



Digital Product Passport as a tool to eliminate carbon emissions

Johan Anderson | Emission Eliminator | 2024-03-28. Version 1

SSAB

The technology

SSAB emits most
CO₂ in Sweden





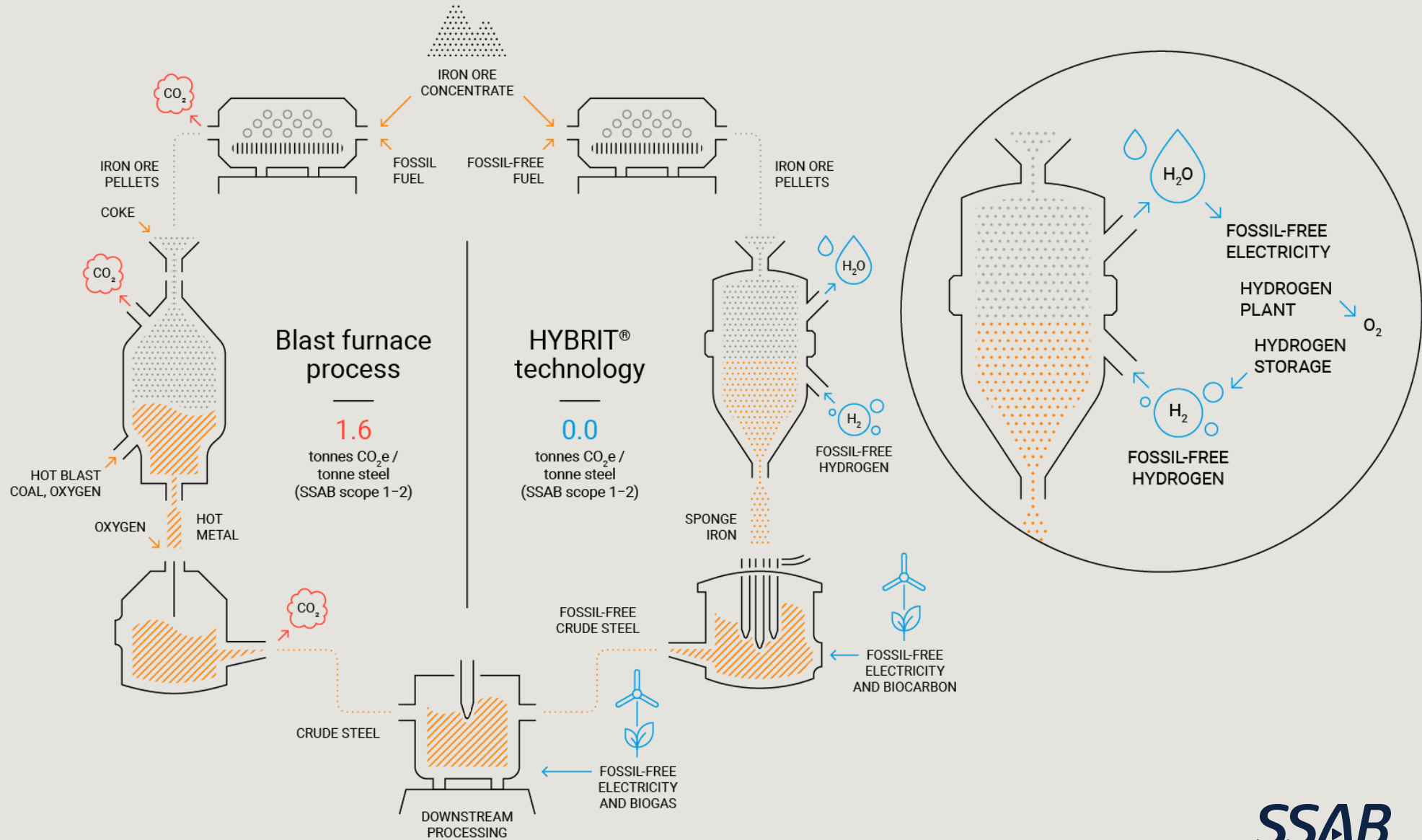
But we have invented
the technology to
eliminate the emissions

HYBRIT[®] technology

Fossil-free electricity makes hydrogen from water with electrolysis.

The hydrogen is used in the ironmaking process generating water as a by-product.

The water is used to make hydrogen again.





12 000

VOLVO

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The green deal

European Green Deal (EGD):
Europe to reach net zero emissions by 2050

Circular Economy Action Plan (CEAP)

Ecodesign for Sustainable Products Regulation (ESPR)

Construction Products Regulation (CPR)

Corporate Sustainability Reporting Directive (CSRD)

Specific regulations for textiles, batteries...

One main
instrument:
Digital Product
Passport (DPP)

FIT FOR 55 PACKAGE

All carbon price revenues are intended to positively impact ultimate consumers

Additional regulations will facilitate the introduction of carbon prices

Ensuring environmental integrity and addressing solidarity

The European Union Emissions Trading System (EU ETS) will be improved and tightened, assisting in ensuring effort sharing with important objectives

Level the playing field

Carbon taxes

Transparency

Mass balancing

Definitions

Offsetting

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The passport

DPP

Digital Product Passport is a tool for **collecting and sharing product data** throughout its **entire lifecycle** used to illustrate a product's **sustainability, environmental and recyclability** attributes.

Digital twin of a physical product.

Technical
requirements:
End of 2025

Implementation:
Starting
mid 2027

Stakeholders



In value chain

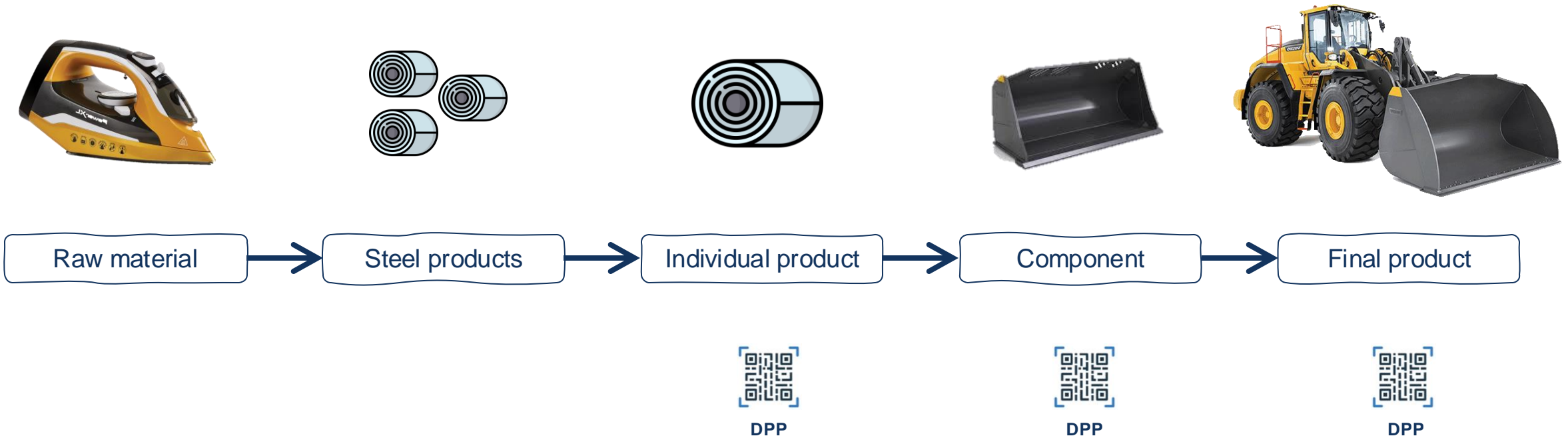
- Customers
- Manufacturers
- Importers
- Distributors
- Repairers
- Remanufacturers
- Recyclers

Outside value chain

- Market surveillance authorities
- Customs authorities
- Civil society organizations
- Trade unions
- European Commission

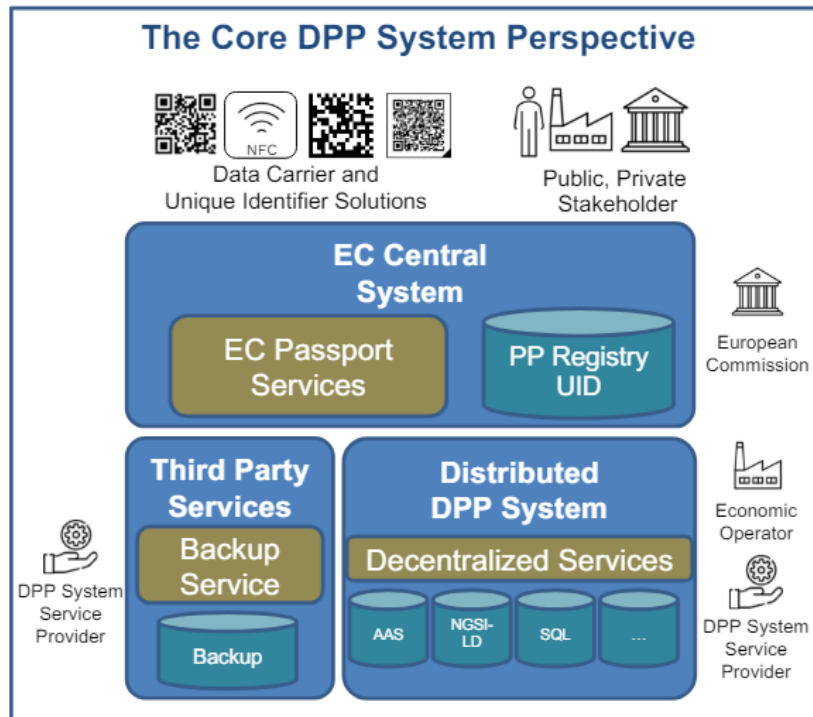
The pilot

From raw material to wheel loader



Understanding the model

Need for decentralization and federated models to benefit from a digitalized ecosystem while protecting against a centralized digital platform owned by a dominant player, incumbents must realize a shared digital backbone for the circular economy



European Commission and National Authorities
(e.g. Market Surveillance)

Economic Operators, brings products on the market
(e.g. manufacturers, importers)

DPP System and Service Providers
(e.g. for operating services, backup services)

DPP System Component Suppliers
(e.g. for Data Carrier)

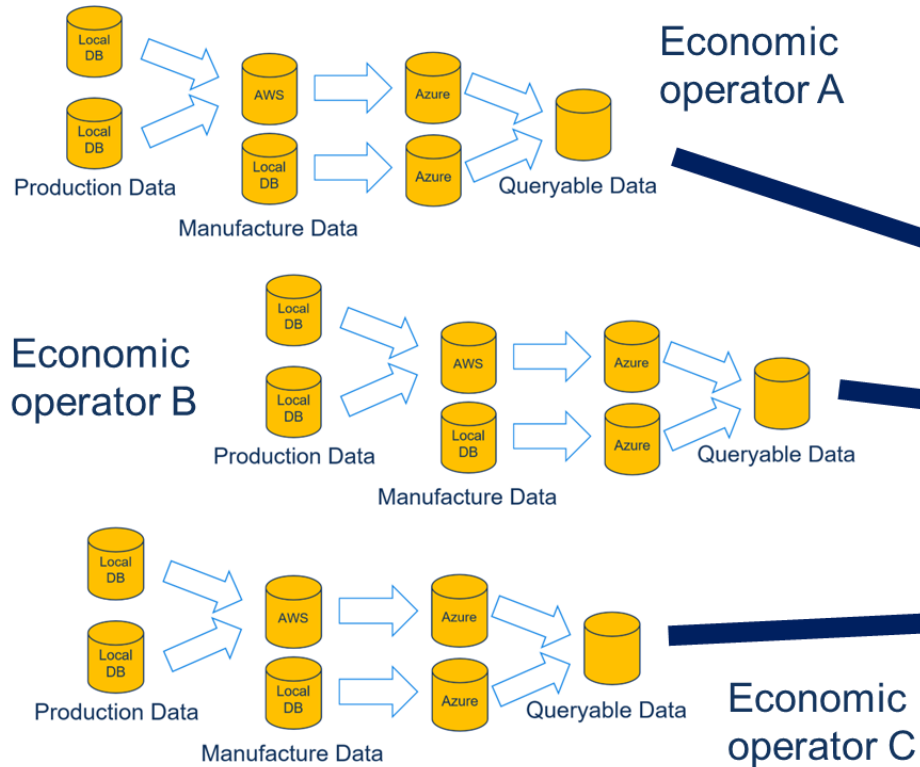
Partners in the value chain (e.g. supplier, dealer, recycler)
to know how data has to be provided, how to get access

Standardisation Bodies
(e.g. for sector specific data standardisation)

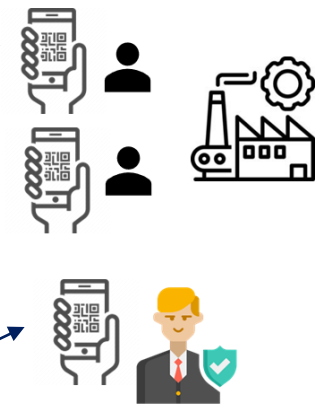
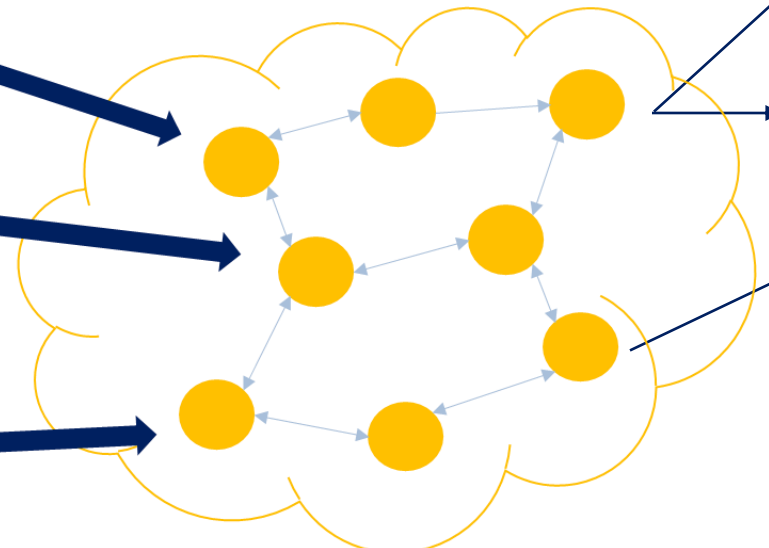
Consumer Organisations
to ensure applicability of DPP

Understanding the dataflow

How to facilitate the creation of DPP data in existing ETL processes?



Each company using the DPP system creates discoverable entities in a shared database.



Applications

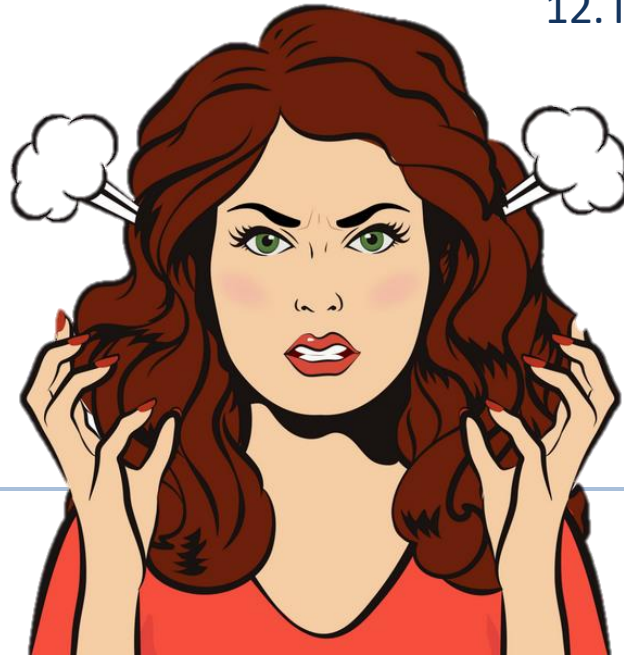
- Value creation
- Tracing energy use and GHG emissions
- Demand-supply matching
- Etc.

P2P Network

- Mandatory DPP data
- Complementary data for value-creation

Identifying the data pain points

1. Data quality and representation
2. Data and system validation
3. Supply chain info
4. Value chain needs and expectations
5. Reporting level
6. Intellectual Properties and IP protection
7. Own use of data
8. Third-party use of data
9. Public benchmark portal
10. Use Experience
11. Resources
12. Implementation time



DPP

- Levels the playing field
- Build consumer trust
- Drives sustainability
- Gives new business



summary



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