Become Data Driven with Azure Synapse Analytics

Architecture, Engineering & Construction

Microsoft

Q&As from the Live Webinar

- **Where can I find learning resources about Azure Synapse?**

You can start with below learning paths (free and digital): - Work with Data Warehouses using Azure Synapse Analytics https://docs.microsoft.com/en-us/learn/paths/work-with-data-warehouses-using-azure-synapse-analytics/ - Perform data engineering with Azure Synapse Apache Spark Pools https://docs.microsoft.com/en-us/learn/paths/perform-data-engineering-with-azure-synapse-apache-spark-pools/ - Build data analytics solutions using Azure Synapse serverless SQL pools https://docs.microsoft.com/en-us/learn/paths/build-data-analytics-solutions-using-azure-synapse-serverless-sql-pools/ - Realize Integrated Analytical Solutions with Azure Synapse Analytics https://docs.microsoft.com/en-us/learn/paths/realize-integrated-analytical-solutions-with-azure-synapse-analytics/ - Work with Hybrid Transactional and Analytical Processing Solutions using Azure Synapse Analytics https://docs.microsoft.com/en-us/learn/paths/work-with-hybrid-transactional-analytical-processing-solutions/

- **Where can I read more about the pricing of Azure Synapse?**

You can read about the pricing of Azure Synapse Analytics here: https://azure.microsoft.com/en-us/pricing/details/synapse-analytics/ For estimating various scenarios I recommend the Azure Calculator: https://azure.microsoft.com/en-us/pricing/calculator/ There is also a limited-time offer for free quantities of Azure Synapse Analytics available now if you want to test it: https://azure.microsoft.com/en-us/blog/limited-time-free-quantities-offer-for-azure-synapse-analytics/

- **By converting your earlier architecture from MVP (ADF %2B Azure Database %2B PBI) into Platform AIR with Synapse, what immediate benefits you achieved over MVP design?**

I would say flexibility, speed and more options. There are still things that you cannot do by only using ADF, so in those cases it is easier to either do it in Notebooks, and / or using the SQL-on demand for accessing the Lake layer directly without persistent storage in the SQLDB.

- **You mentioned that you made an API layer for consumption of data. Can consumption of Power BI data through an API be done through a specific Synapse component?**

The API we have set up, is for data consumption from the SQL Pool on demand layer. So not specifically from Power BI. It is not through any specific synapse component other than Notebooks.

Trends intensifying with the pandemic impact

Cost pressure – House affordability and infrastructure costs magnified

70% average project cost overun

Building costs 13 year all high

Safety & Sustainability – stricter regulation and business scrutiny

30% less energy buildings intensity by 2030

20% fatalies are in Construction

Demanding customers – TCO, digital interactions, flexible greener structures

74% Customer focus shift till 2025

Technology investments – differentiating with digital abilities

40% CAGR funding construction technology

Integrated value-chain – for control and resilience, driving M&A and collaboration

50% increased investments after Covid

Modularization – enabling off-site construction and productization

2.4 X Revenue growth 201518

Source: Top 10 Construction Industry Trends for 2021 | BigRentz

Architecture, Engineering, & Construction has been a digital laggard, but there is no doubt that an awakening is occuring

SMART TENDERING & CONTRACTING

CONNECTED CONSTRUCTION SITES

INDUSTRY 4.0

NEW DIGITAL BUSINESS MODELS

INTELLIGENT ASSET MANAGEMENT

VIRTUAL DESIGN & ENGINEERING

SUPPLY CHAIN COLLABORATION

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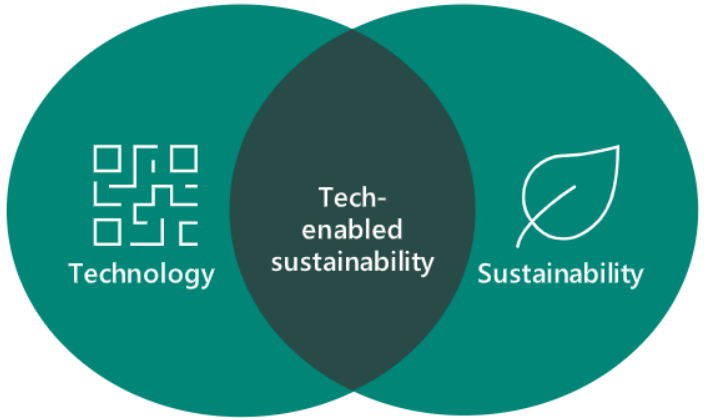


Sustainability. Good for Business.

Executive Playbook

2021 and beyond

Sustainability. Good for Business. Executive Playbook

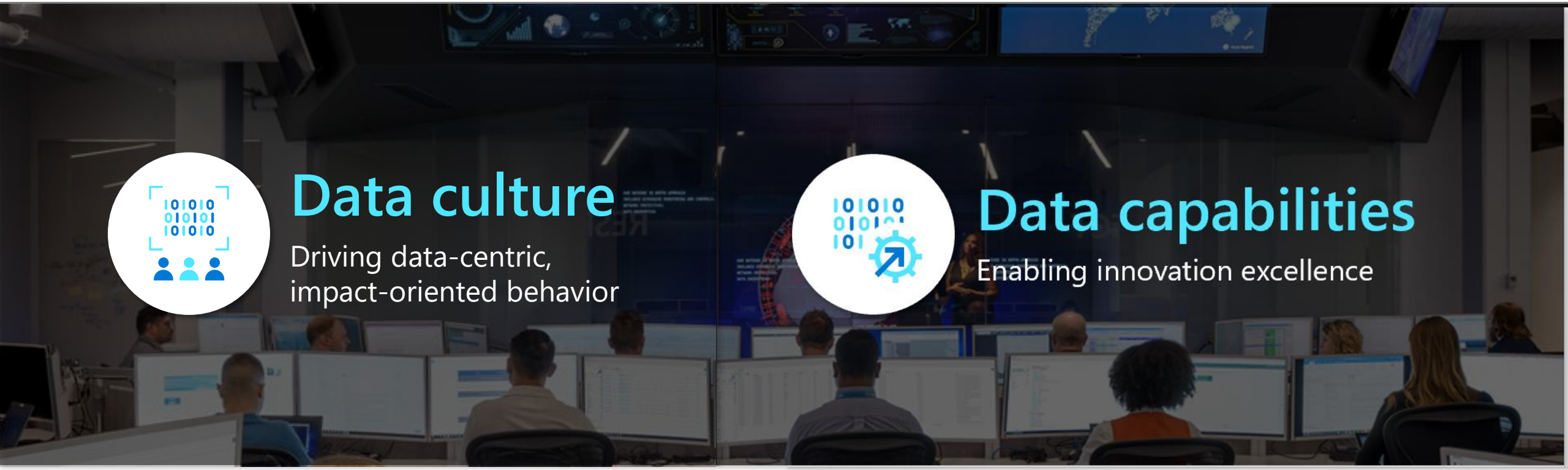
"We see significant potential for technology-enabled sustainability, e.g. for resilience, including the reduction of emissions, and cybersecurity or efficiency through digital technologies and innovation."

Head of Network Commercial Operations, Viesgo

"The merge between technology and sustainability has opened us to new business models and opportunities that did not exist before. Particular in the context of circular economy and the transitions from products to services."

HSQ&E Director, Ferrovial

Attributes of successful transformations



"Data culture is about empowering every organization, every team, and every individual to do great things because of the data at their fingertips."

-Satya Nadella

Microsoft

The digital feedback loop

Microsoft

Microsoft

Analytics & AI play a pivotal role for organizations at all times

Address disruptions in business processes

Save on costs & reduce CAPEX

Discover fresh new insights

Need for faster time-to-insight

Microsoft

Data Science and Business Analytics

view data in very different ways

DATA SCIENCE

Big data

Experimentation

Fast exploration

Semi-structured

OR

BUSINESS ANALYTICS

Relational data

Proven security & privacy

Dependable performance

Structured

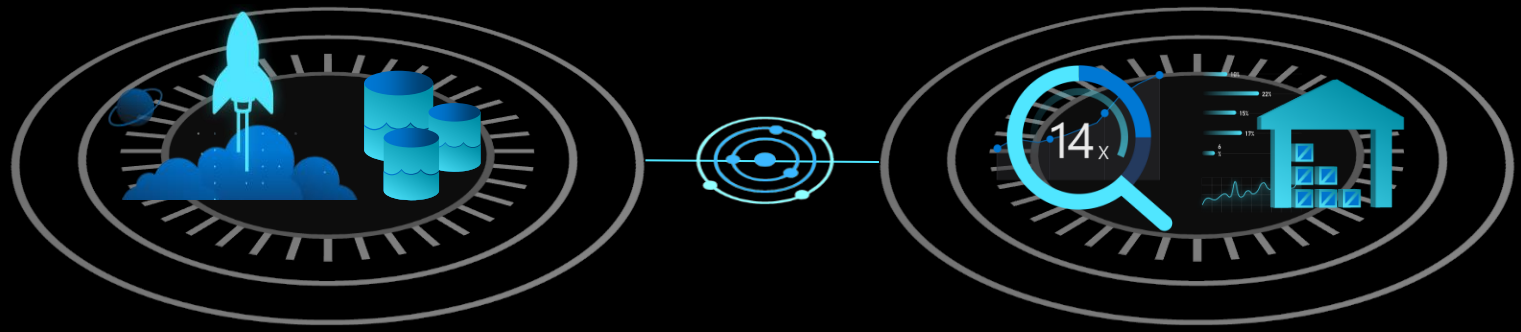
DATA LAKE

DATA WAREHOUSE

Microsoft

Azure meets these challenges

with a single service to provide limitless analytics



Ease of use

Fast exploration

Quick to start

Proven security

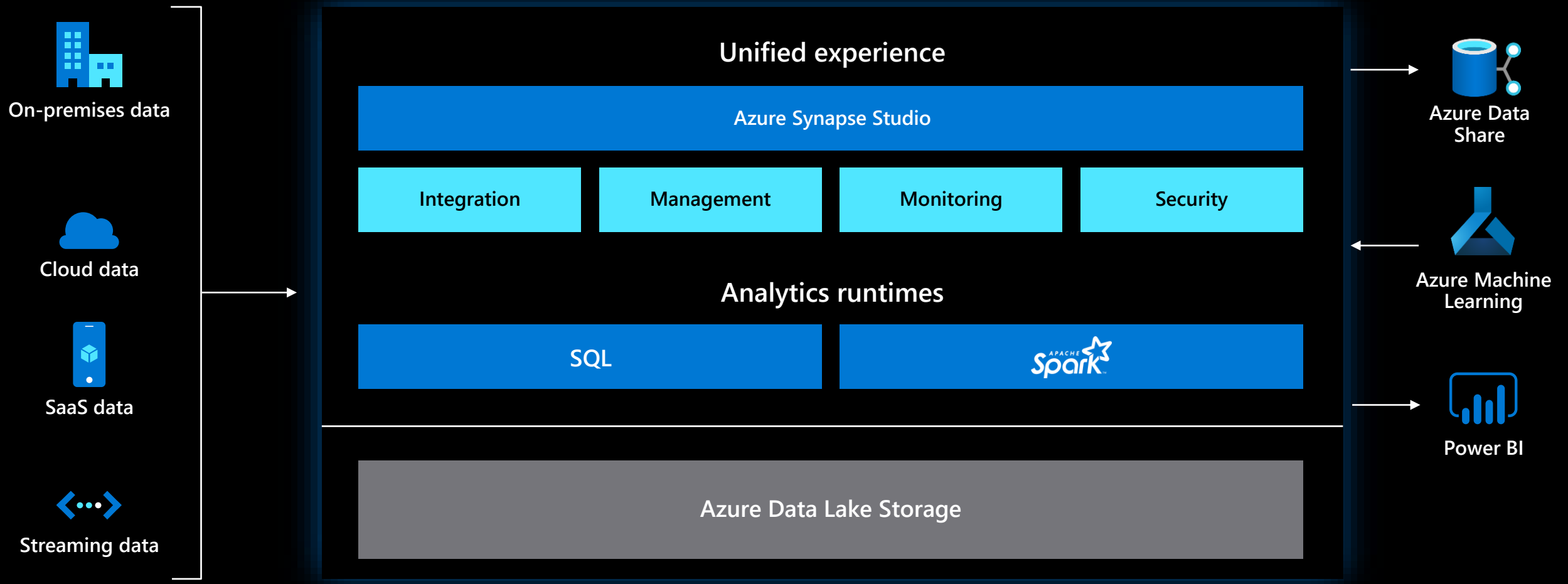
Airtight privacy

Dependable performance

Microsoft

Azure Synapse

Limitless analytics service with unmatched time to insight



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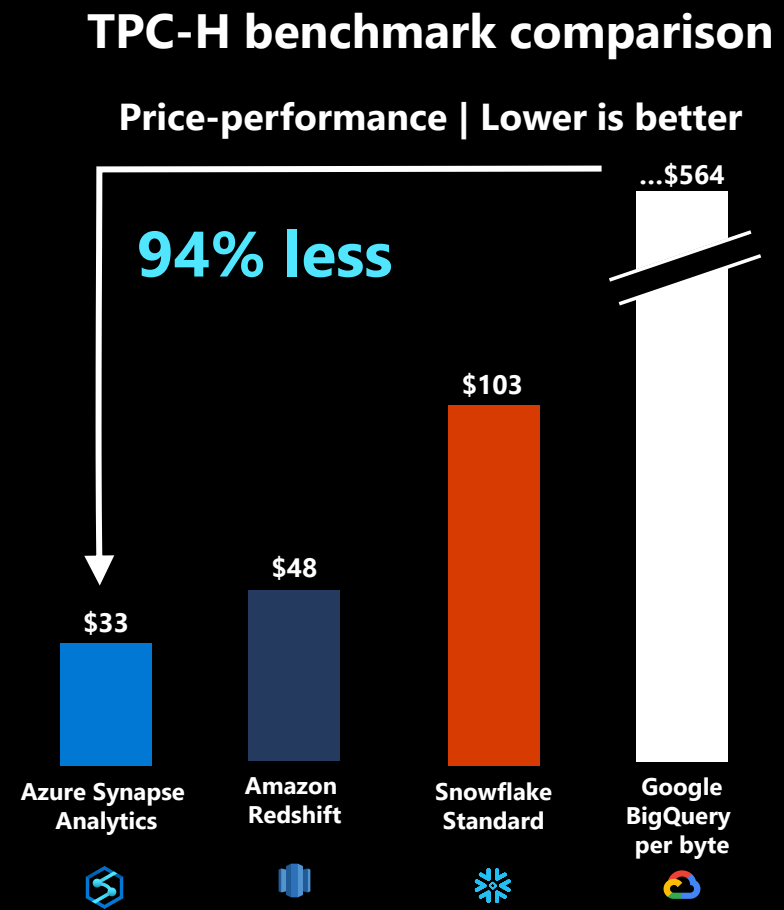
A breakthrough in the cost of enterprise analytics

With the best price-performance in the business

Up to 14x faster and costs 94% less than other cloud providers



* GigaOm TPC-H benchmark report, January 2019, "GigaOm report: Data Warehouse in the Cloud Benchmark

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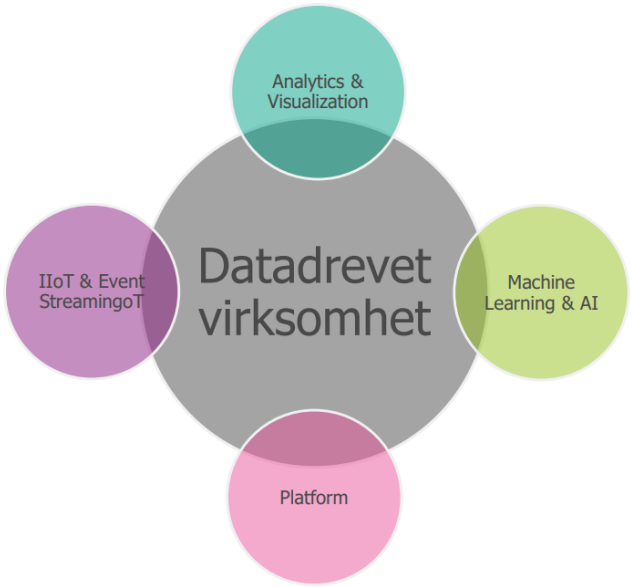
Strongest analytics team in Norway



Cross-functional team
50 consultants

Analytics	Data platform / Lake & Warehouse	IoT	Security
	Integration / Transformation		Operationalization
	Insight / Visualization		Event / Streaming
	Insight / Visualization		Digital Twin
AI & ML	Traditional Machine Learning	Advisory	Data strategy
	Deep Learning		Data Governance
	Data Streaming		Change Management
	Automation		Data Competency Center

Microsoft Partner Award 2020
Data & AI
Microsoft

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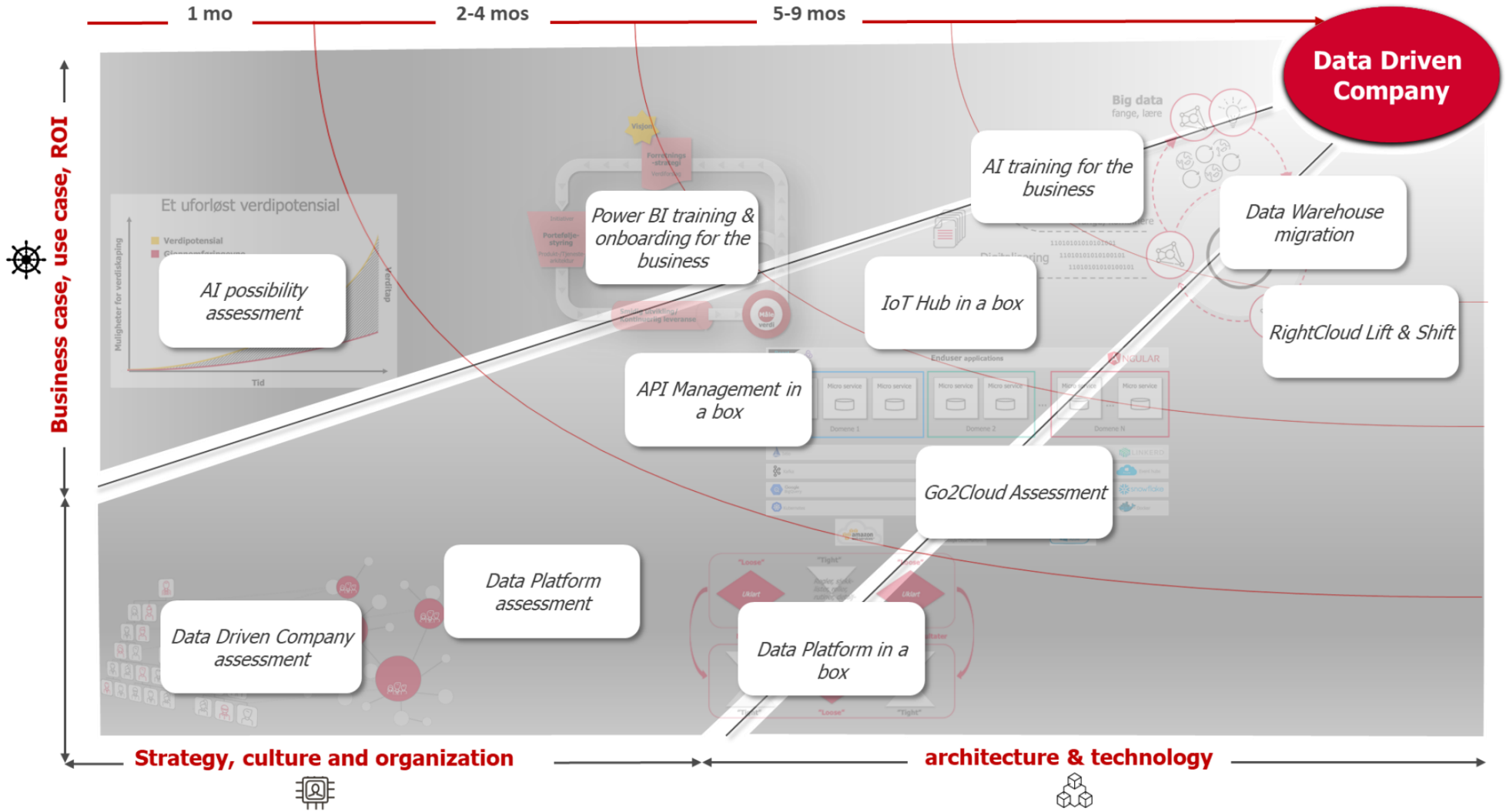
Data driven company in focus



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Microsoft AI and Data Partner of the Year 2020

Kompetanse i Norge

Microsoft® Most Valuable Professional

Award Categories
Windows Development

First year awarded:
2020

Number of MVP Awards:
1

Microsoft Partner

Microsoft

Gold Cloud Productivity
Gold Cloud Platform
Gold Application Development
Gold Data Analytics
Gold DevOps

Gold Security
Gold Windows and Devices
Gold Datacenter
Gold Collaboration and Content
Gold Messaging

Silver Enterprise Resource Planning
Silver Small and Midmarket Cloud Solutions
Silver Enterprise Mobility Management
Silver Cloud Business Applications

Microsoft Partner Award 2020

Data & AI

Microsoft

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Clients

Government

Oslo · nav · Skatteetaten · Trondheim kommune · Utdanningsdirektoratet · Forskningsrådet · Lånekassen · Landbruksdirektoratet · Asker kommune · Lillestrøm kommune · mesta · ReMidt - ditt miljøselskap · Finanstilsynet · Den Norske Kirke · Statped · Kompetanse Norge · SINTEF

Health

Helse Sør-Øst · Sykehuspartner · Helsedirektoratet · Direktoratet for e-helse · Statens legemiddelverk · Helse Midt-Norge · Apotek 1 · norskhelsenett

Defence & national security

UDI · Toll Customs · Forsvaret – Forsvarets logistikkorganisasjon · Politiet · Forsvarsmateriell · Forsvarsdepartementet · Utenriksdepartementet · BarentsWatch · Forsvarsbygg

Transport

Bane NOR · Statens vegvesen · Avinor · Posten · Entur · Sporveien · Jernbanedirektoratet · norwegian.no · Vy · Ruter · Wallenius Wilhelmsen

Retail & service

NorgesGruppen · Power · KappAhl · Vita · Reitan Convenience · Moller Mobility Group · Rema 1000 · bama · Gresvig · Vinmonopolet · Godt Levert · Orkla Foods Norge · Boots · Tine

Energy & Industry

AkerBP · Statnett · Kværner · Hydro · Yara · Lyse · wintershall · equinor

Bank & insurance

DNB · SpareBank 1 · nets · vipps · Fremtind

Telecom & Media

telenor · NRK

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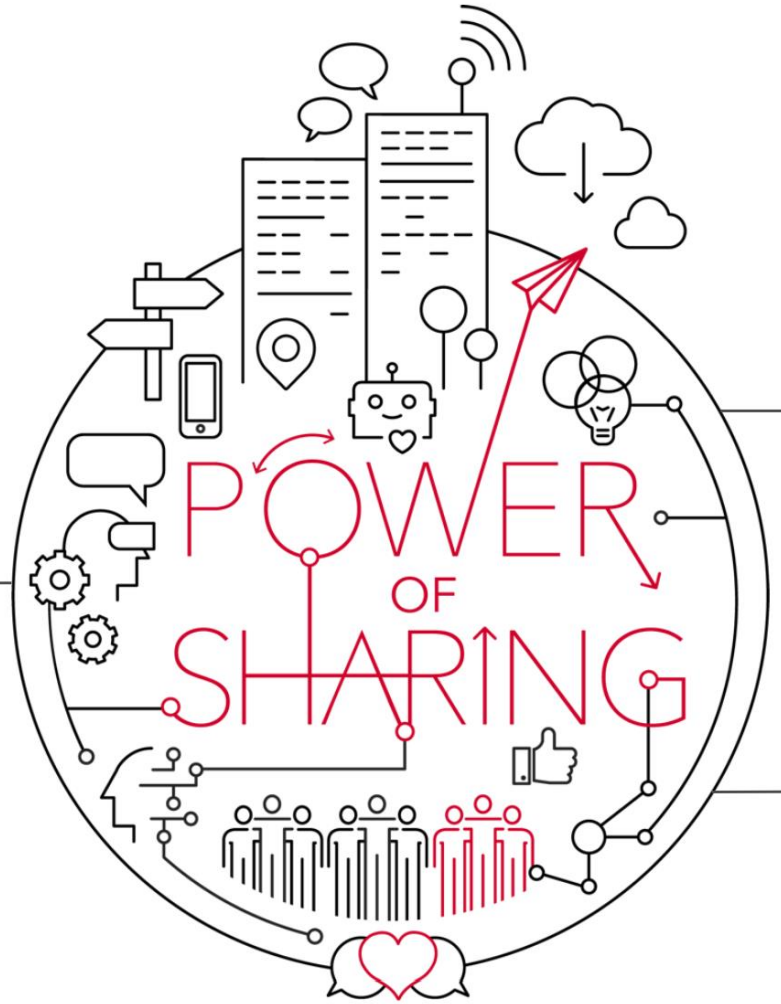
Company culture, Power of Sharing



With colleagues

With clients

With society

How we helped MESTA's become data-driven:

- Business need
- Technical solution
- Business impact

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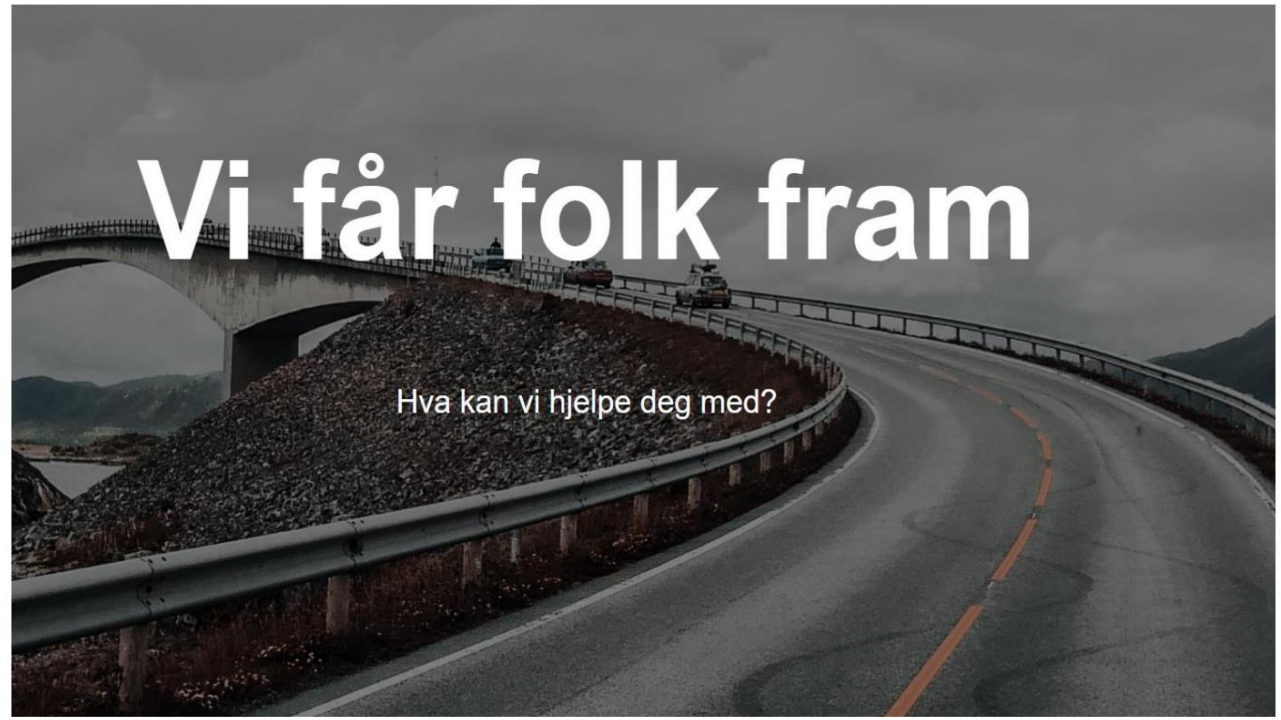
Who is Mesta?

- Owned by the Norwegian government
- 1600+ employees
- 4.5 billion NOK turnover yearly

- Reorganization in 2019
  - Economy & Finance
  - Organization & Sustainability
  - Innovation & Business development



Business need

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Contracts and Bids

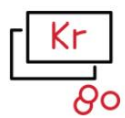
Truck information (IoT sensor data)

Storage, Inventory, Rent

mesta

Positional and geographical data

Material and service purchase orders



Financial and Accounting

Time / worklogs

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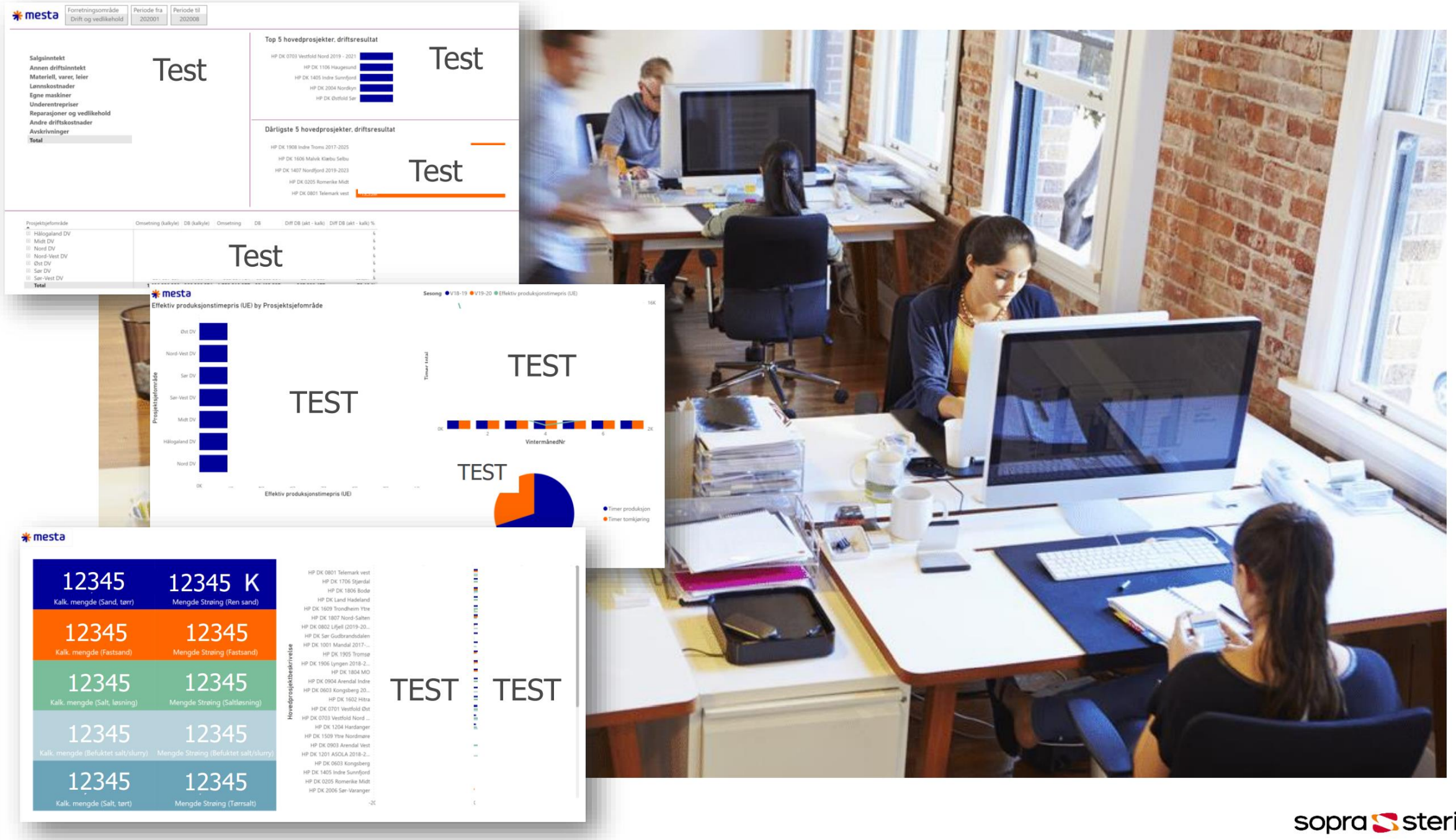

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Technical solution, but first

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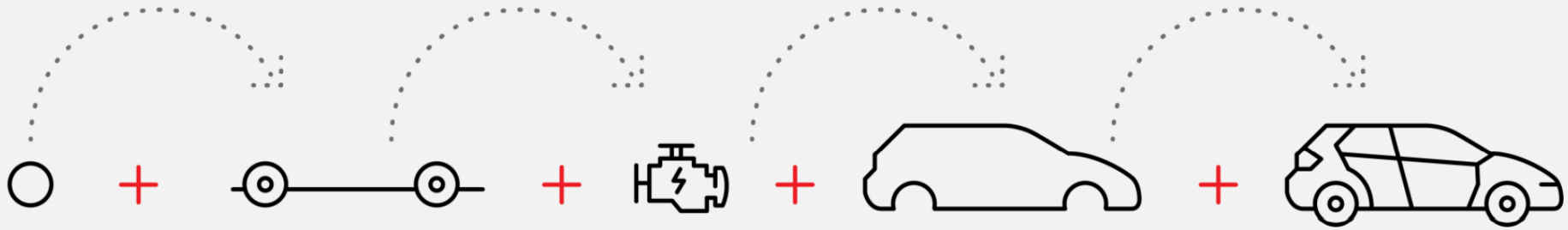
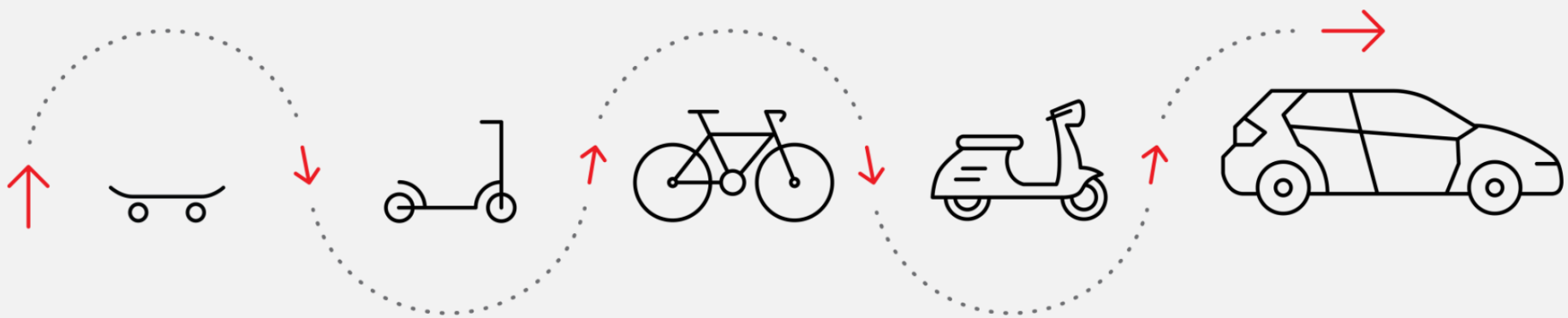
Security and Quality
Roles, Segregation, Environment, Keys and Secrets
Datastrategy
Ambition, possibilities, challenges, maintenance, competitors and markets
Operating model and skills
Organization, knowledge, recruiting, training programs
Change management and implementation
Change in organization and culture
Project management and realization
Plan and lead projects and measure progress and efficiency
Data driven business
Dashboards and visualization
Analysis, self-service
Possibilities and options
Technology, components, services and vendors
Intelligent systems
Machine Learning, Artificial Intelligence, Automation, decision support
Platform and digital twins
Cloud, IaaS, Paas, SaaS, IoT

MVP

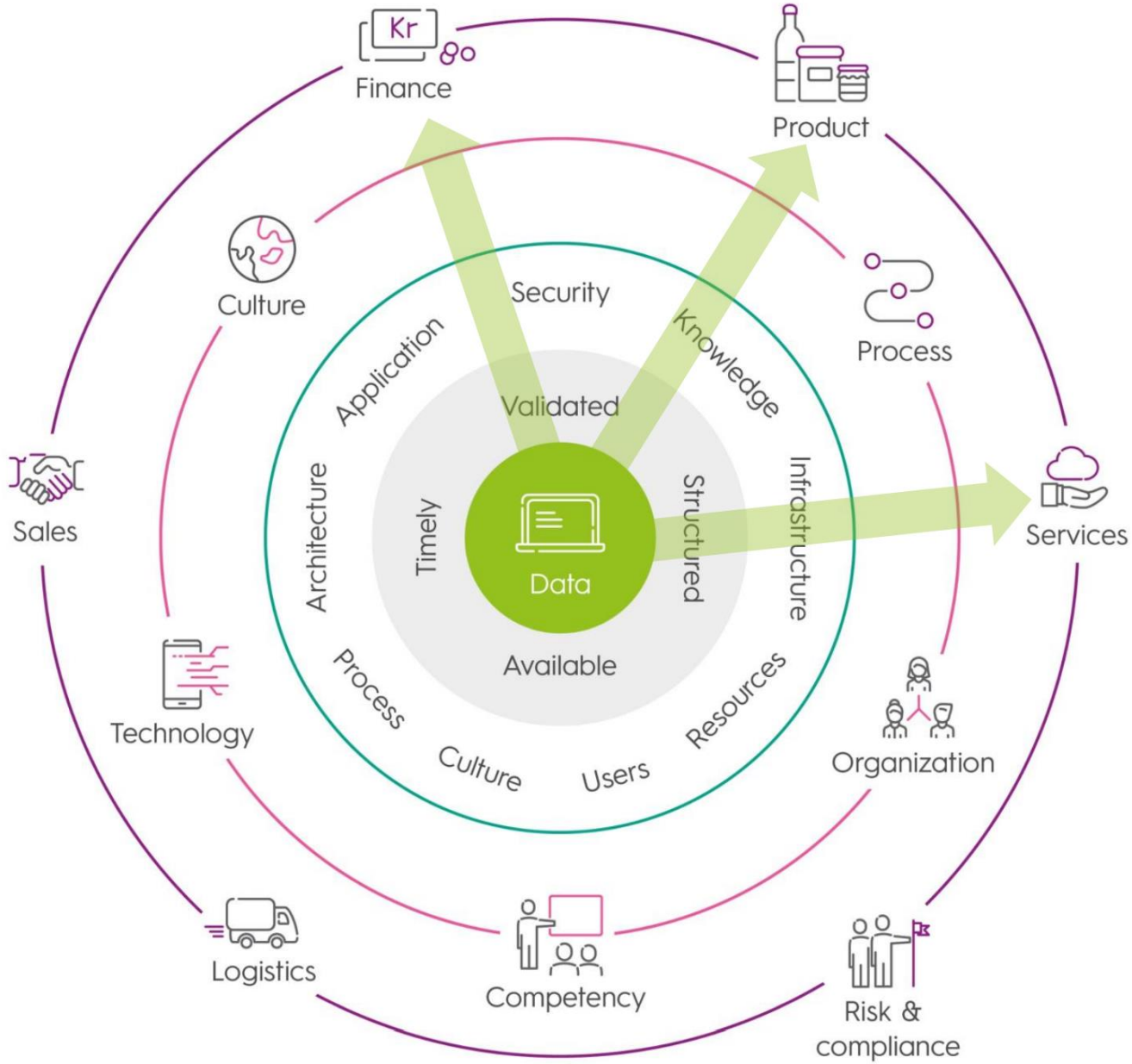
Produkt



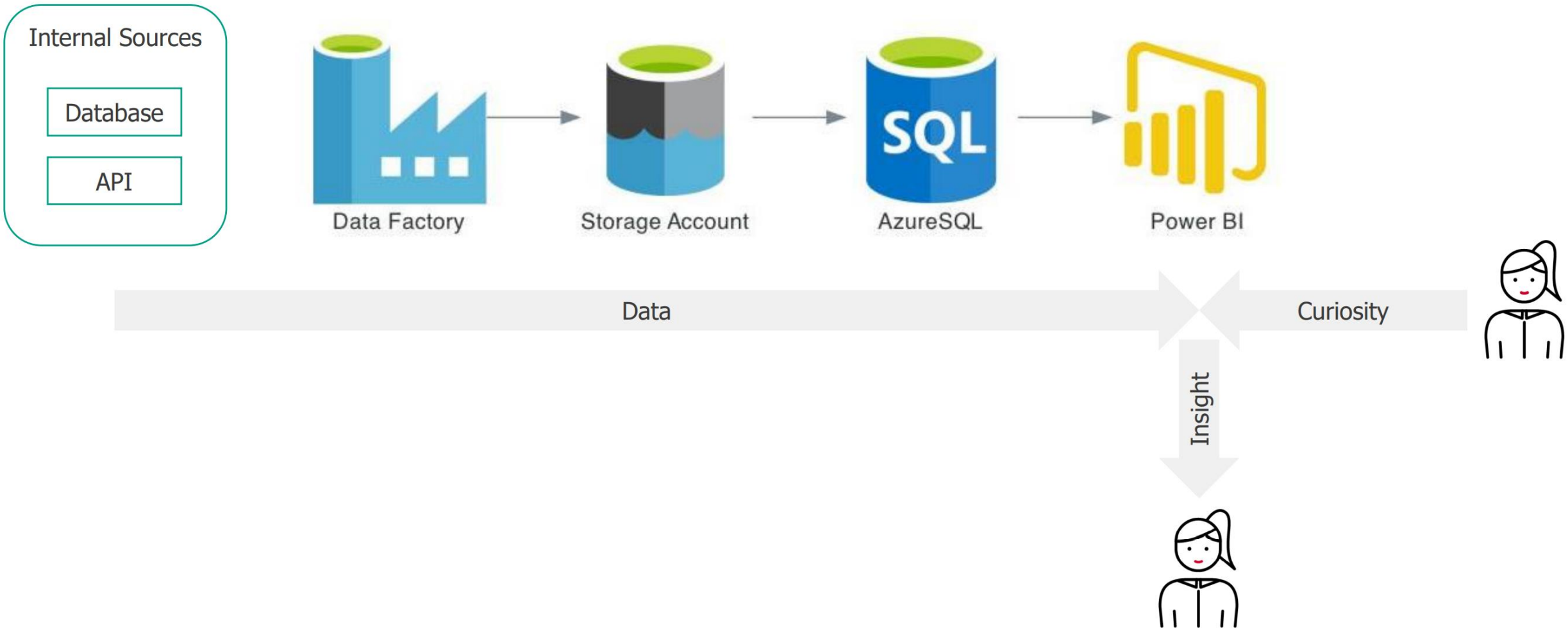
Mobilitet



Visjon

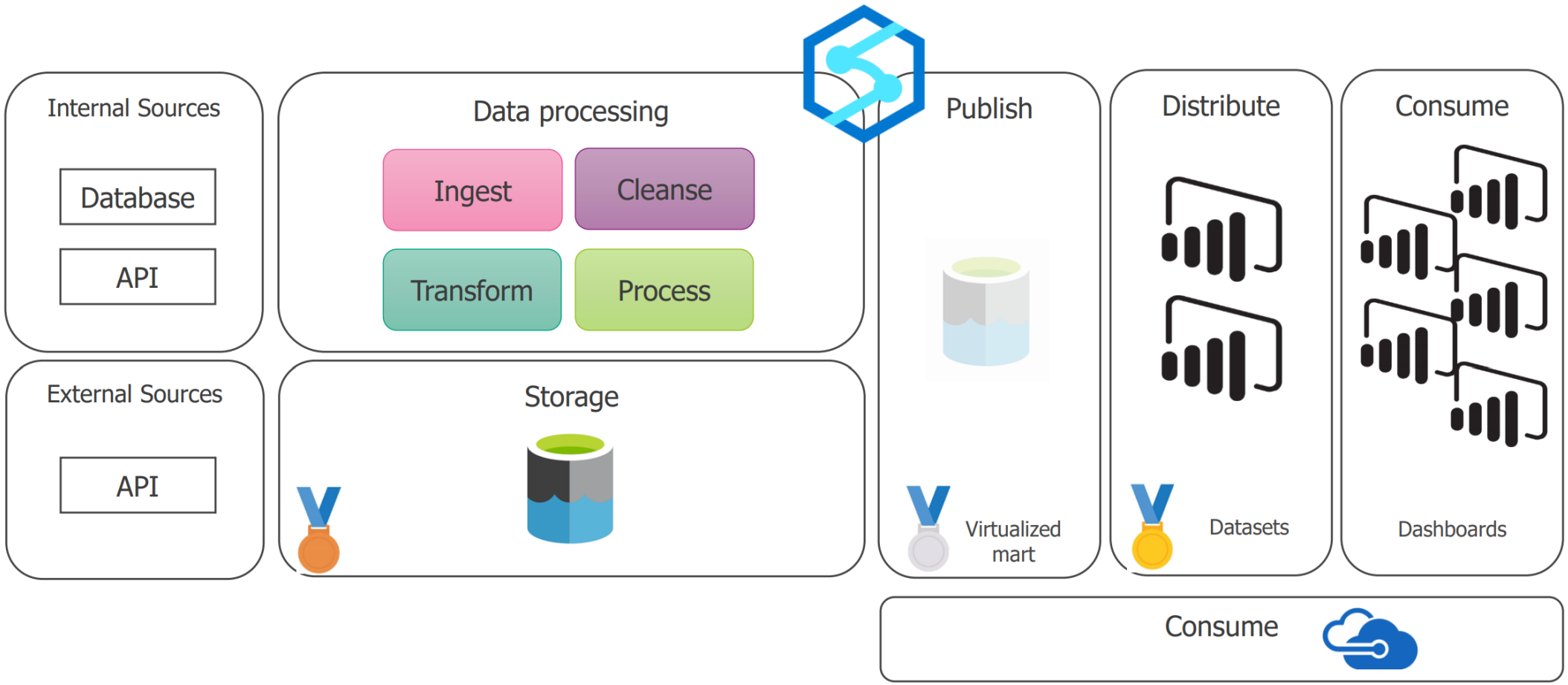

Finance
Product
Culture
Process
Sales
Services
Technology
Organization
Logistics
Competency
Risk & compliance
Security
Application
Knowledge
Validated
Architecture
Infrastructure
Timely
Data
Structured
Available
Process
Resources
Culture
Users

MVP Architecture



Platform A.I.R (Analytics, Insight, Reporting)

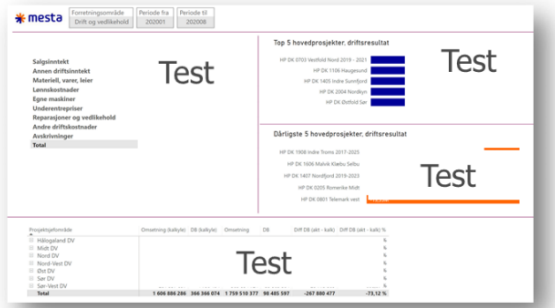
Medallion architecture



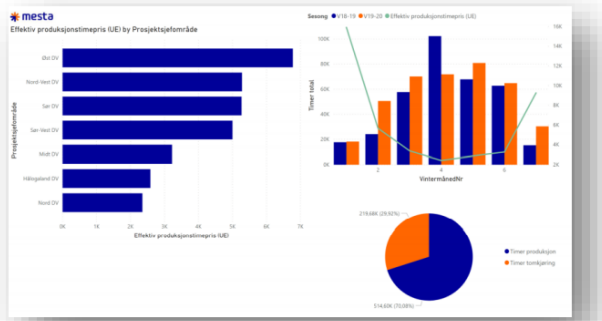
Data literacy

Data platform, Reports and Dashboards

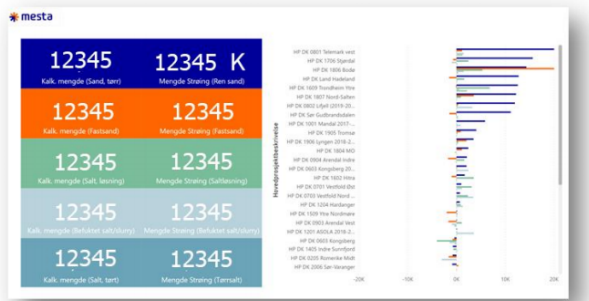
- Dashboard and alarm for “Unregistered production”



- Detailed Purchase / Expense dashboards



- Improved insight into financial data



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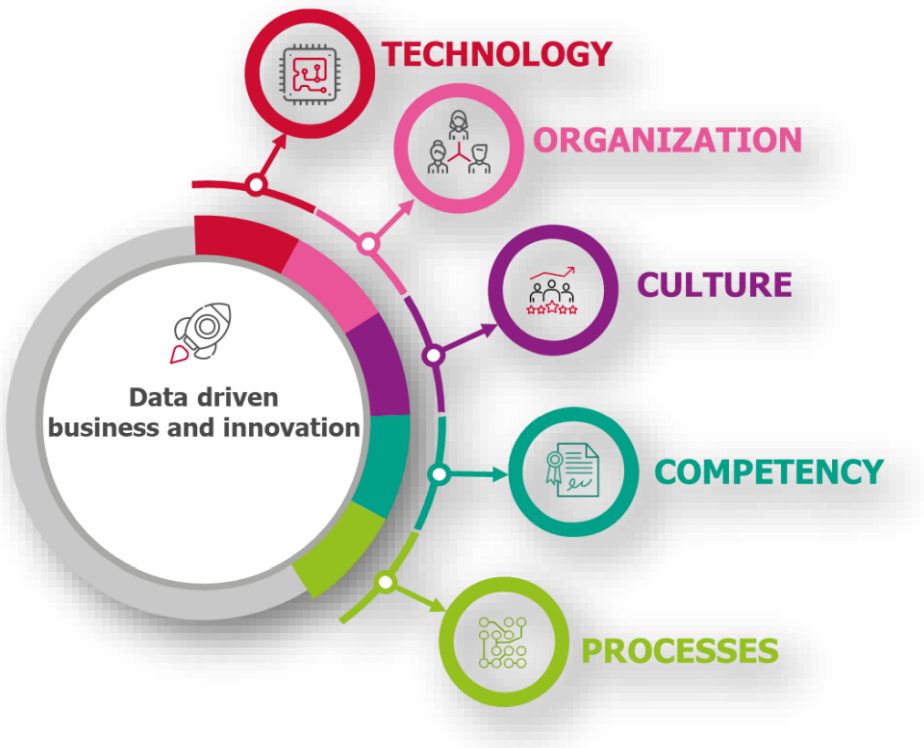
Maturity and Transformation



- Data that already existed are now being used in a whole new way.
    - The culture of Mesta has been disrupted: Mesta employees are much more interested in data and curious about what it can bring in their daily tasks.
        - Mesta have acquired the necessary capabilities to be more data driven.
    - Agile way of work has been adopted, the way we work now is very different from 6 months ago.
- Both theoretical and practical skills have been learned, to help Mesta take ownership of the new way of work.

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Continuous change and improvements

The journey has only just begun

The data driven journey of Mesta has started.

They are well prepped technologically, culturally and organizationally to continue this journey.

There are a lot more eggs to be found

There are a lot more dots to be connected

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