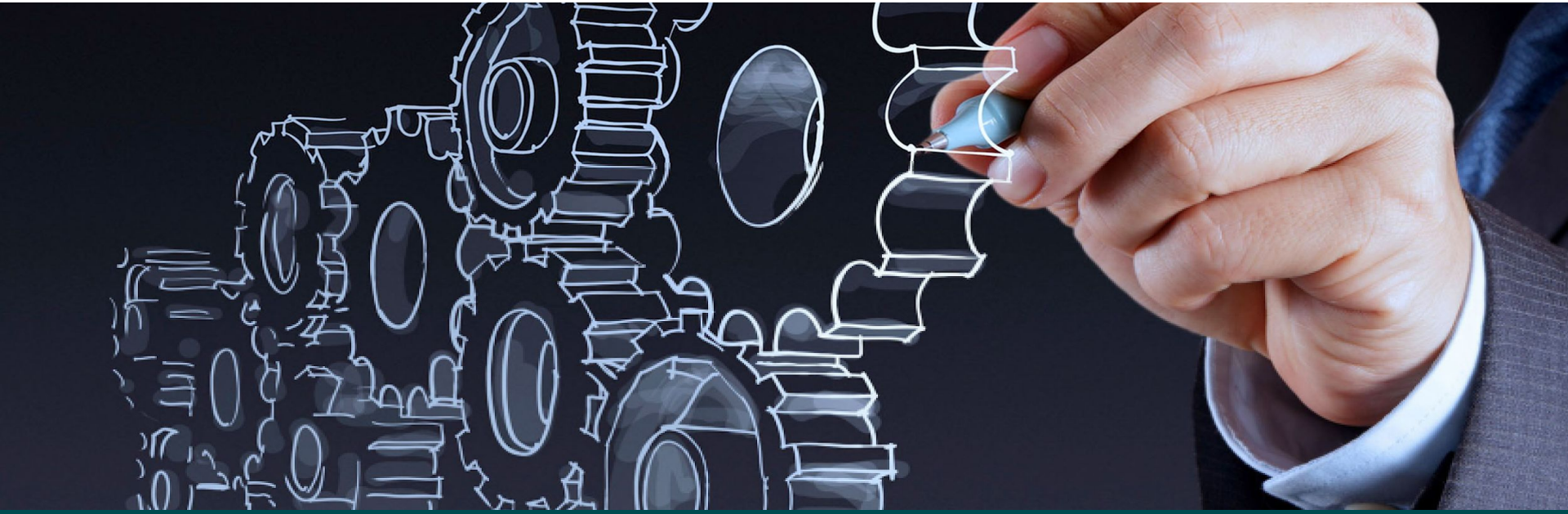
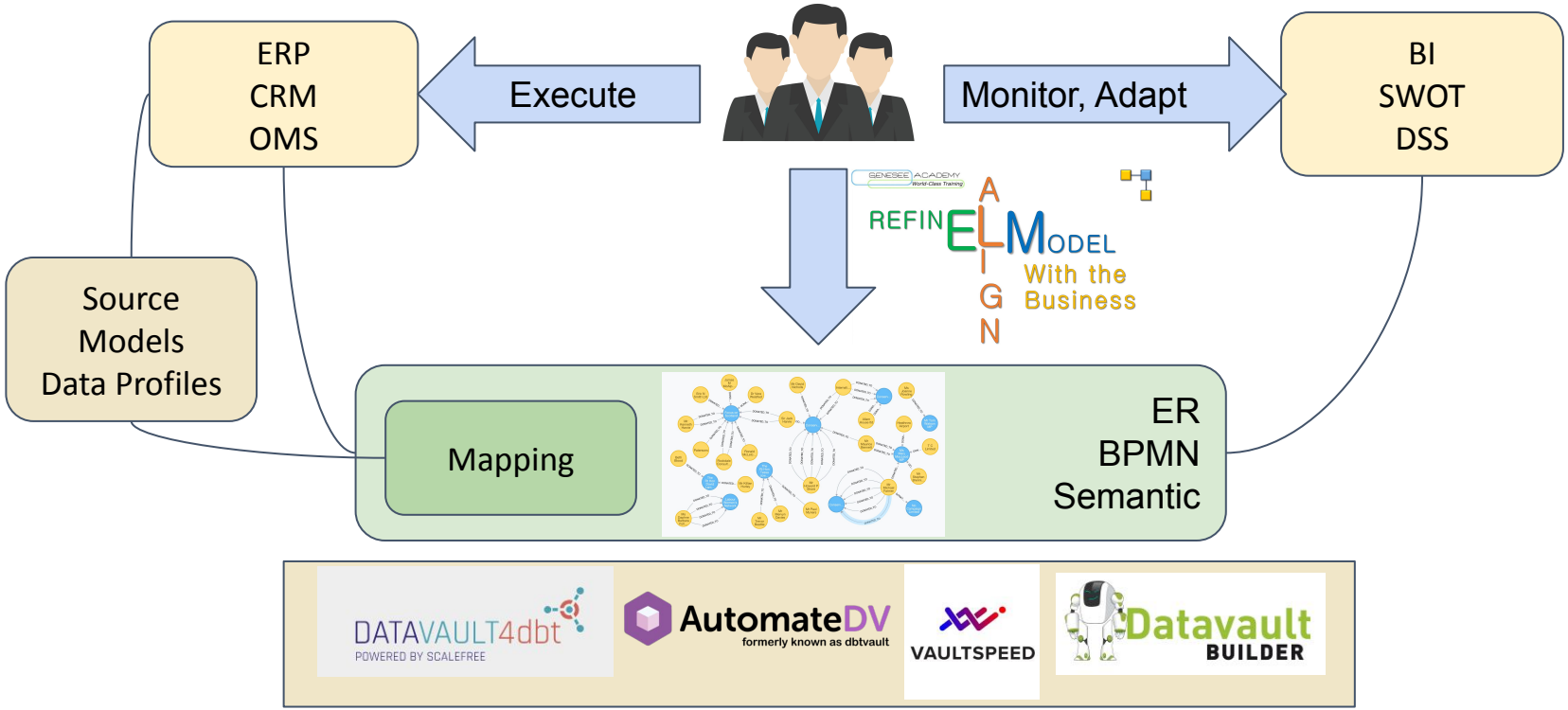
Alligator Company

Innovate Your Data Warehouse with Data Vault Automation



Empower Business Users, Accelerate Delivery, and Gain Complete Control

Automate the Automation - Model Driven - LLM assisted



Sample LLM Assisted Implementation

Input

- ELM Workshop → Align → Refine → Conceptual Model / CBC & NBR
- Mapping Source to Business → Source Dataset, PK, FK

Output

- Template based Datavault implementation
- Entity Views for granular access / Feature Store
- Semantic Model for Measures and Analytical Paths for guided Information retrieval

Datavault GenAI Repository
LLM ELM conversation
LLM Mapping conversation

ELM: Simplify DWH Models by Modeling With the Business

What is ELM (Ensemble Logical Model)?

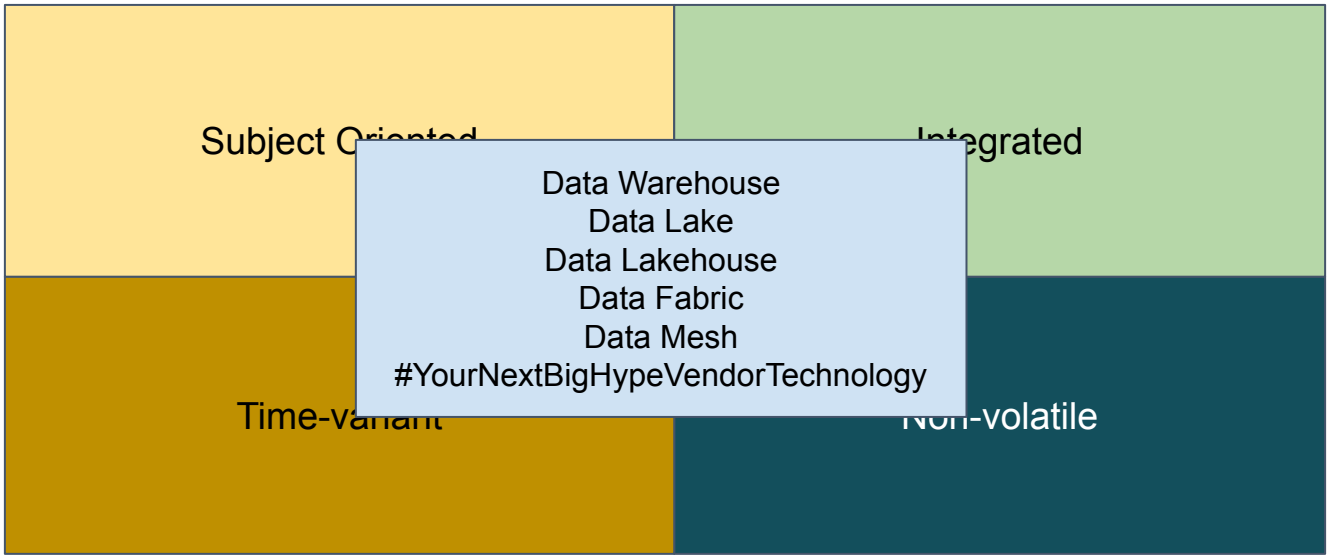
- A non technical approach to map the business concepts into an aligned and refined model (logical model).
- Relates to a family of multiple agile modelling patterns like Datavault, Anchor Modelling and Focal Point.
- The first approach where business is leading over sources.

Elm Standards

		Relational	Dimensional	NoSQL	ELM
Conceptual	Align (Business Terms)	Terms & Rules	Terms & Paths	Terms & Queries	Core Business Concepts & categorization
Logical	Refine	Sets	Measures with context	Query-focused hierarchy	Events and Natural Business Relationships
Physical	Design (model)	Compromised sets	Star schema or Snowflake	Enhanced hierarchy	Data Vault or Focal Point or Anchor or …

Original by Steve Hoberman, ELM addition by Remco Broekmans

Data Warehouse Requirements - Technology agnostic



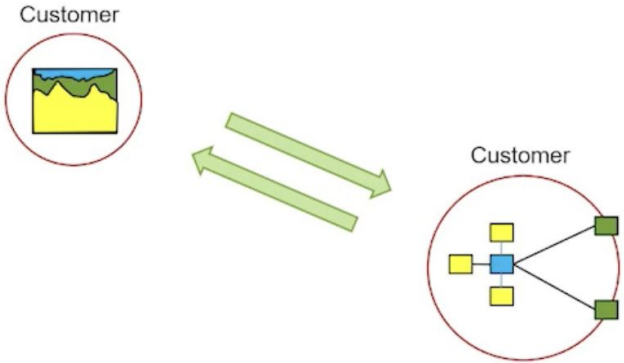
“The primary purpose of a data warehouse is to transform data from an application state into into an integrated corporate state”
Bill Inom, the father of data warehousing

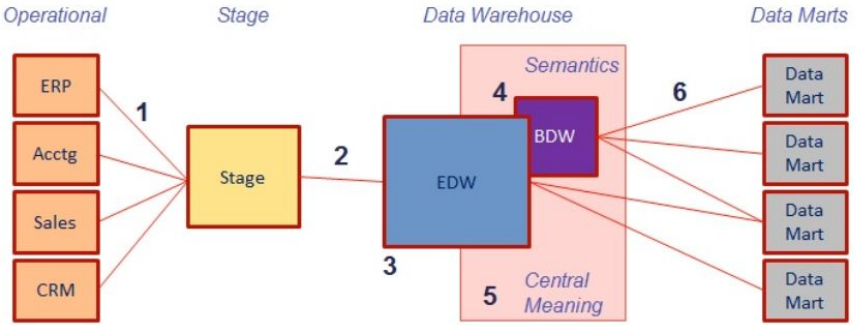
“A data warehouse is a copy of transaction data specifically structured for query and analysis.”
Ralph Kimball, Dimensional Modeling

Inspired by https://youtu.be/HnFHUdFv9AU

DataVault is invented to Automate the Data Warehouse

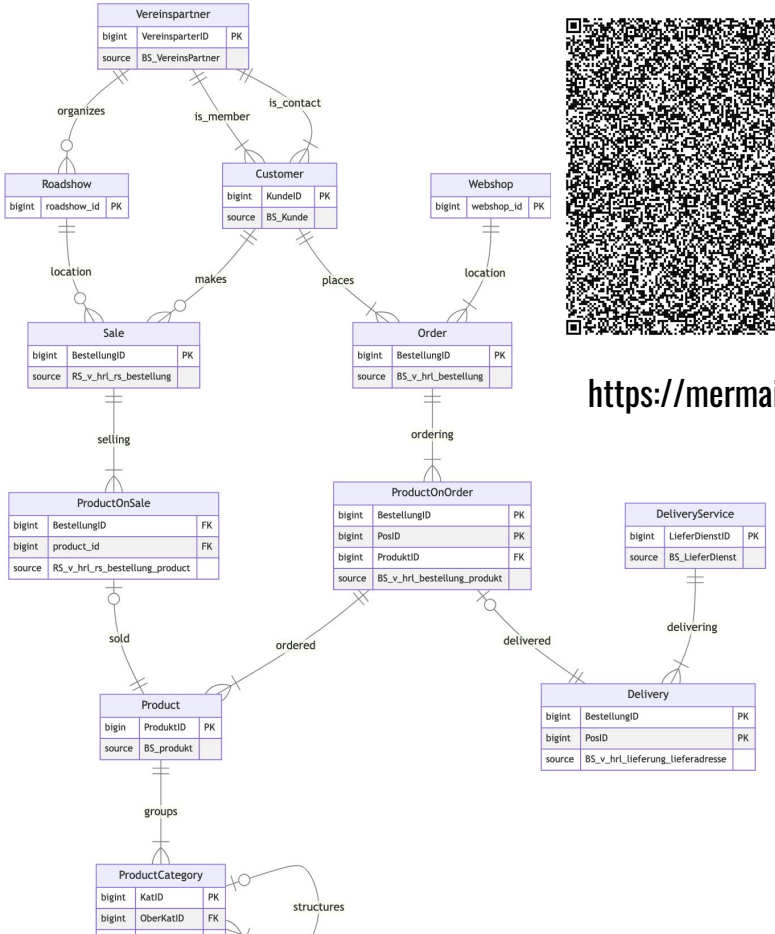
- Based on existing Data Model principles
  - 3NF & Historization
  - Separating Primary Key, Foreign Key & Context
- Easy, repeatable load patterns
- Divide & Conquer
- Non Destructive Data Model - Adaptation in Increments - Agility





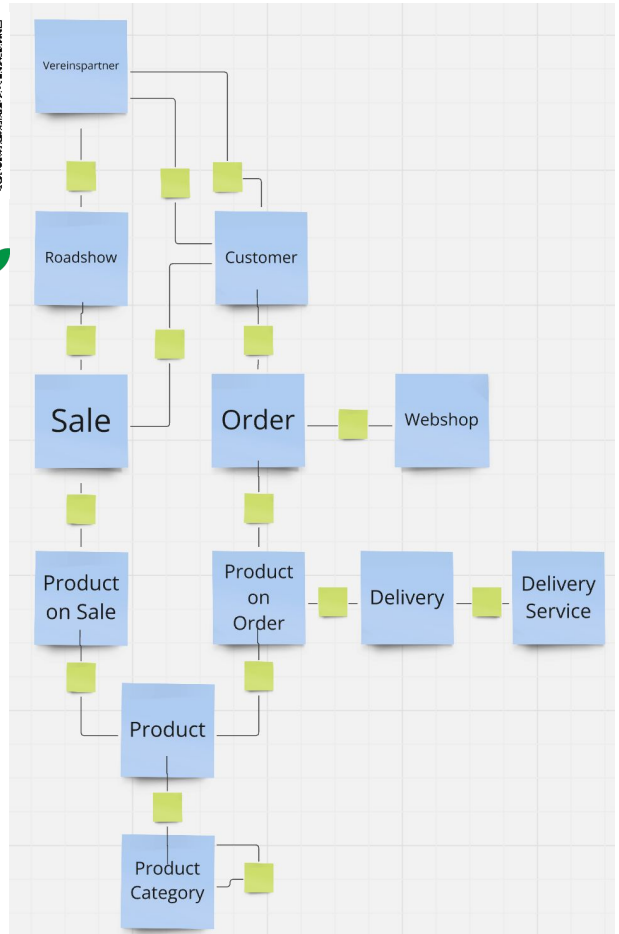
Automate the Data Vault Lifecycle

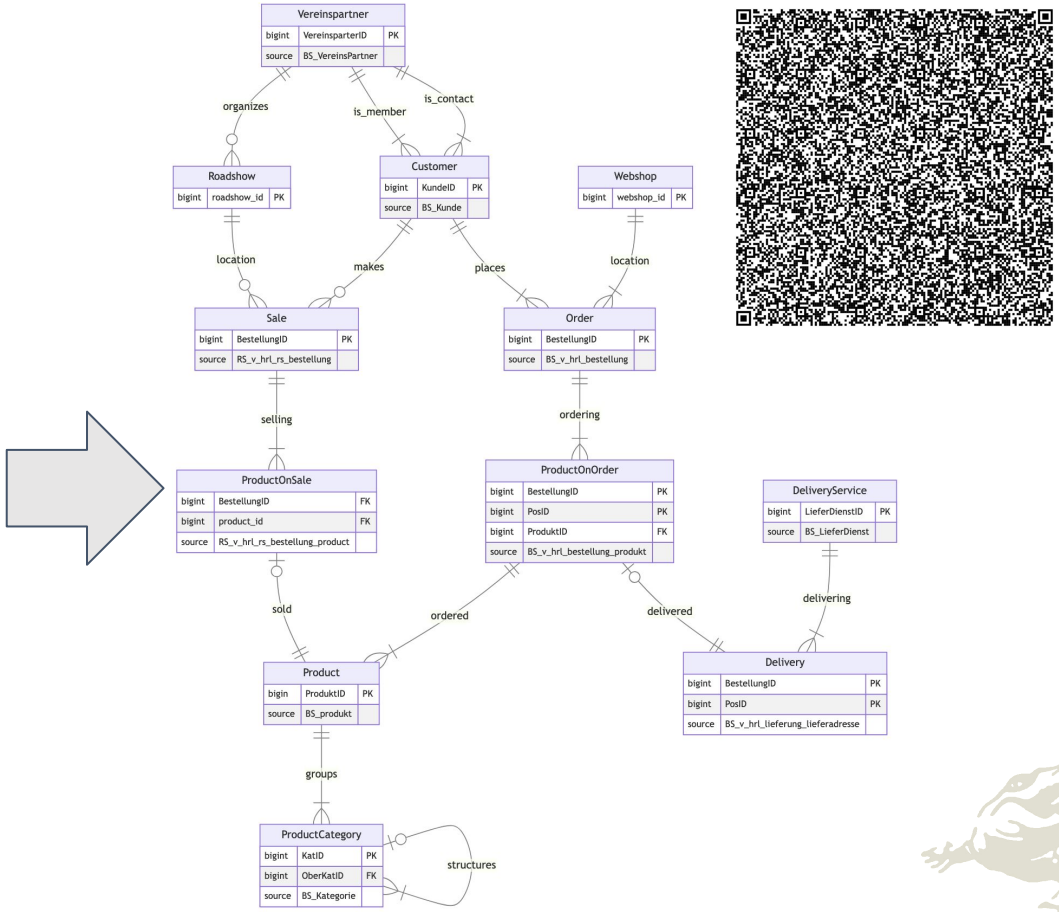
- "Imagine a world where business users define their data needs, and the Data Vault is automatically built."
- Data Vault implementation is incremental by nature and therefore perfectly suited for domain driven and decentralized approaches
- Data Vault Lifecycle starts with the business user requirements and should put his view of his business first - the IT views of source data second



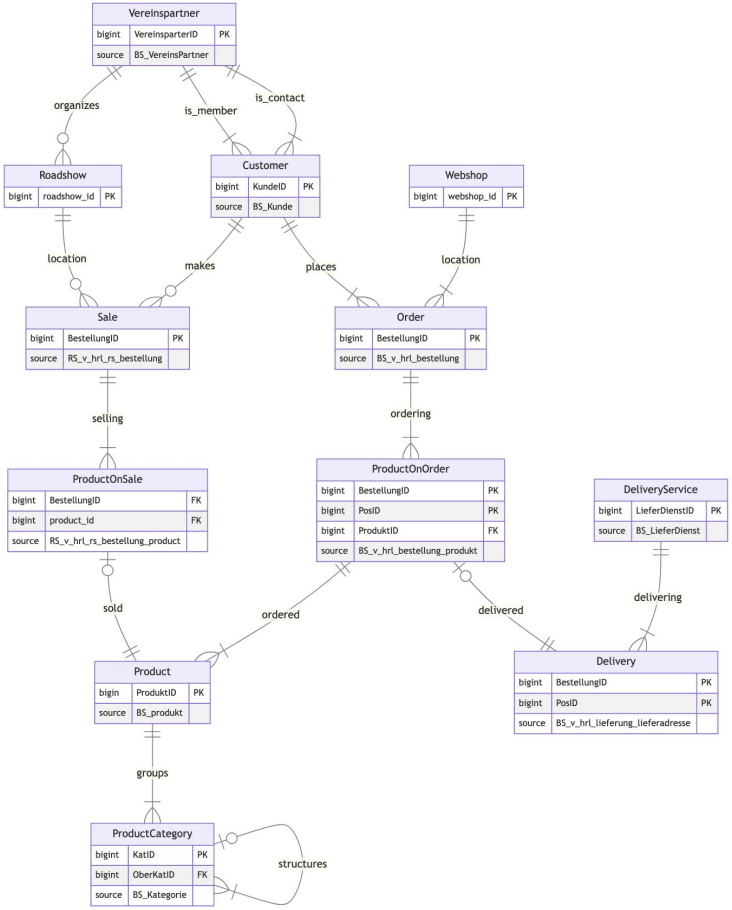
https://mermaid.live

Willibald - From ELM to Specification - Align - Refine





Willibald - Refine & Re-align

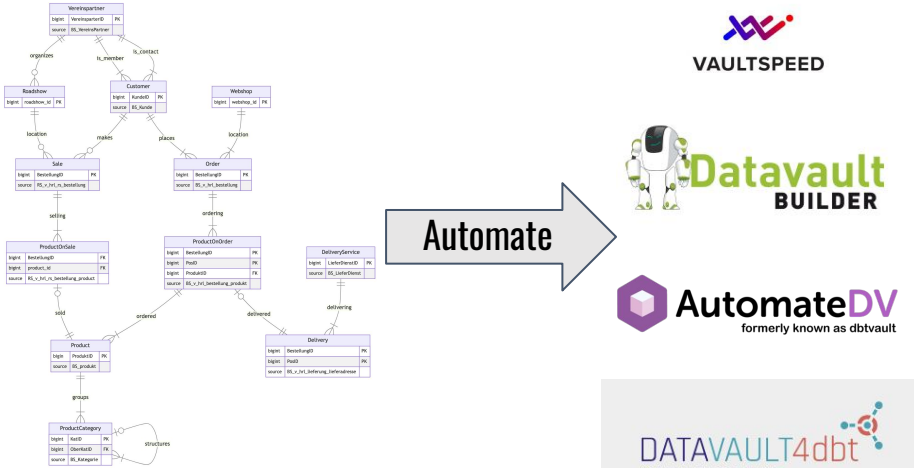


GPT

1. A `Vereinspartner` organizes multiple `Roadshows`.
2. A `Vereinspartner` can have multiple `Customers` as members.
3. A `Vereinspartner` can have multiple `Customers` as contacts.
4. A `Roadshow` can host multiple `Sales` as its location.
5. A `Sale` involves the selling of multiple `ProductOnSale` items.
6. A `Customer` can make multiple `Sales`.
7. A `Customer` can place multiple `Orders`.
8. A `Webshop` acts as the location for multiple `Orders`.
9. An `Order` consists of multiple `ProductOnOrder` items.
10. Each `ProductOnOrder` item corresponds to a specific `Product` that was ordered.
11. Each `ProductOnSale` item corresponds to a specific `Product` that was sold.
12. A `ProductOnOrder` can be associated with multiple `Deliveries`.
13. Each `DeliveryService` is responsible for delivering multiple `Deliveries`.
14. Each `Product` belongs to a single `ProductCategory`.
15. A `ProductCategory` can group multiple `Products`.
16. A `ProductCategory` can structure itself hierarchically by referencing other `ProductCategories`.

Streamline Development and Cut Time-to-Market

- Automated code generation for Data Vault components (Hubs, Links, Satellites).
- Rapid deployment and testing of data pipelines.
- Free up IT resources for complex tasks and innovation.



Ready to Transform Your Data Warehouse?

"Let's discuss how Data Vault Automation can revolutionize your data strategy."

Alligator Company - Works! Data

Torsten Glunde

Data Warehouse Automation und Modernization

Data Warehousing and Business Intelligence since 2002.

Core Competencies:
Modern Data Platform, Data Vault Automation, Analytics Engineering, Cloud DBMS

Methods:
ELT/ETL, SQL, CI/CD, Datavault, Information Modeling, ELM, BEAM