



# BEYOND SUSTAINABILITY

Hosted by KAOS, DAMA & Capgemini

September 21<sup>st</sup>, 2023



# PROGRAM

17.00 - 17.25

## Welcome words

KAOS, DAMA & Capgemini

17.30 - 17.55

## Beyond ESG reporting

Päivi Karesjoki, Capgemini

18.00 - 18.30

## How to productize data and how that could help ESG reporting

Kai Kuikkaniemi, S-Group

18.30 - 19.15

## Panel discussion: ESG reporting and data architecture

Panelists: Päivi Karesjoki (Capgemini), Lasse Rantalainen (Valmet), Anna Wäyrynen (Adesso Finland), Teppo Kuisma (Vaisala)



# WELCOME WORDS

KAOS, DAMA & Capgemini



# KOKONAISARKKITEHTUURIN OSAAMISYHTEISÖ

---

DAMA & KAOS Event  
Data Driven Sustainability and Beyond

21.9.2023

# About KAOS

- KAOS is abbreviation from Finnish words 'kokonaisarkkitehtuurin osaamisyhteisö'. When translated into English, it roughly means something like 'association to enhance EA knowledge & skills'.
- KAOS is non-profitable community that is open for all those that are interested in Enterprise Architecture, and there is no requirements for registration. In practise, member register consist of people who has joined KAOS group in LinkedIn. At the moment, there are 1 768 members in the LinkedIn group.
- Among the members KAOS selects once a year a 'task force' (isännistö in Finnish), which is responsible for KAOS activities.
- Arranging different events is the main activity of the KAOS. Generally topics are selected so that events would be beneficial for architects. Typically KAOS arranges 4 events per year.
- Two of yearly events are arranged in cooperation with DAMA. The event you are now attending is one of them.

On the behalf of KAOS...

**WELCOME!**

*And thank you Capgemini for  
providing facilities for the event!*



# CAPGEMINI AT-A-GLANCE



We serve clients in more than

**22**

innovation labs along with the Purpose Climate lab built on Capgemini's acquisition of the social impact agency

**100**  
countries worldwide



## Capgemini family of brands

Capgemini invent    Capgemini engineering

**frog** Part of Capgemini Invent

**sogeti** Part of Capgemini

**350,000+**

team members

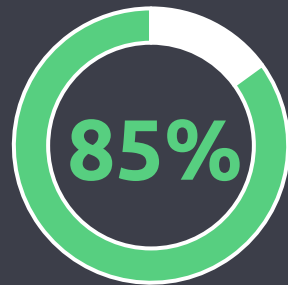


**50+**

countries with more than 120 nationalities

**18BN €**

in revenues in 2021 with an operating margin of 12,9%



85%  
of the world's largest companies are our clients

Target to support our clients saving

**10M**

tons of carbon by 2030



**NET ZERO** business by 2030





# SUSTAINABILITY IS A STRATEGIC COMMITMENT FOR CAPGEMINI



*"I have put acting on climate change at the heart of our group priorities with a focal point of our ambitious target of net zero by 2030."*

Aiman EZZAT, CEO  
23 July 2020

## Capgemini's Sustainability Vision

-  1.5°C science-based carbon reduction pathway
-  100% renewable electricity by 2025
-  Carbon neutral for operational emissions no later than 2025
-  Support our client saving 10 millions tons of carbon by 2030



We partner with leading changemakers worldwide



We are recognized as a sustainability services leader



We are thought leaders in sustainability



Sustainable operations



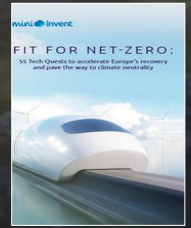
Sustainable IT



Circular Economy



Sustainable Business Revolution 2030



Fit for net zero: Pulp&Paper Prio, industrial 2, general



# PROGRAM

17.00 - 17.25

## Welcome words

KAOS, DAMA & Capgemini

17.30 - 17.55

## Beyond ESG reporting

Päivi Karesjoki, Capgemini

•18.00 - 18.30

## How to productize data and how that could help ESG reporting

Kai Kuikkaniemi, S-Group

18.30 - 19.15

## Panel discussion: ESG reporting and data architecture

Panelists: Päivi Karesjoki (Capgemini),  
Lasse Rantalainen (Valmet), Jaana Helsing (S-Bank),  
Anna Wäyrynen (Adesso Finland), Teppo Kuisma (Vaisala)



# BEYOND **ESG REPORTING** IN CONSTANTLY EVOLVING AND COMPLEX FRAMEWORK

Ensure needed steps in your ESG intelligence journey

Päivi Karesjoki, Head of Advisory, Sustainability Lead, Capgemini Finland

# BEYOND ESG REPORTING IN CONSTANTLY EVOLVING AND COMPLEX FRAMEWORK

Myths, tips and advise – ensure needed steps in your ESG intelligence journey

Päivi Karesjoki, Head of Advisory, Sustainability Lead



ESG data has one owner in our company, this person is in our sustainability team

Our sustainability team has the tools for reporting... Maybe?

ESG data is managed by our sustainability team

ESG (reporting) is only about compliance and it is only cost factor

# MYTHS

Sustainability is only for the big companies

ESG reporting is only about environmental topics

I believe our sustainability team gets the data somehow

Our industry is not impacted by ESG – it is only for the 'bad industries'

We need this data only once a year



# ESG performance is the new accounting – ESG reporting regulations are showing up everywhere in the world including EU and the Nordics



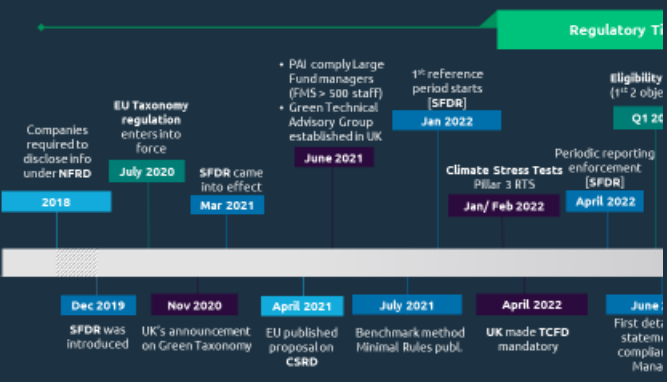
## Beyond regulations, an increasingly complex normative landscape is arising

Various standard setters, quickly expanding and growing in maturity

Hmm... OMG...Do I as an architect or data analyst need to know all this???

## There are numerous initiatives in the ESG regulatory landscape and it keeps on evolving ...

- SFDR
- NFRD / CSRD
- EU Taxonomy
- Other initiatives



### SFDR, CSRD, CSDDD environmental, social and governance reporting

#### CSRD

The Corporate Sustainability Reporting Directive (CSRD) is a directive that modernizes and strengthens the rules concerning the social and environmental information that companies have to report.

Companies subject to the CSRD will have to report on sustainability matters such as **environmental rights, social rights, human rights and governance factors**

#### SFDR

The Sustainable Finance Disclosure Regulation (SFDR) is a regulation that requires financial market participants and financial advisers in the EU to disclose information on how they integrate sustainability risks into their investment decision-making process.

SFDR reporting focuses on the **environmental aspect of ESG and financial governance**.

#### CSDDD

Corporate Sustainability Due Diligence Directive (CSDDD) is a legislative framework proposed by the European Commission to oblige companies to demonstrate what action they are taking to protect the environment and human rights.

Companies subject to CSDDD will need to incorporate due diligence to identify potential adverse human rights and environmental impacts

\*yet to be approved by EU parliament and council

Local regulators	Market standards	Agencies, indexes
<ul style="list-style-type: none"> <li>Ministry of Economy, Trade and Industry (METI) label - identify companies reporting on ESG performance</li> <li>Japan Exchange Group and Tokyo Stock Exchange ESG disclosure handbook</li> </ul>	<ul style="list-style-type: none"> <li>PACTA (Paris Agreement Capital Transition Assessment)</li> <li>CDSB (Climate Disclosure Standards Board)</li> <li>World Bank ESG Data Portal platform</li> <li>SBTi (Science Based Targets Initiatives)</li> <li>PCAF (Partnership for Carbon Accounting Financials)</li> <li>IIRC (International Integrated Reporting Council)</li> <li>GRI (Global Reporting Initiative taxonomy)</li> <li>WBCSD (World Business Council on Sustainable Development)</li> <li>ISO (International Organization for Standardization)</li> <li>TCFD (Task Force on Climate-Related Financial Disc.)</li> <li>SASB (Sustainability Accounting Standards Boards)</li> </ul>	<ul style="list-style-type: none"> <li>SUSTAINALYTICS</li> <li>ROBECO SAM</li> <li>FTI ESG</li> <li>MSCI</li> <li>CDP</li> <li>HSI Market</li> <li>REFINITIV</li> <li>arabesque</li> </ul>
<ul style="list-style-type: none"> <li>National Greenhouse and Energy Reporting Regulation (NGER)</li> <li>ASX Corporate Governance Principles and Recommendations</li> </ul>	<ul style="list-style-type: none"> <li>Rules governing the Preparation and Filing of CSR Reports by TWSE Listed Companies (Taiwan)</li> <li>Bursa Malaysia guidance on ESG reporting</li> <li>Corporate Governance Guideline No. SEC/CMRRC/D/2006-158/134/Admin/44, 2012</li> </ul>	

\* Common standards/ guidelines/ frameworks that are under consideration the region under scope

Sources: Corporate sustainability reporting (europa.eu), EU Finalizes ESG Reporting Rules with International Impacts (harvard.edu), Corporate sustainability due diligence (europa.eu)

NO...

**BUT YOU SHOULD BE AWARE OF  
ESG INTELLIGENCE JOURNEY AND WHAT IS NEEDED  
TO SUPPORT ESG REPORTING AND MUCH MORE**

..

# Many companies find ESG intelligence journey challenging...



**BUT ONLY**



It is not easy...

Some of the most common challenges are:

**Many parallel standards**

**Limited comparability**

**Lack of ESG strategy**

**Limited stakeholder engagement**

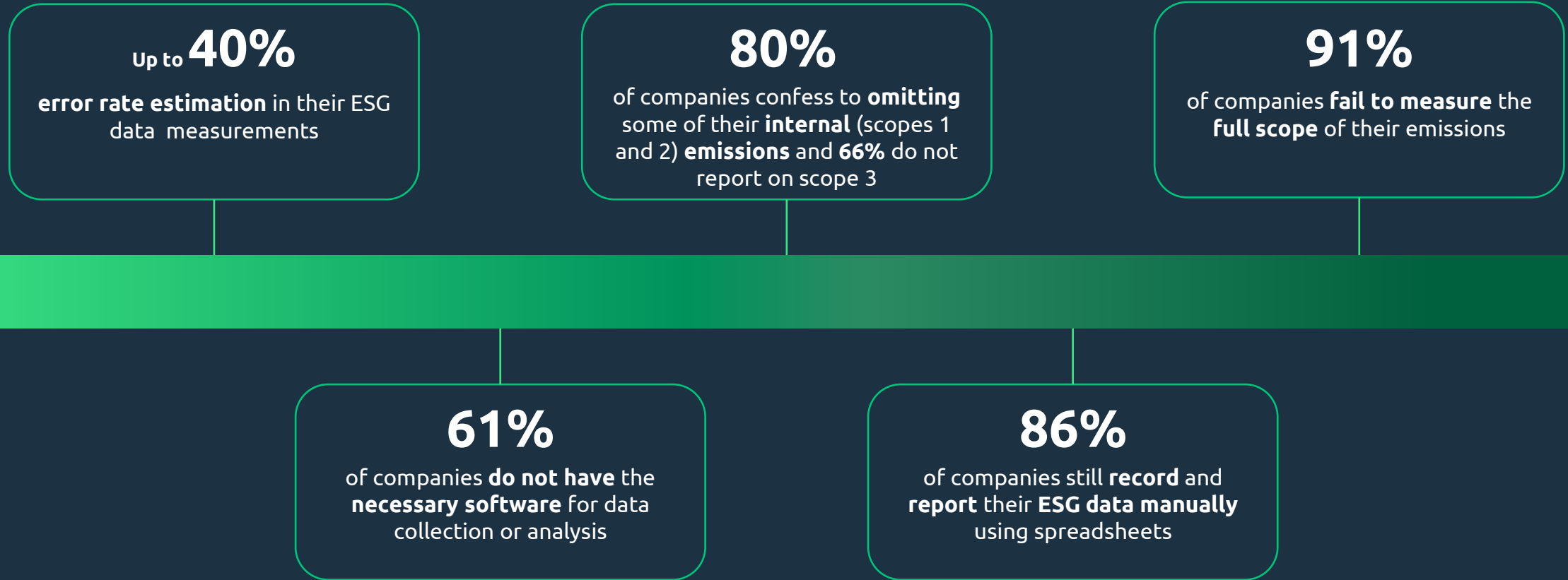
**Integration with business strategy**

**Lack of internal resources**

**Data availability and quality**

**Data management**

... especially with respect to measuring and handling ESG data – many organizations therefore rate the data challenge as the leading roadblock



ESG INTELLIGENCE JOURNEY REQUIRES  
TRANSFORMATION IN

TECHNOLOGY

PEOPLE

PROCESSES

...

WHERE TO START?



# Start with strategy phase before detailed solution design & development



*Defining transformation  
roadmap / strategy*

**PRE-STUDY**

*Implementation*

**DETAILED DESIGN**

**DEVELOPMENT**

**SCALE &  
IMPROVE**



**ESG ambition and  
strategy**



**Technology and architecture to support the ESG intelligence  
journey**

THANK YOU  
QUESTIONS?

FOR FURTHER CONTACT

[PAIVI.KARESJOKI@CAPGEMINI.COM](mailto:PAIVI.KARESJOKI@CAPGEMINI.COM)



# PROGRAM

17.00 - 17.25

**Welcome words,**  
KAOS, DAMA & Capgemini

17.30 - 17.55

**Beyond ESG reporting**  
Päivi Karesjoki, Capgemini

18.00 - 18.30

**How to productize data and how that could help ESG reporting**  
Kai Kuikkaniemi, S-Group

18.30 - 19.15

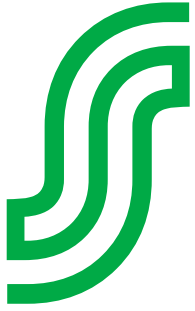
**Panel discussion: ESG reporting and data architecture**  
Panelists: Päivi Karesjoki (Capgemini),  
Lasse Rantalainen (Valmet), Jaana Helsing (S-Bank),  
Anna Wäyrynen (Adesso Finland), Teppo Kuisma (Vaisala)



# HOW TO **PRODUCTIZE DATA** AND HOW THAT COULD HELP **ESG REPORTING?**

Kai Kuikkaniemi, S Group





# Data products thinking

How to productise data and how that could help in  
ESG reporting

PRESENTATION NAME / AUTHOR

25.9.2023



# Agenda

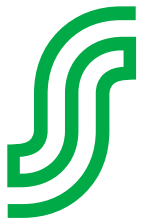
- Introduction
- Data products thinking
- Data in mesh and space
- ESG reporting in S group
- Discussion



# Introduction: Kai Kuikkaniemi

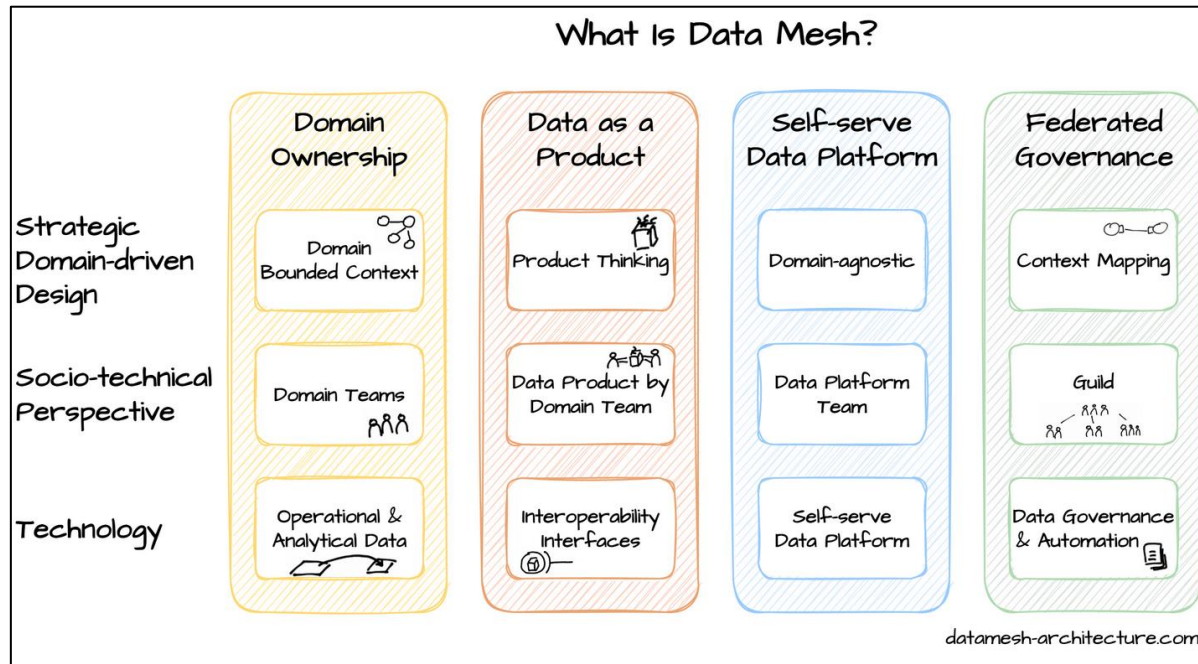
- EA in S group: core domains
  - Marketing / Media
  - Loyalty / Core customer data
  - Hospitality
  - Payment
  - Sustainability
- Senior advisor (and architect in MyData)
  - Data Space Support Center (EU)
  - Operator thematic group
- Education
  - PhD in Aalto Arts
  - Msc Industrial Engineering
  - 15yr+ research in Aalto / Helsinki institute for Information Technology





# How did we end up talking about data products

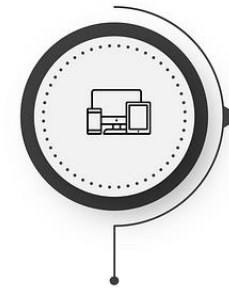
## What is Data Mesh?



Zhamak Dehghani & Martin Flower, Data Mesh

## OPEN DATA PRODUCT SPECIFICATION 1.0

OPEN REFERS TO THE OPENNESS OF THE STANDARD, NOT DATA PRODUCT CONTENT



Based on 200+ data monetization cases



Utilizes existing standards such as schemas in Schema.org

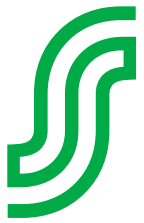


Based on analysis of a dozen data market places



Wisdom derived from over 100 articles

Jarkko Moilanen, Open Data Products Specification



# Several different technical / architectural approaches

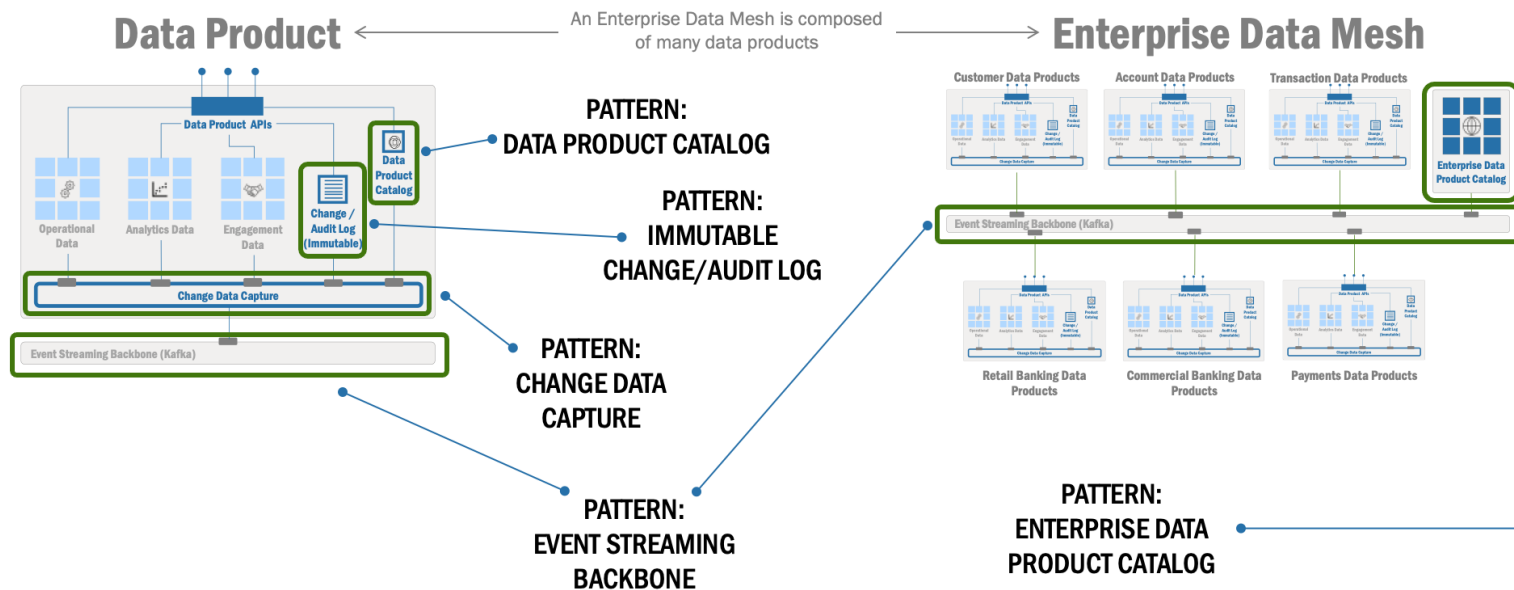
## Enterprise Data Mesh Architecture

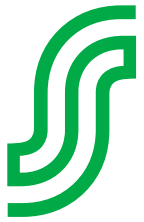
Several foundational architecture patterns allow Data Mesh to provide next-generation data management capabilities in the enterprise.

Data product catalog

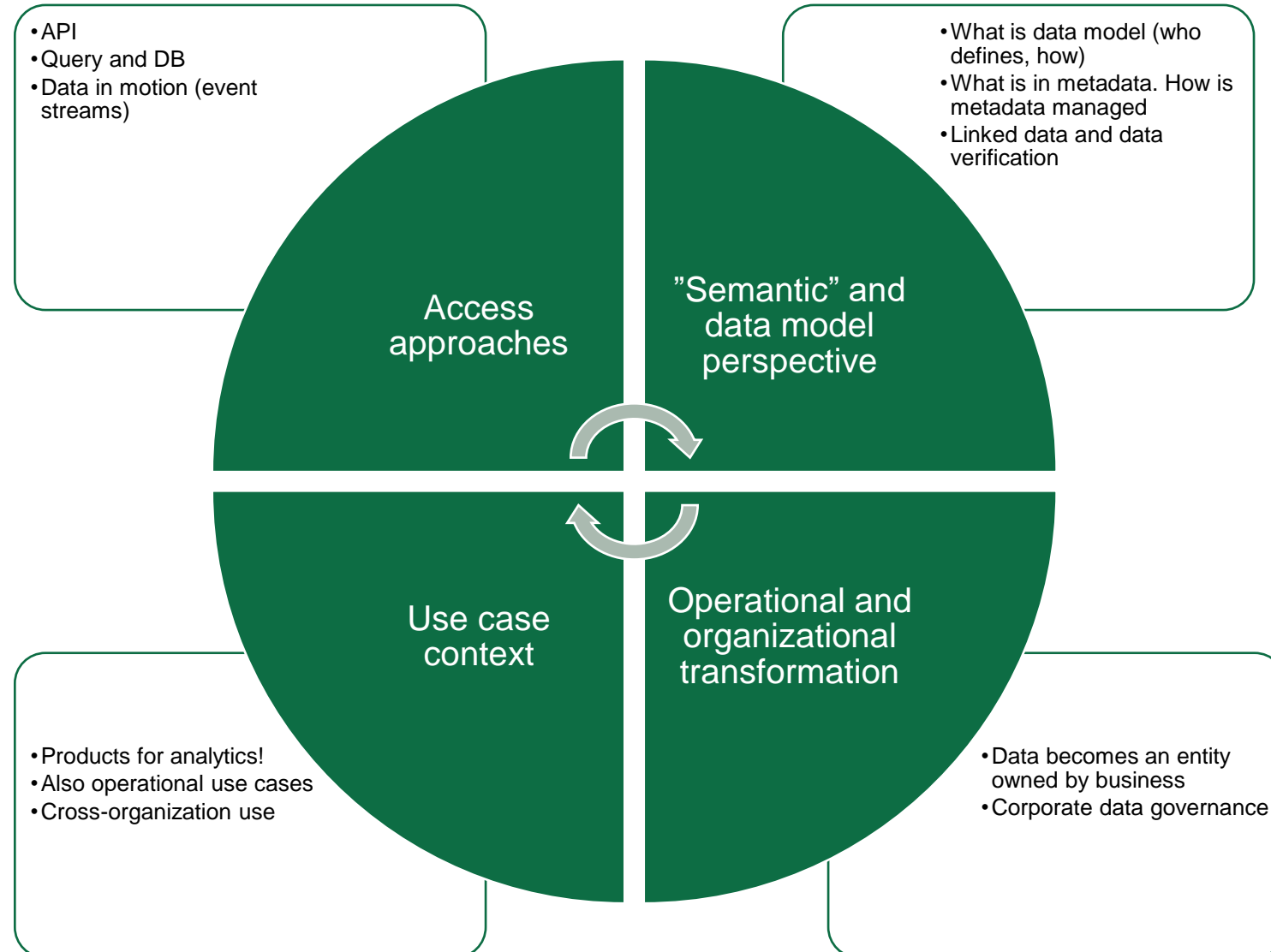
Event streaming backbone

API management / change data capture





# Data product thinking perspectives



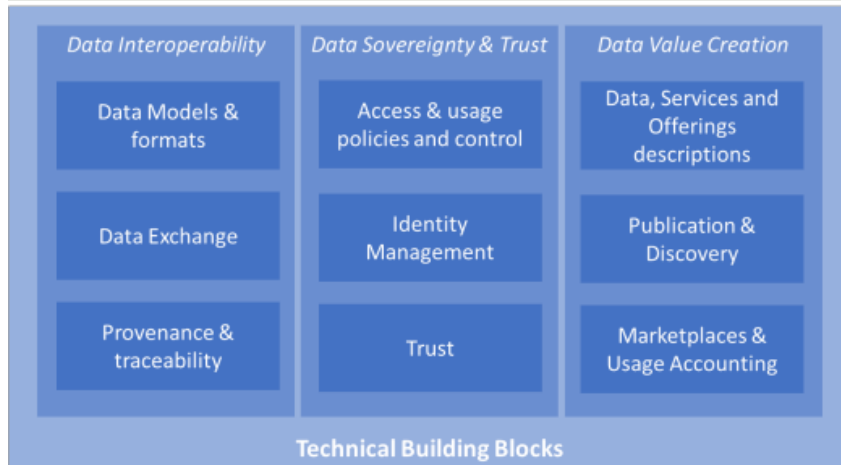
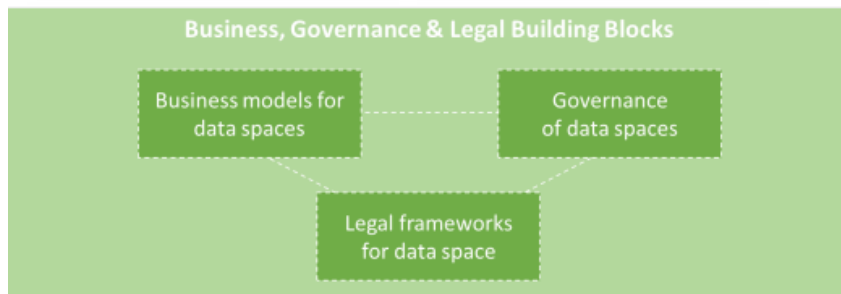


# Data products in Mesh and Spaces





# Data space support center exploring topic



**Data Products in Mesh and Space**

Authors: Kai Kuikkaniemi (MyData), Tobias Guggenberger (Fraunhofer ISST)  
July 2023

Funded by the European Union. The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

- <https://dssc.eu/space/News/blog/108199969/Data+Products+in+Mesh+and+Space>

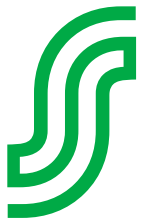


# Architecture ESG reporting



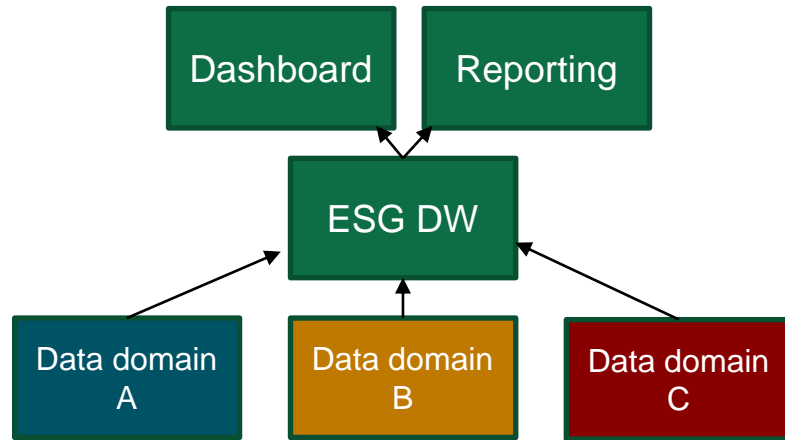
# ESG reporting

- CSRD is coming and imposes new legal requirements for all companies.
- In general the CSRD is relatively big challenge for many companies.
- In S group the challenge has extra dimensions for various reasons:
  - Multiple quite different business sectors
  - Quite complex organizational setup (local co-ops with own businesses, S group level businesses, B2B business ..)
  - Ambitious goals in sustainability. Focus beyond CSRD?
  - Complex supply chain and high amount of SKUs in the primary retail domain
  - In the current IT landscape different business units have their own independent data and analytics operations and technologies
  - ...

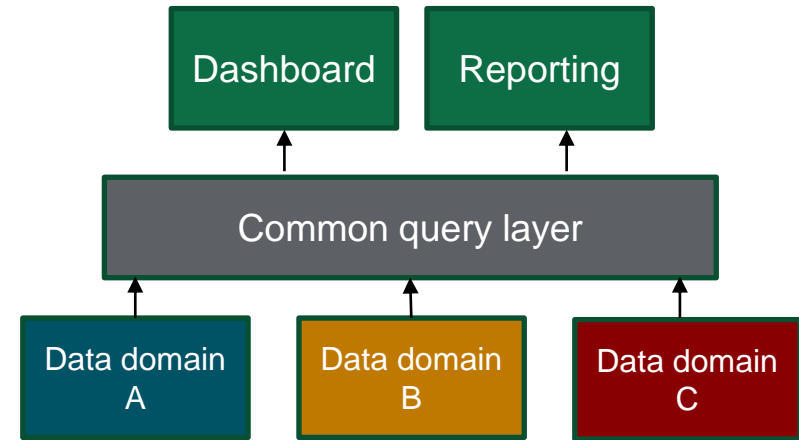


# We have identified several scenarios for ESG D&A

**NEW TECHNOLOGY**

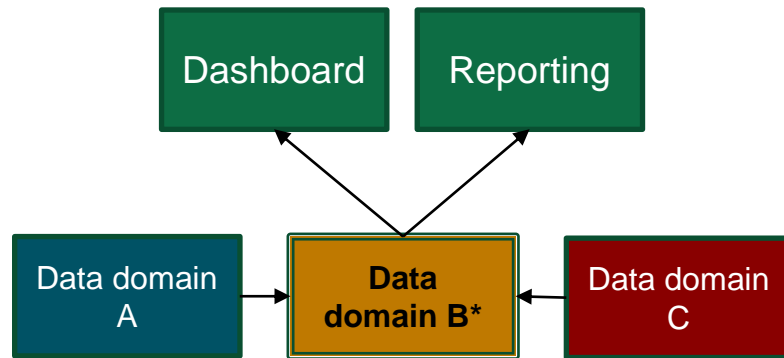


A: ESG specific datamart as a hub for ESG data

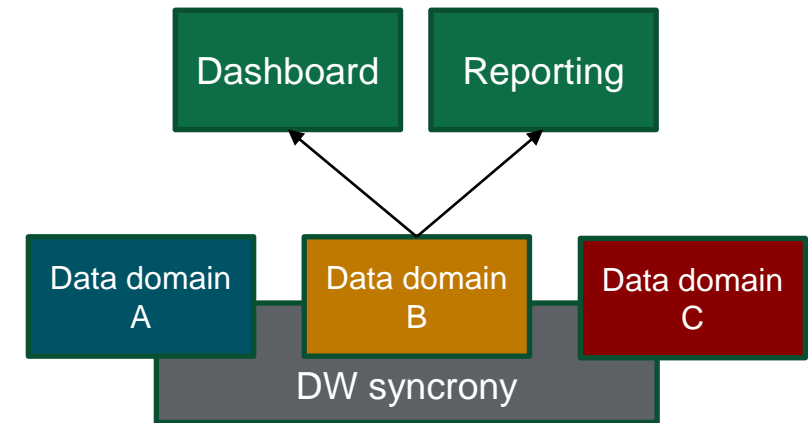


B: Common query layer for enabling access across DWs (Starburst)

**EXISTING TECHNOLOGY**



C: Use one of existing DWs as master for ESG reporting



D: Acquire DW technology (Snowflake) that allows cross DW use

**CENTRALIZED**

**DISTRIBUTED**



# Why is data product thinking relevant in ESG?

- Core idea is that business produce data products instead of "just" data
- Minimize data quality and data engineering requirements in the central function. Responsibility of data quality is in domains. (fix the data product not work and improve data)
- Business units have independent functional teams and organizing around ESG reporting is more scalable
- Data product thinking may help to combine inter organizational data and intra organizational data – all are data products?
- Hence, the impact is primarily in the role / responsibilities and operating model around reporting. Not that much in technology, but technology may help in supporting the shift in business thinking.



# How to evaluate different ESG scenarios

- Traditional evaluation perspectives
  - Cost
  - Time
  - Architectural compliance / guidelines
  - ...
- How different architectures affect the change in the operational model / in the business mindset?
- What is your experience? What are your opinions on data products and



# PROGRAM

17.00 - 17.25

## Welcome words

KAOS, DAMA & Capgemini

17.30 - 17.55

## Beyond ESG reporting

Päivi Karesjoki, Capgemini

18.00 - 18.30

## How to productize data and how that could help ESG reporting

Kai Kuikkaniemi, S-Group

18.30 - 19.15

## Panel discussion: ESG reporting and data architecture

Panelists: Päivi Karesjoki (Capgemini),  
Lasse Rantalainen (Valmet), Jaana Helsing (S-Bank),  
Anna Wäyrynen (Adesso Finland), Teppo Kuisma (Vaisala)



# PROGRAM

17.00 - 17.25

## Welcome words

KAOS, DAMA & Capgemini

17.30 - 17.55

## Beyond ESG reporting

Päivi Karesjoki, Capgemini

18.00 - 18.30

## How to productize data and how that could help ESG reporting

Kai Kuikkaniemi, S-Group

18.30 - 19.15

## Panel discussion: ESG reporting and data architecture

Panelists: Päivi Karesjoki (Capgemini),  
Lasse Rantalainen (Valmet), Jaana Helsing (S-Bank),  
Anna Wäyrynen (Adesso Finland), Teppo Kuisma (Vaisala)



Panel discussion:

# ESG REPORTING AND DATA ARCHITECTURE



# PANELISTS



**TIMO  
RANTALAINEN**  
CAPGEMINI FINLAND



**ANNA  
WÄYRYNEN**  
ADESSO FINLAND



**TEPPO KUISMA**  
VAISALA



**LASSE  
RANTALAINEN**  
VALMET



**PÄIVI  
KARESJOKI**  
CAPGEMINI FINLAND

ESTYNYT: JAANA HELSING, S BANK



**QUESTIONS?**



# ON PULSE

## Kestävän kasvun jäljellä

Capgeminin On Pulse -podcast tuo kestävän liiketoiminnan ja ilmastotalkoiden pioneerien tarinat kuuluviin. Nämä suunnannäyttäjät ohjaavat Suomea vastustamattomasti kohti hiilineutraaliutta vuonna 2035 yksi teko kerrallaan.

Ensimmäisellä tuotantokaudella kuullaan kahdeksan suomalaisen organisaation tarina siitä, miten vastuullisuusagenda muuntuu teoksi, miten vastuullisuutta mitataan ja mikä on tekojen todellinen impakti.

## Available at





**THANK YOU**