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Data in Motion – Bridging Business and IT for Strategic Data Dynamics

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Head of Strategic Data Management

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We pioneer motion

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Schaeffler in a nutshell

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Schaeffler's Data Pace and Data Model 2.0

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Pace of Data Model Transformation

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Pace of Data Operating Model Transformation

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Speeding up by decentral DevOps

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Success Factors

AGENDA

Purpose, vision, mission, and claim – Framework for our Roadmap 2025



OUR PURPOSE

We pioneer motion to advance how the world moves

Our vision

We are the Motion Technology Company that leads globally through innovation, agility and efficiency.

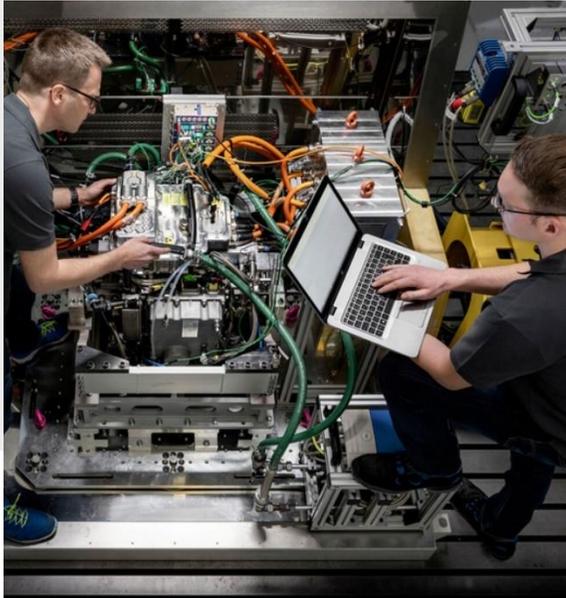
Our mission

We offer innovative products and services in the field of motion.

We pioneer motion

The Motion Technology Company – Our four divisions at a glance

E-Mobility



Modular and scalable solutions for all types of electric drives.

Powertrain & Chassis



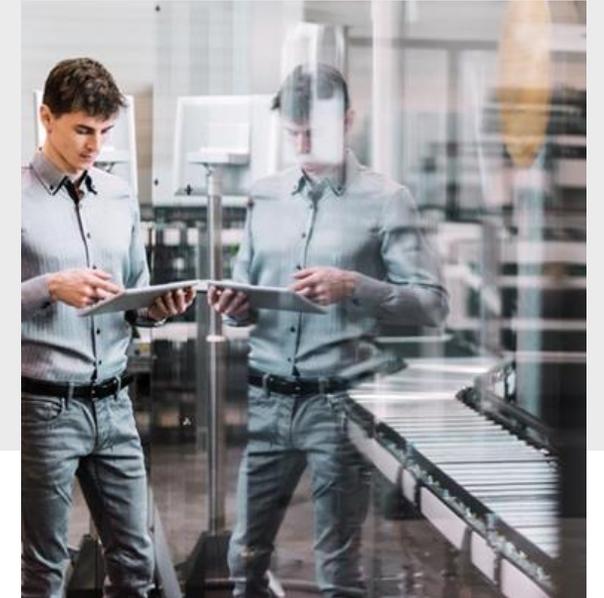
Innovative solutions for powertrain and chassis systems.

Vehicle Lifetime Solutions



Tailored solutions for the mobility ecosystem.

Bearings & Industrial Solutions



Products and solutions for the industry of the future.

Our Product & Service Offering – Motion as the connecting element

8 AREAS	8 PRODUCT FAMILIES	PRODUCT & SERVICE OFFERING
Sustain motion	8 Repair & Monitoring Services	
Energize motion	7 Hydrogen Stacks & Plates	
Drive motion	6 E-Motors & E-Drives	
Power motion	5 Power Electronic Units	
Generate motion	4 Actuators	
Control motion	3 Electric Control Units & Sensors	
Transmit motion	2 Transmission & Engine Components	
Guide motion	1 Bearings & Linear Guides	

Key Aspects

- Schaeffler product & service portfolio categorized into 8 Product families
- All product families associated with their respective notion of motion
- Product families address customer requirements along all 4 market and 10 sector clusters
- Use all the Schaeffler know-how in our core technologies to create maximum customer value and a unique selling proposition

Motion as the connecting element

Proximity to customers – Global plants and R&D centers

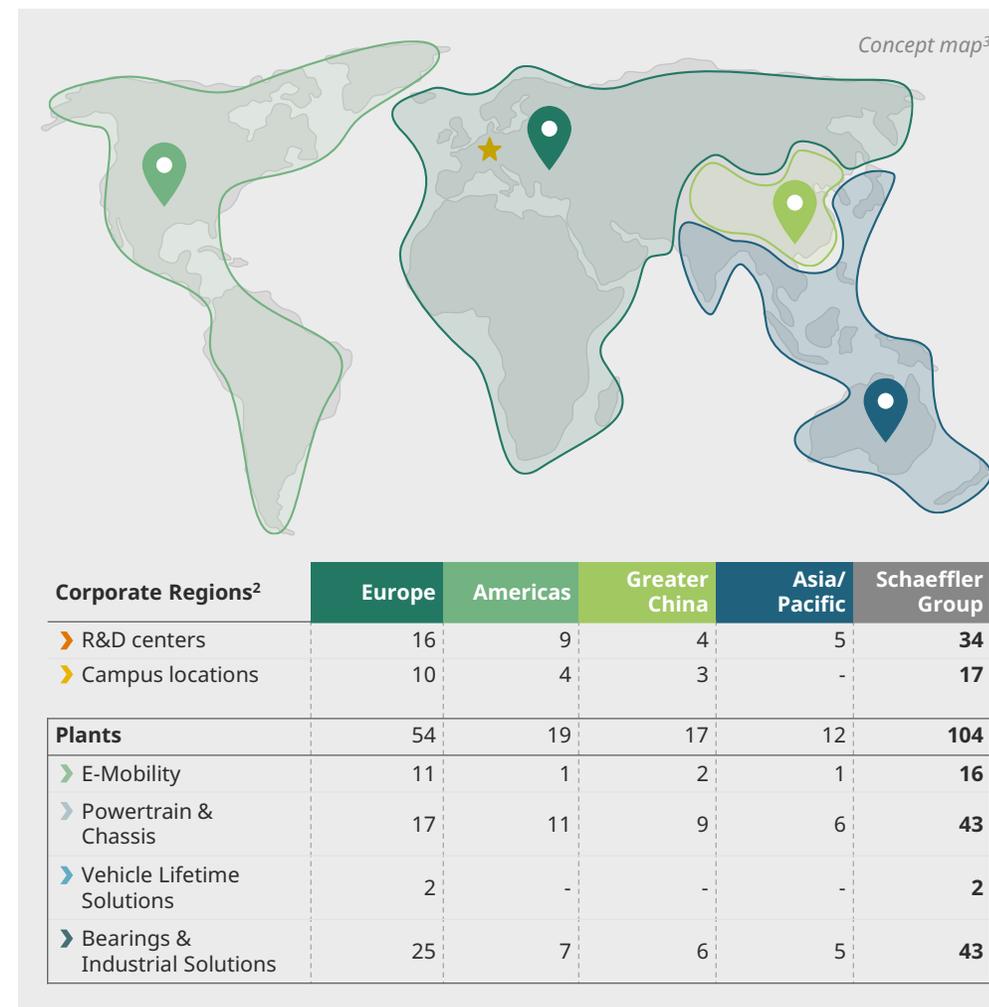
Europe		Americas	Greater China	Asia/Pacific
Germany	France	Brazil	China	India
› Bebra/Mühlhausen	› Boussens	›››› Sorocaba	› Changchun	› Bangalore
› Berlin	› Chambéry	Canada	› Changsha	›› Hosur
›››› Bühl	› Chevilly	› Chatham	››› Nanjing	››› Pune
› Dortmund	› Foix	››› Stratford	› Pinghu	› Vadodara
› Erlangen	››› Hagenau	Mexico	››› Shanghai/Anting	› Savli
› Gunzenhausen	› Toulouse	› Cuautla	› Suzhou	Japan
› Hameln	Great Britain	› Guadalajara	›››› Taicang	› Yokohama
›› Herzogenaurach ★	› Sheffield	› Huejotzingo	› Taoyuan	South Korea
› Hirschaid	Hungary	› Irapuato	› Tianjin	› Ansan
››› Hochtstadt	›››› Debrecen	› Juarez Aerotech	›› Wuhu	›› Changwon
›››› Homburg	›››› Szombathely	› Juarez Viotech	› Xiangtan	› Icheon
› Ingolstadt	Italy	› Puebla	››› Yinchuan	› Jeonju
››› Lahr	› Momo	USA		Thailand
› Limbach-Oberfrohna	Portugal	› Armada		› Amata City
› Meckesheim	› Caldas da Rainha	› Auburn Hills		› Chonburi
› Morbach	Romania	››› Cheraw		Vietnam
›› Nürnberg	››››› Braşov	› Danbury		› Biên Hòa City
› Regensburg	› Iasi	› Deer Park		
› Schwalbach	› Sibiu	›››› Fort Mill		
››››› Schweinfurt	Slovakia	› Joplin		
› Steinhagen	››››› Kysucké Nové Mesto	› Seguin		
› Suhl	››› Skalica	› Troy		
Austria	South Africa	›››› Wooster		
› Berndorf-St. Veit	› Port Elizabeth			
Bulgaria	Spain			
› Sofia	› Elgoibar			
Czech Republic				
›› Frenstat/Ostrava				
› Svitavy/Lanškroun ¹				
› Trutnov				

¹ The Svitavy and Lanškroun plants are considered as one facility for reporting purposes, which is why they are displayed together. Organizationally, however, they are two distinct plants that are accounted for separately in the total quantity.

² The regions represent the regional structure of the Schaeffler Group.

³ Visual reference only. Not intended for accurate geographical reference.

★ Headquarters



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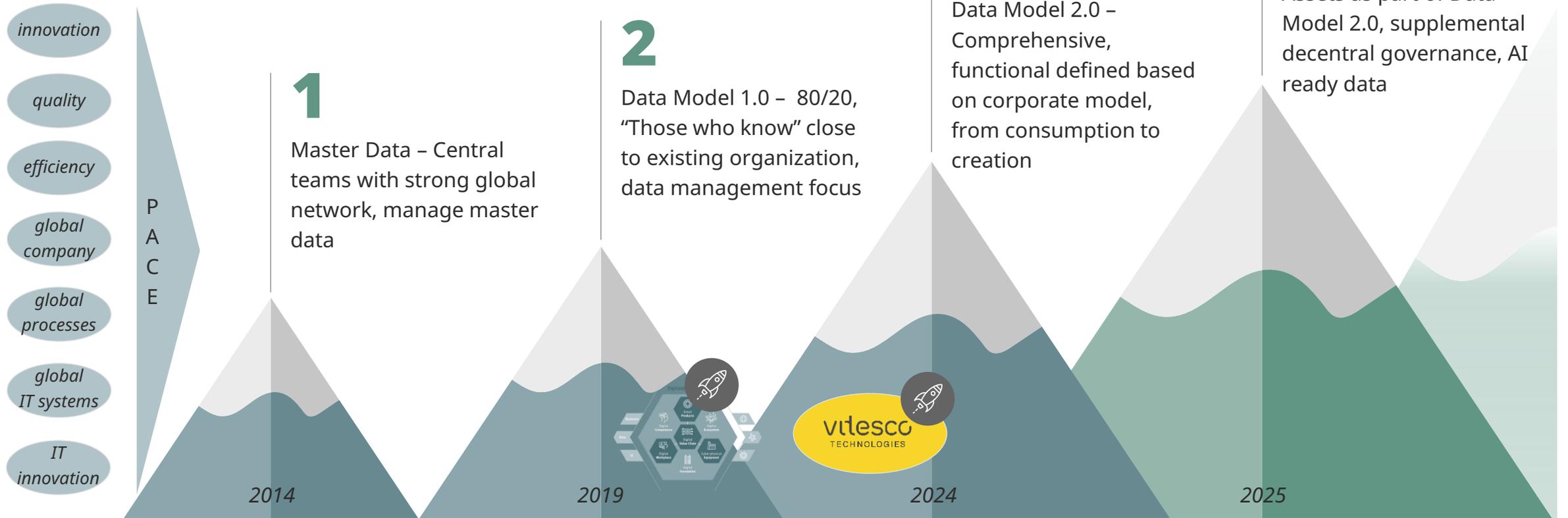
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Scope of Data, Operating Model & Strategy

Starting from 2005 the scope continuously increased



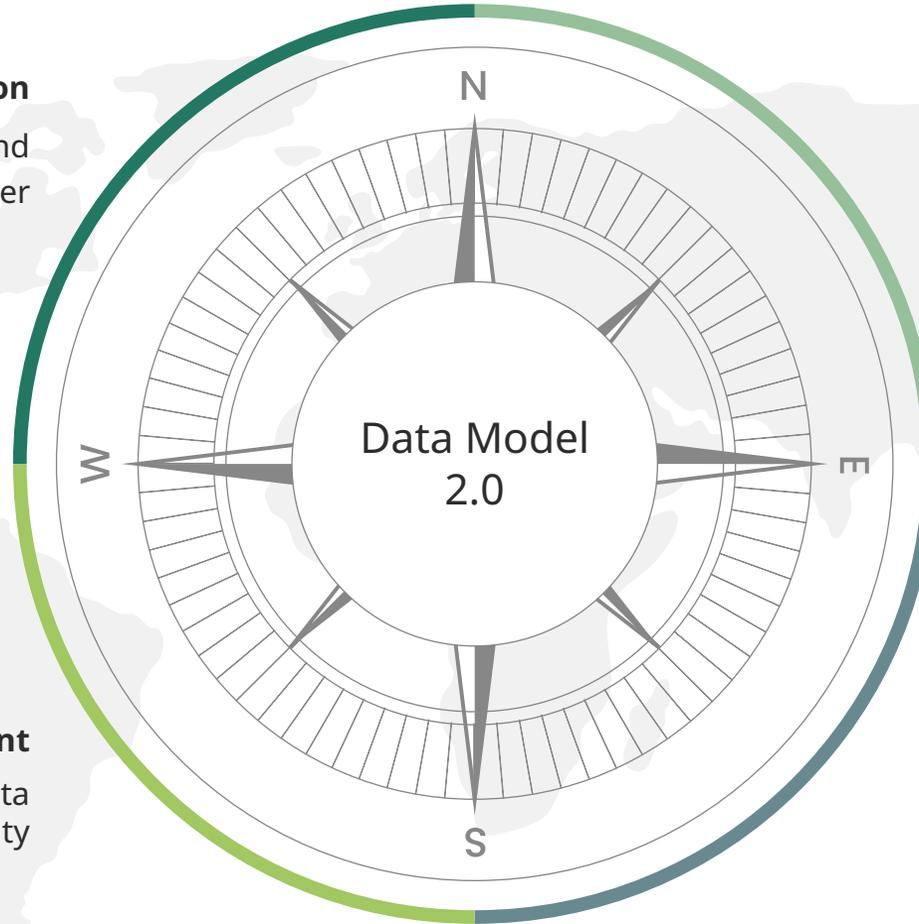
Data Model 2.0 - Future-proof data foundation for the Motion Technology Company

Efficiency & Foundation
in value chain and for advanced analytics and AI utilization across Schaeffler

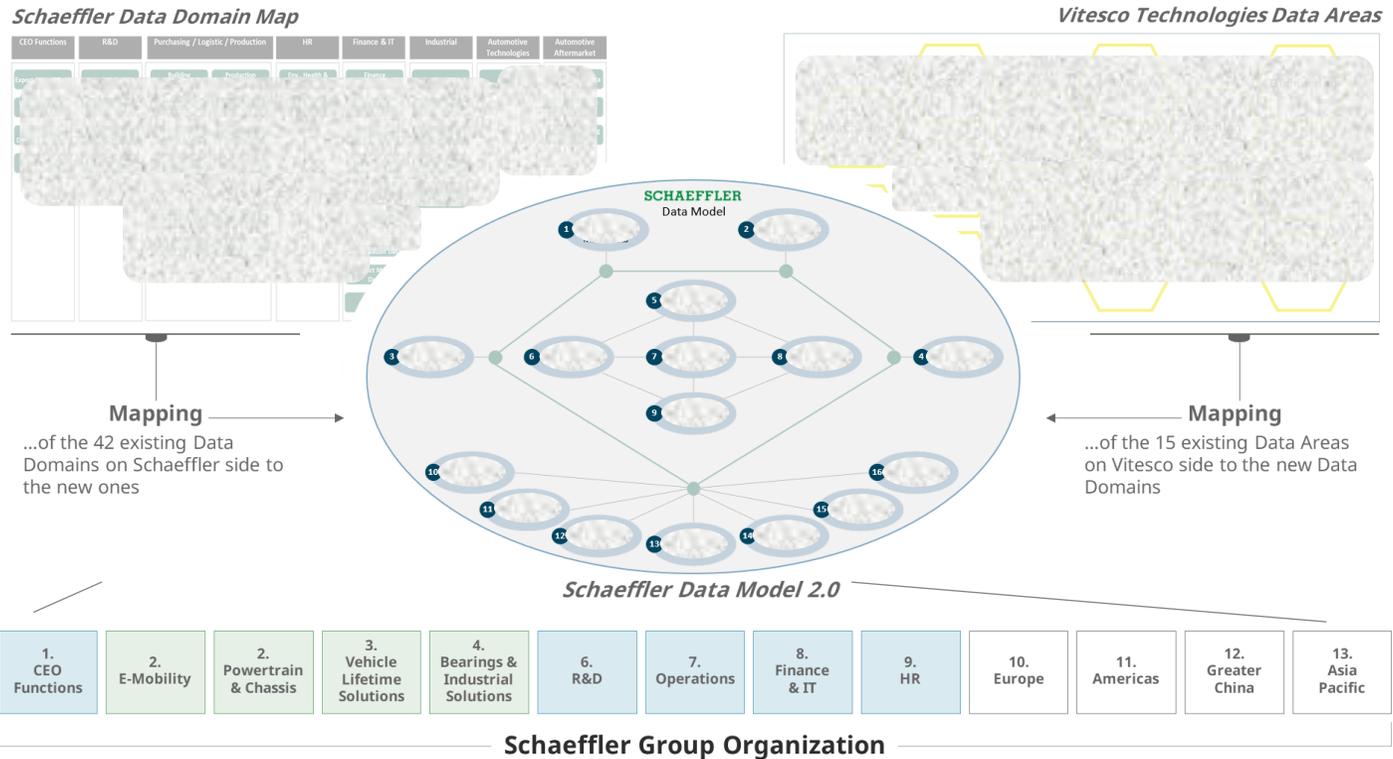
Data-driven decisions
enable data-driven decision making based on high-grade data

Active data management
across the Schaeffler Data Network to increase data quality

Manage-to-Share culture
for company-wide data usage, while ensuring compliance



Data Model 2.0 – Integration of Schaeffler and Vitesco Technologies



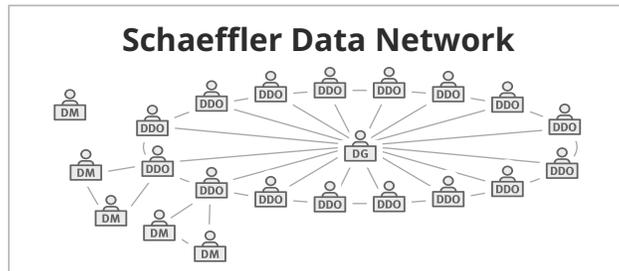
Data Model

Operating Model

Data Model 2.0

- Integration of data on business level
- Harmonized data vocabulary
- Corporate Data Model as part of Corporate Target Operating Model
- Strong link to the enterprise model
- Data Domains as 1st layer of Data model

- 16 Data Domain Owner with group-wide responsibility
- Central Data Governance



- >100 Data Managers in Divisions, Functions & Regions

The renewed strategy focuses on the data model. Data operating model to support data model and its quality.

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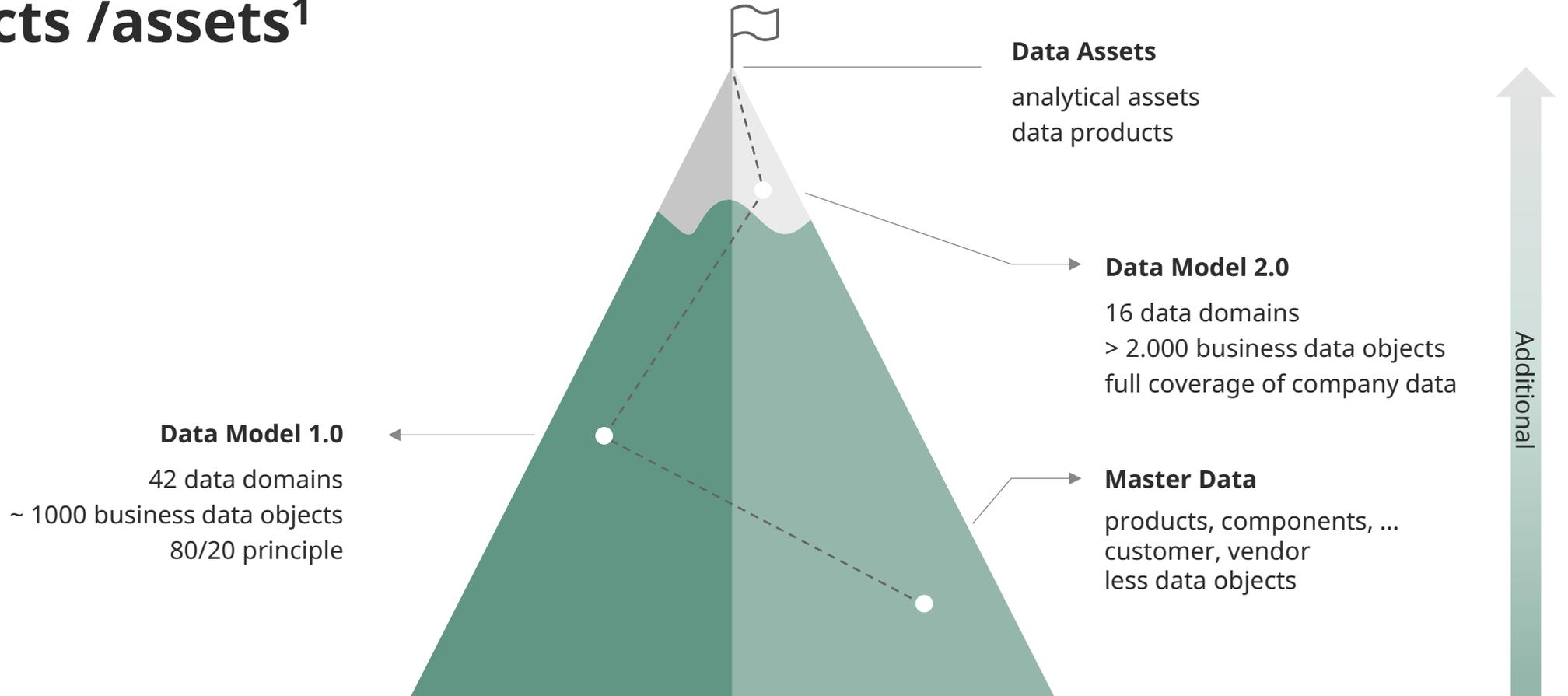
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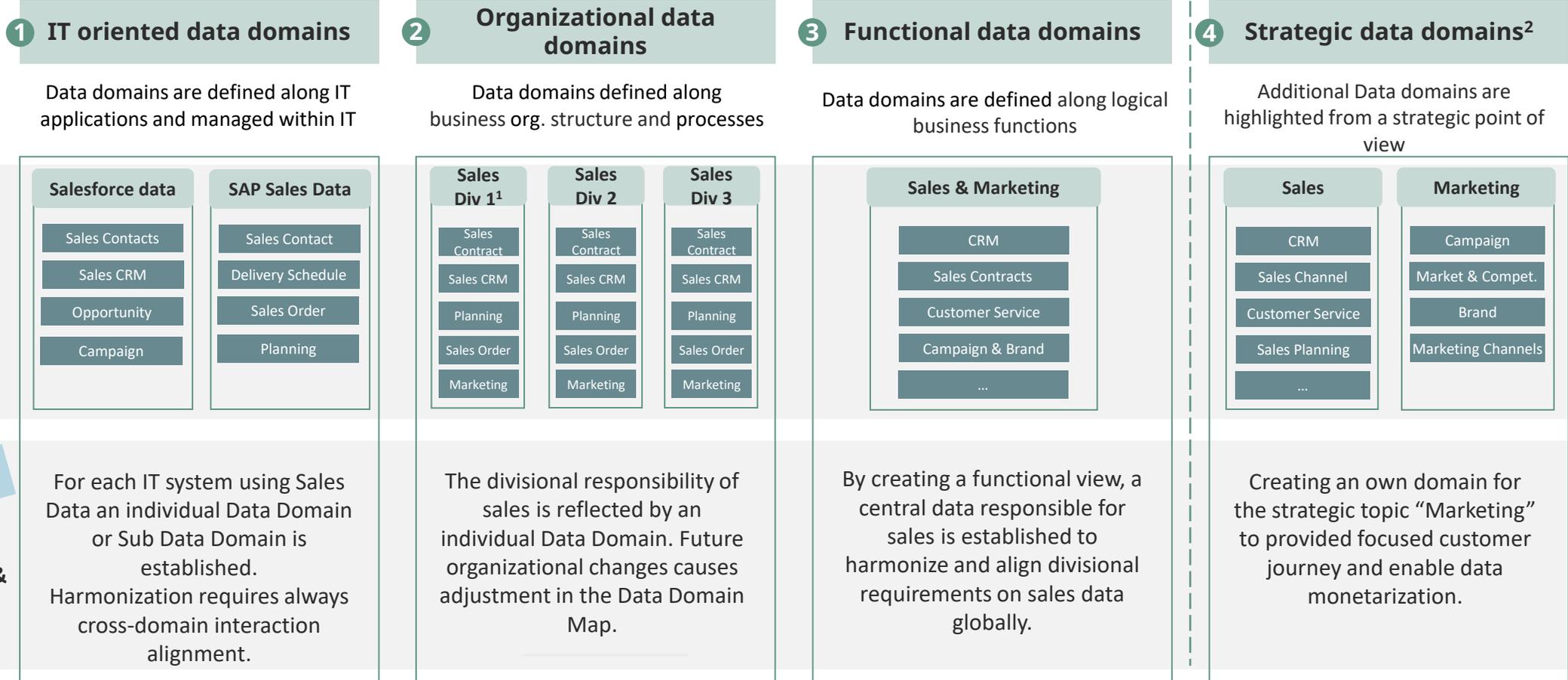
Evolution of the Data Model

From less data objects to all data objects /assets¹



¹ Data Asset, e.g.,: Data Product = standardized set of records to be consumed by applications with respective technical and business meta data
Analytical Asset = set or records delivering information to humans in an IT application, mainly for gaining insights and making informed decisions

Data Domain setup – Possibilities to organize data responsibility



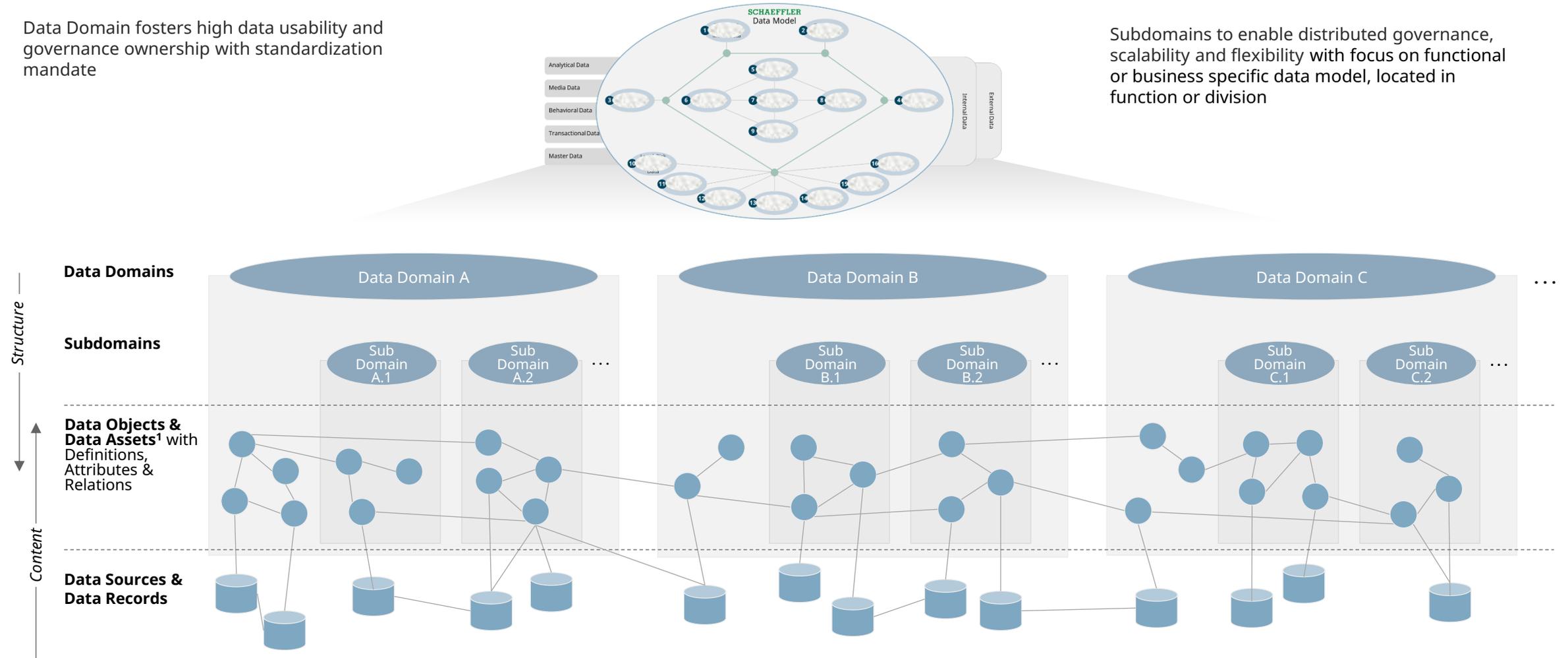
Data supports business **How data is applied** *Data has strategic impact on business*

¹Div: Business Division of a company; ² Differences in the 4 approaches in Data Usability, Data Quality, Stability, Diversification, Commonality

Data Model 2.0 – Breakdown of Data Domains from business to IT-technology

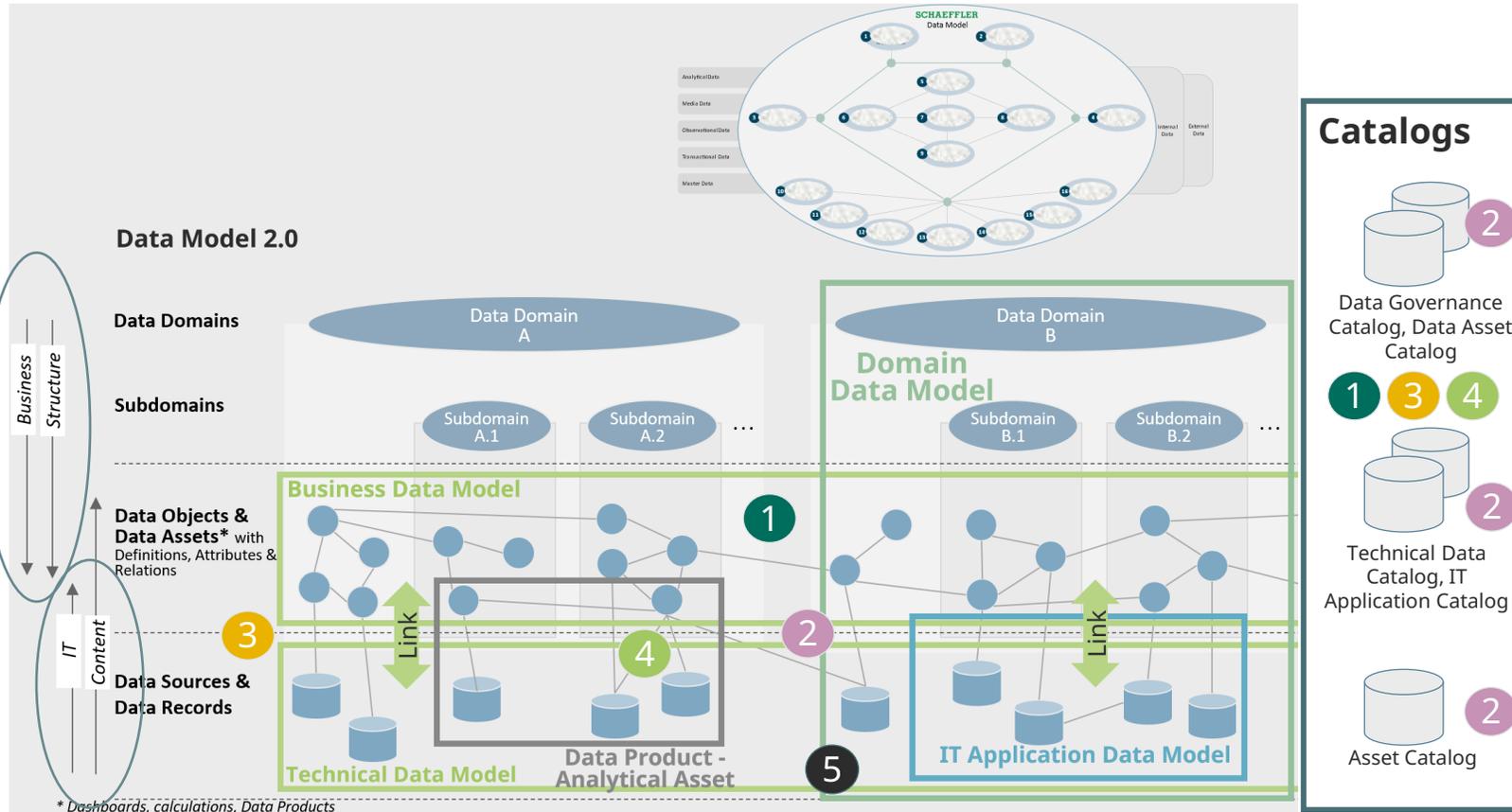
Data Domain fosters high data usability and governance ownership with standardization mandate

Subdomains to enable distributed governance, scalability and flexibility with focus on functional or business specific data model, located in function or division



¹ Data Asset, e.g.,: Data Product = standardized set of records to be consumed by applications with respective technical and business meta data
 Analytical Asset = set or records delivering information to humans in an IT application, mainly for gaining insights and making informed decisions

Schaeffler Data Model 2.0 – IT contribution essential for successful data management



- 1 Data Model & Data Management Tooling: Data catalogs & marketplaces to steer, manage and integrate Data Model
- 2 Linkage Tooling: Machine readable link *Data Objects* ↔ *IT Application data* ↔ *Asset data* for processes e.g., IT Demand Realization , Data Request & Provisioning, Compliance
- 3 Data Quality Tooling: Measuring, reporting & management of data quality
- 4 Data Consumption Tooling: Management of data products & analytical assets to increase efficiency in data consumption, e. g., Microsoft Data Fabric
- 5 Consulting of data domain from IT perspective, managing the technical data model

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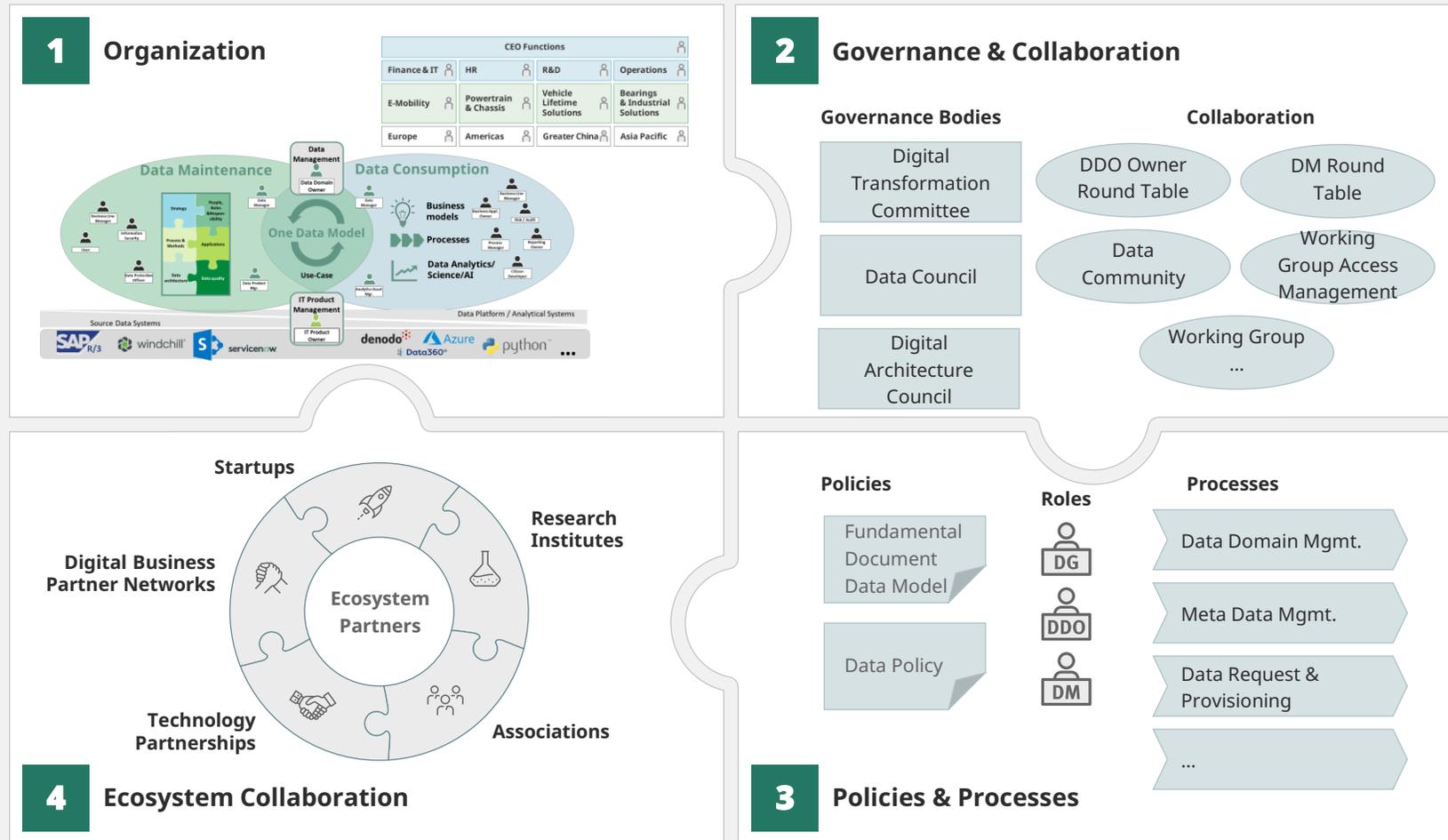
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Data Operating Model – Who is doing what and how?



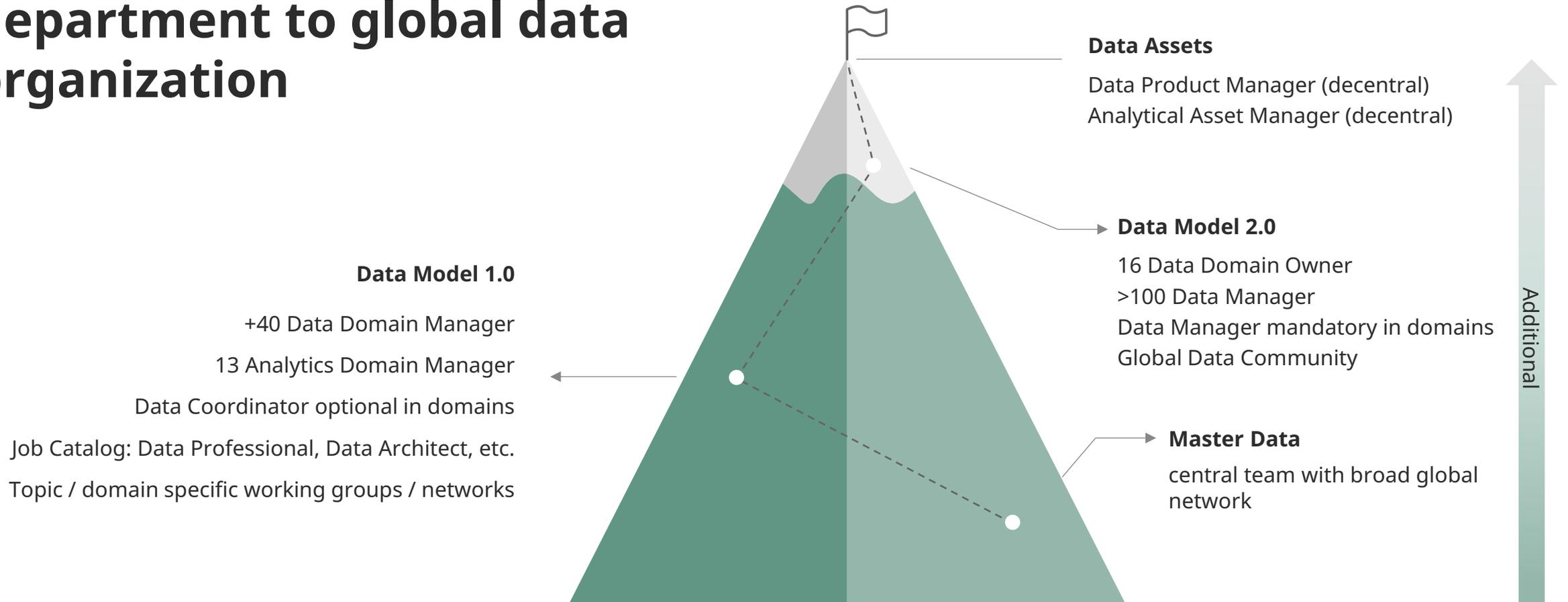
Operationalization of the Data Model

- The Data Framework consists of Data Model and Data Operating Model
- The Data Operating Model steers the “How” we operate the Data Model
- The Operating Model contains some Sub-Operating Models, e.g., for
 - Data Product Management
 - Data Ecosystem Management
 - Data Quality Management
- Crucial roles: Data Domain Owner, IT Product Owner



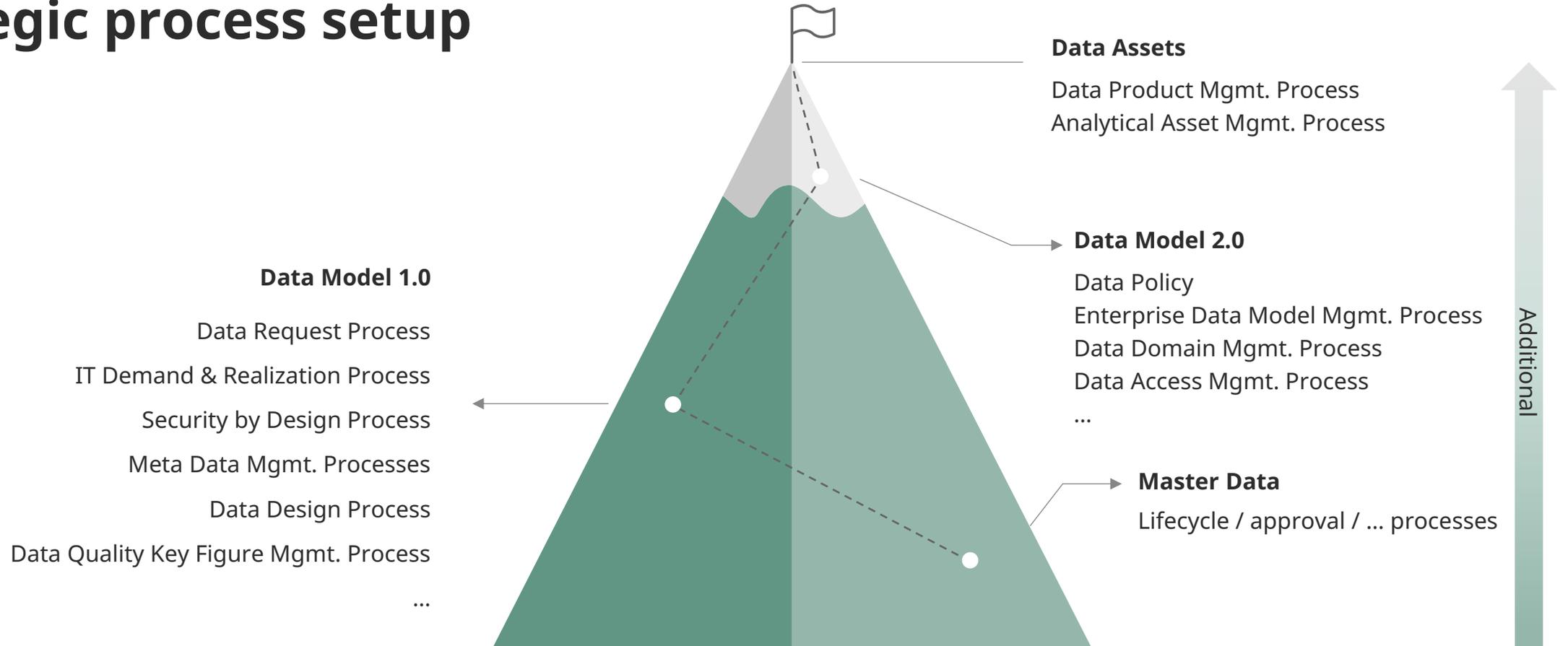
Evolution of Organization – Example how data management is reflected in organization

From central master data department to global data organization



Evolution of Policies and Processes – Example how processes landscape developed

From data lifecycle processes to strategic process setup



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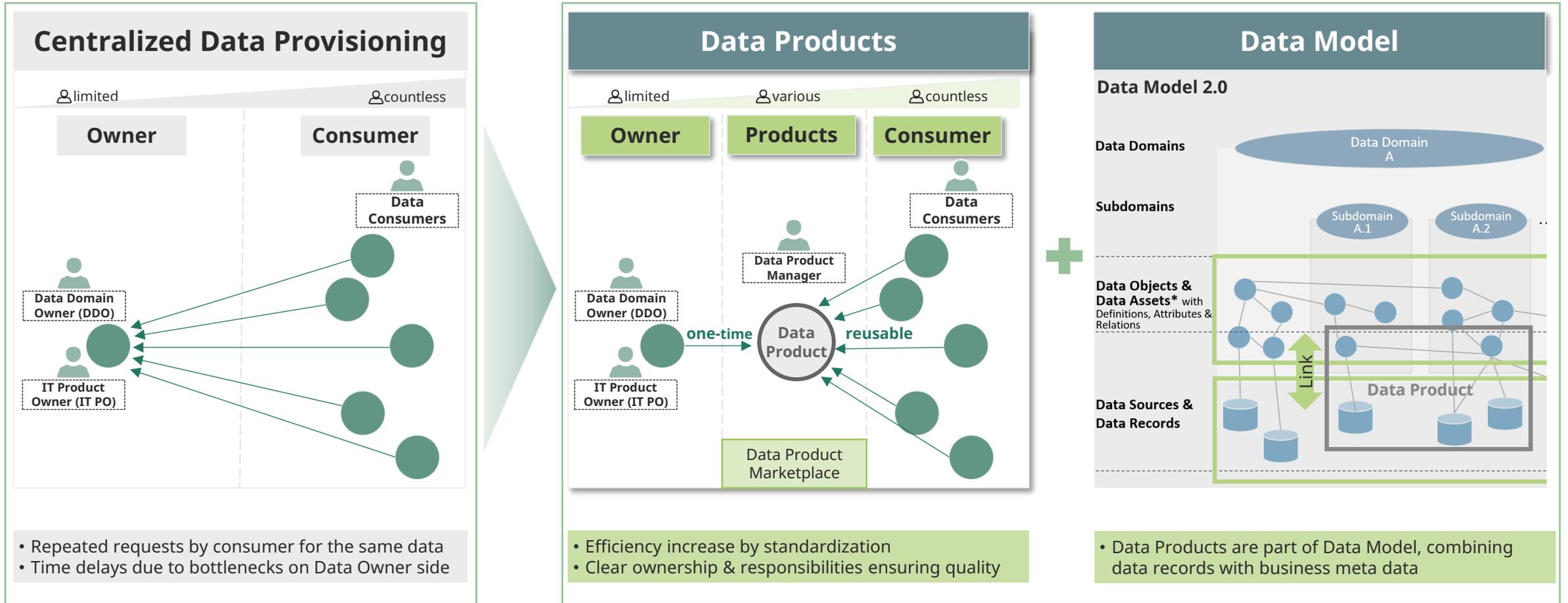
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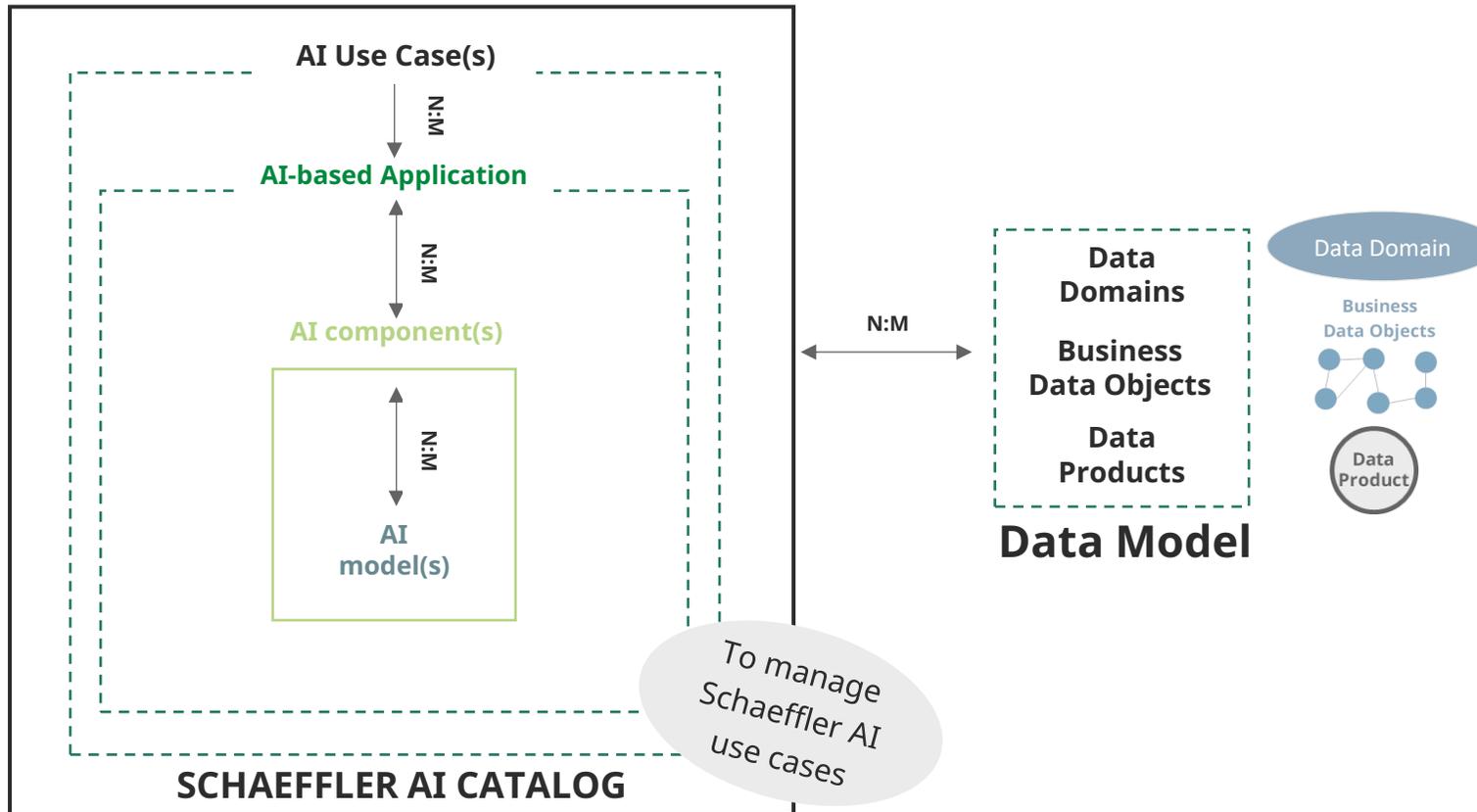
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Decentral DevOps of Data Products - Higher pace in AI, data-driven projects, digital solution development



AI Catalog Scope - AI Assets connected with Data Model



To manage Schaeffler AI use cases

AI Governance and Data Model

- An **AI-Based Application** can be used in multiple **AI Use Cases**, depending on the **purpose/context**
- An **AI-based Application** (or “AI system”) may consist of one or multiple **AI Components**
- An **AI Component** can consist out of either one or multiple **AI Models**
- **Existing Data Assets** used for training and output generation are **linked** to these new AI Assets

Higher pace in AI by decentral DevOps while ensuring governance with integrated business/IT AI operating model

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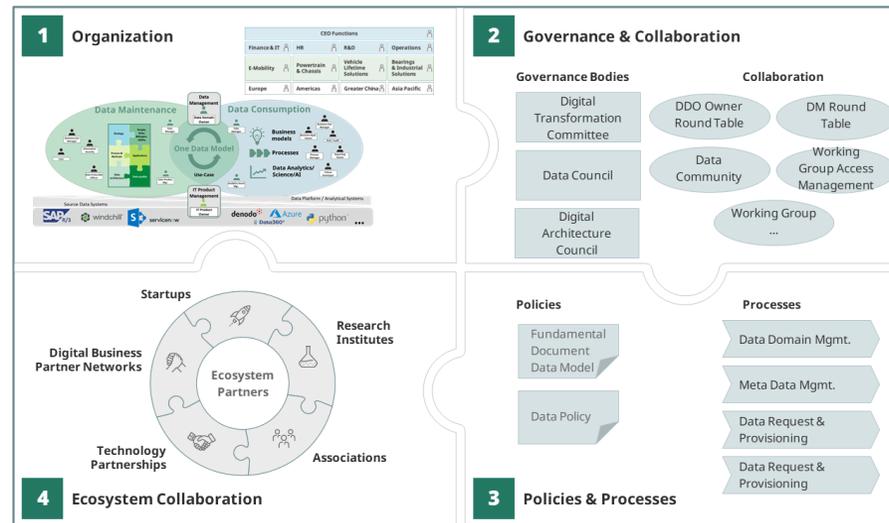
Success Factors



Evolve in steps



No fear!



Our strengths

- 1** Strategy unit for data management
- 1** Strong network with business & IT
- 2** Support by Executive Board
- 2** Councils, communities, stakeholder for business Buy-In
- 3** Create the concepts for the next maturity step in advance, that you are able “to take the opportunity”
- 3** Ensure processes, that profit from data management
- 4** Strong partners to develop together

Data Management pace in line with company pace. Data and Digital units to be aligned frontrunners

Questions?

“Strategy, structure and foundation at the right centralized / decentralized level ensure success in a large company.”

————— Markus Rahm – Strategic Data Management



SCHAEFFLER