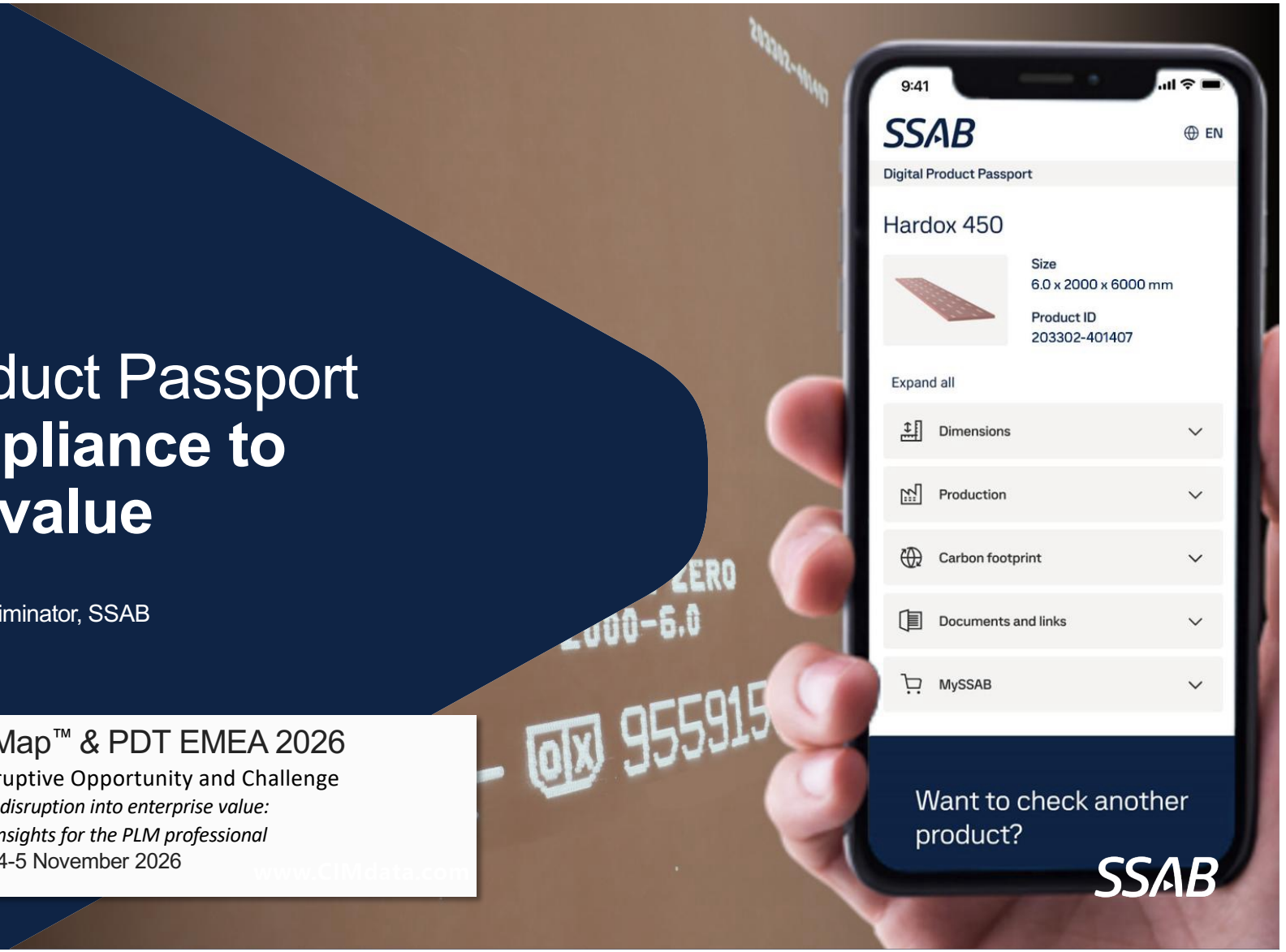
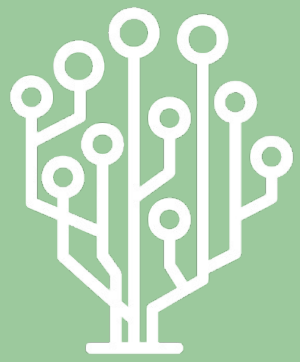
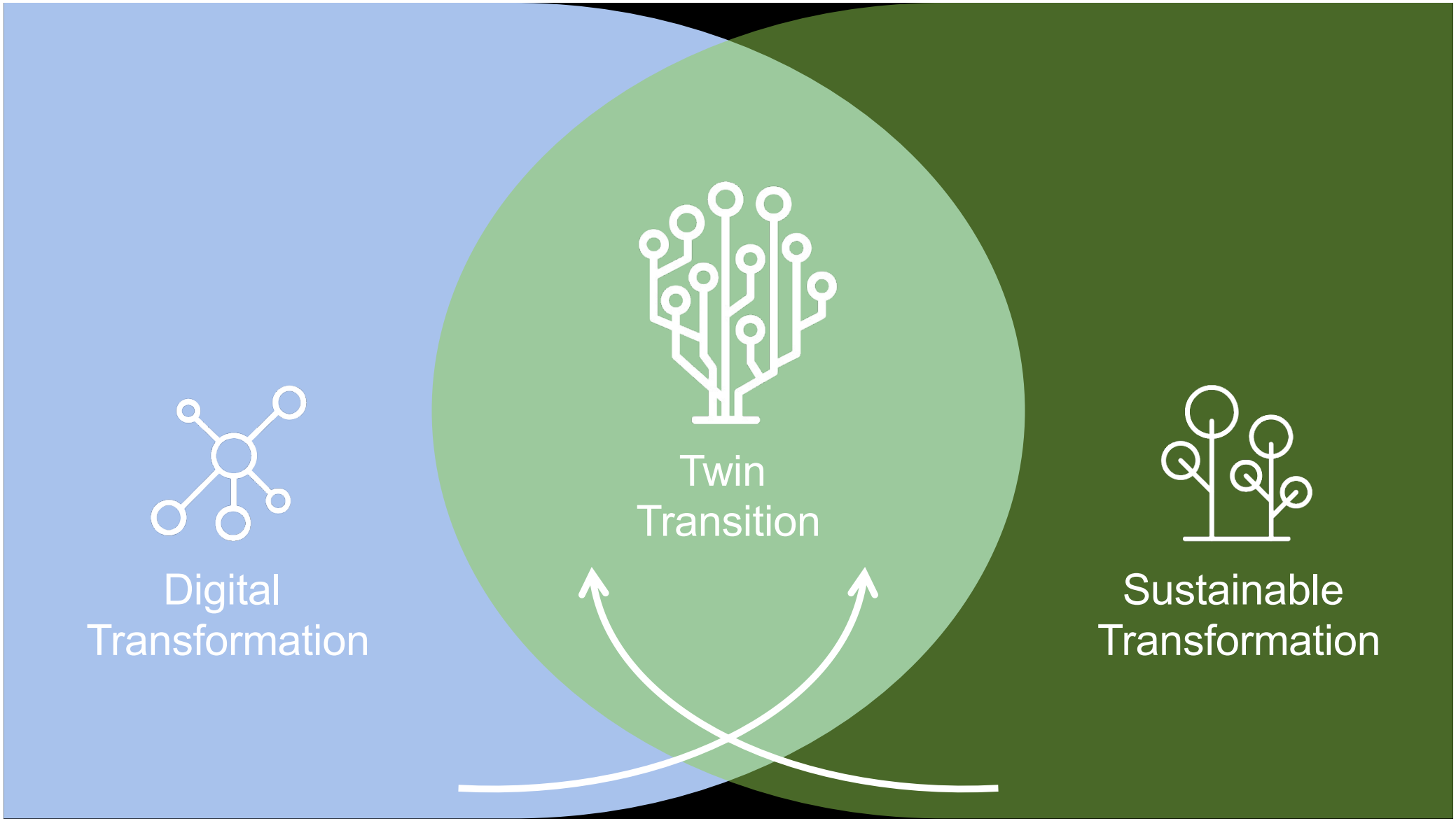
# Digital Product Passport
# **From compliance to customer value**

Johan Anderson, Emission Eliminator, SSAB




PLM Road Map™ & PDT EMEA 2026
AI in PLM: A Disruptive Opportunity and Challenge
*Turning AI disruption into enterprise value:*
*Strategic insights for the PLM professional*
4-5 November 2026
CIMdata




Digital
Transformation
Twin
Transition
Sustainable
Transformation

# This is SSAB

**96** SEK BILLION

Revenue in 2025

**1878**

Steelmaking since



**15,000**

Employees in more than 50 countries

**8.8** MILLION TONNES

Production capacity crude steel



Headquarters
Stockholm, Sweden

SSAB Special Steels
SSAB Europe
SSAB Americas
Tibnor
Ruukki Construction

Divisions and subsidiaries

SSAB

# Steel mills in Sweden, Finland and USA

Global sales coverage in more than 50 countries

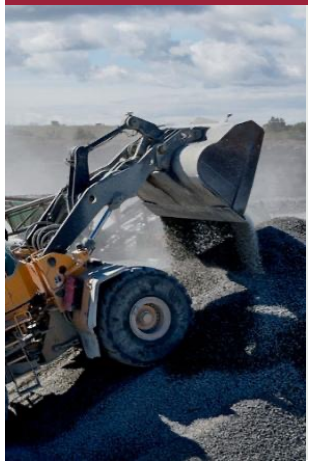
Customers in 150 countries




SSAB

# Our niche is premium steels

**HARDOX®**
WEAR PLATE



Key segments

Trucks and body builders

Material handling

**STRENX®**
PERFORMANCE STEEL



Key segments

Lifting

Forestry

**GREENCOAT®**
COLORFUL STEEL



Key segments

Color coated steel

Roofs, facades and rainwater systems

**ARMOX**
PROTECTION PLATE

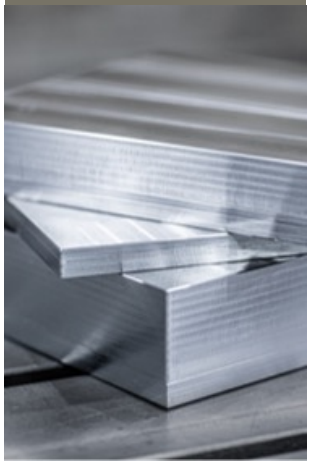


Key segments

Civil

Military

**TOOLOX®**
ENGINEERING & TOOL STEEL



Key segments

Tooling

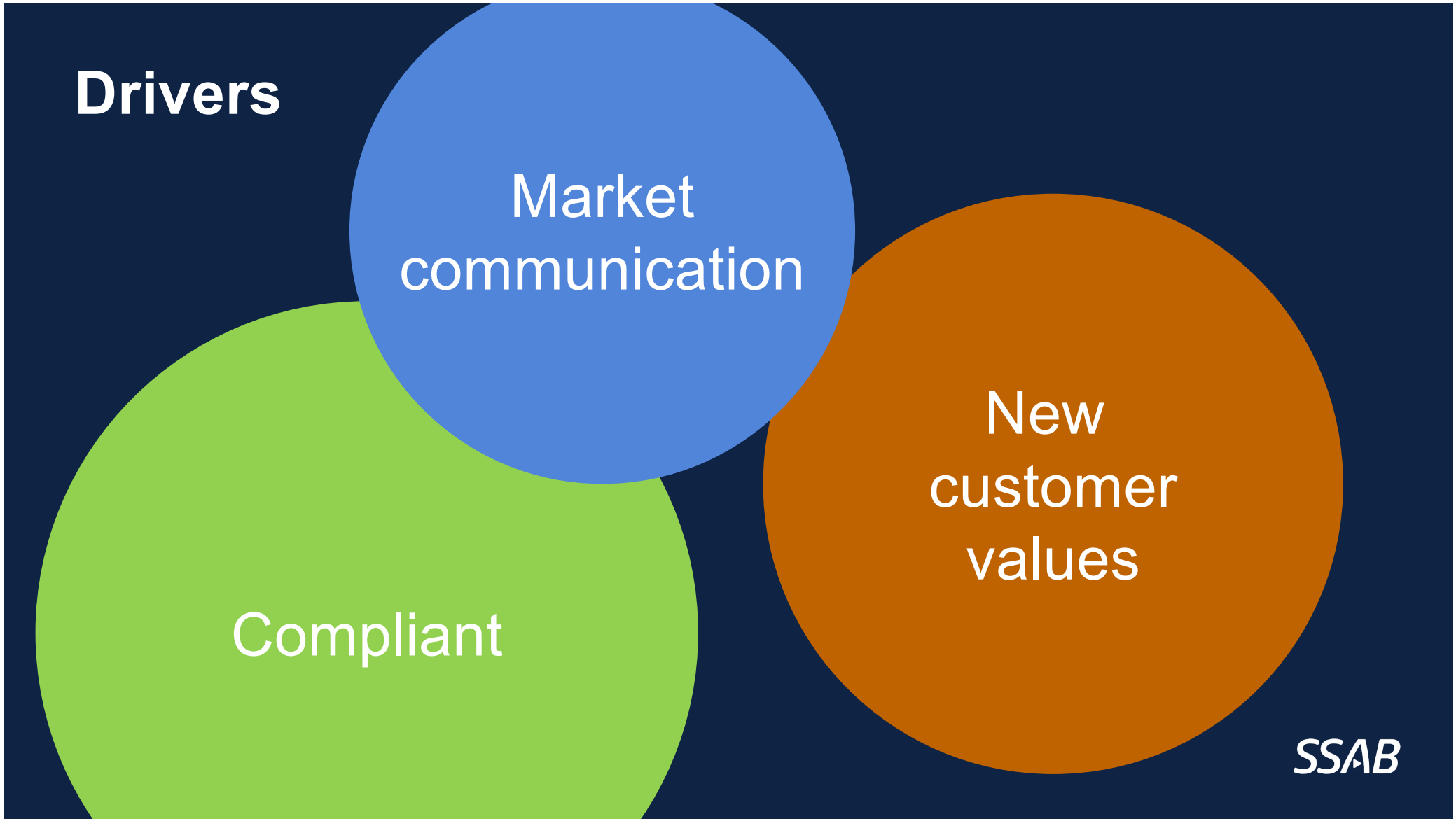
Engineering

**SSAB Docol®**



Key segments

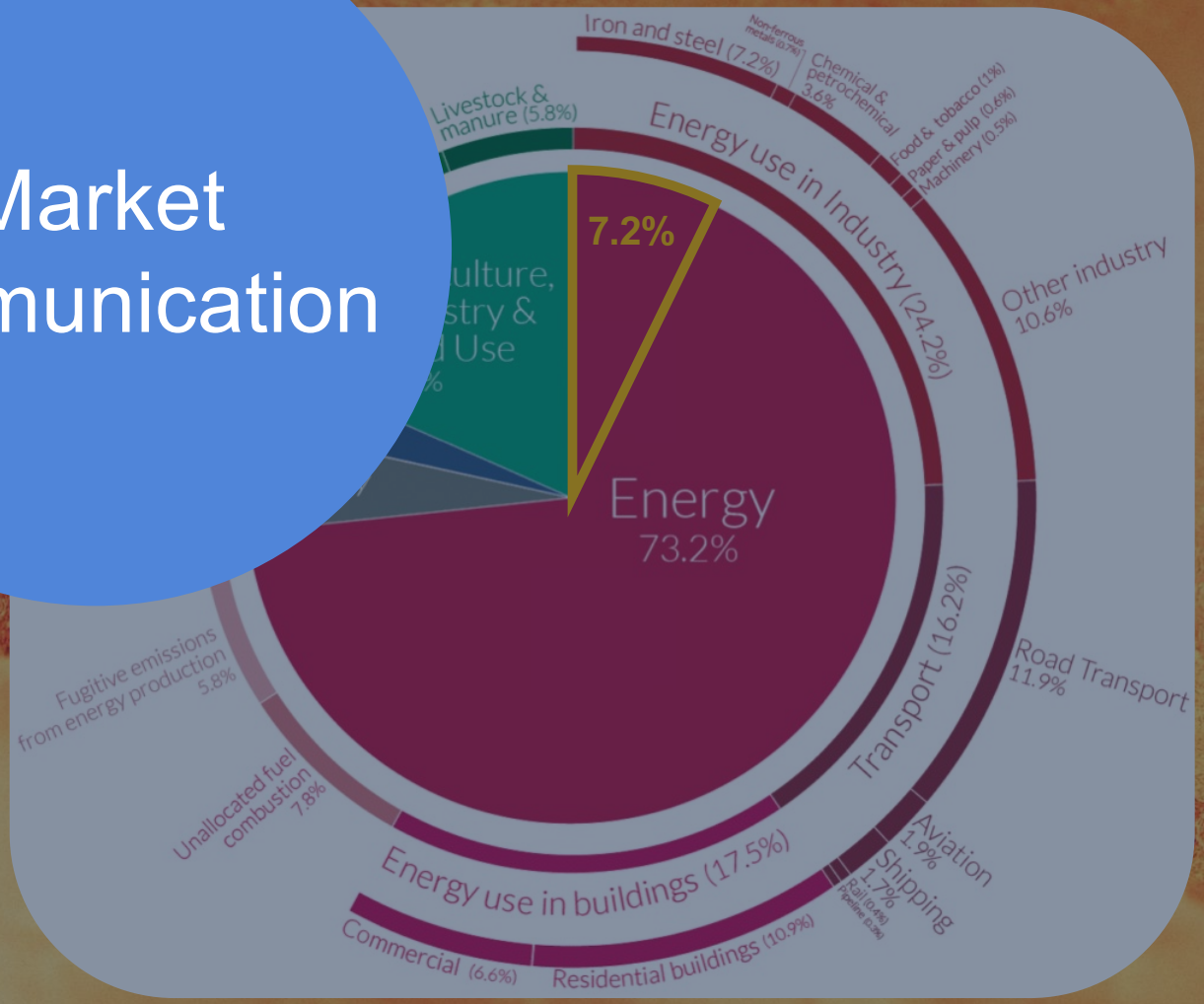
Automotive Safety components


Drivers
Market communication
New customer values
Compliant
SSAB

Proble

**The steel indus**
**is the largest**
**industrial emitter**
**of carbon dioxide**

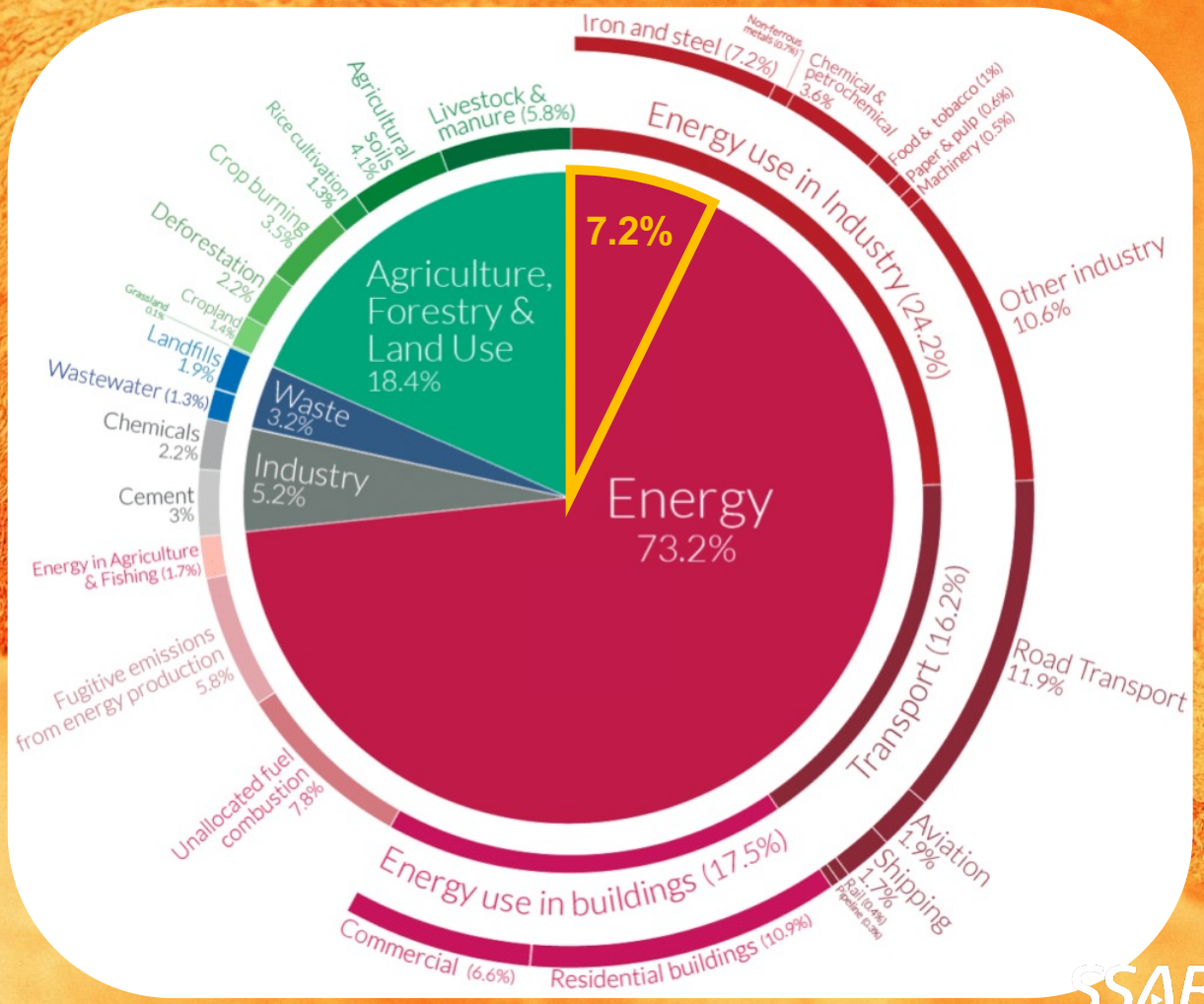
Market communication




Source: OurWorldInData (2020).

# Problem

**The steel industry is the largest industrial emitter of carbon dioxide**




Source: OurWorldInData (2020).

# Solution

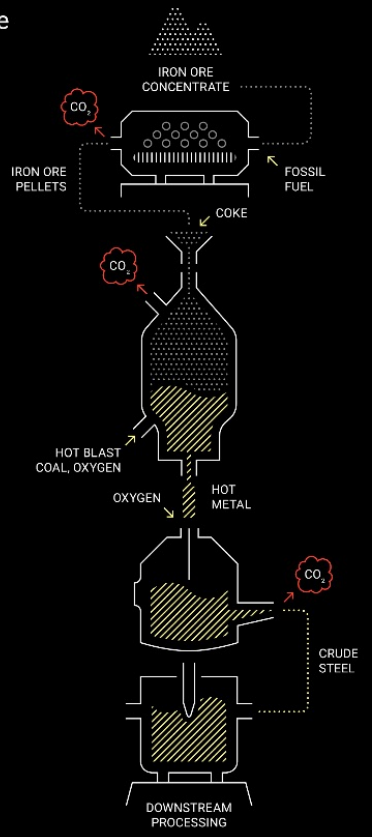
## Decarbonized steels by SSAB

Since forever

Blast furnace process

~1.6

kg $CO_2$e/kg steel in Scope 1 and 2



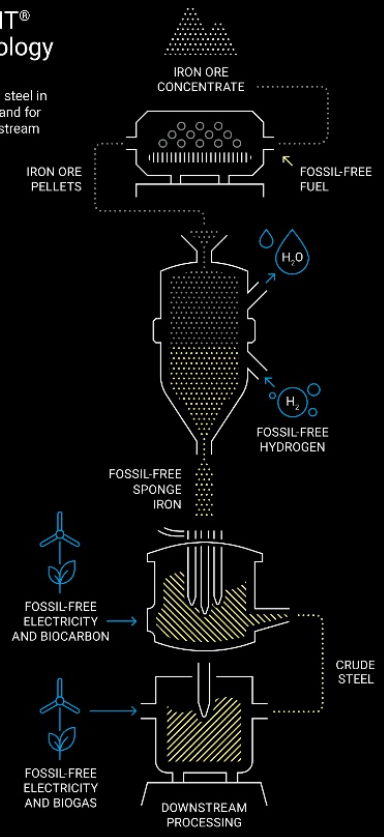

The fossil carbon emissions in SSAB's production of blast furnace steel are approximately 1.6 kg $CO_2$e/kg steel in Scope 1 and 2 of the GHG Protocol.

Since 2021

HYBRIT® technology

<0.05

kg $CO_2$e/kg steel in Scope 1, 2 and for iron ore upstream Scope 3



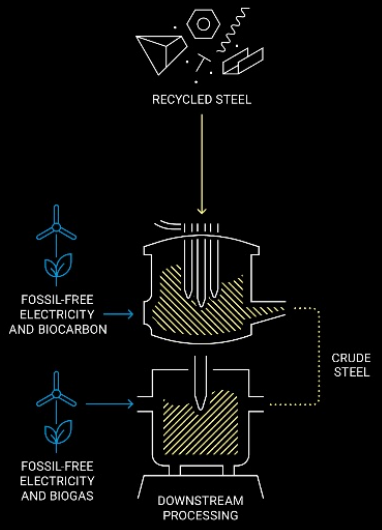

The fossil carbon emissions in SSAB's production of SSAB Fossil-free™ steel are targeted to be <0.05 kg $CO_2$e/kg steel in Scope 1, 2 and for iron ore upstream Scope 3, of the GHG Protocol.

Since 2023

SSAB Zero™ steel

<0.05

kg $CO_2$e/kg steel in Scope 1 and 2




The fossil carbon emissions in SSAB's production of SSAB Zero™ are <0.05 kg $CO_2$e/kg steel in Scope 1 and 2 of the GHG Protocol.

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New electric arc furnace in Oxelösund, Sweden



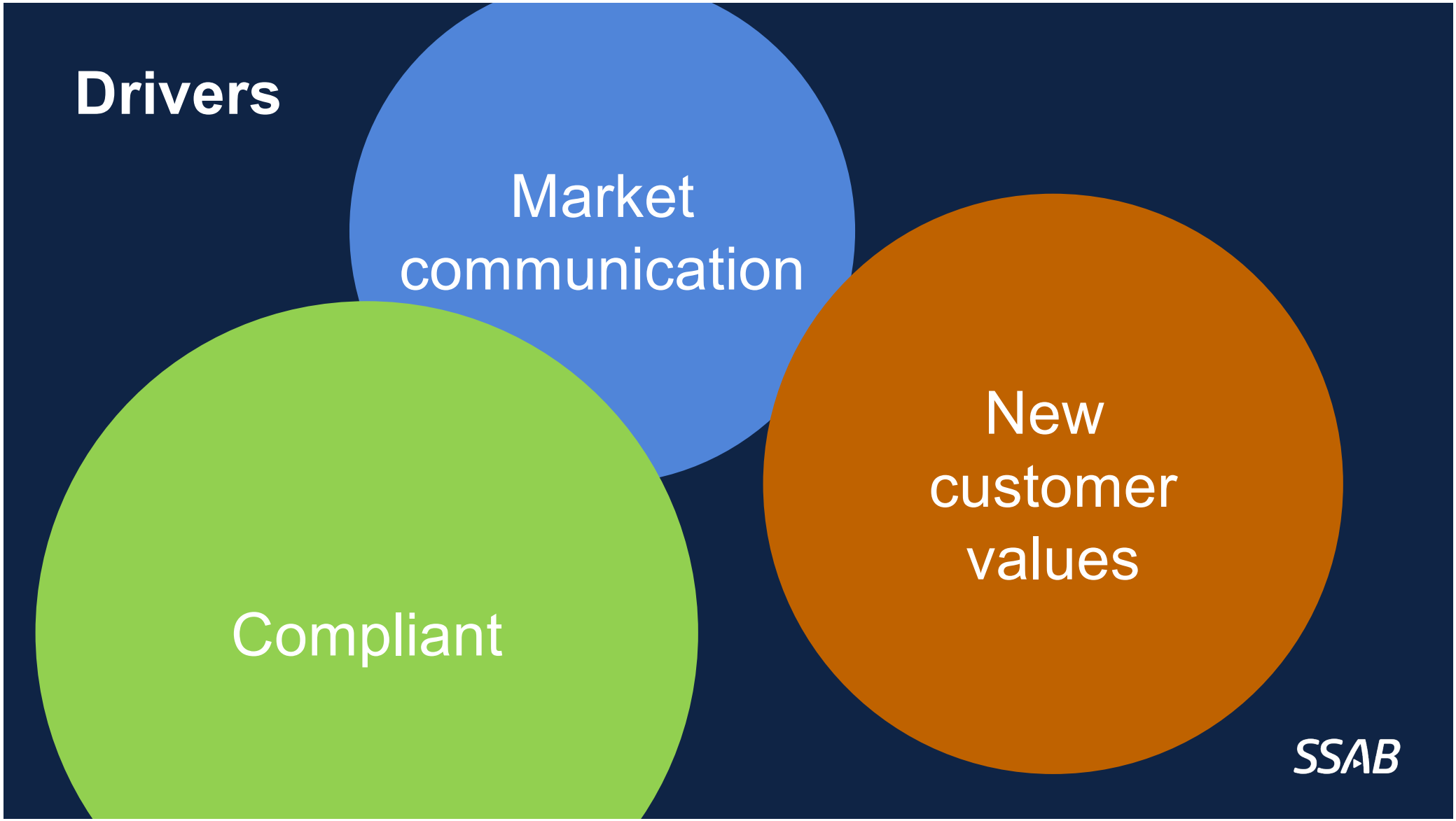




New steel mill in Luleå, Sweden




New quenching line in Oxelösund, Sweden


Drivers
Market communication
New customer values
Compliant
SSAB




Compliant


All products must have a QR code.
When scanning, you get all
product information.
Digital Product Passport
SSAB

# What products are subject to a DPP?
















| Batteries | Textiles, steel, and tyres… | Energy-related products | Construction | Vehicles | Food, medicine and plants |
|---|---|---|---|---|---|
| Battery Regulation (EU) 2023/1542. EV batteries, industrial rechargeable batteries >2 kWh, and light means of transport (LMT) batteries. Delegated acts 2025. | Iron and steel products, aluminium, tyres, furniture, mattresses, detergents, paints, lubricants, chemicals, and other electronics. Delegated acts 2026–2030. | 35 products already regulated by the previous directive for energy-related products Ecodesign Directive 2009/125/EC. Delegated acts 2026-2030. | Construction Products Regulation (**CPR**) – DPP for construction products. Construction Products Regulation (EU) 2024/3110. feasibility study for the CPR DPP system was published in 2025; the actual legal acts will follow. | Separate system called Digital Vehicle Passport (DVP) or Circular Vehicle Passport (**CVP**). Expected to enter into force in 2031. | Food, Feed, Medicine, Veterinary medicine, food and plants are not covered by ESPR, because its ecodesign requirements (like durability and repairability) are not broadly applicable. However, packaging for food will be in scope for DPP. |

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# Regulations







**Standards**

Define how content is structured

Technical best-practice

Cross-sector interoperability

Written by experts (CEN/CENELEC/ETSI)

*Published in 2026*

**Delegated Acts**

Define what content is mandatory

Legal obligation

Product-group specific

Written by the European Commission

*To be published 2026-2030*

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# The DPP standards

| EN 18219 | EN 18220 | EN 18239 | EN 18223 | EN 18216 | EN 18221 | EN 18246 | EN 18222 |
|---|---|---|---|---|---|---|---|
| **1** Unique identifiers ✅ | **2** Data carriers ✅ | **3** Access rights ✅ | **4** System inter-operability ✅ | **5** Data exchange protocols ✅ | **6** Data storage ✅ | **7** Data authenti-fication ✅ | **8** APIs ✅ |
| Company<br>Facility<br>Model<br>Batch<br>Product | QR code<br>RFID<br>Where? | Public data<br>Roles<br>Security<br>Confidentiality | Naming<br>Data models<br>Integration | Data format<br>Security<br>Access control | Archiving<br>Backup<br>Persistence | Verification<br>Reliability<br>Integrity<br>Software | System-to-system interface<br>Methods<br>Specs |

✅ Published May and September 2026




Guide to the DPP standards:
https://www.sis.se/standarder/omrade/Digitala-produktpass/#guide

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Do you
want to
test?











https://batterypassport.volvocars.com/0SJPE510000006E5E0000005

VOLVO

**Battery passport**

0SJPE510000006E5E0000005

Data available on this passport:

- Battery specifications
- Battery life-cycle information

- Battery characteristics
- Manufacturer information
- Battery materials
- Instruction for circularity
- Carbon footprint

# Volvo is the First Car with a Digital Product Passport

By Boris Motusic • June 6, 2024

Owners can access a simplified version of the passport using a QR code on the inside of the driver's door, while a more comprehensive version will be provided to regulators.

**The Significance of Volvo's Battery Passport**

Volvo's initiative precedes the European Union's mandate, which will require battery passports for all EVs sold in the EU starting February 2027. These passports will need to show the composition of batteries, including the origin of key materials, their carbon footprint, and recycled content. By introducing this passport nearly three years before the regulations come into effect, Volvo demonstrates its leadership and dedication to transparency.

**Carbon footprint**

**Battery carbon footprint**

0.34 kg $CO_2$eq/kWh provided during service life of 160000 km

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https://chargedevs.com/newswire/volvo-issues-ev-battery-passport-3-years-ahead-of-eu-requirements/

# When?

## Expected Delegated Act or Legislation

## DPP mandatory 18 months later



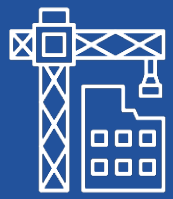
Batteries >2 kWh
Since 2023-2026




Steel
Q4 2026



Energy-related (EPREL)
2026-2029



Construction products
Q2 2027



Textile
Q3/Q4 2027



Tyres
Q3/Q4 2027



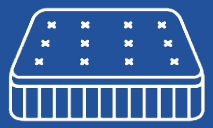

Aluminum
Q3/Q4 2027



EU Registry
Since July 20, 2026



Furniture
2028

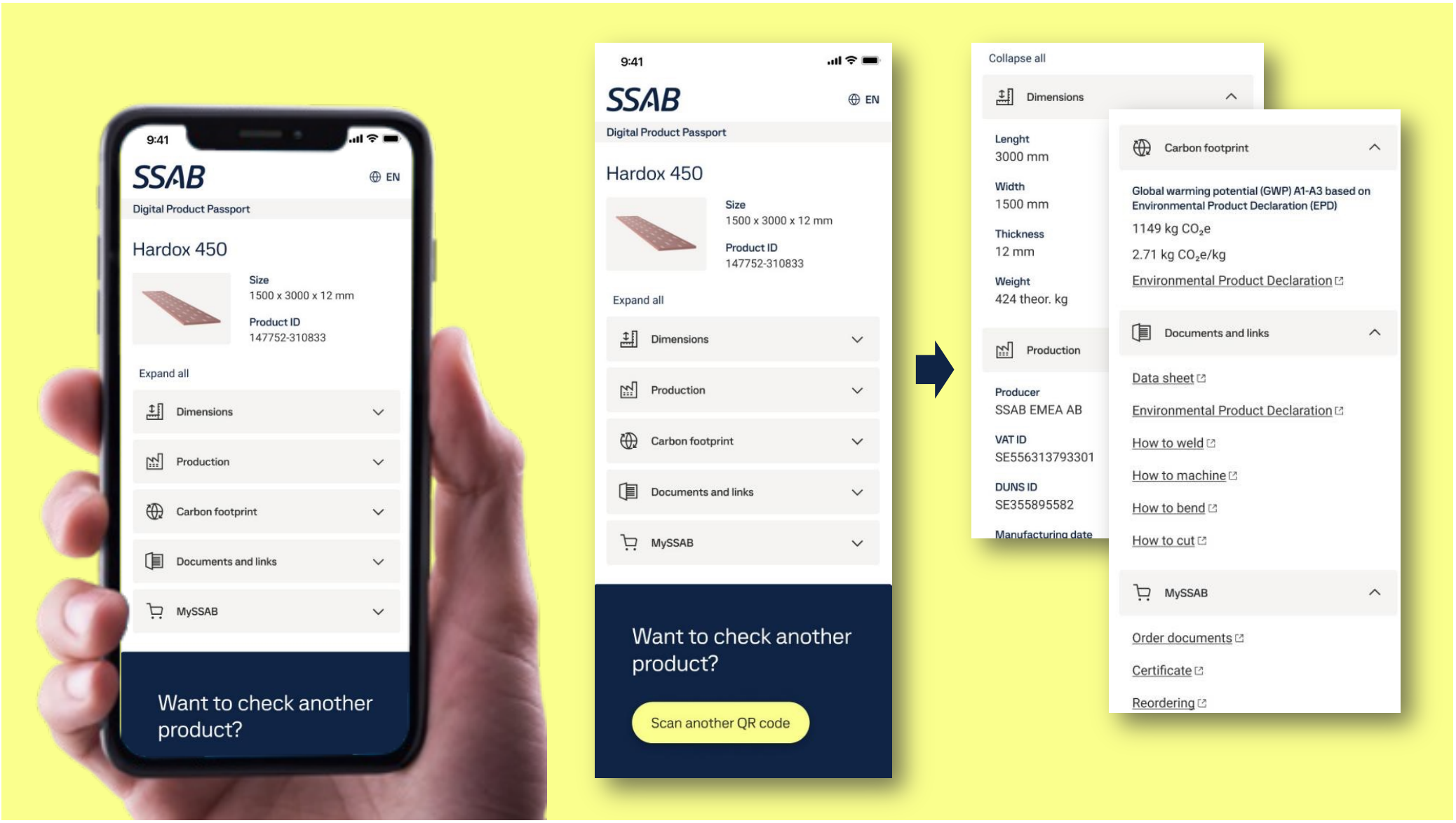


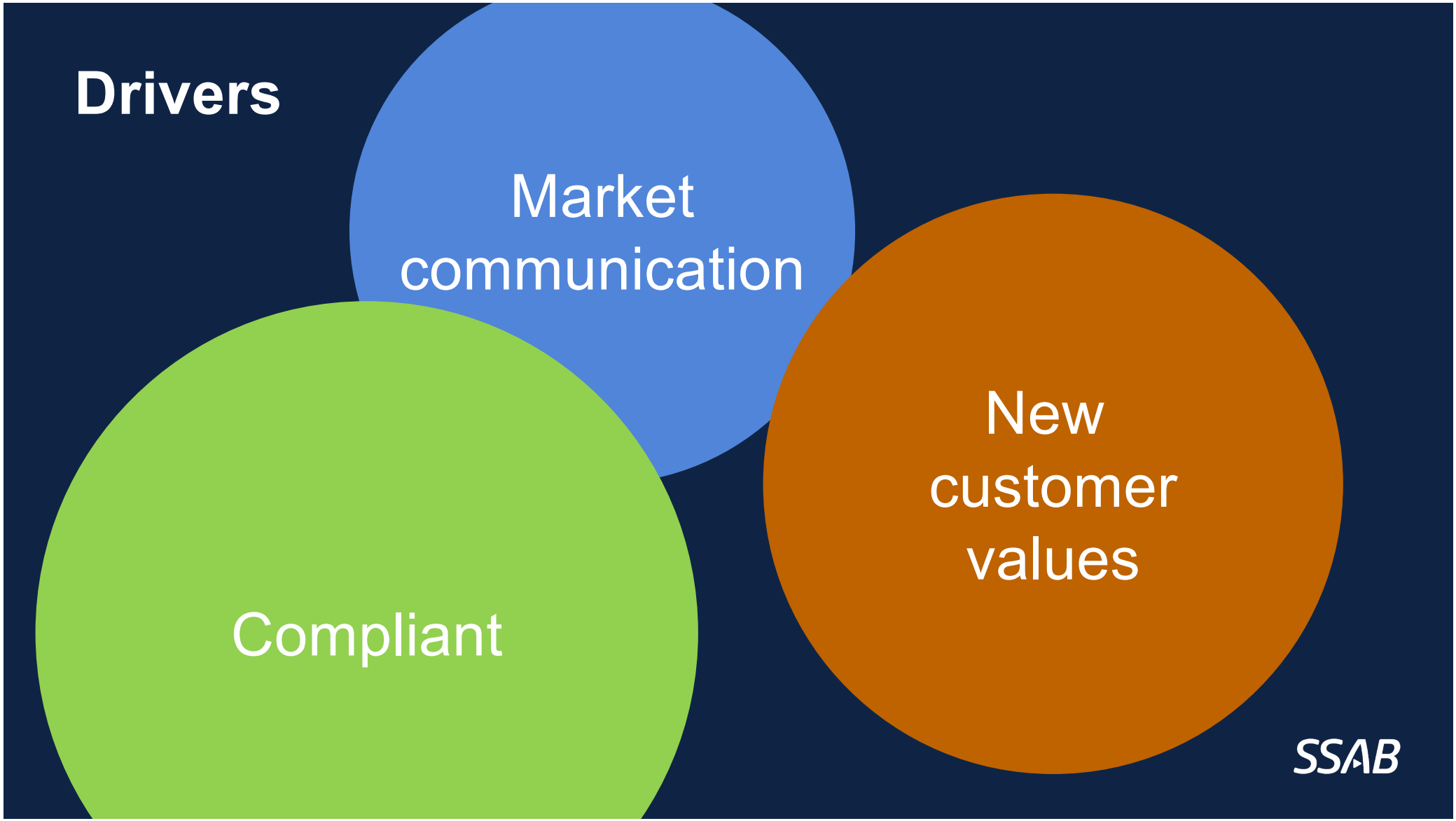
Mattresses
2029

…plus more

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Source: https://single-market-economy.ec.europa.eu/single-market/digital-product-passport_en

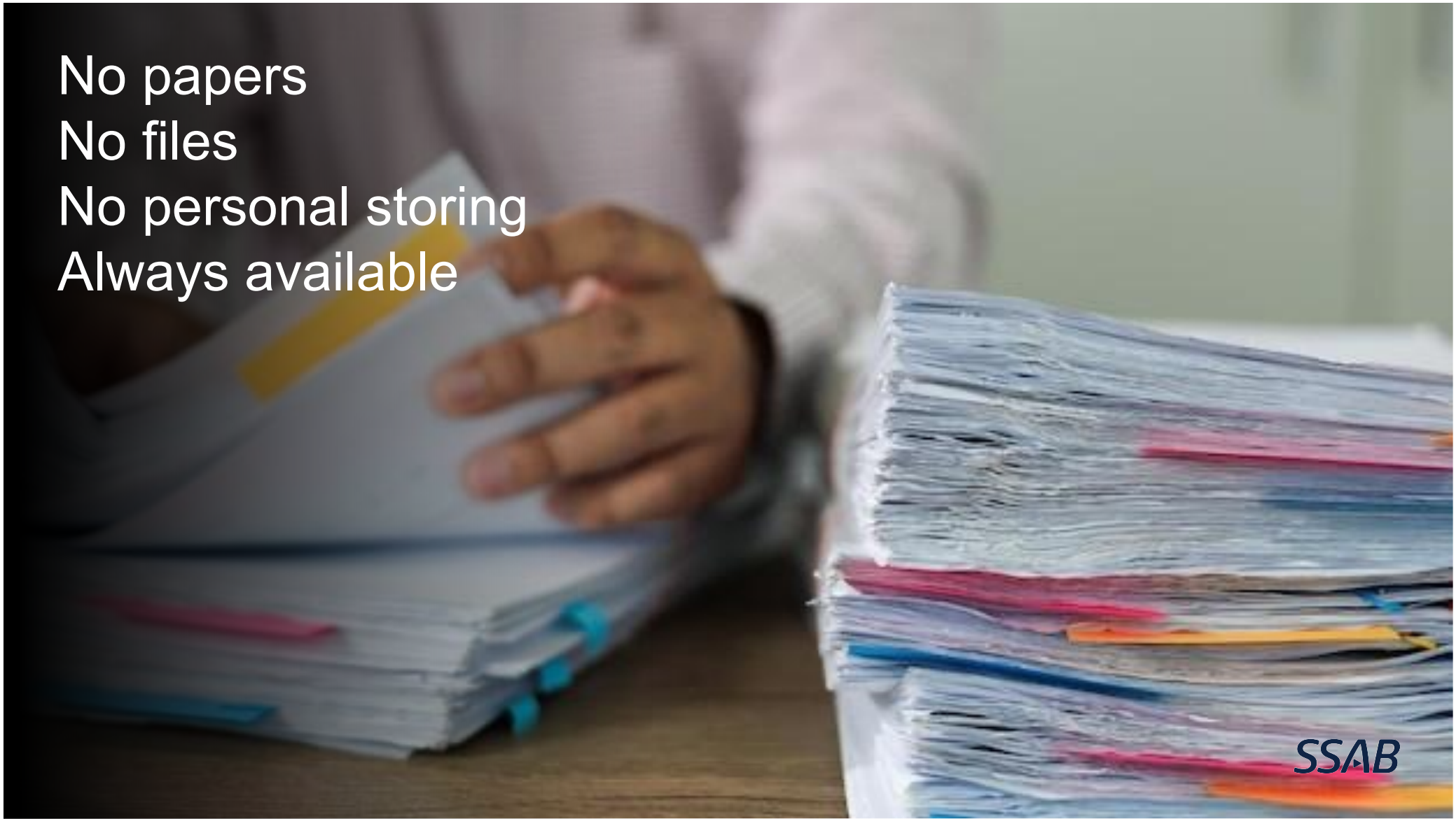

9:41
SSAB
EN
Digital Product Passport
Hardox 450
Size
1500 x 3000 x 12 mm
Product ID
147752-310833
Expand all
Dimensions
Production
Carbon footprint
Documents and links
MySSAB
Want to check another product?
Scan another QR code
Collapse all
Lenght
3000 mm
Width
1500 mm
Thickness
12 mm
Weight
424 theor. kg
Producer
SSAB EMEA AB
VAT ID
SE556313793301
DUNS ID
SE355895582
Manufacturing date
Global warming potential (GWP) A1-A3 based on Environmental Product Declaration (EPD)
1149 kg $CO_2$e
2.71 kg $CO_2$e/kg
Environmental Product Declaration
Data sheet
How to weld
How to machine
How to bend
How to cut
Order documents
Certificate
Reordering


Drivers
Market communication
New customer values
Compliant
SSAB


New
customer
values
SSAB

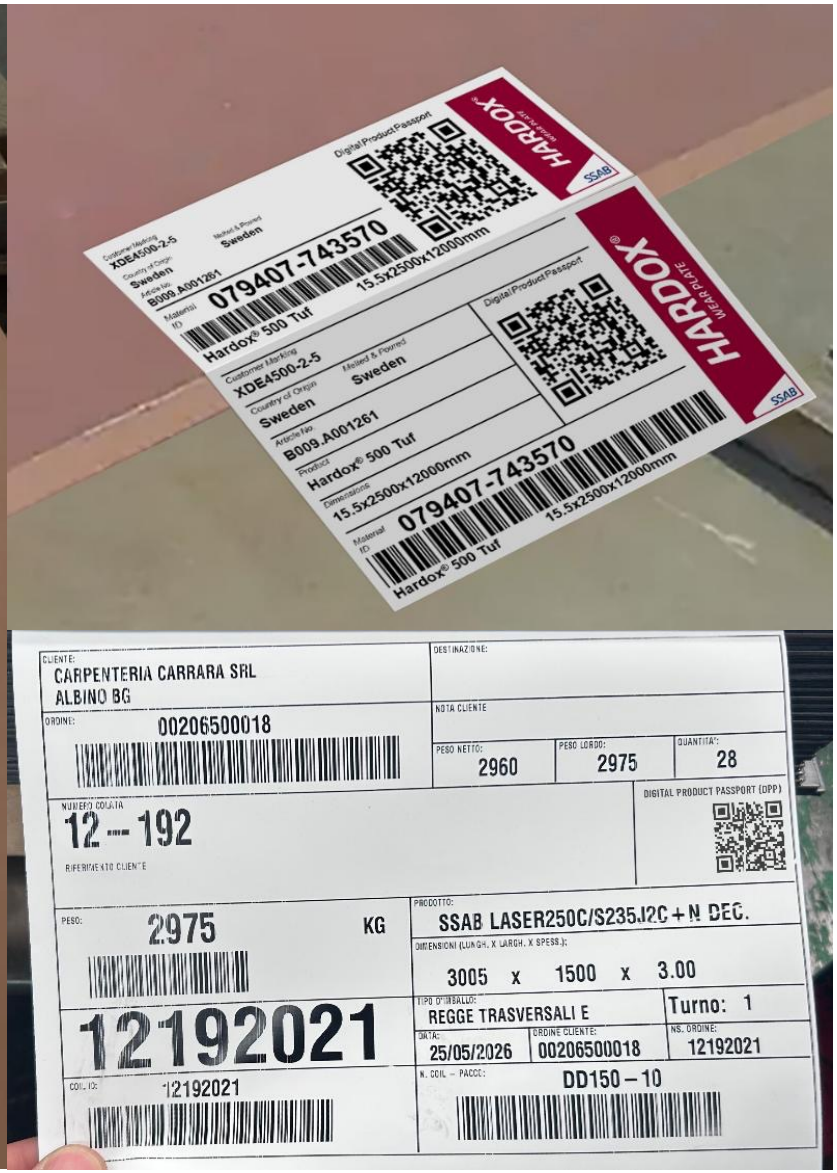
# More than compliance




No papers
No files
No personal storing
Always available
SSAB

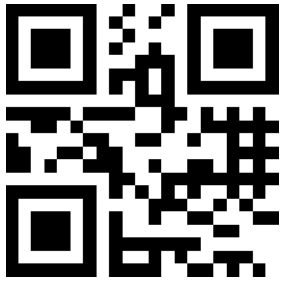
# QR codes on products

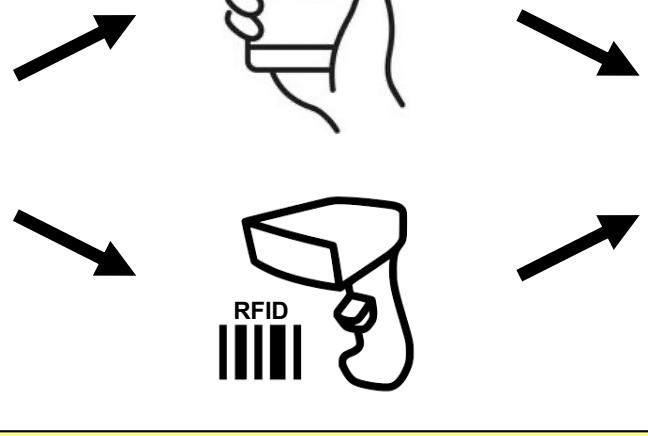


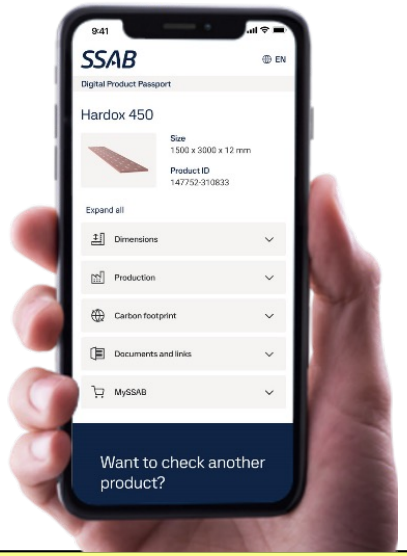



Scanning

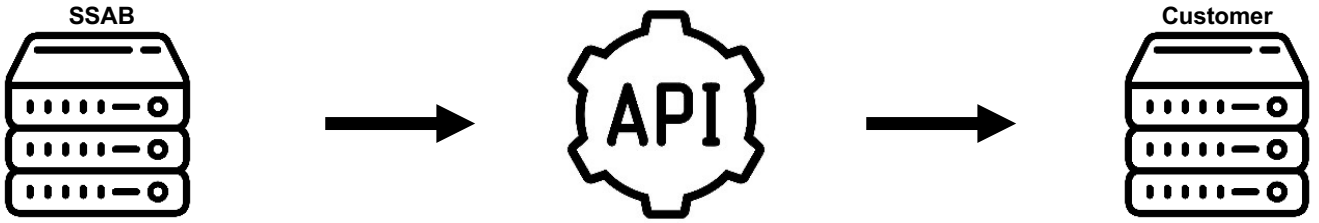
QR code on product





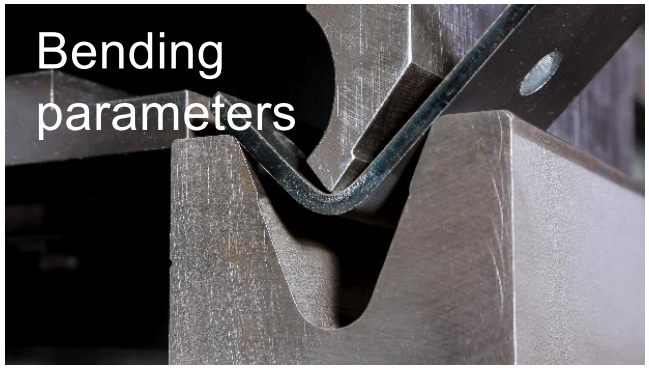

Direct data transfer




# Machine-to-Machine

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# Smarter processing and design













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# DPP is not an IT project

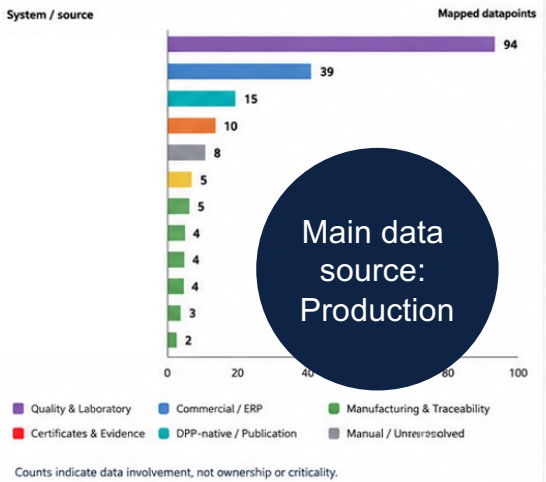



It involves everyone

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## 1 DPP DATAPOINTS BY SYSTEM

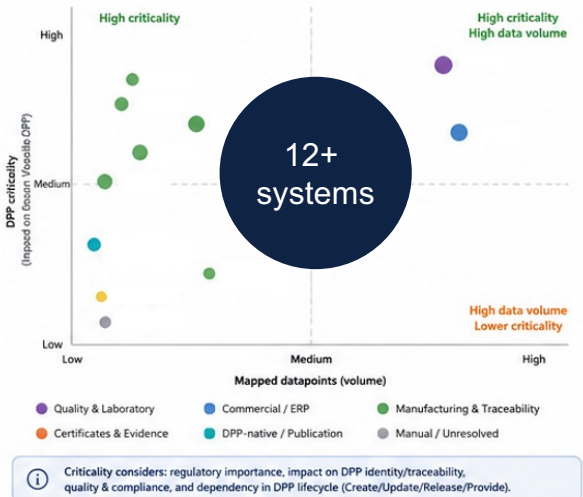
Mapped attributes in Source Register (195 total)




Counts indicate data involvement, not ownership or criticality.

## 2 SYSTEM CRITICALITY MAP

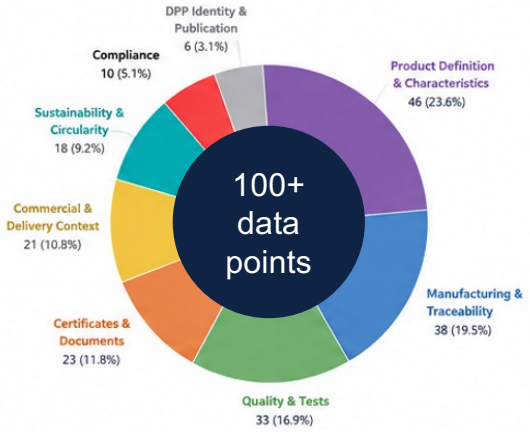
Data volume vs. DPP business criticality




**Criticality considers:** regulatory importance, impact on DPP identity/traceability, quality & compliance, and dependency in DPP lifecycle (Create/Update/Release/Provide).

## 3 DATAPOINTS BY INFORMATION DOMAIN

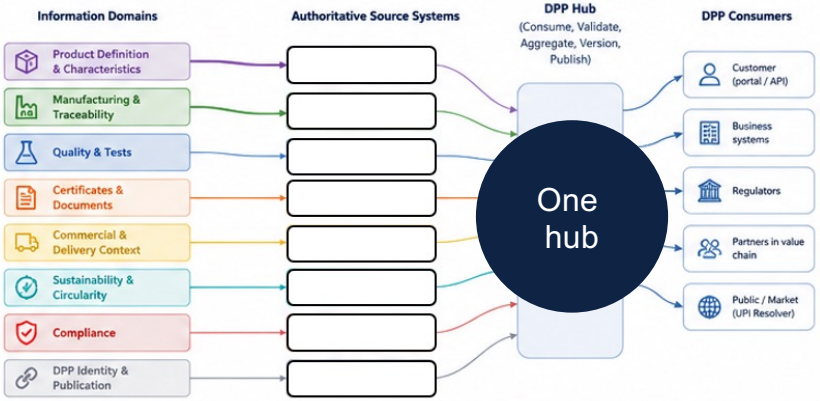
195 total mapped attributes




Domain distribution based on proposed grouping. Will be refined when delegated acts for steel are finalized.

## 4 END-TO-END DATA FLOW OVERVIEW

From authoritative systems to DPP consumers




**Principle:** Authoritative systems remain the source of truth. DPP Hub does not own business data; it aggregates and publishes.

## 5 DATA GOVERNANCE READINESS

Coverage of key governance attributes (195 datapoints)

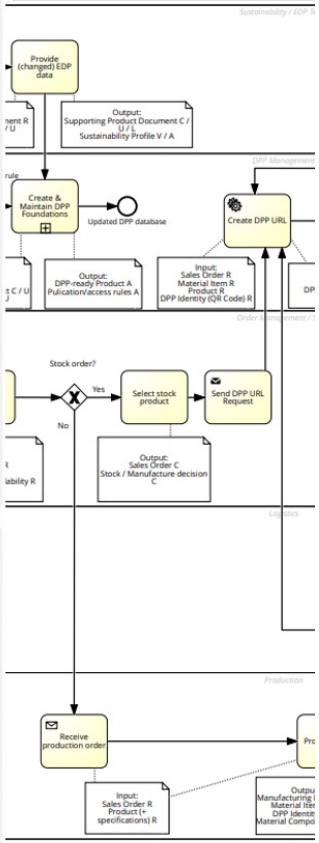
| Information Domain | Datapoints | Source Confirmed | Owner Assigned | Steward Assigned | Standard Mapped | Type/Size Defined | Access Class Defined |
|---|---|---|---|---|---|---|---|
| Product Definition & Characteristics | 46 | 30% | 37% | 26% | 67% | 52% | 61% |
| Manufacturing & Traceability | 38 | 34% | 34% | | 58% | 47% | 58% |
| Quality & Tests | 33 | 61% | | | | 61% | 70% |
| Certificates & Documents | 23 | 70% | | | | 74% | 78% |
| Commercial & Delivery Context | 21 | 48% | | | | 57% | 67% |
| Sustainability & Circularity | 18 | 28% | | | | 39% | 56% |
| Compliance | 10 | 40% | | | | 40% | 60% |
| DPP Identity & Publication | 6 | 67% | 83% | | 83% | 83% | 83% |
| **Overall** | **195** | 44% | 47% | 34% | 66% | 55% | 65% |

All data assigned

>= 70% | 40% - 69% | < 40% | Not assessed

Readiness based on current data mapping and governance register (Draft v0.1). Will improve as owners/stewards and standards alignment are confirmed.

## 6 ARCHITECTURE




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# DPP is a digital thread

Started with compliance

The standards define the data exchange protocol

Enabling intercorporate data flows and new business values



Rate my presentation!



# Johan Anderson

Emission Eliminator


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https://www.linkedin.com/in/johan-anderson/


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