

# How to obtain longer product lifetime: The role of the repair movement and national and international regulations

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# Overview

- The acceleration society – our present linear economy
- Extending product lifetime as environmental strategy
- Actors and strategies for prolonged product lifetime

# The acceleration society as theory about the linear economy *shaping our resource flows*

- Rosa (2014): An self-inforcing acceleration cycle:
- **Technological acceleration**
  - Acceleration of production and transportation processes
  - Acceleration of innovation
- **Acceleration of social change**
  - The shrinkage of the present (“nutidsindskrumpning”): Norms, values and knowledge lose value faster
- **Acceleration of the speed of life**
  - The (paradoxical) constant lack of time
- **Production and consumption co-shaped**



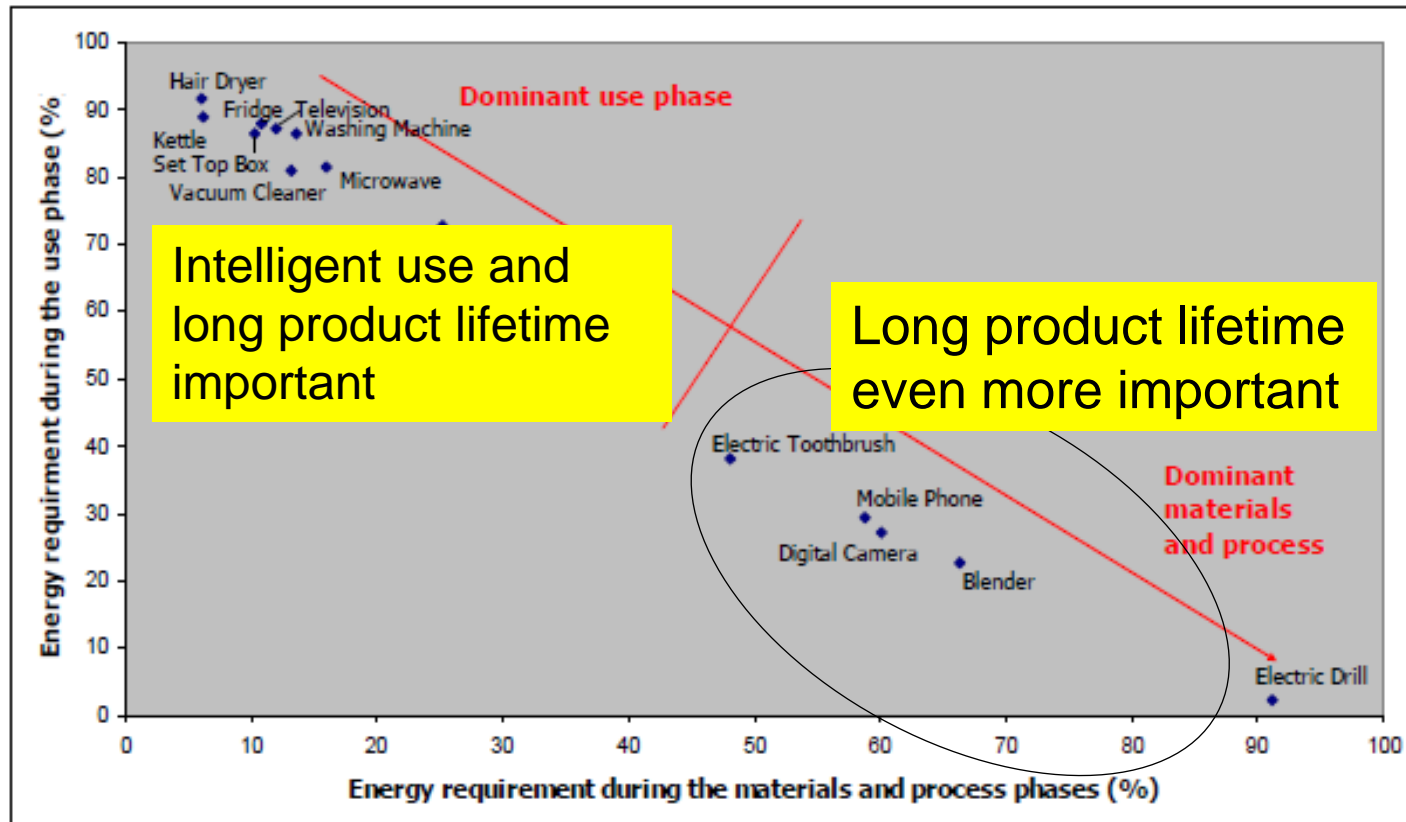
# Electronics: Much lower climate impact from prolonged product lifetime than product recycling

	Danish electronic waste 2019	Climate benefit from reuse (rounded)	Climate benefit from recycling (rounded)	Climate benefit from 100% reuse rather than recycling
Large equipment (washing machine, etc.)	33,550 tonnes	69,000 tonnes CO2-equivalent	40,000 tons CO2-equivalent	29,000 tons CO2-equivalent
Small equipment (vacuum cleaner etc.)	24,110 tonnes	58,000 tons CO2-equivalent	24,000 tons CO2-equivalent	34,000 tonnes CO2-equivalent
<b>Small IT and telecomm equipment (mobile phone, etc.)</b>	<b>8,544 tons</b>	<b>375,000 tons CO2-equivalent</b>	<b>8,000 tonnes CO2-equivalent</b>	<b>367,000 tons CO2-equivalent</b>
Screens (television etc.)	8,380 tons	83,000 tons CO2-equivalent	5,000 tons CO2-equivalent	78,000 tons CO2-equivalent
Light sources	363 tons	800 tons CO2-equivalent	150 tons CO2-equivalent	650 tons CO2-equivalent
Equipment for temperature exchange (refrigerators, etc.)	10,942 tons	15,000 tons CO2-equivalent	9,000 tonnes of CO2 equivalent	6,000 tons CO2-equivalent
Mixed electronics	8,082 tons	18,000 tons CO2-equivalent	9,000 tonnes CO2-equivalent	9,000 tonnes CO2-equivalent
<b>Total</b>	<b>93,300 tons</b>	<b>618,800 tons CO2-equivalent</b>	<b>95,150 tons CO2-equivalent</b>	<b>523,650 tons CO2-equivalent</b>

Ref.: Own calculations based on (COWI, 2021) and (Miljøstyrelsen, 2020)

# Energy for the production and use of a product (WRAP 2010)

(% of total lifecycle energy).



**Can the lifetime of electrical products be too long?**

No ... only very old and inefficient products should be discarded if they break

# Circular economy:

## Reduce resource consumption

- **Reducing the speed of resource consumption (“slowing down”):** **Waste as a lost resource**
  - Longer product life based on repair, correct use, upgrade etc
- **Reduction of the amount of resource consumption (“narrowing”)**
  - Less waste in production and use
  - Sharing/rental/reuse schemes mean => fewer products can satisfy the need through more efficient product utilization
- **Closing resource flows (“closing”):** **Waste as a resource**
  - Recycling of components and materials => dangerous substances and materials must be avoided and products must be easy to separate

# We need to understand why products lose value for citizens

- **Mechanical obsolescence:**
  - Component/material is inferior or completely broken
- **Functional obsolescence:**
  - Two parts of the product can no longer work together, for example hardware and software, due to updates
- **Psychological obsolescence:**
  - A product still works, but you are dissatisfied with it because of newer, smarter models that you want to get instead
- **Economic obsolescence:**
  - Product needs a repair, but it is not worth it due to high costs compared to buying a new model (or it is not possible to find spare parts, service manuals, etc.)

# Danish survey: Repair needs and experiences:

## **Electronics:** Defects, repairs and product age

### *Differences in repair scope and product age*

<i>Product group</i>	<i>Proportion of households with repair needs 2019-2020 (per year)</i>	<i>Proportion of defective products that were repaired</i>	<i>Proportion of repair needs when product is &lt; 2 years old</i>	<i>Proportion of repair needs when product is 2-5 years old</i>	<i>Proportion of repair needs when product is 5-10 years old</i>
<i>Mobile phone</i>	18%	45%	32%	56%	9%
<i>Computer</i>	10%	50%	16%	41%	32%
<i>TV set</i>	4%	14%	9%	17%	40%
<i>Fridge and freezer</i>	6%	24%	6%	18%	31%
<i>Washing machine and dryer</i>	7%	37%	9%	19%	35%
<i>Dishwasher</i>	5%	26%	7%	19%	36%
<i>Kitchen equipment</i>	11%	13%	22%	35%	27%
<i>Tool</i>	3%	14%	13%	23%	37%

Source: Jørgensen, 2021



# Danish survey: Repair needs and experiences:

## **Electronics: Defects, repairs and product age**

<i>Product group</i>	<i>Proportion of households with repair needs 2019-2020 (per year)</i>	<i>Proportion of defective products that were repaired</i>	<i>Proportion of repair needs when product is &lt; 2 years old</i>	<i>Proportion of repair needs when product is 2-5 years old</i>	<i>Proportion of repair needs when product is 5-10 years old</i>
<i>Mobile phone</i>	18%	45%	32%	56%	9%

**Why repaired:** 1) More expensive to buy new. 2) Would avoid creating waste

**Why not repaired:** 1) Relatively high repair costs. 2) Not possible to repair the product => **WASTE**

**Capital Region (per year) – extrapolation from survey (1005 people = households):**

100,000 abandoned mobile phone repairs

100,000 abandoned repairs of defective kitchen appliances

<i>Tool</i>	3%	14%	13%	23%	37%
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**Source:** Jørgensen, 2021

# Emerging topic: Social justice and product quality

- **Social justice:** Differences in repair practices according to education and income?
  - Distributional justice:** Equal distribution of benefits and ills?
- **Role of education:** The longer the education, the higher the repair rate for clothes and shoes
- **Role of income:** The higher the income, the more products are repaired
- **Role of income:** The lower the income, the more electronic products and furniture = ‘unrepairable products’
- => *Maybe more wealthy households can afford buying more expensive and repairable products => reinforcing inequalities => next version*

**EXTENDING PRODUCT LIFETIME:**

**WHO CAN DO WHAT?**

EU, STATE, MUNICIPALITY, CIVIL SOCIETY, BUSINESS

# The importance of business strategies extending product lifetime



What

Is it possible to disassemble and repair the product?

Can the handle be replaced?  
Is a new handle available?  
Price?



Standards for spare parts and consumables?



# EU: Delegated Act for **Eco-design** 2024:

## New types of product requirements

- Durability, reusability, upgradability and repairability
- Presence of chemical substances: They may limit recycling
- Energy and resource efficiency; recycled content; CO2 and environmental footprint
- *Specific product requirements adopted as EU delegated acts*
- *From 2021: Availability of spare parts for some white goods and electronic screens for some years. Professionals versus consumers*
- *From 2025: Mobile phones + tablets:*
  - *Robustness (1 meter fall), battery lifetime (1000 charging cycles), software updates (5 years), access to spare parts (7 years), visible repair index for repairability*
- **NO REQUIREMENTS FOR PRICE OF SPARE PARTS**

# EU: New common rules for **repair** of household products 2024

- **NO Right-to-repair => Right-to-get-to-know-what-repair-costs**
- Need to be implemented by each EU member state in 2 years
- Free choice for consumer and manufacturer: New or repair? One year additional warranty if the product is repaired
- After 2-year warranty: Only covering product groups with EU ecodesign requirements: 11 types of electronic products covered
- Member states should also implement a measure encouraging repair: Reduced VAT, etc.

Council of the EU | Press release | 30 May 2024 10:57

## **Circular economy: Council gives final approval to right-to-repair directive**

The Council has today adopted a directive promoting the repair of broken or defective goods, also known as the right-to-repair (or R2R) directive. This legislation will make it easier for consumers to seek repair instead of replacement and repair services will become more accessible, transparent and attractive. The adoption of the directive is the last step in the legislative decision-making process.

### **Extract from common guidelines:**

Since 2006: EU Member States can reduce VAT for repair of household goods:

where applicable, in accordance with Annex III to Council Directive 2006/112/EC<sup>(20)</sup>, Member States can, as appropriate, opt to provide for a reduced rate of value added tax regarding the supply of repairing services of household appliances, shoes and leather goods, clothing and household linen, including mending and alteration. In this context, the Commission could consider introducing a proposal, if appropriate, for the amendment of Annex III to that Directive. Those measures could be taken at a national, regional or local level. Member States should notify to the Commission one or more measures taken promoting repair, in order to facilitate the exchange of best practices. The Commission should make information on such measures publicly available.

# Four national and regional repair schemes: Making repair more affordable

Aspect\Country	France	Sweden	Thuringia	Austria
How is the compensation structured?	Deduction in price and corresponding subsidy for the repair company	Deduction in price and corresponding subsidy for the repair company  Reduced VAT	Reimbursement to the citizen of part of the costs for repairs	Reimbursement to the citizen of part of the costs for repairs
How much compensation can be obtained?	The entire repair cost up to a maximum amount set for product groups based on an estimate of the expected repair cost	50% reduction in wage costs for repairs in the home as part of a scheme for tax deductions for cleaning etc. in the home  Approx. 50% reduction in VAT for repairs at companies outside the home	50% of the entire cost, max. 100 Euro  One annual refund	50% of the entire cost, max. 200 Euro
How is the compensation financed?	Pool with funds from tax on manufacturers and retailers	State budget	State budget	EU recovery funds
Which products can be repaired?	Electrical and electronic products  Clothing and footwear	Electrical and electronic products, leather goods, clothing , linen, footwear, bicycles	Electrical and electronic products within a number of product groups.  Not e-bikes	Electrical and electronic products within a number of product groups
Who can repair and how are the possibilities for repair ensured?	Repair companies must register and be approved	Repair companies must be approved by the tax authority and pay VAT and employer's tax	Repair companies must register and be approved	Repair companies must register and be approved

Ref.: Jørgensen, 2023

# Experiences from Thuringia and Austria

Thuringia 2022

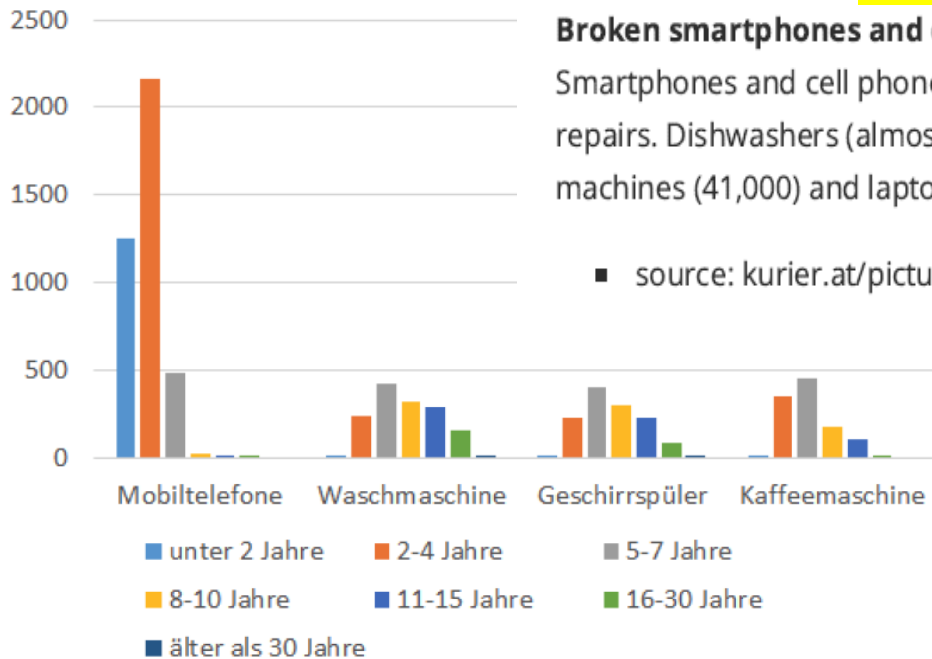
## Alter bei Reparatur nach Gerätetyp

Austria2022

### Broken smartphones and cell phones

Smartphones and cell phones have been repaired most frequently, with over 225,000 repairs. Dishwashers (almost 45,000), washing machines (around 42,000), coffee machines (41,000) and laptops (23,000) have also been repaired frequently.

■ source: kurier.at/picture: Bild von [Michal Jarmoluk](#) auf [Pixabay](#)





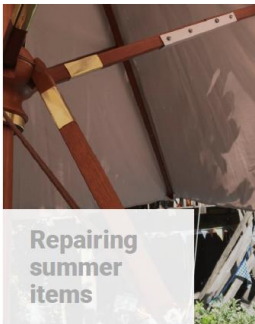
# Repair cafe: Volunteers repair broken products - alternative to expensive or impossible commercial repair



## Tips & tricks



Repairing televisions



Repairing summer items



Repairing electric heaters

Ref: Repair Café Danmark

Ref: <https://www.repaircafe.org/>





# REPAIR CAFE DK

- <https://repaircafedanmark.dk/>. Part of <https://repair.eu/>
- Approx. 120 repair cafes in Denmark: Larger and smaller cities, villages
- Data collection => national and international statistics
- Climate calculator for repair cafes and citizens on the website

# Danish repair cafes: Make repairability of brands public

Brand	Number of request for repair	Successrate
Ikea	11	100
Epiq	21	94
Cook&Baker	10	90
Elna	51	89
Bernina	46	89
Major	41	88
Babyliss	19	84
Singer	141	82
Ballerup	17	82
Volta	10	80
Eva	29	79
Brother	27	79
Husqvarna	109	78

Ref.: <https://repaircafedanmark.dk/>

# The European repair movement: >200 organisations



**REPAIR DAY**  
2024

The state of EU right to repair: missing pieces to a thriving repair economy in Europe

**WEBINAR**

Tuesday, 15th October 2024  
13:30 to 15:00 Brussels time

Opening by  
Commissioner  
Didier Reynders



Latest findings from the  
OPEN REPAIR ALLIANCE  
on repair data

What is still missing  
from EU policy on  
right to repair?

## The Current State of Right to Repair in the EU

Brussels, November 2024

Most of the electric and electronic products in our lives, such as household and kitchen appliances, small electronics, sports and personal hygiene products, tools and toys, and many more, aren't covered by any repair legislation.<sup>23</sup> A

**Out of 200.000 repairs at community events, only 4% would have been covered by current Ecodesign regulations.**

recently published report by the Open Repair Alliance<sup>24</sup> showed that out of over 200.000 documented repairs conducted at community repair events in recent years, only 4 % would have been covered if all current regulations had already been in place at the time of repair.

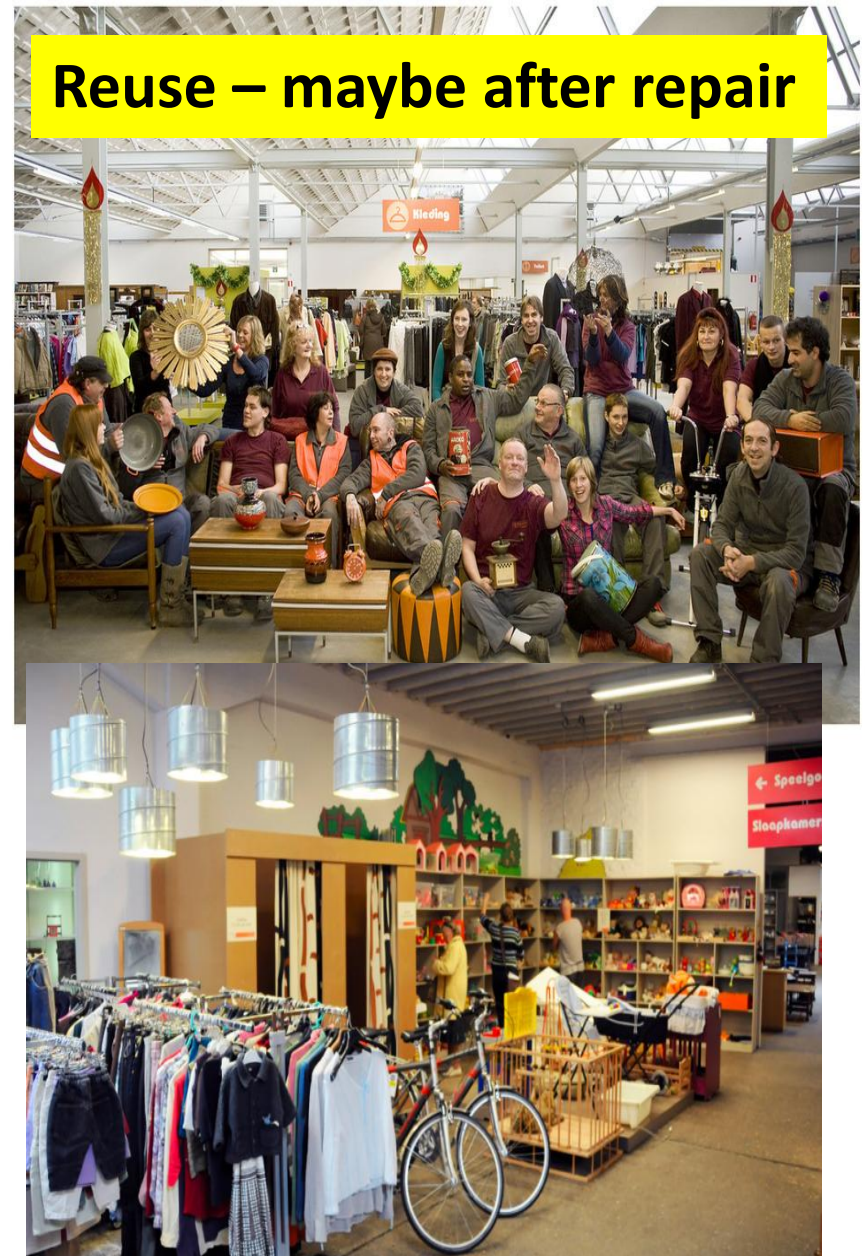


<https://repair.eu/>



# Socio-economic business: **De Kringwinkel in Flanders**

- A lot of useful products discarded => values lost
- Socio-economic non-profit **second-hand** and **repair** company
- Employing citizens at the edge of the labour market
- Enabled by governmental regulation in Flanders
- > 100 shops
- 5000 employees
- 4 - 5 million customers annually



Ref.: <https://www.kringwinkel.be/>