



Intelligent Decisions for  
Business



# VAISALA journey towards Data & Analytics in SAP Cloud

Raivis Blaumanis | Data Analytics Architect

# ABOUT ME

10+

years

of experience in  
DWH/BI space

- Serve as the Project supervisor for the Vaisala “Crown” project
- Daily hands-on practice with analytics solutions of all major vendors
- Love winter - freeride snowboarding, ice hockey and cold plunges



# About us

Scandic Fusion is a consulting and implementation company that specializes in delivering a full range of data analytics services. Since the initiation, in 2007, we have built a strong reputation and established ourselves as one of the leading data analytics companies in the region.

➤ Our mission is to **unleash the value in data**.

## KEY NUMBERS

15+

years of experience

30+

active  
clients

75

DWH | BI | AI  
professionals

7

countries of  
operation

## TECHNOLOGIES

- SAP ♥
- Microsoft
- Oracle
- Qlik
- MicroStrategy
- Tableau
- Google
- Snowflake
- Amazon
- OneStream

## SERVICES

- Pre-study of BI needs
- DWH implementation
- Productized data models
- Interactive dashboards
- Planning & Consolidation
- AI & ML automation
- Trainings & guidance

100% DWH | BI | AI specialized

# Experience

## BANKING & FINANCE



## INSURANCE



## ENERGY



## TELCO



## AVIO



## MANUFACTURING



## WHOLESALE



## NATURAL RESOURCES



## RETAIL



## LOGISTICS, SHIPPING



## VARIOUS



CUSTOMER  
REFERENCES ->



## **Vaisala: Take action, find answers and remove doubts with our measurement solutions**



### **Weather and Environment**

Serves selected environmental and weather-dependent markets where accurate, real-time, uninterrupted, and reliable information is essential to run efficient operations and make informed decisions.



### **Industrial Measurements**

Provides accurate and reliable measurement instruments and systems to optimize processes, improve efficiency and productivity, minimize energy consumption, and ensure product quality.

# Vaisala in numbers

Net sales  
in 2022

**514.2 MEUR**

**12%**

of net sales  
invested into R&D

**2,200+**

employees  
worldwide

**25+** offices in  
**17** countries

**300+**

product families

Business in over

**150**

countries

Employee  
engagement index

**4.2/5**

**100%**  
renewable  
electricity

# What is the “Crown” project about?

We are implementing a new central Data & Analytics (BI) solution

In practice this means:



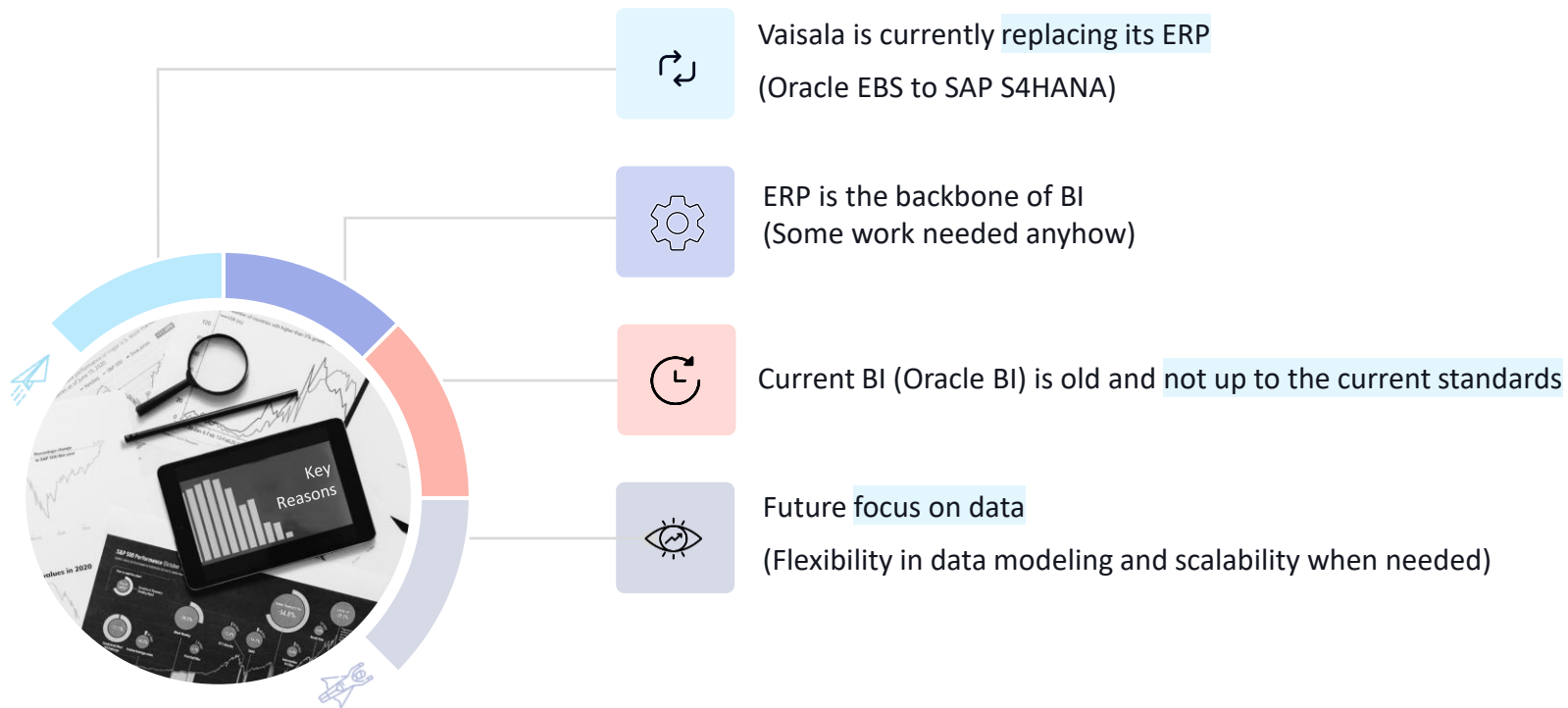
Designing a new Data Warehouse on top of SAP S4/HANA as the key source in  
**SAP** Datasphere



Creating the most critical BI Dashboards (x50) in  
**SAP** Analytics Cloud



# Key reasons for change





# Why SAC+SAP Datashpere\*



Final candidate:

SAP SAC BI + DATASHPERE

\* Was not a random choice!



Second alternative:

MS POWER BI + AZURE

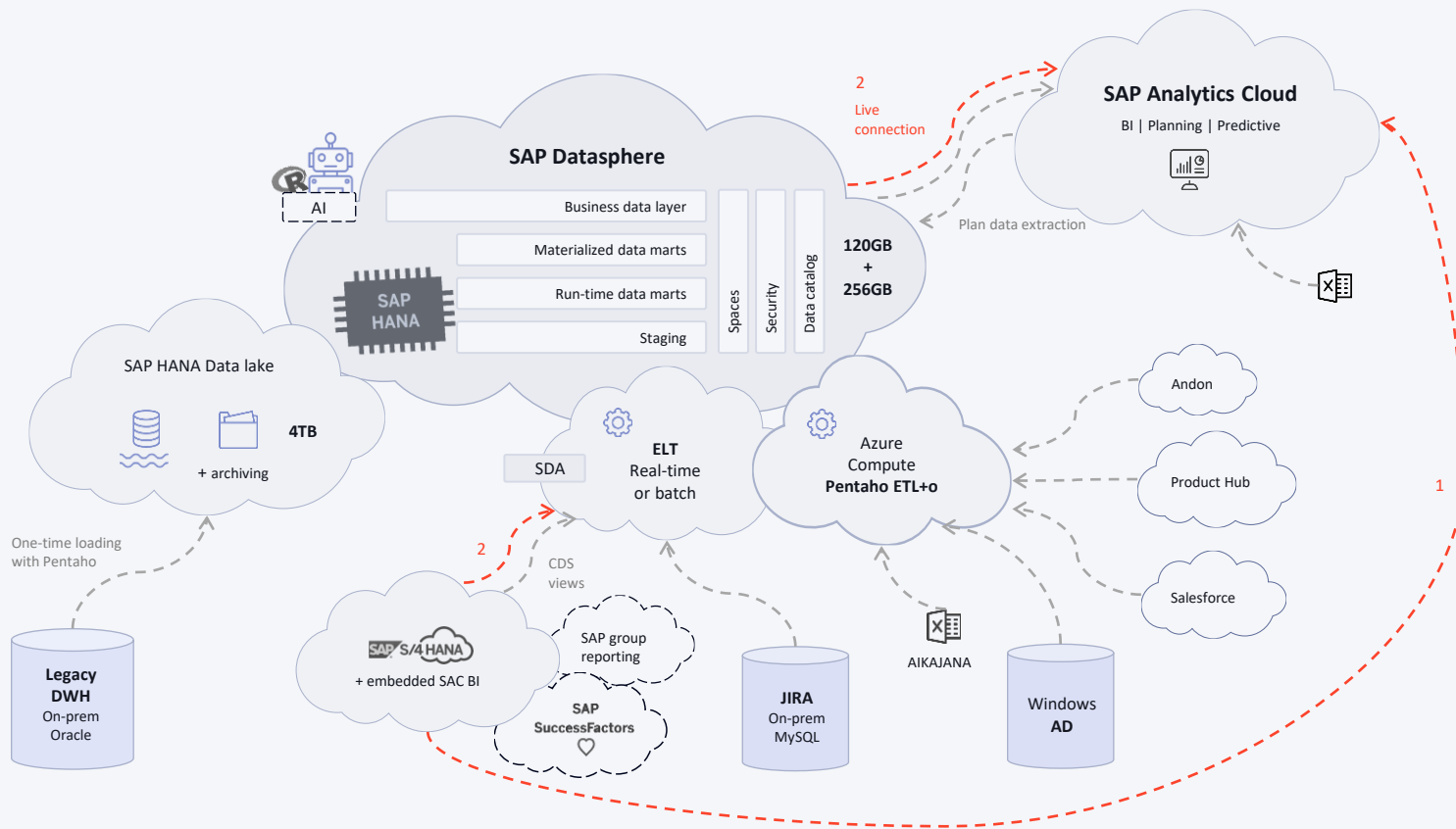
## Why SAP Analytics Cloud?

- Synergy with SAP ERP implementation (S/4HANA embedded for operational analytics)
- SAC already used in OPS Demand Planning, F&C MNG reporting and P&L planning with good results (The planning functionality of SAC was a plus)

## Why SAP Datasphere?

- Most modern and state of the art cloud-based SAP data warehouse solution, strategically important for SAP

# Architecture

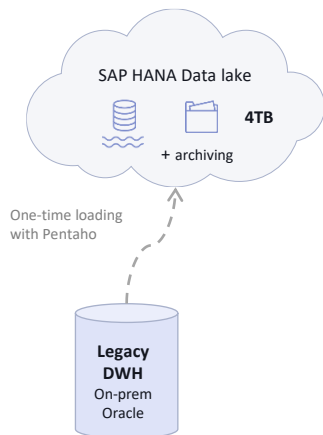


1. Real-time capability for simple operational reports, e.g. GL transactions, open debtor or creditor balance.
2. Real-time capability for operational reports on multiple sources or with simple calculations, e.g., combining Sales and Service orders with data from CRM.

# Architecture - integrations

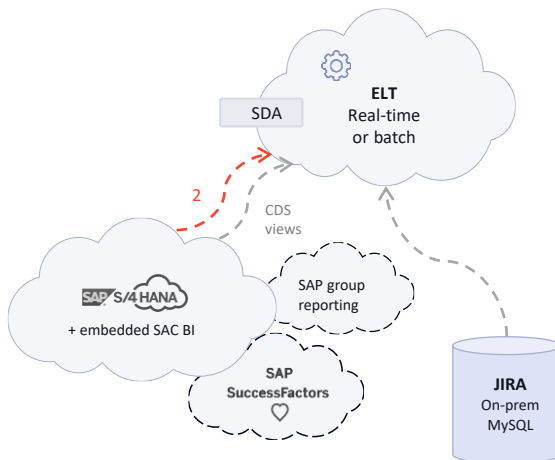
## SAP HANA DATA LAKE:

- No history in S4/HANA, but needed for trend analysis
- Used to store all legacy data from existing DWH
- Legacy data available upon need via a direct connection



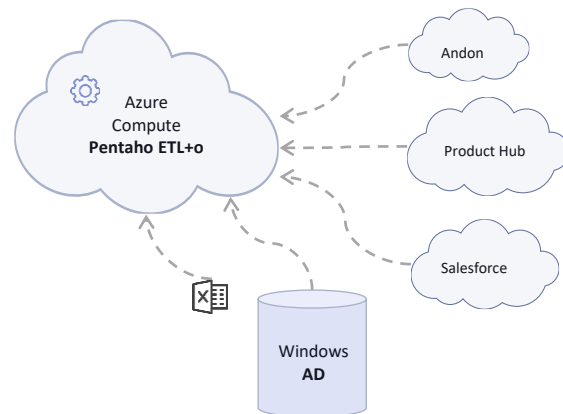
## NATIVE CONNECTIONS:

- S4/HANA data replication/real-time replication via custom CDS views, managed via Task Chains
- On-prem DB replication via generic JDBC connection
- Data Flows used for some specific scenarios



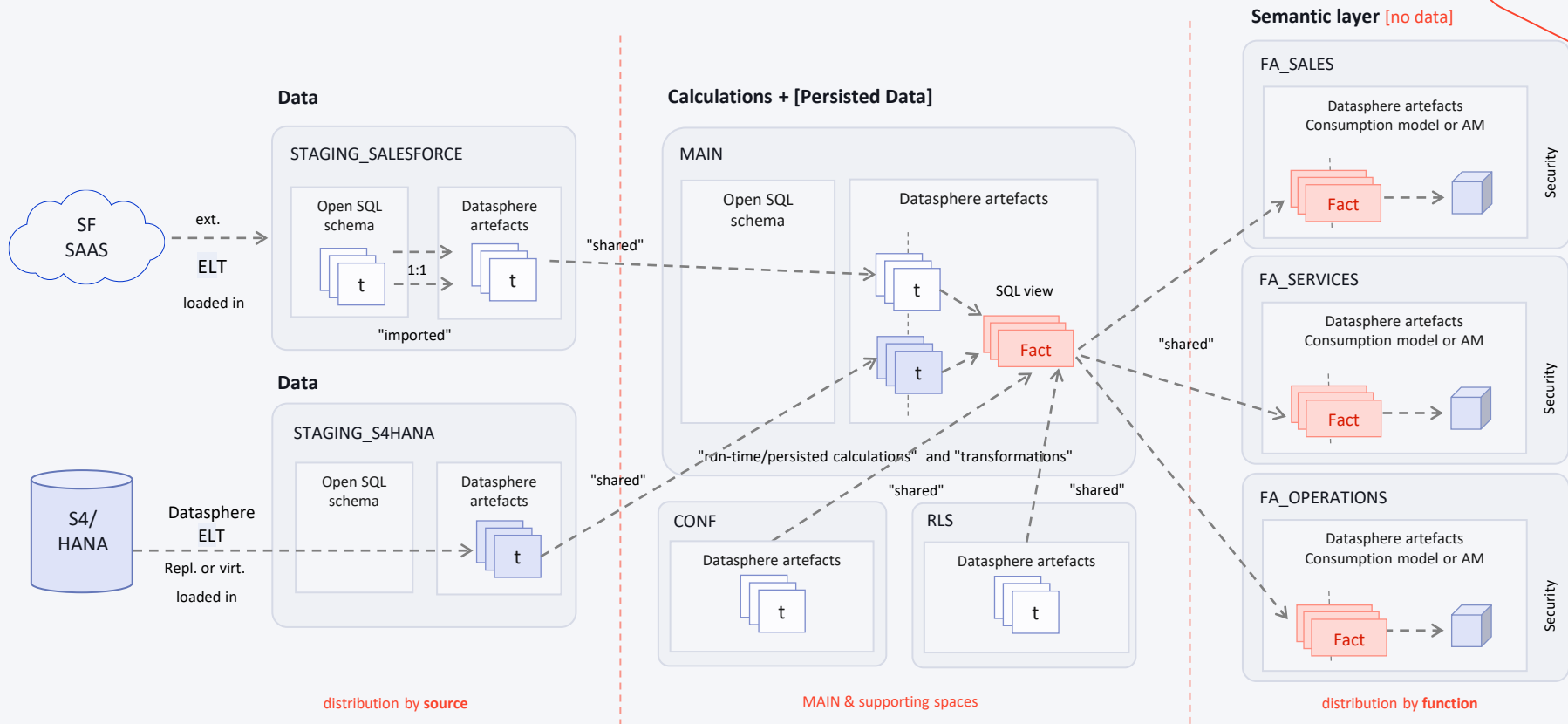
## OTHER CONNECTIONS (PENTAHO):

- Python for SAAS/file source full/incremental integration to SAP DSP Open SQL schema
- Historical data staging
- Automatic data tests and SAP DSP metadata extraction for documentation
- Source integration **Orchestration\***



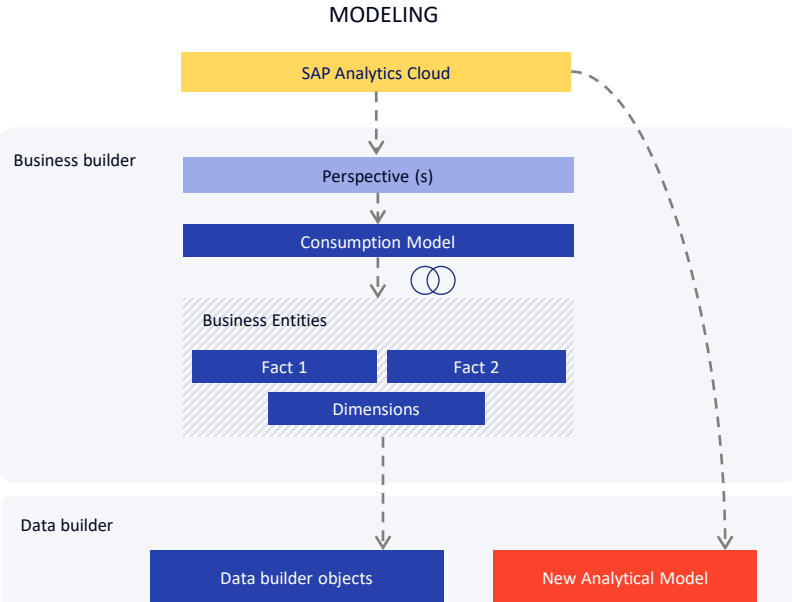
\*API for task execution (in roadmap, Q2 2023) -> works within task chains

# Architecture – Space distribution



+ Spaces for Real-time reports and Vaisala sandbox

# Architecture – Data and Business modeling



- All logic in SQL views, AM for newest requirements
- Dimensions and Transactional & Analytical facts
- Data Builder covers physical modeling and naming

## LINEAGE IN DATASPHERE



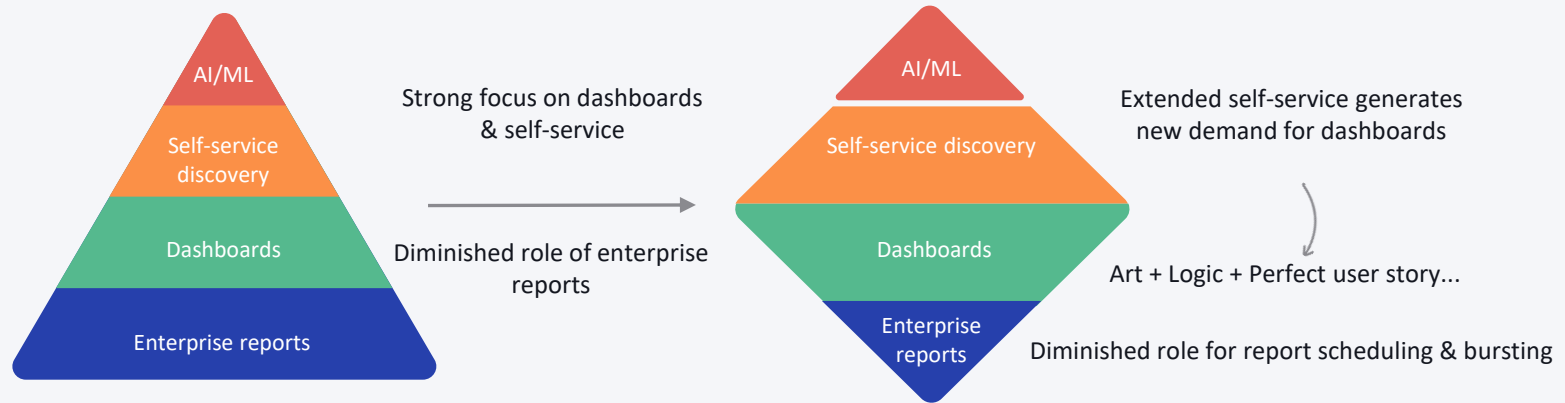
- Linage for Super users in SAP Datasphere

## FACT/DIM MATRIX IN SAC

Fact name	MNG Fact - Net sales	PO Fact - Supplier OTD	PS Fact - Projects by period
<b>Dimension name</b>			
CS Dim - Service contract	1	—	—
CS Dim - Service contract item	1	—	—
CS Dim - Service document	1	—	—
CS Dim - Service document item	1	—	—
FI Dim - Account	1	—	—
HR Dim - Person (Sales)	1	—	—
MM Dim - Material	—	1	—
MM Dim - Material plant	—	1	—
MM Dim - Plant	—	1	1
MM Dim - Storage location	—	1	—
PO Dim - Purchase order	—	1	—
PO Dim - Purchase order item	—	1	—
PO Dim - Receiving item	—	1	—
PS Dim - Project	1	—	1
PS Dim - WBS element	1	—	1
SD Dim - Sales order	1	—	—
SD Dim - Sales order item	1	—	—
SF Dim - Customer company	1	—	—
WH Dim - Business type	1	—	1
WH Dim - Company	1	1	1

- Auto generated matrix from Datasphere metadata for End users in SAC

# SAC BI usage – evolution of BI needs at Vaisala



# Dashboard design best practices = Art+Usability

## SAMPLE DASHBOARD

Get inspired -> Start creating



BI tool functionality & best practices for:

- Welcome page
- Interactive page
- Simple page
- Help page

## CONSISTENCY STYLE GUIDE IN SAC

Consistent design & user experience



- Design recommendations
- Pro-tips
- Examples

Reporting style guide <-> Company brand book

## TEMPLATES

“Be lazy and smart” -> Reuse objects



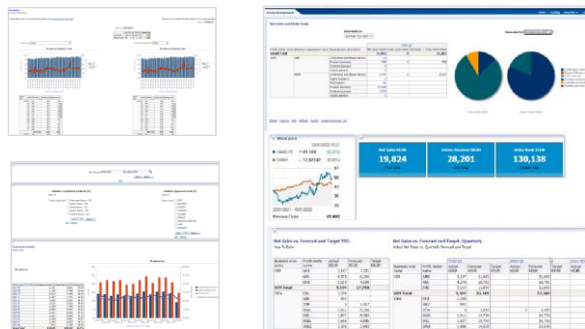
- Templates with placeholders
- Saved color palette/fonts/ styling rules
- Objects (*Header, Icon library, background, other elements*)

= Consistent end-user experience across all SAC BI content!



# Vaisala BI dashboard evolution

Data are  
scrambled



# Planning use cases



Sales planning at 30+ region and 300+ product family level by month (by day). Bottom-up + Top-down approach. In use since 2020.

Planning cycles:

12\*Rolling 12 months

Users:

30+ Sales/Product managers (planners) +  
2 Top-down planners +  
MNG

Benefits of the project:

- Planning + BI = 2 in 1
- Efficiency, security and plan quality
- Existing process review on XLSX with 100+ macros
- Planning transparency and collaboration
- Detailed data, history and data point highlights
- Daily plan calculation and export to ERP
- Predictive forecasting



MNG reporting package on P&L, BS, CF, Order book and received, operational KPIs and others + commenting. In use since 2021.

Planning cycles:

Monthly reporting

Users:

10+ Finance controllers +  
2 Power users +  
MNG and CFO

Benefits of the project:

- Visually appealing BI stories
- Efficiency, security and data quality
- Fast and centralized, review of existing processes
- Calculation transparency, documentation and collaboration
- Easy to access historical reports and comments (no separate files)
- Vaisala competence in SAC and ownership



P&L planning at 20+ legal entity, 20+ Business organization, 100+ Cost center, GL account level by month. In use since 2022.

Planning cycles:

12\*Rolling 12 months + 1 Annual Target + 1 Long term plan (3 years)


Users:

10+ Finance controllers +  
2 Power users +  
MNG and CFO


Benefits of the project:


- Planning + BI = 2 in 1
- More time for in-depth planning rather than input data collection in XLSX
- Control and transparency over assumptions, adjustments and OPEX/COGS allocation calculations
- Additional layer of details for HR and CAPEX planning
- Data change traceability and collaboration


# Example from Sapphire project

 **Sapphire**


**PLANNING PROCESS OVERVIEW**

 Click on image to navigate to the story







**1. UPDATE CURRENCY RATES**  
[Instructions on how to update currency rates](#)



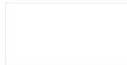
**2. ADD DRIVERS**  
Add Driver values for necessary Cost Center & Legal Entity combinations. Fill in the values for Seasonal adjustment factor %, Growth rate %, and Salary & Wage increase.  
[Instructions on how to add Driver values](#)




**3. ADD HEADCOUNT HIRES & LEAVES**  
Plan Headcounts and add Drivers for Factor cost centers wages.  
[Instructions on how to plan Headcounts](#)




**4. UPDATE CAPEX INFORMATION**  
Plan Future depreciation.




**5. CREATE A NEW VERSION**  
Create a new version or copy the previous version as a base for the new version. Click between the blue lines to enable the Version Management tool in the top toolbar.




**6. PLAN OPEX**  
Plan 69999/Total operating expenses.




**7. PLAN COGS FOR PRODUCTION COST CENTERS**  
Plan 59899/Total Cost of goods sold for Production Cost centers.




**8. PLAN GROSS PROFIT FOR CC 9900**  
Plan 35999/Net Sales and 59899/Total Cost of goods sold for CC 9900 /Vaisala revenue and CoGS




**9. PLAN FINANCIAL INCOME AND EXPENSES**  
Plan Financial income and expenses.

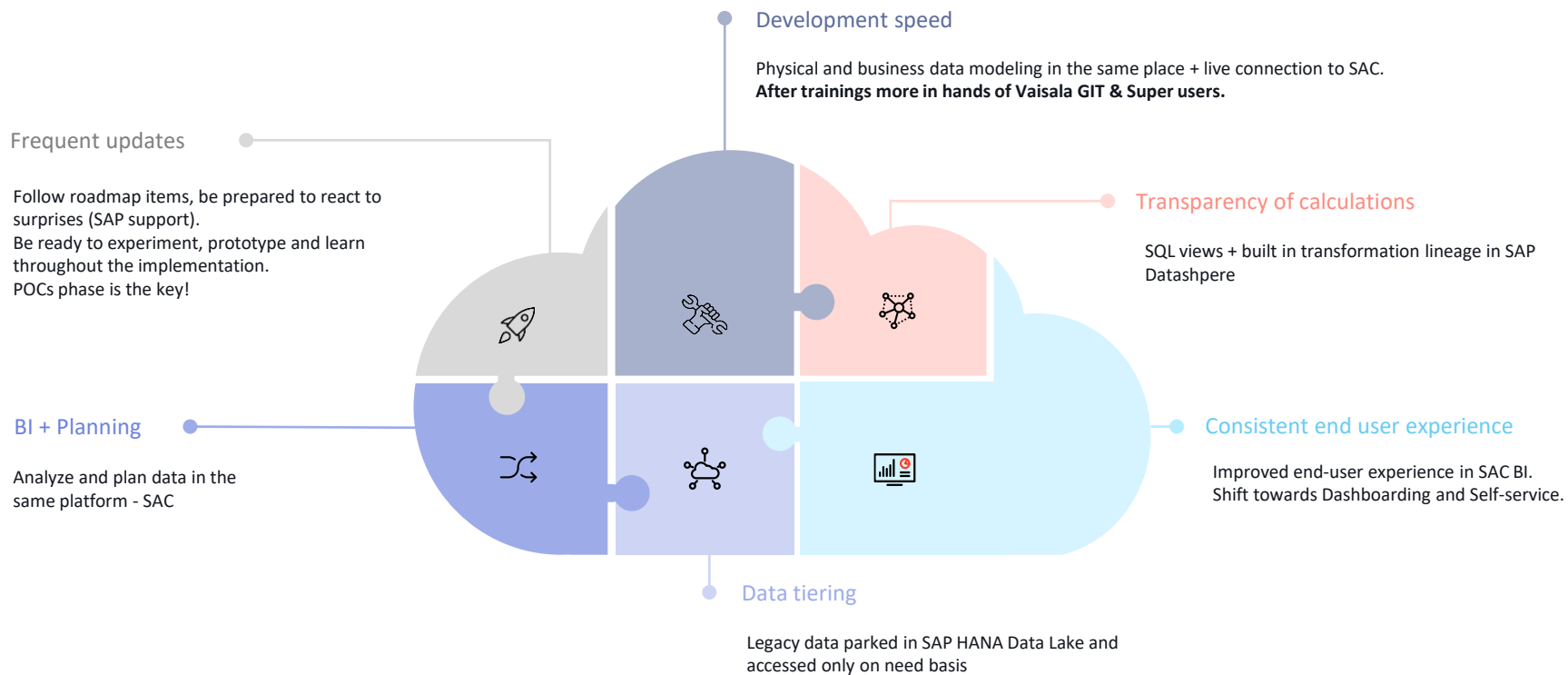


**10. REVIEW PLANNING RESULT**  
Use Sapphire Overview story and OPS Financial Overview to review Planning result.



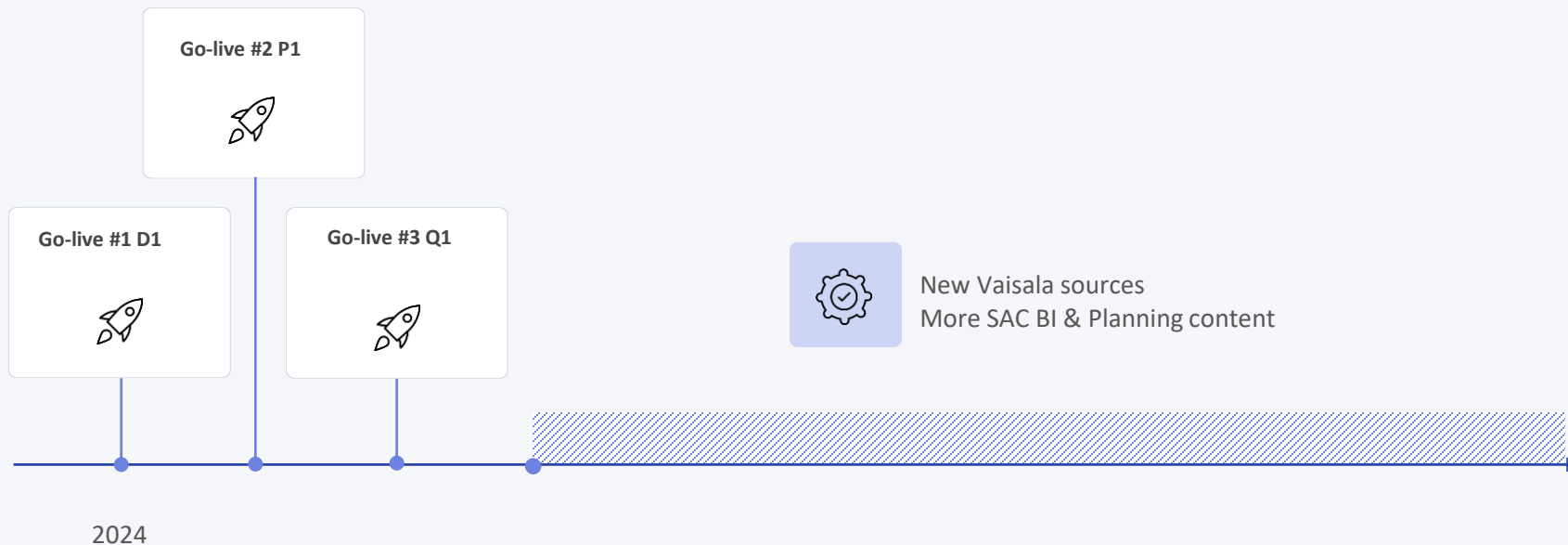
 [Audit of Data Changes](#)

# Benefits *thus far*



# Next steps - Finish the project 😊

+ Support and improvements





Thank you!  
Questions?

## **Raivis Blaumanis**

r.blaumanis@scandicfusion.com

[www.scandicfusion.com](http://www.scandicfusion.com)

LinkedIn:

