

WHITE PAPER

SAP DATASPHERE OVERVIEW

OCTOBER 2023



Rapid Views

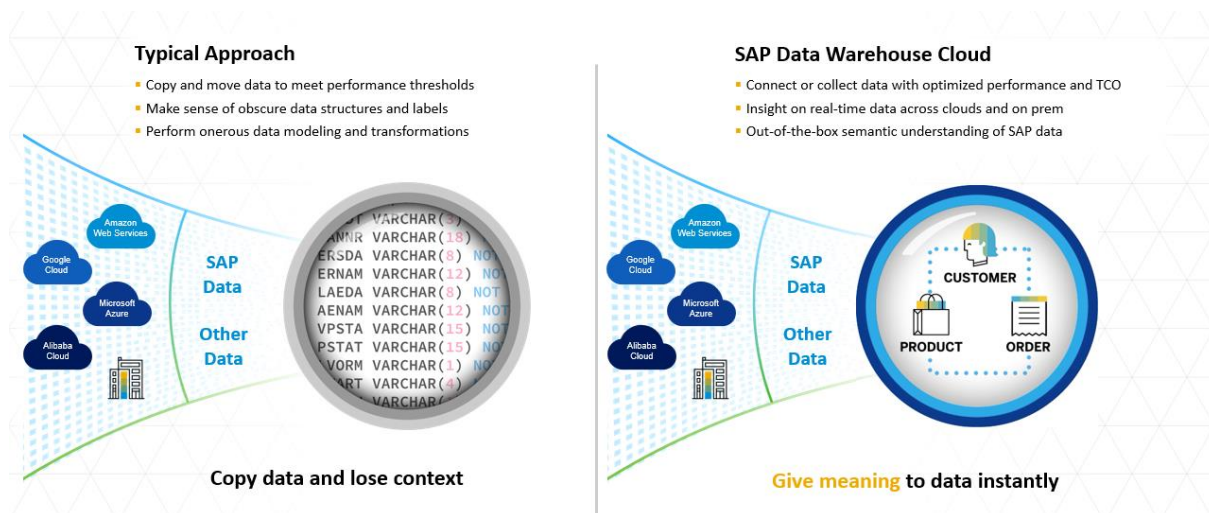
Summary

1. SAP Datasphere overview	3
2. The different layers of SAP Datasphere.....	5
2.1. Data Builder.....	5
2.2. Business Builder.....	7
2.3. Connectors	8
2.4. Reporting.....	9
3. Unify data silos to understand your business	10
4. Connect and collect data flexibly	11
5. Collaborate in business terms.....	12
6. Integrate from data to insight with SAP Analytics Cloud	12
7. Boost time-to-value with business accelerators	13
8. Rapid Views, an innovative software editor around SAP Analytics.....	14
8.1. A platform for IT and business users.....	15
8.2. Concept and presentation.....	16
9. SAP Datasphere + Rapid Views: how it works?.....	17
9.1. Characteristics and key figures of FI-CO RapidViews	18
9.2. Characteristics and key figures of SD RapidViews.....	19
9.3. Characteristics and key figures of MM RapidViews	20
9.4. Characteristics and key figures of PP RapidViews.....	21
9.5. Characteristics and key figures of QM RapidViews.....	22

1. SAP Datasphere overview

SAP Datasphere unifies data and analytics in a multi-cloud solution that includes data integration, database, data warehouse, and analytics capabilities for a data-driven enterprise. Built on the SAP HANA Cloud database, this software as a service (SaaS) empowers you to better understand your business data and make confident decisions based on real-time information.

- Connect data across multi-cloud and on-premises repositories in real time while preserving business context
- Empower users with a virtual workspace and no-code environment to connect, model, visualise, and share data securely in an IT-governed environment
- Get insights on real-time data and analyse all types of structured, unstructured, and geospatial data with in-memory speed
- Accelerate implementation with pre-integrated database, data warehouse, data intelligence, data lake, and analytics capabilities
- Reuse your existing BW models, transformations, and customisations with the BW bridge option. Accelerate time to value and capitalise on existing investments.



The challenge posed by data silos has multiple facets.

With growing data sizes and the proliferation of data sources, consolidating data in a central location for analysis is becoming harder to do. Plus, existing data transfer windows are becoming impossible to meet. Also, moving data closer to the users is often necessary to ensure acceptable response times, especially when data is spread across multiple clouds.

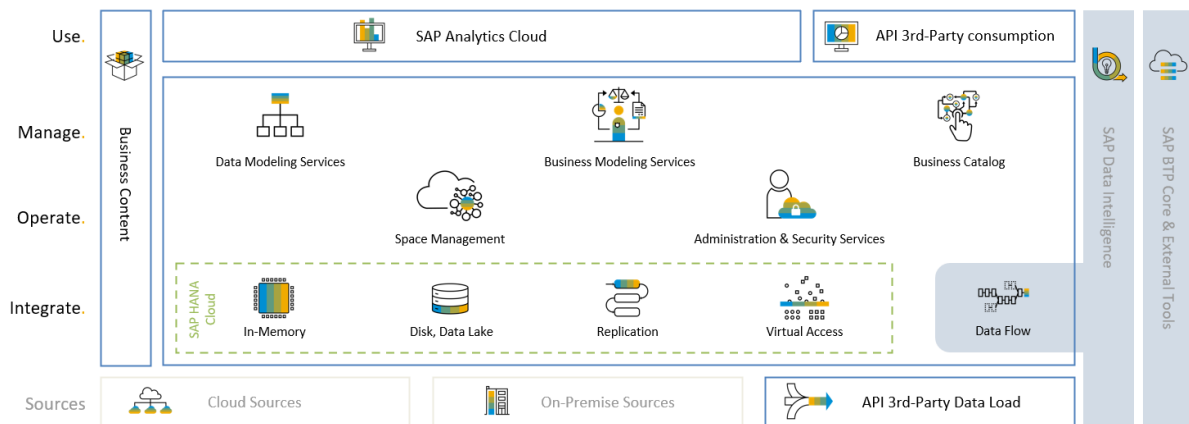
Extracting data from your business applications is also a significant challenge. For example, if you copy data from your SAP application and store it on a data lake in the cloud, you lose the business meaning of that data. In SAP, critical business objects like customer, product, or order are represented with many tables, each with many attributes labelled with cryptic acronyms. Relationships between objects are also hard to infer. Just understanding what table and attributes you need takes a long time, and so does having to transform and model the data copy for analysis.

With SAP Datasphere, you can reduce data movements by accessing data remotely – with data federation - and still get fast response times (SAP HANA powers SAP Datasphere). As a matter of fact, SAP is the only vendor to offer real-time data federation across clouds.

Of course, if you prefer, you can also move data effectively by leveraging real-time or batch replications.

Most importantly, SAP Datasphere comes with an out-of-the box-understanding of SAP applications data, allowing you to preserve the business context of your data and save a lot of time. This means you are instantly ready to leverage SAP data and combine it with non-SAP data to provide the comprehensive business view your company needs.

This is possible because SAP Datasphere takes advantage of app-level integration (SDI ABAP adapter) and leverage predefined CDS views to identify SAP business objects. This simplifies integration and also preserves the same security context (SDI app-level integration)



SAP Datasphere Architecture

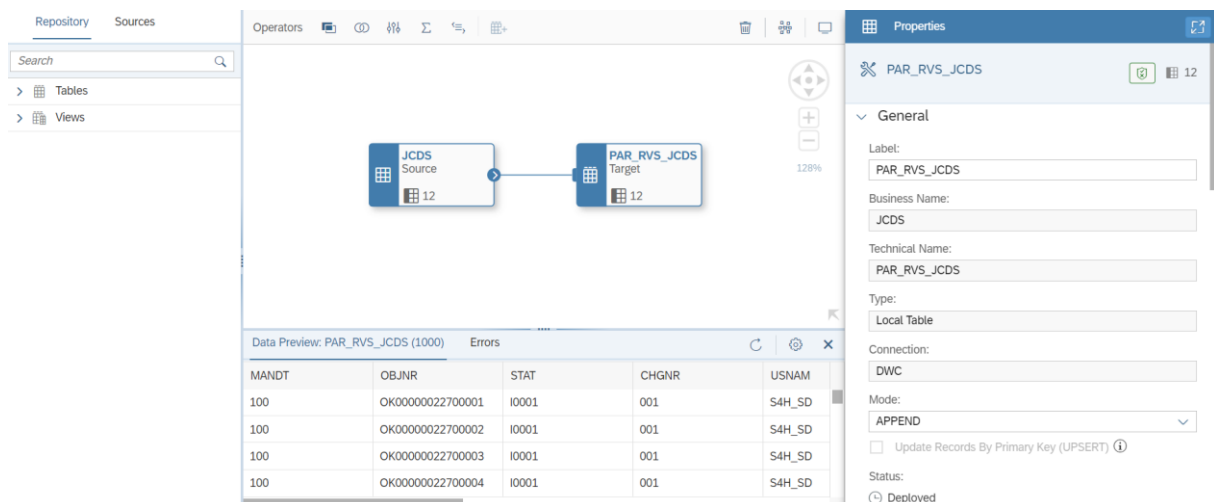
2. The different layers of SAP Datasphere

2.1. Data Builder

The data modelling layer allows us to retrieve data from our system using the Data Flow Graph. Various operations on the data are already possible at this stage.

In addition, we find common panes in all SAP DATASPHERE, on the left, a panel for consulting existing tables or tables available via our connections. In the centre, we have the graphical part which allows us to model our models thanks to Drag and Drop actions.

Below this part, we have a Data Preview that will allow us to check the consistency of our data throughout the process. On the last panel on the right, we have access to the metadata: technical name, business name, description of the view, distribution between attributes and measures, last update date, deployment status.



The screenshot displays the SAP Datasphere Data Builder interface. On the left, there is a 'Repository' pane with 'Sources' and a search bar. The main workspace shows a data flow graph with two nodes: 'JCDS Source' and 'PAR_RVS_JCDS Target', connected by a data flow arrow. Below the graph is a 'Data Preview' window for 'PAR_RVS_JCDS (1000)' showing a table of data. On the right, the 'Properties' panel for 'PAR_RVS_JCDS' is visible, showing various metadata fields.

MANDT	OBJNR	STAT	CHGNR	USNAM
100	OK00000022700001	I0001	001	S4H_SD
100	OK00000022700002	I0001	001	S4H_SD
100	OK00000022700003	I0001	001	S4H_SD
100	OK00000022700004	I0001	001	S4H_SD

We can also create views in the Data Builder. These views are broken down into different types. We have the possibility of creating dimensions, factual views and finally “Analytical Datasets” which are the representation of our datamarts and which we use in our reporting tools.

In the creation of views, we use previously created tables or tables available directly via our connections. We apply modifications and transformations such as aggregations, filters, calculated columns, or projections.

We can also apply joins or unions between our different tables. In addition to creating graphical views, we have the possibility to create SQL script views.

MaterialKey	MaterialCreationDate	DeleteIndicator	MaterialTypeKey	MaterialGro
SP001	20171005	-	ERSA	YBPM01
SP002	20171005	-	ERSA	YBPM01
SP003	20171005	-	ERSA	YBPM01

The E/R Model is the last view that can be created using the Data Builder. The purpose of this view is to fill in the joins between the factual view and the dimensions and to have a visual aspect on them in addition to being able to consult the available semantic layer. We can quickly see which dimension is attached to this factual view to create our DataMart.

SAPClient	CompanyKey	CustomerKey	FiscalYear	FinancialDo
100	1710	0017100005	2018	940000031f
100	1710	0017100001	2018	1600000000
100	1710	0017100005	2018	940000031f

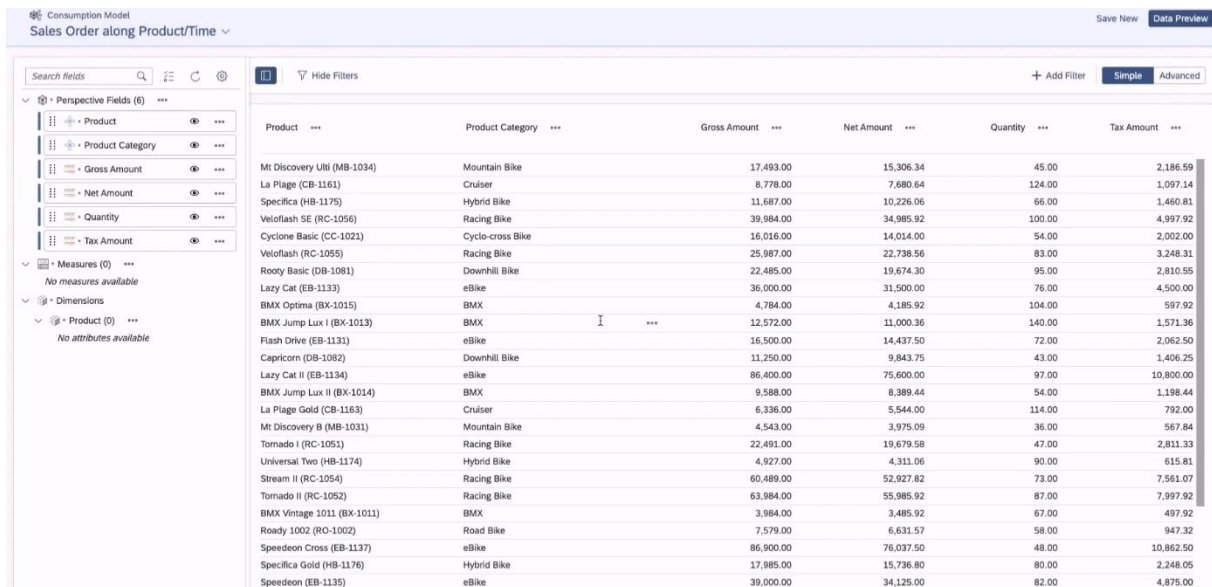
2.2. Business Builder

The Business Builder has a data advisory purpose and will be aimed at end users.

We need to recreate the tables in the Business Layer by indicating which table in the Data Builder we want to retrieve our data for the dimension.

Different information about our dimension can be entered here in addition to the versioning that is available in the Business Builder. Different sub-menus “Attributes”, “Measures” and “Key Definition” allow us to fill in our data by assigning it to the functions of each. When creating a DataMart in the Business Builder, we need to create our associations between our factual views and the dimensions.

In order to adapt to business needs, we can create calculated fields, and even measures in this part. We can also create contexts to avoid conflicts between our data and to allow analysis of the data.



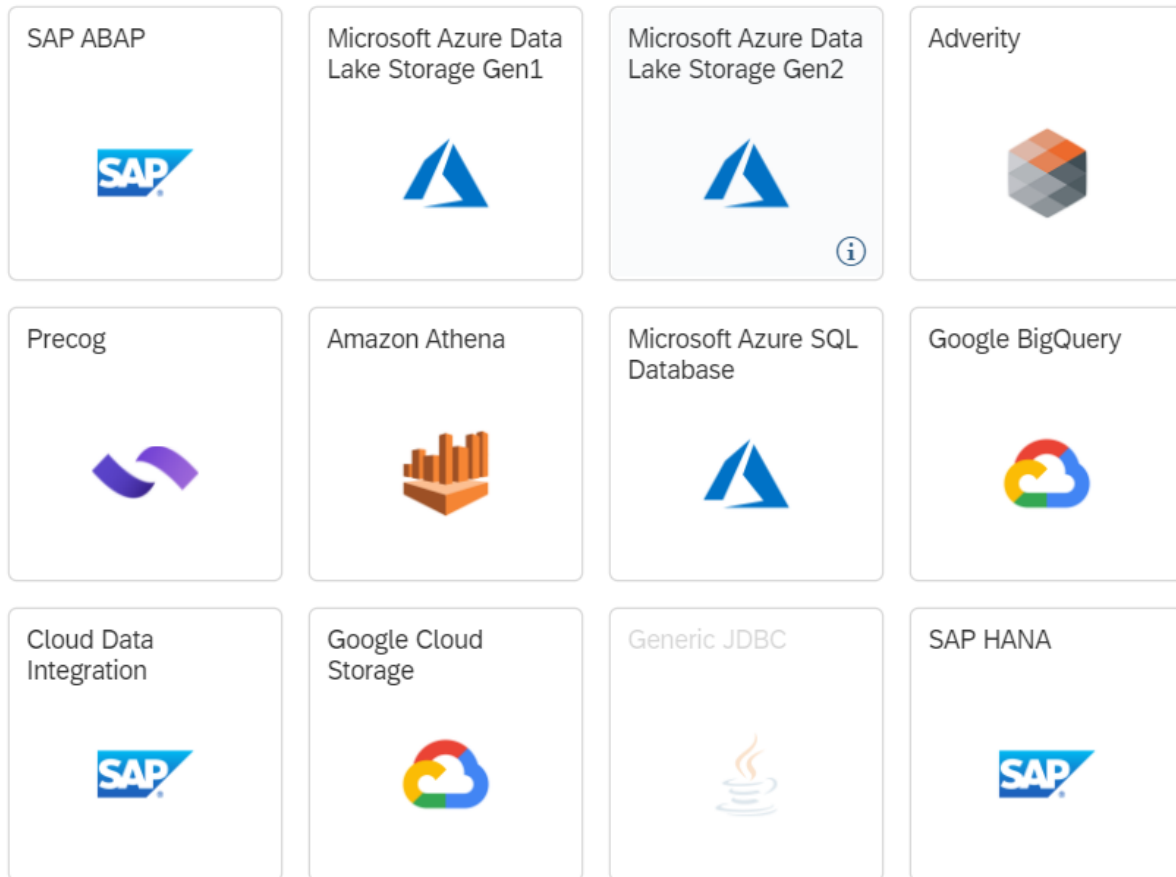
The screenshot shows the SAP Business Builder interface. The main window displays a table titled 'Sales Order along Product/Time'. The table has columns for Product, Product Category, Gross Amount, Net Amount, Quantity, and Tax Amount. The data is organized into rows for various bicycle models and categories. On the left side, there is a sidebar with 'Perspective Fields' and 'Measures' sections. The 'Perspective Fields' section includes Product, Product Category, Gross Amount, Net Amount, Quantity, and Tax Amount. The 'Measures' section is currently empty, showing 'No measures available'. The 'Dimensions' section is also empty, showing 'No attributes available'. The table data is as follows:

Product	Product Category	Gross Amount	Net Amount	Quantity	Tax Amount
Mt Discovery Util (MB-1034)	Mountain Bike	17,493.00	15,306.34	45.00	2,186.59
La Plage (CB-1161)	Cruiser	8,778.00	7,680.64	124.00	1,097.14
Specifica (HB-1175)	Hybrid Bike	11,687.00	10,226.06	66.00	1,460.81
Veloflash SE (RC-1056)	Racing Bike	39,984.00	34,985.92	100.00	4,997.92
Cyclone Basic (CC-1021)	Cyclo-cross Bike	16,016.00	14,014.00	54.00	2,002.00
Veloflash (RC-1055)	Racing Bike	25,987.00	22,738.56	83.00	3,248.31
Rooty Basic (DB-1081)	Downhill Bike	22,485.00	19,674.30	95.00	2,810.55
Lazy Cat (EB-1133)	eBike	36,000.00	31,500.00	76.00	4,500.00
BMX Optima (BX-1015)	BMX	4,784.00	4,185.92	104.00	597.92
BMX Jump Lux I (BX-1013)	BMX	12,572.00	11,000.36	140.00	1,571.36
Flash Drive (EB-1131)	eBike	16,500.00	14,437.50	72.00	2,062.50
Capricorn (DB-1082)	Downhill Bike	11,250.00	9,843.75	43.00	1,406.25
Lazy Cat II (EB-1134)	eBike	86,400.00	75,600.00	97.00	10,800.00
BMX Jump Lux II (BX-1014)	BMX	9,588.00	8,389.44	54.00	1,198.44
La Plage Gold (CB-1163)	Cruiser	6,336.00	5,544.00	114.00	792.00
Mt Discovery B (MB-1031)	Mountain Bike	4,543.00	3,975.09	36.00	567.84
Tornado I (RC-1051)	Racing Bike	22,491.00	19,679.58	47.00	2,811.33
Universal Two (HB-1174)	Hybrid Bike	4,927.00	4,311.06	90.00	615.81
Stream II (RC-1054)	Racing Bike	60,489.00	52,927.82	73.00	7,561.07
Tornado II (RC-1052)	Racing Bike	63,984.00	55,985.92	87.00	7,997.92
BMX Vintage 1011 (BX-1011)	BMX	3,984.00	3,485.92	67.00	497.92
Roady 1002 (RO-1002)	Road Bike	7,579.00	6,631.57	58.00	947.92
Speedeon Cross (EB-1137)	eBike	86,900.00	76,037.50	48.00	10,862.50
Specifica Gold (HB-1176)	Hybrid Bike	17,985.00	15,736.80	80.00	2,248.05
Speedeon (EB-1135)	eBike	39,000.00	34,125.00	82.00	4,875.00

We can then create a Data Consumption so that we can access our data in a more readable way. The addition of our measures and attributes is again required and the addition of the previously created dimensions is required. The Data Preview section then allows us to navigate through our data to analyse it.

2.3. Connectors

For data import, we have 27 connectors for SAP and non-SAP databases at our disposal, so here are some examples:

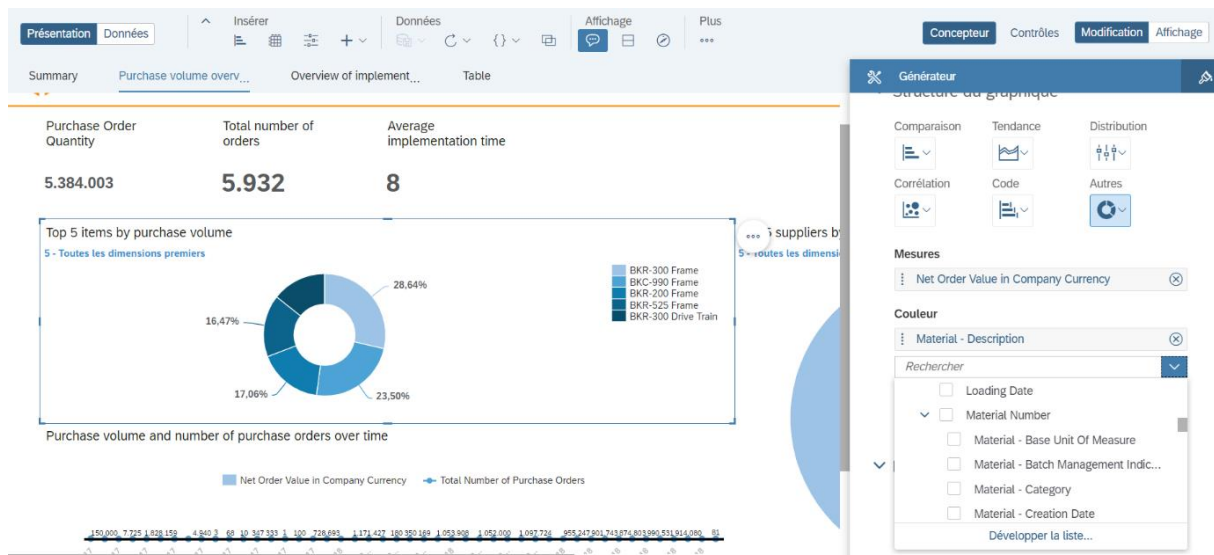


These connectors allow us to access our data very easily without having to configure additional tools. However, if our SAP database does not appear in the list of connectors, we can always configure the SAP Data Provisioning Agent to act as a connector between our database and SAP DATASPHERE.

2.4. Reporting

The reporting part is the result that will be made available to customers. We will then find on these tools all the semantic layer which will have been set up in SAP DATASPHERE. We will be able to use the attributes of our dimensions thanks to our previously created joins.

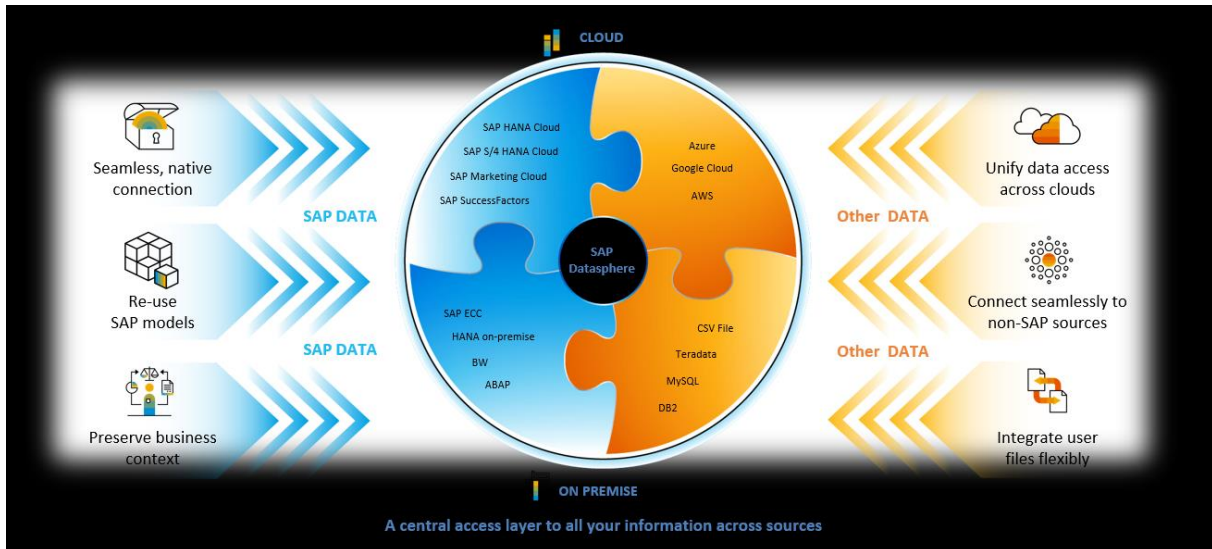
We can use the attributes of our dimensions thanks to the joins we created earlier, so we have a range of simple or cross tables and graphs at our disposal. We can apply filters and sorting to these visuals.



The reporting part can be done on the SAP Analytics Cloud tool which has a direct connector with SAP DATASPHERE. However, the use of other tools remains possible via ODBC, which makes SAP DATASPHERE compatible with Microsoft Power BI or Tableau Software for example.

3. Unify data silos to understand your business

SAP Datasphere helps you unify data silos within your company to understand your business. With a central access layer to all your information across sources you unify your data silos to understand your business.



SAP Datasphere seamlessly integrates with SAP source systems

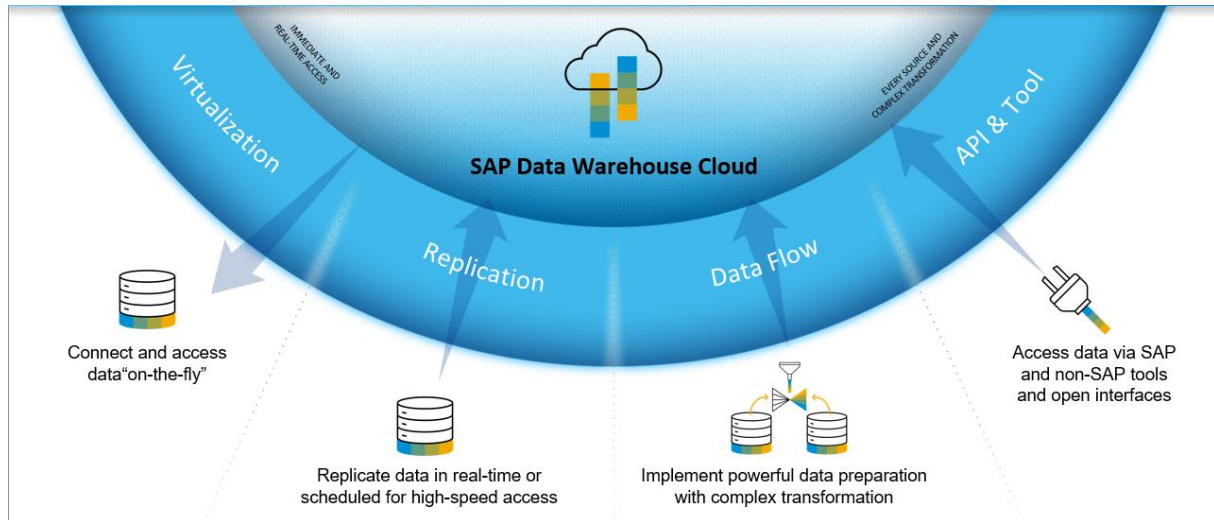
- Native out-of-the-box connection: Native connectivity to a variety of SAP data sources – on premise and in the cloud
- Seamless integration: Re-use of existing models and semantic
- Business context: Understanding of business objects and business context from SAP sources

SAP Datasphere also integrates with non-SAP sources

- Hyper-scaler integration: Unified access layer to data stored across clouds with hyper-scaler integration
- Open connectivity: Built-in connectivity to a variety of non-SAP sources, external integration providers and open interfaces for tools of choice
- User file integration: Integration of local business users' files into a single governed space

4. Connect and collect data flexibly

Depending on the type of data source and the business requirements (e.g., requirement to transform data before making it available for modeling and analyses), SAP Datasphere offers a variety of ways to collect and connect with data.



Virtualization enables a real-time virtual data access to various source systems. In this scenario, data is left in the source (not moved and duplicated) and only accessed remotely when needed. This option is available across various sources and hyper-scalers

Replication lets you transfer data in real-time or in a scheduled manner for high-speed access to data that may have large volumes or reside in sources which offer less access speed

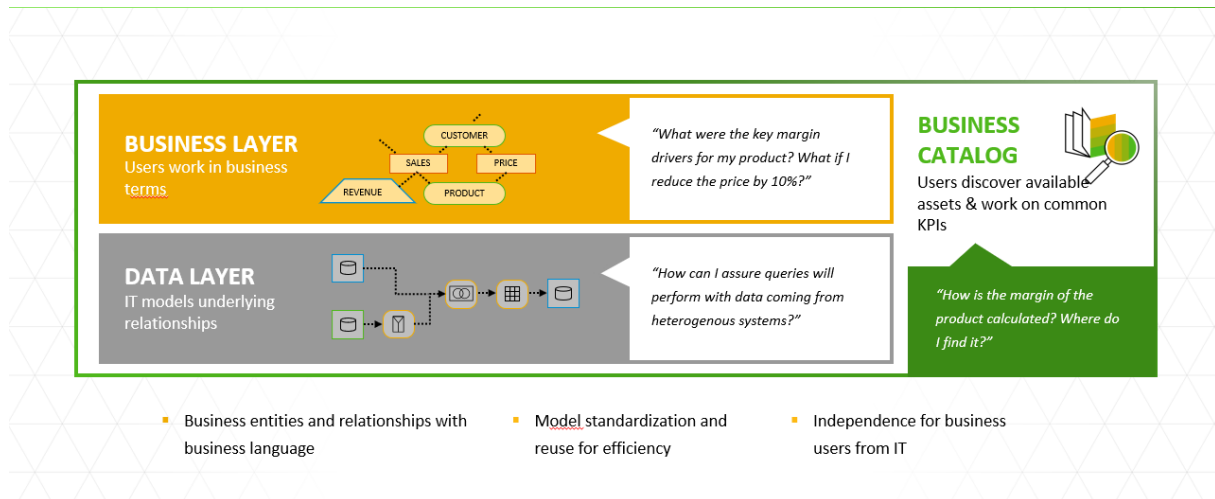
Data Flow functionality allows users to implement powerful data preparations – combining structured and semi-structured data and using transformation capabilities with scripts

Third-party APIs allow external data movement tools like SAP Data Intelligence and others to connect and bring data out of a variety of sources into SAP Datasphere

A combination of these options is typically used to connect data sources to SAP Datasphere. Users also have the flexibility to upload local files and combine them with centrally provisioned data within their Spaces. SAP Datasphere provides local CSV file upload with data wrangling support (e.g., split, extract, replace, filter functions). Tables are automatically created based on the files' structures and can be consumed in the modeling environment.

5. Collaborate in business terms

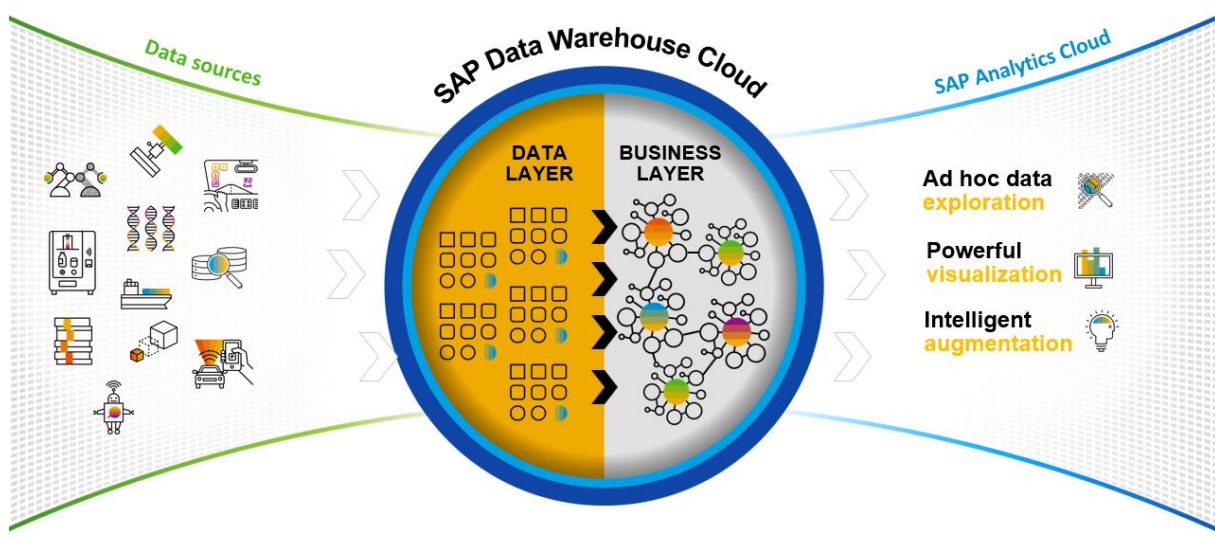
SAP Datasphere offers multiple modeling capabilities that address different personas – from Business Analysts with deep business understanding to tech-savvy Developers and Power users. In a typical end-to-end scenario, three closely related components of SAP Datasphere are applied.



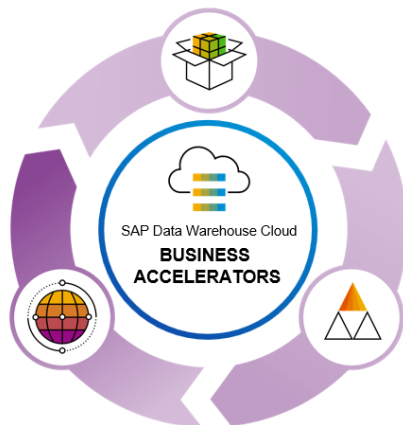
The data layer contains the basic modeling of the underlying data sources and tables, while the business layer allows users to create their own business models on top – working in business terms. The business catalogue spans across these layers – allowing users to discover available assets and work on common KPIs.

6. Integrate from data to insight with SAP Analytics Cloud

SAP Datasphere closely integrates with SAP Analytics Cloud – SAP’s software-as-a-service solution that combines Business Intelligence, Augmented and Predictive Analytics and Planning capabilities. At the same time, with open interfaces, third-party tools can be connected as well.



7. Boost time-to-value with business accelerators



Deploy pre-defined content

Leverage pre-built content packages with data models, transformations, calculations and analyses for a variety of industry- and LoB-specific use cases



Re-use existing data models

Re-use SAP BW/4HANA queries in SAP Data Warehouse Cloud with hybrid model transfer and build on pre-defined views (CDS views)



Boost external data integration

Integrate with external data providers and third-party data sources with out-of-the-box connectors

Time-to-value

Cost efficiency

Investment protection

Deploy pre-defined content:

- Ever-growing array of SAP- and Partner-provided content packages for LOB (SAP SD) and industries that span across the entire flow – from data ingestion to consumption with predefined dashboard
- Re-use of data models with hybrid model transfer for SAP BW/4HANA as well as the ability to build on pre-defined views
- External data integration through open interfaces to tools and growing number of external data providers that makes data sharing and consumption a matter of clicks

8. Rapid Views, an innovative software editor around SAP Analytics

Rapid Views is an innovative software editor to accelerate Business Intelligence deployment on SAP HANA. Comes from the spin-off of the DeciVision R&D entity which has invested for 2 years on SAP HANA technology.

R&D as a driving force

The software developed by Rapid Views is the result of several years of Research & Development: we offer a unique solution on the market to accelerate your BI deployment on SAP HANA.

SAP trust

SAP encourages and considers Rapid Views as a fantastic jumpstart for HANA BI implementation.



Strong values

Our employees share common values: a real passion for Business Intelligence, a strong functional BI expertise and the desired to provide a strong value proposition for our customers

Actor in several SAP / BI user groups

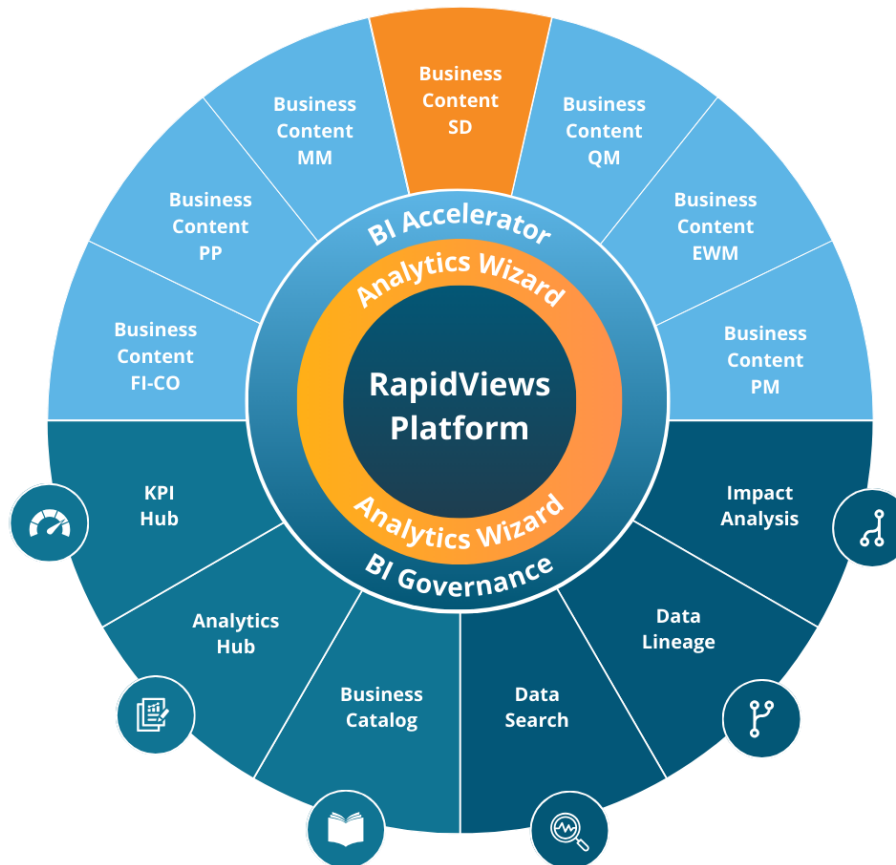


They already use RapidViews solutions



8.1. A platform for IT and business users

The RapidViews platform allows you to accelerate, centralize and control your SAP Analytics projects. It offers “BI Accelerator” functionalities, with notably predefined business content on the SAP SD scope, and “BI Governance” functionalities.



It offers many benefits:

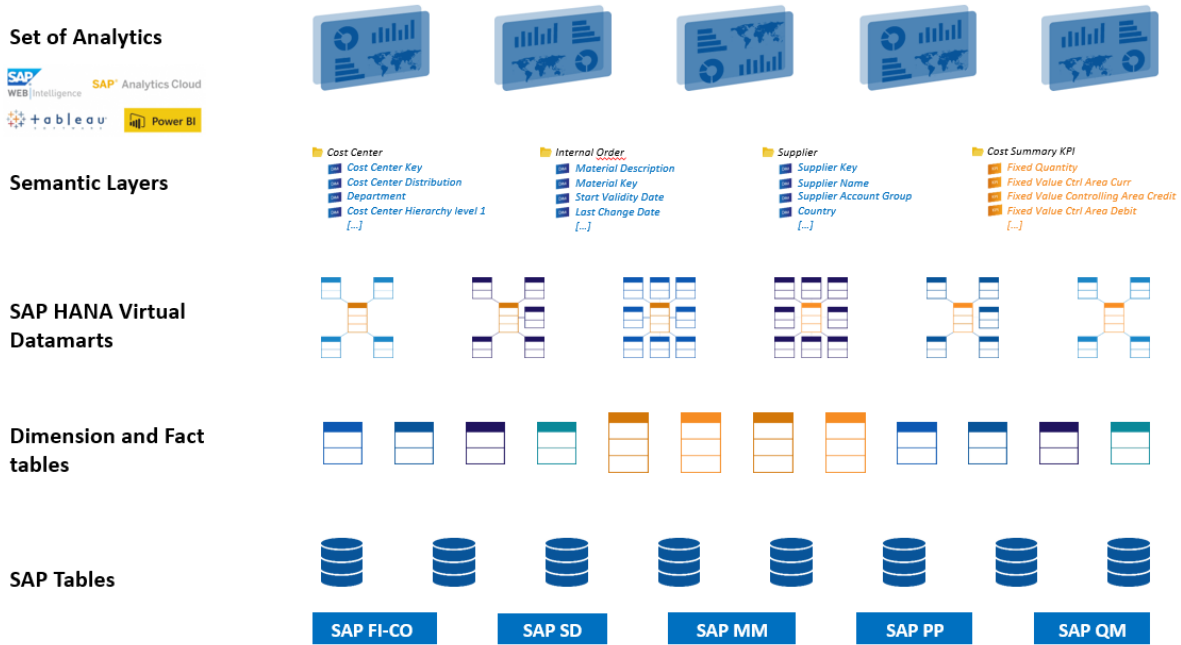
- **Accelerate your Analytics project:** save time in the deployment and day-to-day of your business intelligence project
- **Centralize your Analytics referential:** your Analytics knowledge in one single location
- **Reconcile the IT and functional teams:** a tool which allows BI managers, BI developers and business users to work better together
- **Efficiently manage your SAP BI:** data is growing exponentially, it is ubiquitous, the governance of its analytics contents is fundamental

8.2. Concept and presentation

RapidViews goal: Accelerate drastically your Datawarehouse projects on SAP HANA

In few words:

- > Set of Business analytics built either with SAP Web Intelligence, SAP Analytics Cloud, Microsoft Power BI, Tableau Software, ...
- > Semantic layers for operational reporting on SAP FI-CO, SD, MM, PP and QM.
- > Sets of datamarts for SAP FI-CO, SD, MM, PP and QM modules.
- > A management console which integrates an intelligent repository built-in with an interface for generating customer specifications
- > A full Business Intelligence governance Repository.



RapidViews are certified by SAP:



9. SAP Datasphere + Rapid Views: how it works?

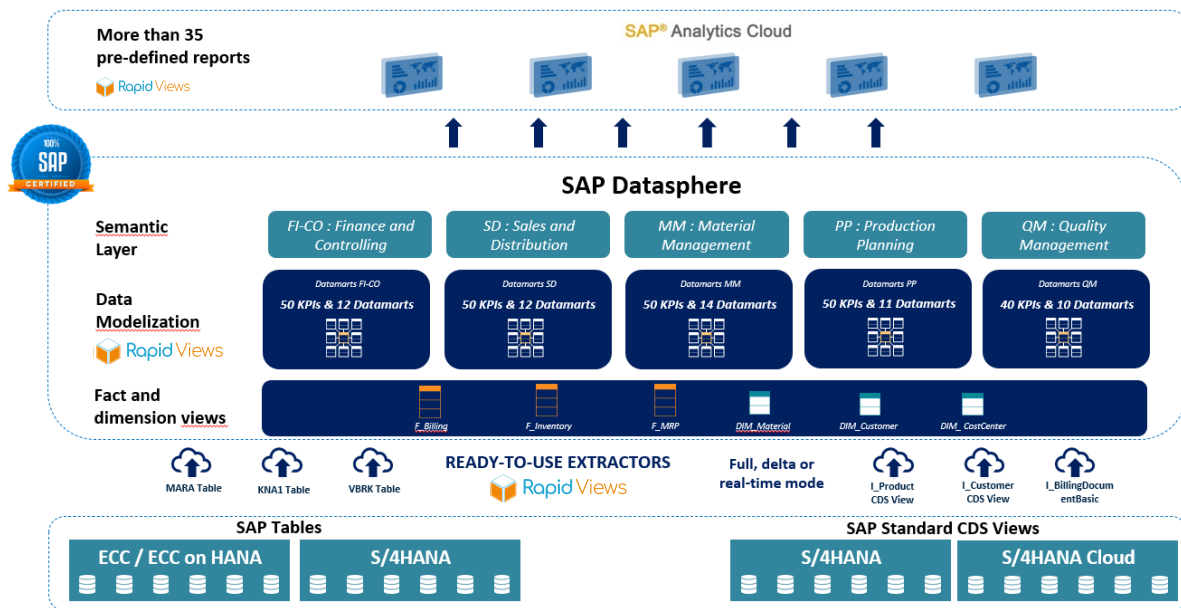
RapidViews Foundation, an innovative solution to accelerate the deployment of Business Intelligence on SAP HANA technologies, are available on SAP Datasphere and consist of:

- Report/analytics libraries that cover standard operational reporting needs on SAP Analytics Cloud
- SAP HANA Virtual Data Marts
- Views of Facts and Dimensions
- Ready-to-use extractors



Our solution is certified by SAP on SAP Datasphere, it is available in the official catalogue of Business Content Partners.

Rapid Views Architecture with SAP Datasphere



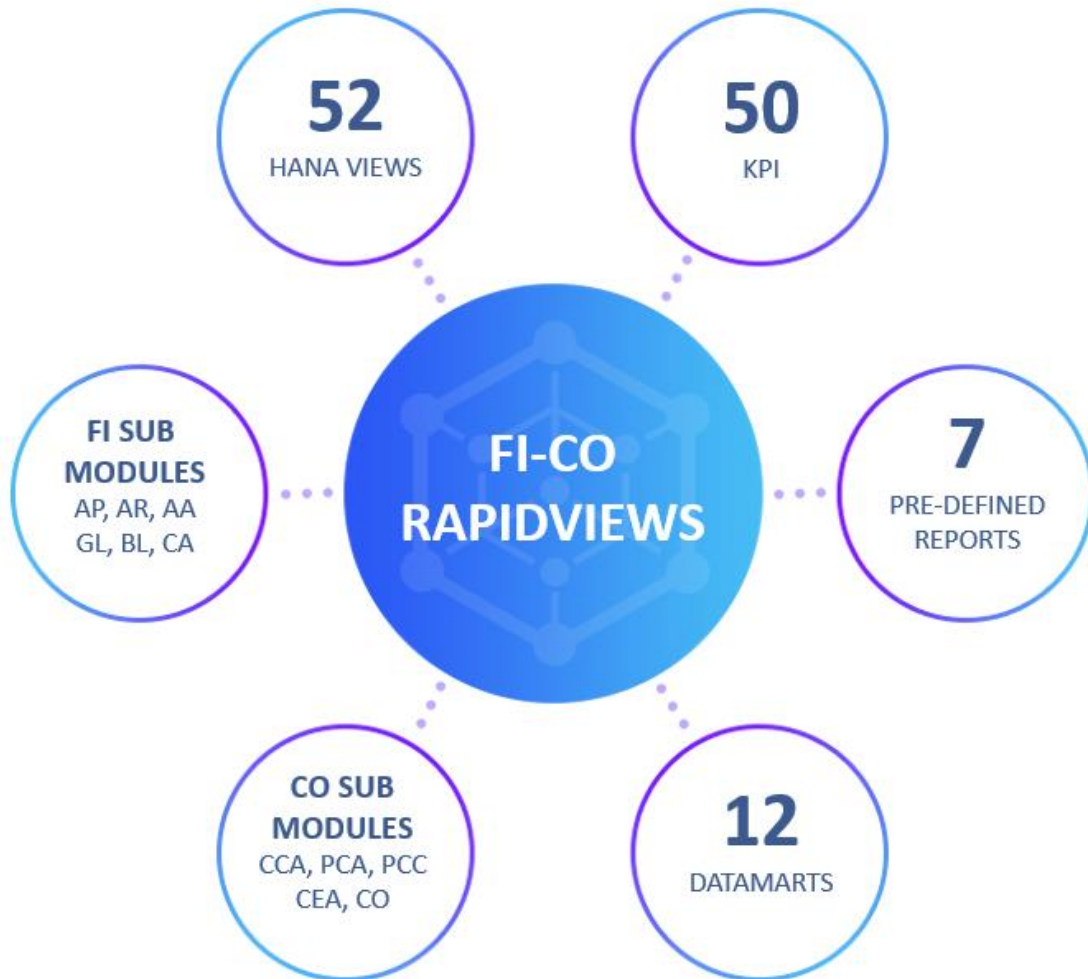
Which modules are available on SAP Datasphere?



9.1. Characteristics and key figures of FI-CO RapidViews

The FI-CO RapidViews is a fantastic Business Intelligence jumpstart for your Finance reporting needs.

What is the FI-CO RapidViews made of?



The FI-CO RapidViews is using 70 SAP Tables.

9.2. Characteristics and key figures of SD RapidViews

The SD RapidViews is a fantastic Business Intelligence jumpstart for your Sales and Distribution reporting needs.

What is the SD RapidViews made of?

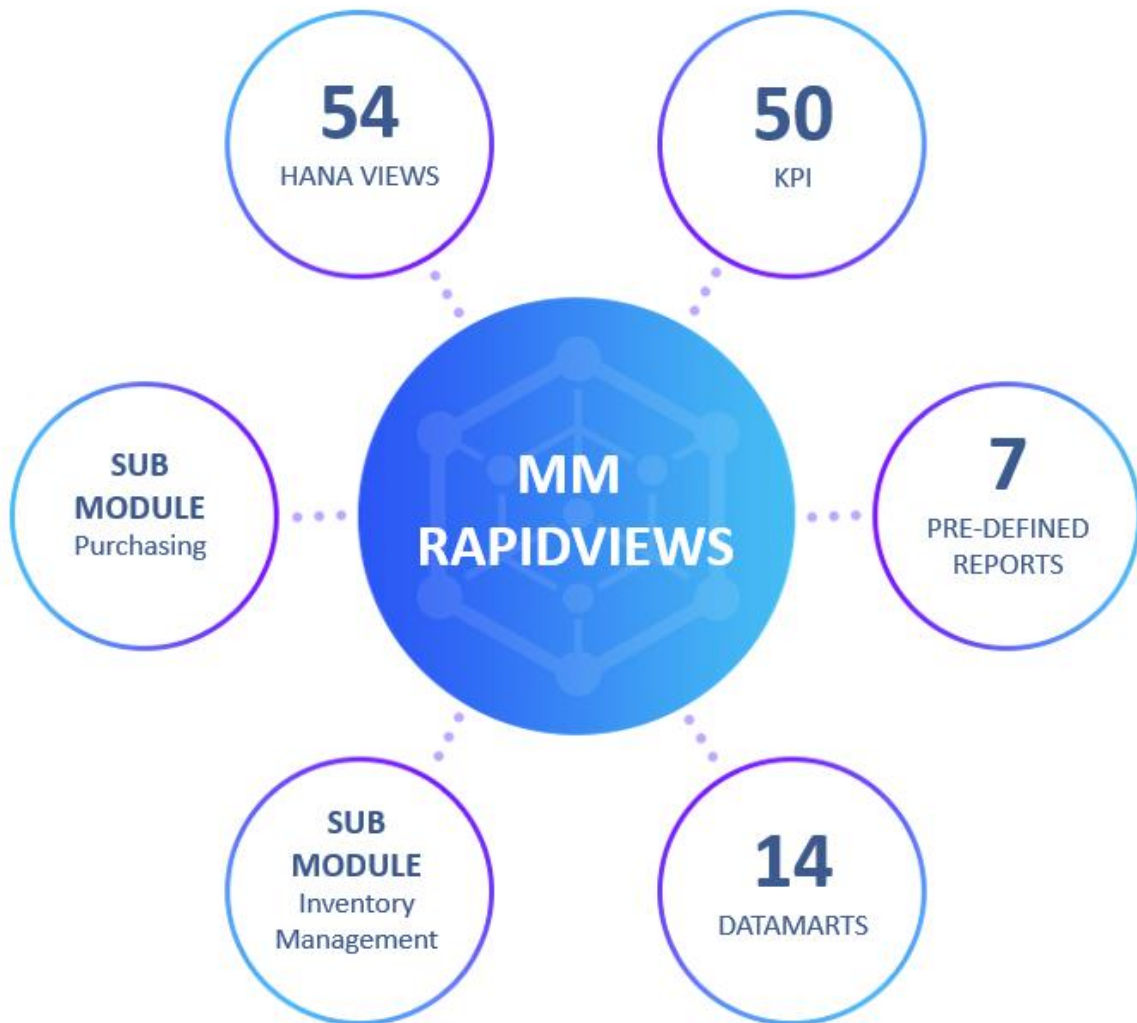


The SD RapidViews is using 80 SAP Tables.

9.3. Characteristics and key figures of MM RapidViews

The MM RapidViews is a fantastic Business Intelligence jumpstart for your Material Management reporting needs.

What is the MM RapidViews made of?

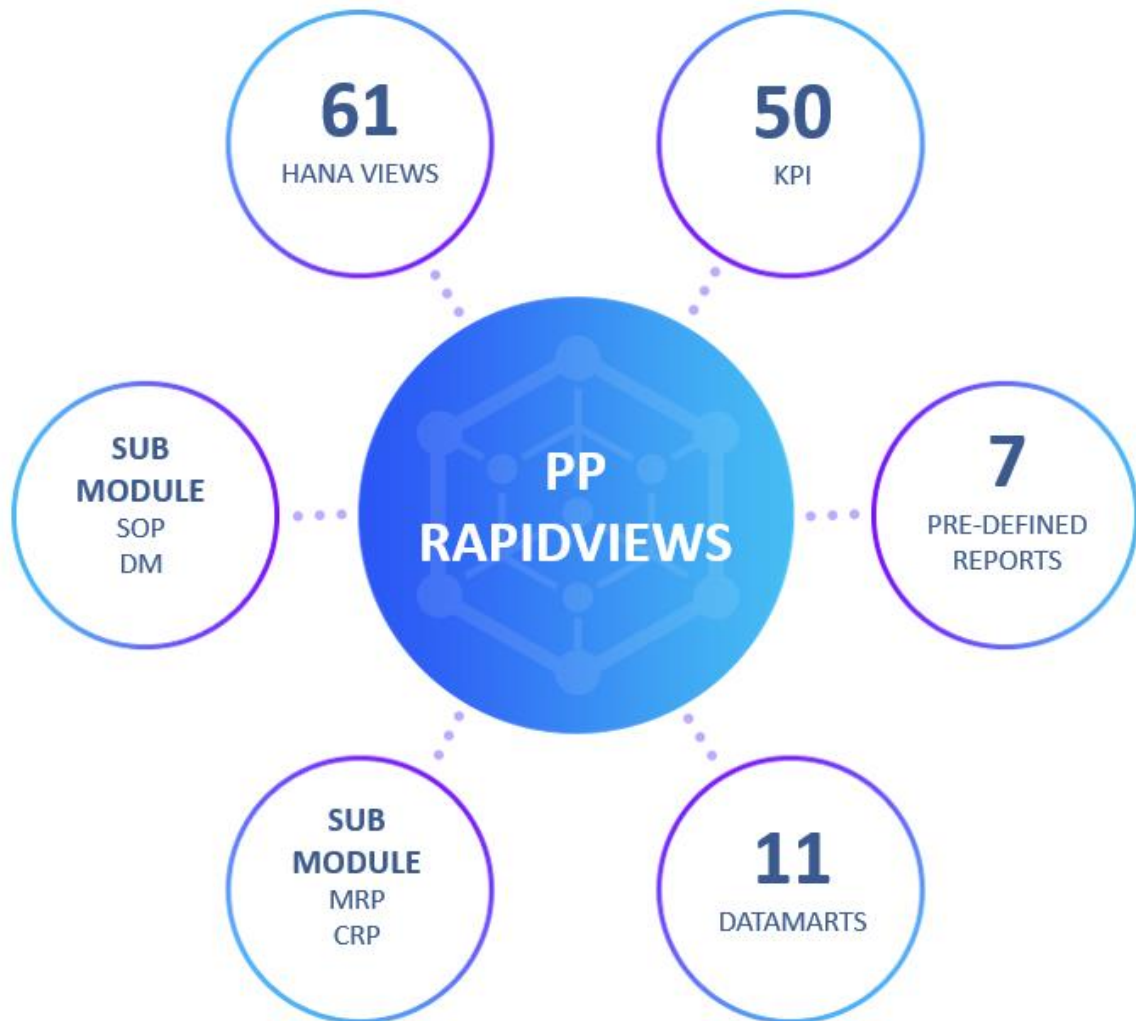


The MM RapidViews is using 70 SAP Tables.

9.4. Characteristics and key figures of PP RapidViews

The PP RapidViews is a fantastic Business Intelligence jumpstart for your Planning and Production reporting needs.

What is the PP RapidViews made of?



The PP RapidViews is using 70 SAP Tables.

9.5. Characteristics and key figures of QM RapidViews

The QM RapidViews is a fantastic Business Intelligence jumpstart for your Quality Management reporting needs

What is the QM RapidViews made of?



The QM RapidViews is using 70 SAP Tables.

Accelerate, centralize and manage your SAP Analytics projects within the Rapid Views platform

7 DAYS FREE TRIAL

