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Positive digital flow

Verantwoord omgaan met data: een uitdaging?

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Sensitivity: Company

Our world changes

And not only because of COVID
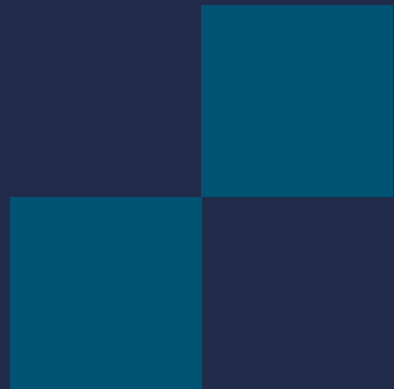
Data = core of digital flow journey use it as a value enabler to accelerate your business

The core of every organization is data
- Always start from a business value perspective ▪ No big bang
- But with an end in mind

Value enablers:

Operational Excellence – Empower Employees
- Data as basis for decision making and process visualization
- Take steps with innovation experience at scale

Better Customer Experience – Customer Relevance
- Mobile first, Personalized ▪ Improve communication ▪ The establishment of customer-centrism ▪ New services
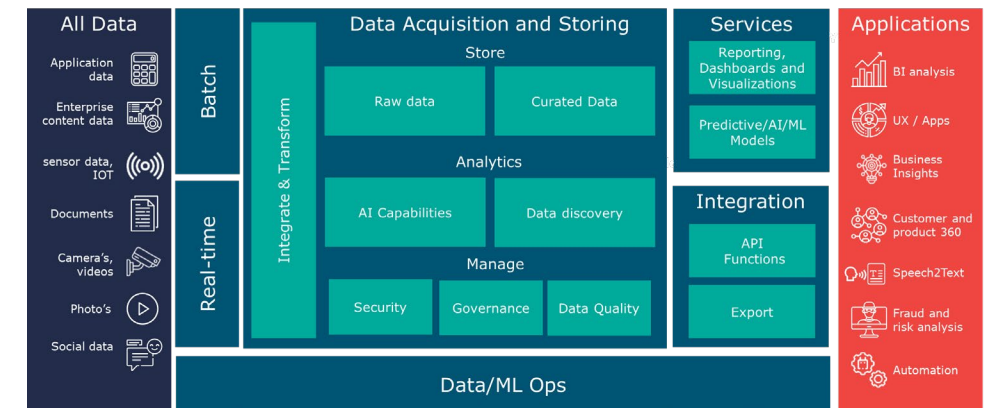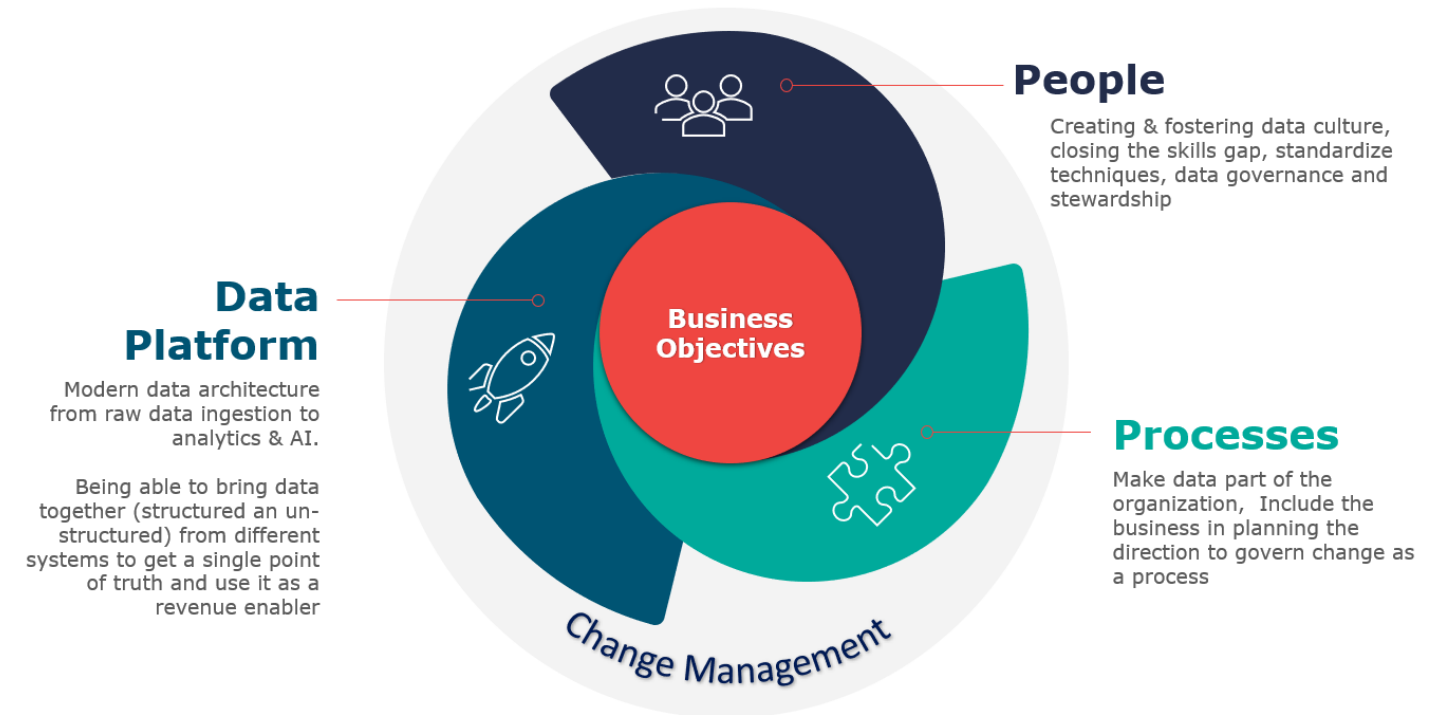
A data driven world – Are you ready ?

- 73% believe that their data resources hold the key to creating business **value** (HBR)

- On average "only 3% of companies data meets basic **quality** standards" (HBR)

- According to Gartner research 85% of Big data projects **failed** getting to production

3 basic principles

1. Start small, scale fast: BI & AI is not the goal, value is

2. Data-driven organisation focus on 3 aspects of their strategy
   - Data governance is key for creating trustworthy data

3. Start from a proven reference architecture
   - Cloud technology as enabler for a faster and safer delivery

People
Creating & fostering data culture, closing the skills gap, standardize techniques, data governance and stewardship

Data Platform
Modern data architecture from raw data ingestion to analytics & AI.

Being able to bring data together (structured an un-structured) from different systems to get a single point of truth and use it as a revenue enabler

Business Objectives

Processes
Make data part of the organization, Include the business in planning the direction to govern change as a process

Change Management

Successful data management is key for creating business value & security

Data FAIR principles

Findable

Data have sufficient meta data and unique identifier

Data catalog makes the data findable
Semantics show relations between the data

Accessible

Data have to be accessible and understandable to humans and machine

Access is organized by the data products
Data management zone organize the access

Interoperable

Data and metadata have a shared and broadly applicable language

Data domains offer data in agreed format

Reusable

Data (products) have to be reusable for different use cases

Federated model, Data domain is responsible for creating reusable data products (business knowledge)

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CIA model

Confidentiality

Security by design:
- Rol-based access
- Breach monitoring
- Encryption

Data Privacy by design:
- Identification of person related data and secure it
- Anonymization
- Aggregation

Integrity

- Meta Data understanding
- Data lineage
- Data quality monitoring
- Determining master data model & domains
- Integration but only once
- Data cleaning in data pipelines

Availability

- Self-service frameworks
- API
- Business Glossary for discovery
- Making maximal used of standard ontologies (Saref, Oslo, LOD, …)

Key question: What can't you do if your data aren't properly managed

- Consult business to identify how business interact with the data
  - How do the define, create, update, consult data and information
  - What can't they do if your data aren't properly managed

- Examples
  - We cannot target the right customer because we have no clear view on our customers
  - We don't know which customer data are stored if we have no clear view on the customers
  - We cannot automate because we manually input/correct the data
  - Right to be forgotten not possible without data lineage and data management
  - We cannot automate with AI models because of poor data quality
  - No view on data classification without clear ownership
  - We cannot offer digital services to our customers because of lacking data
  - We cannot answer to GDPR audit question due to a lack of transparency
  - …

You already do it !

Manage your data in non-invasive way and start with what you already have

1   **Identify people who informally already have a responsibility in the management of the data**
        Map it to the data governance operating model with roles and responsibilities

2   **Identify the escalation and decision-making capabilities**
        What's working and what's not

3   **Recognize people for what they already do & formalize it**
        Not an extra task, support in what they already do

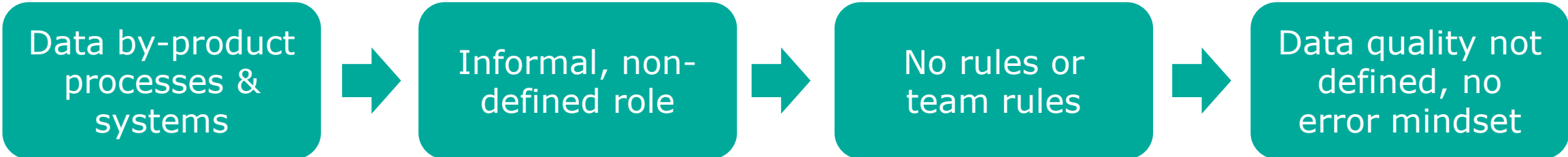**Bring data Governance from the back of people minds to a formal data Governance policy**

Data Governance is not a technical solution, technology can support data governance

Data governance doesn't manage the data, it manages people behavior when dealing with data
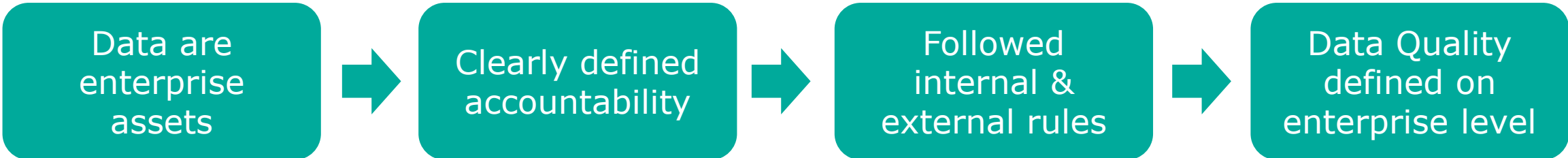
It's an evolution, not a revolution (start small)

Data Governance journey, from my data to our data
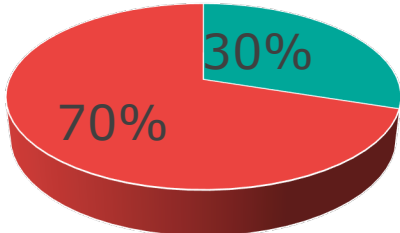
Initial informal Data governance

Data by-product processes & systems	→	Informal, non-defined role	→	No rules or team rules	→	Data quality not defined, no error mindset

Formal Optimized level Data governance

Data are enterprise assets	→	Clearly defined accountability	→	Followed internal & external rules	→	Data Quality defined on enterprise level

Informal

Formal Optimised

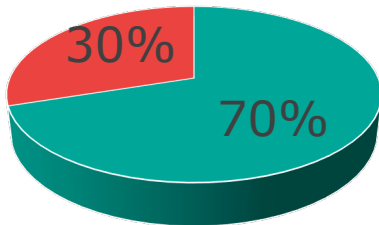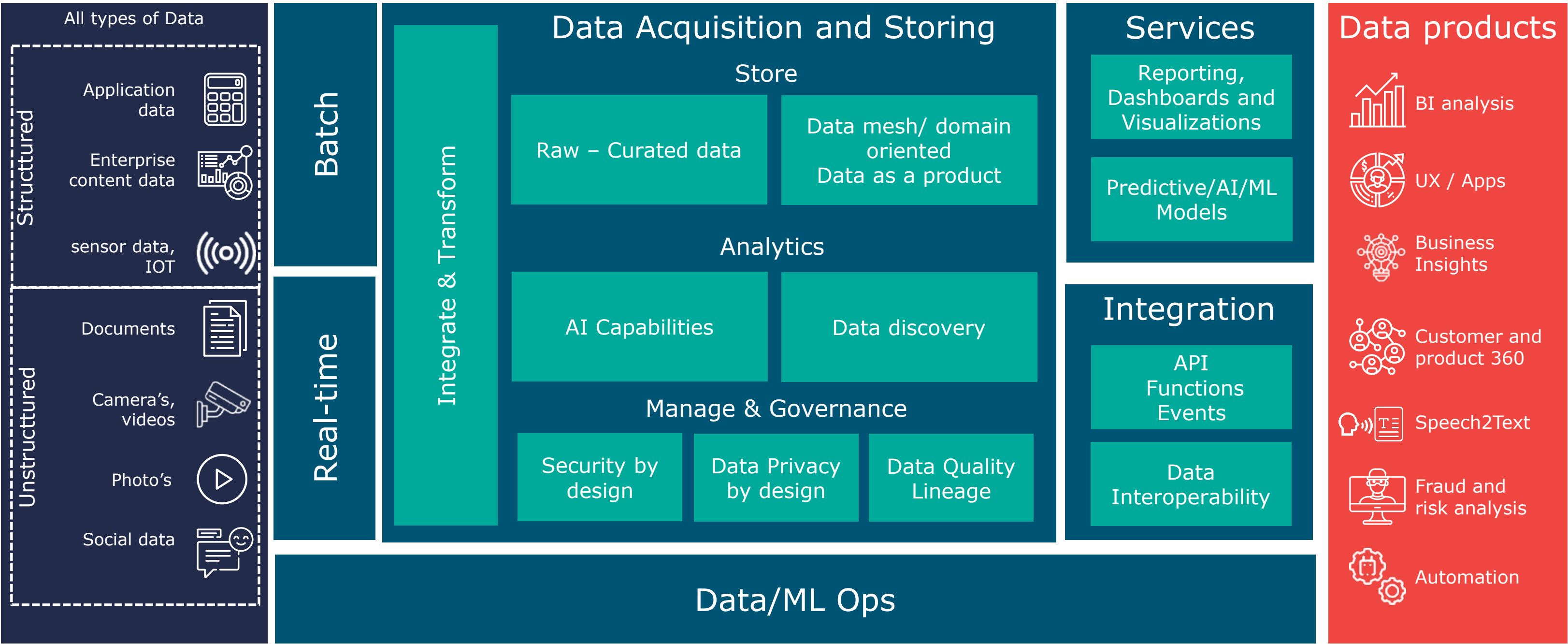**Time spent**

30%
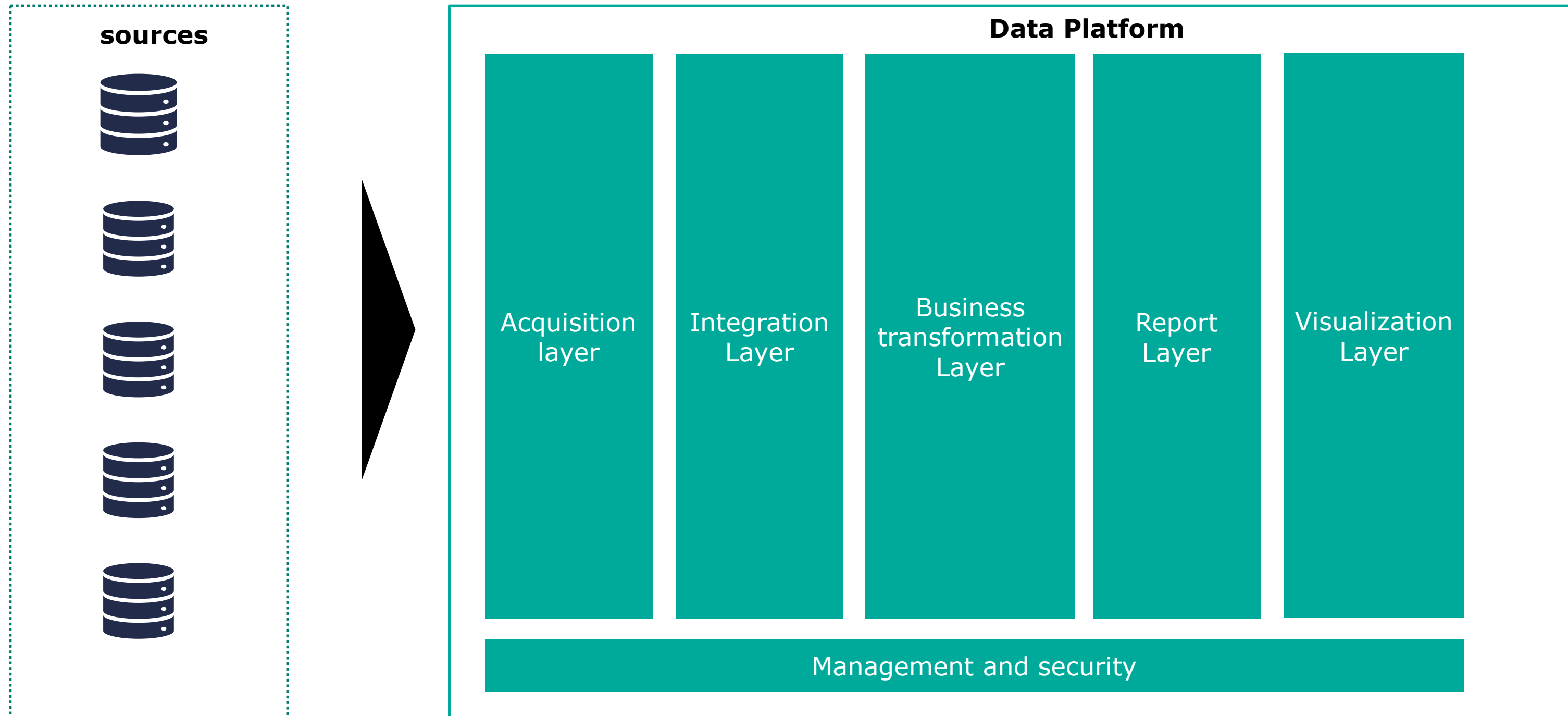70%

■ Data management ■ Escalation

30%
70%

■ Data management ■ Escalation

**Main cost: time you spend on it
Better quality with same effort
More transparency and communication**

Data Platform

All types of Data

Structured
- Application data
- Enterprise content data
- sensor data, IOT

Unstructured
- Documents
- Camera's, videos
- Photo's
- Social data

Batch

Real-time

Integrate & Transform

Data Acquisition and Storing

Store
- Raw – Curated data
- Data mesh/ domain oriented Data as a product

Analytics
- AI Capabilities
- Data discovery

Manage & Governance
- Security by design
- Data Privacy by design
- Data Quality Lineage

Services
- Reporting, Dashboards and Visualizations
- Predictive/AI/ML Models

Integration
- API Functions Events
- Data Interoperability

Data products
- BI analysis
- UX / Apps
- Business Insights
- Customer and product 360
- Speech2Text
- Fraud and risk analysis
- Automation

Data/ML Ops

Monolithic Data Platform

sources

Data Platform

| Acquisition layer | Integration Layer | Business transformation Layer | Report Layer | Visualization Layer |

Management and security

Weaknesses monolithic data platform

- **Scalability**
  - Integration is labor/ time consuming
  - Complexity grows exponential/ create a lot of extra interdependencies

- **Transparency**
  - Hugh number of data pipelines
  - All business logic in data pipelines
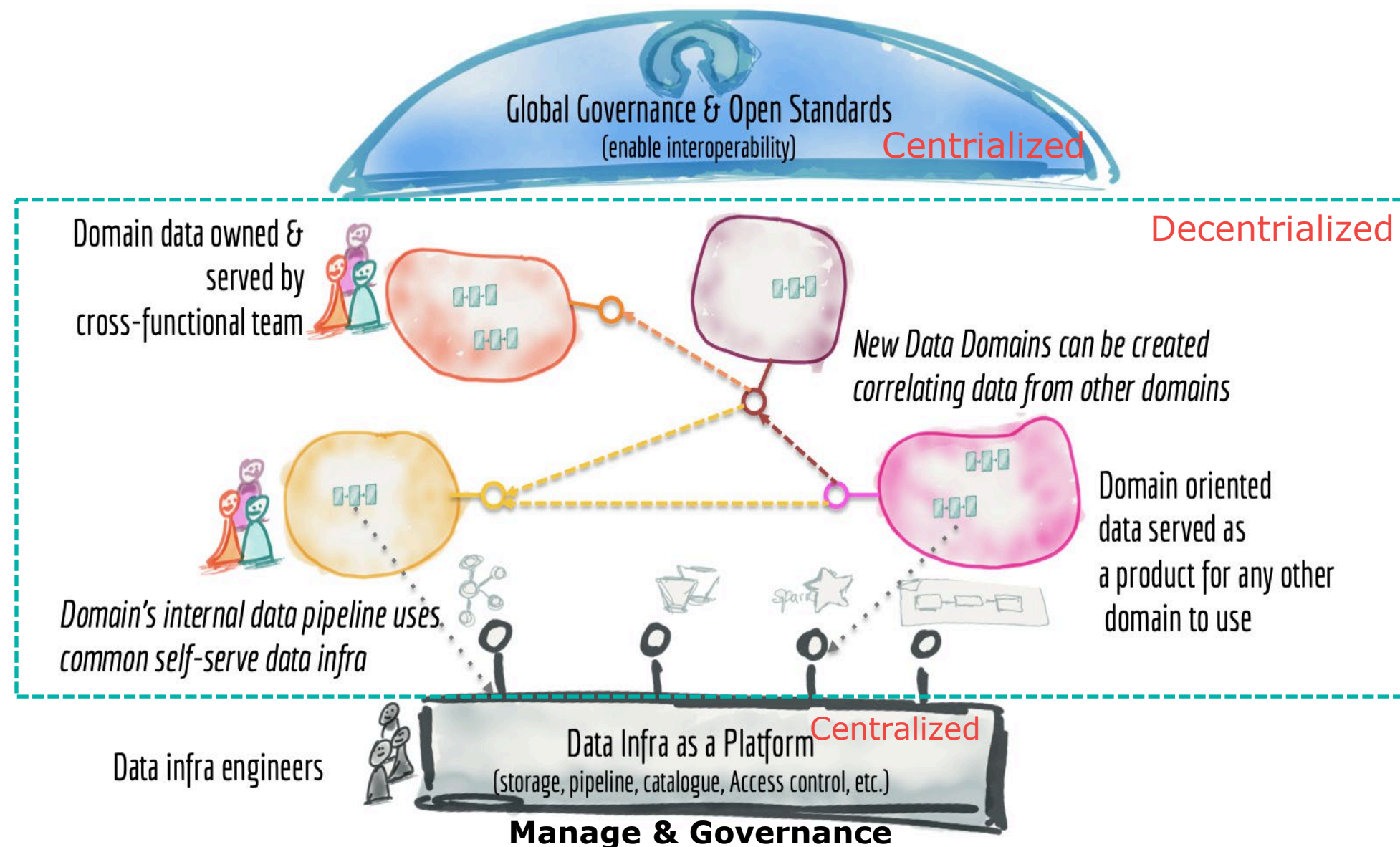 - Big GAP between producer and consumers

- **Quality**
  - Trust in data
  - A lot of copies needed, keep the quality high

- **Ownership**
  - Owner central model
  - All business logic in data pipelines far from business owners

Data Mesh = the next enterprise data platform architecture
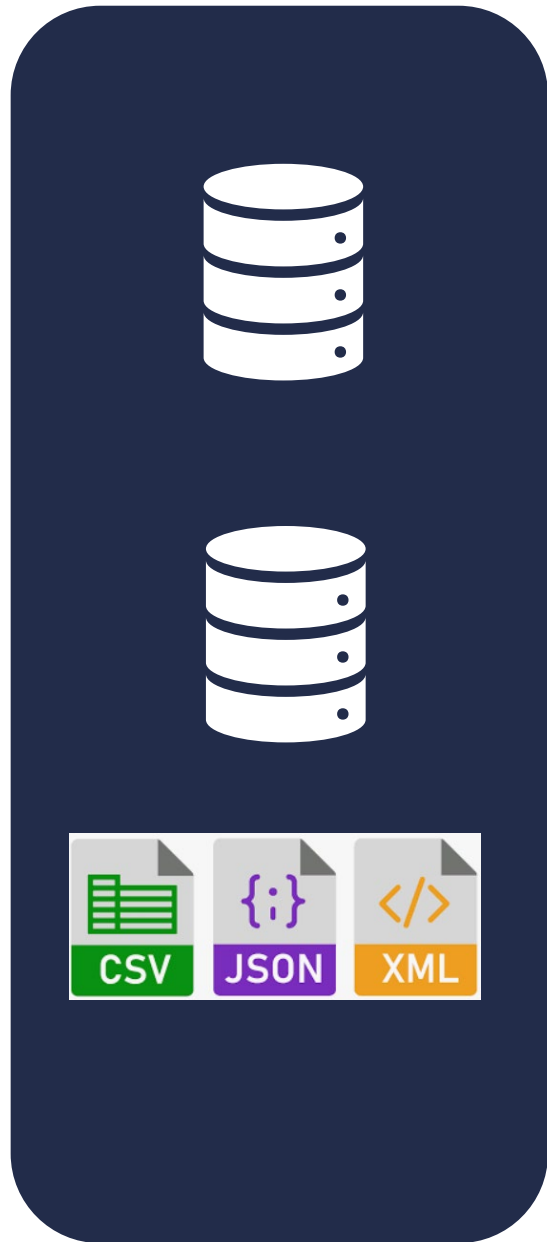

Credit: Zhamak Dehghani Thoughtworks

- The convergence of Distributed Domain Driven Architecture

- Self-serve Platform Design

- Data as a product

- Centralized managed & Infra layer: Security by design, Data privacy by design, Quality, Lineage

➔ **To enable more interoperability for open data**

➔ **Solid data pods, that enable fully control on personal data**

➔ **Better data discoverability for AI & Data science capabilities**
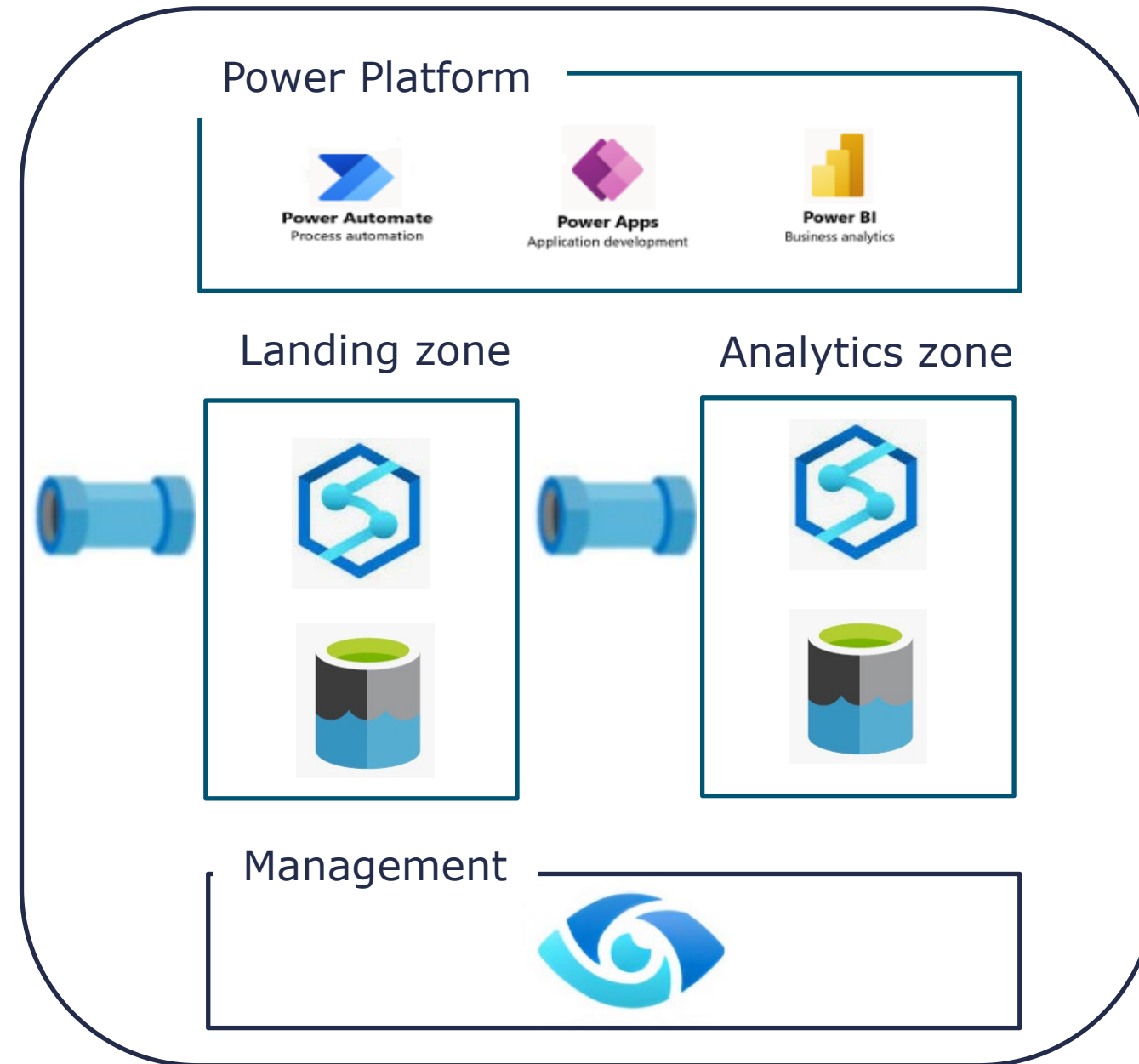
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Data mesh advantages

- Agility and scalability
  - improves business domain agility, scalability, and speed to value from data.
  - Easy way to onboard new sources

- Cross-functional domain teams
  - The control of the data = data domain experts
  - Ownerships with the experts

- Faster data delivery
  - Make data available in a self-service way

- Strong central governance and compliance
  - focus on data governance

Data Governance platform

Sources

Data Governance Platform

Consumer

Power Platform

Power Automate
Process automation

Power Apps
Application development

Power BI
Business analytics

Landing zone

Analytics zone

Management

Enable business users

Q&A

**Volgende sessie:
SASE vs zero trust**

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