

# Corporate Sustainability Reporting Directive (CSRD)

Uniforme ketenaanpak voor een transparante en  
goede kwaliteit van duurzaamheidsinformatie

16 november 2023

# Het programma voor vandaag

**3 sprekers** met presentaties van +/- 10 minuten

**10:35 – 10:45**

Corporate Sustainability Reporting Directive



**Tülay Dilsiz-Gedik**

Deloitte Accountants B.V.

ESG Specialist Senior Manager

**10:45 – 10:55**

Het Digital Product Passport komt eraan!

Identificatie en data delen als sleutel voor succes.



**Michiel van Yperen**

GS1

Duurzaamheidsmanager

**10:55 - 11:05**

Samenwerking in de keten voor emissiegegevens in product paspoorten



**Yvo Hunink**

Dutch Blockchain Coalition

Theme Lead Energy & Sustainability

**11:05 – 11:30**

Paneldiscussie en vragen vanuit de zaal



**Corporate Sustainability Reporting Directive**  
Nationale Coalitie Duurzame Digitalisering 16-11-2023



# Regulations and stakeholder expectations drive the business agenda

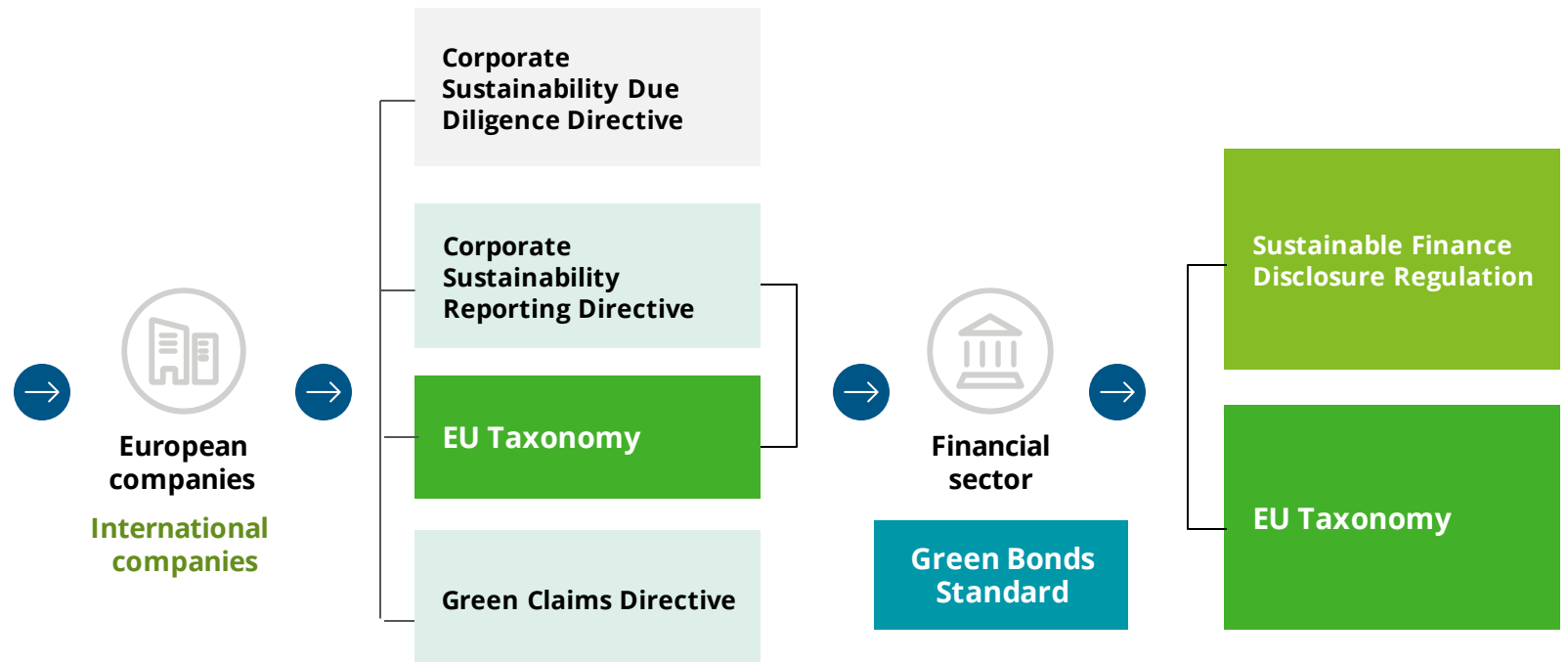
EU regulations on transparency have momentum

## EU ambitions



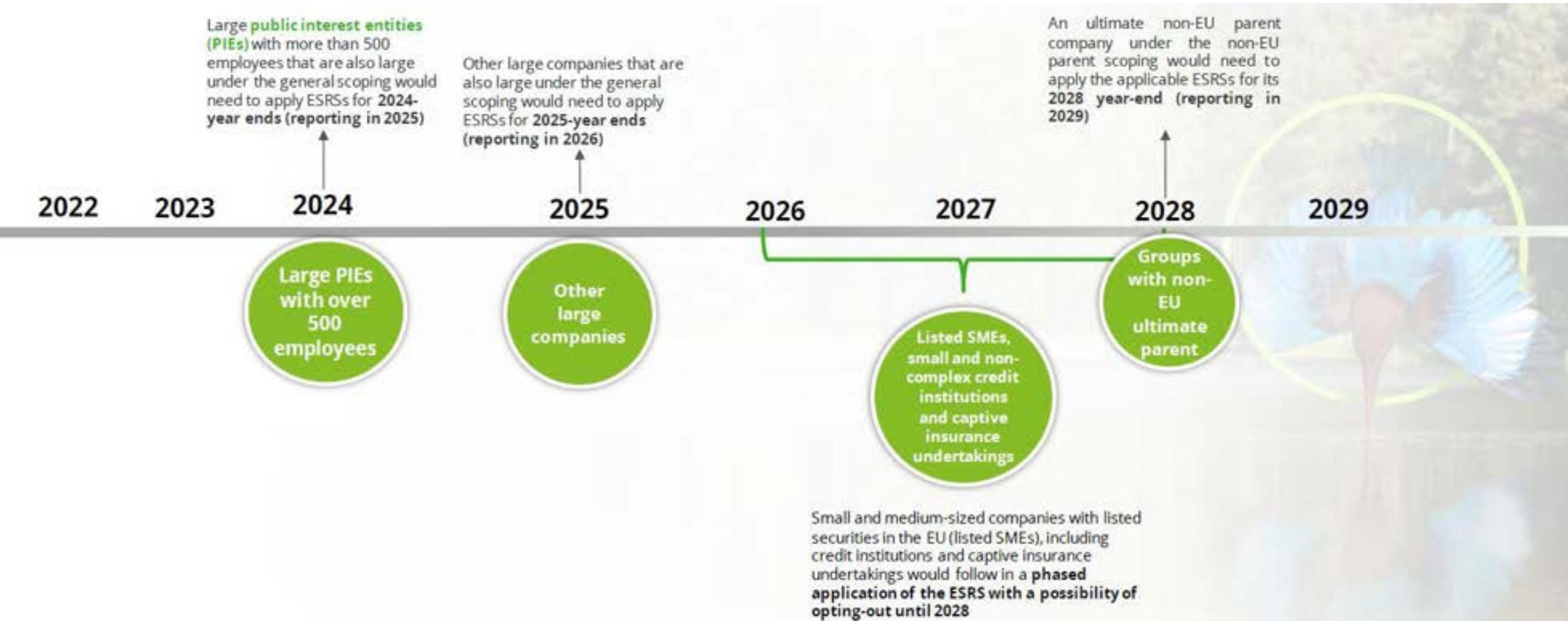
- 01** Redirect capital flows to sustainable investments
- 02** Systematically integrate sustainability into risk management
- 03** Promote transparency and a long-term perspective

## EU regulations



# CSRD

Wanneer is de CSRD en voor wie van toepassing?



# Corporate Sustainability Reporting Directive

# European Sustainability Reporting Standards and EU Taxonomy

## Corporate Sustainability Reporting Directive

## EU Taxonomy

## Capex

**Opex**

## Revenues

for aligned  
(‘green’) activities



## European Sustainability Reporting Standards



## Cross-cutting standards

## ESRS 1 – General Requirements

## ESRS 2 – General disclosures



## Environment

ESRS E1 –  
Climate Change

## ESRS E2 – Pollution

## ESRS E3 – Water and Marine Resources

## ESRS E4 – Biodiversity and Ecosystems

ESRS E5 – Resource use and Circular Economy



## Social

ESRS S1–  
Own Workforce

## ESRS S2 – Workers in the Value Chain

### ESRS S3 – Affected Communities

ESRS S4 – Consumers and End-users



## Governance

ESRS G1–  
Business conduct

# De Dubbele materialiteit

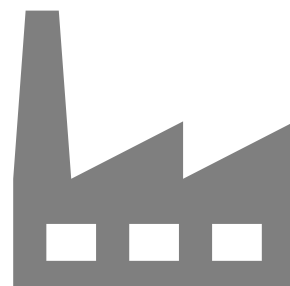
Double materiality takes into consideration impact and financial materiality (risk and opportunities)

## Severity is based on:

- Scale of the impact
- Scope of the impact
- Irremediable character of the impact

### Impact materiality

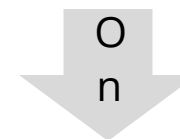
Company impact on people & the environment



### Financial materiality

People & the environment's effect on the company

Triggers or may trigger material *financial* effects



The company's development, including **cash flows, financial position** and **financial performance**

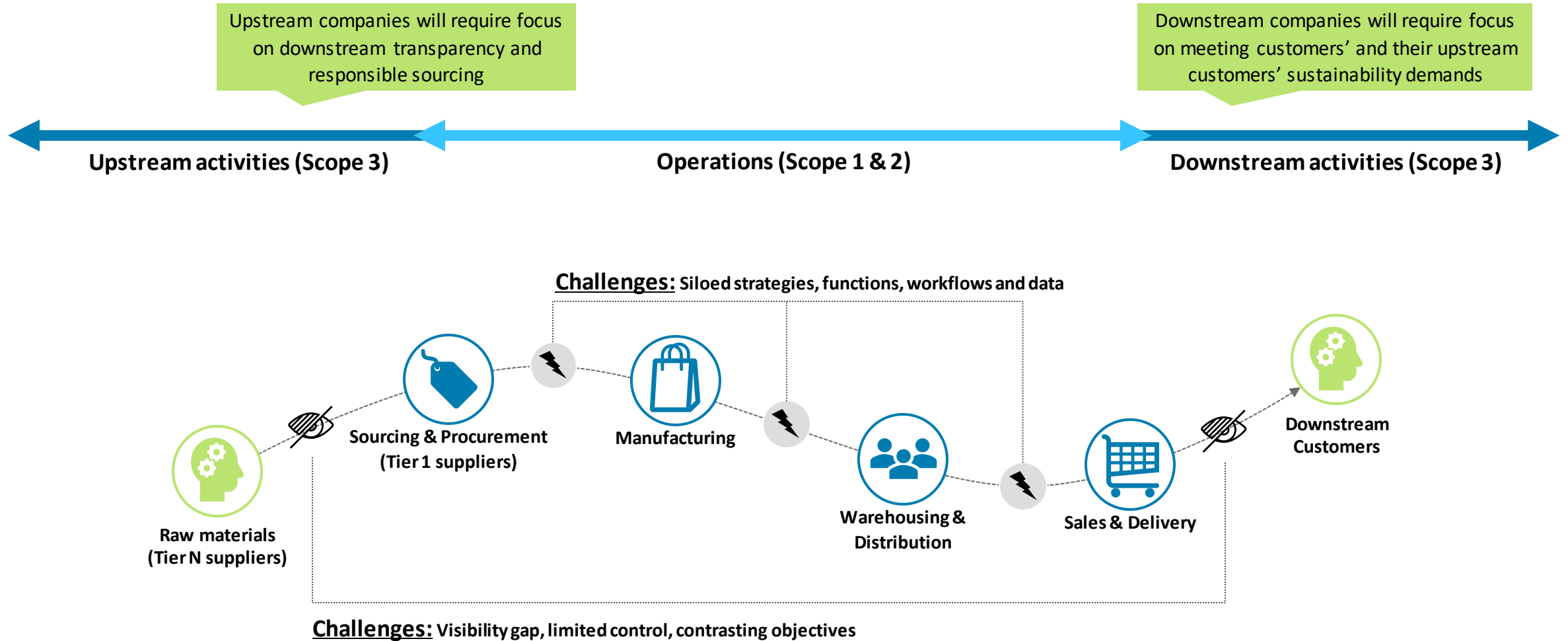
Risks and opportunities

Value chain

Stakeholder engagement

# Waardeketen

Example: Regardless of your role in the value chain, you need to develop end-to-end visibility on ESG impact in the supply chain



## Example to identify the value chain material topics

# Het Digital Product Passport komt eraan!



Michiel van Yperen | 16 november 2023

# Circulaire economie mogelijk maken



**EU Green Deal**



# Green Deal - EU wetgeving framework

## ESPR

Ecodesign for Sustainable Products Regulation

### What

Circularity focus, including Digital Product Passport. Requirement on information to consumer, repair, recycler

### Who

Any physical good, with a few exceptions, such as food, feed, medicinal, and veterinary products

### When

Estimated 2027

## PPWR

Packaging and Packaging Waste Regulation

### What

Packaging and packaging waste. Requirement to have digital link on pack carrying information on the packaging's reusability & recycled content

### Who

All products with a packaging

### When

Estimated 2027

## Deforestation

Regulation for Deforestation-Free Products

### What

Deforestation & degradation related to palm oil, cattle, soy, coffee, cocoa, timber and rubber

### Who

All companies placing on the EU market products that includes palm oil, coco, coffee, cattle, rubber

### When

Estimated 2026

## CSRD

Corporate Sustainability Reporting Directive

### What

Sustainability Reporting Framework on Environmental, Social and Governance (ESG) indicators (ESRS)

### Who

Large companies and listed SMEs

### When

Estimated 2024

## CSDDD

Corporate Sustainability Due Diligence Directive

### What

Risk analysis and actionplanning on Human rights and environmental aspects in the value chain

### Who

Large companies across sectors; medium-sized companies in high-impact sectors

### When

Estimated 2024

CE-data

(Digital Product Passport)

Verpakkingsdata

(UPV)

ESG-data

(ontbossing)

ESG-data

(CO2 etc)

Risico-analyse

(materialiteit)

# Digital Product Passport - Vereisten ESR

- Unieke **identificatie van producten** als basis voor het paspoort
- Wereldwijde door **iedereen** te gebruiken standaarden voor productdata



# GS1: global language of business



**GS1: not for profit, open standaarden, wereldwijd actief (116 landen)**

# GS1 standaarden

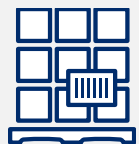
## Identificeren



Producten (GTIN/EAN)

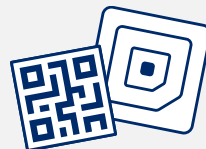


Locaties en organisaties  
(GLN)



Logistieke eenheden  
(SSCC)

## Data vastleggen en delen



QR-code en RFID



GS1 Digital Link



Productdata (GDSN/  
GS1 Data Source)



Registers

# Veel data is al beschikbaar QR-code = one stop shop



# Waar beginnen?

## Learning Expedition Textiel en schoenen

### Les 1: Maak gebruik van datasystemen die werken en door de industrie in het leven zijn geroepen

Bijvoorbeeld de international geaccepteerde GS1 artikelcode als de sleutel naar alle benodigde data.

### Les 2: Werk samen met je ketenpartners en spreek één datataal

Maak gebruik van 'open' systemen die door iedereen in de keten en alle IT-systemen gebruikt kunnen worden. Voorkom een 'vendor lock-in'.

### Les 3: Wacht niet af en start nu

Je kunt nu al beginnen met het verzamelen van data die nodig zal zijn voor een Digital Product Passport. Identificatie van producten, locaties etc. en het vastleggen van product masterdata.



Op weg naar een  
**Digital Product  
Passport** voor  
textiel en schoenen



### Learnings die helpen als bedrijven willen beginnen

Bedrijven, investeerders, klanten/consumenten en overheden stellen steeds hogere eisen aan duurzaamheid van producten.

- Met de Green Deal wil de Europese Unie komen

Breng je kleding, schoenen of ander textiel op de Europese markt? Dan moet je in 2027 een Digital Product Passport (DPP) meeleveren met die producten. Dit Digital Product Passport is een van de bouwstenen van de Green Deal

[www.gs1.nl/dpp](https://www.gs1.nl/dpp)

**voor meer  
informatie  
en voorbeeld**

# Dutch Blockchain Coalition

## Digital Product Passports

Nationale Coalitie Duurzame Digitalisering

*16 november 2023*

*Yvo Hunink de Paiva*



- Introductie DBC
- Use cases DDP
- Rapport TNO
- Welke issues spelen
- Plannen voor 2024



# Dutch Blockchain Coalition

connect and create

 [dutchblockchaincoalition.org](https://dutchblockchaincoalition.org)

 [@BCcoalitionNL](https://twitter.com/BCcoalitionNL)

 [Dutch Blockchain Coalition](https://www.linkedin.com/company/dutch-blockchain-coalition/)

## Kern partners



## Partners



# Dutch Blockchain Coalition



**Mission:** to increase both knowledge and use of blockchain technology in the Netherlands, thereby speeding up the decentralisation of digital infrastructure.

**How:** The Triple Helix: Collaboration between the government, businesses, and educational institutions, with the Dutch Blockchain Coalition (DBC) as a driving force (DBC serving as the "4th party" in the triple helix)



# Missiedoorsnijdende bouwblokken voor het NPE

Blockchain as part of the key technologies in the Top Sector ICT has led to a number of fundamental building blocks that can be used to help achieve the energy transition.



Identities for digital...



Individuals



Organizations



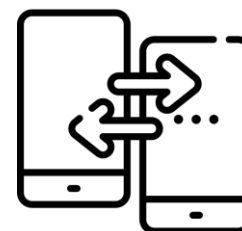
Things



Tokens for digital...



Ownership



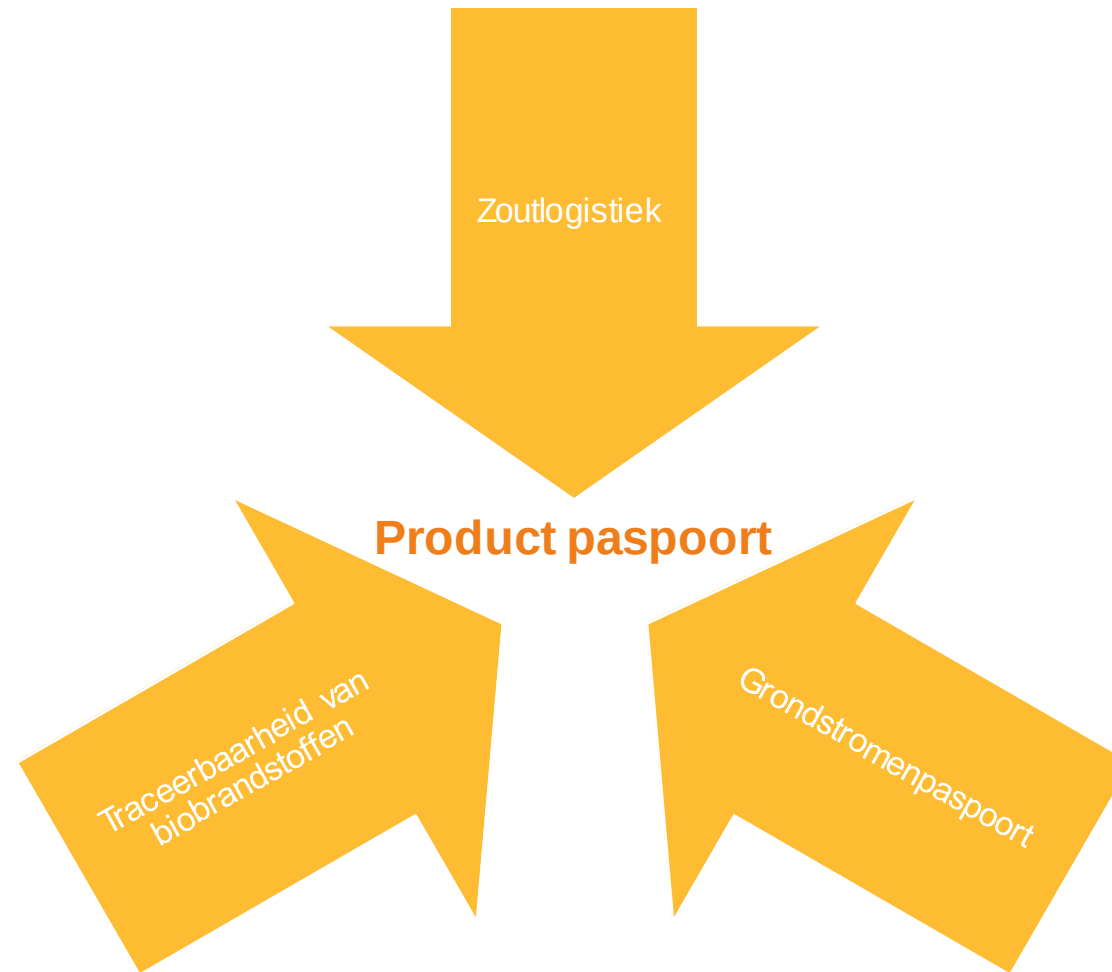
Value transfer



Shareholding



Voting power



# TNO report for DBC



## TYPES OF DIGITAL PRODUCT PASSPORTS

› Linear 

› E.g. bio fuels

› Circular

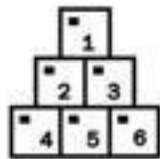
› E.g. Batteries

› Discrete products

› E.g. Batteries

› Batched products

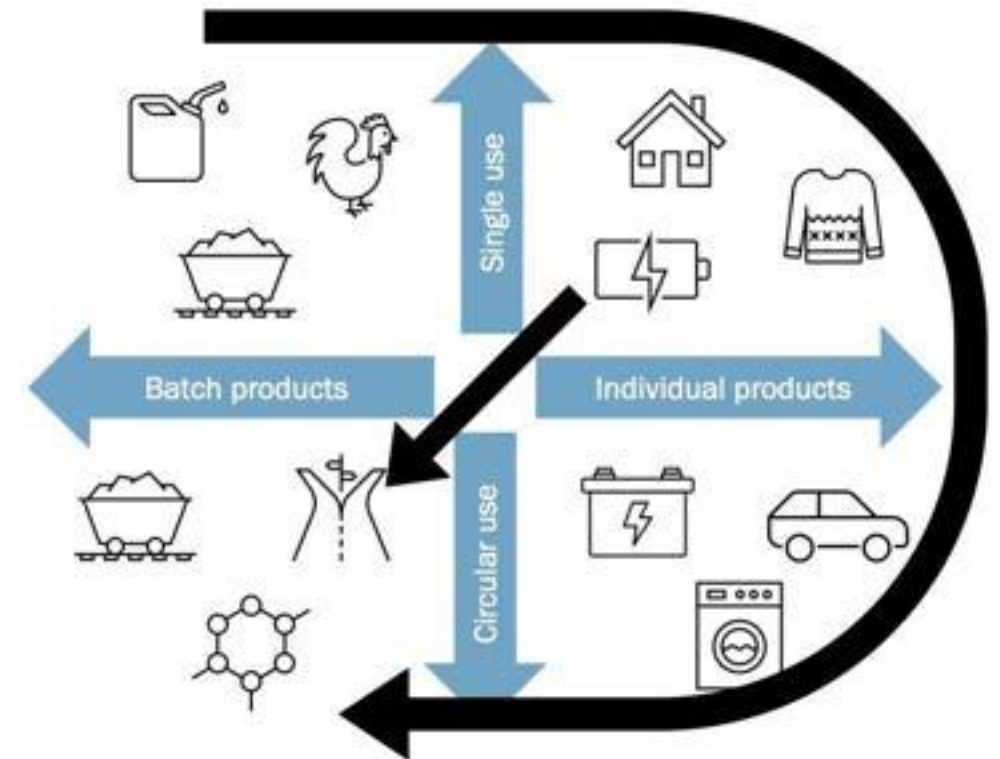
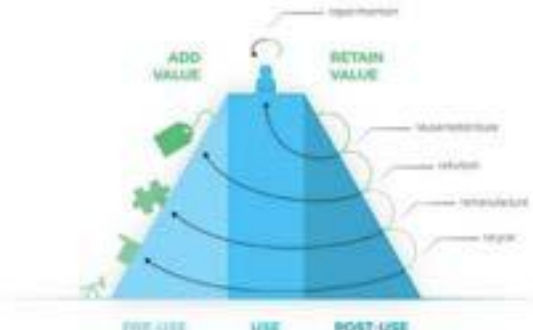
› E.g. Soil passport



The linear economy



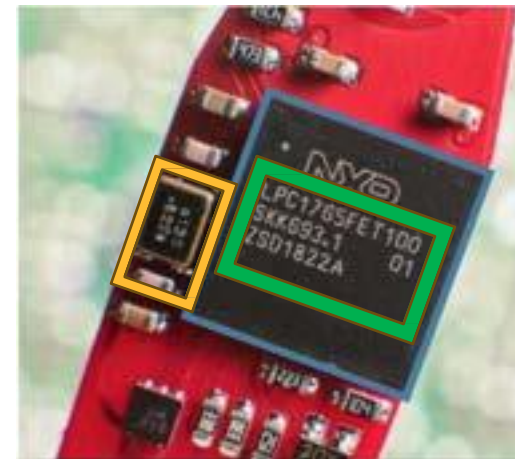
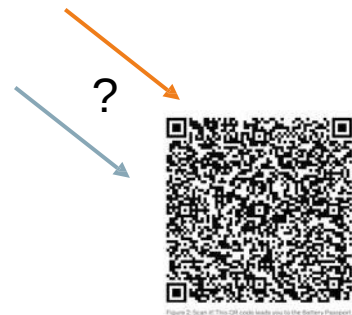
The circular economy



# Ontwerpkeuzes om te maken

## Tijdens het bouwen van product paspoorten

- Waar komt je data te staan?
  - Elke organisatie slaat zelf de data op
  - De data is fysiek verbonden aan het product
  - Hybride vormen
  - Derde partijen slaan de data op voor de keten
- Hoe link je fysieke objecten met digital informatie?
  - Op het product zelf (e.g met een chip)
  - Digitale identifier
  - Fysieke identifier
  - Locatie gebaseerd



## Some considerations when making product passports

- Interoperabiliteit vanuit een juridisch, organisatorisch, semantisch and technisch perspectief
- Er zijn nog **niet voldoende standaarden** om genoeg detail te krijgen in product paspoorten.
- Nieuwe **standaarden zijn uitdagend** om te creëren
- **Top-down modellen lijken onpraktisch** vanwege de complexiteit.
- Samenwerken door leveranciersketens heen:
  - Data delen
  - Data begrijpen
  - Incentives krijgen om data te delen
  - Data te vertrouwen
  - Data visualeren
  - Juridisch verdedigbare conclusies trekken voor uitvoering

- Paspoort is alleen nog te gebruiken in afgekaderde projecten, maar **geen uitwisselbaarheid van de gegevens** daarin, of opschaling van project naar netwerk.
- Er moeten **afspraken en verplichtingen komen om de business te dwingen** of de case aantrekkelijker te maken.
- De overheid moet **eenduidigere eisen** gaan stellen
- Het is meer een **systeemvraagstuk** dan een technisch vraagstuk
- Er zijn veel **onbenutte cross-sectorale kansen**
- **Aantoonbaarheid** en onveranderbaarheid van informatie is het belangrijkste
- We moeten **dezelfde taal** gaan spreken
- Hoe wordt het **geïntegreerd een reeds bestaande** productinformatie en traceersystemen?
- Hoe weten we zeker dat **concurrenten niet bij de data** kunnen waarvan we dat niet willen?

# 'S wereld eerste decentrale product paspoort

Batterij paspoorten op SSI (decentrale digitale identiteit) door Spherity



## Battery Passport

### Ultium Battery Passport

Explore the essential technical and environmental attributes of the Ultium Battery. Contributing to the broader goals of a greener future.

**"Pushing the Limits of Transportation & Technology."**

Powered by



Interested in creating and publishing your own verifiable Battery Passport?  
Contact us or RCS Global for a personal demo of our Battery Passport management system.

Get in touch →

Learn more

### Basic Data

|                                           |                                           |
|-------------------------------------------|-------------------------------------------|
| Manufacturer Identification<br>GM-LG Chem | Manufacturing Place<br>USA                |
| Manufacturing Date<br>2021-02-14          | Battery Category<br>EV                    |
| Battery Weight<br>454 kg                  | EU Declaration Of Conformity<br>Compliant |

### Technical data

|                                              |                                           |
|----------------------------------------------|-------------------------------------------|
| Part #<br>H3-AGM                             | SKU #<br>319459                           |
| Negative Terminal Location<br>Top Left Front | Reserve Capacity<br>150min                |
| Terminal Type<br>SAE - Type A                | Rated Capacity<br>230 Ah                  |
| Maximum Voltage<br>400 V                     | Maximum Permitted battery g<br>400 W      |
| Minimum Voltage<br>260 V                     | Nominal Voltage<br>345 V                  |
| Battery Chemistry<br>NMC                     | Battery Unique Identifier<br>FF150LTG123  |
| Original Power Capability<br>563 hp          | ID-01 EU Declaration Of Confi<br>EC-67890 |

### Greenhouse Gas

Performance Category ● CO<sub>2</sub> footprint ●

**A** ————— 200 kg CO<sub>2</sub> e

### Child Labour

Score

**86** ●

### Human Rights

Score

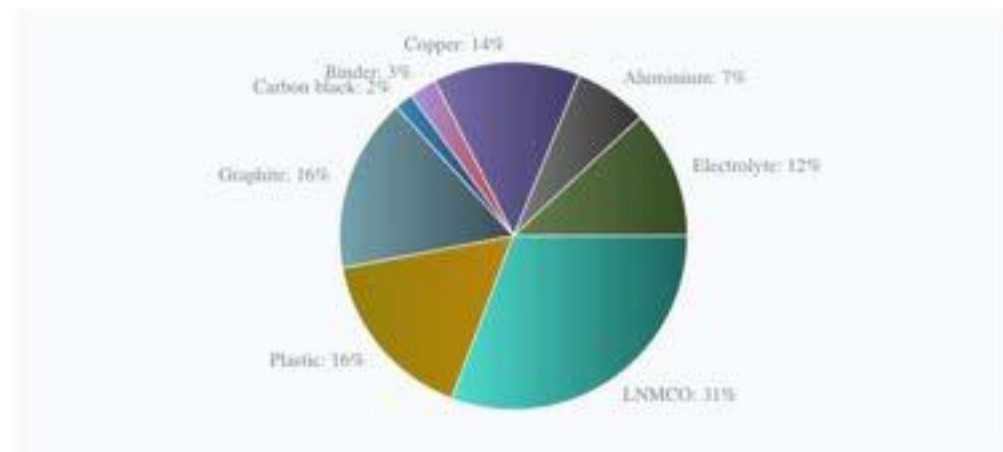
**88** ●



Figure 2: Scan QR code leads you to the Battery Passport.

# Data inzien in de praktijk

## Battery Composition and Capacity Information



## Battery raw Material with category uses

| IDENTIFIERS | NAME         | CONCENTRATION | CATEGORY          |
|-------------|--------------|---------------|-------------------|
| 1           | Copper       | 1%            | Anode Materials   |
| 2           | Manganese    | 0.8%          | Cathode Materials |
| 3           | Aluminum     | 0.2%          | Anode Materials   |
| 4           | Phosphorus   | 0.3%          | Cathode Materials |
| 5           | Molybdenum   | 0.1%          | Anode Materials   |
| 6           | Cobalt Oxide | 0.2%          | Cathode Materials |
| 7           | Graphene     | 0.4%          | Anode Materials   |
| 8           | Vanadium     | 0.6%          | Cathode Materials |

## Recycled and renewable content

|                                      |     |
|--------------------------------------|-----|
| Pre-consumer recycled nickel share   | 10% |
| Pre-consumer recycled cobalt share   | 5%  |
| Pre-consumer recycled lithium share  | 15% |
| Pre-consumer recycled lead share     | 8%  |
| Post-consumer recycled nickel share  | 12% |
| Post-consumer recycled cobalt share  | 7%  |
| Post-consumer recycled lithium share | 18% |
| Post-consumer recycled lead share    | 10% |
| Renewable content share              | 20% |

## Design of Circularity



# Technical components – Complementary with GS1



## Self-Sovereign Identity - SSI

SSI is the technology that allows any entity to possess an own identity and its corresponding properties. Decentralized identities (DIDs) leverage the concept of SSI in a standardized manner, in order to make identities resolvable and allow verifiable information about anything as a result.

Our products

## Digital Link

A digital link wraps the product identifier in a resolvable structure that can point towards various resources, such as product passports, credentials or freely configurable service endpoints. The IDCC provides a digital link resolver under this domain as well.

<https://idc.ewc.eu/01/04012340000000/01/02010401-01/0301-1234>

Learn more

SSI Digital Link

Services

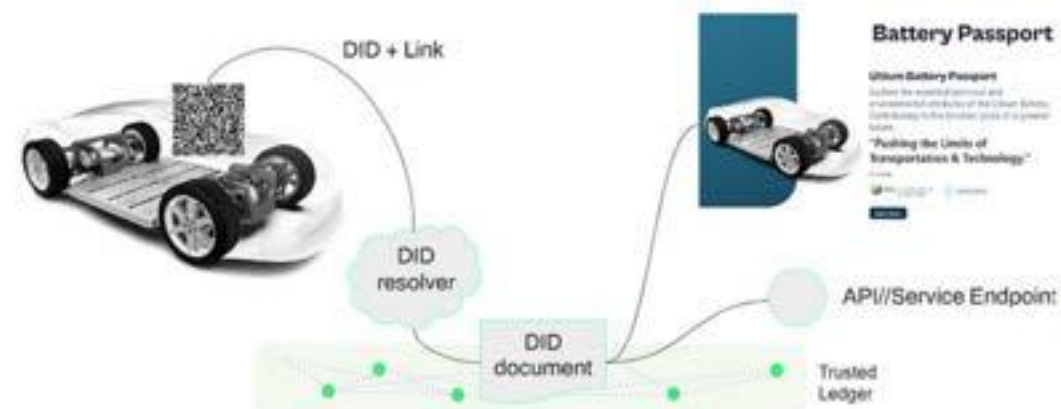
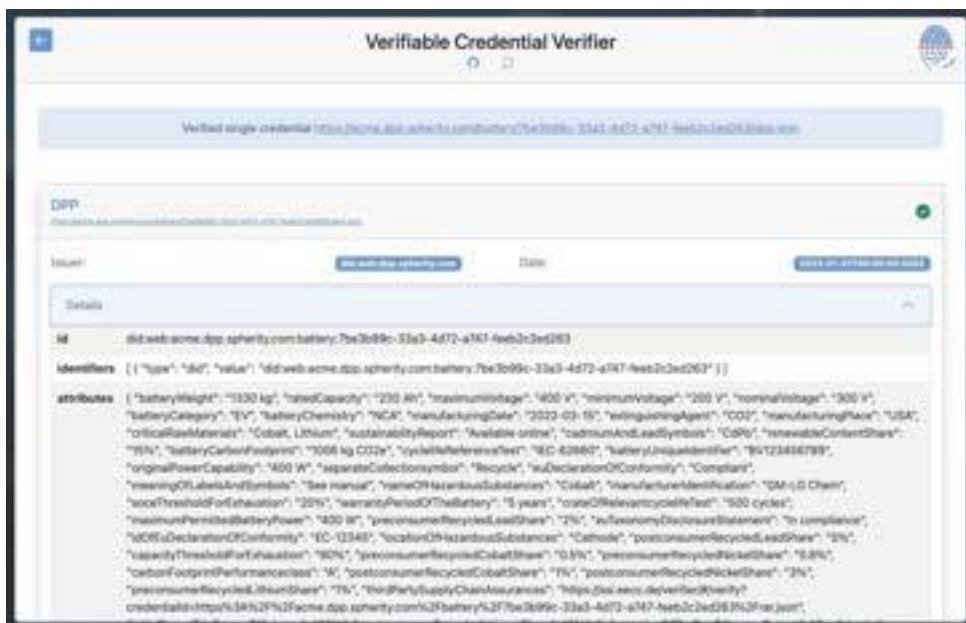


Figure 3: Resolving DIDs to verifiable Battery Passports data

# Voordelen van deze decentrale approach

- Interoperabel met data spaces in Gaia-X (EU cloud), **zonder centrale database**.
- Geen noodzaak voor 1 op 1 verbinden van grote databases, dus **voorkomt spaghetti**.
- Stelt sectoren in staat **zelf de inhoudelijke kaders** te stellen, zoals welke data.
- **Permissieloos gebruik** is mogelijk, dus in complexe en open supply chains te gebruiken.
- Moet/kan worden **uitgegeven door de verkoper** van het product op de Europese markt
- Heeft publieke en non publieke attributen, wat **zakelijke vertrouwelijkheid** kan borgen.
- Attribute gebaseerde **toegangscontrole** op de non publieke attributen.
- **Audits over het product** kunnen verifieerbaar worden toegevoegd door de auditor.
- **Is leesbaar voor mensen én voor machines**
- Kan leiden tot **geautomatiseerde compliance**, door bijv. EU Customs
- Login kan via traditionele accountnaam en wachtwoord, of via verifiable credentials.
- **Globale unieke identifier** is nodig volgens Europa, DIDs kunnen dat leveren.
- Uitgever van paspoort kan **nooit achteraf ontkennen** dat het paspoort uitgegeven is. .

## The world's first decentralized, verifiable Battery Passport.

How to implement a Battery Passports based on SSI technology



Dr. Susanne Guth-Orlowski · Follow

Published in Spherity · 11 min read · Oct 23

The European Commission is asking for a decentral storage of the DPP which makes using [W3C Decentralized Identifiers](#) (DIDs) as battery identifiers a perfect fit. **DIDs are globally unique identifiers by definition** and have some other advantages:

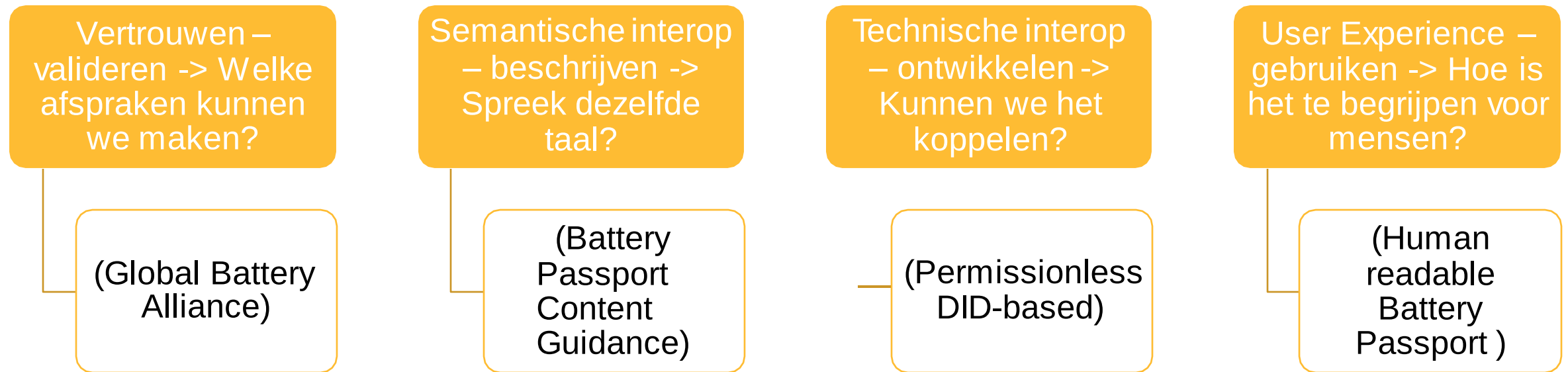
- DIDs are *free of charge*.
- DIDs are **issued and controlled by the manufacturer** and not by a central organisation.
- The passport data and who has access to it **stays with the manufacturer**.
- As data is not uploaded to central systems, it is **always up to date**.
- A DID is a persistent identifier, that means it can **stay the same during its entire life cycle**.
- **At the same time DIDs allow flexibility** wrt the information that is attached to a DID, e.g. the owner of a battery, the URL to the battery passport, a service endpoint to verifiable data can change over time.
- DIDs provide a **built-in security functionality** to attach verifiable data (also known as: [W3C Verifiable Credentials](#)) to the battery passport, for example Due Diligence Reports.

# Domein specifieke elementen



# Mogelijk programmavoorstel voor een product paspoort

Mogelijke werkpakketten in een product paspoort programma, per use case



# Enkele open vragen

Wat zijn de juridisch  
gevolgen van  
paspoorten met  
verkeerde  
informatie?

Marktprikkel is er  
wel, maar bedrijven  
zien dat nog niet?

Wat gebeurt er met  
bedrijven die failliet  
gaan, maar wel  
verantwoordelijkheid  
dragen over info

Als je geen product  
verkoopt, maar wel  
een service, moet je  
er dan nog aan  
voldoen?



# Dutch Blockchain Coalition

connect and create

 [dutchblockchaincoalition.org](https://dutchblockchaincoalition.org)

 [@BCcoalitionNL](https://twitter.com/BCcoalitionNL)

 [Dutch Blockchain Coalition](https://www.linkedin.com/company/dutch-blockchain-coalition/)

## Kern partners



## Partners



# Paneldiscussie



**Tülay Dilsiz-Gedik**



**Michiel van Yperen**



**Yvo Hunink**



# Kom in contact!



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Theme Lead Energy & Sustainability

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# Verder praten, bijdragen of deelnemen aan de coalitie?



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