

# We enable digital over paper as standard for material certificates with traceable quality and sustainability data.

## S1SEVEN

forging the digital infrastructure  
for the *new economy* of materials

8 DECENT WORK AND  
ECONOMIC GROWTH



9 INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



12 RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



Regulatory  
compliant

Software  
integrations

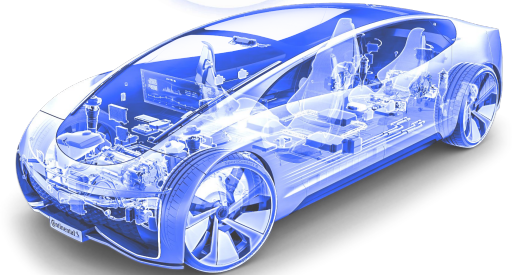
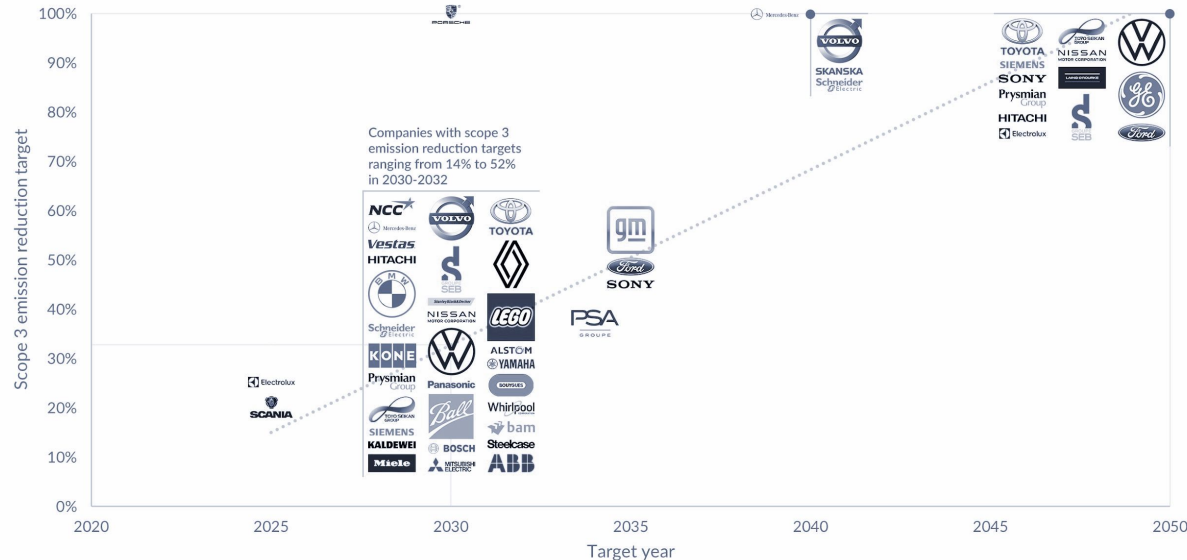
SAP® certified  
Add.on

Catena-X  
ready

V2.0

# Industry leaders are re-setting the playing field with carbon transparency as new key requirement for entire value chains

Verifiable emission are key procurement criterion with increasing restrictions on commercializing non-certified supplies.



# 80%

Of total CO2 impact in the manufacturing industry arises from the upstream material supplies but today only 6% of this data is known.

Source: Various reports and news with base years ranging from 2010 to 2020

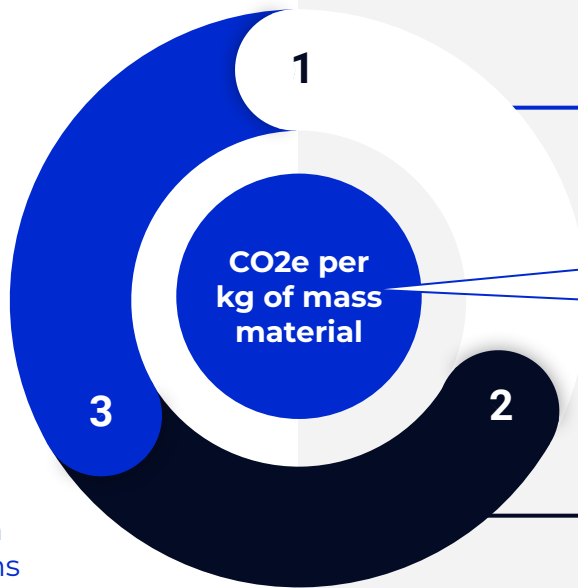
# We need a digital infrastructure for the industry to capitalize on emission reduction opportunities

**Quality**  
**+ Availability**  
**+ Service**  
**+ Sustainability**  

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**= Premium price**

New markets and pricing mechanism emerge on the basis of verifiable claims to declare and share sustainability



## Transparency

To drive awareness and scope of action for initiating measures.

**not tangible on the physical product but only its certification**

## Verifiable claims

To declare and share resulted emissions reductions with market.

# Upcoming regulatory frameworks require to share material emissions with governmental registries and various industry data eco-spaces



**PACT/Pathfinder** (Partnership  
for Carbon Transparency)

**CSRD** (Corporate Sustainability  
Reporting Directive)

**EU Digital Passport**

**CBAM** (Carbon Border  
Adjustment Mechanism)

**REACH, RoHs**

**EU Supply Chain Law**

CO<sub>2</sub>e per  
kg of mass  
material



**Manufacturing-X**

**LME Passport**

Reporting standards are  
increasingly shifting away from  
average emission factors to  
primary, supplier-specific PCFs

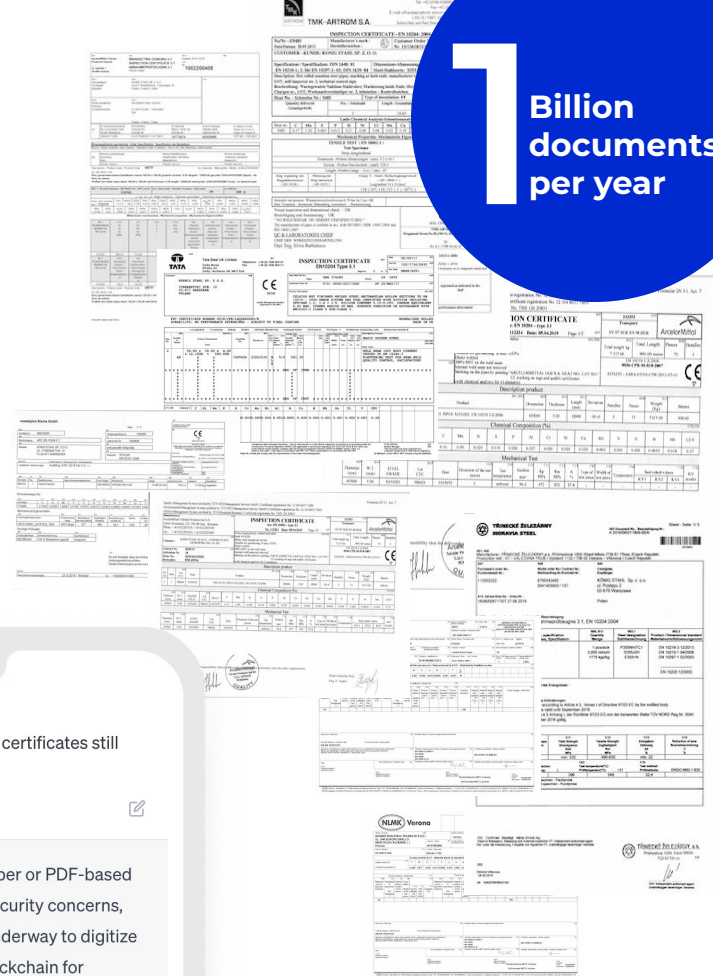
“Today we exchange PDF or Excel files. If now we want to bring forward and share reduced product carbon footprints or increased recycled contents we need other ways”

Dr. Andreas Wollny, BASF Project Lead Catena-X

We don't need to reinvent the wheel:

Today, suppliers already exchange information for quality in the form of PDF-based certificates but with no possibility of connecting this information to digital processes and machines.

1 Billion documents per year



Hey ChatGPT, why are material quality certificates still paper or PDF-based?



Material quality certificates are still paper or PDF-based due to tradition, legal requirements, security concerns, and compatibility issues. Efforts are underway to digitize certificates using technologies like blockchain for improved authenticity and accessibility.

We introduce the

# Digital Material Passport (DMP)

for steel, metals and chemicals

[www.digitalmaterialpassport.com](http://www.digitalmaterialpassport.com)



**Automate** today's manual work for document receipt, handling and material approval processes.






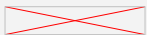
**Drive transparency** on supplier specific, primary scope 3 data instead of average emission factors.



**Capitalize on sustainability** with product differentiation and new pricing mechanism on the basis of verifiable claims

# The DMP is providing immediate value today and is laying the rails to capitalize on the realisation of carbon reduction opportunities tomorrow.

	 <b>Producer</b>	 <b>Distributor</b>	 <b>Processor</b>
<b>Automate</b> save time and money	IT managers replace multiple EDI connections with a single API and serve all customers with machine readable material data.	Quality managers and technical procurement replace manual document handling with digital material approval processes.	Production managers increase efficiency by using the actual material data to optimize the setup of processing equipment.
<b>Drive transparency</b> declare and share compliance digitally	Compliance managers respond to upcoming audit requirements efficiently and with low cost by using digital tools.	Product managers are improving transparency for quality and sustainability along the supply chain using data and digital tools.	Sustainability managers account with supplier-specific, primary upstream scope 3 data instead of average emission factors.
<b>Capitalize on sustainability</b> drive product and price differentiation	Innovation and sales managers drive product differentiation and new pricing mechanism on the basis of verifiable claims.	Product and sales managers develop new customer value propositions, for them to meet their carbon reduction targets.	Key-account managers outpace competition and meet targets of OEM, brand producers early and with a verifiable chain of custody



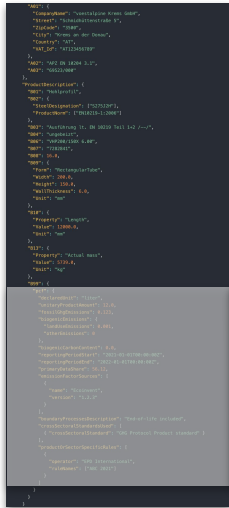


**We upscale the existing regulatory standard with auditable data, verification and integration capabilities**



- **Machine-readable** data to enable digital workflows and analytics
- **Compliant** with existing regulatory CoA standards i.e. EN 10204/ISO 10474
- **Future-proof**, our data formats are all open source to ensure interoperability
- **Digitally verifiable**, at any point in the value chain with a open & free service
  - **Authentication:** The message has been created by a known sender.
  - **Non-repudiation:** The sender cannot deny having sent the message.
  - **Integrity:** The messages has not been altered during transmission.

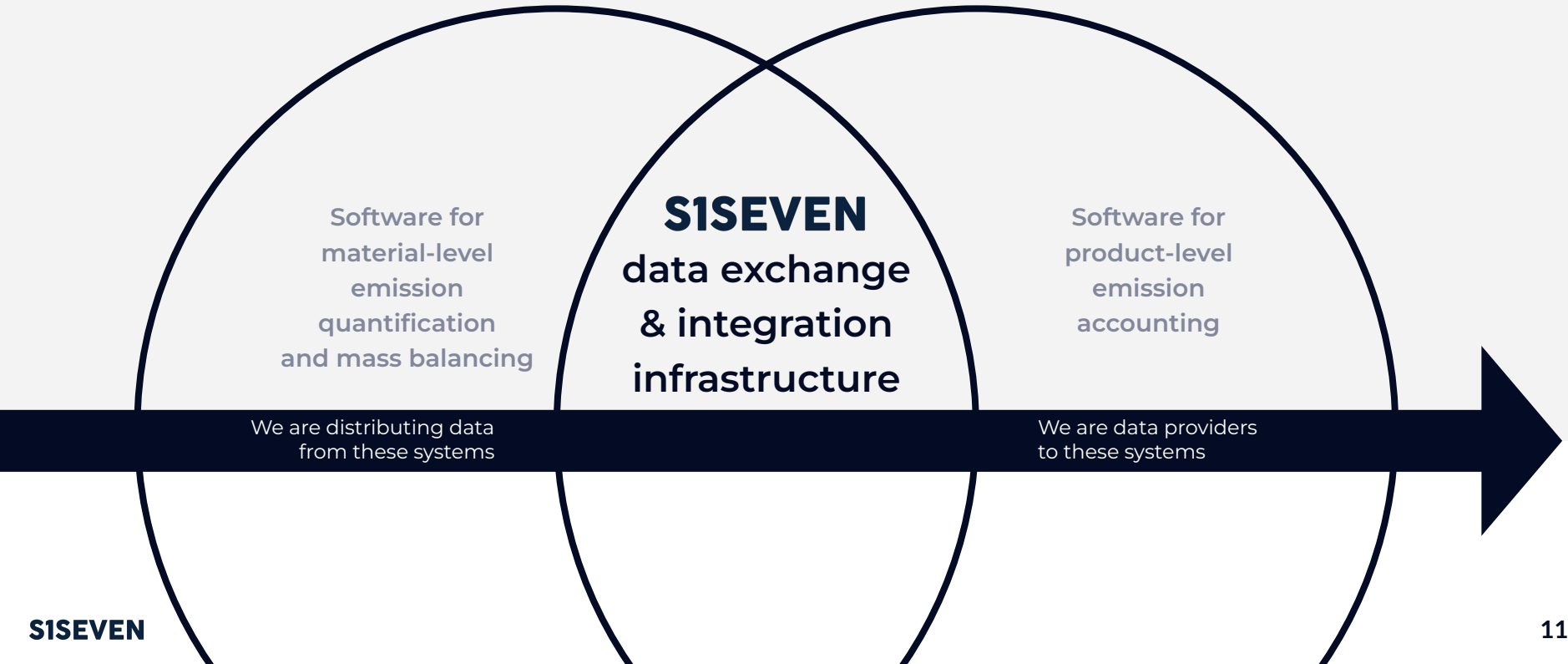
# The Digital Material Passport is the regulatory-compliant container for quality and additional batch and non-batch specific data



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  }
}
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- **Sustainability data** such as from an EPD or more granular quantifications
- **Declarations** of Conformance or any third-party approvals
- **Processing data sheets**, generic or batch-specific instructions
- **Additional quality data**, processing data and measurement curves
- **Simulation data** for engineering with and processing of the material

# The Digital Material Passport is closing the data gap for carbon management and transparency solutions

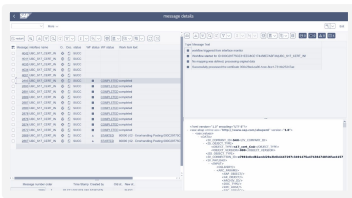


“A Digital Material Passport (DMP) enables to share information that are essential for a products' quality, sustainability and circularity. It is specific to each production batch and includes verifiable claims on the origin of the material, the manufacturing process, the physical and chemical properties and the emission levels associated with the material. A DMP aims to promote sustainable use of materials throughout their lifecycle from production, processing, use & reuse, recycling, and recovery of materials.”

## Material Suppliers

 Available on  
**SAP Store**

Orchestrate data sources  
and create a DMP from your  
existing enterprise software.



Provide immutable credentials to the DMP and its content, secured on the Blockchain



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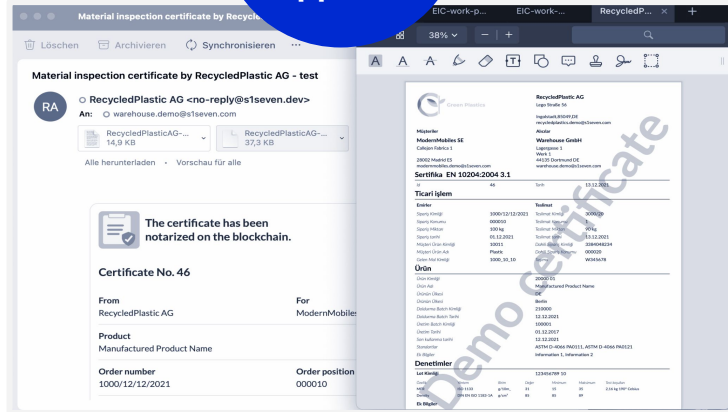
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}

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[illegible]

# Providing all its **Material Buyers** with actionable data, verification and integration capabilities

1-step  
rollout as  
PDF and  
email are  
supported

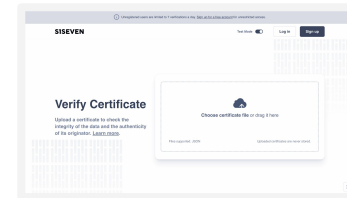


## Material Buyers



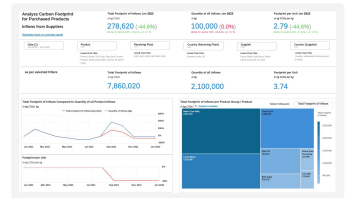
### Verify DMP

Verify the data integrity and the identity of its originator anywhere in the value chain

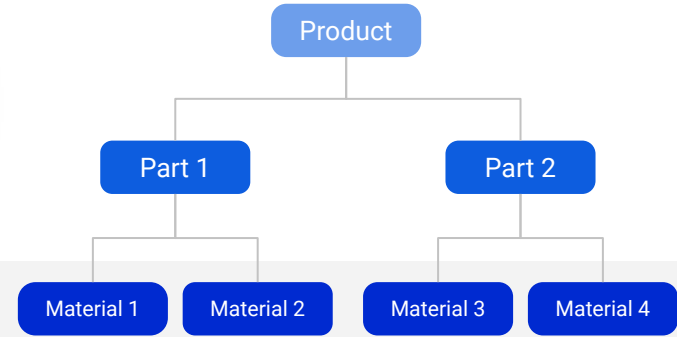
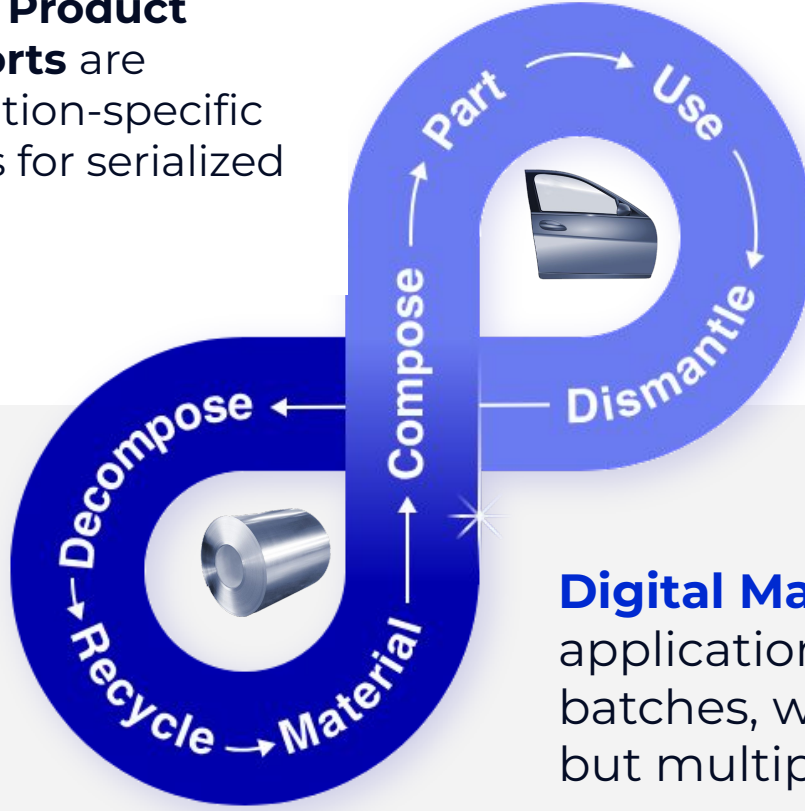


### Connect DMP

Simply integrate DMP data with digital processes in software and machines.

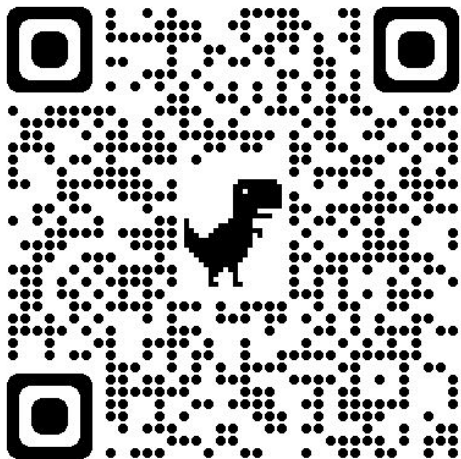


**Digital Product Passports** are application-specific records for serialized parts.



**Digital Material Passports** are application-agnostic records for material batches, which live through not only one but multiple product life cycles.

DEMO



[www.DigitalMaterialPassport.com](http://www.DigitalMaterialPassport.com)

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