MOORE

SUPPLY CHAIN ANALYTICS WITH SCOR-DS

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WELCOME & INTRODUCTIONS

Yannick Van Bedaf
Manager Supply Chain Consulting

- 10 years of experience
- Operations & logistics management
- Operational Excellence - LEAN
- SCOR-DS

Timothy Van Brusselen
Partner Data Analytics at element61 (part of Moore)

- 15+ years of experience
- Microsoft Azure Data Platform enthousiast
- Data Architectures
- data ideas >> actionable insights

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01 INTRODUCTION

02 SCOR-DS FRAMEWORK

03 SCOR-DS IMPLEMENTATION APPROACH

04 POWER BI “OUT-OF-THE-BOX”

05 DEMO – WAREHOUSE PERFORMANCE

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THESE ARE CHALLENGING TIMES…

BREXIT
UNCERTAINTY

2019

EXTREME WILD FIRE
SEASON IN THE US

SUEZ CANAL
INCIDENT

2020

COVID
PANDEMIC

EU CARBON TAX
FRAMEWORK

2021

UKRAINE
& RUSSIA

EUROPE EXTREME
WEATHER

2022

SOARING
ENERGY COST

TENSIONS
WEST & CHINA

2023

2024

CYBER
THREATS

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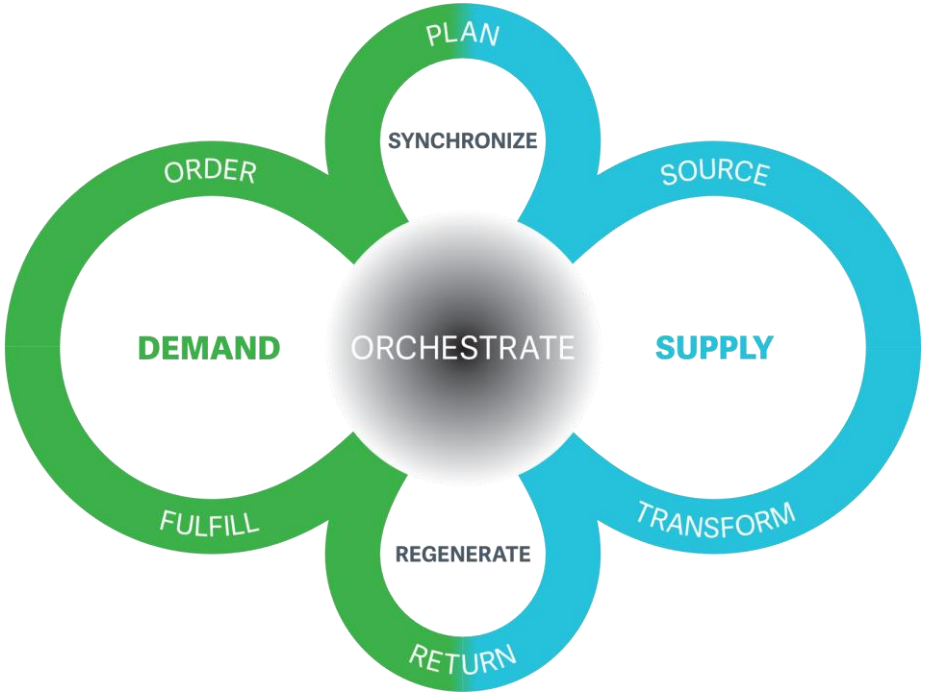
SCOR-DS - FRAMEWORK

SCOR Digital Standard

The **Supply Chain Operations Reference (SCOR)** model is developed to assist businesses in **understanding** and **evaluating performance of supply chains.**

- **Orchestrate, Plan, Order, Source, Transform, Fulfill and Return**
- The SCOR model offers a set of metrics and best practices, which you can use to:

1. **Analyze current processes & goals**
2. **Quantify operational performance**
3. **Compare** your performance **to industry benchmarks**



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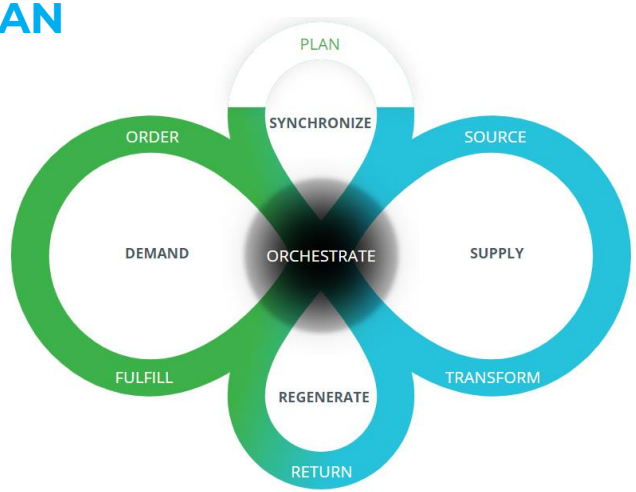
SCOR-DS - FRAMEWORK

PLAN



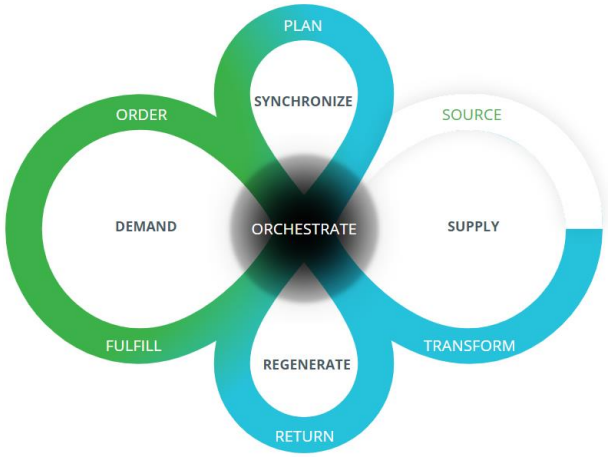
Select a Plan process to explore

P1 Plan Supply Chain	P2 Plan Order
P3 Plan Source	P4 Plan Transform
P5 Plan Fulfill	P6 Plan Return

Metrics

- RL.1.1 Perfect Customer Order Fulfillment
- RL.1.2 Perfect Supplier Order Fulfillment
- RL.1.3 Perfect Return Order Fulfillment
- RS.1.1 Customer Order Fulfillment Cycle Time
- RS.2.1 Order Cycle Time
- AG.1.1 Supply Chain Agility
- CO.1.1 Total Supply Chain Management Cost
- CO.1.2 Cost of Goods Sold (COGS)
- AM.1.1 Cash-to-Cash Cycle Time
- AM.1.2 Return on Fixed Assets
- AM.1.3 Return on Working Capital
- SC.1.1 Diversity and Inclusion
- SC.1.2 Wage Level
- SC.1.3 Training

SOURCE



Select a Source process to explore

S1 Strategic Source	S2 Direct Procure
S3 Indirect Procure	S4 Source Return

Metrics

- RS.2.2 Source Cycle Time
- AG.2.2 Source Agility
- AG.3.1 Overall Value at Risk (VAR)
- AG.3.6 Additional Source Volumes Obtained in 30 Days
- AG.3.10 Current Purchase Order Cycle Times
- AG.3.12 Current Source Volume
- AG.3.14 Demand Sourcing — Supplier Constraints
- AM.2.3 Days Payable Outstanding
- AM.3.1 Inventory Days of Supply — Raw Material
- EV.2.1 Renewable Materials Used
- EV.2.2 Nonrenewable Materials Used

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SCOR PERFORMANCE METRICS - LEVELS

Level	Description	Schematic	Detail
	Performance Attributes	Reliability (RL)	Reliability (RL) – ability to perform the process as expected
	Level 1 Diagnostic metrics	RL 1.1 Perfect Customer Order Fulfillment	RL 1.1 Perfect Customer Order Fulfillment – Percentage of orders meeting the delivery performance to the customer
	Level 2 Diagnostic metrics	RL 2.1 RL 2.2 RL 2.3 RL 2.4	RL2.1 - % of orders delivered in full RL2.2 - Delivery performance to the original commit date RL2.3 - Customer order documentation accuracy RL2.4 – Customer order perfect condition
	Level 3 Diagnostic metrics	RL 3.1 RL 3.2 RL 3.3	RL3.1 - Delivery item accuracy to the customer RL3.2 – Delivery quantity accuracy to the customer RL3.3 – Customer commit date achievement

SCOR-DS - PERFORMANCE ATTRIBUTES

	Attribute	Definition	Metric
Resilience	**Reliability**	The ability to perform tasks as required. Reliability focuses on the predictability of the outcome of a process.	**RL 1.1** Perfect Customer Order Fulfillment
			RL 1.2 Perfect Supplier Order Fulfillment
			RL 1.3 Perfect Return Order Fulfillment
	Responsiveness	The speed at which tasks are performed. Responsiveness addresses the repeated speed of doing business.	**RS 1.1** Customer Order Fulfillment Cycle Time
	Agility	The ability to respond to external influences.	**AG 1.1** Supply Chain Agility
Economic	**Cost**	The cost associated with managing and operating the supply chain.	**CO 1.1** Total Supply Chain Management Cost
			CO 1.2 Cost of Goods Sold (COGS)
	Profit	The financial benefit realized when revenue generated from business activity exceeds the expenses, costs, and taxes involved in sustaining the activity.	**PR 1.1** Earning Before Interest and Taxes (EBIT)
			PR 1.2 Effective Tax Rate
	Asset Management	The ability to efficiently utilize supply chain assets.	**AM 1.1** Cash-to-Cash Cycle Time
			AM 1.2 Return no Fixed Assets
			AM 1.3 Return on Working Capital
Sustainable	**Environmental**	The ability to operate the supply chain with minimal environmental impact.	**EV 1.1** Materials Used
			EV 1.2 Energy Consumed
			EV 1.3 Water Consumed
			EV 1.4 GHG Emissions
			EV 1.5 Waste Generated
	Social	The ability to operate the supply chain aligned with the organization's social values.	**SC 1.1** Diversity and Inclusion
			SC 1.2 Wage Level
			SC 1.3 Training

LEVERAGING SCOR FOR SUPPLY CHAIN OPTIMIZATION

Transforming Business Strategy into Actionable KPIs: Harnessing SCOR Model for Supply Chain Optimization

1. MISSION & VISION

2. BUSINESS GOALS

3. SUPPLY CHAIN STRATEGY

4. SCOR-DS PERFORMANCE ATTRIBUTES

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TAILORING PERFORMANCE METRICS: DIFFERENT KEY KPI'S FOR VARIED SUPPLY CHAIN STRATEGIES

	Operational Excellence	Customer Intimacy	Product Leadership
TARGET	Achieve high levels of efficiency, productivity, quality, and cost-effectiveness throughout the organization's operations	Focus on building strong relationships with customers by delivering personalized solutions and enhance customer satisfaction	Innovation & differentiation in terms of product offerings to exceed customer needs, set industry standards
KPI's	• RS 3.22 - Pick product cycle time • CO 2.3 – Inventory carrying cost • Overall Equipment Effectiveness • Inventory turnover rate	• RL 1.1 - Perfect customer order fulfilment • RS 1.1 Customer order fulfilment cycle time • RL 2.9 – on time in full • RL 3.30 – Faultless invoices	• EV 3.15 - Percentage of circularity • EV 2.3 - Renewable energy consumed • RL 2.12 - perfect condition • Time to market • Percentage revenu allocated to R&D

Src. Model Treacy & Wiersma

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SCOR-DS IMPLEMENTATION APPROACH

1 DEFINE SUPPLY CHAIN METRICS

- Understand business strategy
- Determine supply chain focal areas
- Define the right metrics using SCOR-DS

2 DEPLOY "OUT-OF-THE-BOX"

- Plug the Power BI "Out-of-the-Box" solution on to your ERP
- Build and extend the Power BI Dashboards

- Enhance and enrich data using the Microsoft Azure Modern Data Platform

3 MONITOR PERFORMANCE

- Analysis reports by different stakeholders and team
  - Gap analysis
  - Root cause analysis
  - Benchmark with industry peers
- Implement governance structure

4 BOOST YOUR BUSINESS

- Adjust Supply Chain strategy if needed
- Improve alignment between strategy and execution
  - Sustainability
  - Economical
  - Resilience

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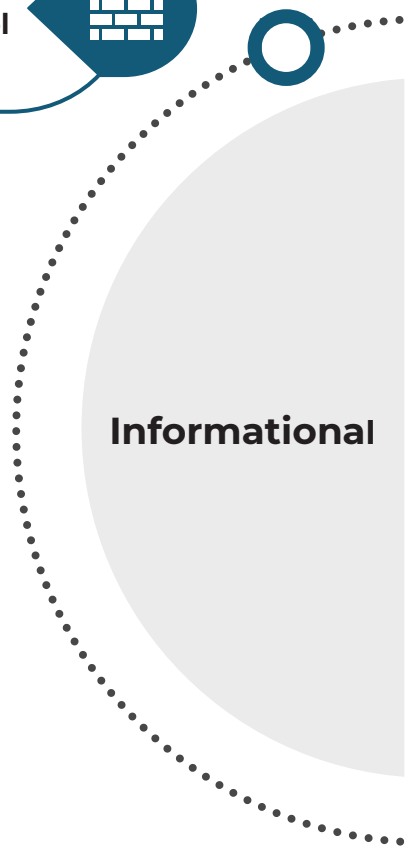
WHAT IS “IN THE BOX”?

All data from all functional modules
(finance, sales, inventory,...) is available in:
- one single data lakehouse & Power BI model
- Microsoft Power BI AND Microsoft Excel



Informational

POWER BI OUT-OF-THE-BOX IS IMPLEMENTED PER FUNCTIONAL DOMAIN

Introducing the Out-of-the-Box modules

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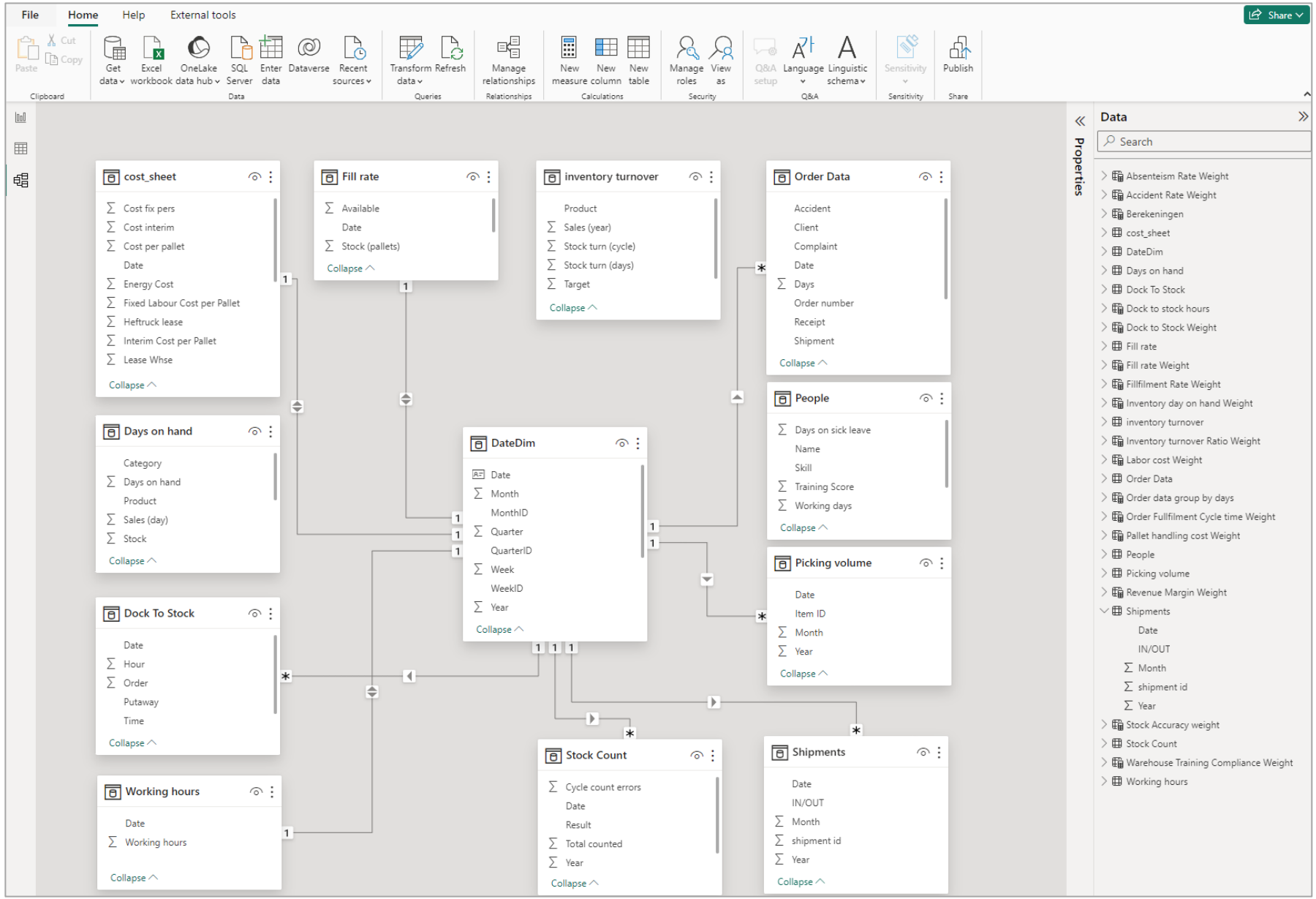
HOW ARE BUSINESS PROCESSES TRANSLATED TO POWER BI SEMANTIC MODELS?



SCOR KPIs are **Power BI measures** built on top of functional domains like:

- **Inventory or stock movements**
- **Purchase or procurement**
- **Production orders or manufacturing**
- **Sales**
- **Finance**
- **Human Capital Management**
- **(ESG)**

All **pre-defined SCOR calculations** can be added to the OOTB model

The model covers **all the levels** of the SCOR performance metrics to the **lowest level**

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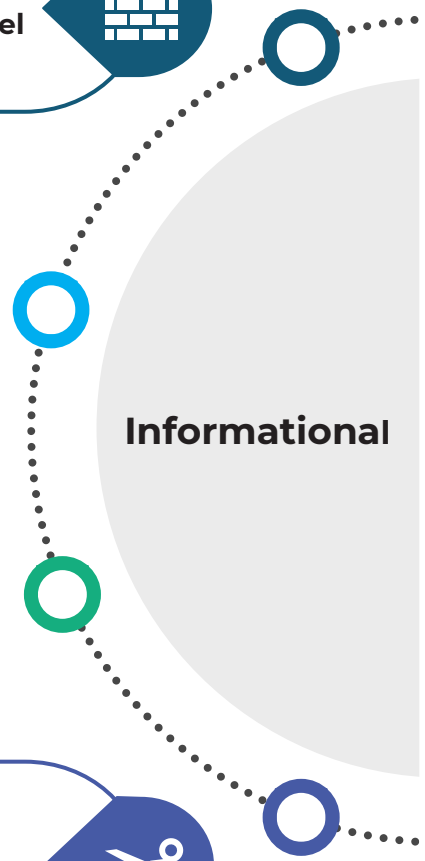
All data from **different systems into one single data lakehouse**

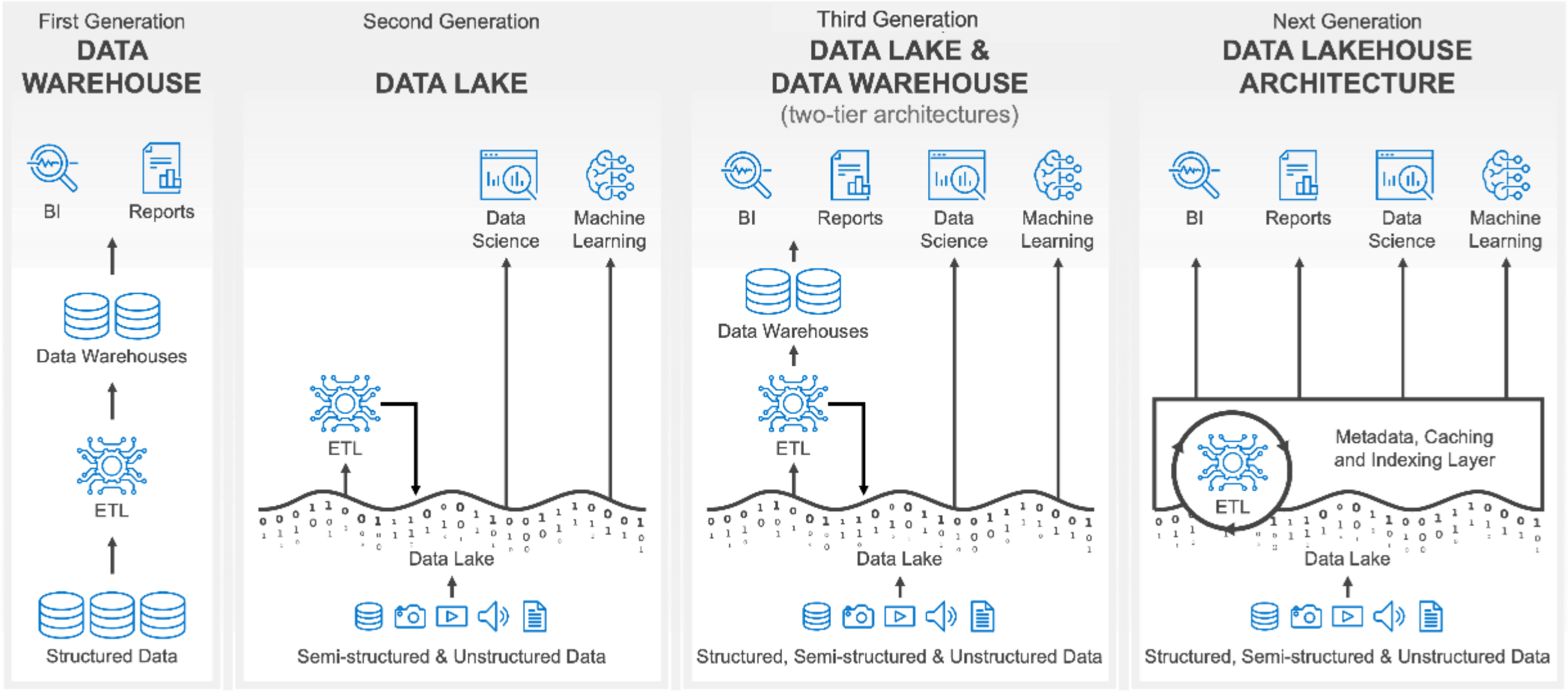
Supports **all current and historic data views**

Pre-defined **additional snapshots** in the data warehouse for Accounts Payable, Accounts Receivable, Production, Inventory, ...



Informational

ONE ARCHITECTURE TO RULE THEM ALL



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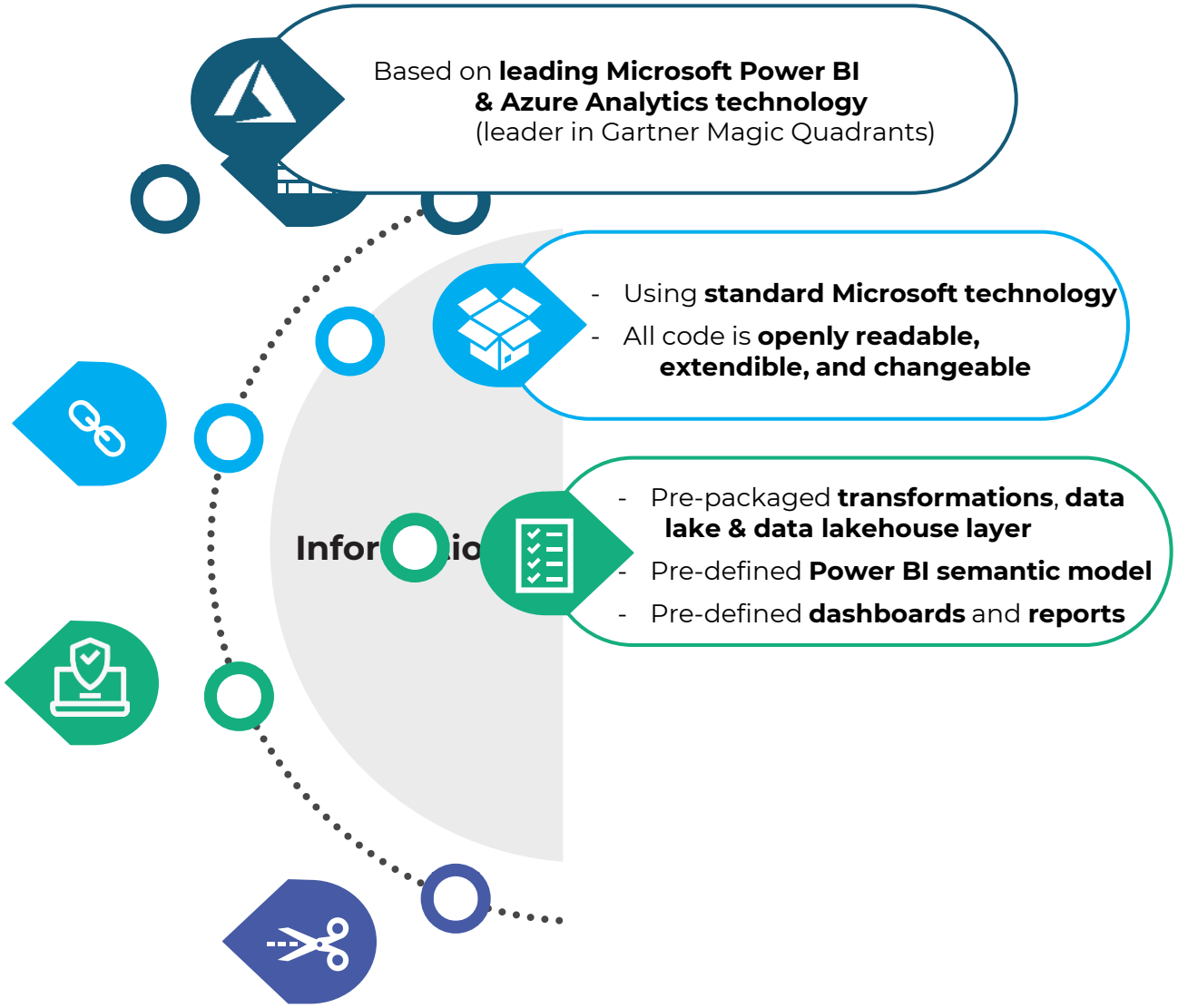
WHAT IS “IN THE BOX”?

Based on **leading Microsoft Power BI & Azure Analytics technology** (leader in Gartner Magic Quadrants)

- Using **standard Microsoft technology**
- All code is **openly readable, extendible, and changeable**

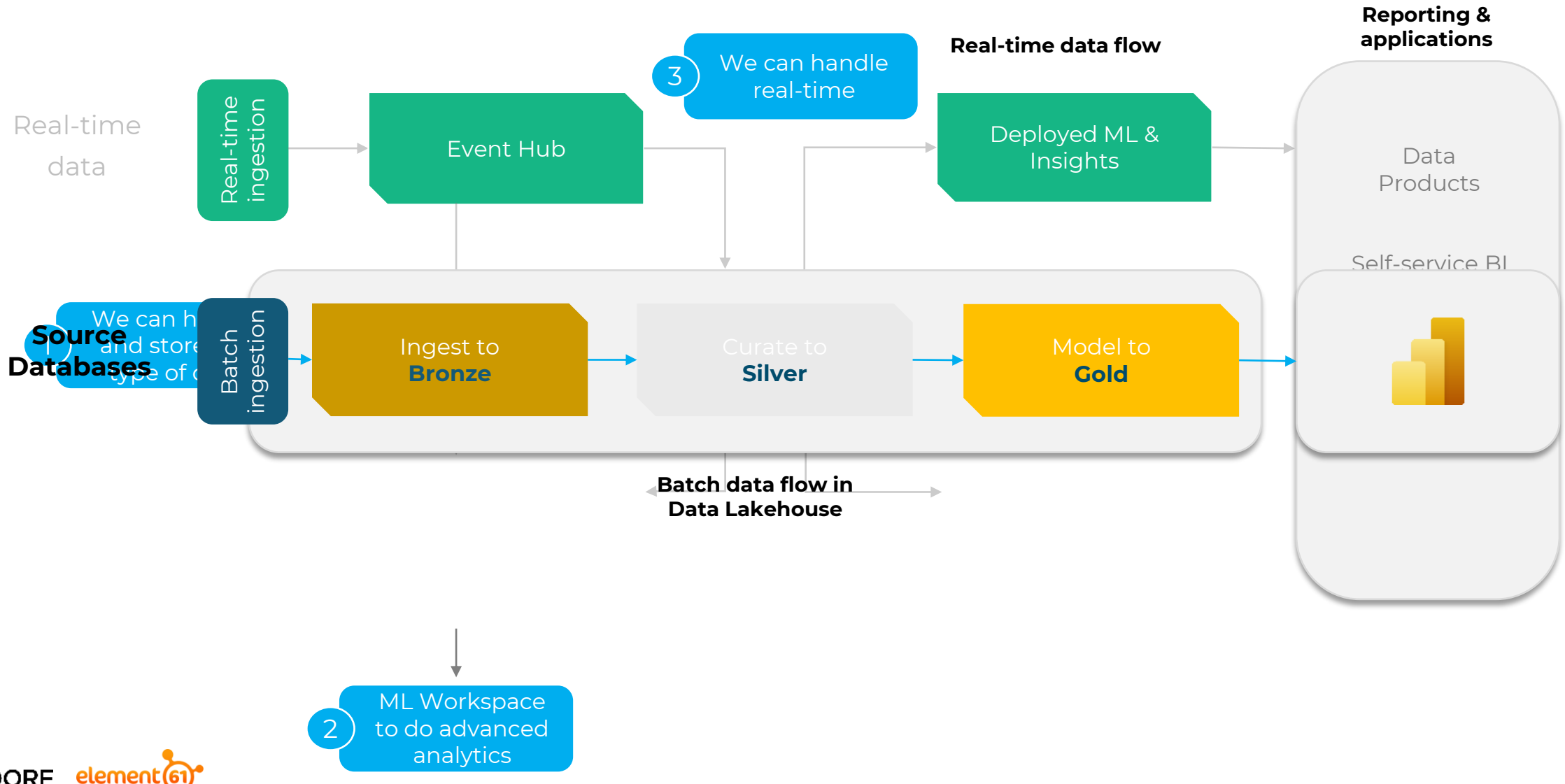


- Pre-packaged **transformations**, **data lake & data lakehouse layer**
- Pre-defined **Power BI semantic model**
- Pre-defined **dashboards** and **reports**

THE OOTB SOLUTION IS BUILT ON TOP OF THE MODERN DATA PLATFORM...

Batch data flow in Data Lakehouse

...WHICH DRIVES INNOVATION



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Supports **all current and his** **data views**

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Architectural

Based on **leading Microsoft Power BI & Azure Analytics technology** (leader in Gartner Magic Quadrants)

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- Pre-packaged **transformations**, **data lake & data lakehouse layer**
- Pre-defined **Power BI semantic model**
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Extend the solution with data **from ANY other operational system**

Security roles & licenses of data access can be different from ERP

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THANK YOU!

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VISIT BOOTH 45 AND MAKE A CHANCE TO WIN AN APICS COURSE