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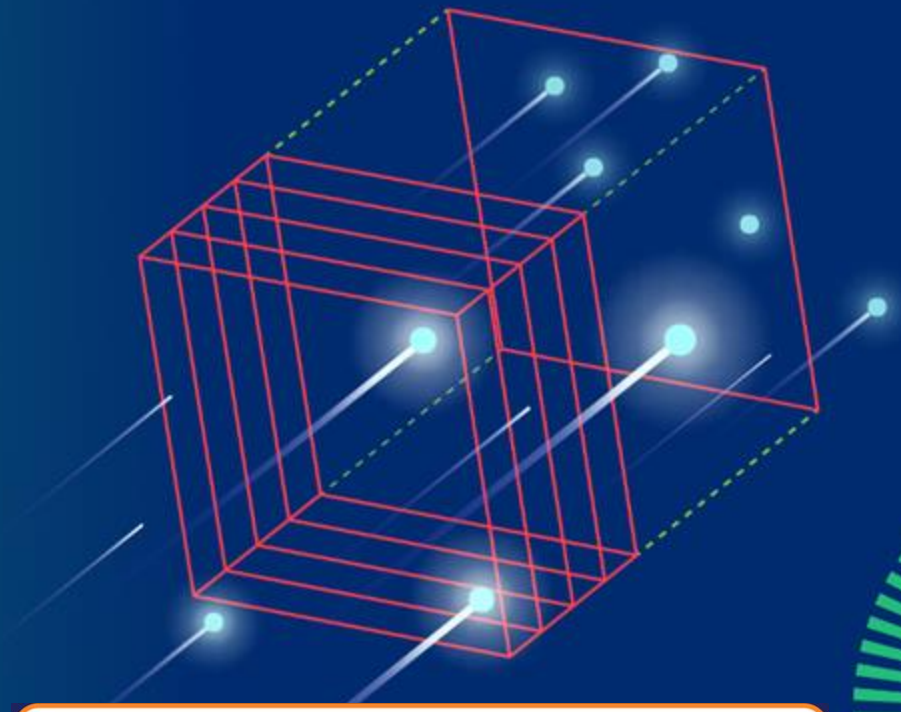
DATAMITE PROJECT

Data Interoperability and Monetisation: Framework, Use Cases and Market Adoption



Agenda

- The Data Monetisation Challenge. Why do companies struggle with interoperability and monetisation? Liliana Beltrán (ITI)
- DATAMITE Assets
  - Technical Framework. Jordi Arjona (ITI)
  - The Data Monetization Maturity Model (DMMM). Udo Bub (1001LAKES)
  - Valuation Model. Andrea Visentin (UCC)
- DATAMITE in Action: Use Cases. Marcin Plociennik (PSNC)
- Panel Discussion: Adoption and Market Impact
  - Moderator: Santiago Cáceres (ITI)
  - Christos Gizelis (OTE)
  - Jesús M. Santamaría (TEC)
  - Daniel Sáez (ITI)

Data Monetization Opportunities and Challenges

Data is not the new oil — it's the new language of value

Liliana Beltrán
Instituto Tecnológico Informática
ITI

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What it means?

*Data monetisation is the process of using data to **obtain quantifiable economic** benefit*

Internal monetisation
Better decisions, cost savings, efficiency.

External monetisation
Data products, services, marketplaces.

Data Valorisation
To understand how useful the data is for the company

Data Pricing
Monetary value of data

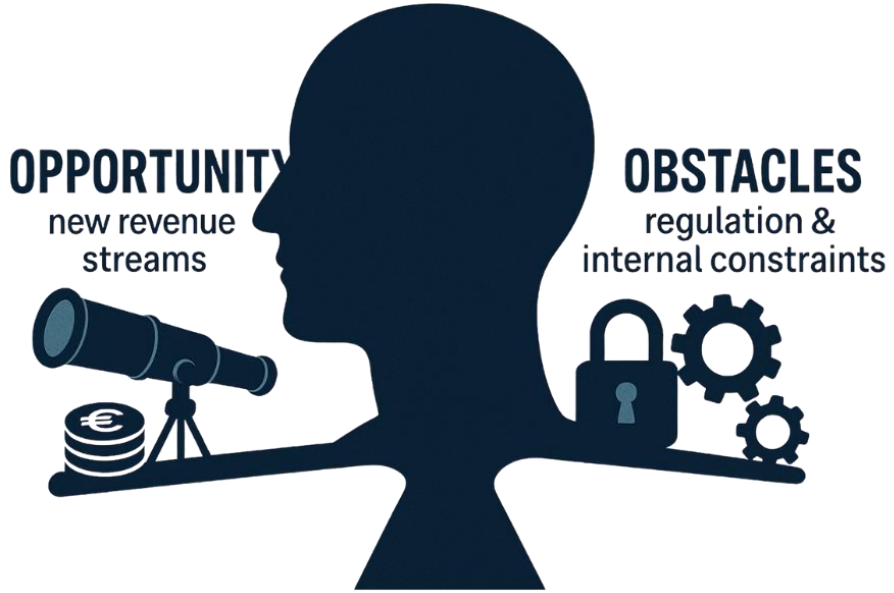
Data Monetisation in Europe: **“The Promise”**

Data has become the most valuable asset in the world

The European data monetization market:
$2.6B in 2022 → $9.1B by 2030.

Turning data into value is a **promising goal**

Companies truly data-driven organisation
Data governance – data culture



Opportunities in Data Monetisation

Existing Business Models

- **Packaging** (Raw data sets, Data-as-a-Service, Data products.
- **Monetisation models:** Licensing, Pay-per-use, Data partnership

Access to Market

- Selling data to external organizations.
- Foster strategic partnerships and collaborations
- B2C companies, but also B2B sector

Indirect monetisation

.

- Social, scientific, and environmental impact: Research, transparency, efficiency, etc.
- Progress and **positive change**.

Data Monetisation in Europe: **"The Reality"**

Big Challenges

Data Regulation
Complex; Privacy

- Privacy, consent. Sensitive information.
- Wide regulatory to be considered
- Legal & Contractual complexity
- GDPR, ownership.
- Ethical – fairness, transparency & trust

Challenges in Data Monetisation

Organisational

- Lack of data strategy & maturity
- Concerns about losing control of their valuable data
- Lack of trained personnel
- Business model uncertain

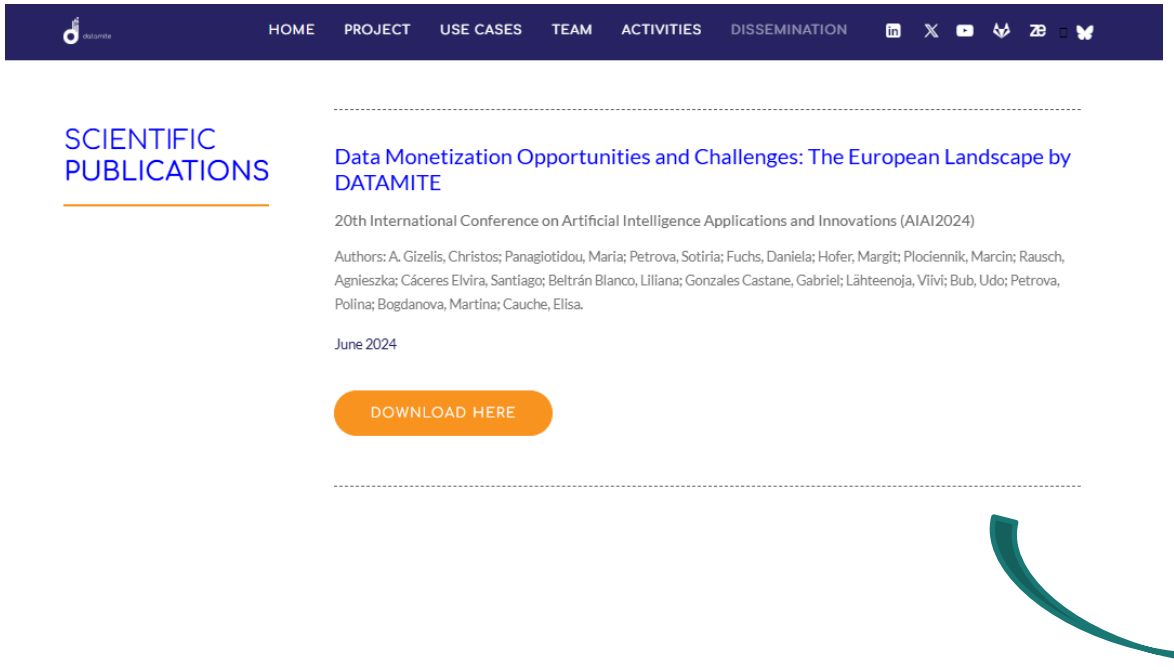
Technical

- Data Quality
- Lack of interoperability and standarisation
- Security - trust
- Data governance

Business

- Real value and return on investment uncertain
- Valuation complexity
- Difficulties in demonstrating the benefits of data sharing

Reference document **already published** in our site:



Data Monetization Opportunities and Challenges: The European Landscape by DATAMITE*

Christos A. Gizelis[1][0000−0001−5127−3891], Maria Panagiotidou[1], Sotiria Petrova[1], Daniela Fuchs[2][0000−0002−2202−1027], Margit Hofer[2][0000−0002−2222−5150], Marcin Plociennik[3][0000−0002−2355−2161], Agnieszka Rausch[3][0009−0006−9661−7436], Santiago Cáceres Elvira[4][0000−0002−3209−0034], Liliana Beltrán Blanco[4], Gabriel Gonzales Castane[5][0000−0003−0486−1492], Viivi Lähteenoja[6][0000−0002−4316−6049], Udo Bub[6][0000−0002−6018−2411], Polina Petrova[7][0009−0003−6708−2645], Martina Bogdanova[7][0009−0001−3485−2362], and Elisa Cauche[8][0009−0001−3485−2362]

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Abstract. In Europe, data monetization presents a promising goal for new revenue streams exploiting the power of the data. Nevertheless, obstacles such as regulatory environment and internal organizational constraints create a skepticism. DATAMITE project addresses these challenges and proposes a holistic framework designed to streamline the data monetization journey. Offering modules centered on data governance, quality assurance, and security, DATAMITE equips stakeholders with the tools necessary to optimize the value of their data. By ensuring trust and fostering collaboration, DATAMITE assures the expansion and competitiveness of European industries in data market. Through its comprehensive approach, DATAMITE aims to unlock opportunities and guide European enterprises towards success in the dynamic landscape of the digital economy.

Thank you!
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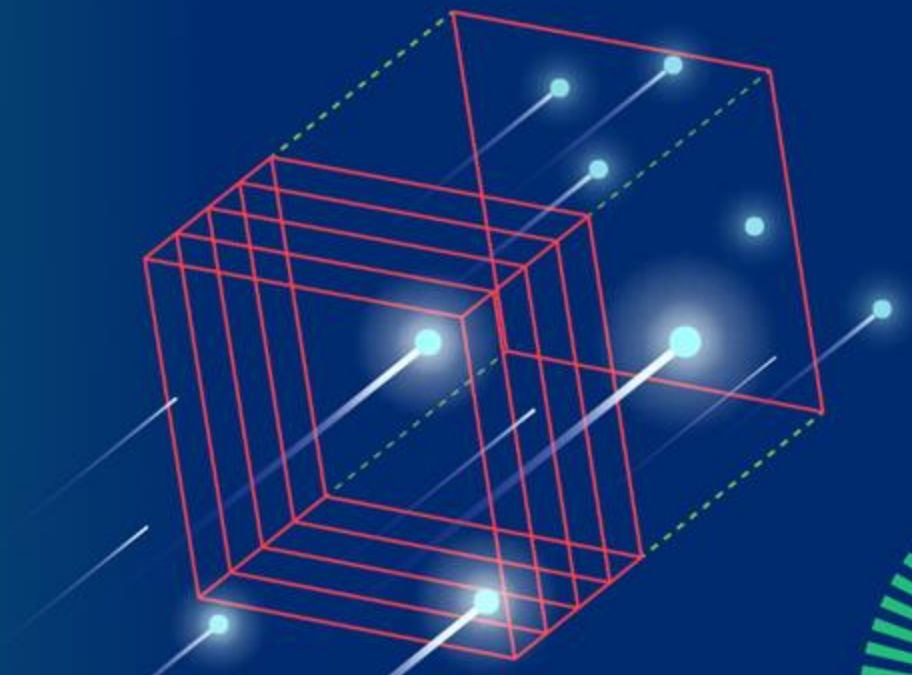

DATAMITE Technical Framework

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The Data Monetisation Maturity Model (DMMM)

Udo Bub
1001 LAKES

Three modules of DATAMITE Blueprint

Maturity Model DMMM

- Assess your organization using the Data Monetization Maturity Model (Likert scale 1–5).
- Identify strengths and gaps across dimensions like Strategy, IT, Organization, etc.
- Use the provided Excel tool for structured self-evaluation and spider chart visualization.

Data Valuation Model

- Estimate the value of your data based on production cost, utility, or market price.
- Use predefined KPI templates to measure and validate value assumptions.
- The valuation supports internal budgeting and external pricing decisions.

Subsequent speaker

Strategy Canvas

- Use our pre-filled blueprint canvas to explore strategic monetization models (e.g., DaaS, IaaS).
- Templates contain suggestions for ex. pricing, customer benefits, payment flows, and KPIs.
- Align canvas content with your maturity level and valuation outcome for realistic execution.

About Maturity Models

- A structured approach to identify needs for action

Descriptive purpose
assess an organization‘s as-is-maturity

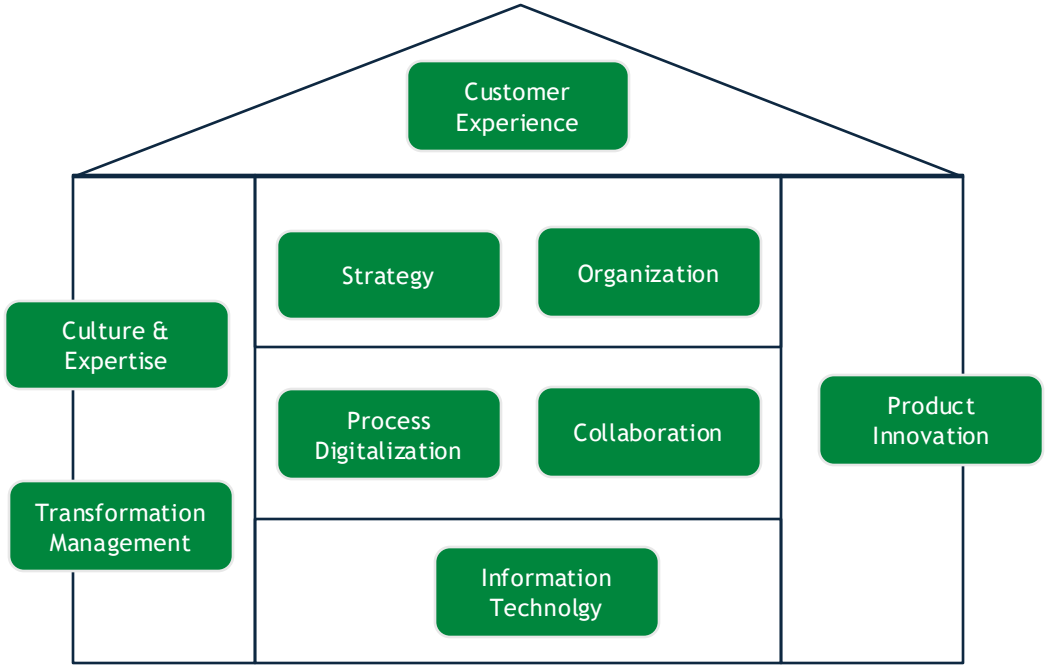
Prescriptive purpose
guidance on how to determine a desirable to-be maturity

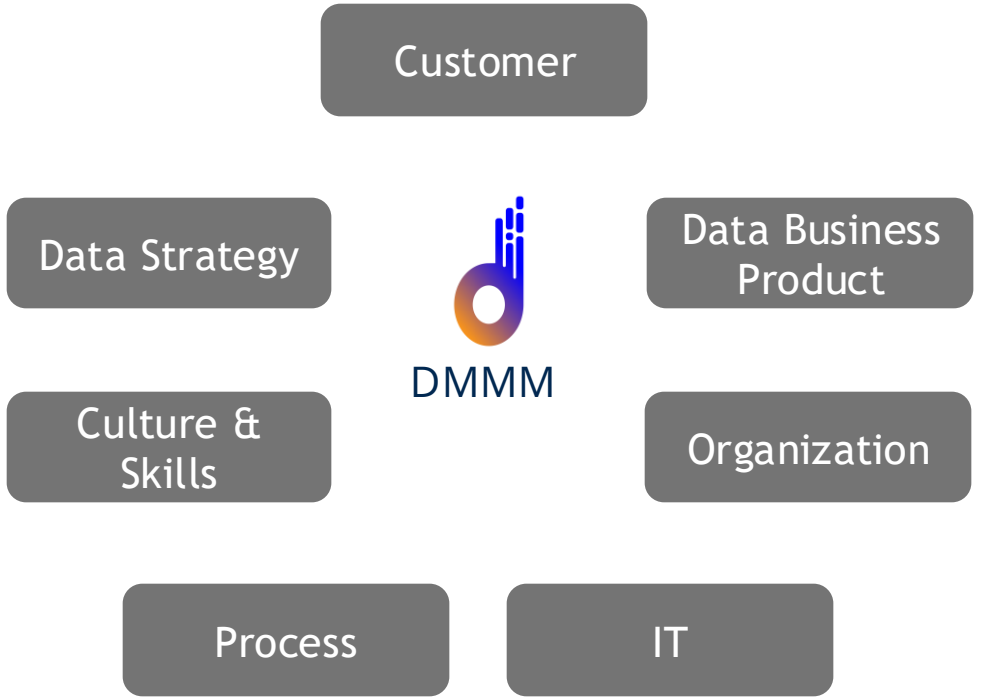
- A tool to assess a situtation by giving a final grade at the end of a project

Comparative purpose
MM supports internal or external benchmarking

- Often at the beginning / entry point of a project, not as the result and ending

DMMM Dimensions and Criteria Catalog

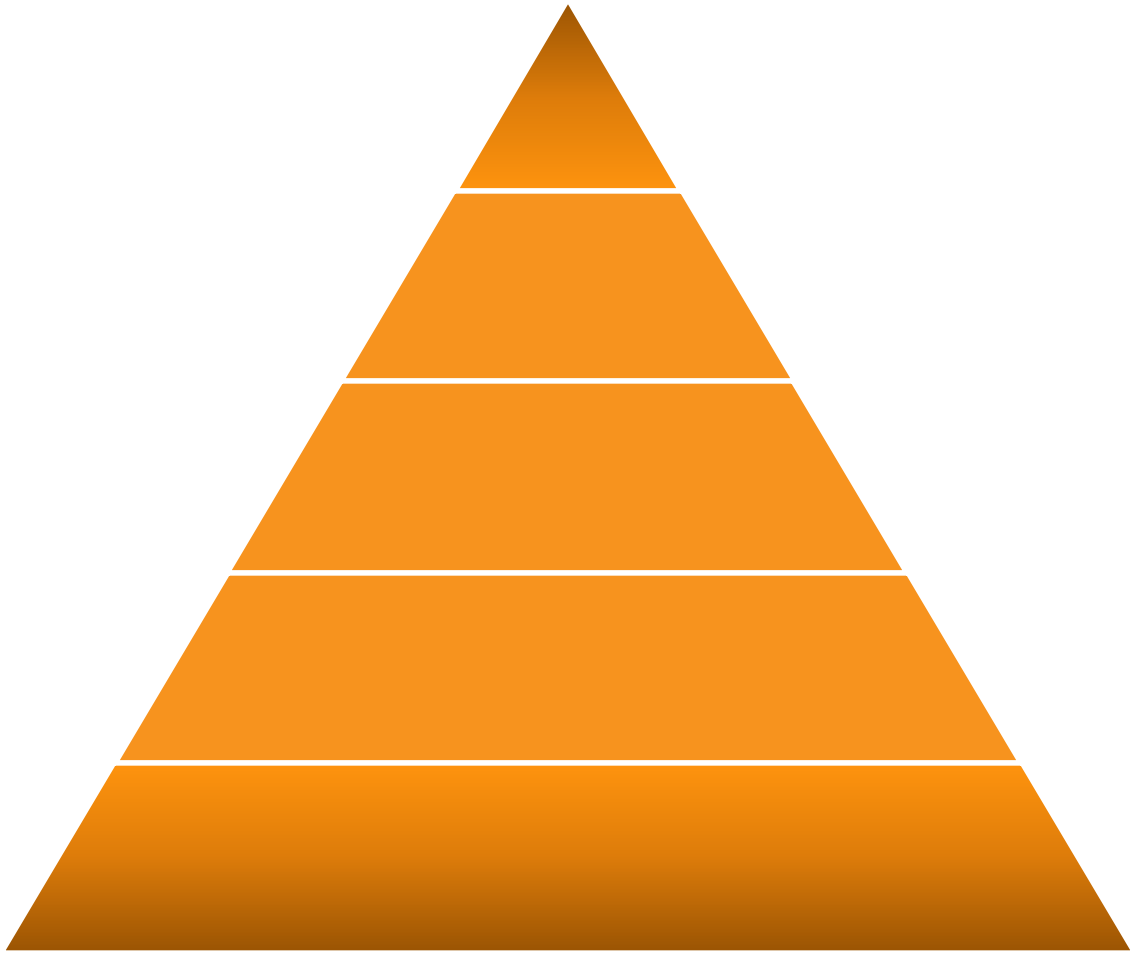




Starting point:
St. Gallen House of Digital Business, Leimeister et al. (2014)

Bub, Gkizelis, Schneider (2025)

Five Maturity Levels
From Ad-hoc to Optimized



Optimized
Continuous improvement and thought leadership

Controlled
Regular data monetization activities

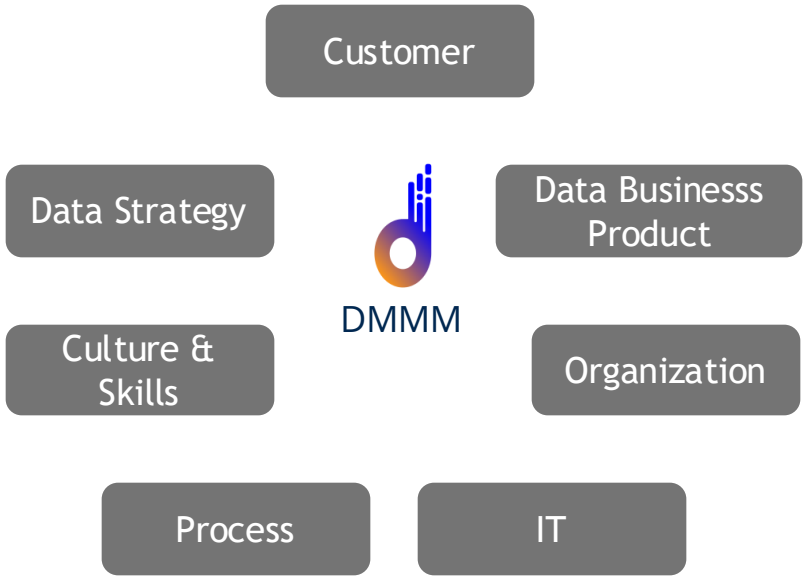
Defined
Systematic data sharing but limited monetization

Reactive
Situational response to market developments

Ad-hoc
No systematic approach to data monetization

DMMM Dimensions and Criteria Catalog

Criteria Catalog: Dimensions and Criteria

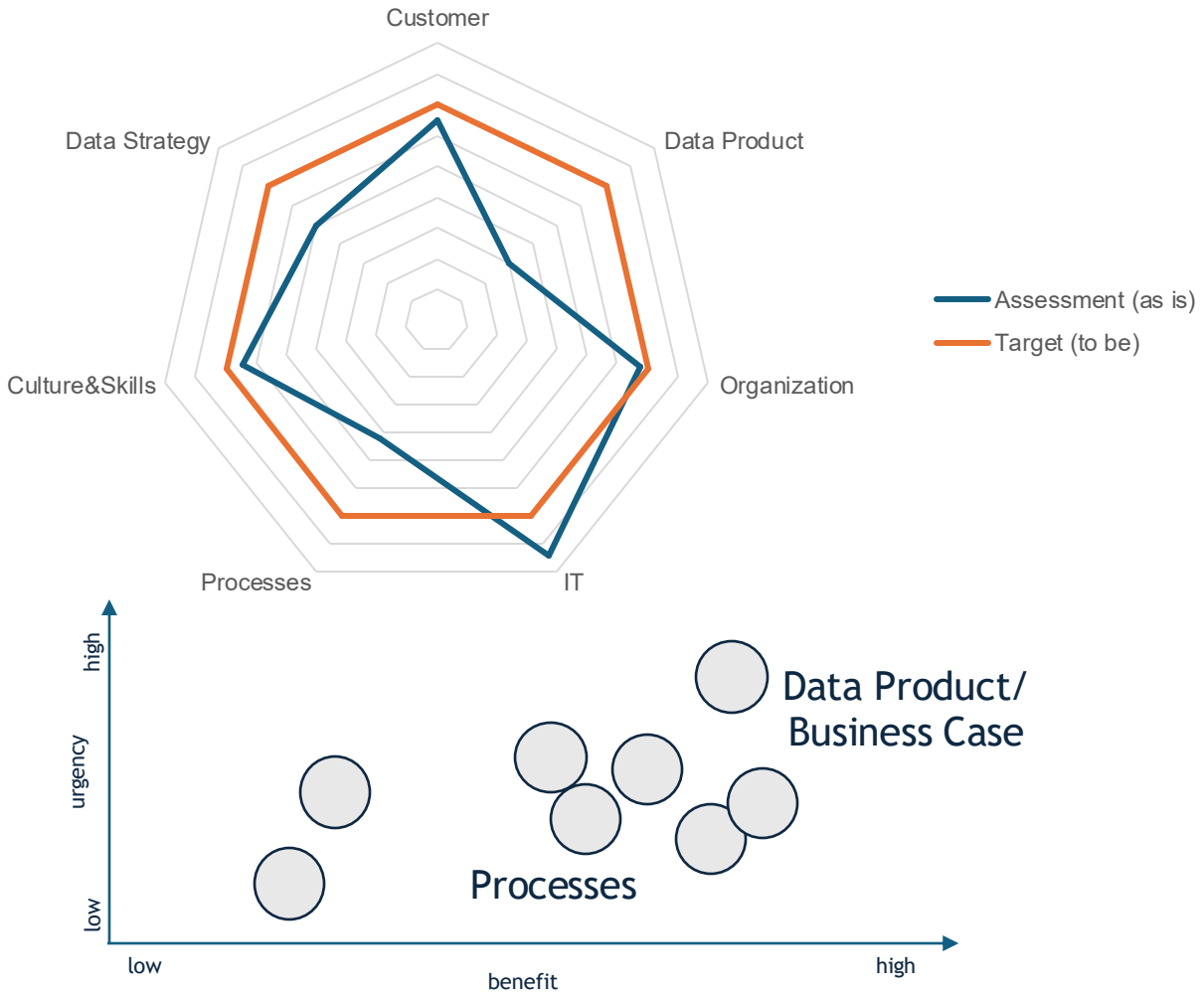


#	Dimension	Factor	Criterion
1	Customer	Future Opportunity Scan	DM-opportunities are continuesly observed, systematically monitored
2	Customer	Participatio n	We include customers actively in developing DM products
…	…	…	…
25	Data Business Product	Concept	We have set up the concept of Data Products
26	Data Business Product	Business Models	We have systematically set up a business modelin process for DPs
…	…		
38	Data Strategy	Value-Based Monetzizati on	Our monetization and pricing strategies alre built on the value delivered to customers, not physical products
…	…	…	…

Assessment and Action

#	Dimension	Criterion
1	Customer	DM-opportunities are continuesly observed, systematically monitored
2	Customer	We include customers actively in developing DM products
...	...	...
25	Data Business Product	We have set up the concept of Data Products
26	Data Business Product	We have systematically set up a business modelin process for DPs
...	...	
38	Data Strategy	Our monetization and pricing strategies alre built on the value delivered to customers, not physical products
...	...	...

Result (Example)



The Criteria Catalog

61 criteria

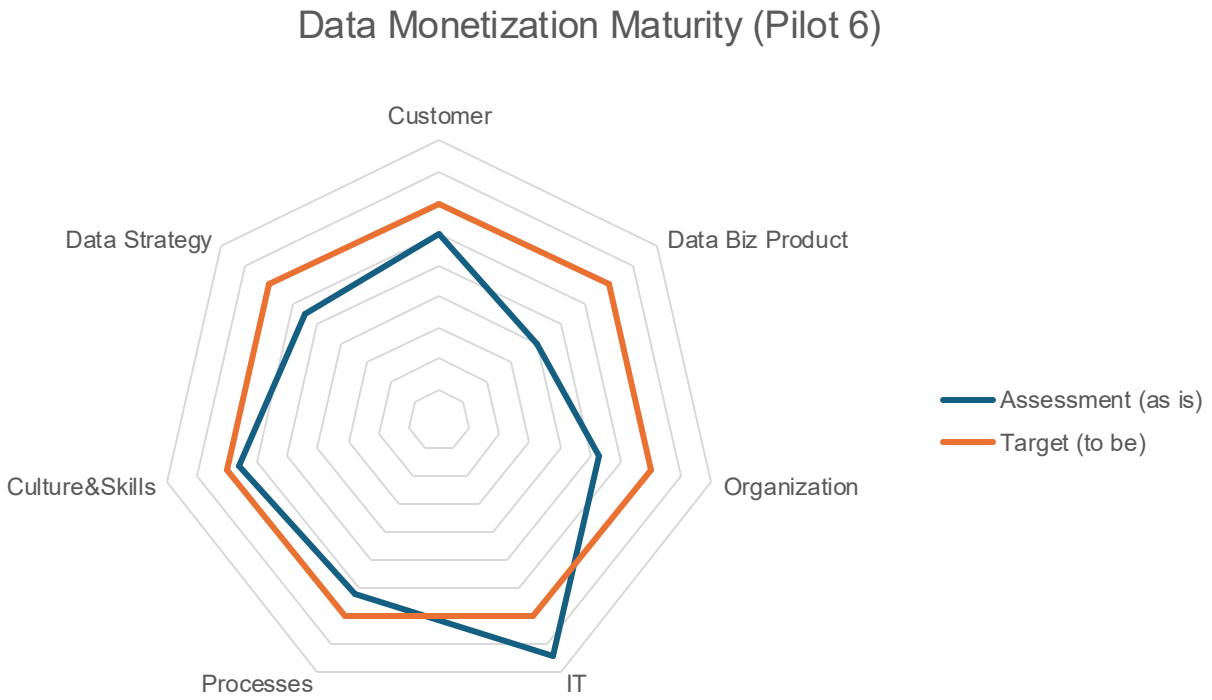
Identifier	Criterion
	Dimension Culture & Skills
CS.1	Staff feel empowered to experiment with data monetization beyond the formal definition of their role; Positive experiences/outcomes of data monetization experimentation are shared across the organization to create a positive feedback loop that stresses the importance of data monetization.
CS.2	Our organizational culture prioritizes data quality and management, recognizing their strategic importance for successful monetization.
CS.3	As a company, we value data as a primary product, focusing on creating value for customers and innovating beyond physical products.
CS.4	Our company culture is proactively geared towards recognizing and capitalizing on data monetization opportunities (e.g. through innovation and learning).
CS.5	Our employees are highly skilled or will be trained in topics like data management and analysis, data products, aligning with best practices for successful data monetization. Roles like Data Product Manager are being operationalized.
CS.6	Organizational agility: Our organization effectively adapts its operational structures and processes to support dynamic data monetization strategies.
CS.7	Building data monetization expertise is a central component of our employee development plan, our employees understand our own data monetization products and utilize them; data monetization expertise is an important recruiting criterion. "Anomalies" of data value when compared to material goods are understood by key people.
CS.8	Our data monetization products are constantly improved by learning from known errors.
CS.9	Our organization allows for (controlled) explorative experiments, including pivoting, that provide insight.
CS.10	Role descriptions (HR) for data monetization exist and are documented
CS.11	We use our IT-expertise in the area of data analytics and engineering to design new data monetization products and business models
CS.12	IT-Competence around Data Analytics, Data Engineering, and Artificial Intelligence is available in-house.
CS.13	A partner network is established to provide AI, Data Analytics, and Data Engineering if internal resources are insufficient.
	Dimension Customer
C.1	Data monetization -opportunities for the future are continuously observed and identified, incl. Systematic monitoring of market.
C.2	Our data value network collaboration is centered on leveraging data for monetization, with a clear focus on customer benefits.
C.3	We derive insights from customer and interaction data that influence our marketing and communication activities.
C.4	We include customers actively when developing data monetization products
	Dimension Data Business Product
DBP.1	We have set up data products to fuel data sharing with external partners or customers.
DBP.2	We have business case(s) for data products ready.
DBP.3	We have clarified and quantified the advantages of data sharing within our organization.
DBP.4	The success of data sharing has been demonstrated within our organization.
DBP.5	Data valuation / pricing models have been developed / archetypes are known (cost based, flat rate, demand based, etc.).
DBP.6	We have set up concrete business models for data products.
DBP.7	Pricing, Rating & Billing of Data Products is a regular activity for our organization.
DBP.8	Sales Channels (such as a data e-shop) are identified and introduced.
DBP.9	New data monetization ideas were executed in the past.
DBP.10	Our Competition observes us as a driver in data monetization innovation.
	Dimension Data Strategy
DS.1	Resources to define and monitor data monetization strategy are available. The data monetization strategy is periodically reviewed.
DS.2	Data monetization plays a central role in our data strategy.
DS.3	Data monetization follows a strategic plan in our organization.
DS.4	Our integrated systems ensure data is secure and of high quality, making it a reliable asset for monetization.
DS.5	Our company has successfully integrated a clear data strategy that aligns with our overarching corporate goals and is effectively communicated and implemented across all business units.
DS.6	Data monetization strategies have been developed / strategic archetypes are known.
DS.7	Our monetization and pricing strategies are built on the value delivered to customers, not necessarily tied to physical products.
DS.8	Our strategy and vision are committed to developing and offering comprehensive data-driven solutions.
DS.9	We have developed a comprehensive roadmap and project portfolio dedicated to data monetization.
	Dimension Information Technology (IT)
IT.1	In order to assess limitations (e.g. what data are missing) data information structures and data architecture are periodically reviewed.
IT.2	Our data-related infrastructure is scalable and integrates seamlessly with various platforms, supporting real-time data streaming and interoperability.
IT.3	Our data infrastructure is agile: we are able to adjust our data monetization offers on short notice if the business requires it.
IT.4	Our IT is able to deliver all of the relevant technologies necessary for data monetization.
IT.5	Data protection and IT security solutions are always up-to-data.
	Dimension Organization
O.1	We have formed a dedicated unit to drive these initiatives.
O.2	Our organization is agile in developing and implementing innovative data-driven business models that capitalize on new market opportunities.
O.3	Data monetization projects are planned and executed across departments (and silos).
O.4	A data governance that defines rights and responsibilities of data producers, Data Consumers, and Data Intermediaries (Data Platforms) has been developed.
O.5	KPIs and metrics for data monetization have been introduced and are monitored.
O.6	The goals of data monetization are defined in a measurable way and are monitored (e.g. KPIs with balanced score card).
O.7	Our data value monitoring is sophisticated, feeding into the organization's strategic decisions and contributing to the optimization of our data exploitation processes across the value chain.
O.8	We engage with external experts to develop additional knowledge.
	Dimension Processes
P.1	KPIs and metrics for internal processes have been introduced and are monitored.
P.2	Our processes leverage data-driven insights for optimization, enhancing our capabilities to offer digital services.
P.3	We engage in horizontal integration with our data networks to expand our data monetization capabilities.
P.4	Data analytics drive our decision-making processes, directly contributing to our data monetization efforts.
P.5	Our value chain is fully digitized, enabling end-to-end data monetization from product inception to after-sales services.
P.6	Enterprise-wide continuous process improvement based on data monetization is defined; All decisions require data-monetization-driven evidence to be supported at all levels of the organization.
P.7	Our data is continually checked for monetization opportunities.
P.8	We have installed quality metrics for our data channels/pipelines.
P.9	We have understood and are fully aware of the requirements of regulation (GDPR, AI Act, Data Governance Act, Data Act).
P.10	We have put measures into place to fulfill regulatory requirements for data sharing. There are no concerns about unintentionally violating regulation.
P.11	We have put measures into place to keep trade secrets.
P.12	We inform proactively how data are used (business, ethics, legal, tech, security), rulebook.

Bub, Gkizelis, Schneider (2025)

Assessment of an Organiation

Date: Dec 19, 2025

Interviewees: High Performance Computing Center



Assessment accross six companies

1 Telco, 1 Digital Services Company, 2 DNOs, 2 HPCs

ID	Overall	Culture& Skills	Customer	Data (Business) Product	Data Strategy	IT	Org	Processes
Company 1	**3.33**	3.62	3.00	2.83	3.25	4.40	3.00	3.22
Company 2	**2.88**	3.25	3.25	1.50	2.50	4.20	3.38	2.11
Company 3	**2.47**	2.62	2.25	1.83	2.50	3.40	2.00	2.67
Company 4	**3.33**	3.46	3.75	2.00	3.00	4.40	3.25	3.44
Company 5	**3.74**	3.69	3.75	3.83	3.50	4.80	3.13	3.44
Company 6	**3.00**	3.31	3.00	2.00	2.75	4.20	2.63	3.11

Bub, Gkizelis, Schneider (2025)

Thank you!

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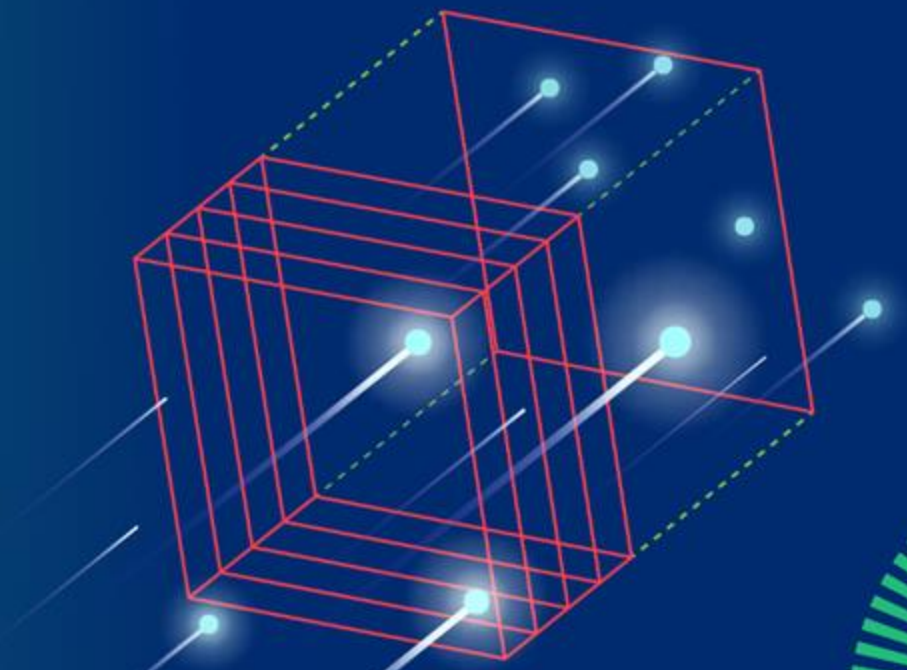

The Data Valuation Framework

Andrea Visentin
University College Cork
UCC

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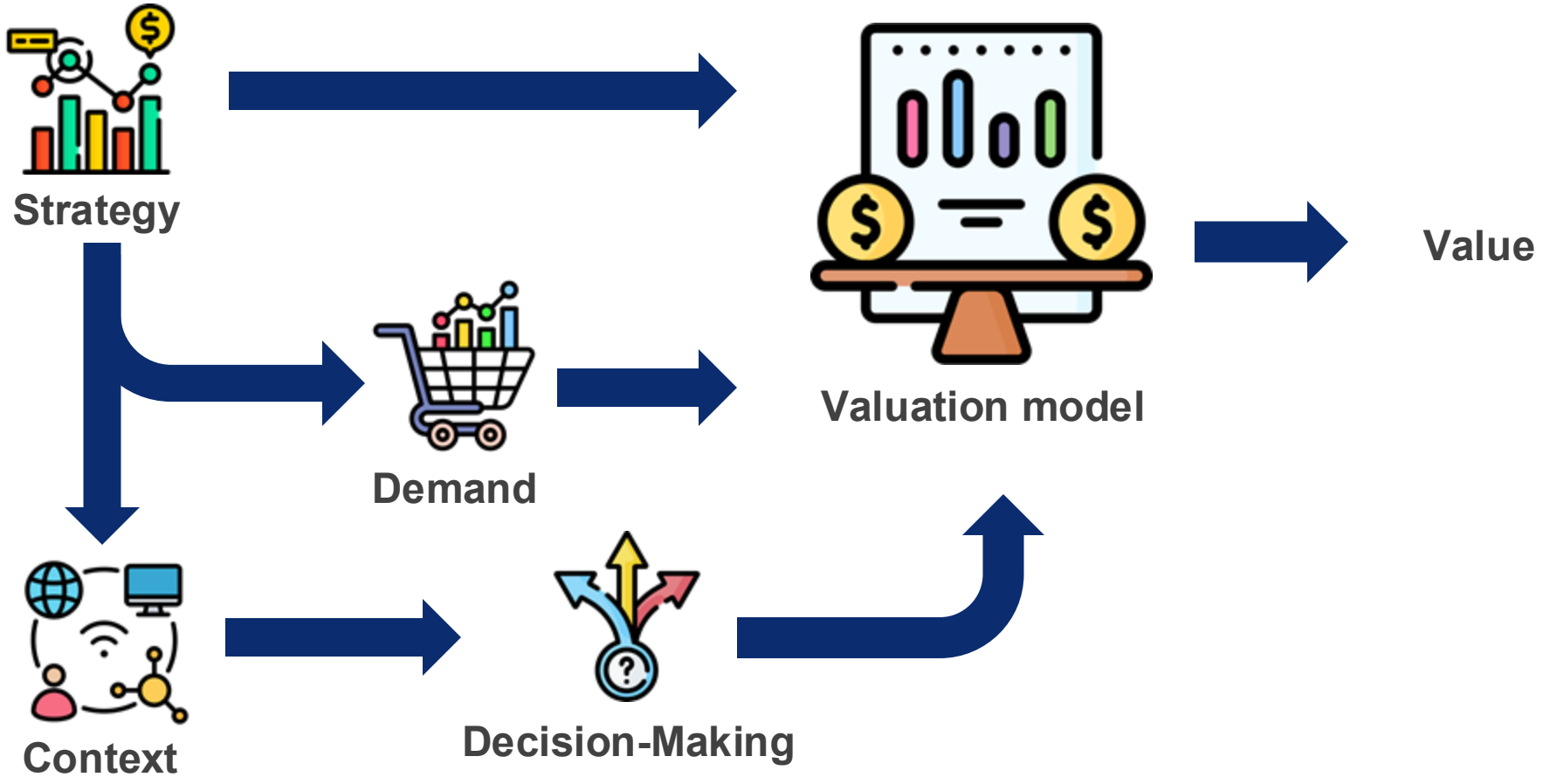
Value is not Price

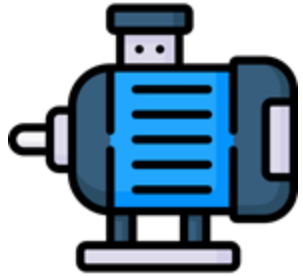
Context -> Valorisation is multidimensional; matters **(**Quality ≠ Relevance ≠ Utility**).**

Valuation Framework



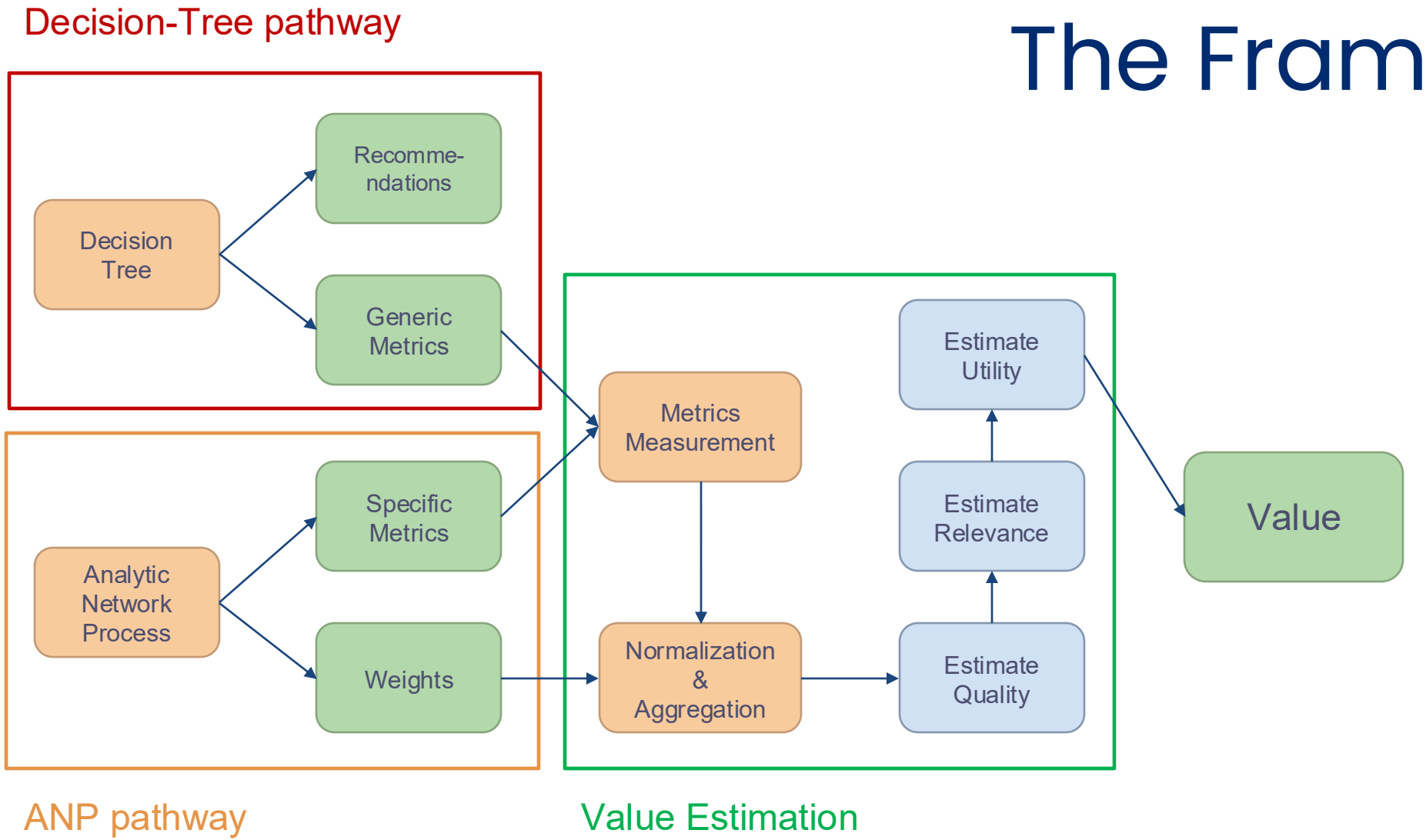
Use Cases

- A micro-mobility startup, sought high-resolution geolocation data to optimize e-scooter deployment across five cities. Three vendors offered datasets with varying coverage, pricing, and quality guarantees.

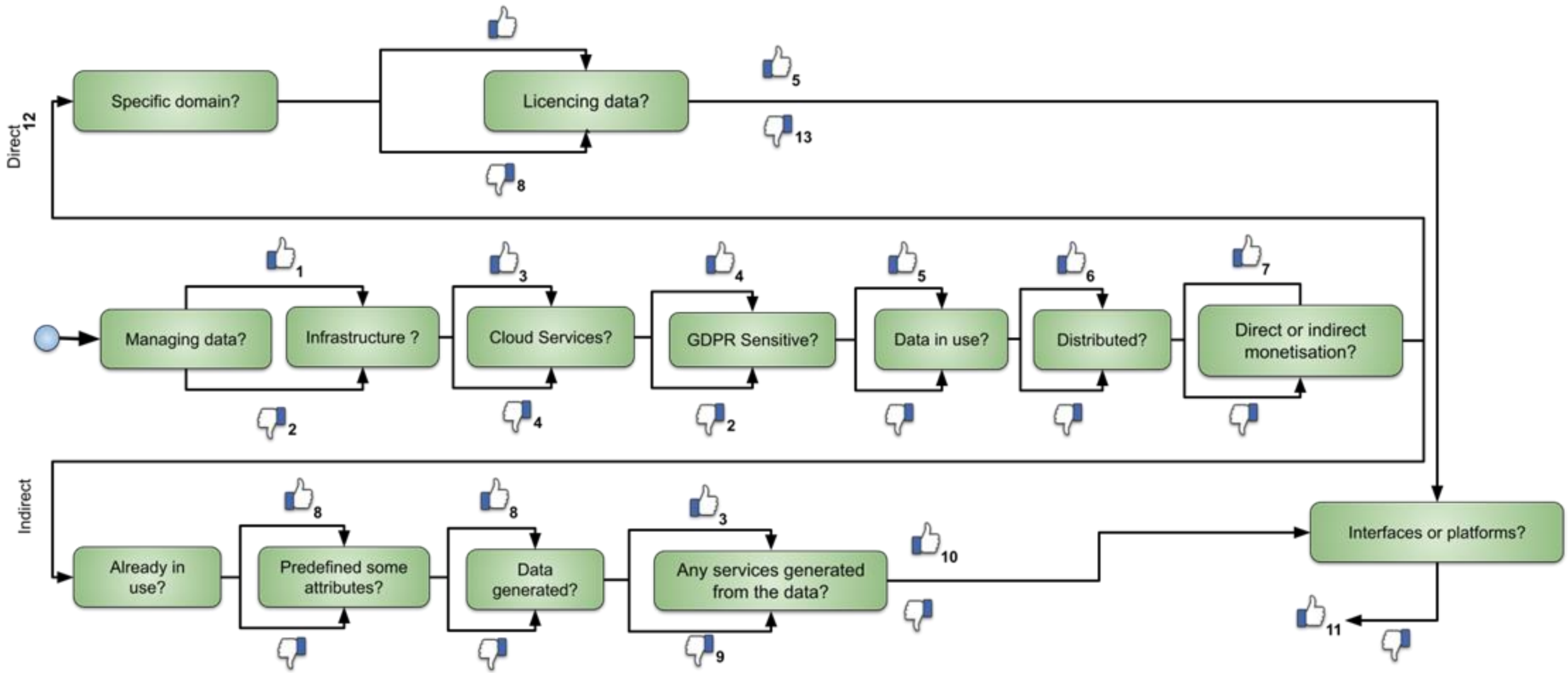


- A manufacturing company is considering different sensor systems to collect real-time data from induction motors operating their pumps. The systems have different reliability, cost, accuracy, and latency.

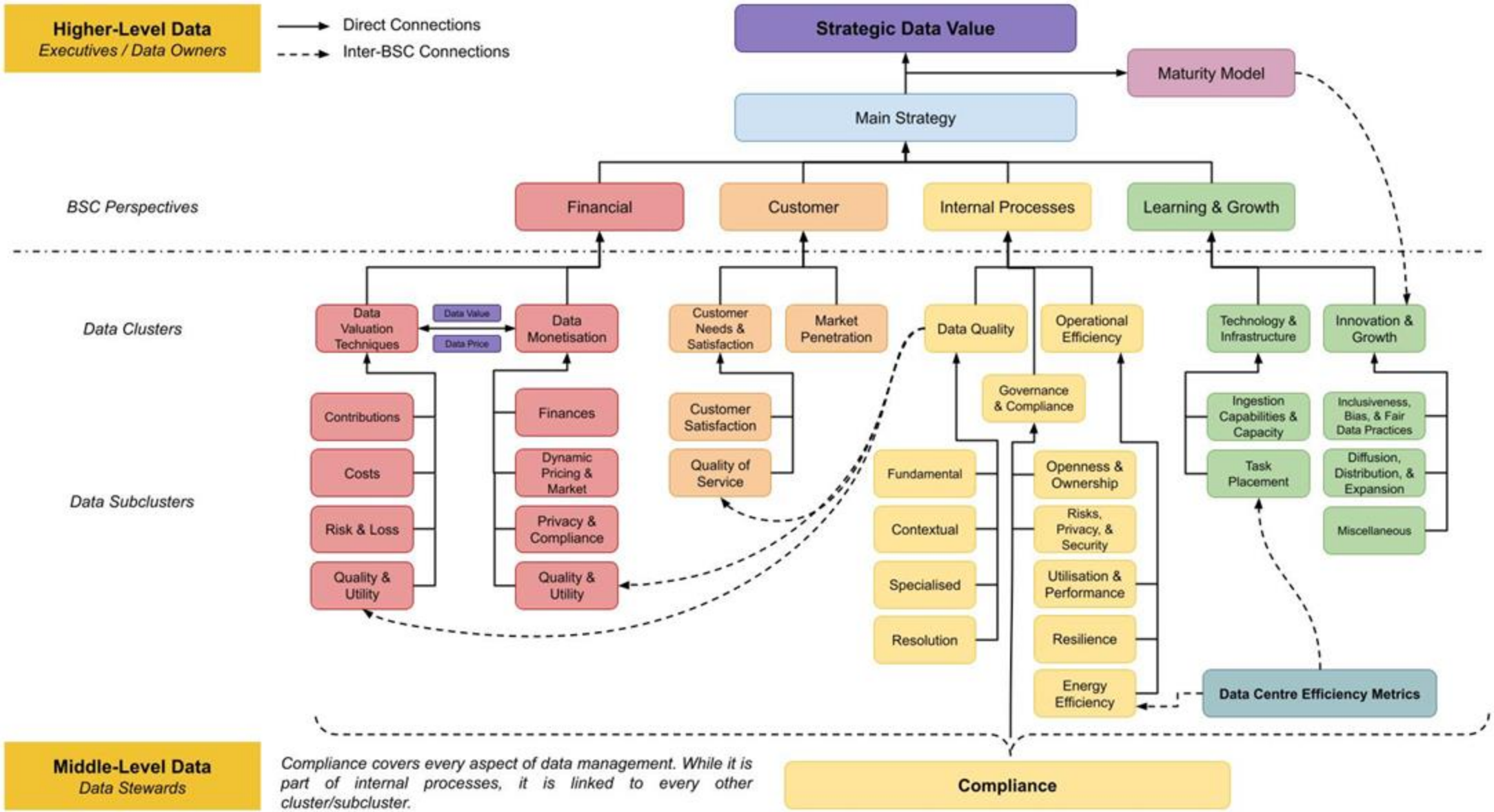
The Framework



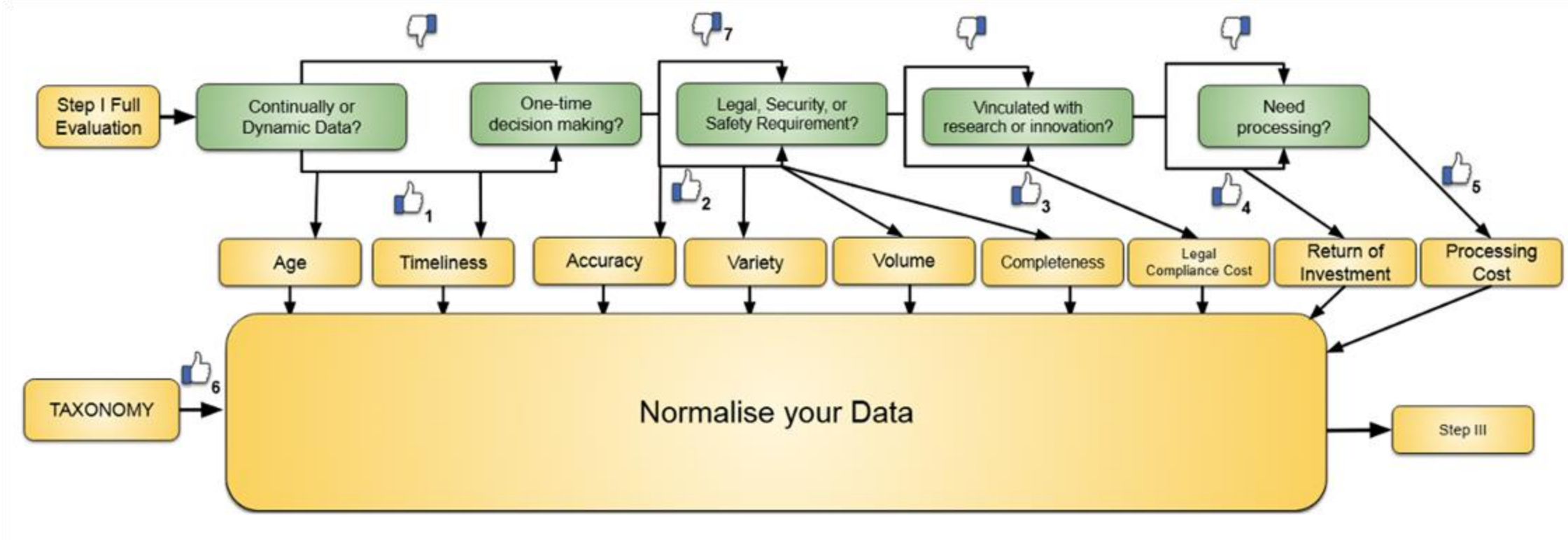
Decision Tree Pathway



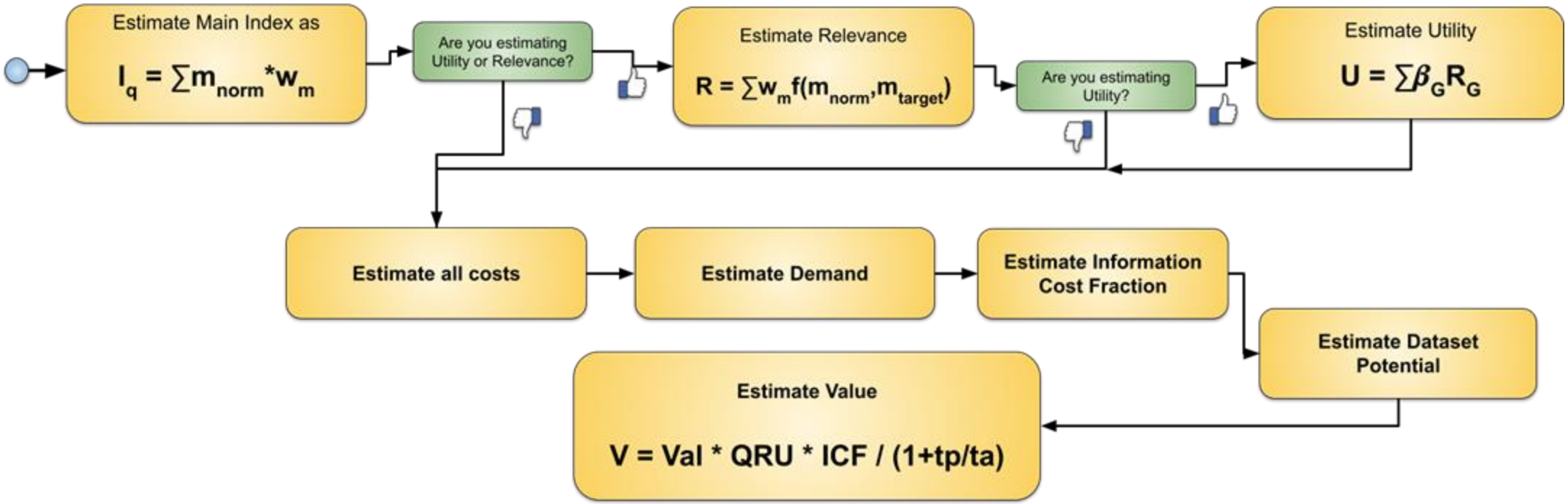
Balanced Scorecard & KPI Taxonomy


Higher-Level Data
Executives / Data Owners
Direct Connections
Inter-BSC Connections
Strategic Data Value
Maturity Model
Main Strategy
BSC Perspectives
Financial
Customer
Internal Processes
Learning & Growth
Data Clusters
Data Valuation Techniques
Data Value
Data Price
Data Monetisation
Customer Needs & Satisfaction
Market Penetration
Data Quality
Operational Efficiency
Technology & Infrastructure
Innovation & Growth
Data Subclusters
Contributions
Costs
Risk & Loss
Quality & Utility
Finances
Dynamic Pricing & Market
Privacy & Compliance
Quality & Utility
Customer Satisfaction
Quality of Service
Fundamental
Contextual
Specialised
Resolution
Governance & Compliance
Openness & Ownership
Risks, Privacy, & Security
Utilisation & Performance
Resilience
Energy Efficiency
Ingestion Capabilities & Capacity
Task Placement
Inclusiveness, Bias, & Fair Data Practices
Diffusion, Distribution, & Expansion
Miscellaneous
Data Centre Efficiency Metrics
Middle-Level Data
Data Stewards
Compliance covers every aspect of data management. While it is part of internal processes, it is linked to every other cluster/subcluster.
Compliance

Metrics Normalisation

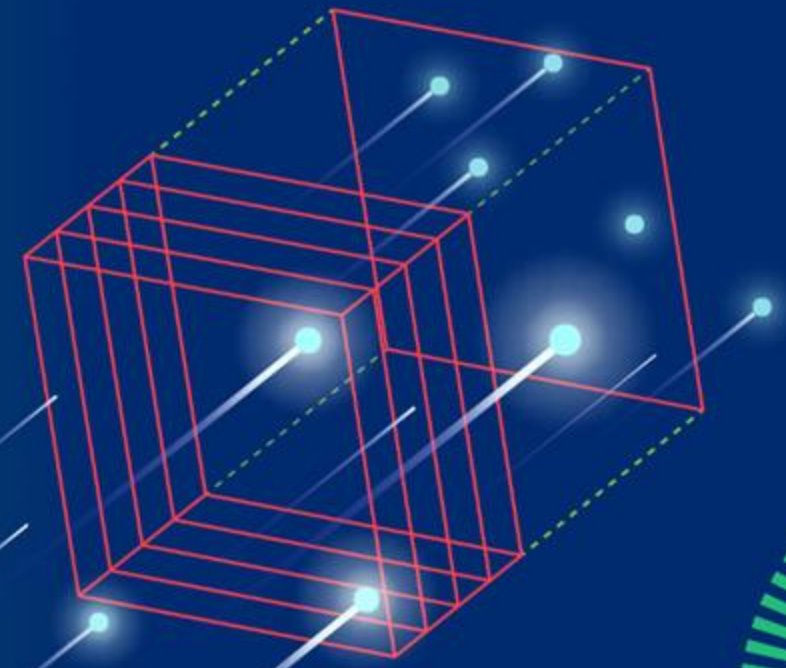


Value Estimation



Thank you!

andrea.visentin@ucc.ie



DATAMITE in Action: Use Cases

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PSNC

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DATAMITE Use Cases

3 Use Cases → **6** Pilots

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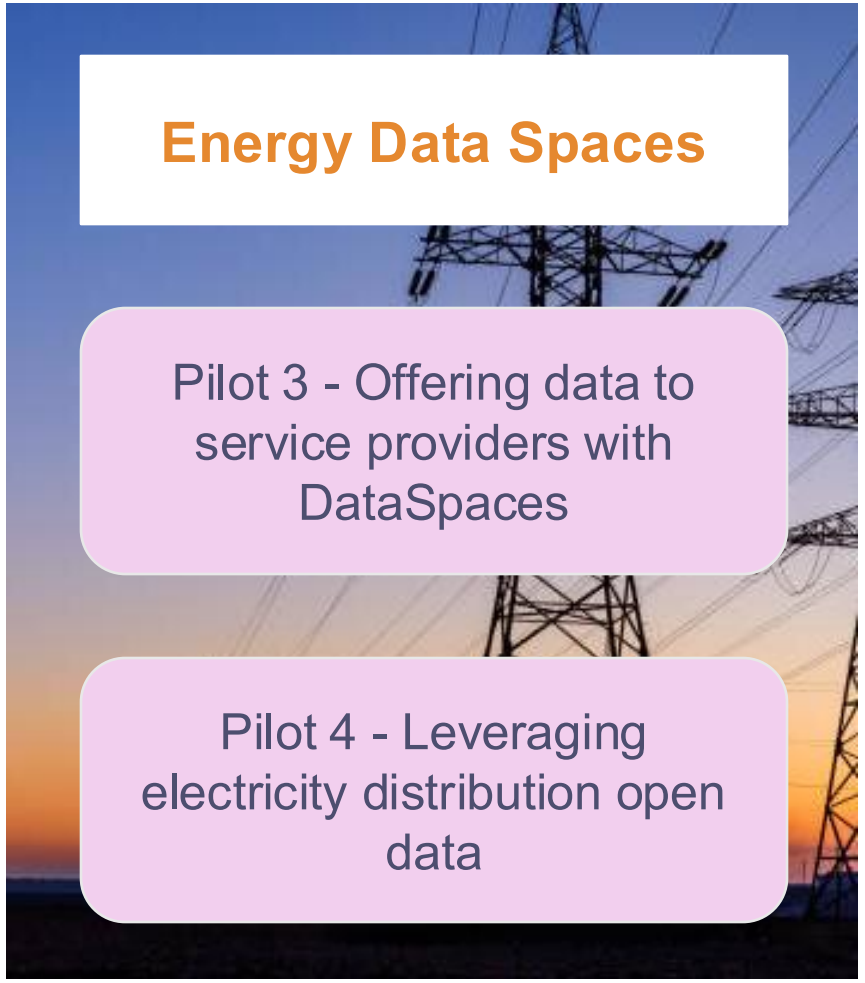
Data exchange within large corporations

Pilot 1 - Corporate Multi-Domain Data Exchange with DIH support

Pilot 2 - Corporate multi-site Data Exchange



Energy Data Spaces

Pilot 3 - Offering data to service providers with DataSpaces

Pilot 4 - Leveraging electricity distribution open data

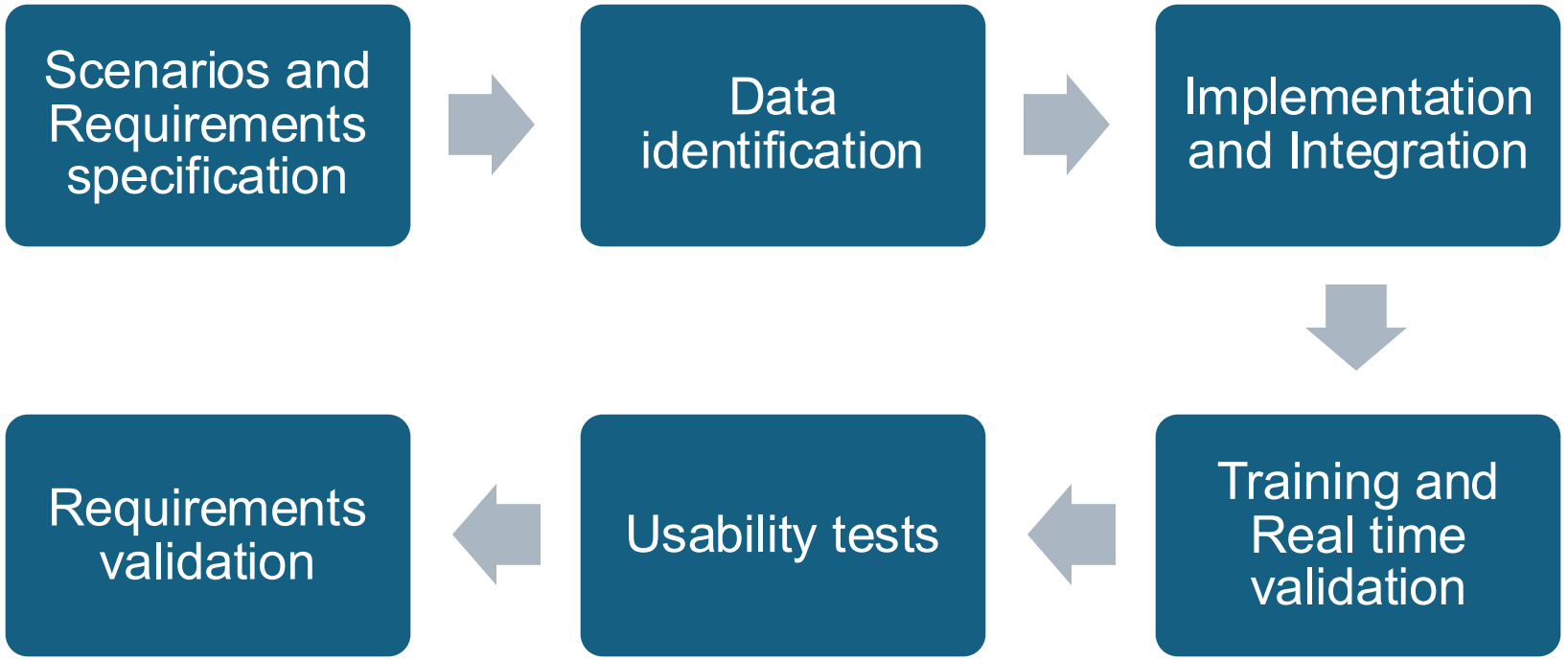
Interaction with other initiatives

Data Marketplaces and the EU AIoD

Pilot 5 - Connecting eDWIN to Data Markets: Agriculture

Pilot 6 - Connecting MISTRAL to the EU AI-on-Demand platform

Use Cases – validation cycle

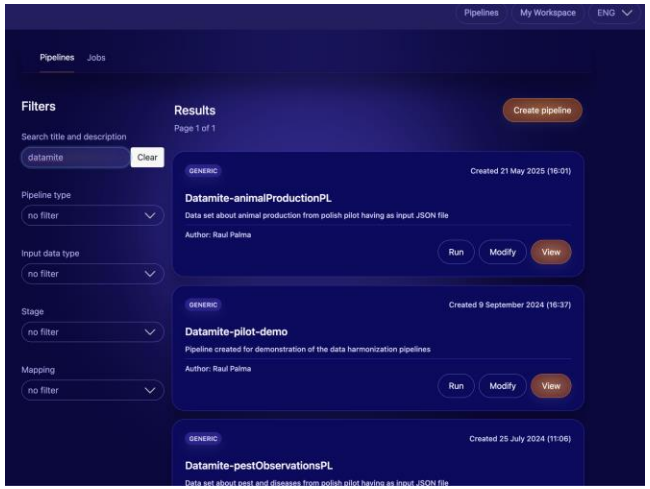


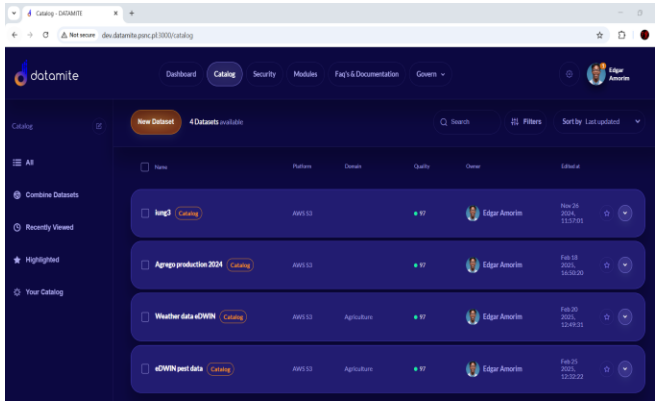
- **Over 200 requirements**
- **>30 kind of datasets involved in validation**

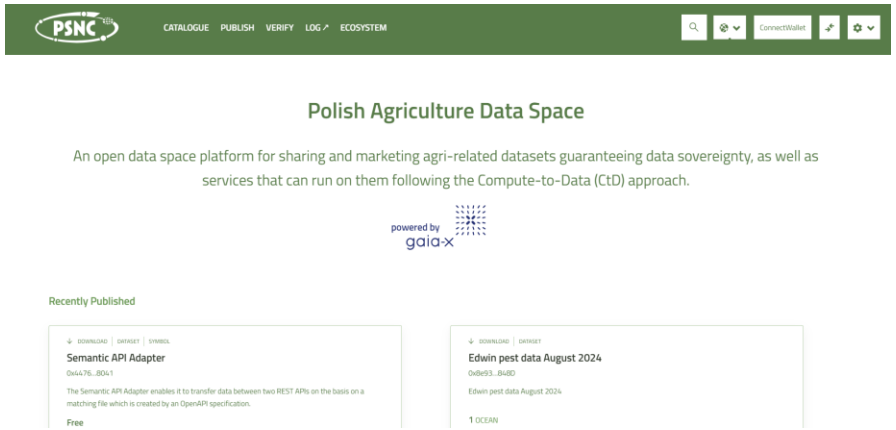
Zoom in Agriculture Use Cases

- Multiple providers willing to collaborate in the ecosystem, share data, publish data, monetize data
- Data quality evaluation of particular importance

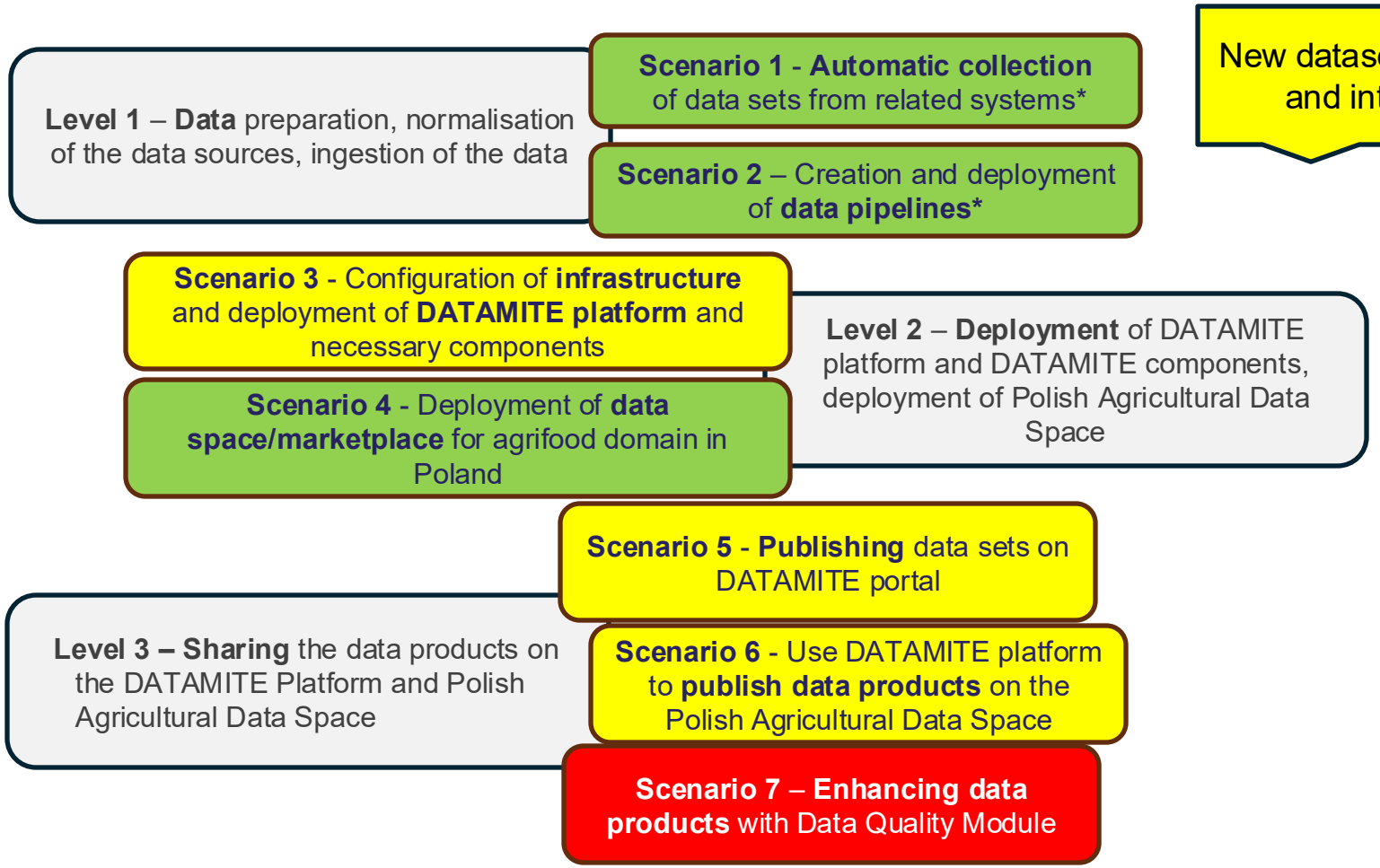
Data harmonization and transformation → Quality evaluation → Data product composition → Data sharing → Data Market place publication







Scenario validation in Agriculture Use Case



Potential exploitation

- Polish agrifood ecosystem
- CEADS, AgriFoodTEF

Thank you!

Marcin Plociennik (PSNC)
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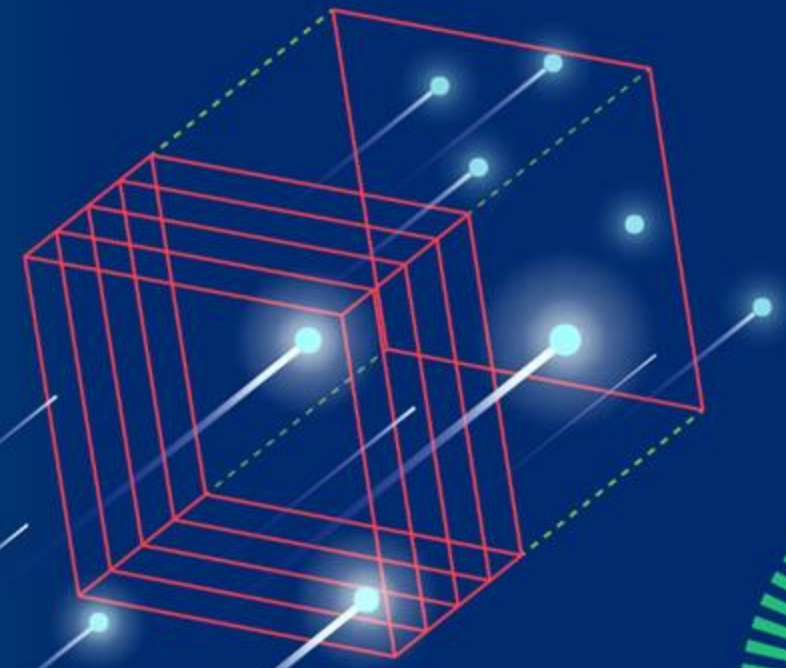

EUROPEAN BIG DATA VALUE FORUM

Panel Discussion: Adoption and Market Impact

Jesús M. Santamaria
Tecnalia

Christos Gizelis
OTE

Daniel Sáez
Instituto Tecnológico de Informática - ITI

Moderated by:

Santiago Cáceres
Instituto Tecnológico de Informática – ITI

datamite

Thanks very much!