Modern Data Platforms for Data-Driven Organizations

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Abstract

Digital transformation is not a 'one and done' event. It is continuous process of improvement - driven by data and insights across the organization. However, most digital transformation initiatives fail to live up to their billing. According to Gartner, nearly 60% of digital initiatives are delivered late and many underdeliver. There are many reasons for these failures, but a frequent challenge is simply unlocking the data from the data silos and delivering timely, curated data to the business users who need it.

Traditional approaches to data management are based on legacy thinking and aren't agile and flexible enough to meet today's business needs. Leading companies are adopting a different approach to data management based on logical data architectures. This approach is embodied in modern data architectures such as data fabrics and data meshes.

In this session, we'll look at why traditional data architectures are failing to deliver the data needed for digital transformation initiatives and how logical data architectures are enabling true data-driven transformation.

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70%*

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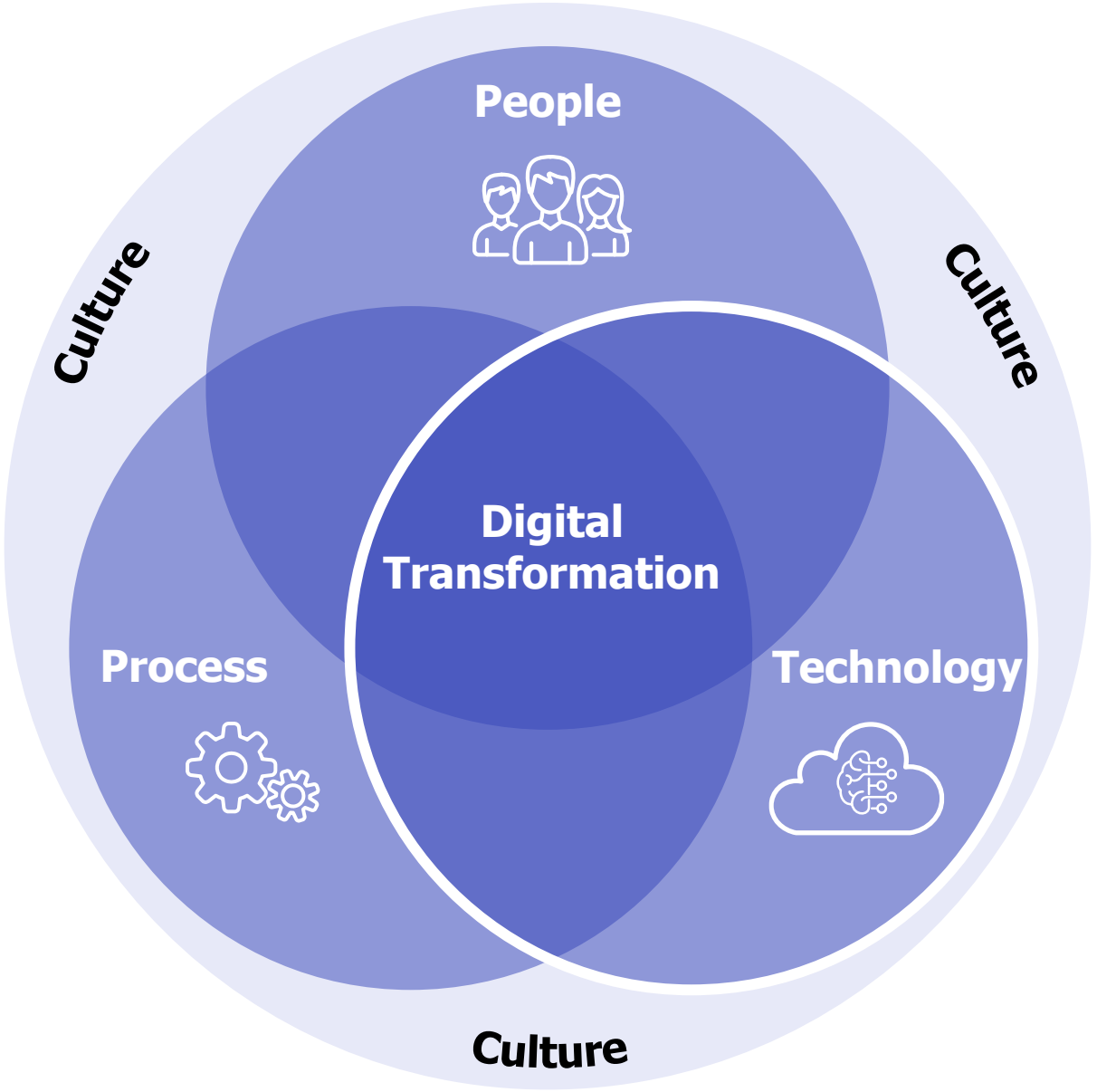
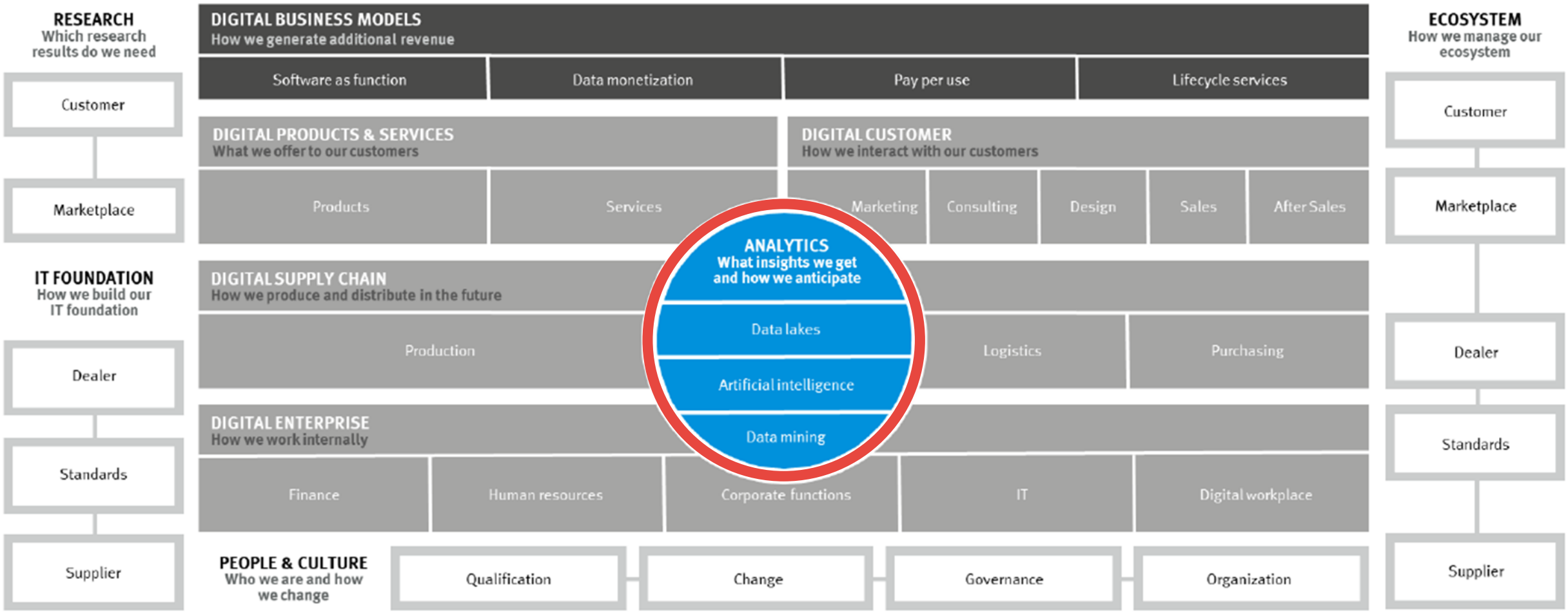
* Research by McKinsey, Boston Consulting Group, and Enterprise Group

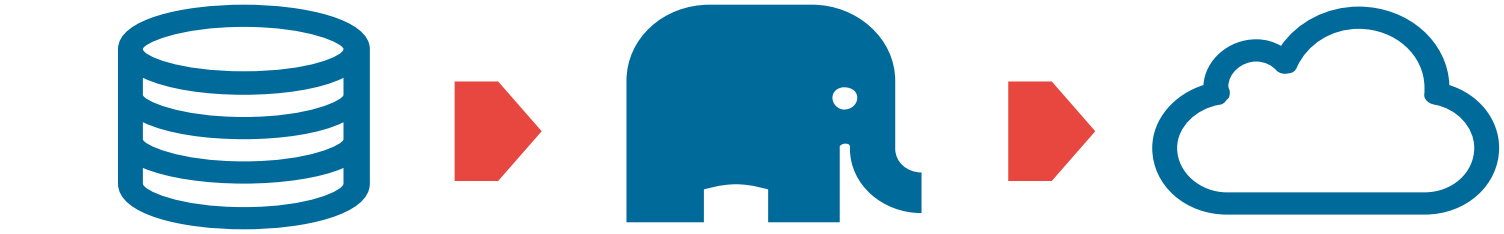
Elements of Digital Transformation



Digital Transformation Framework



Move your data to a single...



Through 2025, 75% of organizations will have deployed multiple data hubs to drive mission-critical data and analytics sharing and governance.

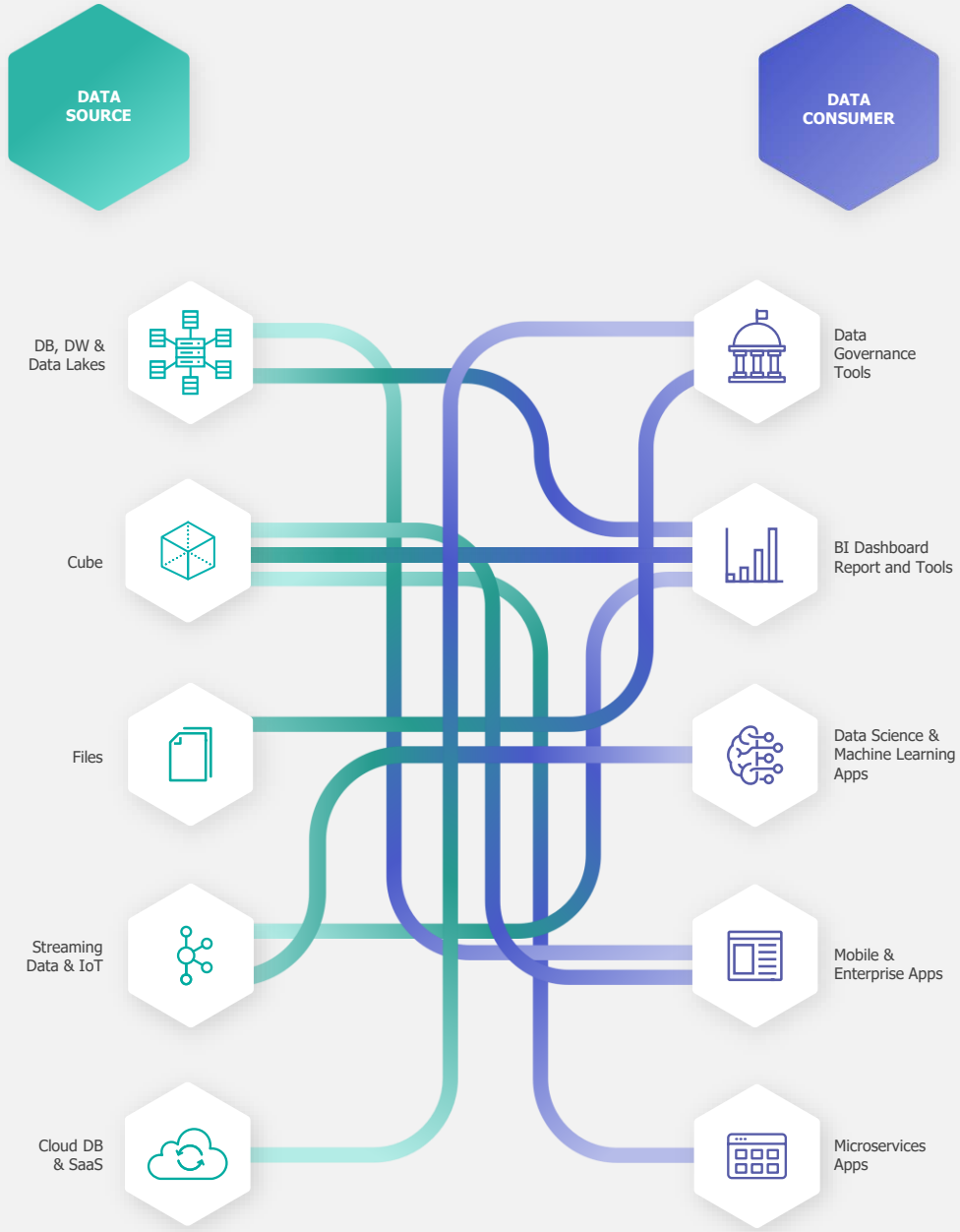
Source: Gartner, Over 100 Data and Analytics Predictions Through 2025 - 18 March 2021, Alan D. Duncan

Data landscape is complex

- Organizations are distributed
- Use best tool for each task
- Technology evolution

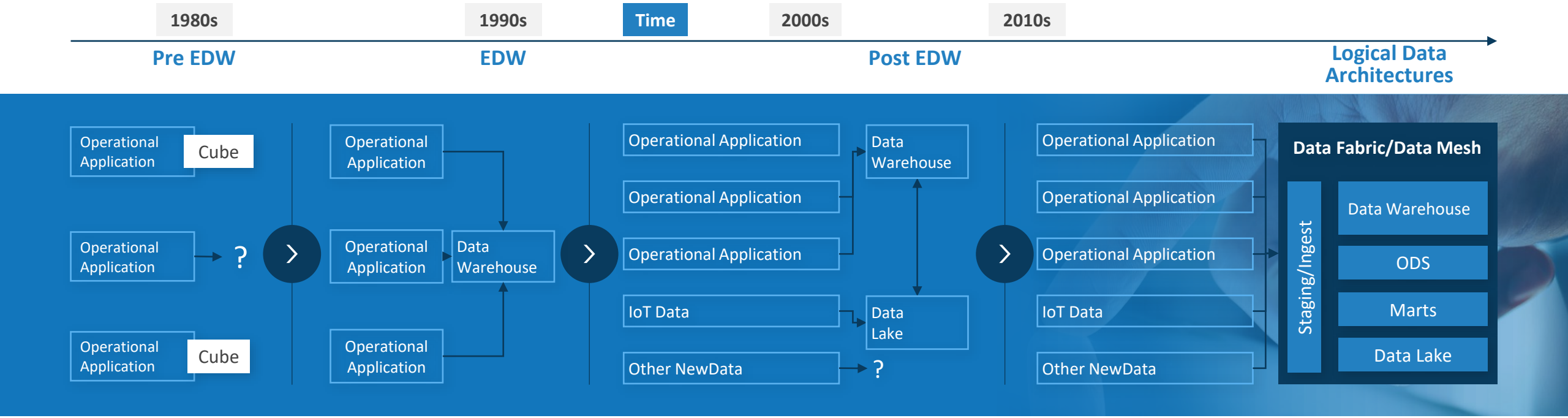
"Business as Usual" is **not** working now and will not work in the future.

We need to accept that the future is **distributed** and **diverse**



Evolution of data architectures

This is a Second Major Cycle of Analytical Consolidation



Fragmented/ nonexistent analysis

- Multiple sources
- Multiple structured sources

Unified analysis

- Consolidated data
- "Collect the data"
- Single server, multiple nodes
- More analysis than any one server can provide

Fragmented analysis

- "Collect the data" (Into
- different repositories)
- New data types,
- processing, requirements
- Uncoordinated views

Unified analysis

- Logically consolidated view of all data
- "Connect and collect"
- Multiple servers, of multiple nodes
- More analysis than any one system can provide

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Modern data architectures must...

- **Embrace distributed data landscape**
  - Embrace the fact that data resides in multiple locations or systems – on-prem, hybrid, multi-cloud. All data needs to be managed with consistency

- **Use a Logical approach to manage it**
  - Consumers access data through a centralized semantic model, decoupled from data location and physical schemas, that can enforce security and governance requirements

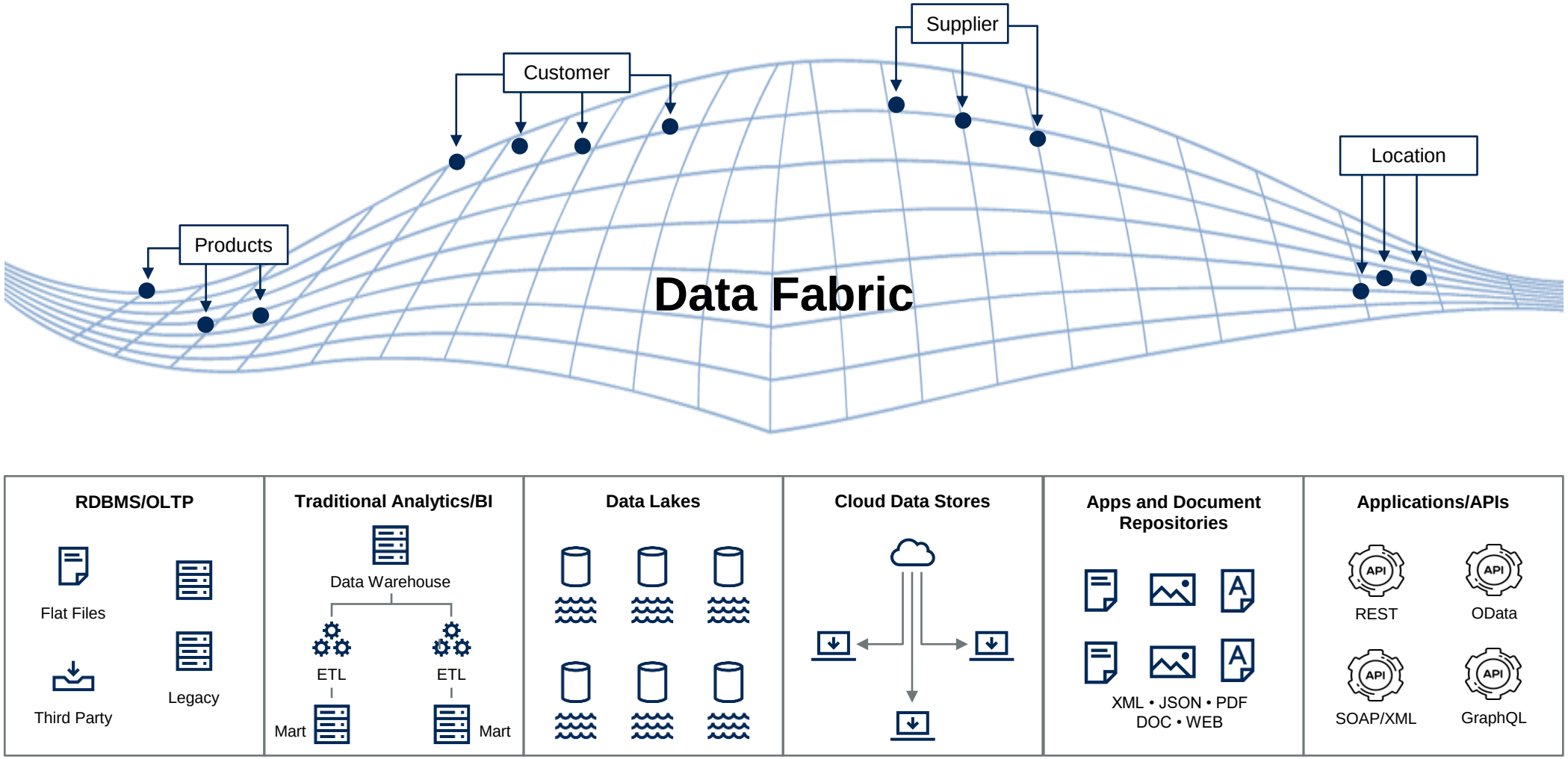
The core of the matter is being able to **consolidate many diverse data sources** in an efficient manner by allowing **trusted data** to be delivered **from all relevant data sources to all relevant data consumers** through **one common layer**.

***Source**: Demystifying the Data Fabric, Gartner, September 2020*

The Data fabric focuses on **automating** the process integration, transformation, preparation, curation, security, governance, and orchestration to **enable analytics and insights quickly** for business success.

***Source**: Enterprise Data Fabric Wave, Forrester, June 2020*

Data Fabric


Supplier
Customer
Location
Products
Data Fabric
RDBMS/OLTP
Flat Files
Legacy
Third Party
Traditional Analytics/BI
Data Warehouse
ETL
ETL
Mart
Mart
Data Lakes
Cloud Data Stores
Apps and Document Repositories
XML • JSON • PDF
DOC • WEB
Applications/APIs
API
REST
API
OData
API
SOAP/XML
API
GraphQL

Benefits of a Logical Data Architecture

"Now, we can do weekly releases. We're able to add new data sources within 2 to 3 hours. We're about 60% faster than we were in the old world."

VP of data and analytics, real estate

"I would say our data workers are at least 50% faster."

IT manager, manufacturing

83% reduction in time-to-revenue

67% reduction in data preparation effort

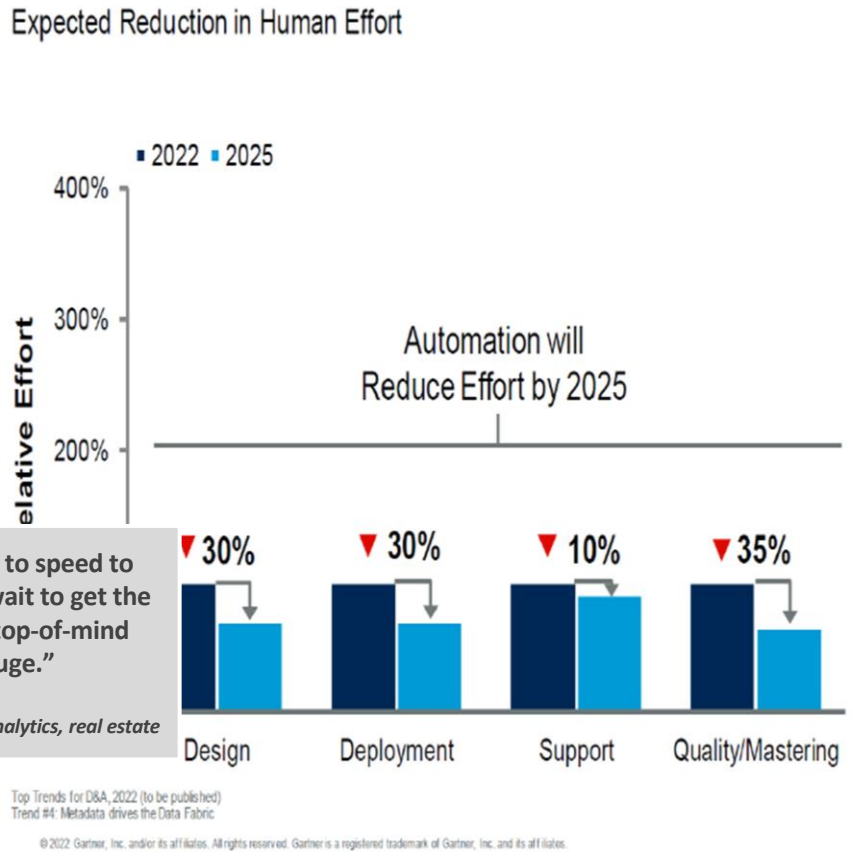
65% decrease in delivery times over ETL

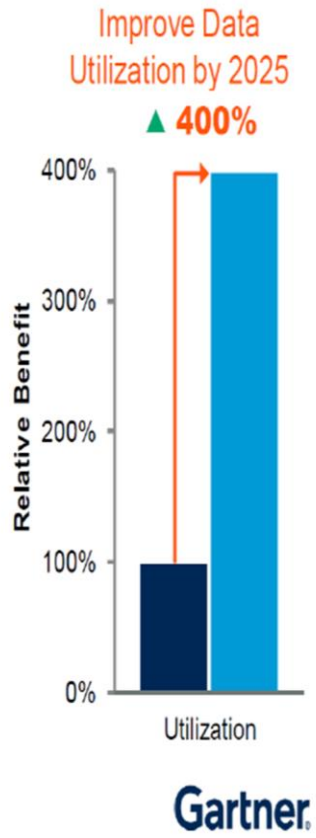
"Since deploying Denodo, we have gone anywhere from a couple of days or weeks to less than a day to deliver data sets."

IT manager, manufacturing

"To me, it all boils down to speed to insights. Not having to wait to get the question that you have top-of-mind answered with data is huge."

VP of data and analytics, real estate





Gartner

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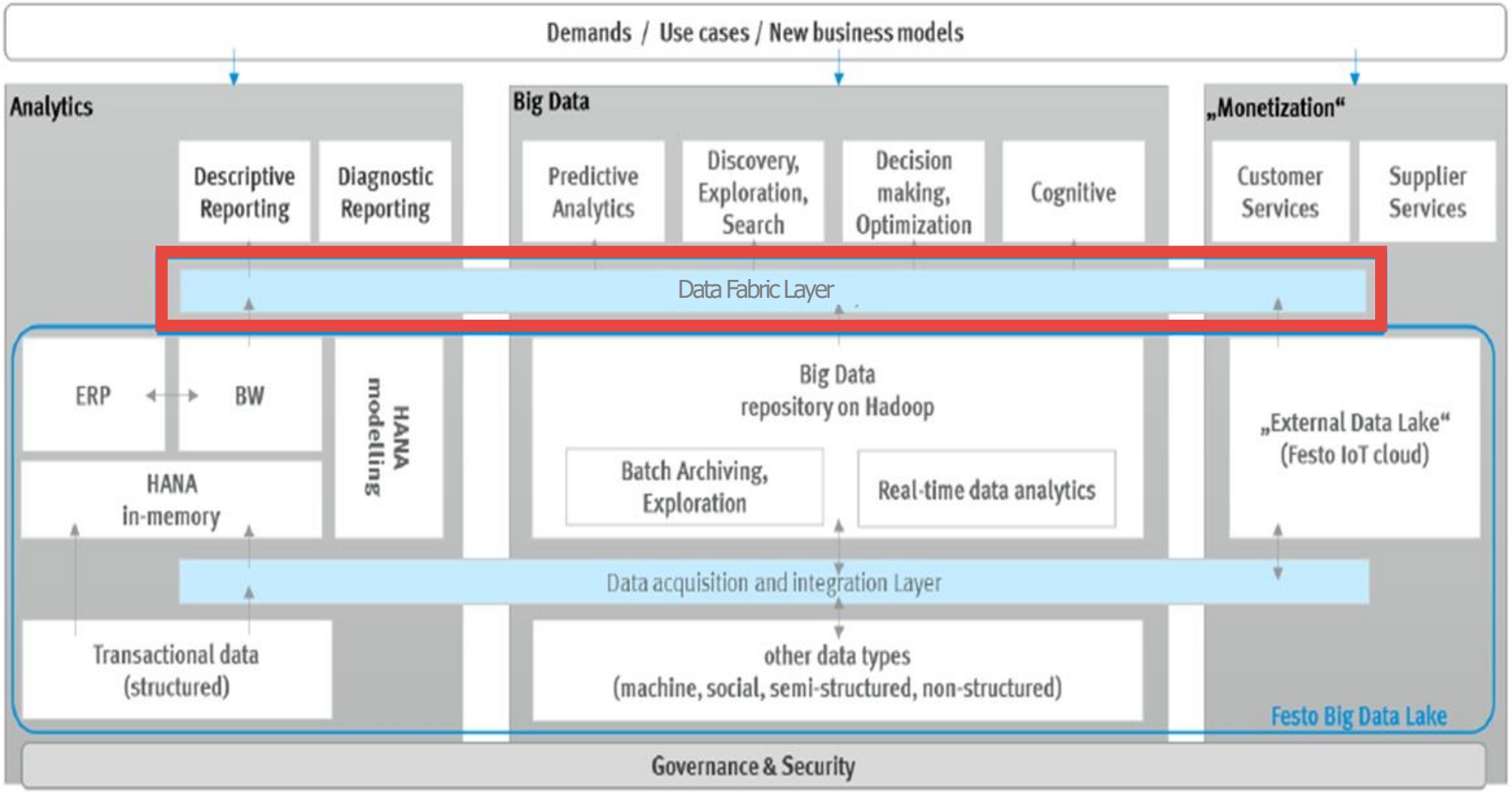
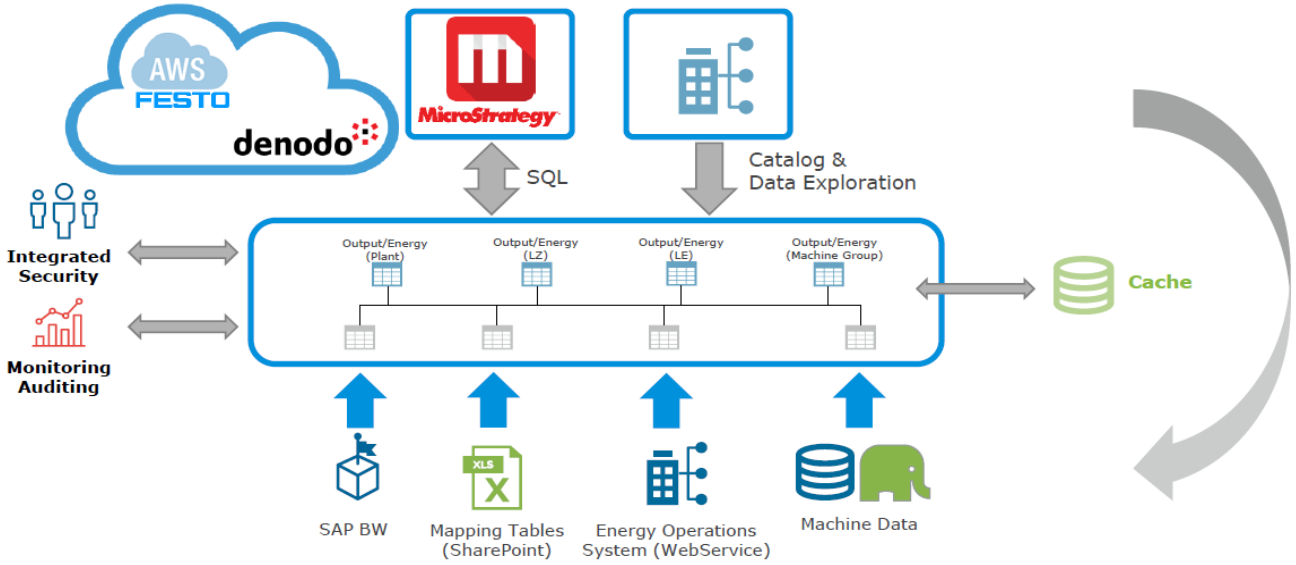
FESTO – Data Architecture



FESTO – 'Green Cockpit' – Monitoring Energy KPIs

Green Cockpit for visualization of energy KPIs for plant, LZ, LE and machine level



- Appropriate time box of one week
- **Clear scope** of pilot and **achievable** in sprint
- **Technical preparation** is crucial
- **Interdisciplinary project team** is crucial
- Usage of creative working areas
- **Agile** working approach
- **External partner onsite**
- High flexibility given by **Denodo** to support **agile development**
- Fast identification of problems

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FESTO – Digital Shopfloor Management

Digital Shopfloor Management

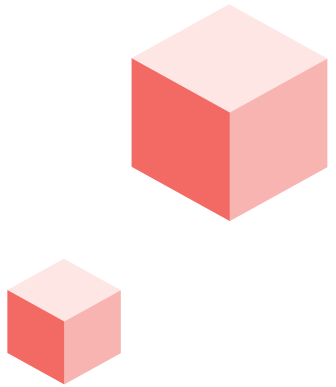
Daily and shift-accurate production key figures

- Visualization of the relevant key figures for the daily "live" control center meeting
  - output quantities
  - rework and scrap rates
  - stock levels and ranges
  - forecasts
  - productivity
  - backlog and delivery reliability

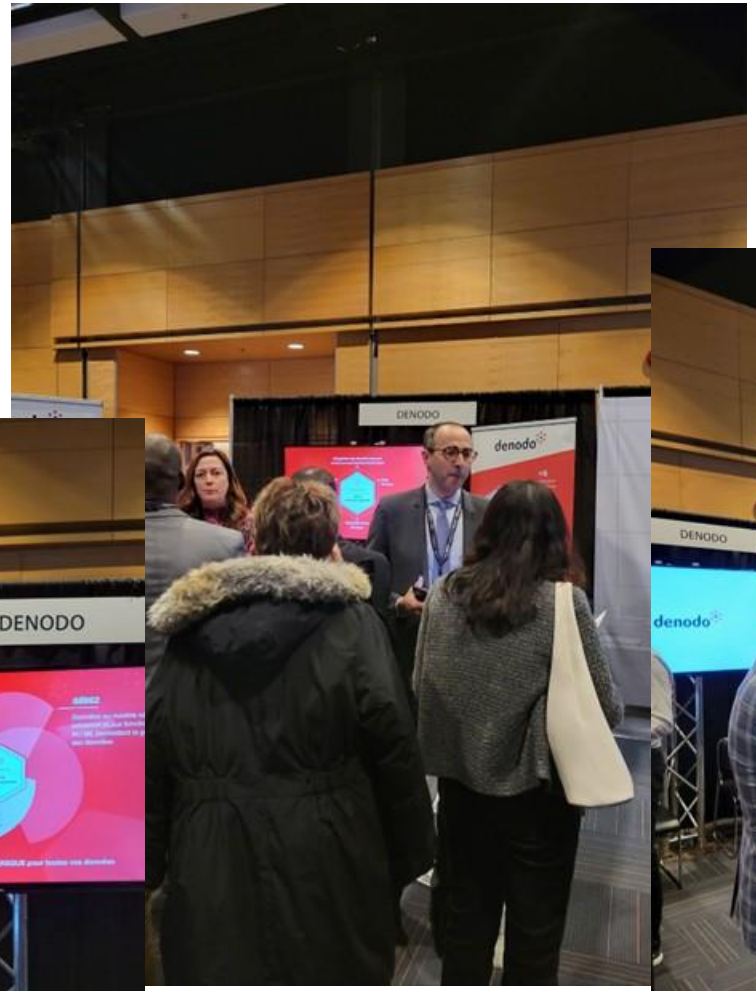
- Reduces the administrative effort by approx. 1h per day for each service unit
- Handwritten notes are eliminated

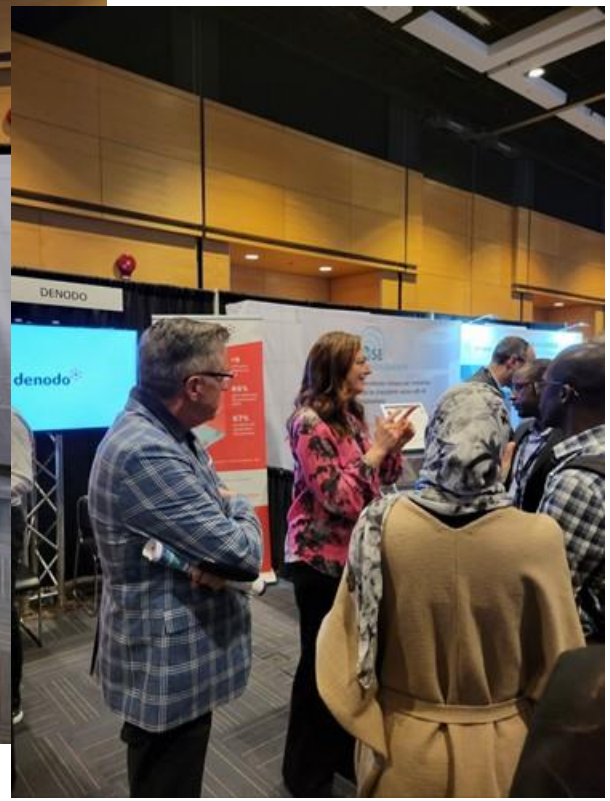
KEY TAKEAWAYS

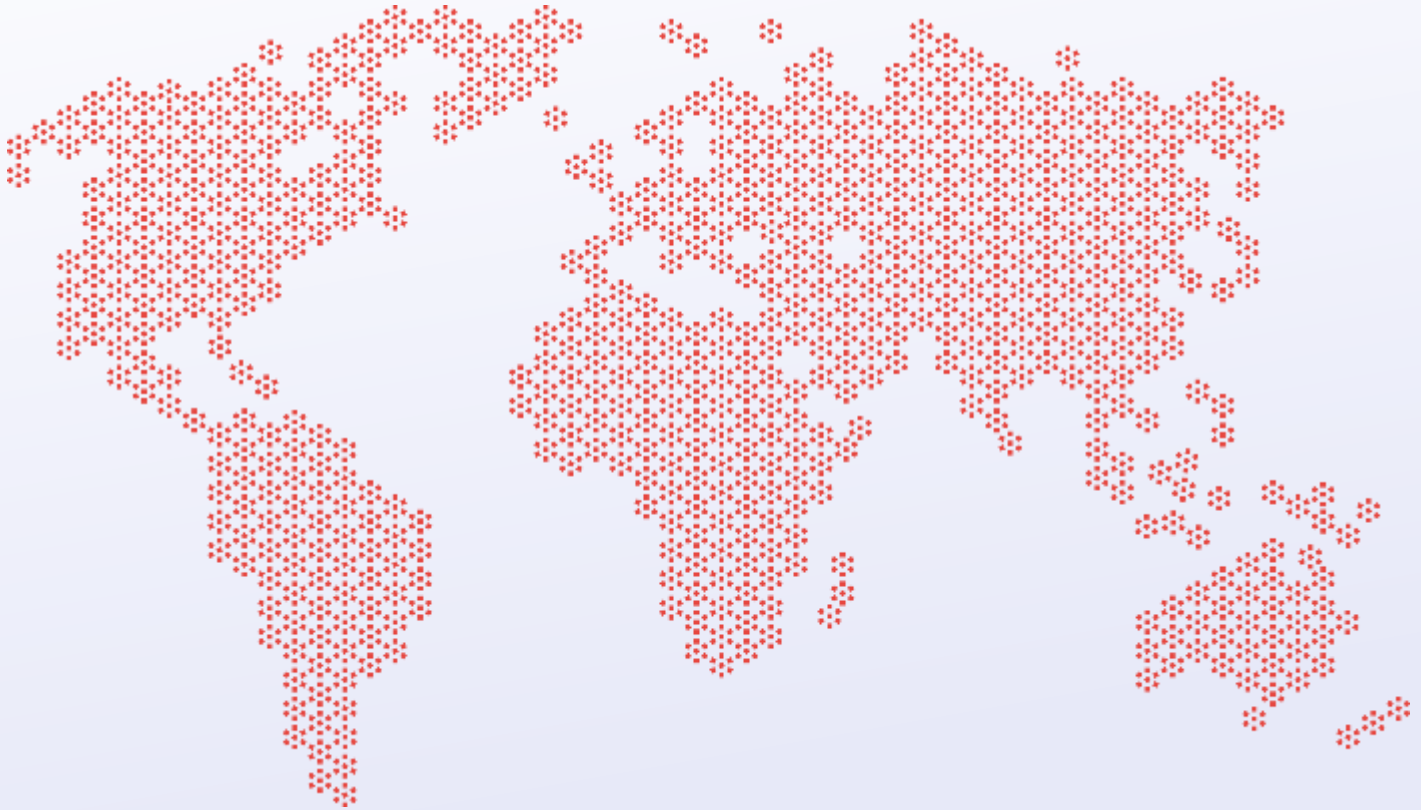
- Digital Transformation is iterative...project by project
- Analytics and insights drive these iterative projects
- A modern logical data architecture gives the flexibility and agility needed for these projects
- A modern logical data architecture is the technology cornerstone for Digital Transformation



Visit the Denodo Booth







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