Helping producers to manage the developing global agenda around the repairability of electronics

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Repairability – What is it?

Two Elements:

1. **Right to Repair** – availability of tooling, software, manuals
2. **Materials Efficiency** – design measures which do not prevent disassembly and allow for non-destructive dismantling

Member state implementation coming
Unclear compliance deadline given COVID

Repairability

Right to Repair
- Long required internationally for passenger cars
- Recent battleground for agricultural vehicles
- US states, Canadian provinces have current regulatory initiatives

Materials Efficiency
- Principally aspirational for most consumer products

Global push for electronics design and performance changes to address e-waste pollution crisis

Repairability – How did we get here?

- EU Directive on e-Waste
  - captures electronics

- EU Directive on Eco-Design
  - Energy efficiency provisions
  - Little other regulatory interventions

- 2015 Circular Economy Action Plan
  - Focus upon product lifecycle

- Repairability introduced through 10 regulations(!) to Eco-Design Directive

Not consumer / repair competition legislation

Current Target Products

- Computers (but not tablets or smart phones)
- Online data storage units and servers
- Dishwashers
- Refrigerators and freezers (household)
- Televisions
- Washing machines and dryers
- External power suppliers
- Welding equipment
- Certain products containing:
  - electric motors
  - directional/non-directions & fluorescent lighting

RIGHT TO REPAIR: IMPLICATIONS FOR MANUFACTURERS

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June 2020

INTRODUCTION

This growing agenda has significant implications for manufacturers.

Some of the requirements mean small changes, others more fundamental.

This brings challenges, but there are opportunities to lead and unlock greater value.

Today we will cover:

- Product design choices
- Spare parts
- Extended customer engagement
- Information sharing
- Partnerships and collaboration
- Challenging factors
- The opportunity

PRODUCT DESIGN CHOICES

Case study:

Philips

Analysing common issues and making access easier for more efficient and successful repairs.

Microsoft

Removing glue from Surface products to enable disassembly, building in modularity.

- Product disassembly – Non destructive, common tools

- Durability – Material selection, maintenance requirements, focus on quality, ongoing service

- Access – Mountings, component positioning

- Upgradeability – Modularity, software choices, generation continuity

SPARE PARTS

Case study:

Flex

Global parts logistic program to support manufacturers.

Regularly harvest parts from returned devices to prolong lifetimes.

- Design – Enable self install, generation and range continuity

- Sourcing – Supply chain partnerships, decentralised production using additive manufacturing

- Inventory – Demand management, avoiding redundancy

- Distribution – Getting it right first time, assuring quality and continuity, managing the sustainability impacts

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EXTENDED CUSTOMER ENGAGEMENT

Case study:

Fairphone

Online diagnostic tool to enable self repair for common faults

- Warranties – Greater legal requirements, touch point with the consumer

- Return/refresh/redeployment – Cycling of products, more takeback, link to parts provision

- Aftercare – Avoiding returns, guiding maintenance and self repair

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INFORMATION SHARING

Case study:

HP

Partnership to provide iFixit with repair documentation, YouTube channel to provide further information.

- Documentation – Manuals and service guides, multiple dissemination routes, greater empowerment

- Tools – Diagnostics, optimisation and repairs

- Software – Extended support, firmware updates, avoiding obsolescence, greater access

PARTNERSHIPS AND COLLABORATION

Case study:

Apple

Providing parts, tools and training to authorized third party repair businesses worldwide

- Supply chain – Ensure continuity and availability, design standardisation and information sharing

- The sales channel – Knowledge sharing for demand forecasting, empower self repair

- Third party repair – Provide support and assure quality, manage reputation, enhance reach

CHALLENGING FACTORS

There are difficulties and barriers in moving towards an operating model with greater repair.

These are not excuses and will require innovation, cooperation and investment if they are to be overcome.

- Obsolescence – Technology progresses, businesses change

- Safety – Paramount, liabilities need to be managed

- Data security – Third parties must have robust solutions

- Capacity – Technology equipment is complex and significant repairs require specialist skills

- Inventory – Extended availability and range management challenges are material

- Intellectual property – Drives innovation

- Sustainability – Inventory redundancy, logistical footprints and aged technology all have impacts

THE OPPORTUNITY

When the barriers are overcome, there is opportunity to create more and more sustainable value, as part of a more circular economy.

- New business models – Leasing, device as a service, upgrade plans, parts and module sales.

- Building customer loyalty – More customer touch points, greater personal investment in the product.

- New product journeys – Take/make/dispose replaced by take/maintain/repair/upgrade/return.

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WHAT'S NEXT?   Performance ratings

EU Commission's Joint Research Centre (JRC) scoring system
- Assign grade on the ability to repair and upgrade certain products:
  - Laptops
  - Vacuums
  - Washing machines

Warranties and Free Service Periods could be included

Questions