

VAILLANT GROUP

Andrea Köppen, Enno Wiesner | 04.03.2026

Anwendung der EU-Materialeffizienzstandards in der Produktentwicklung bei Vaillant

DIN | Dialog-Veranstaltung zur Ökodesignverordnung



The Vaillant Group in key figures

16,000

Employees and staff worldwide

N° 1

World market leader for central heating appliances

20

National sales companies

340,000

Installer partners

30 Mio

Customers worldwide

100%

family-owned since 1874

160

ongoing R&D projects

13

Production and R&D sites

60

Countries with business activities

8

Heating technology brands under one roof

€3.2 billion

Sales revenue in 2024

>70

Nationalities in the company

Present in more than 20 countries, business in over 60 countries

-  Vaillant brand
-  Vaillant brand and Saunier Duval Brand Group
-  Vaillant brand, Saunier Duval Brand Group, DemirDöküm brand



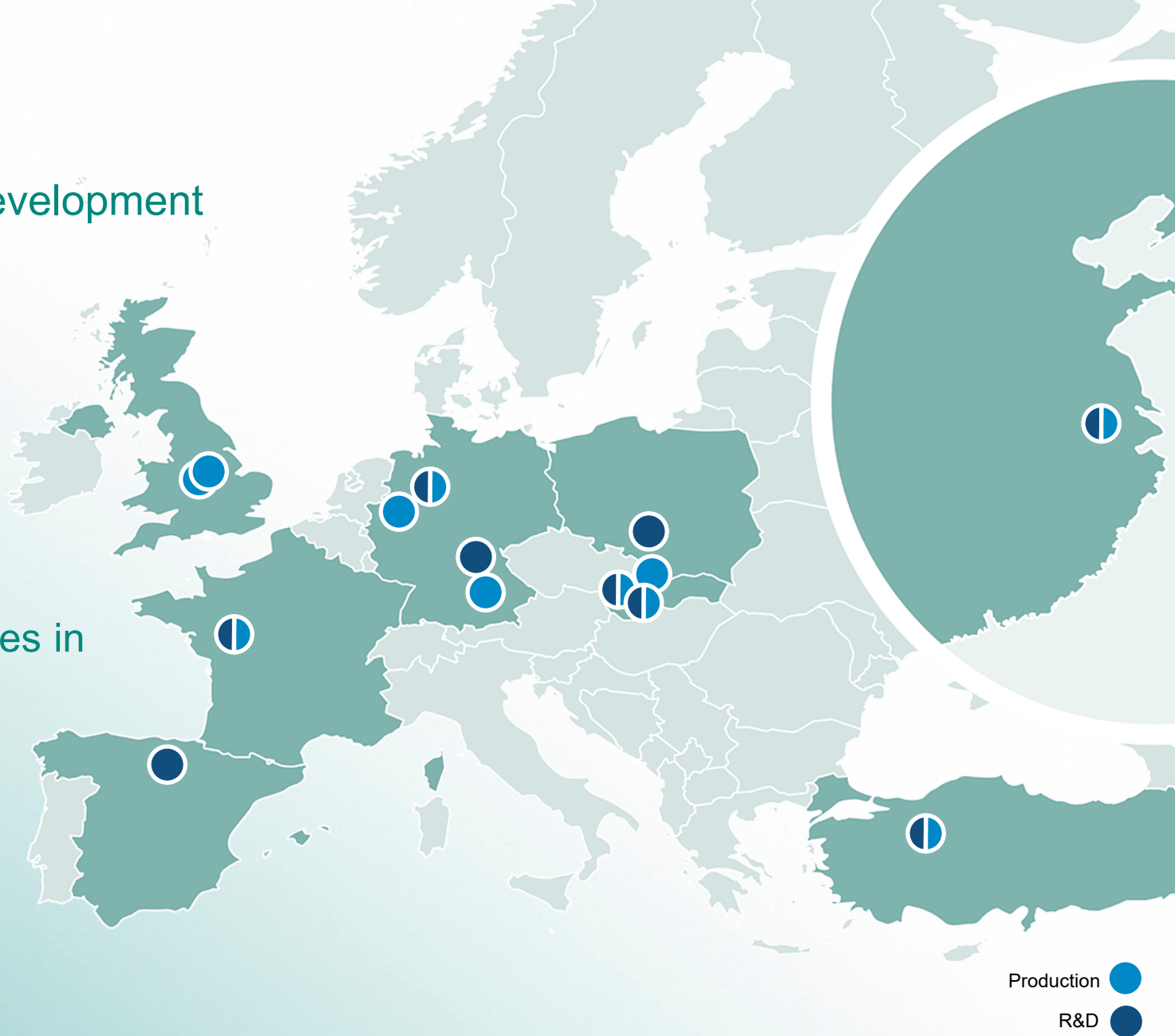
Cross-linked production and product development

Production at 11 locations

Uniform production system at all international locations

9 research & development locations

Development of high-efficiency technologies in Western Europe



Our corporate vision

TAKING CARE OF A BETTER CLIMATE

INSIDE EACH HOME
AND THE WORLD AROUND IT



Background and Motivation

Why are we using the EU Material Efficiency Standards?



- Mandatory **sustainability reporting** from FY 2027 (reporting in 2028)
- Covers **product sustainability** including policies and targets
- ESRS **European Sustainability Reporting Standards** must be considered (E5 – Circular Economy)

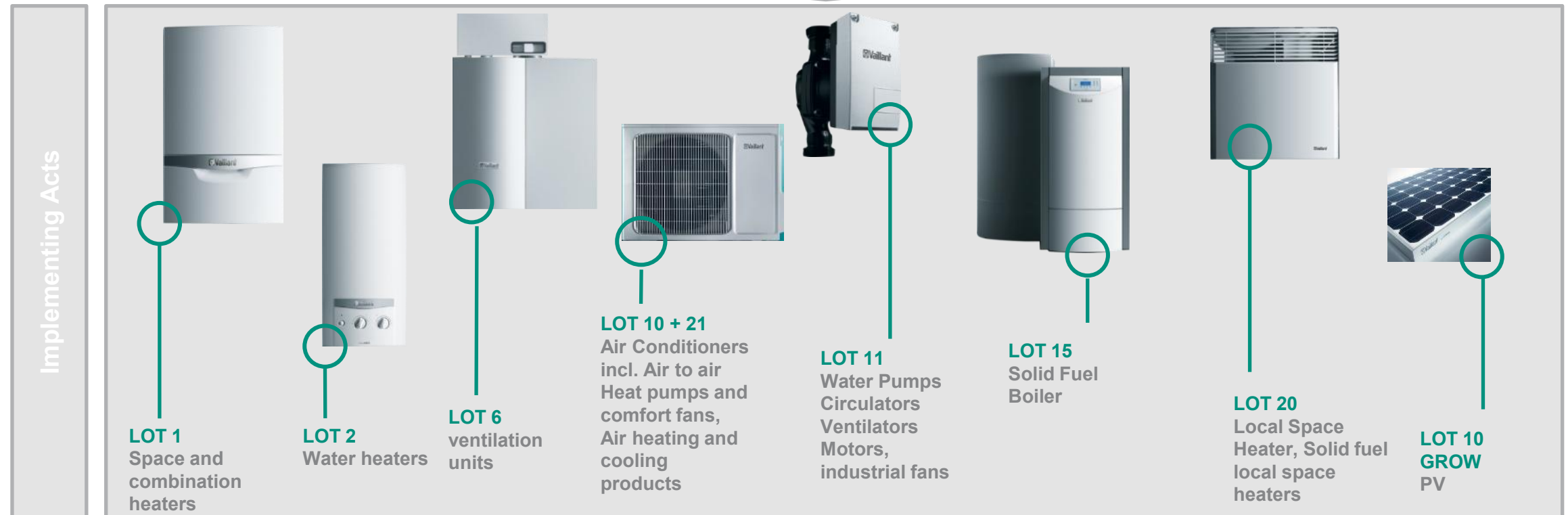
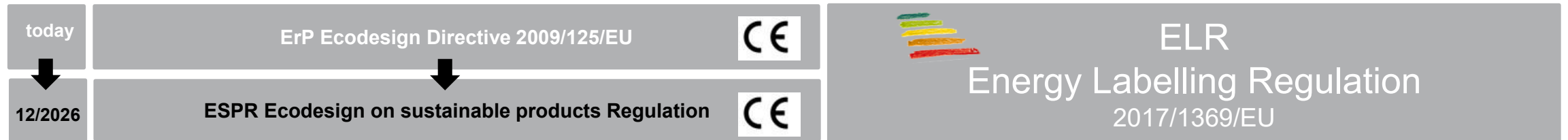


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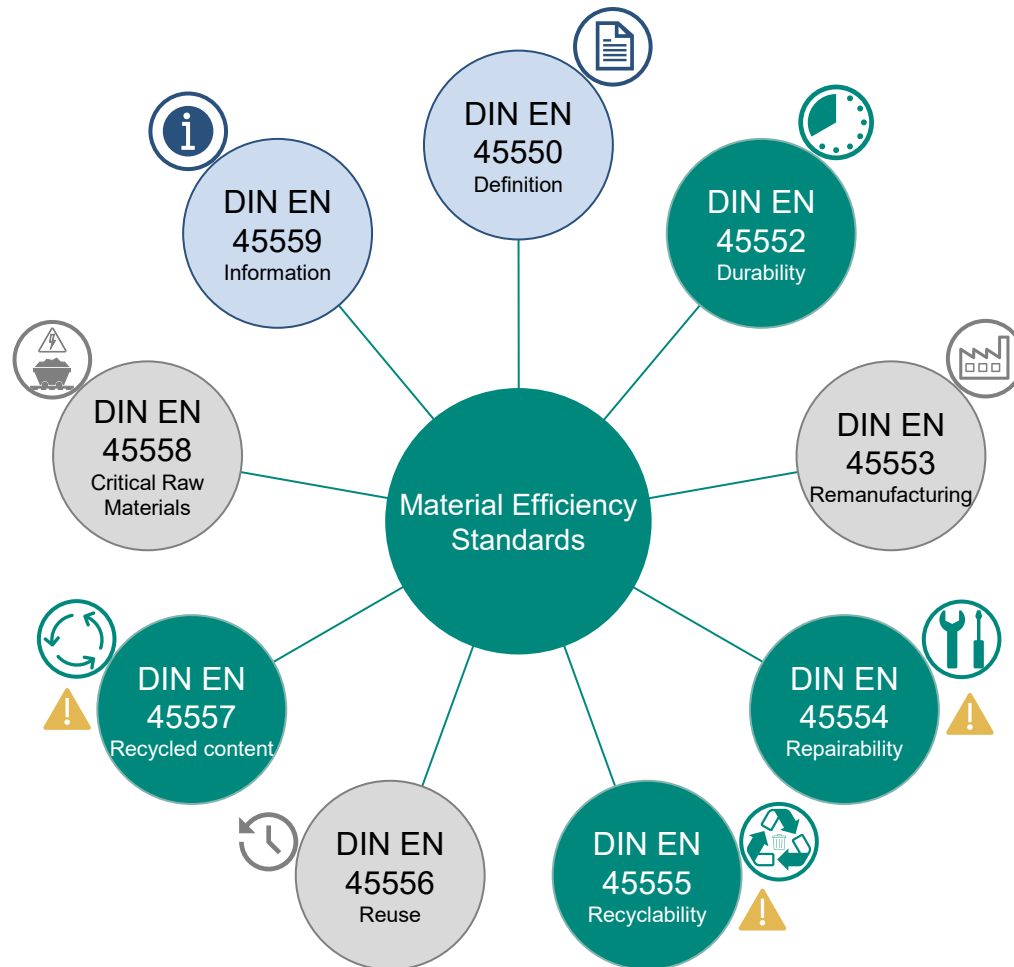
- Enhanced transparency requirements via a **Digital Product Passport – DPP**
- Extended sustainability performance requirements possible
- May cover aspects like **recycled content, recyclability, durability and reparability** among others

Ecodesign and Energy Labelling / Framework Regulations



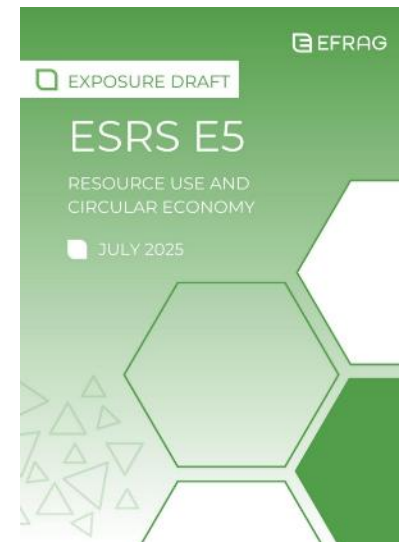
Overview | Material Efficiency Standards

Key Standards driving Material Efficiency KPIs



Prioritised KPIs:

- Durability
- Repairability
- Recyclability
- Recycled content



Approach

Implementation Roadmap for Material Efficiency Standards



01

DIN 4555x interpretation

One-pager containing:

- Input data
- Definition
- Formula
- Challenges



02

Workshops and pilot calculation



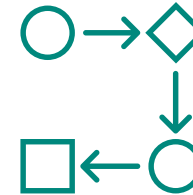
Mapping:
Requirements and process mapping



Product analysis:
Disassembly of devices/priority parts



Data studies:
External study on EU average secondary data



03

Internal process assignment

Define:

- Process steps
- Responsibilities
- Integration Points
- KPIs



04

Final documents and tools



Durability Checklist



Repairability Matrix



Calculation Tool



Calculation Basics and Overview

How Material Efficiency is measured

RECYCLED CONTENT

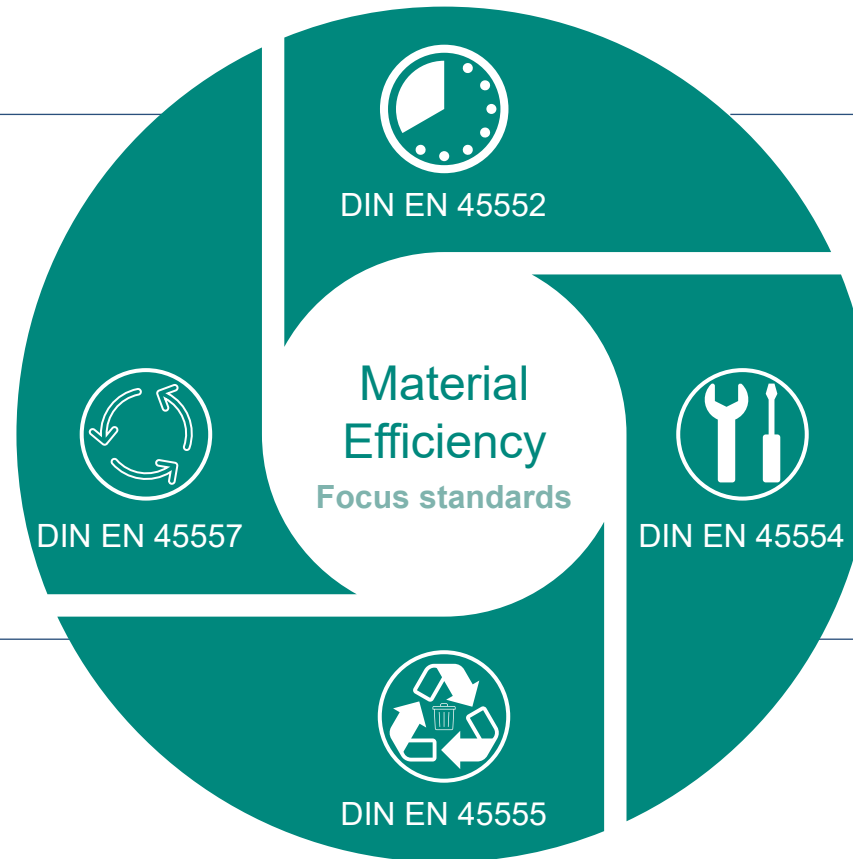
Mass fraction of recycled or reused material in a part/product

Percentage of recycled/reused material (%)

RECYCLABILITY

Potential mass fraction of a part/product that can be recycled technically and at scale excluding energy recovery

Percentage of recyclable material (%)



DURABILITY

Ability of a product to function as required, under defined conditions of use, maintenance and repair

Measured in **years** of expected lifetime

REPAIRABILITY

The degree and ease to which a product can be repaired

Score based on ease of repair (Repairability score 0-10)



Focus: Repairability

Method based on standard DIN EN 45554 Repairability

Criteria	Sub-Criteria	Category	Rating of Category				
Criteria 1 – Disassembly aspects	Disassembly depth	steps < 6		Criteria 2 – Spare Parts	Availability of spare parts by target group	Available to independent repair service providers	
		steps 13-6				Available to manufacturer-authorized repair service providers	
		steps >19 - 13				Available to the manufacturer only	
		steps >19				No spare parts available	
		not removable					
	Fasteners and connectors	Reusable			Classification of spare part interfaces	Standard part with standard interface	
		Removable				Proprietary part with standard interface	
		Neither removable nor reusable				Proprietary part with non-standard interface	
	Tools	Feasible with the use of no tool, or a tool supplied with the product, or a basic tools			Spare parts availability by duration of availability	Long-term availability	
		Feasible with product group specific tools				Mid-term availability	
		Feasible with other commercially available tools				Short-term availability	
		Feasible with proprietary tools				No information on duration of availability	
		Not feasible with any existing tool		Criteria 3 – Information, data & return	Information availability by comprehensiveness	Comprehensive information available	
	Working Environment	use environment				Basic information available	
		workshop environment				No information available	
		production-equivalent environment			Information availability by target groups	Available to independent repair service providers	
	Skill Level	Expert				Available to manufacturer-authorized repair service providers	
		Manufacturer or authorized expert				Available to the manufacturer only	
		Not feasible with any existing skill			Return options	Comprehensive return options	
	Diagnostic support and interfaces	Intuitive interface				Basic return options	
		Coded interface with public reference table				No return options	
		Publicly available hardware / software interface			Data management	Built-in or no data stored	
		Proprietary interface				On request	
		Not possible with any type of interface				Not available	
					Password and factory reset for reuse	Integrated reset	
						External reset	
						Service reset	
						No reset	



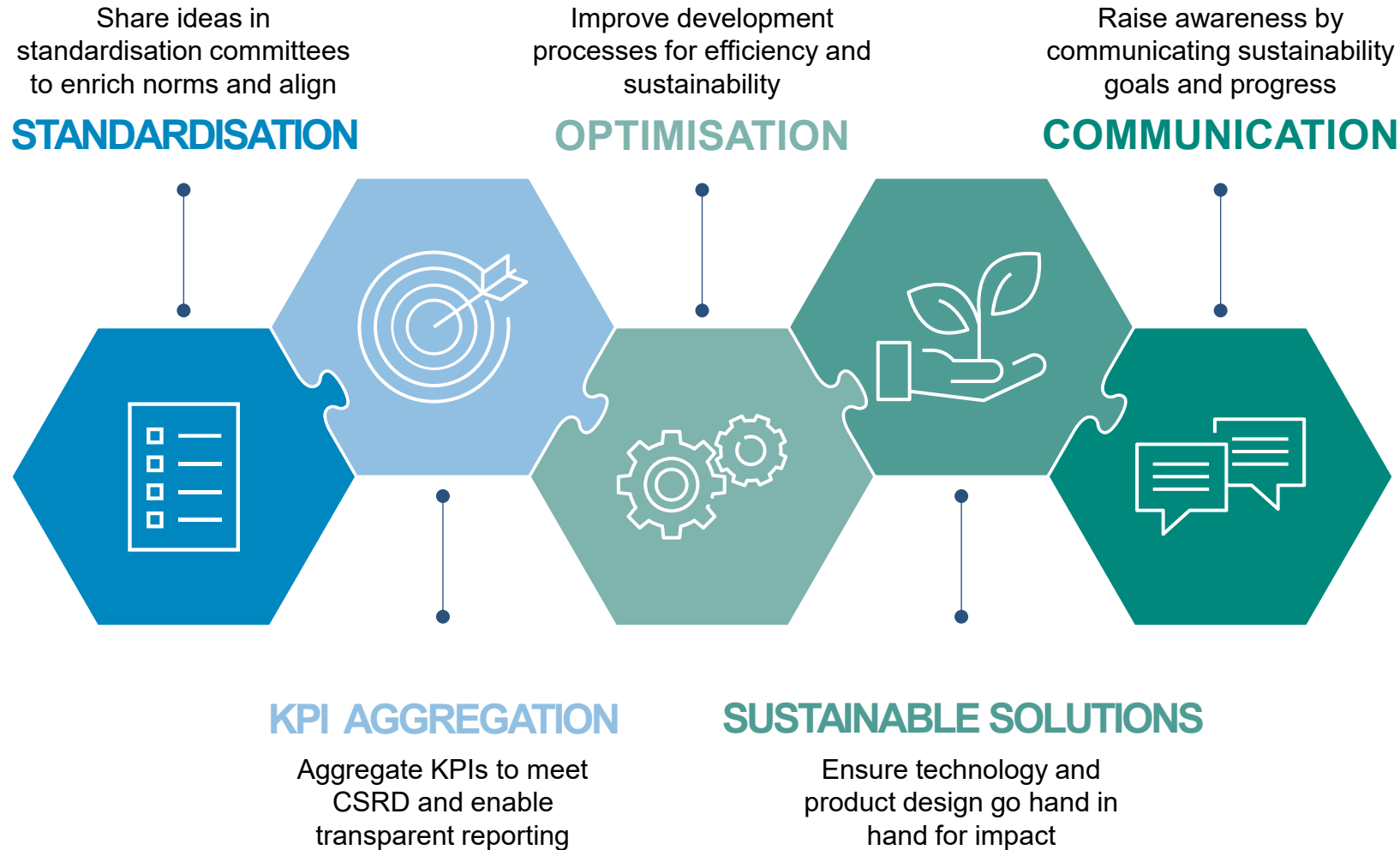
Application

Integration of EU Material Efficiency Standards into product development



Outlook and Benefits

Key enablers for sustainable development



Please contact us if you have any questions



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Vielen Dank für die Aufmerksamkeit!