

Data Product Management

Wie kann man die Entwicklung von datengetriebenen Use Cases unter dem Einsatz von Data Product Management optimieren?

Data and AI Team



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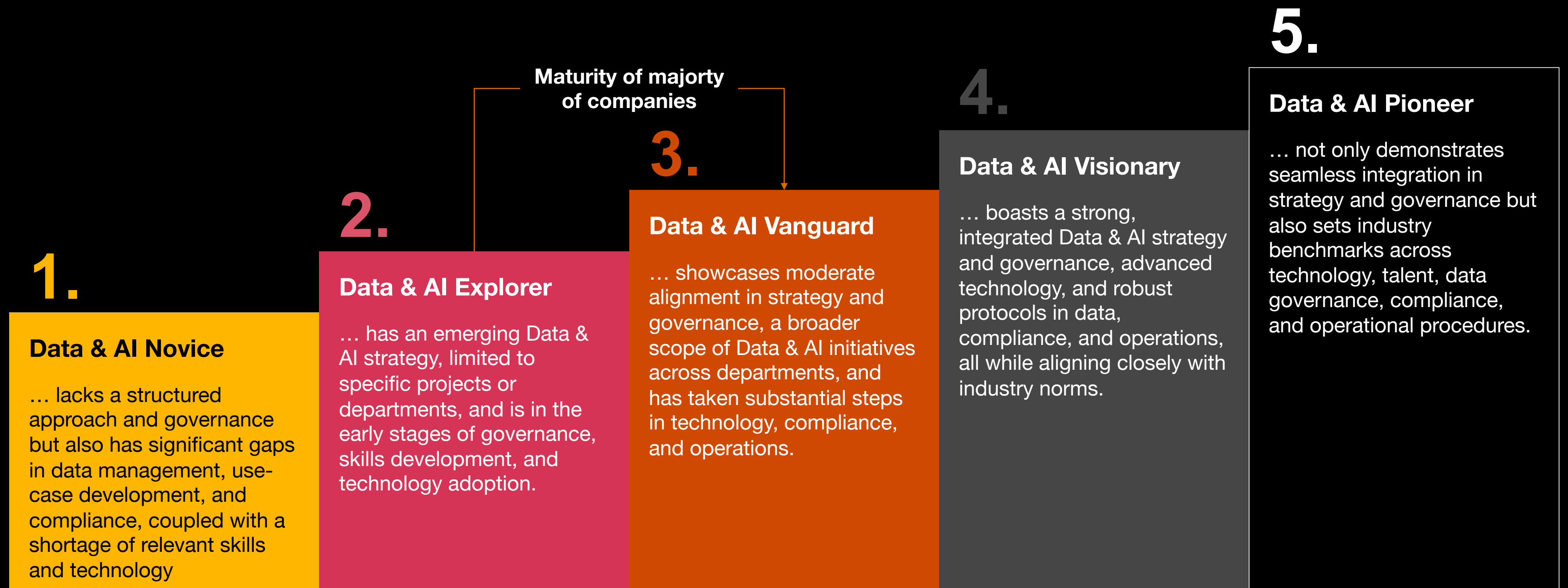
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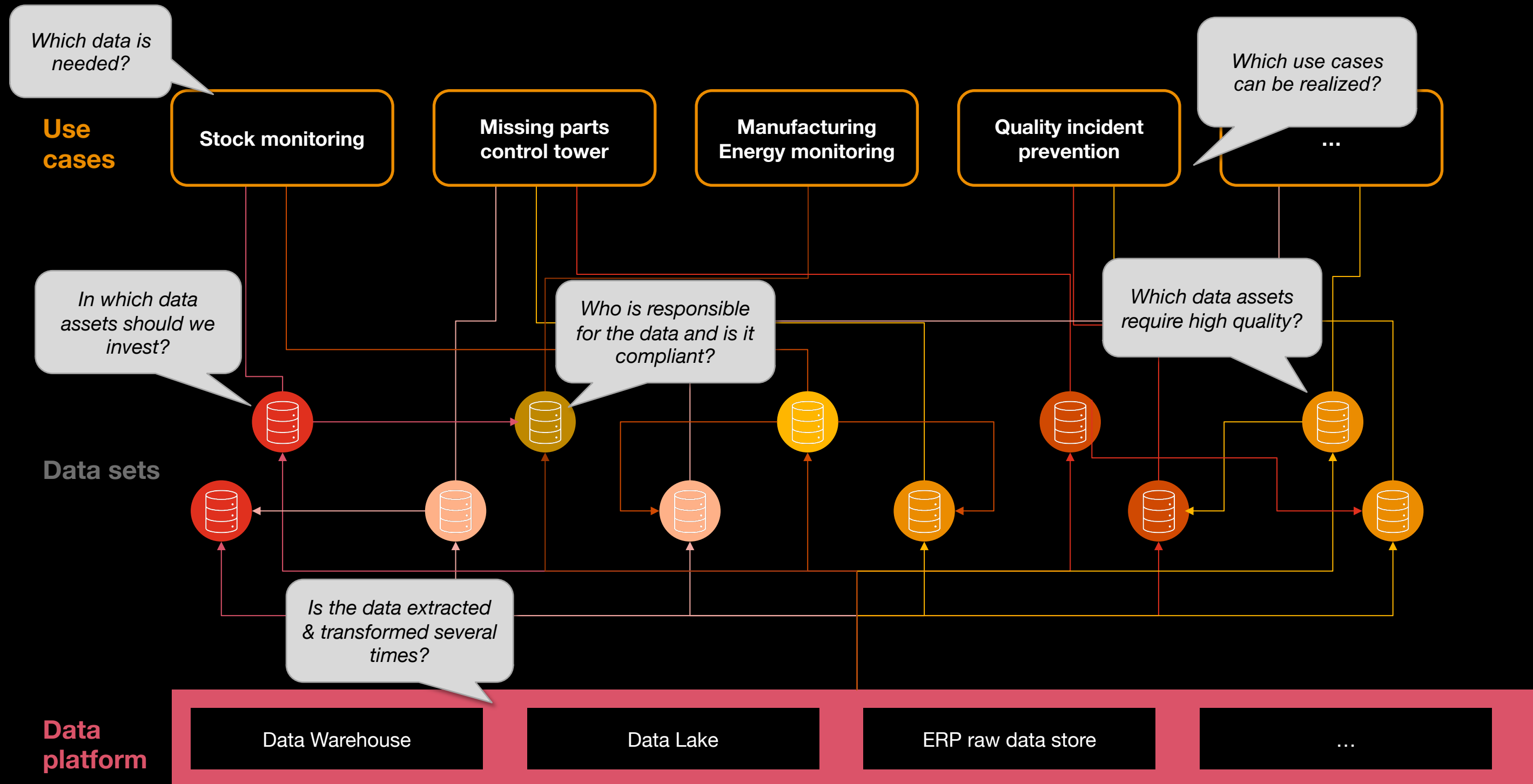


We currently see a majority of companies at a stage in Data & AI adoption where scaling use case impact is at the top of the agenda



Sources: PwC Strategy& Data & AI Maturity Assessment

However, fragmented data sets and a misaligned data foundation are challenging companies to scale use case impact across the firm

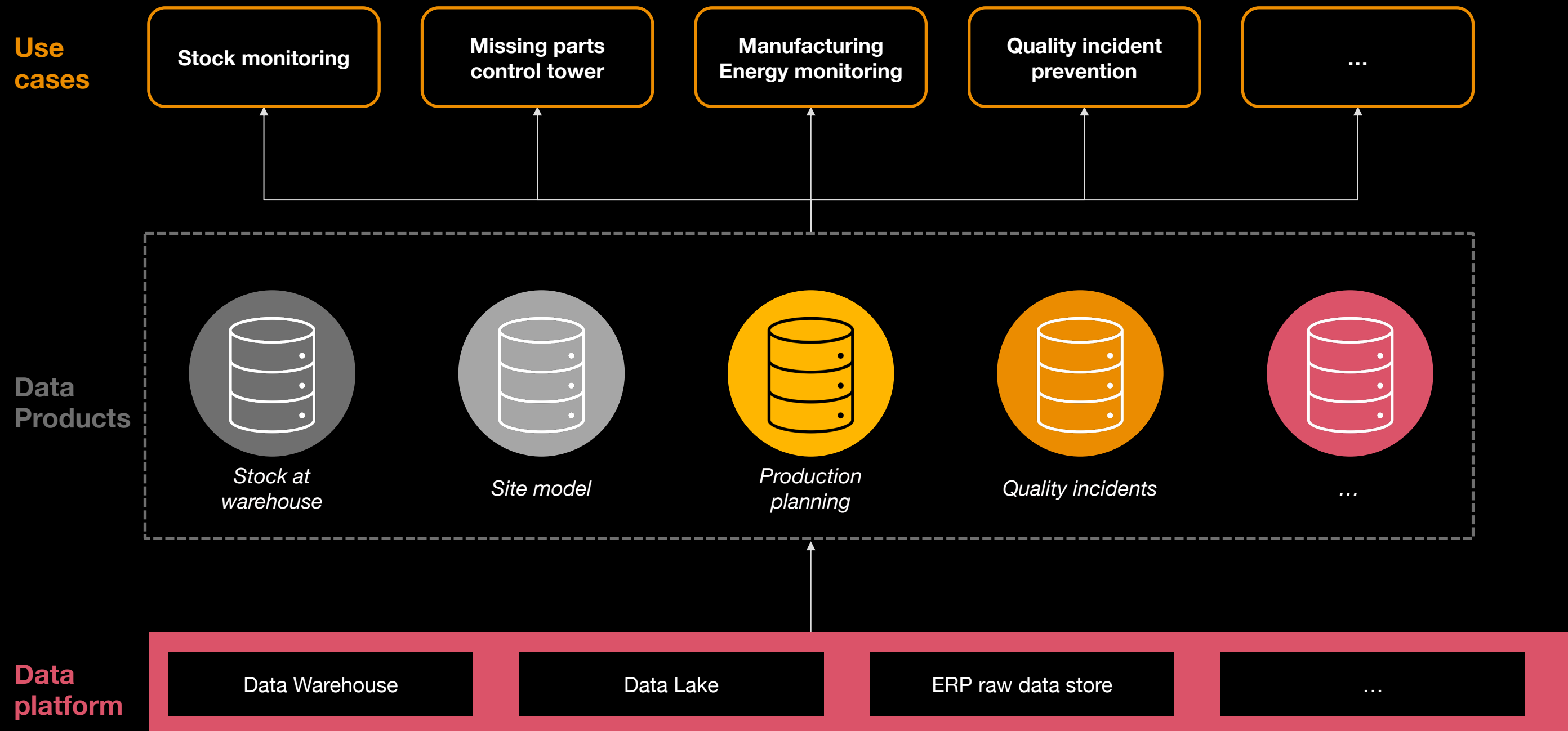


Challenges of fragmented data foundation

- Data is **inefficiently reworked** for every use case with varying quality, definitions and formats
- Data pipelines are **fragmented and duplicative**
- Data dependencies of use cases are **untransparent**
- Value of data sets is **unclear**



Managing data as a product helps to steer data foundation development towards maximizing use case value generation



Levers of Data Product Portfolio Management

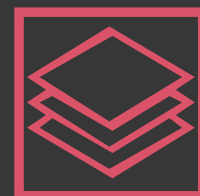
- Overview on usage and **value contribution** of data products
- Transparency on key data products to **enable use case roadmap**
- **Investment prioritization** into data foundation in times of limited budgets
- **Channeled data demand** to extend existing or develop new data products



Managing data as a product means providing a clearly described and quality assured data set available and accessible for potential customers

Data Product

...encapsulates and implements all necessary components for processing and sharing data as a product.



Characteristics¹



Discoverable: Information is published by the owner, making data products findable and shareable. (Data Catalog, Data Marketplace)



Understandable: Clear understanding of the encapsulated entities and their interpretation. (Data Catalog)



Addressable: Meets consumer needs at specific times, adaptable to changes (Portfoliomanagement).



Secure: Access controls, encryption, and compliance ensure security. (IT Security, GDPR)



Interoperable: Standardized access interfaces, supported by metadata and SLOs, define entity validity. (API)



Trustworthy & Truthful: High trust through details on data changes, statistics, lineage, and performance. (SLA, DQ)



Natively Accessible: Accessible through various methods like SQL, dashboards, or message queues, depending on user tools. (API)

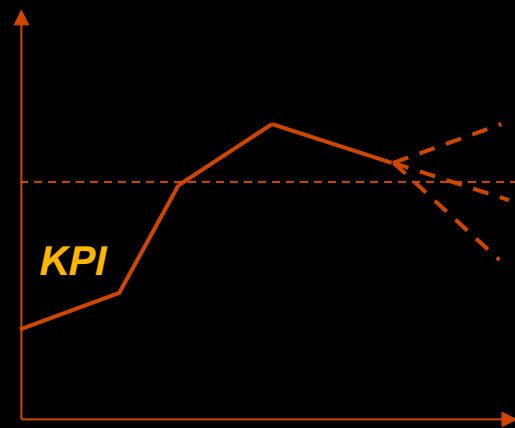


Valuable: Direct standalone value. (Business Case)

¹ Source: Bitkom. 2022. Data Mesh – Datenpotenziale finden und nutzen

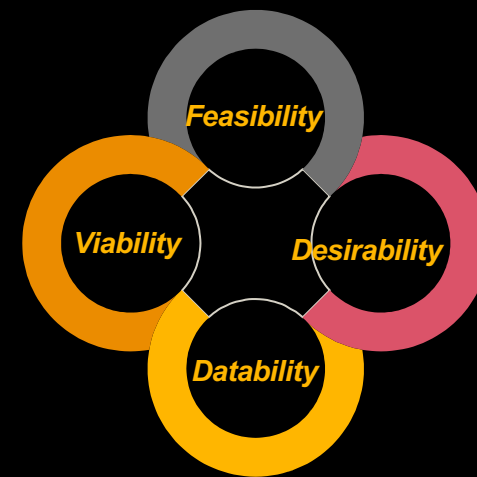
To enable scaled use case impact, Data Products need to be managed along their entire lifecycle – from demand to deployment

Business Challenges



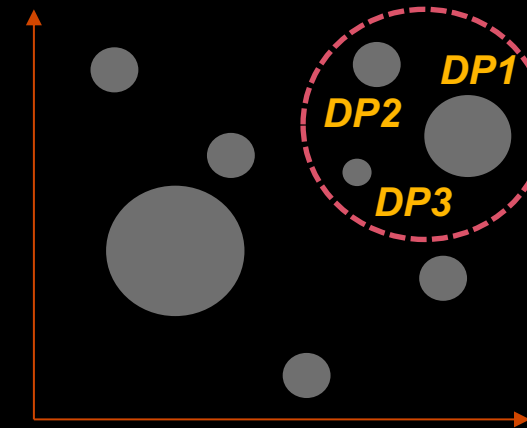
- Capture, validate and prioritize most **critical business challenges**
- Identify **relevant KPI's** and set **value contribution** baseline and objectives for use cases
- Derive **data & insight needs** from use cases and data governance

Data & Insight Needs



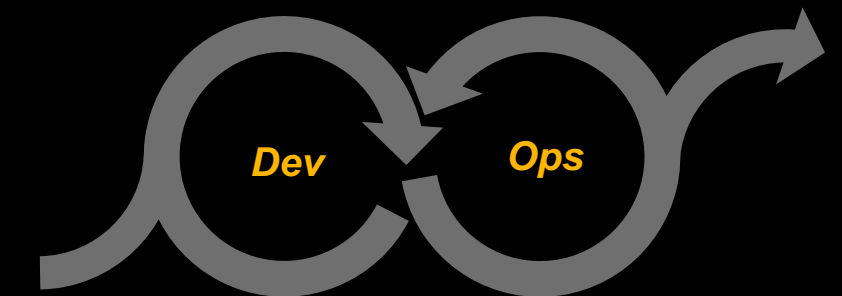
- Collect and assess **existing data products**
- Identify **data product gaps**
- Qualify **new data product needs** based on feasibility, viability, desirability and datability¹

Data Product Portfolio



- **Prioritize data products** to maximize value contribution to most critical KPI's
- Allocate **budgets and resources**, cascading top-down through the data product hierarchy

Data Product Delivery



- Monitor **data product delivery** in terms of new functional coverage, SLA adherence and usability improvement
- Measure **data product adoption**, as well as actual **spend** and **value contribution**

A qualitative and quantitative portfolio evaluation logic allows to derive use case portfolio development measures...

Exemplary Business challenge and D&A portfolio review

Qualitative value assessment

...by analyzing the target / capability coverage of the existing use cases

Quantitative value assessment

...by analyzing the value contributions (KPI and monetary)

Portfolio development

	Business cap.	Use cases
Smart & Data Driven Production	Quality management ●	Conformity monitoring (real-time)
	Predictive maintenance ●	Asset Management
	...	Downtime Forecast

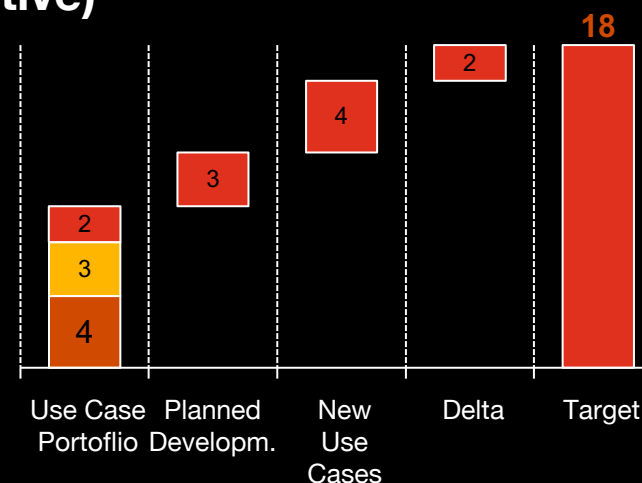
	Supply chain transparency ●	Stock monitoring

Use case and portfolio value contribution

KPI value tracking

of hours downtime
% of assets under digital asset management

Use case value contributions in mEUR (illustrative)



Further development measures for next PI(s)¹

Coverage-related measures for next PI:

- Rollout conformity monitoring to remaining location
- Development of new use case for "downtime forecast"
- Development of prescriptive function for stock monitoring
- ...

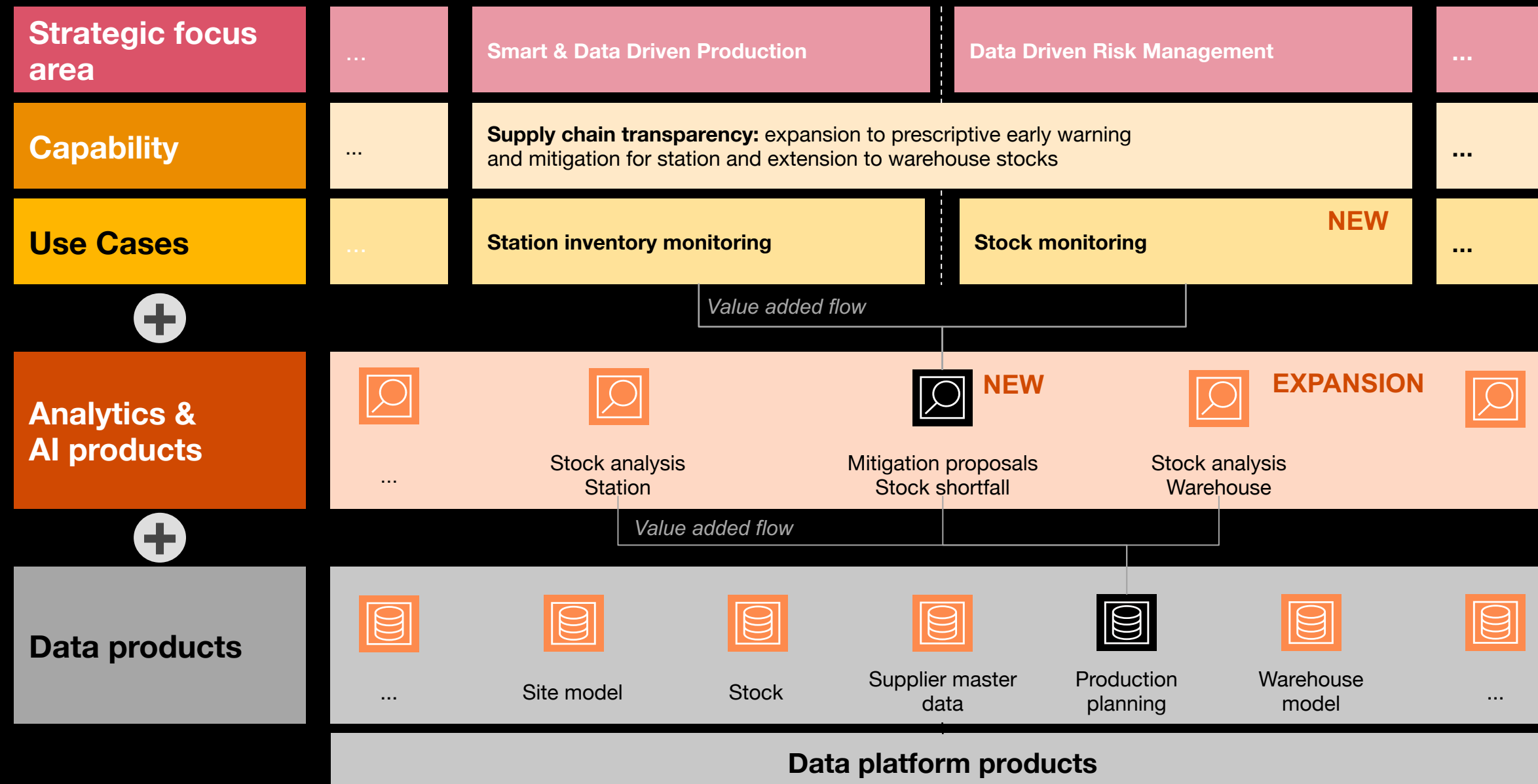
Value contribution-related measures for next PI:

- Determination of reasons for underrealization of value added (1 mEUR) for "Conformity monitoring"

¹ PI = Product Increment based on the SAFe framework

...which can be translated into concrete Data and Analytics/AI development needs

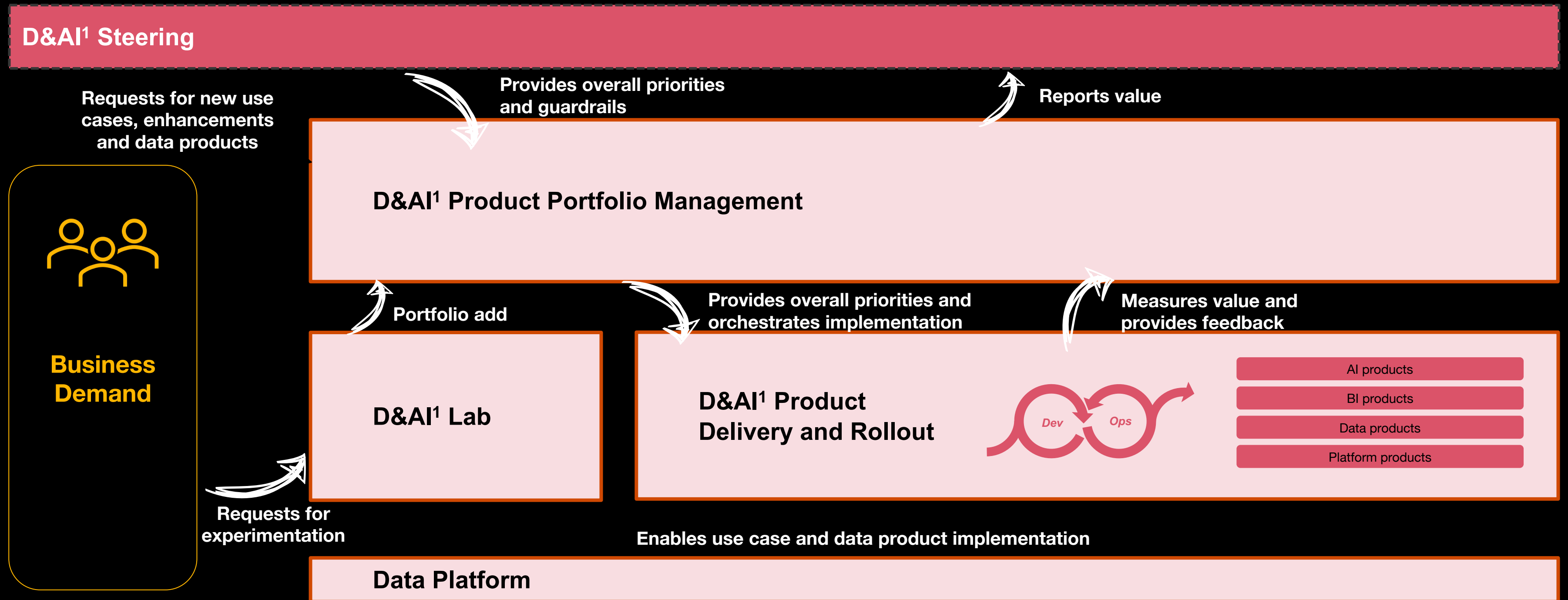
Exemplary D&A portfolio business lineage



Benefits

- Shows the **interrelationships** between data / analytics products and use cases
- Documents and visualizes end-to-end value flows from business objective to data/platform product (business lineage)
- Enables **impact assessment** of use cases and underlying data products
- Promotes **evidence-based, impact-oriented investment decisions** in data and AI

Data and AI portfolio management serves as the tactical integrator to ensure high business value data product development



¹ D&AI = Data & AI

Recommendation: Set up DPM as part of the Data & AI governance, measure value early and evolutionize Data & AI structure

Recommendations for Data Product Management (DPM)



Business led

Demand for data products is business driven – regulatory or use case demand



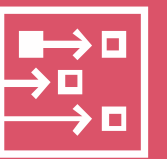
Data & AI integrated

Strategic, tactical and operational integration of data product and use case development



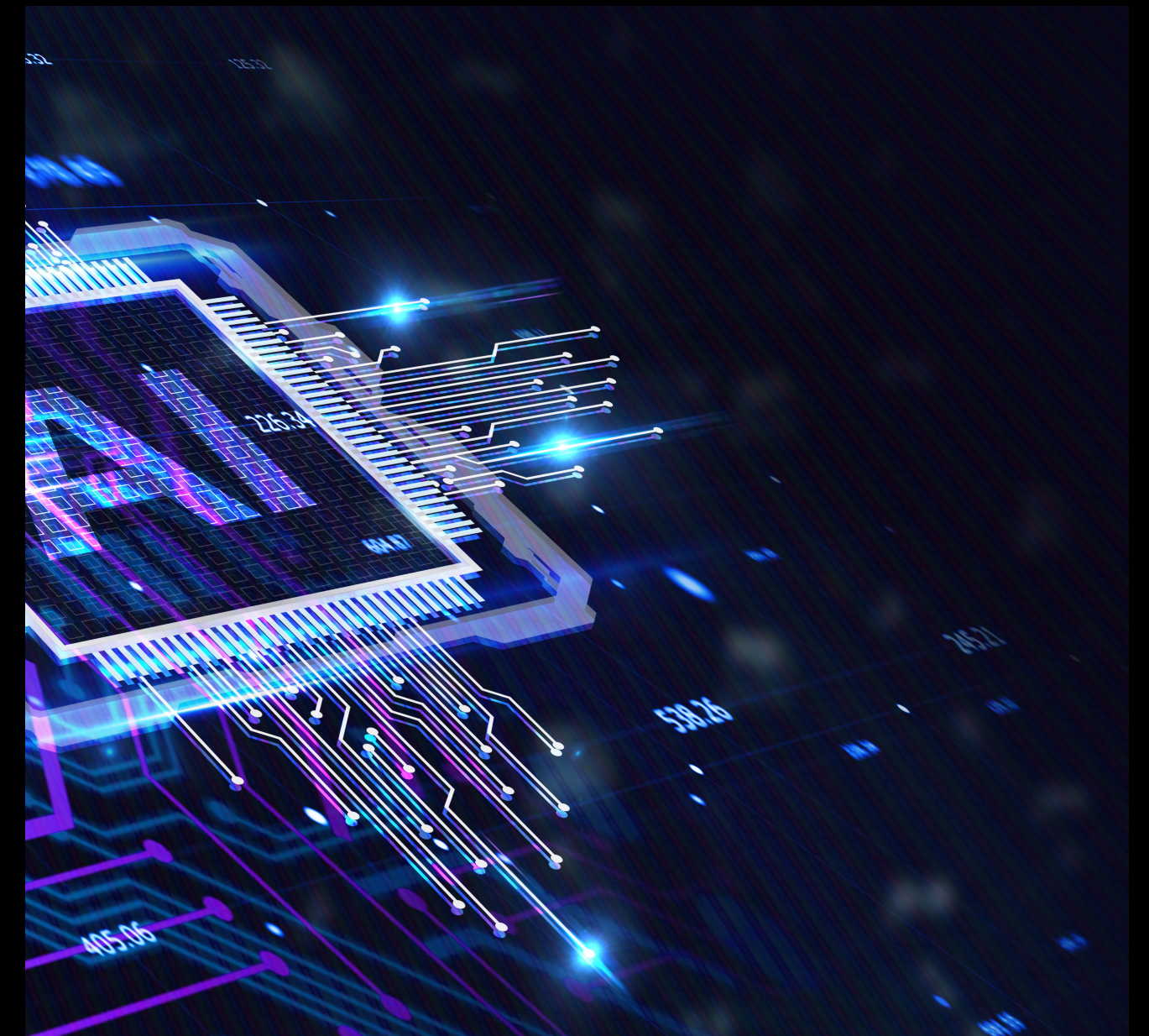
Evolutionary

There is no perfect data product structure, agree on guiding principles and start evolving



Value measured

Measure business impact for use cases and data products from the very first day on



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Thank you

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