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FOLLOWING THE EVIDENCE
HOW QUALITY OF APPLIANCE COMPONENTS CAN HINT AT NON-COMPLIANCE WITH EFFICIENCY REQUIREMENTS

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Introduction
Introduction

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Energy savings

- Environmental friendly production
- Responsible consumption of goods
- Modern waste treatment
- Circular Economy
- Alternative energy sources
- Optimizing efficiency
Introduction

Optimizing Efficiency

- Resource Efficiency
  - RRR – Reuse, Repair, Recycle
  - Calculation methods are in preparation within the EU
  - Standards, release date 03/2019

- Material Efficiency
  - Certain aspects are in discussion / implemented

- Energy Efficiency
  - Still implemented in legislation
  - Energy using and -related products
Energy Efficiency Requirements

- EU
  - Ecodesign and Energy Efficiency Labelling
- USA
  - Several requirements initiated by DOE, EPA and FTC
- China
  - Product Energy Efficiency Standards
- AUS
  - Minimum energy performance standards
- Etc.

Introduction
Market Surveillance Authorities (MSA)

Reasons and Activities

- Ensure fair competition and product safety
- Challenges due to:
  - Competence of testing (investment goods, special purposes, etc.)
  - Number of regulated products is increasing each year
  - Capacities
    - Time- and cost intensive

products  MSA
Market Surveillance Authorities (MSA)

**Reasons and Activities**

- Ensure fair competition and product safety
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Market Surveillance Authorities (MSA)

Surveillance Procedures

- Selection of product group
  - Based on experiences
  - Sometimes coupled with national action plans
- Single products are chosen randomly
- Different kind of inspections:
  - 1. Visual inspections
  - 2. Formal proof of attached documents
  - 3. Lab tests (cost intensive!)
Methodology
Methodology

Strategy for product selection

- 3 step model
  - Compliance tests (as usual)
  - Identification of significant components
  - Developing screening methods
- Identify components with a higher possibility to lead to non-compliance as others
- Use components as indicator for non-compliance
Methodology

Strategy for product selection
- 3 step model
  - Compliance tests (as usual)
Methodology

**Strategy for product selection**

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  - Dismantling and comparison
Methodology

Strategy for product selection

- 3 step model
  - Compliance tests (as usual)
  - Dismantling and comparison
  - Separate components
    - in efficient and
    - less-efficient

Product group

- some are compliant
- some are not compliant

Dismantling

- dismantle some
- dismantle all

Comparison

- not different
- different

Lack of products design

Traceable by documents

Screening method

- not possible
- possible
Methodology

Strategy for product selection

- 3 step model
  - Compliance tests (as usual)
  - Dismantling and comparison
  - Separate components
    - in efficient and
    - less-efficient
  - Develop screening methods
Data and Examples
Data

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Research project “Support for the Market Surveillance”
- Launch: Jan 2016, Duration: 3 years
- Goal: Supporting the MSA in terms of Ecodesign and Energy labelling

Validating current measurement standards (tool: RRT)
- Kitchen hoods, tumble dryers, heat pumps and AC

Developing screening-methods (tool: Bunch of single tests)
- Decreasing costs and increasing identification rates
Data

Planned

- About 500 product tests, until end of 2017:
  - RRT should be finished
  - 50% of single tests should be carried out

Current stand:

- Kitchen hoods: 140 tests, 73 done
- Tumble dryers: 160 tests, 45 done
- Heat pumps: 70 tests, 24 done
- AC: 130 tests, 32 done
### Example – No Screening methods possible

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<th>Type</th>
<th>declared/lab</th>
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<th>condenser</th>
<th>valve</th>
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<td>686</td>
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<td>(Copeland)</td>
<td>(Alfa Laval)</td>
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<tr>
<td>B</td>
<td>A++/A++</td>
<td>TFD-455</td>
<td>100AH-G</td>
<td>632</td>
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<tr>
<td></td>
<td></td>
<td>(Copeland)</td>
<td>(Alfa Laval)</td>
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</tr>
</tbody>
</table>

Different in product design..
Examples – Screening Method possible

???
Examples

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**Current stand:**
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Summary

Following the Evidence – How quality of appliance components can hint at non-compliance with efficiency requirements
Summary

Motivation
- Number of regulated products is increasing
- Capacities and resources of MSA are “fixed”

Methodology
- MSA would be “pseudo-experts” for certain product groups
- More specific product tests – less test parameters
- Keep or increase the identification rate

Additional concepts are urgently needed
Summary

Limitations

- Concept is only working for products with >1 component
- More components – check the influence of each component
- Methodology is not an alternative, but useful addition

Current stand

- The concept is still tested!

Thank you for your attention!