

# The European Commission's science and knowledge service

## Joint Research Centre



# **A Scoring System on Reparability to support Ecodesign in a Circular Economy**

**Joint Research Centre**

**Directorate B – Growth and Innovation - Circular Economy & Industrial Leadership**

**Brussels, November 8th, 2018**

# Agenda of the day

<b>Schedule</b>	<b>Topic</b>
09:00 – 09:15	Registration and welcome Round table and objectives of the meeting (JRC)
09:15 – 9:45	Part I: Policy context (ENV)
9:45 – 11:00	Part II: Towards a Scoring System on Reparability: key elements of the generic scoring system (JRC)
11:00 – 11:15	Coffee break
11:15 – 13:00	Part III: Towards a Scoring System on Reparability: Product-specific aspects for laptops (JRC)
13:00 – 13:45	Lunch break
13:45 – 15:30	Part IV: Towards a Scoring System on Reparability: Product-specific aspects for vacuum cleaners (JRC)
15:30 – 15:45	Coffee break
15:45 – 17:30	Part V: Towards a Scoring System on Reparability: Product-specific aspects for washing machines (JRC)
17:30 – 18:00	AOB, wrap-up, next steps and conclusion (JRC)

# Objectives of the meeting

## **Development of a scoring system on reparability:**

1. Update on context
2. Revised general approach
3. Product-specific approaches

# Process

- Apr 2018:
  - Official launch of the study and webpage creation
  - TWG of experts created (above 140 persons on June 2018)
- Apr-May 2018: questionnaire (25+2 replies)
- Jun 2018: 1st report and 1st meeting in Seville (general approach)
- Oct 2018: 2<sup>nd</sup> draft report (on public consultation until 16 Nov 2018)
- **Nov 2018: 2<sup>nd</sup> meeting in Brussels (revised general approach + specific PGs)**
- End of the year: final report

Project's website:

<http://susproc.jrc.ec.europa.eu/ScoringSystemOnReparability/index.html>

# Outline of the presentation

Part I: Policy context (ENV)

Part II: Towards a Scoring System on Reparability: key elements of the generic scoring system (JRC)

Part III: Towards a Scoring System on Reparability: Product-specific aspects for laptops (JRC)

Part IV: Towards a Scoring System on Reparability: Product-specific aspects for vacuum cleaners (JRC)

Part V: Towards a Scoring System on Reparability: Product-specific aspects for washing machines (JRC)

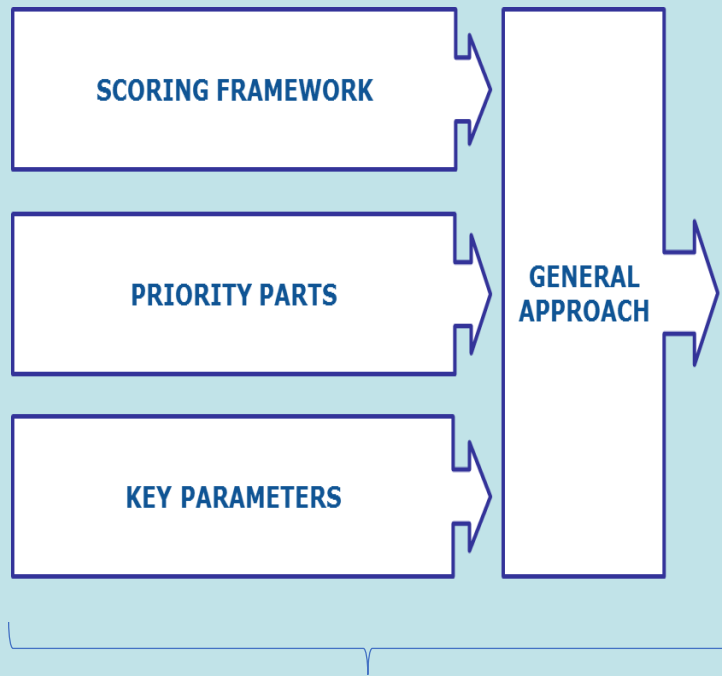
# Part I: Policy context

DG ENV

# Part II: Key elements of the generic scoring system



# Approach

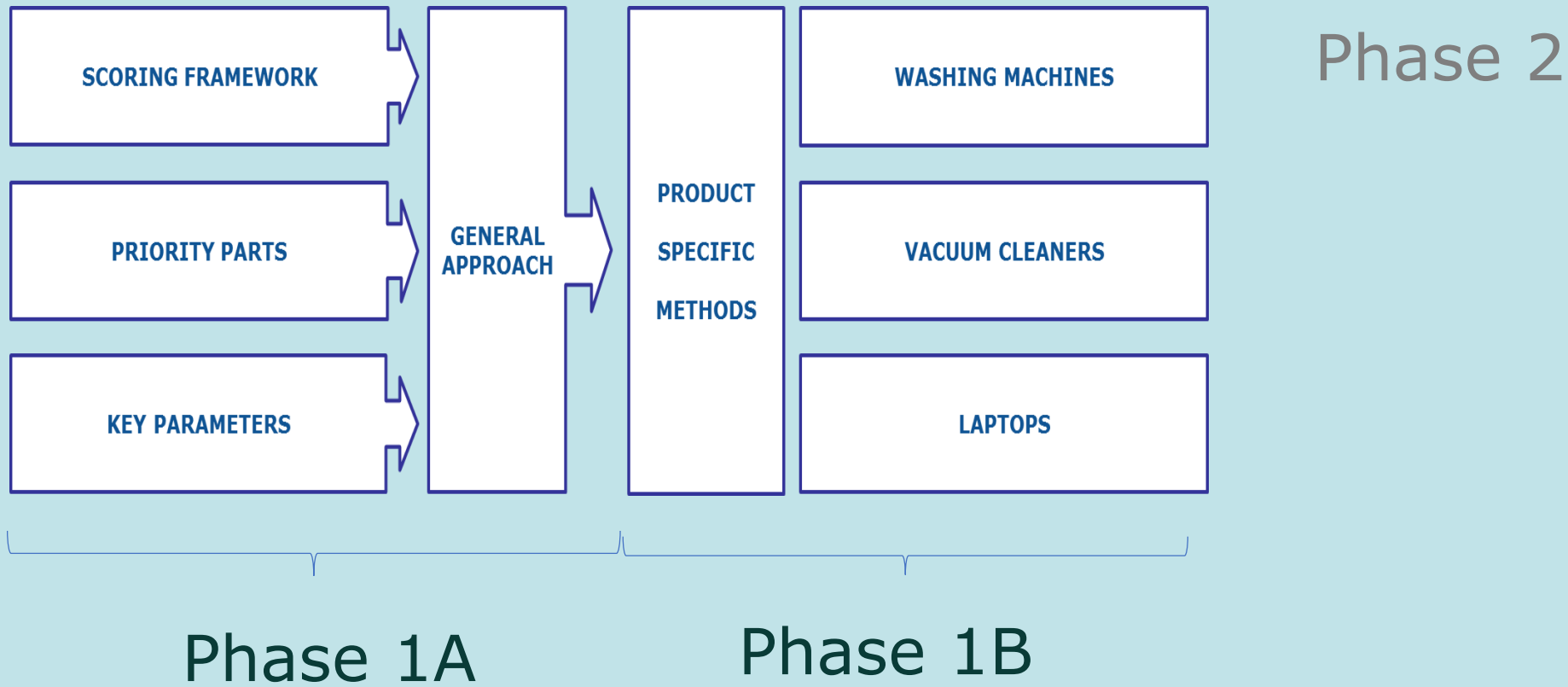


Phase 1A

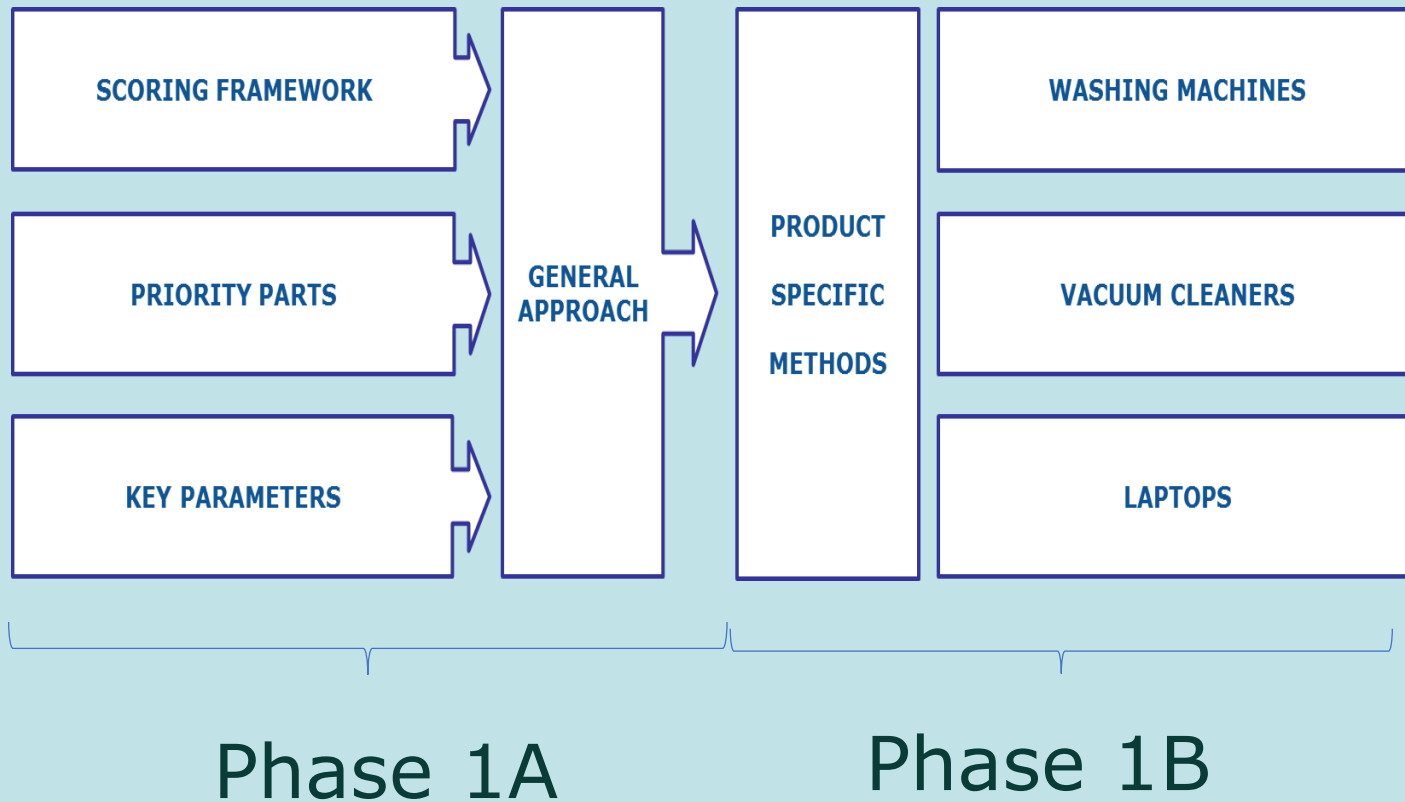
Phase 1B

Phase 2

# Approach



# Approach



Phase 2: ENV's survey to test consumer understanding and determine best layout for presenting a score

# Overview of tools and studies

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## Gütezeichen für langlebige, reparaturfreundlich konstruierte elektrische und elektronische Geräte

ONR 192102: 2014 10 01

### Zusammenfassung:

Mit dieser ONR werden Kriterien für ein Gütezeichen für langlebige, reparaturfreundlich konstruierte elektrische und elektronische Geräte (Weiß- und Braunware) festgelegt.

**ADEME**



Agence de l'Environnement  
et de la Maîtrise de l'Energie

## iFIXIT scoring



**KU LEUVEN**



**vito**  
vision on technology



Ellen Bracquené, Jef Peeters,  
Joost Duflou & Wim Dewulf  
KU Leuven

Yoko Dams & Jan Brusselselaers  
VITO

## Design For Repairability

A Tool for Product Designers

A simple way to extend product life is to improve its repairability. How well are consumers able to fix your product themselves?

\* this tool is designed to assess Brown Goods.



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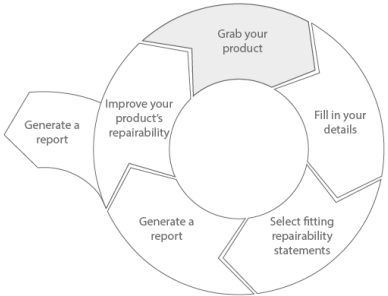
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## Study for a method to assess the ease of disassembly of electrical and electronic equipment

Method development and application in a flat panel display case study

Paul Vanegas, Jef Peeters, Dirk Catrysse,  
Joost R. Duflou (KU Leuven)  
Paolo Tecchio, Fabrice Mathieux, Fulvio Acidante (IRCC)

2016, May



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And more...

ADEME



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iFIXIT scoring



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About

Reference	prEN 45554
Title	General methods for the assessment of the ability to repair, reuse and upgrade energy related products
Work Item Number	65685
Abstract/Scope	This standard will fulfil requirements in Standardisation request M/543 by defining parameters and methods relevant for assessing the ability to repair and reuse products; the ability to upgrade products, excluding remanufacturing; the ability to access or remove certain components, consumables or assemblies from products to facilitate repair, reuse or upgrade and lastly by defining reusability indexes or criteria.

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# Priority parts identification

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- Needed to **reduce the complexity** of the assessment
- Components, assemblies, or any other hardware or software constituents which are more important for repair/upgrade:
  1. **Functionality** (primary and secondary functions)
  2. **Likelihood of failure/upgrade** (most typical replacements covered)
- To be evaluated at **product group level**, based on quantitative information and **experts'** judgement

# Key parameters

# Key parameters

Focus on “**technical**” aspects:

1. Attributes, related to the design and sale of products, which can be **influenced by choices of manufacturers**;
- 2. Measurable and/or verifiable** objectively at the point of sale through repeatable and reproducible methods;
3. Relatively homogeneous at **EU level** (i.e. not influenced directly by regional socio-economic conditions over time).

**Economic aspects** covered **indirectly**

1. Disassembly sequence	9. Availability and ease of installation of software and firmware
2. Type, number and visibility of fastenings and connectors	10. Availability of information (e.g. repair and/or upgrade manuals, exploded diagrams)
3. Tools needed (availability, complexity, cost)	11. Guarantee issues
4. Ease of access to parts	12. Return models
5. Working environment (e.g. home, professional repair site, manufacturing plant)	13. Data transfer and deletion
6. Level of skills required to undertake the operations	14. Safety issues
7. Provision of diagnostic support and interfaces	15. Availability of OEM qualified service engineers
8. Availability of spare parts	16. Ease of restoring to full working condition after repair

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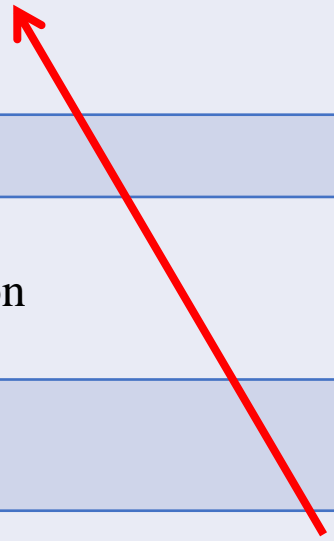
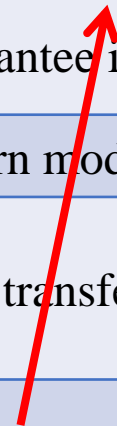
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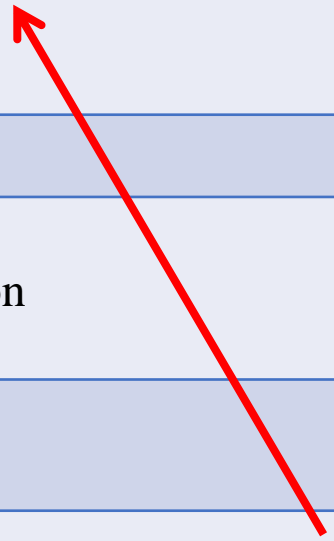
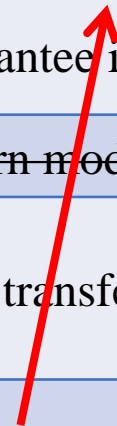
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## Design (= disassemblability)

## RRU process

1. Disassembly depth/sequence	5. Diagnosis support and interfaces
2. Fasteners	6 Type and availability of information
3. Tools	7. Spare parts
4. Disassembly time	8. Software and firmware
	9. Skills
	10. password reset and restoration of factory settings
	11. Data transfer and deletion
	12. Guarantee issues

**To be tailored** to specific product group(s) and related priority part(s) and not biased towards particular repair business models

# Assessment framework

# Assessment framework

## Key aspects:

- Applicability for a broad scope of repair/upgrade strategies
- Comprehensiveness and representativeness for a specific product
- Objective classification/rating criteria for single parameters in relation to a set of priority parts + appropriate A&V procedure
- Limiting inherent elements of value choice and trade-offs
- An aggregation mechanism (incl. weighting) to combine scores
- Understandability and transparency

**Ref. to prEN 45554**



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### Hybrid system:

- 1. Minimum (pass/fail) requirements = entry level**
- 2. Rated parameters = scoring (and aggregation)**

# Minimum requirements and rated parameters

Parameter	Min. req.	Rating
1) Disassembly depth/sequence	X	X
2) Fasteners		X
3) Tools	X	X
4) Disassembly time		X
5) Diagnosis support and interfaces		X
6) Type and availability of information	X	X
7) Spare parts	X	X
8) Software and firmware	X	X
9) Skills		X
10) Password reset and restoration of factory settings		X
11) Data transfer and deletion		X
12) Guarantee issues		X

- **Min. requirements = necessary** for repair/upgrade
- **0-1 points** for all relevant parameters
- **0 = repair hindered**
- **Reparability-durability** trade-off
- A&V at the **point of sale**

# Aggregation

RRU indices for product

$$\text{Disassemblability Index } (I_D) = \sum_1^4 S_i \cdot W_i$$

$$\text{RRU Process Index } (I_P) = \sum_5^{12} S_i \cdot W_i$$

$$\text{Overall RRU Index } (I_{RRU}) = (I_D + I_P) / 2$$

	Priority Part 1	Priority Part 2	...	Priority Part N	Parameter Score	Parameter Weight
Parameter #1	S1,1	S1,2	...	S1,N	$S1 = \text{Min} [S1,1; \dots; S1,N]$	W1
Parameter #2	S2,1	S2,2	...	S2,N	$S2 = \text{Min} [S2,1; \dots; S2,N]$	W2
Parameter #3	S3,1	S3,2	...	S3,N	$S3 = \text{Min} [S3,1; \dots; S3,N]$	W3
Parameter #4	S4,1	S4,2	...	S4,N	$S4 = \text{Min} [S4,1; \dots; S4,N]$	W4
Parameter #5	S5,1	S5,2	...	S5,N	$S5 = \text{Min} [S5,1; \dots; S5,N]$	W5
Parameter #6	S6,1	S6,2	...	S6,N	$S6 = \text{Min} [S6,1; \dots; S6,N]$	W6
Parameter #7	S7,1	S7,2	...	S7,N	$S7 = \text{Min} [S7,1; \dots; S7,N]$	W7
Parameter #8	S8	S8	...	S8	S8	W8
Parameter #9	S9,1	S9,2	...	S9,N	$S9 = \text{Min} [S9,1; \dots; S9,N]$	W9
Parameter #10	S10	S10,2	...	S10,N	$S10 = \text{Min} [S10,1; \dots; S10,N]$	W10
Parameter #11	S11	S11	...	S11	S11	W11
Parameter #12	S12,1	S12,2	...	S12,N	$S12 = \text{Min} [S12,1; \dots; S12,N]$	W12

Indices for parts  $I_{RRU,1} = \sum_1^{12} S_i \cdot W_i$   $I_{RRU,2} = \sum_1^{12} S_i \cdot W_i$   $I_{RRU,3} = \sum_1^{12} S_i \cdot W_i$

Figure 3: Aggregation of the scores assigned to the parameters assessed for a generic product

# Aggregation

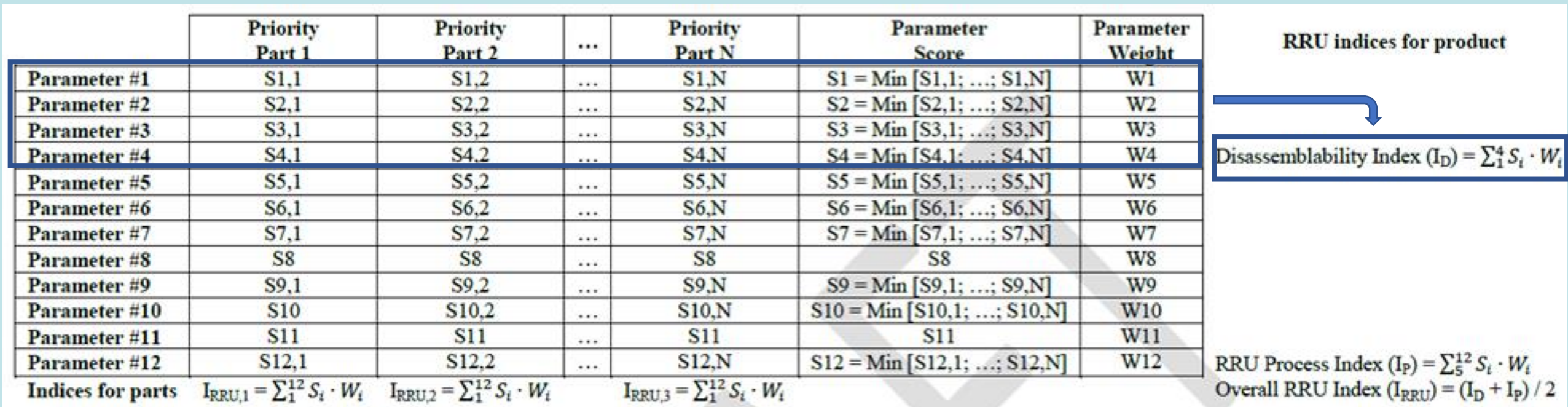


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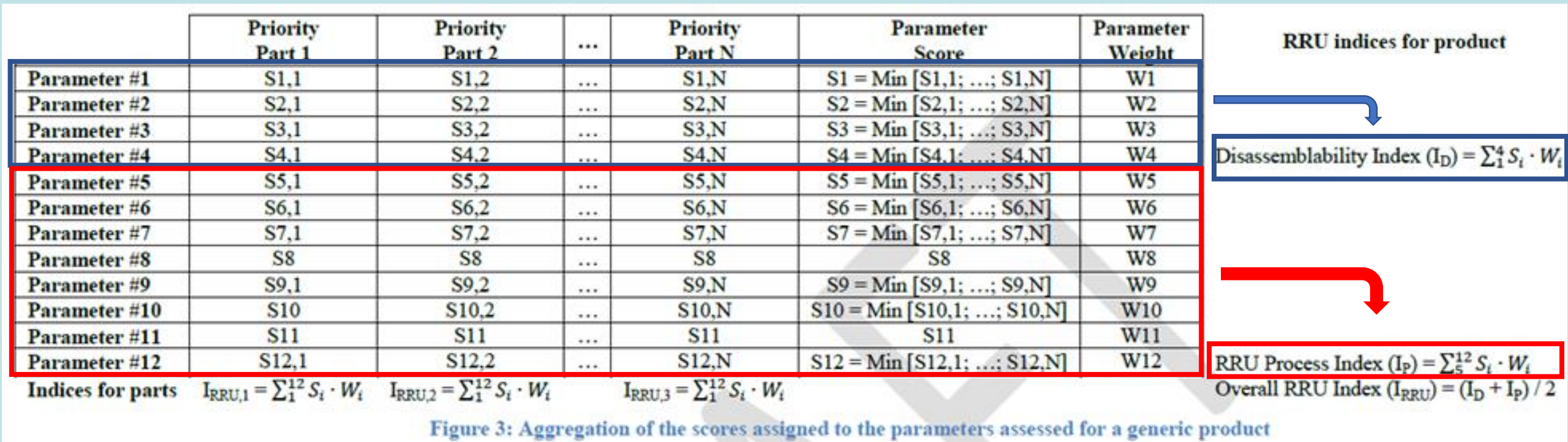


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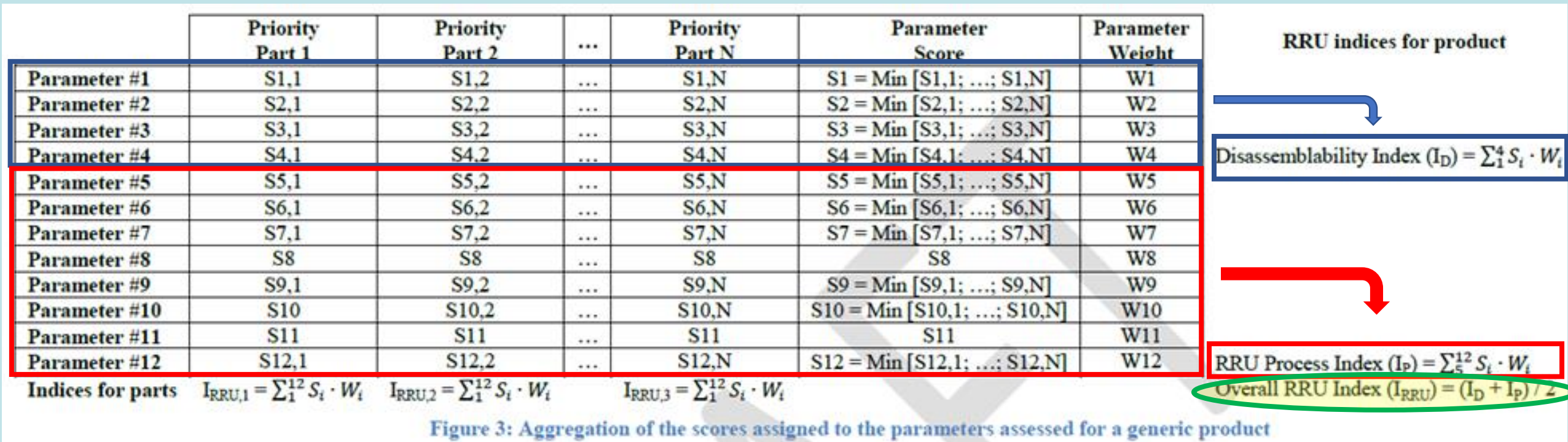


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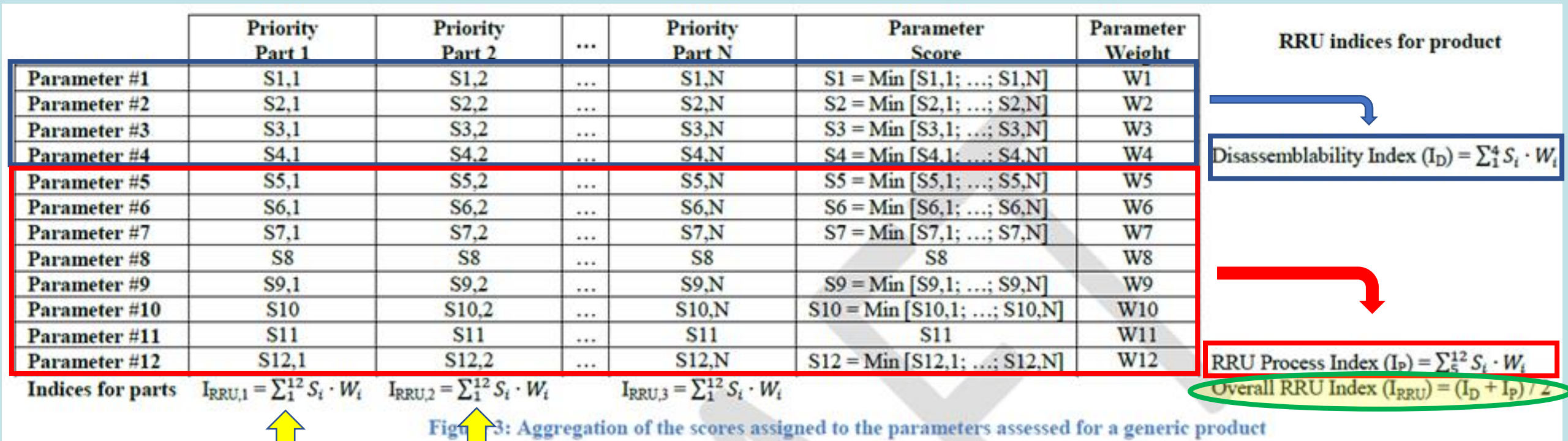


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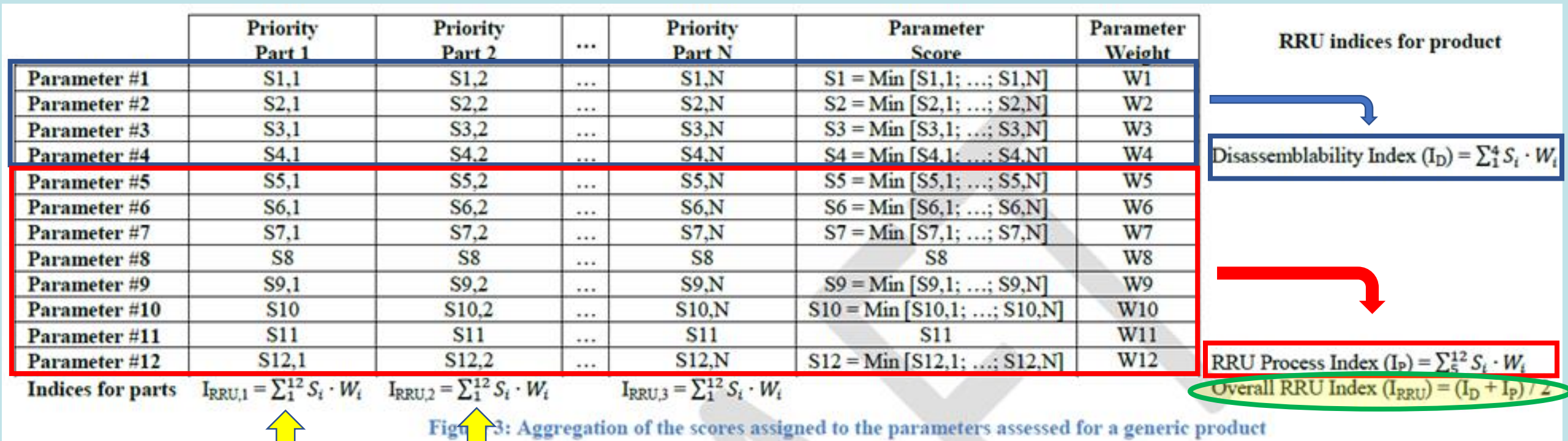


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**To be refined and tailored** to specific product group(s)



# Reporting

Options:

~~1. Binary (pass/fail)~~



~~2. Traffic lights~~



**3. 0-5 stars (or spanners, wrenches, ...)**



4. Alphabetic (A-to-X)

**5. Number (e.g. 0-to-1; 0-to-10; 0-to-100)**

Consumers' understanding **to be tested in a survey**

Background info for **transparency**

# Questions and comments

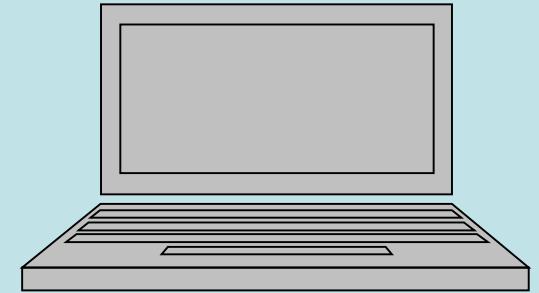
Main points of discussion:

- Key parameters selected
- Design of the A&V framework: min requirements + rating
- Weighting and aggregation in indices
- ...

# Part III: Product-specific aspects for laptops

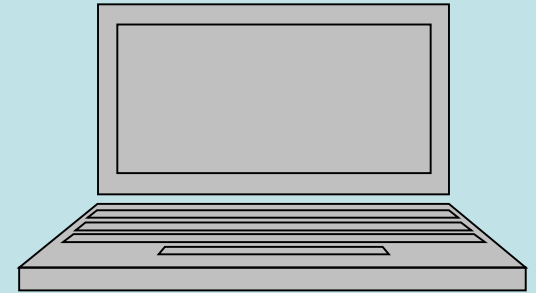
## Product description

- 'Laptop Computers' also referred as 'Notebook Computer' means a computer designed specifically for portability and to be operated for extended periods of time both with and without a direct connection to an AC mains power source. COMMISSION DECISION (EU) 2016/1371 (EU Ecolabel) use the term notebook computers.



# Product characteristics

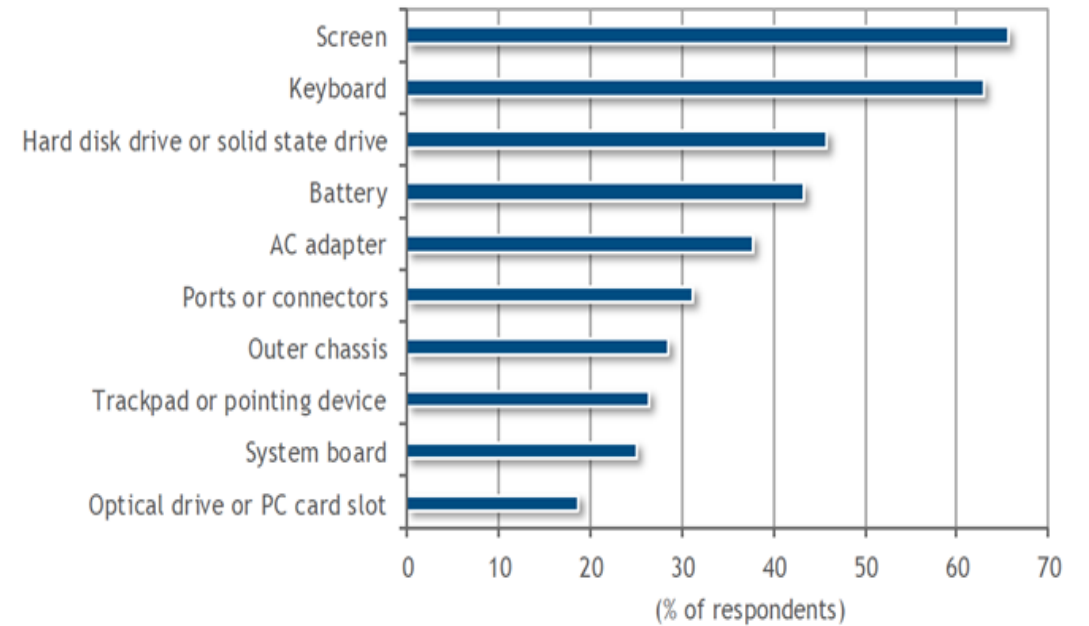
- Electronic product: fast innovation cycle
- Portable device: easy displacement to a repair shop
- Portable device: a relevant share of damages from accident (e.g. laptop dropped while being carried)
- Software related aspects play an important role in the repair process (e.g. updates / data erasure / factory reset)



# Background information

- (JRC 2018) Analysis of material efficiency aspects of personal computers product group
- IDC 2016: White Paper Pay Now, Save Later: The Business Case for Rugged Devices
- Interview with stakeholders
- Typical lifetimes: ~4-7 years (avg. 5 years)

Q. Which of the following components of your organization's notebook PCs have suffered damage or breakage?



n = 636

Source: IDC's *Rugged Device Survey*, 2016

# Priority parts list

Priority Part	Relevance for repair	Relevance for upgrade
Screen	1, 2, 3, 4	
Keyboards	1, 2, 3, 4	
Storage (SDD)	1, 2, 3, 4	1, 3
Battery	1, 2, 3, 4	
External Power Supply	1, 2, 3, 4	
Ports / Connectors	1, 2, 3, 4	
Covers	1, 2, 3, 4	
Trackpad	1, 2, 3, 4	
Mother board	1, 2, 3, 4	
Optical Drive	1, 2	
Fan and cooling fins	1, 3, 4	
Random Access Memory (RAM)		1, 3
Graphic Processing Unit		3
Software and Firmware		1, 3

1\* JRC 2018

2\* IDC 2016

3\* Stakeholder's opinion

4\* Main functionality

- **battery** could be not relevant under specific conditions:
  - Number of cycles (e.g. 1000)
  - Capacity retention (e.g. 60% or 80%)

# Key parameters

- 1) Disassembly depth/sequence
- 2) Fasteners
- 3) Tools
- 4) Disassembly time

Design for disassembly

# Key parameters

1) Disassembly depth/sequence

2) Fasteners

3) Tools

~~4) Disassembly time~~

Design for disassembly



# Key parameters

1) Disassembly depth/sequence

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Design for disassembly

~~4) Disassembly time~~

5) Diagnosis support and interfaces

6) Type and availability of information

7) Spare parts

8) Software and firmware

9) Skills

10) Password reset and restoration of factory settings

11) Data transfer and deletion

12) Guarantee

Repair / upgrade process

# Key parameters

1) Disassembly depth/sequence

2) Fasteners

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Design for disassembly

~~4) Disassembly time~~

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**6) Type and availability of information**

**7) Spare parts**

**8) Software and firmware**

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Repair / upgrade process

# Overview 1/2

Parameter	Min. requirement	Rating classes	Ass / Ver	Weight
1) Disassembly depth/sequence	Info	Number of steps	A: Description V: Disassembly Test	Normal = 1
2) Fasteners and connectors	None	Reversibility / reusability		
3) Tools	Disassembly with existing tools	Common / proprietary tools		
5) Diagnosis support and interfaces	none	Level of support	A: Description V: Check of actual availability	Normal = 1
6) Type and availability of information	Identification / instructions / troubleshooting chart / disassembly sequence / upgrade info / spare parts / guarantee info	Target group: - Public - Independent repairers - Authorized repairers	A: Description V: Check of actual availability	High = 2

# Overview 2/2

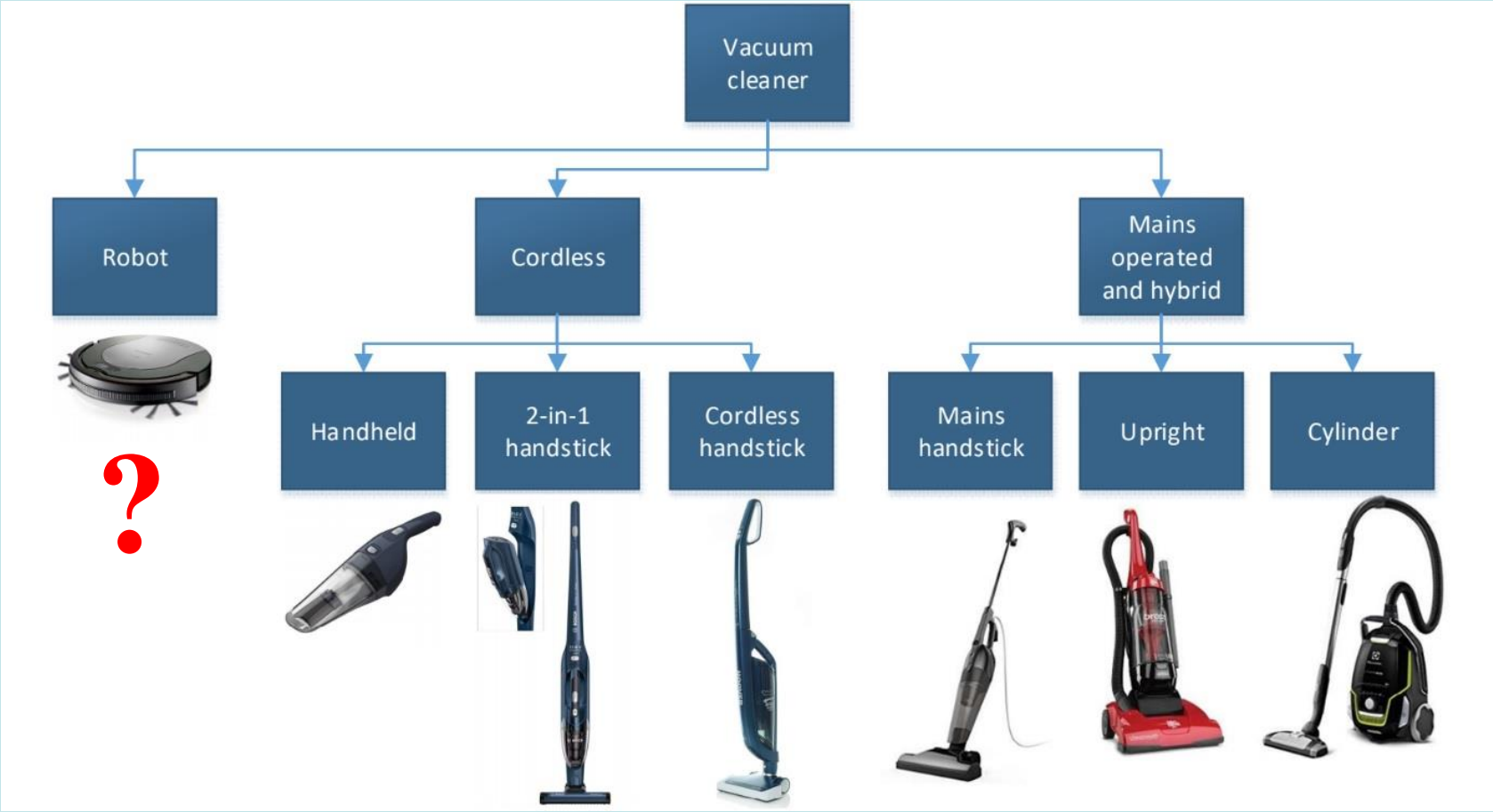
Parameter	Min. requirement	Rating classes	Ass / Ver	Weight
7) Spare parts	<ul style="list-style-type: none"> <li>4 years</li> <li>2 days delivery</li> <li>price available</li> </ul>	<ul style="list-style-type: none"> <li>Period of time (4/7 yrs)</li> <li>Target Group</li> <li>Interface</li> </ul>	A: Declaration V: Market availability	High = 2
8) Software and firmware	<ul style="list-style-type: none"> <li>4 years updates</li> <li>open source compatible</li> <li>impact of the updates</li> </ul>	Period of time	A: Declaration V: Market availability	High = 2
9) Skills	none	Level of skills needed	A: Declaration V: Check information	Normal = 1
10) Password reset and restoration of factory settings	none	Integrated / external / service	A: Declaration V: Check availability	Normal = 1
11) Data transfer and deletion	none	Built-in or On request	A: Declaration V: Check availability	Normal = 1
12) Guarantee	none	availability of a "commercial guarantee / extended warranty"	A: Declaration V: Check availability	Normal = 1

# Questions and comments

Main points of discussion for LAPTOPS:

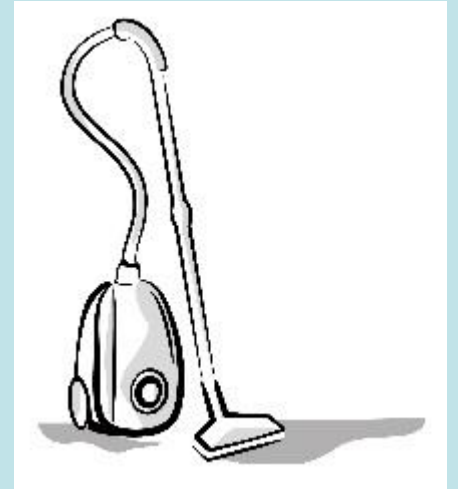
- Scope granularity
- List of priority parts
- Selection of key parameters
- A&V framework (min requirements, rating, weighting and aggregation)
- Spare parts availability and software/firmware update (e.g. for at least 4 years, compatibility with free operating systems, reversibility)
- ...

# Part IV: Product-specific aspects for vacuum cleaners



# Product characteristics

- Existing durability requirements on the motor and hose under Ecodesign
- Good maintenance of the product plays an important role
- Easy displacement to a repair shop
- Upgrade also with physical parts (e.g. nozzle)
- Software related aspects play role in the repair process of robot type (e.g. updates)



# Background information

- (KU Leuven 2018) Repairability criteria for energy related products - Study in the BeNeLux context to evaluate the options to extend the product life time – Final Report
- (Viegand Maagoe 2018) Review study of ecodesign and energy labelling for vacuum cleaners
- Feedback from stakeholders
- Typical lifetime: 8 years



# Priority parts list

Priority Part	Relevance for repair	Relevance for upgrade
Hose**	1 , 2	
Power cable	1	
Brushes/Nozzles	1 , 2	2
Switches/Electronic Board	1	
Wheels	1	
Motor and motor brushes**	2	
Belt broken (drive-belt rotating brush)	2	
Filters	2	
Software/Firmware		2

1\* Test Achates

2\* Stakeholder's feedback

\*\* The implementation of durability requirements according to the Commission Regulation 666/2013 should mitigate the risk for premature failures of this priority part – reparability/upgradability as complementary

# Key parameters

1) Disassembly depth/sequence

2) Fasteners

3) Tools

~~4) Disassembly time~~

Design for disassembly

# Key parameters

1) Disassembly depth/sequence

2) Fasteners

3) Tools

~~4) Disassembly time~~

5) Diagnosis support and interfaces

6) Type and availability of information

7) Spare parts

8) Software and firmware

9) Skills

~~10) Password reset and restoration of factory settings~~

~~11) Data transfer and deletion~~

12) Guarantee

Design for disassembly

Repair / upgrade process

# Key parameters

1) **Disassembly depth/sequence**

2) **Fasteners**

3) **Tools**

~~4) Disassembly time~~

5) Diagnosis support and interfaces

6) **Type and availability of information**

7) **Spare parts**

8) Software and firmware

9) Skills

~~10) Password reset and restoration of factory settings~~

~~11) Data transfer and deletion~~

12) Guarantee

Design for disassembly

Repair / upgrade process

# Overview 1/2

Parameter	Min. requirement	Rating classes	Ass / Ver	Weight
1) Disassembly depth/sequence	Info	Number of steps	A: Description V: Disassembly Test	High = 2
2) Fasteners and connectors	None	Reversibility / reusability		
3) Tools	Disassembly with existing tools	Common / proprietary tools		
5) Diagnosis support and interfaces	None	Level of support	A: Description V: Check of actual availability	Normal = 1
6) Type and availability of information	Identification / maintenance / troubleshooting chart / disassembly sequence / upgrade info / spare parts / guarantee info	Target group: - Public - Independent repairers - Authorized repairers	A: Description V: Check of actual availability	High = 2

# Overview 2/2

Parameter	Min. requirement	Rating classes	Ass / Ver	Weight
7) Spare parts	<ul style="list-style-type: none"> <li>5 years</li> <li>2 days delivery</li> <li>Price available</li> </ul>	<ul style="list-style-type: none"> <li>Period of time &gt; 8 yrs = 1 pt 5-8 yrs = 0.5 pt</li> <li>Target Group</li> <li>Interface</li> </ul>	A: Declaration V: Market availability	High = 2
8) Software and firmware [only for robot type]	<ul style="list-style-type: none"> <li>5 years updates</li> </ul>	Period of time and fee to access > 8 yr and free = 1 pt 5-8 yr and free = 0.66 pt = 5 yr = 0.33 pt	A: Declaration V: Market availability	Normal = 1
9) Skills	None	Level of skills needed	A: Declaration V: Check information	Normal = 1
12) Guarantee	None	"commercial guarantee/ extended warranty" > 8 yr = 1 pt 5-8 yr = 0.66 pt < 5 yr = 0.33 pt	A: Declaration V: Check availability	Normal = 1

# Questions and comments

Main points of discussion for VC:

- Scope granularity: should VC be analyzed as 1 product group or there is a need to analyze sub-categories of product?
- List of priority parts
- Selection of key parameters
- A&V framework (min requirements, rating, weighting and aggregation)
- Spare parts availability and software/firmware update (e.g. for at least 5 years)
- ....

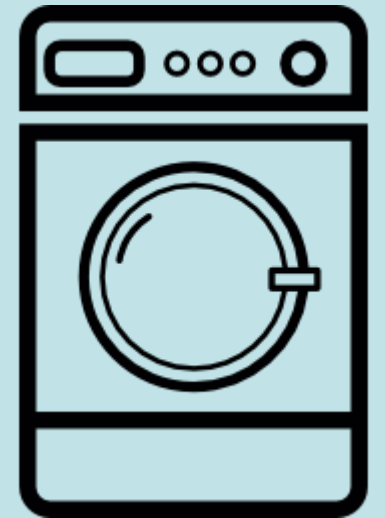
# Part V: Product-specific aspects for washing machine

*Washing Machine: appliance for cleaning and rinsing of textiles using water which may also have a means of extracting excess water from the textiles.*

- *Vertical axis washing machine*
- *Horizontal axis washing machine*

Resource efficiency draft eco-design requirements:

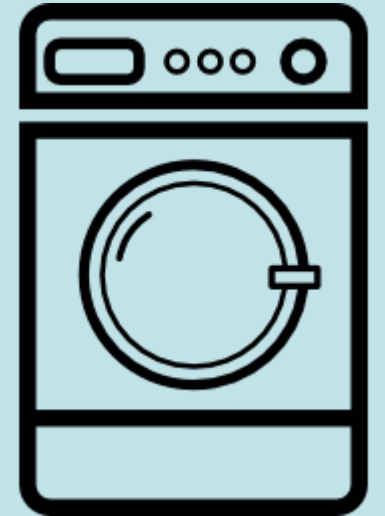
- Spare part availability ( $\geq 7$  years)
- Delivery of spare parts ( $\leq 3$  weeks)
- Common available tools
- Access to the repair and maintenance information





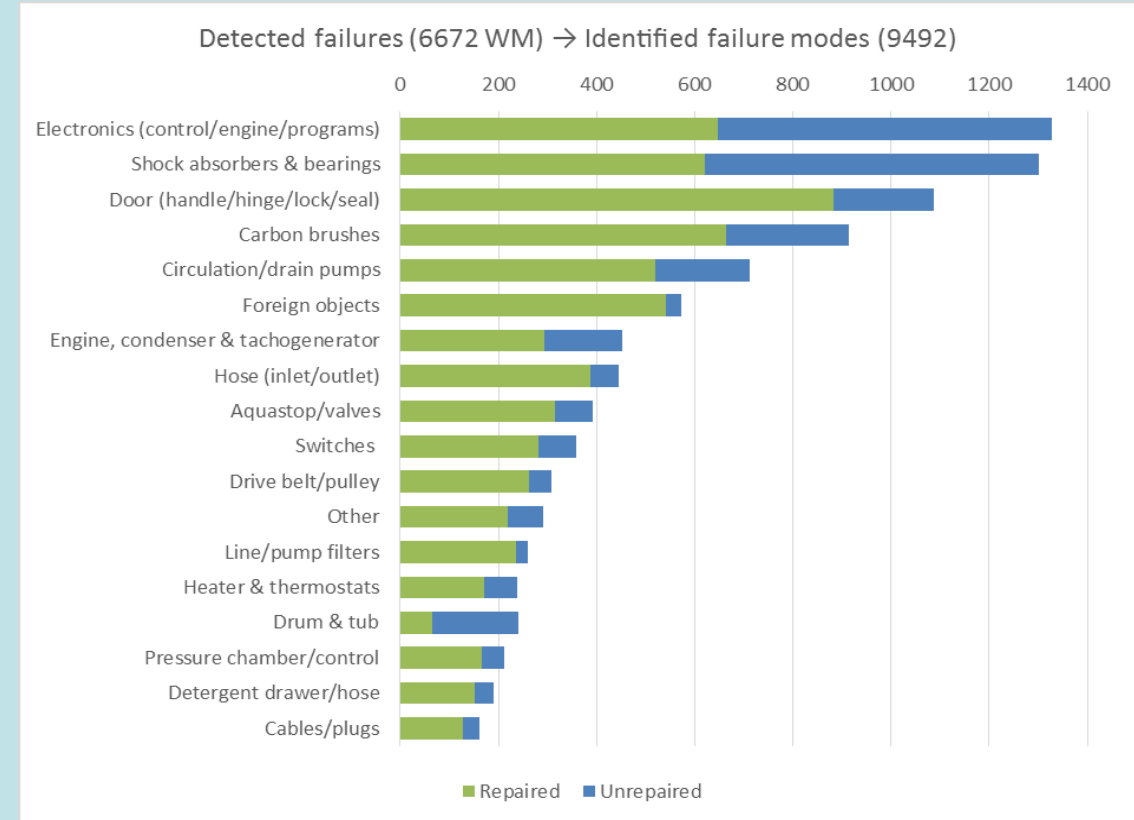
# Product characteristics

- Medium large appliance: a trained technician might normally come to your home to repair
- Repair process: provided mainly by professional repairers (limited DIY)
- Cost of repair can be very high compared to a new product cost
- Diagnosis support and interfaces before intervention of a professional repairer



# Background information

- (JRC 2017) Preparatory study - Ecodesign and Energy Label for household washing machines and household washer dryers
- (JRC 2017). Study for the development of and endurance testing method for washing machines. Luxembourg: Publications Office of the European Union. ISBN 978-92-79-73185-3



# Priority parts list

Part	Relevance for repair	Relevance for upgrade
1) Motor (Carbon brushes)	1, 2, 3	
2) Pumps	1, 2, 3	
3) Shock absorbers	1, 2, 3	
4) Washing drum, drum spider and related ball bearings	1, 2, 3	
5) Heaters, heating elements, and thermostats	1, 2, 3	
6) Door hinge, seal, locking assembly	1, 2, 3	
7) Piping and related equipment including all hoses, valves and filters	1, 2, 3	
9) Printed Circuit Board	1, 2, 3	
10) Liquid crystal displays	1, 2, 3	
11) Software/firmware		3

Priority Parts based on the Draft Ecodesign Regulation (except software)

Supporting docs:

1\* JRC 2017 on endurance testing

2\* JRC Ecodesign Preparatory Study

3\* Stakeholder's feedback

# Key parameters

- 1) Disassembly depth/sequence
- 2) Fasteners
- ~~3) Tools~~
- 4) Disassembly time

Design for disassembly

# Key parameters

1) Disassembly depth/sequence

2) Fasteners

~~3) Tools~~

4) Disassembly time

Design for disassembly

5) Diagnosis support and interfaces

6) Type and availability of information

7) Spare parts

8) Software and firmware

Repair / upgrade process

~~9) Skills~~

~~10) Password reset and restoration of factory settings~~

~~11) Data transfer and deletion~~

12) Guarantee

# Key parameters

1) **Disassembly depth/sequence**

2) **Fasteners**

~~3) Tools~~

4) **Disassembly time**

Design for disassembly

5) **Diagnosis support and interfaces**

6) **Type and availability of information**

7) **Spare parts**

8) Software and firmware

~~9) Skills~~

~~10) Password reset and restoration of factory settings~~

~~11) Data transfer and deletion~~

Repair / upgrade process

12) **Guarantee**

# Overview 1/2

Parameter	Min. requirement	Rating classes	Ass / Ver	Weight
1) Disassembly depth/sequence	Info	Continuous rating based on the number of steps	A: Description V: Disassembly Test	High = 2
2) Fasteners and connectors	None	Reversibility / reusability		
4) Disassembly time	None	Continuous rating		
5) Diagnosis support and interfaces	None	Level of support	A: Description V: Check of actual availability	High = 2
6) Type and availability of information	Identification / instructions / troubleshooting chart / disassembly sequence / upgrade info / spare parts / guarantee info	Public = 1 points Available to repairers = 0,5 points	A: Description V: Check of actual availability	High = 2

# Overview 2/2

Parameter	Min. requirement	Rating classes	Ass / Ver	Weight
7) Spare parts	<ul style="list-style-type: none"> <li>• 7 years</li> <li>• 3 weeks delivery</li> <li>• price available</li> </ul>	Availability period 7-11 years = 0.5 pt. 11 years = 1 pt. Type of interface <ul style="list-style-type: none"> <li>• Proprietary</li> <li>• Not proprietary</li> <li>• Standard</li> </ul>	A: Declaration V: Market availability	High = 2
8) Software and firmware	<ul style="list-style-type: none"> <li>• 7 years updates</li> </ul>	11 years free support = 1 pt 7-11 years free support = 0.66 pt 7 years support = 0.33 pt	A: Declaration V: Market availability	Normal = 1
12) Guarantee	None	availability of a "commercial guarantee" including commitment to repair > 5 years = 1 pt. 3-5 years = 0.66 pt. 3 years = 0.33 pt.	A: Declaration V: Check availability	High = 2



# Questions and comments

Main points of discussion for WM:

- Scope granularity
- List of priority parts
- Selection of key parameters
- A&V framework (min requirements, rating, weighting and aggregation)
- Spare parts availability and software/firmware update (e.g. for at least 7 years)
- ....

# Conclusive remarks

# Agenda of the day

<b>Schedule</b>	<b>Topic</b>
09:00 – 09:15	Registration and welcome Round table and objectives of the meeting (JRC)
09:15 – 9:45	Part I: Policy context (ENV)
9:45 – 11:00	Part II: Towards a Scoring System on Reparability: key elements of the generic scoring system (JRC)
11:00 – 11:15	Coffee break
11:15 – 13:00	Part III: Towards a Scoring System on Reparability: Product-specific aspects for laptops (JRC)
13:00 – 13:45	Lunch break
13:45 – 15:30	Part IV: Towards a Scoring System on Reparability: Product-specific aspects for vacuum cleaners (JRC)
15:30 – 15:45	Coffee break
15:45 – 17:30	Part V: Towards a Scoring System on Reparability: Product-specific aspects for washing machines (JRC)
17:30 – 18:00	AOB, wrap-up, next steps and conclusion (JRC)

# Process

- Apr 2018:
  - Official launch of the study and webpage creation
  - TWG of experts created (above 140 persons on June 2018)
- Apr-May 2018: questionnaire (25+2 replies)
- Jun 2018: 1st report and 1st meeting in Seville (general approach)
- Oct 2018: 2<sup>nd</sup> draft report (on public consultation until 16 Nov 2018)
- **Nov 2018: 2<sup>nd</sup> meeting in Brussels (revised general approach + specific PGs)**
- End of the year: final report

Project's website:

<http://susproc.jrc.ec.europa.eu/ScoringSystemOnReparability/index.html>

# Thanks for your attention

**Functional Mail Box:**

[JRC-B5-REPAIRSCORE@ec.europa.eu](mailto:JRC-B5-REPAIRSCORE@ec.europa.eu)

**Study website:**

<http://susproc.jrc.ec.europa.eu/ScoringSystemOnReparability/contactus.cfm>