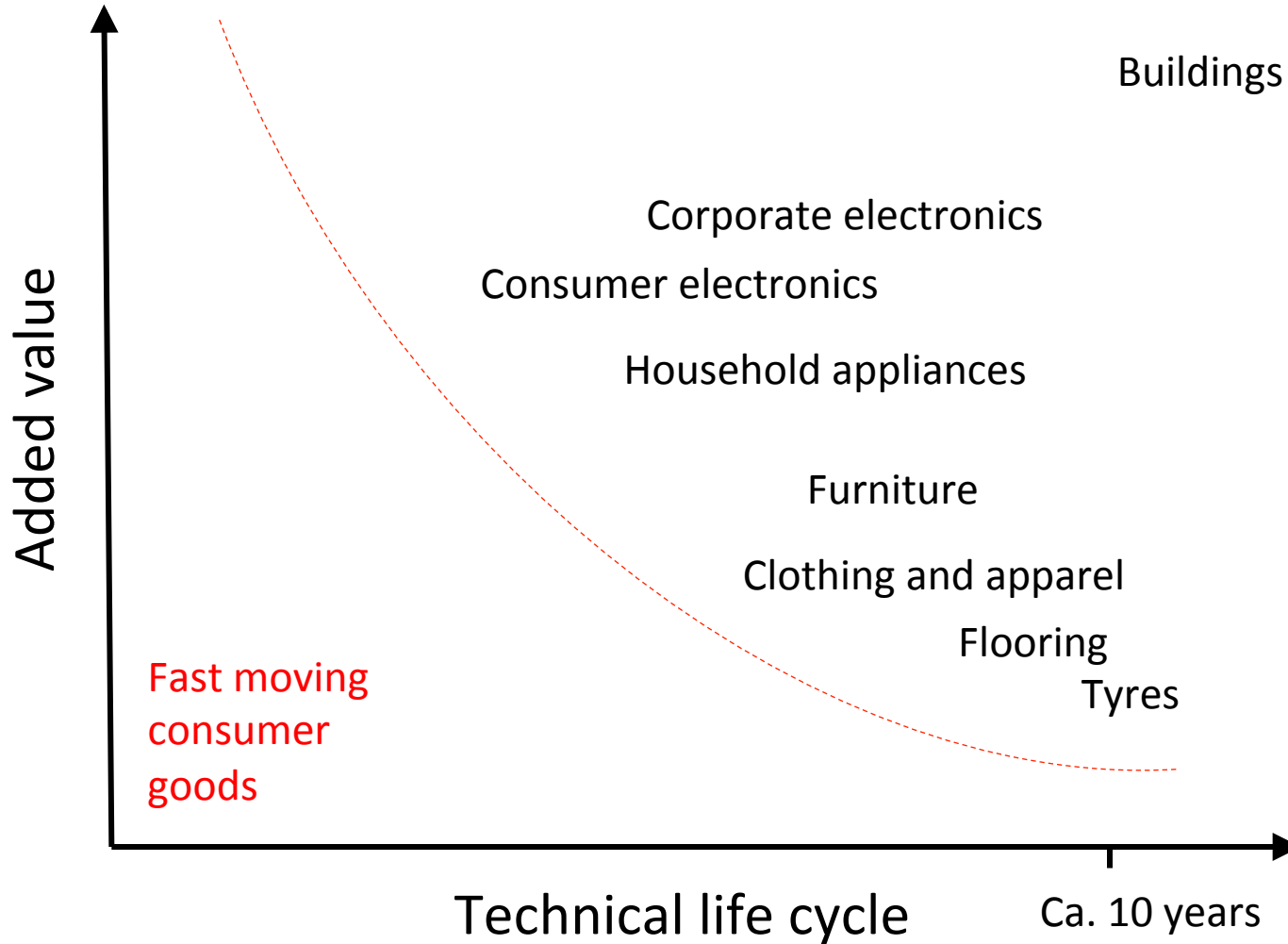
Sectors

- Usual suspects: flooring, office furniture, apparel, packaging, printers, washing machines, buildings...

Circularity is triggered by:

- Value : High added value + moderate innovation speed
- Regulation: Too much waste, toxic substances, which translates into regulation: REACH, EPR (e.g. WEEE), ecodesign, ...

Value driven sectors



Based on:
Copper8
analysis, 2016

Regulation driven sectors: EPR

Plastic packaging, cars, batteries, **electric & electronic equipment**, expired medication, needles, agricultural packaging, phytopharmaceutical products, **furniture, textiles**, domestic linen and shoes, domestic chemical products, mobil homes, graphic paper, lubricants, frying oils, mattresses (under consideration), **construction & demolition materials, printer cartridges**, fluorinated refrigerants, diapers, float glass

(EY, 2016, BIO Intelligence Service, 2014)

Regulation driven sectors: Ecodesign (EC, 2016)

- Building automation and control systems
- Electric kettles
- Hand dryers
- Lifts
- Solar panels and inverters
- Refrigerated containers
- High-pressure cleaners

Summary

- Circular economy offers enormous economic opportunities
- But is hampered by the linear economic framework
- Innovation is about much more than technology
- A growing series of sectors is going to be circular in the coming years
- Determining factors are (1) added value & speed of innovation (2) waste production and legislation
- New, additional policies are needed to really accelerate circular innovation beyond this “business as usual”
- Do not forget the biocycle, wastewater treatment plants

THANK YOU FOR YOUR ATTENTION

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