



Build a Data Fabric with SAP Datasphere

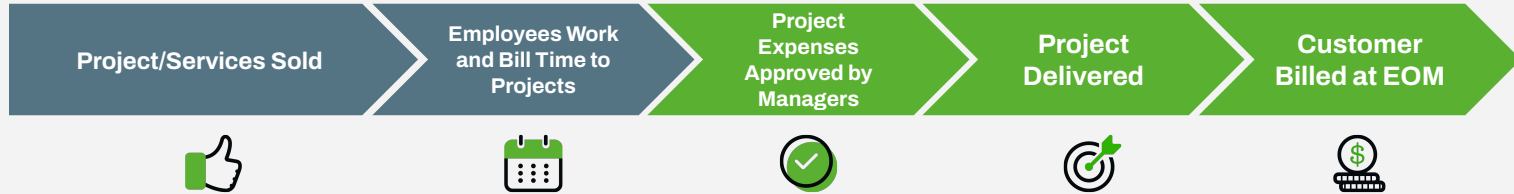
Langan Engineering



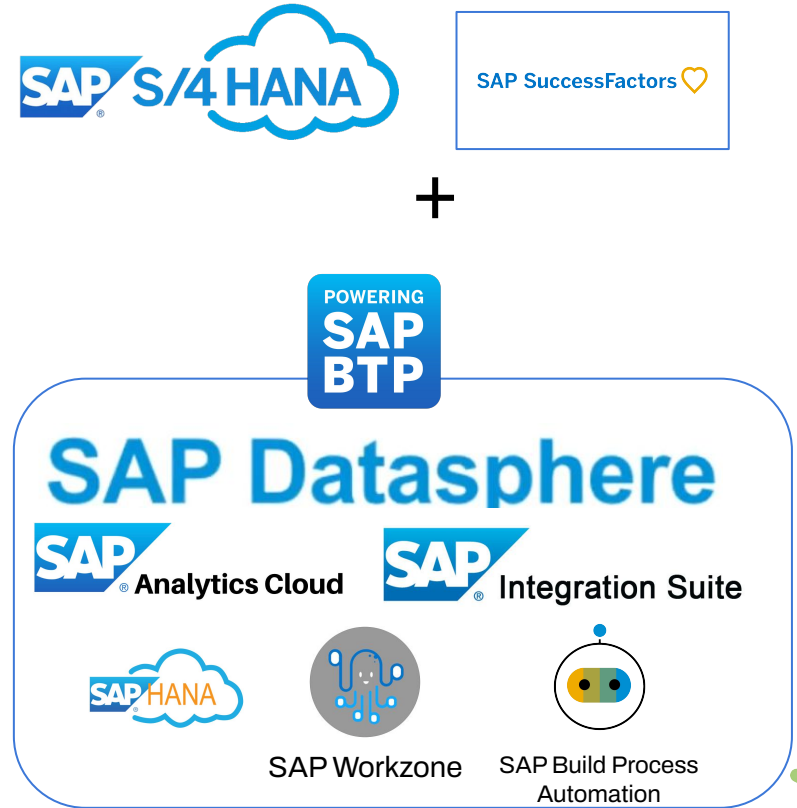
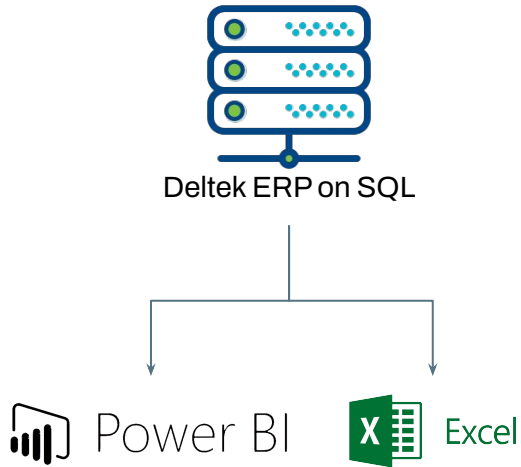
Credit: BXP (formerly Boston Properties)



Workflow/Business



Architecture



Seeking a **Data Strategy** vs Data Management

SAP S/4 HANA
SAP SuccessFactors

POWERING **SAP BTP**

Microsoft Dynamics™

EquiS™

OneStream™

Deltek Vision
Historical Data

salesforce HubSpot

Data Sources

“You can’t solve a problem with the management of technology with more technology.”



1. Poor Insights
2. Inefficient
3. Zero Data Governance

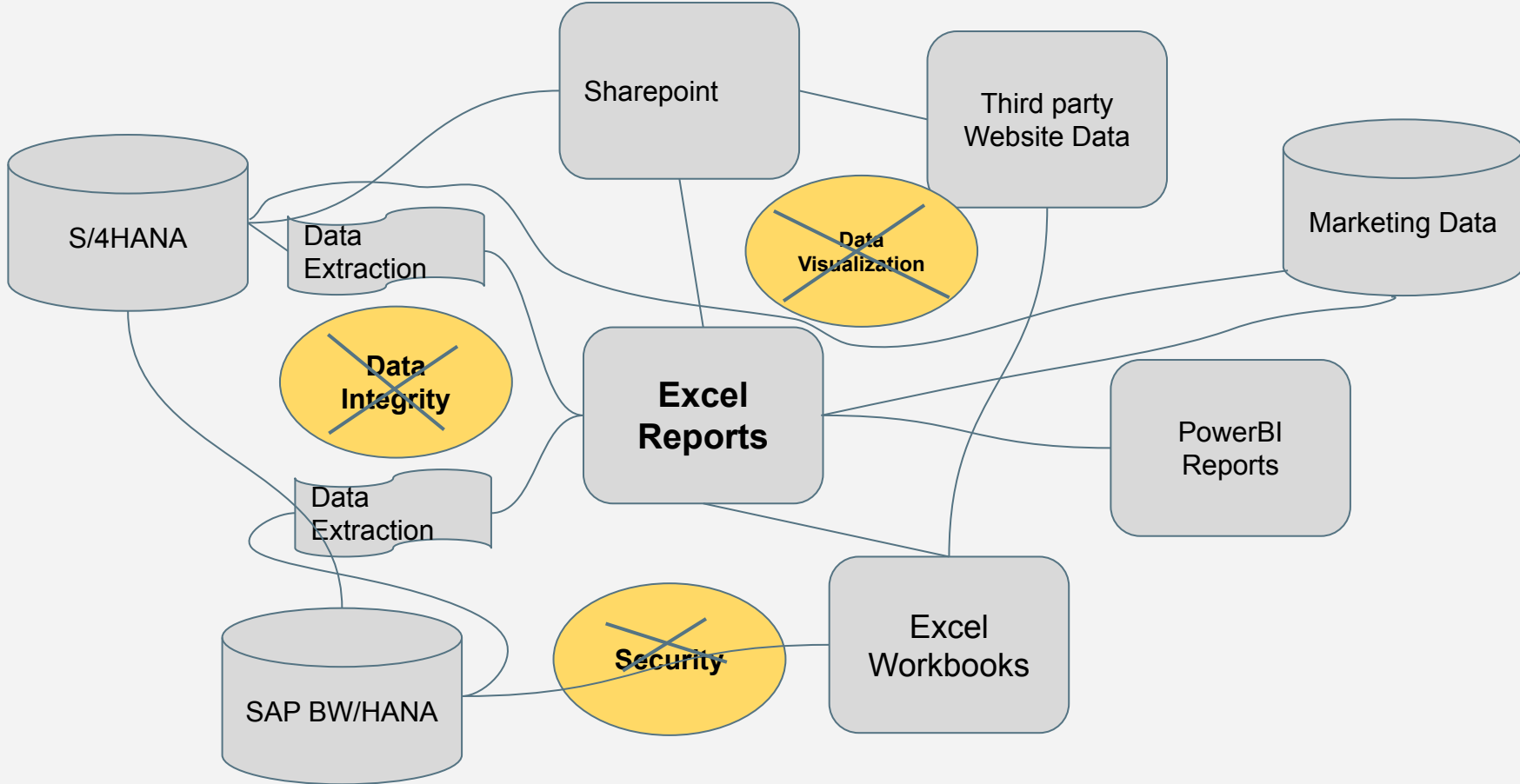
Excel

Power BI

**Reporting/
Visualization**

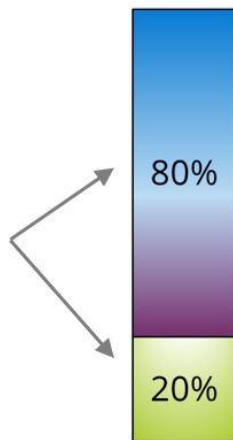


Oldest Data Problem: Silos



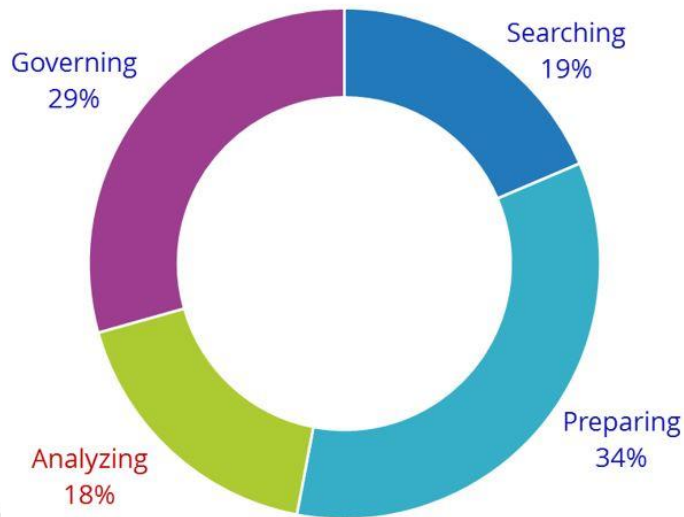
Costs of a Low-Quality Data Landscape

The 80-20 rule still applies to data related activities.
Less than 20% of time is spent analyzing data.



IDC# US43629218 (March 2018)
Source: Data Integration and Integrity End User Survey 2017, IDC, November 2017. (N=300)

% Weekly time Spent on Data Activities



Prying Deeper: The Age of Data

- The growth of custom applications as a competitive advantage
- Growing need of interoperability between applications
- Growing need of advanced insights within applications themselves
- Growing need to operate on a unified set of insights in collaborative applications
- Growing need to be able to build and deploy data rich applications





BUSINESS INTELLIGENCE



SELF-SERVICE ANALYTICS



DATA SCIENCE

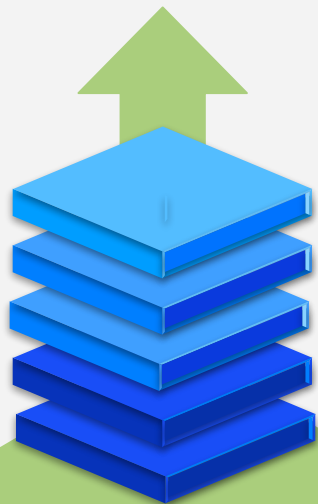


360 VIEW



360 TRANSACTIONAL APPLICATIONS

- 1. Single Source of Real-Time Truth
- 2. Accessibility
- 3. Strong Governance
- 4. Reduced TCO



- Data discovery & Self-service data access |
- Orchestration |
- Processing and persistency |
- Data governance |
- Data ingestion |



PACKAGED APPS



EXCEL & FLAT FILES



DATA LAKES



XML DOCS



WEB APIs



CLOUD DATA



MASTER & REFERENCE DATA



RDBMS



DATA WAREHOUSES



BIG DATA



CRM



ERP



Project Overview



The Challenge

This customer was transitioning away from an aging ERP system to a new - more complex environment with many data sources

1. Project Managers had no operational overview of the financial performance of their projects.
2. Senior Leaders and Partners had trouble recognizing and reacting to upcoming problems
3. Senior executives were either lacking KPI's or receiving wildly out of date KPI's with low accuracy

The Approach

Avvale acted as a strategic advisor and implementation partner for the entire digital transformation. On the Analytics Side - we pursued Phased approach which lead to us deciding on **SAP DataSphere** and **SAP Analytics Cloud** as the core tools of the Data Landscape.

Reasons for SAP DataSphere:

1. **Integrate:** Deep Integration with S/4HANA Cloud and BTP Assets
2. **Accessibility:** Empower a variety of users
3. **TCO:** Lower development, integration and maintenance costs
4. **Scalability:** Leveraging the scalability of the cloud

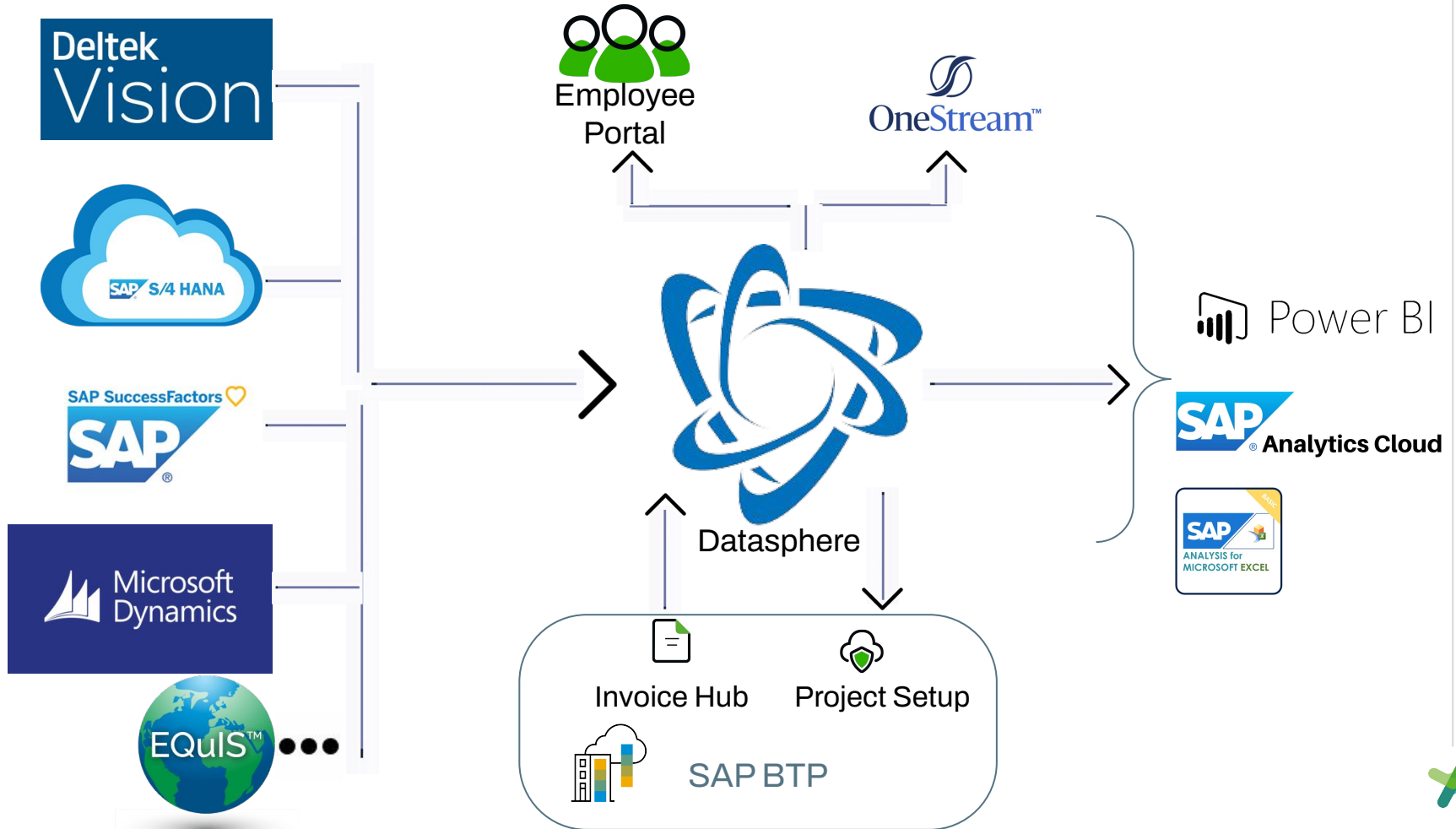
The Impact

DataSphere has become the de-facto data backbone (data fabric) for all reporting, analytics and data rich applications/use cases.

1. **Operate:** Key Operational Reports change the way projects run and operate.
2. **Strategize:** Executives can see deep insights powered by real-time data - while a powerful data fabric allows their team to answer complex ad-hoc questions.
3. **Data Driven Action:** Using data to enrich applications allows Langan to bring advanced insights to action - creating a data driven organization.



Customer Data Fabric



PM Dashboard

The PM Dashboard is a single location that project managers can go to in order to see all operational data about their projects - powered by **real-time data**.

| ProjectManager (All) | | Selected Project Manager(s): (All) | | | | | | | |
|-----------------------|-----------------------|------------------------------------|------------------|-----------------|-------------------|--------------------|-----------------|-------------|-------------|
| Project ID & Name ... | | | | | | | | | |
| Burn Report | | | | | | | | | |
| All Projects Totals | | | | | | | | | |
| Consultant Cost | Labor Cost | Unbilled Amount | Invoiced Amount | ODC | NRM | | | | |
| 0.00 | 7,016.91 | 666,782.250 | 11,791.54 | 0.00 | 1.68 | | | | |
| Details per Project | | | | | | | | | |
| Project ID & Name | Workpackage ID & Name | Work Item ID & Name | Consultant Cost | Labor Cost | Unapproved Amount | Unbilled Amount | Invoiced Amount | ODC | NRM |
| | | | 0.00 | 448.22 | 0.000 | 737.500 | 448.22 | 0.00 | 1.00 |
| | | | 0.00 | 56.52 | 0.000 | 77.500 | 56.52 | 0.00 | 1.00 |
| | | | 0.00 | 223.26 | 0.000 | 770.000 | 223.26 | 0.00 | 1.00 |
| | | | 0.00 | 3,690.10 | 0.000 | 465,206.000 | 3,690.00 | 0.00 | 1.00 |
| | | Totals | 0.00 | 4,418.10 | 0.000 | 466,791.000 | 4,417.99 | 0.00 | 1.00 |
| | | | 0.00 | 923.97 | 0.000 | 4,991.250 | 5,698.71 | 0.00 | 6.17 |
| | | | 0.00 | 708.88 | 0.000 | 195,000.000 | 708.88 | 0.00 | 1.00 |
| | | | 0.00 | 005.00 | 0.000 | 005.00 | 005.00 | 0.00 | 1.00 |



Meeting agenda

01 Avvale

02 Success Story

03 Modern Data Architecture: Lessons Learned and Best Practices



Leveraging SAP DataSphere

SAP DataSphere is a unique product that is a re-imagining of the traditional data warehouse paradigm.

1. **Data Fabric:** Plan for a “Data Fabric”
 - a. **Unique Features:** Leverage Unique Features in SAP DataSphere
 - b. **Data Enriched Applications:** Enrich Applications

*Pursue a revolutionary leap -
rather than an evolutionary one”*



Unique Features: Open Connectivity



SAP Applications

SAP S/4HANA SAP S/4HANA Cloud

SAP ECC SAP ABAP

SAP BW/4HANA Model Transfer

SAP BW SAP HANA Data Lake

SAP HANA, Data Lake Files

SAP SuccessFactors SAP Fieldglass

SAP Marketing Cloud



Databases & Generic Connections

SAP HANA on-prem & Cloud

Oracle Microsoft SQL Server

Generic JDBC Generic OData

Generic SFTP Local CSV File

Generic Cloud Data Integration



Hyperscaler & Cloud Apps

Google Cloud Storage Google BigQuery

Azure SQL Database Azure Blob Storage

Azure Data Lake Store Gen1

Azure Data Lake Store Gen2

Amazon S3 Amazon Athena

Amazon Redshift HDFS

SAP Open Connectors



External Tool Support

SAP Data Intelligence* SAP Data Services*

SAP HANA Smart Data Integration*

SAP Landscape Transformation*

Adverity APOS* Datazeit*

Informatica* Precog Snaplogic*

Real-Time Remote table replication

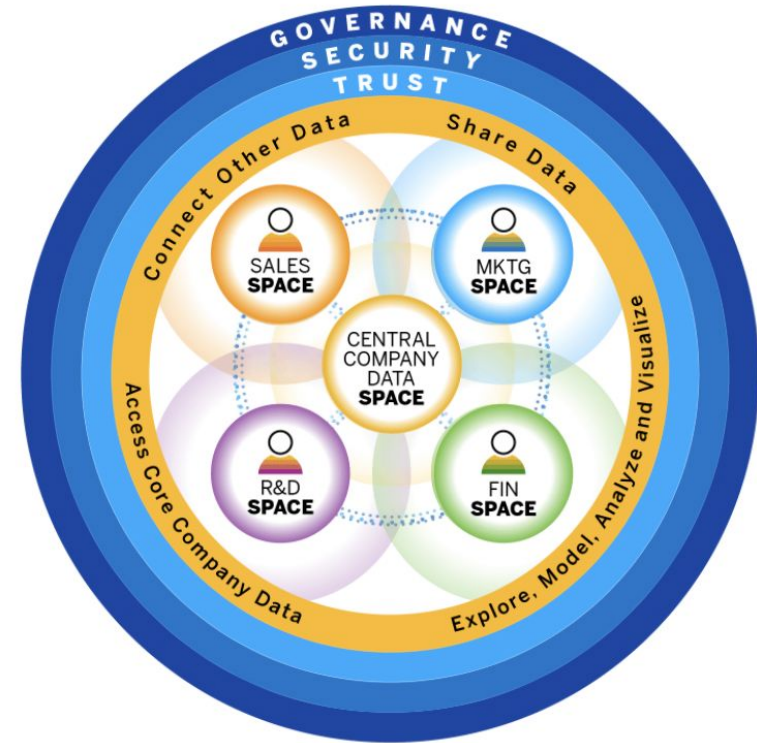
Flexible ETL capabilities

Remote table federation

Batch loads & transformations

Unique Features: Spaces

1. Build off a governed “core” foundation to service all use cases
 - a. Data Acquisition
 - b. Harmonization
 - c. Model/Insight Generation
 - d. Cleansing/Quality Management
 - e. Tagging
 - f. Data Access Controls
2. Allows “Domains” to innovate on the “Core” at their own pace
- allowing for “Data Mesh” Practices



SAP Datasphere

SAP

| | | | | | | |
|---|---|---|--|-------------------------------|--|--|
| Enterprise Analytics for Procurement SAP Ariba | Special Analytics SAP Ariba | Responsive Supply Network, Sales and Inventory SAP Ariba | Revenue Growth Management Customer Products | Finance for SAP S/4HANA Cloud | Financial Analytics Dashboard for SAP Analytics Cloud SAP S/4HANA | PCS Analytics Retail |
| Life Science Dashboard SAP Cloud | Statistical Process Control SAP | Customer Value Management Manufacturing | Meter to Cash Utilities SAP | Outcome-based Insights SAP | Simple Content Finance, HR, Sales SAP | Sales Analytics for SAP S/4HANA Cloud SAP New |
| Intelligent Real Estate SAP New | Sustainability Control Tower SAP New | Content Generation SAP New | | | | |

Partner

| | | | | | | |
|--|--|--|--|---|---|---|
| Marketing Analytics Adverity | Customer Service Insights Bitech | E-Commerce Cross-Marketplace Insights datazeit. | Procurement Cockpit CubeServ. | Sales Dashboard iBolution | Optimizing Order Fulfillment with ML Innovativision | Analytics for Effective Inventory Optimization ISR |
| SuccessFactors Attendance Tracker SFC | Product Cost Simulator mibNDC | Sales Insights (SAP BW & S/4HANA) PWC | MDGAC – Mergin-Optimized Sales Intelligence REPLY | OPERA – Opportunity Performance Analysis REPLY | Lynx Integrated Capacity Planning (EAM & HCM) RIZING | Financial Reporting for SAP Business One peers |
| ESM Insights Westernacher | RapidView IT CD Rapid Views WESTERNACHER New | RapidView 3D Rapid Views WESTERNACHER New | RapidView IMA Rapid Views WESTERNACHER New | RapidView PPM Rapid Views WESTERNACHER New | RapidView CM Rapid Views WESTERNACHER New | |

SAP BW Bridge

| | | | | | | | |
|--|---|--|--|--|---|--|--|
| Sales Overview Sales & Distribution SAP | Conditions Sales & Distribution SAP | Delivery Service Sales & Distribution SAP | Service Orders Service SAP | Service Confirmations Service SAP | Plant Maintenance Asset Management SAP | Customer Service Asset Management SAP | Master Data Governance Master Data SAP |
| Accounts Receivable Finance SAP | Accounts Payable Finance SAP | Fixed Asset Accounting Finance SAP | Contract Accounts Finance SAP | General Ledger Inc. Financial Statement Finance SAP | Funds Management Finance SAP | Real Estate Finance SAP | Quality Management QM SAP |
| Enterprise Controlling Controlling SAP | Cost Center Accounting Controlling SAP | Overhead Cost Orders Controlling SAP | Overhead Projects Int. Networks Controlling SAP | Product Cost Controlling Controlling SAP | Workforce Management HR HCM SAP | Performance Management HR HCM SAP | Procurement Supply Chain Management SAP |
| Production Planning and Controlling Supply Chain Management SAP | Invoice Verification Supply Chain Management SAP | Inventory Supply Chain Management SAP | Extended Warehouse Management Supply Chain Management SAP | Energy Data Management Utilities SAP | Sales Statistics Utilities SAP | Master Data Utilities SAP | |

Unique Features: Pre-Built Content

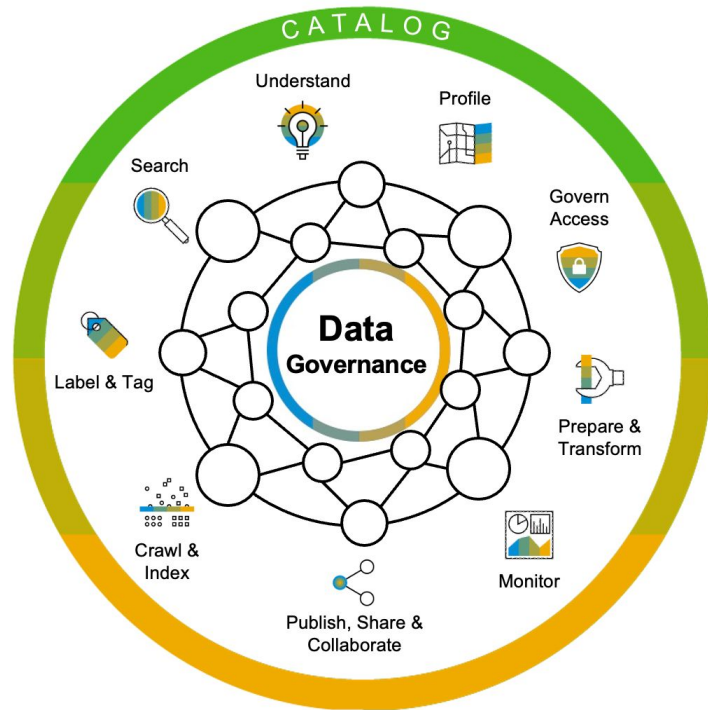
1. Utilize Pre-Built Content as a starting point for development
 - a. Prebuilt Content includes lots of foundational views
 - b. Connecting and the importing of remote tables (connecting to CDS views)
 - c. Pre-built content can also help get SAC Stories ready
 - i. Conduct GAP Analysis - Recommended especially for Greenfield Implementations
 - d. SAP Partner Content can also be a powerful accelerator for development



Unique Features: Cataloging the Data Fabric

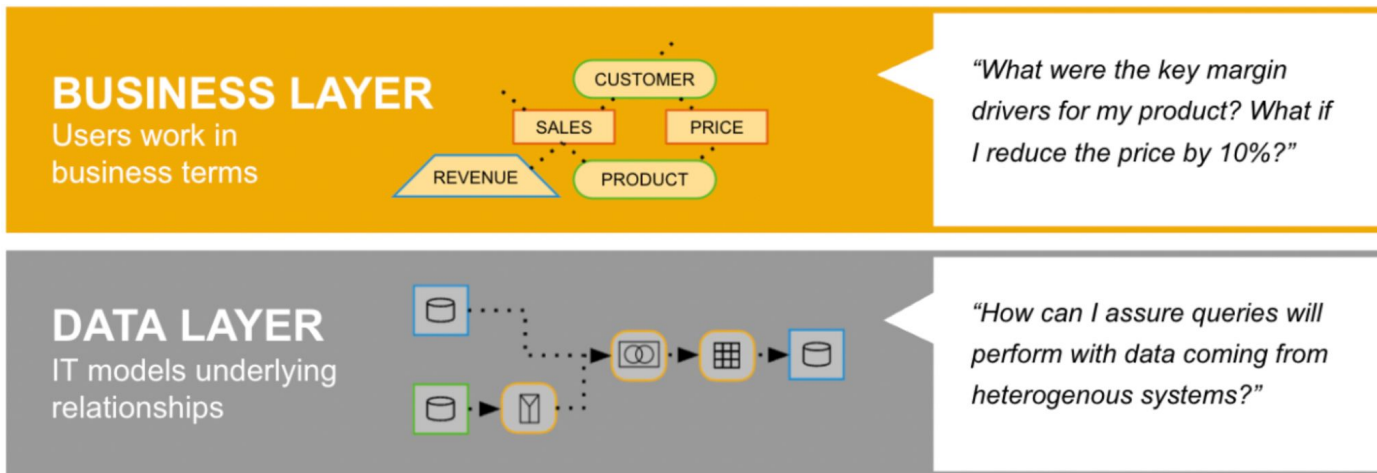
Data Needs 3 Factors to deliver value:

1. Discoverability
2. Trust
3. Accessibility



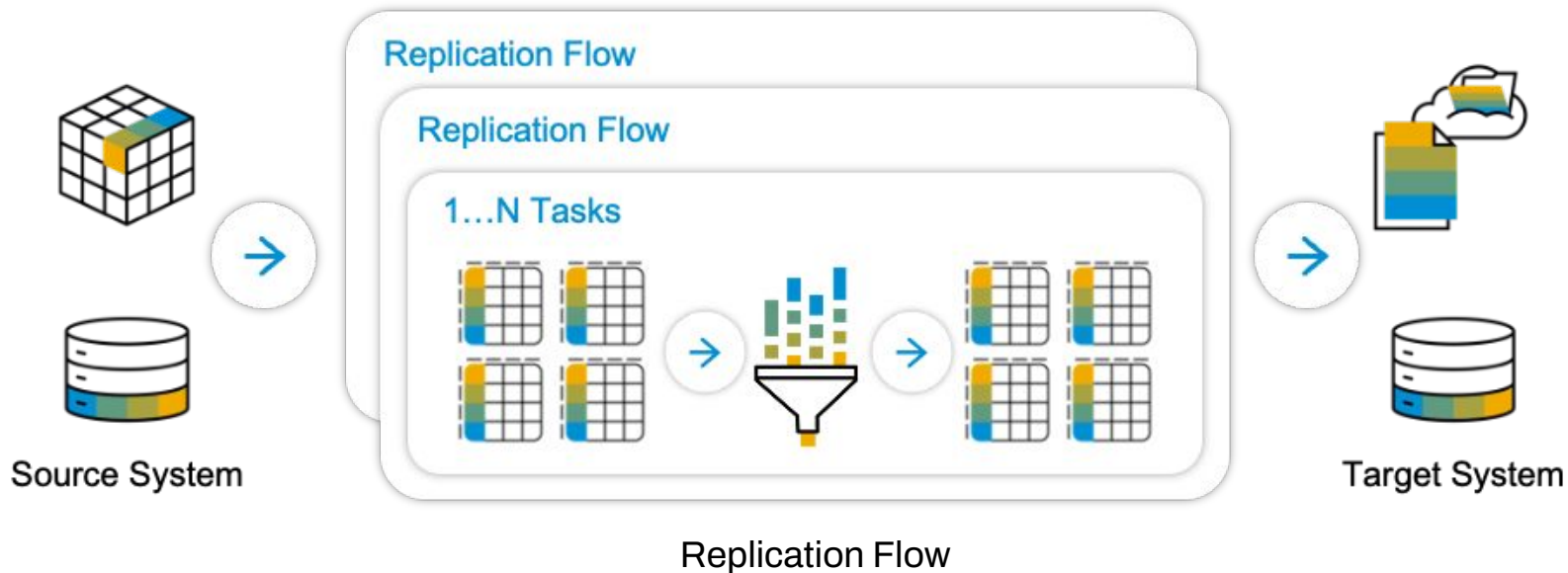
Unique Features: Business Layer

- Generating Data Products - Not Datasets
- Build for the Business



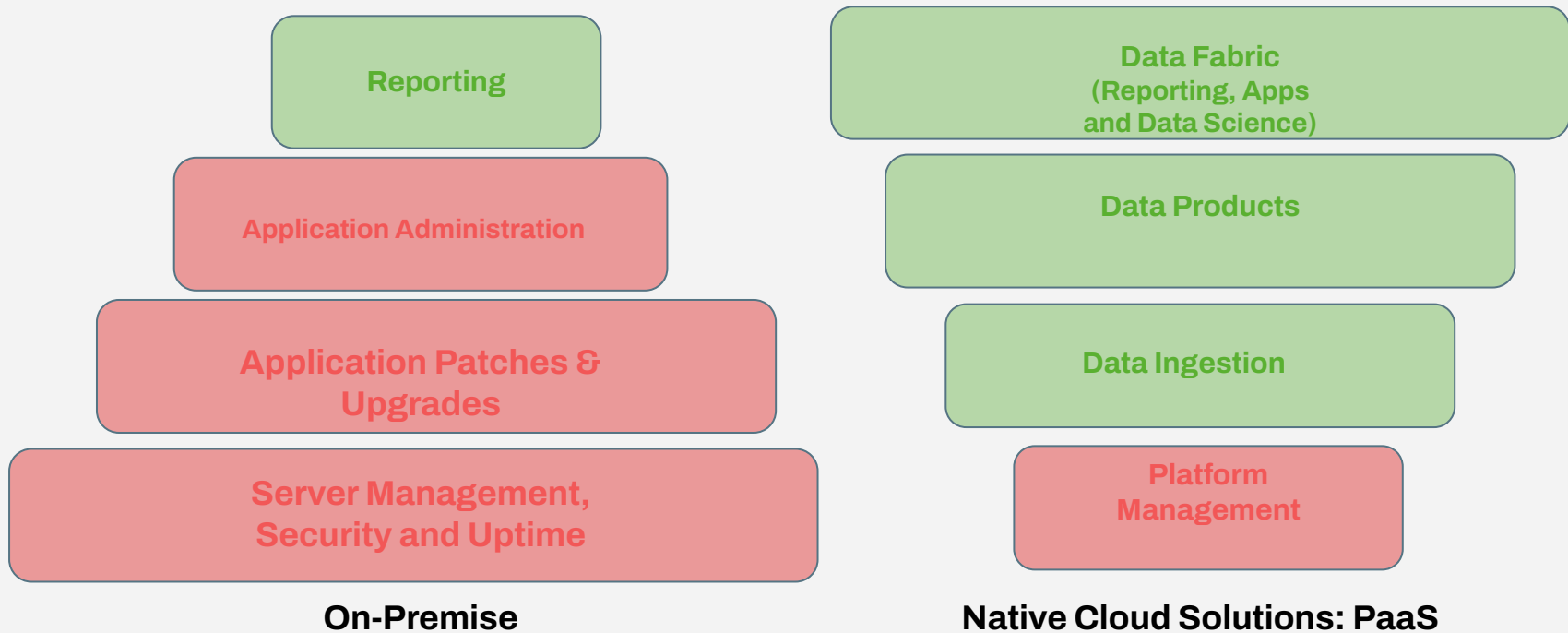
Unique Features: ETL - Replication Flows

1. Leverage Replication Flows for all ETL tasks
2. Wide array of sources available
3. Write to Cloud Store Objects*



Unique Features: A Leap from On-Premise to “D”PaaS

Radically reduce the burden of doing what's 'necessary - but not sufficient'



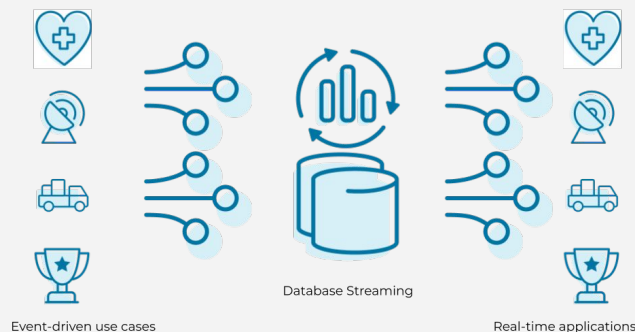


Data Enriched Applications

Data Powered Applications

Datasphere should be treated as the de-facto foundation source of all value added data.

1. The need for Data Rich Applications is growing significantly
2. Datasphere has the capability to share any view of data as ODATA and in real-time
3. Datasphere has deep integration with S/4HANA Cloud and BTP. Datasphere can:
 - a. query in real-time any data generated by BTP Applications
 - b. be queried in real-time by any BTP Application
 - c. query any data in S/4HANA in real-time
4. These new capabilities allow for powerful scenarios where applications can leverage the rich insights and data generated by SAP Datasphere



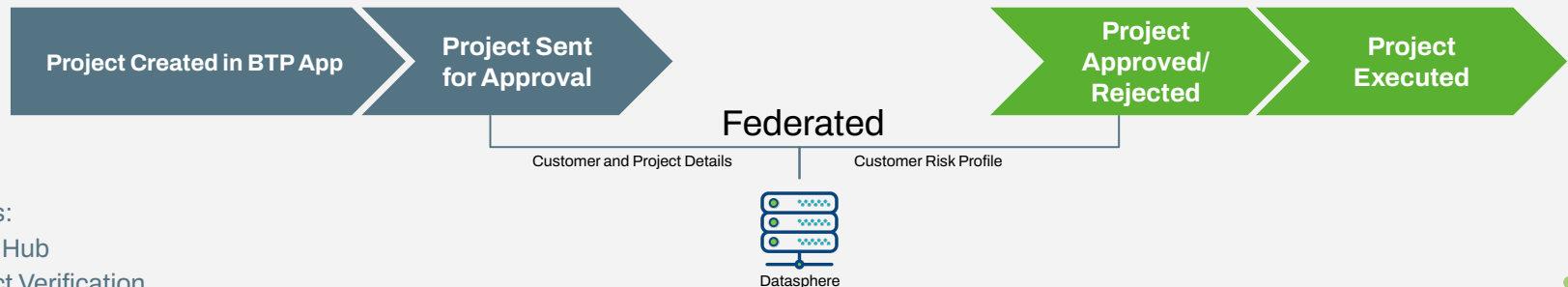
SAP Datasphere: Data Rich Applications

Example: The Project Creation Workflow was enhanced significantly by assessing the risk of a particular Project, Customer and Budget. Made possible due to a Real-Time Data Fabric Architecture powered by SAP Datasphere

Workflow Before



Workflow After



Other Examples:

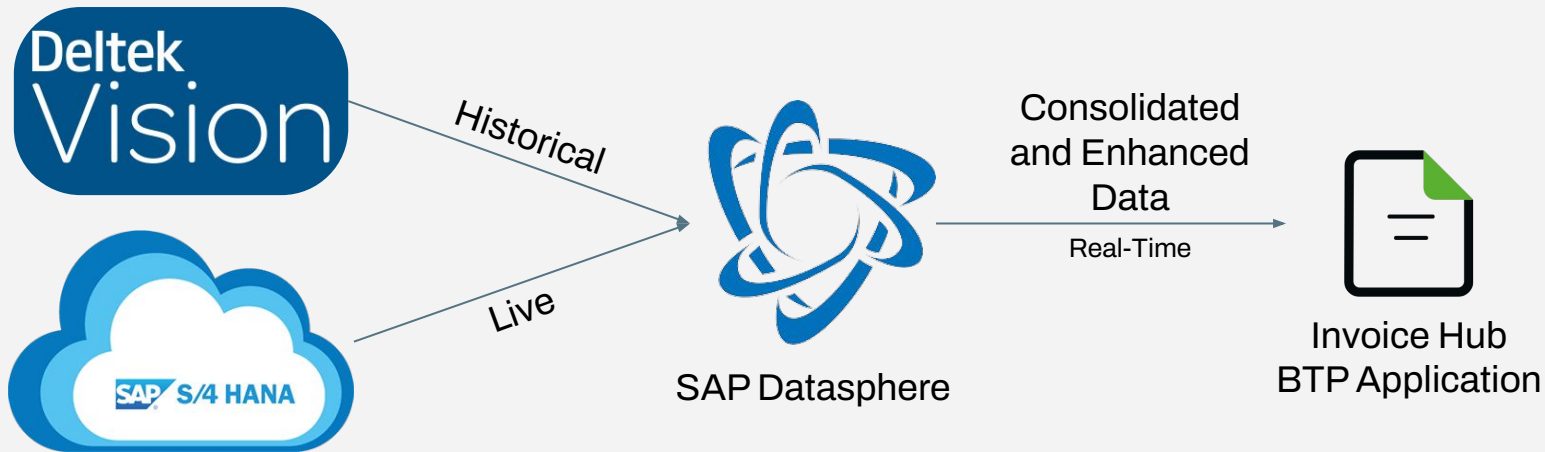
1. Invoice Hub
2. Contract Verification



SAP Datasphere: Data Rich Applications

Example: A custom invoice generation application is powered by SAP Datasphere to generate a complete invoice which includes aggregated finances from the old ERP as well as the new S/4HANA Cloud ERP.

Impact: ~4 second query time vs. consistent failures due to consolidating S/4 and historical data at the client layer (ex. user laptop).



Datasphere Momentum: 11+ Customers and Growing

| Number | Industry | Strategy | Type |
|--------|-------------------------------|----------------------------------|------------|
| 1 | Rare Earth/Mining | Datasphere + SAC | Greenfield |
| 2 | Lumber/Hardwood Manufacturing | Datasphere + SAC | Greenfield |
| 3 | CPG Food and Beverages | Datasphere + SAC | Greenfield |
| 4 | Professional Services | Datasphere + SAC | Greenfield |
| 5 | Professional Services | Datasphere + SAC | Greenfield |
| 6 | Construction | BW/4HANA + HANA DB -> Datasphere | Brownfield |
| 7 | Pharmaceutical | Datasphere + Snowflake + PowerBI | Greenfield |
| 8 | Manufacturing | BW 7.5 + SQL -> Datasphere | Brownfield |
| 9 | Manufacturing (Food) | BW/4HANA-> Datasphere | Brownfield |
| 10 | Manufacturing (CPG) | BWonHANA -> Datasphere + SAC | Brownfield |
| 11 | Retail Customer | BW 7.5 -> Datasphere + PowerBI | Brownfield |



How to Start?



1. Free Trial
2. Pre-Built/Partner Built Content Enablement
3. POC: MVP
4. Grow Footprint over Time





[valēre, present active infinitive of valeō] - be strong, healthy, matter.

Avvale is a Global Digital Business Transformation Company on a mission to **help innovative business evolve through the circular economy, enabled by technology.**

Industry Focused approach

Supporting both Fortune 500 and Midmarket in 15 sectors on the field.



3,000+

People

An inclusive mix of cultures, competences, attitudes and experiences to create **One Unique Company.**

\$350 MM

Revenue for 2023

Double digit growth year over year, since **2004 - Techedge foundation.**



distribution in
20+ offices



20 Years
and still counting...





Avvale has a Global Data Intelligence Practice to unlock the value of data by improving Operational Efficiency and providing Strategic Insights in an environment of **constant and accelerating change**.

300+
People

An expanding practice with an inclusive mix of cultures, competences, attitudes and experiences across the Globe.

**Multiple DataSphere
Implementations across
the globe across
industries**

SAP DataSphere experience dating back to **2019**.

Data Intelligence



**Global Data Team
20+ offices**





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