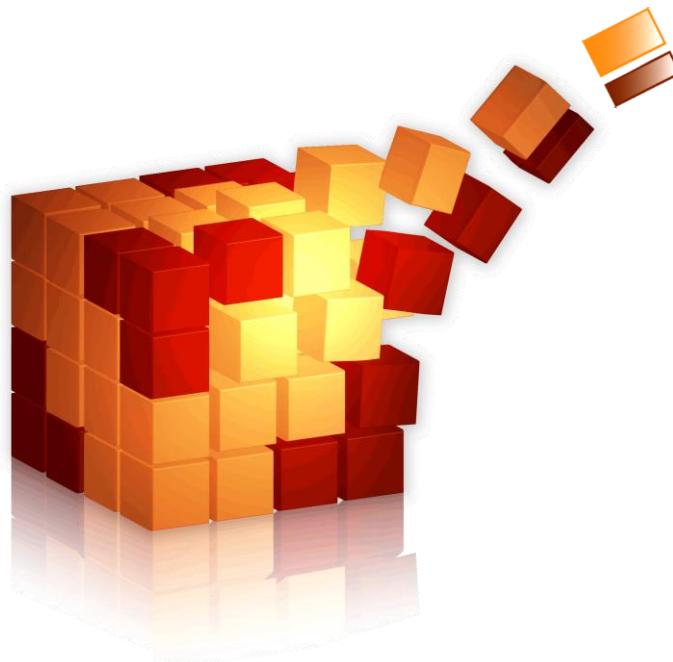
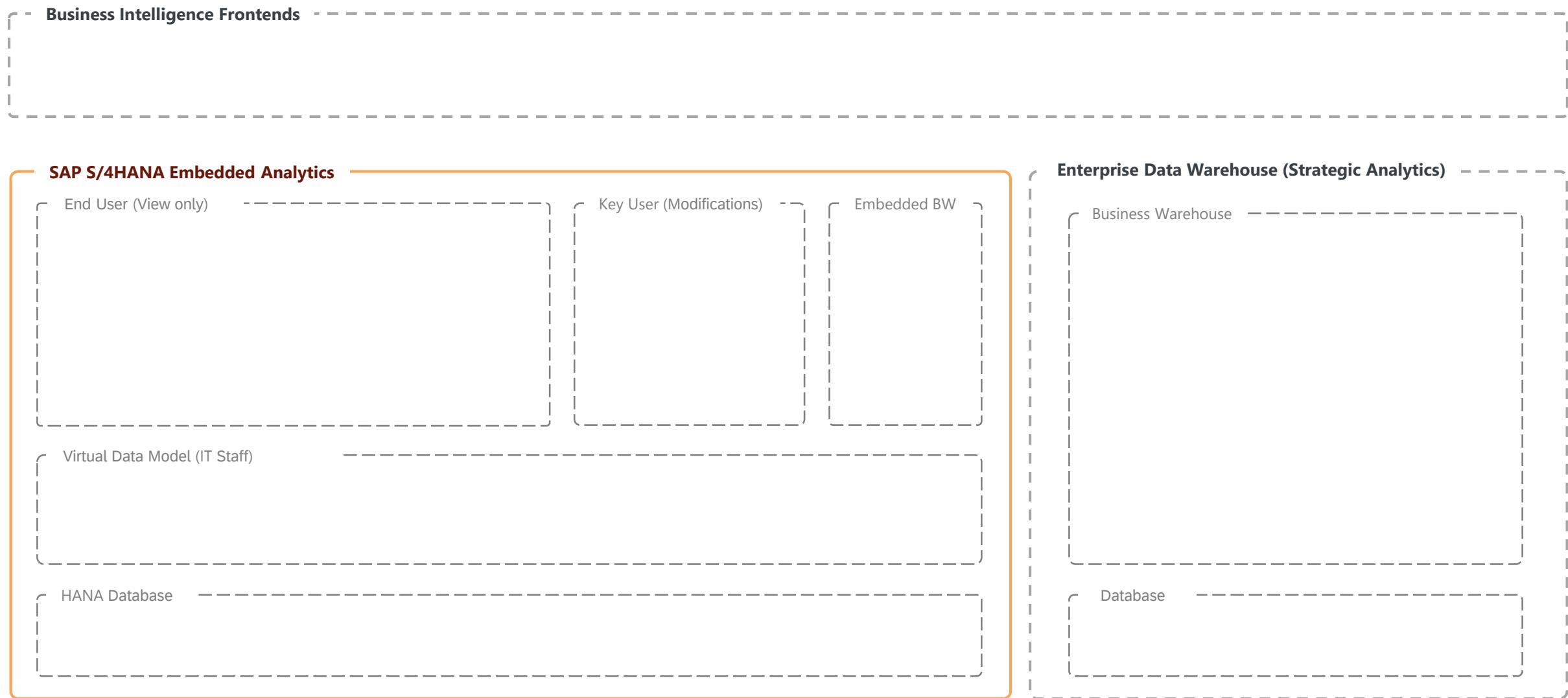


Reporting with S/4HANA



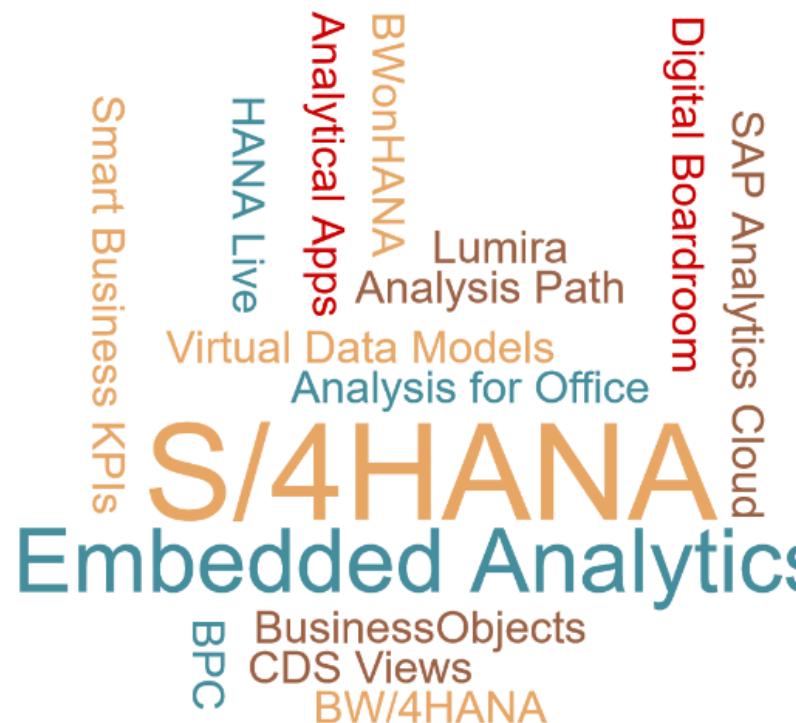
No	Topic
1	[...]
2	Overview Analytics with SAP S/4HANA
3	Terms & Architecture
4	Out-of-the-Box-Analytics
5	Interaction between S/4HANA Analytics with BW and BI Frontends
6	[...]

Overview Analytics with SAP S/4HANA



Overview Analytics with SAP S/4HANA

Options for Reporting

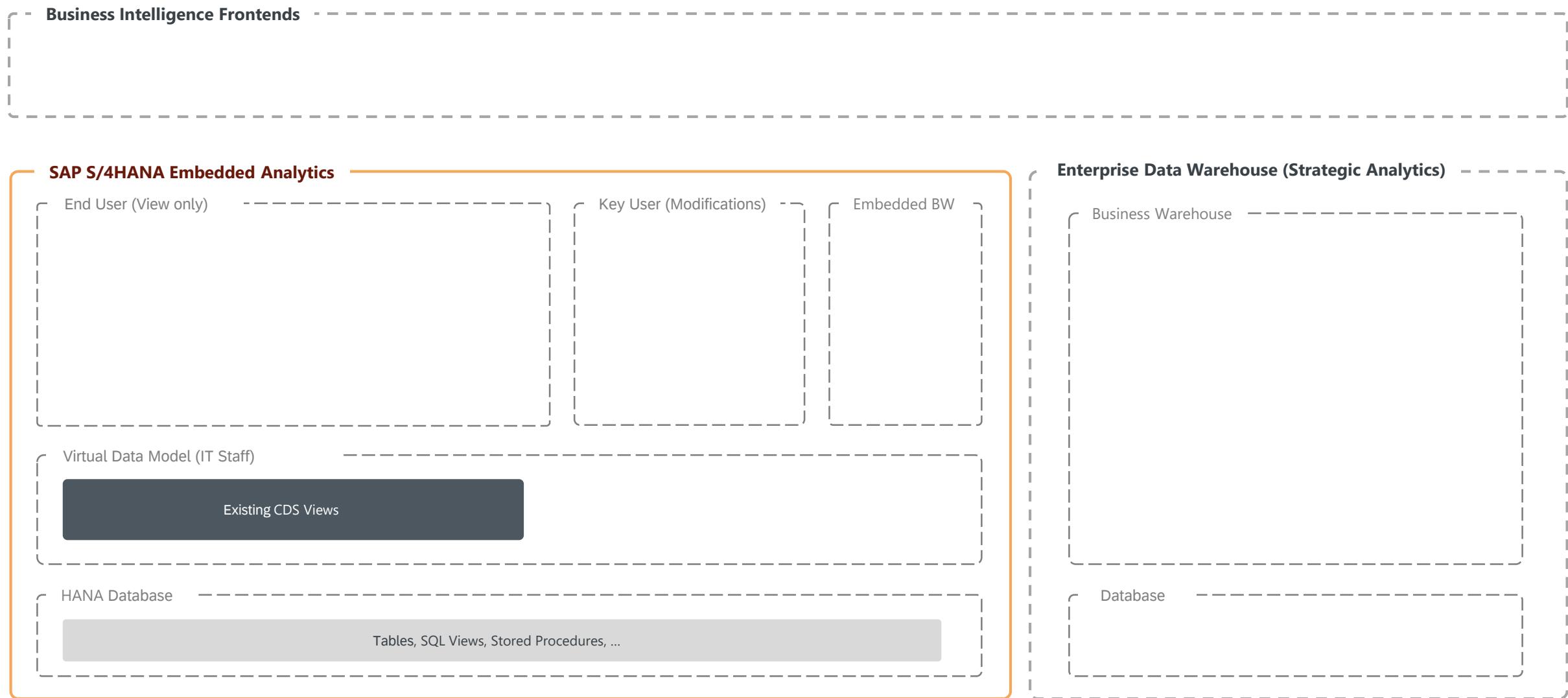


Reporting with S/4HANA

- In the context of S/4HANA reporting, one encounters many terminologies
- S/4HANA allows reporting via
 - BusinessObjects Tools (Lumira, Analysis for Office etc.)
 - The SAP Analytics Cloud incl. Digital Boardroom
 - Integrated, Fiori-typical Reporting
- Additionally there are possibilities to connect an integrated BW, a full BW (BW on Any DB, BW on HANA or BW/4HANA)
- In connection to reporting the terms „HANA Live“, „Virtual Data Models“ or „CDS Views“ are used.
You will find details on the next slides.

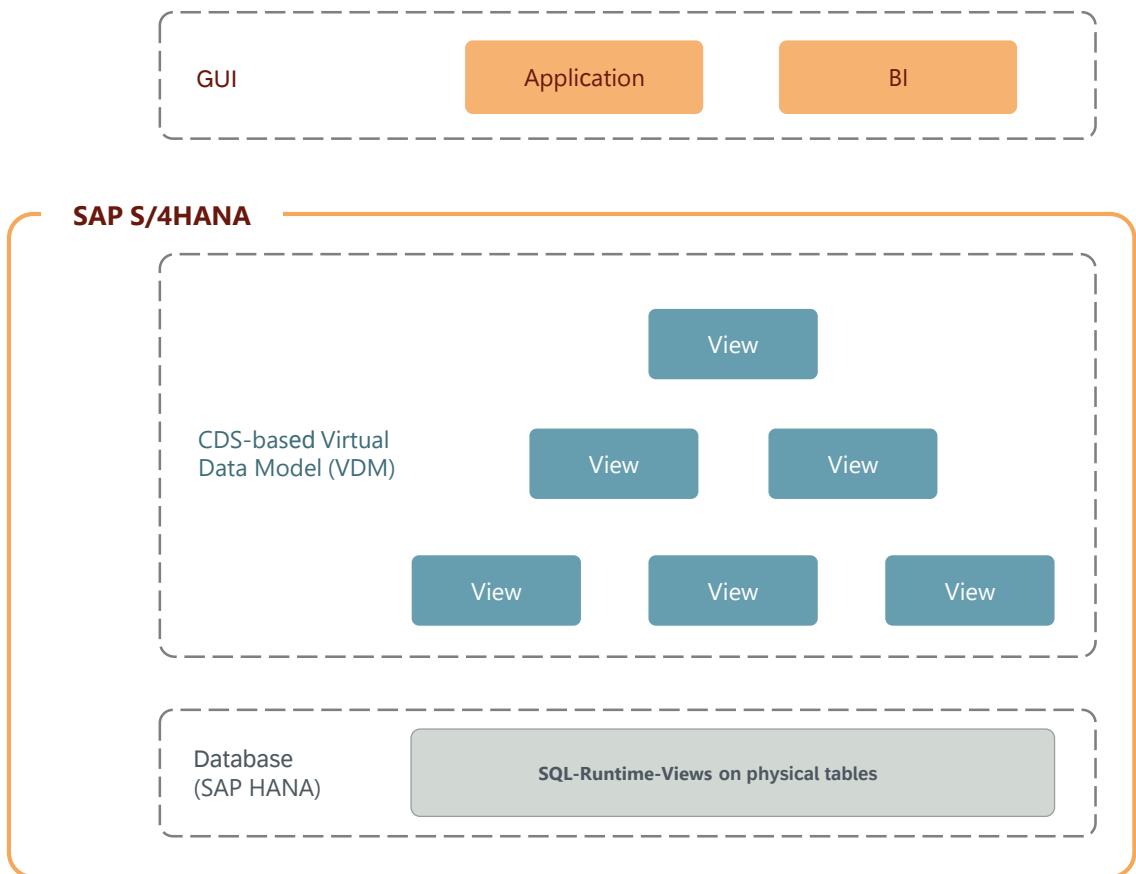
No	Topic
1	[...]
2	Overview Analytics with SAP S/4HANA
3	Terms & Architecture
4	Out-of-the-Box-Analytics
5	Interaction between S/4HANA Analytics with BW and BI Frontends
6	[...]

Overview Analytics with SAP S/4HANA



Terms & Architecture

Core Data Services (CDS) Views

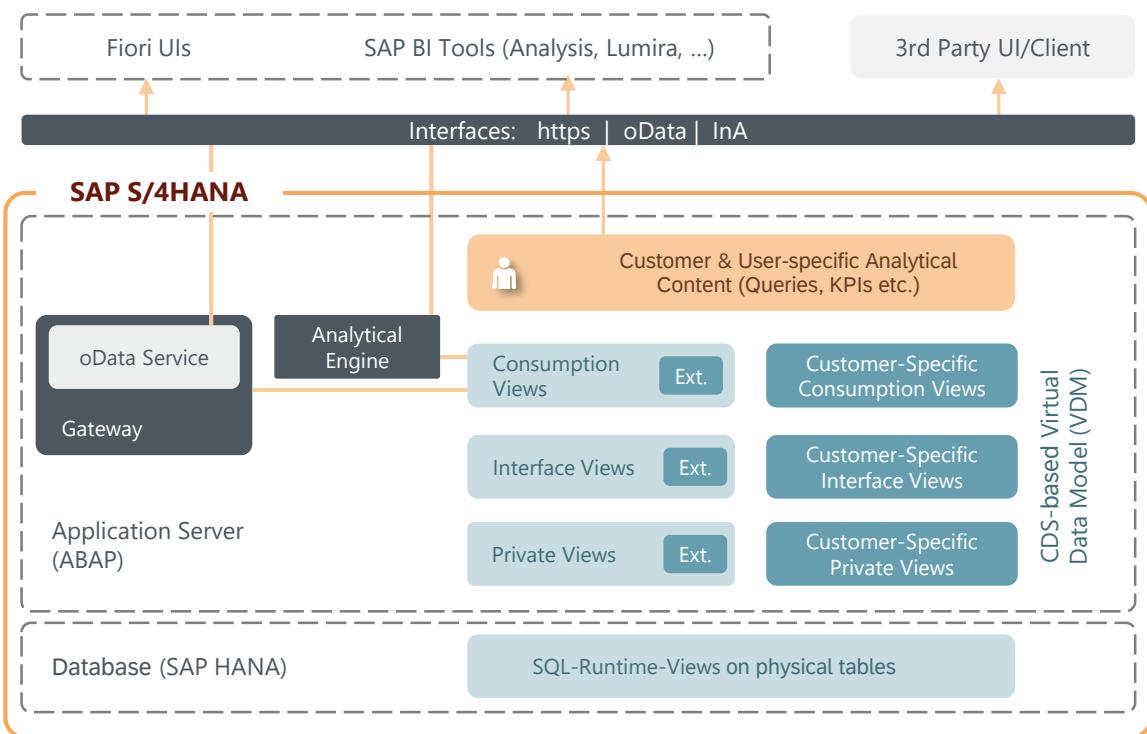


CDS Views

- CDS Views are SAPs „strategic approach“ for visualizing business content & interrelationships
- There is a big amount (>9.000) of predefined CDS Views available

Terms & Architecture

Core Data Services (CDS) Views



CDS Views

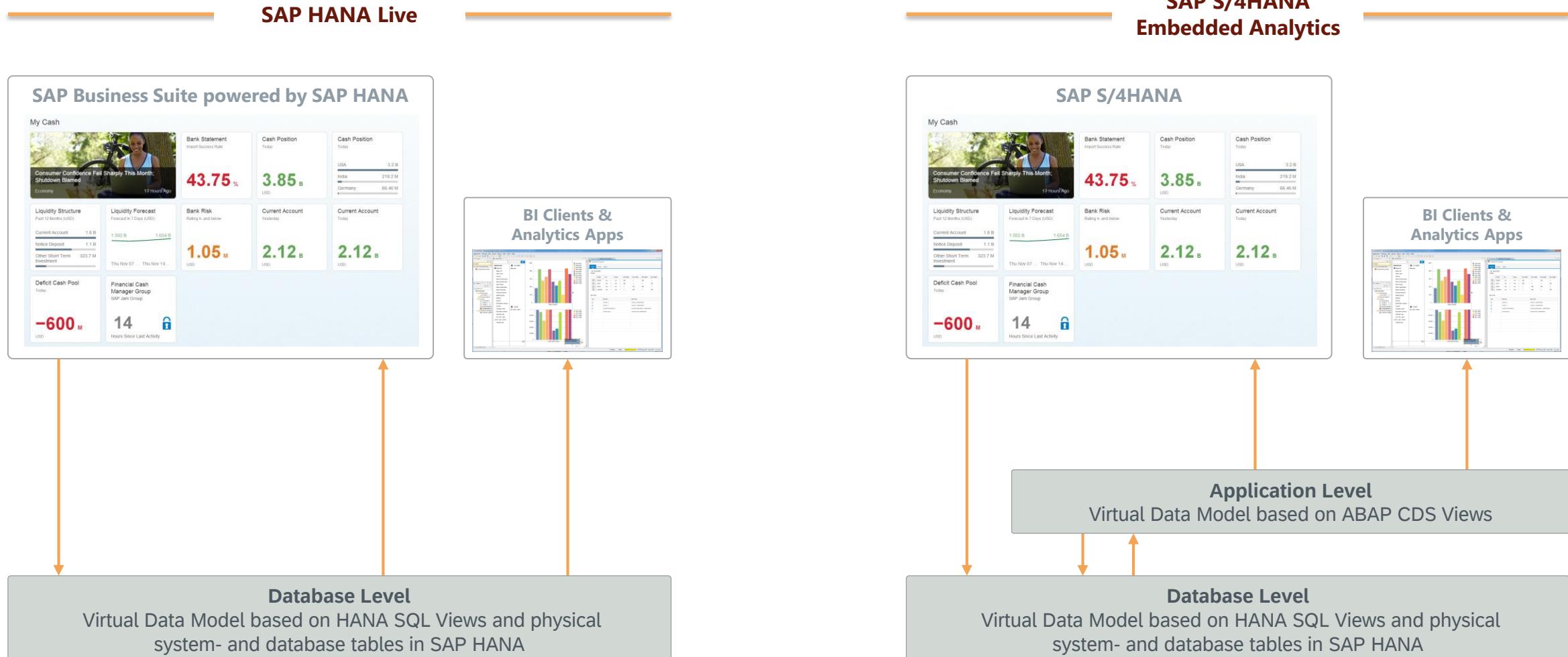
- CDS Views are SAPs „strategic approach“ for visualizing business content & interrelationships
- There is a big amount (>9.000) of predefined CDS Views available
- The „Analytical Engine“ uses CDS Views too
- There is a "Push-Down" of functionality to the SAP HANA-database, wherever this is possible
- SAP BI Frontends use CDS Views via the SAP Gateway or the Analytical Engine
- End-User-Tools generate CDS Views for analytical Queries

More information regarding CDS Views

- [SAP Help](#)
- [Core Data Services in SAP S/4HANA \[Blog\]](#)
- [SAP S/4HANA Extensibility – Custom CDS Views in SAP S/4HANA Cloud and differences with SAP S/4HANA \(OP\) \[Blog\]](#)

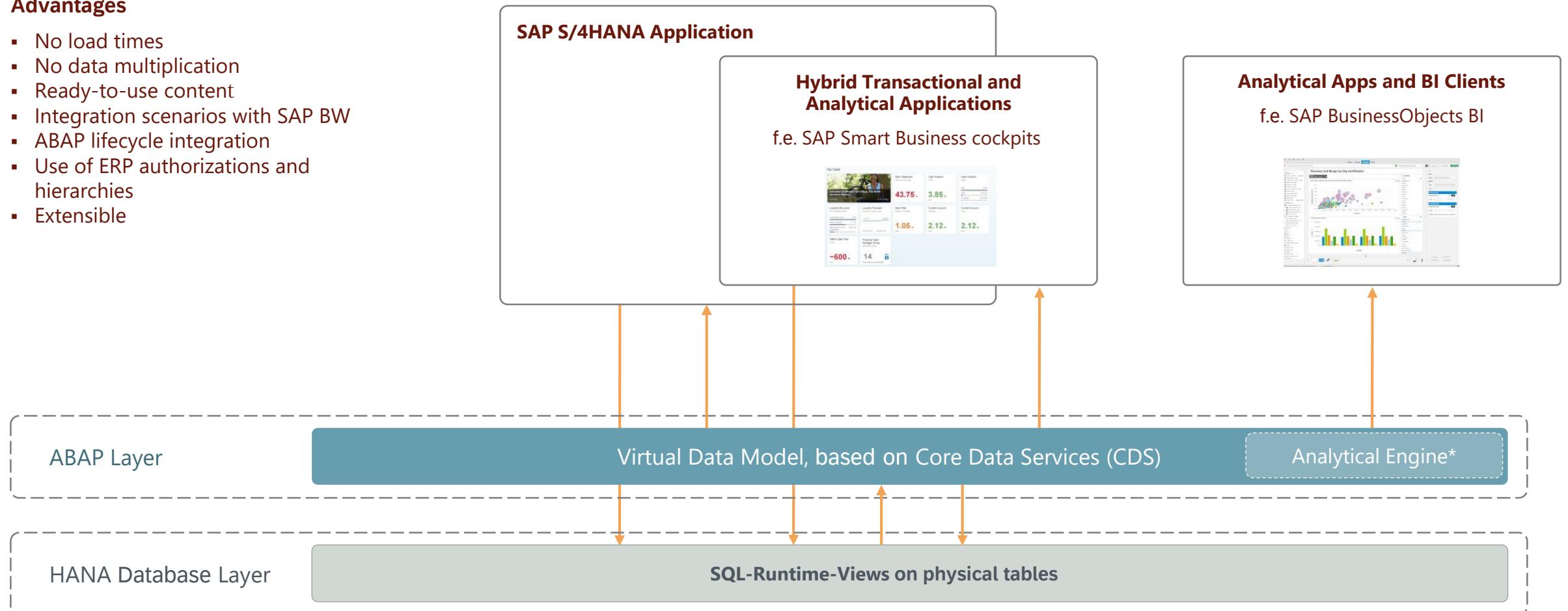
Terms & Architecture

HANA Live vs. S/4HANA Embedded Analytics



Advantages

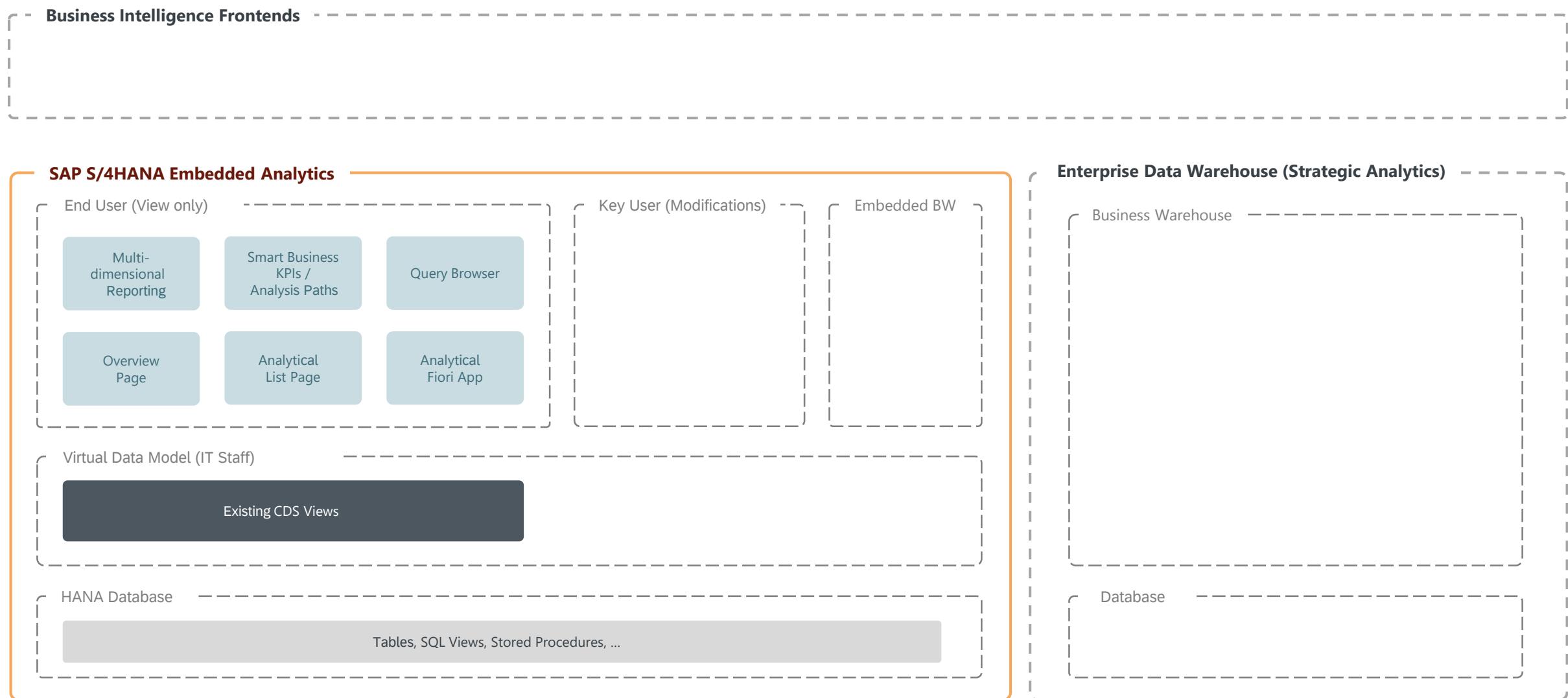
- No load times
- No data multiplication
- Ready-to-use content
- Integration scenarios with SAP BW
- ABAP lifecycle integration
- Use of ERP authorizations and hierarchies
- Extensible



*with transient BEx Queries

No	Topic
1	[...]
2	Overview Analytics with SAP S/4HANA
3	Terms & Architecture
4	Out-of-the-Box-Analytics
5	Interaction between S/4HANA Analytics with BW and BI Frontends
6	[...]

Overview Analytics with SAP S/4HANA



Out-of-the-Box-Analytics Overview Page

SAP

Procurement Overview

Standard * Filtered By (1): Supplier

Contract Monitoring 3 of 35
Ranked by consumption and validity date

Contract	Validity Date	Amount	Progress (%)
Contract A	22 months left	50K USD	91%
Contract B	19 months left	47K USD	84%
Contract C	34 months left	5K USD	45%

Off-Contract Spend 3 of 10
This week

Supplier	Date	Amount
Jologa	JUL 14, 2016	59K USD
PC Gym Tec	JUL 13, 2016	32K USD
DelBont Industries	JUL 12, 2016	77K USD

Recent Contacts
Donna Moore
Company A


Open Activities 20 of 42
Supplier development

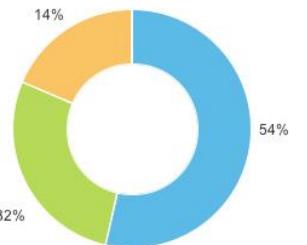
Activity	Delivery Date	Value
Laser Basic	2 days	180 EA 9.8K USD
Photo Scan	3 days	68 EA 4.6K USD
Ergo Mousepad	2 days	75 EA 2.1K USD

Urgent Purchase Requisition Items 3 of 40
By delivery date and value

Item	Delivery Date	Value
Laser Basic	2 days	180 EA 9.8K USD
Photo Scan	3 days	68 EA 4.6K USD
Ergo Mousepad	2 days	75 EA 2.1K USD

Purchase Order Management
Year to date

Canceled Purchase Orders by Product Type



Product Type	Percentage
Accessories	54%
Smartphone	32%
Printer	14%

Non-Managed Spend by Supplier 5 of 40
Last 30 days

Supplier	Amount
Supplier A	29.4K USD
Supplier B	21.1K USD
Supplier C	17.8K USD
Supplier D	

Contract Monitoring EMEA 3 of 35
By consumption, compared to last year

Contract	Progress (%)	Change (%)
Contract A	91%	+4%
Contract B	52%	+2%
Contract C	23%	+1%

Quick Links

- Create Supplier
- Create Purchase Order
- Create Contract
- Manage Products
- Manage Purchase Orders
- Supplier Invoices List

Out-of-the-Box-Analytics Multidimensional Reporting Client

The image displays two SAP analytical dashboards side-by-side, illustrating the Out-of-the-Box-Analytics Multidimensional Reporting Client.

Left Dashboard: Incoming Sales Orders

This dashboard shows a bar chart of sales orders. The Y-axis represents the value in euros, ranging from 0.00 € to 25,000,000.00 €. The X-axis shows dates: 03/2015, 04/2015, 05/2015, and 06/2015. The chart displays two bars: one blue bar for April 2015 reaching approximately 22,000,000 €, and one yellow bar for April 2015 reaching approximately 18,000,000 €.

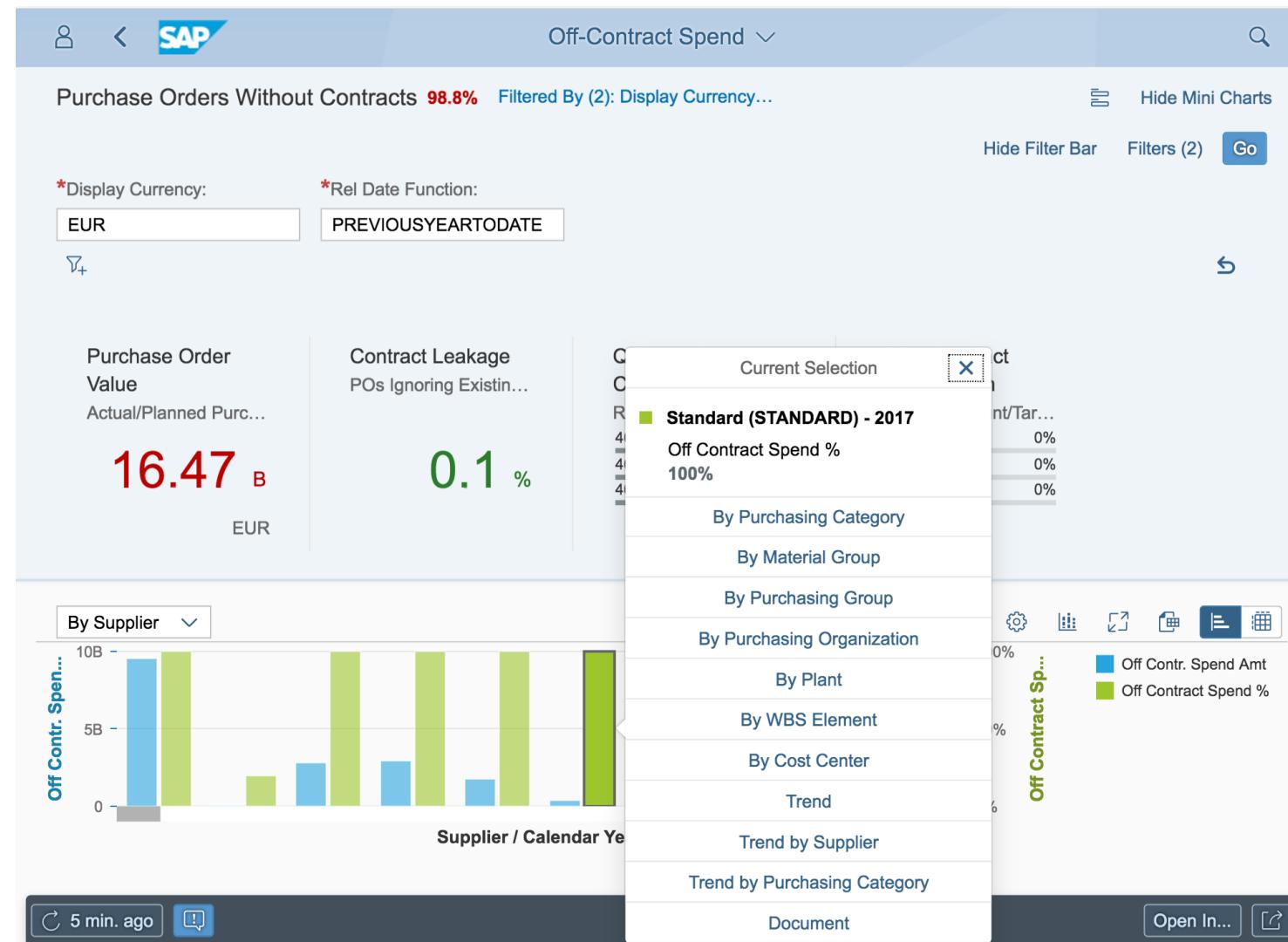
Right Dashboard: Trial Balance

This dashboard displays a detailed trial balance table. The table has columns for G/L Account, Starting Balance, Debit Balance, Credit Balance, and Ending Balance. The table is organized into sections: ASSETS, LIABILITIES, and a Profit and loss statement section.

G/L Account	Starting Balance	Debit Balance	Credit Balance	Ending Balance
Acc Balance Sheet (#266) / P&L (...	0.00 EUR	1,120,569.84 EUR	-1,120,569.84 EUR	0.00 EUR
ASSETS				
A. Subscriptions to capital stock	0.00 EUR	246,880.29 EUR	0.00 EUR	246,880.29 EUR
B. Current assets	24,788,956.92 EUR	571,552.55 EUR	-530,917.16 EUR	24,829,592.31 EUR
C. Prepayments and accrued inc...	900.00 EUR	6.00 EUR	-106.00 EUR	800.00 EUR
LIABILITIES				
A. Profit and loss statement	-825,650.92 EUR	6,776.96 EUR	-287,767.69 EUR	-1,106,641.65 EUR
Profit and loss statement	-23,951,354.00 EUR	34,595.05 EUR	-37,145.00 EUR	-23,953,903.95 EUR
Supplement	-12,852.00 EUR	260,758.99 EUR	-264,633.99 EUR	-16,727.00 EUR

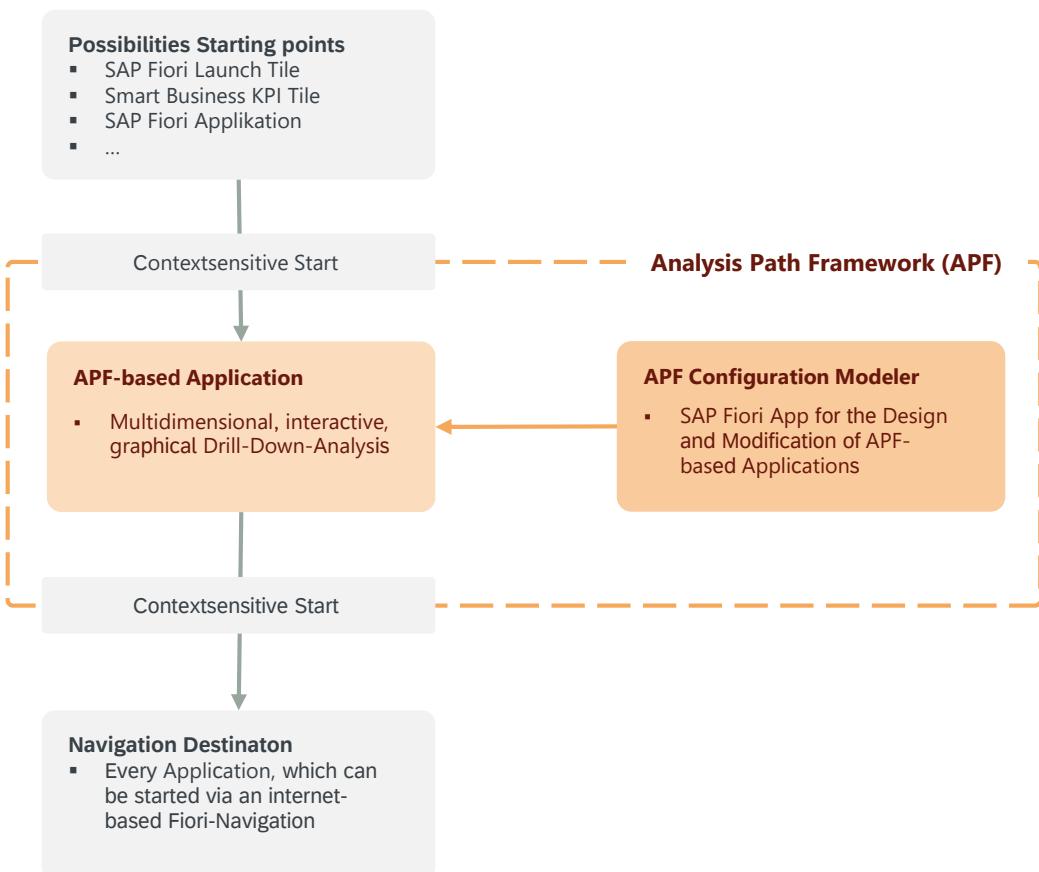
Out-of-the-Box-Analytics

SAP Smart Business KPI



Out-of-the-Box-Analytics

Analysis Path Framework 1/2

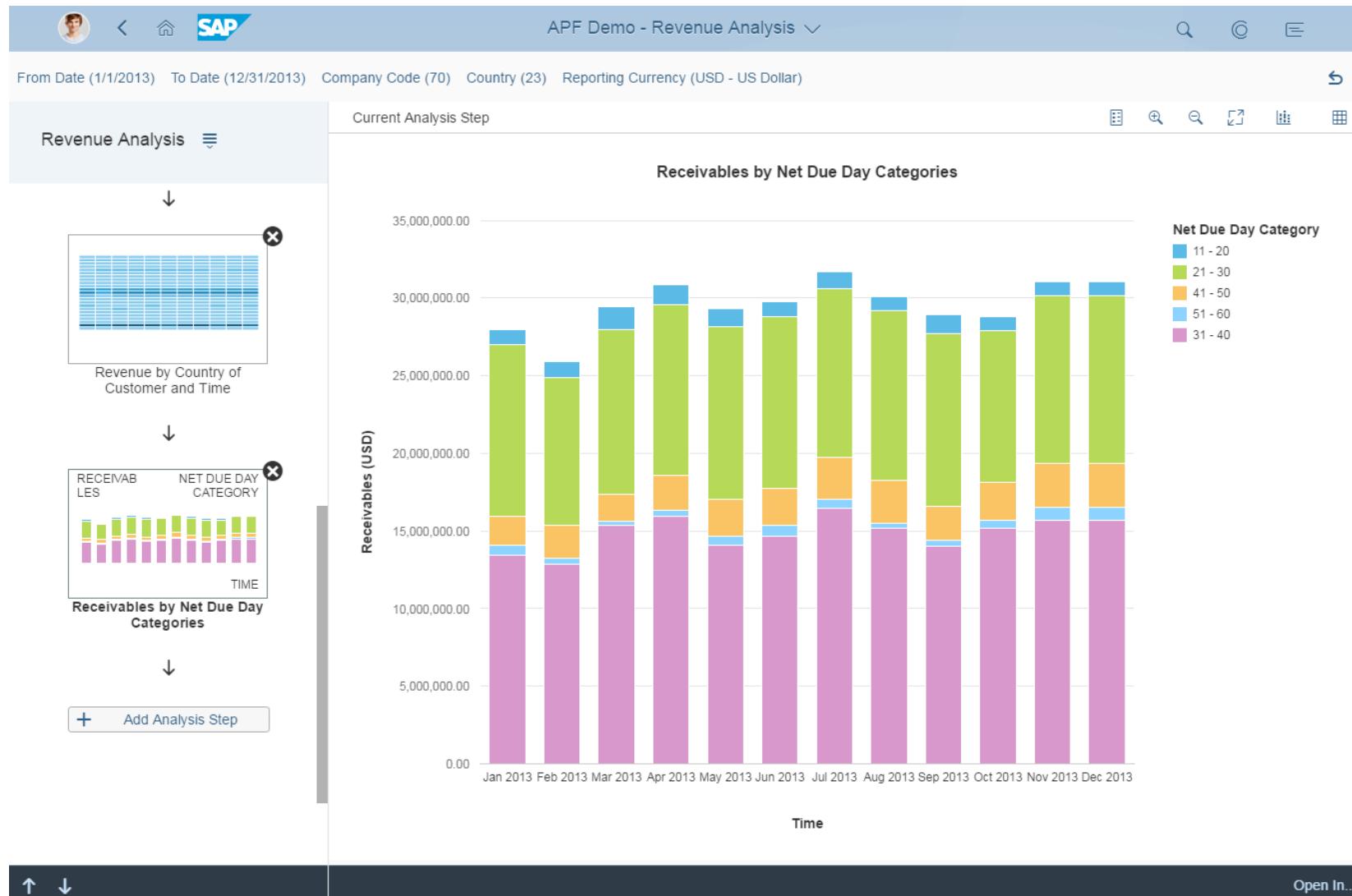


Analysis Path Framework (APF)

- The APF is a framework for end users to configure interactive, analytical drilldown apps with graphical evaluations.
- APF-based apps allow the user to analyze KPIs from different data sources step by step. This involves context-sensitive jumping from one step to the next.
- The starting point can be different sources, such as Smart Business KPIs or an explicit Fiori tile.
- The APF is based on a number of SAP Fiori Apps

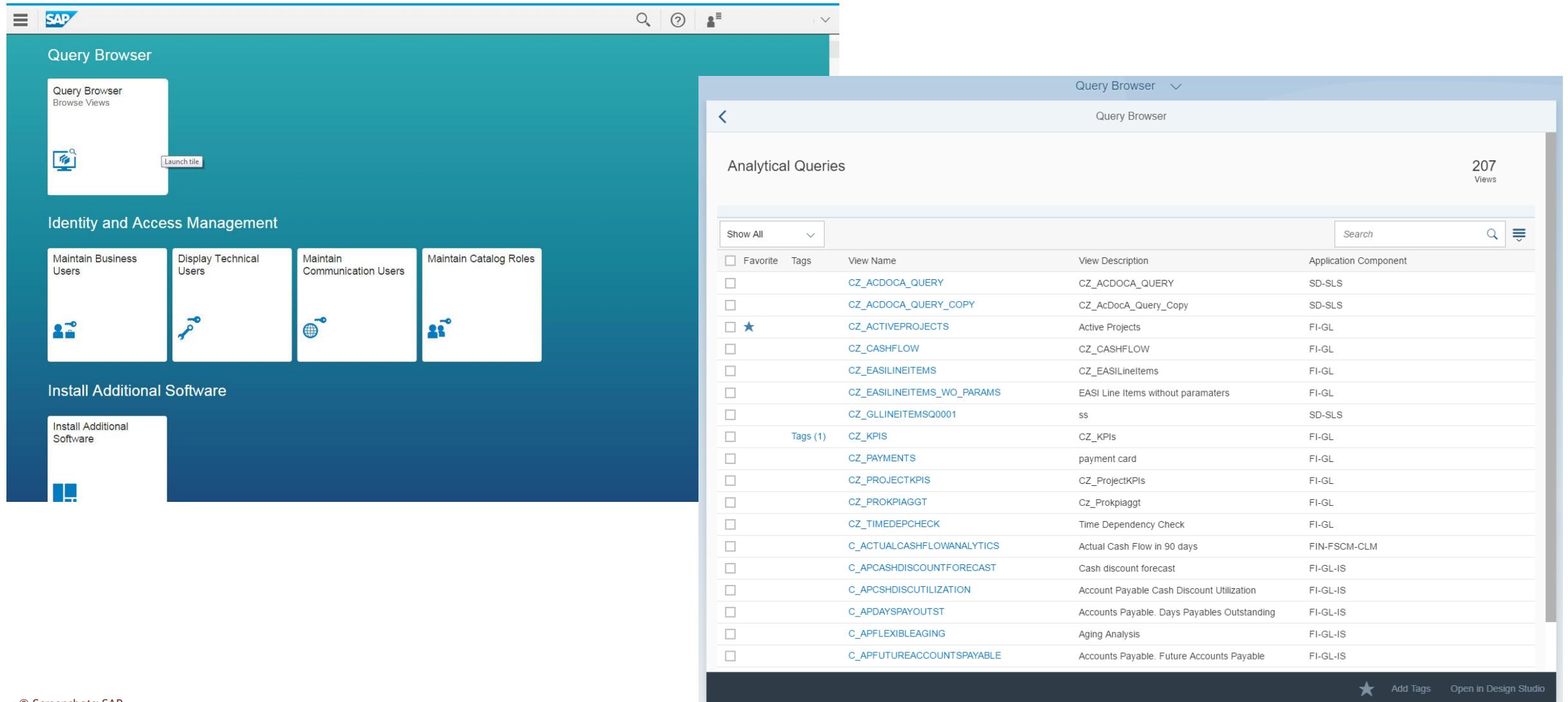
Out-of-the-Box-Analytics

Analysis Path Framework 2/2



Out-of-the-Box-Analytics

Query Browser

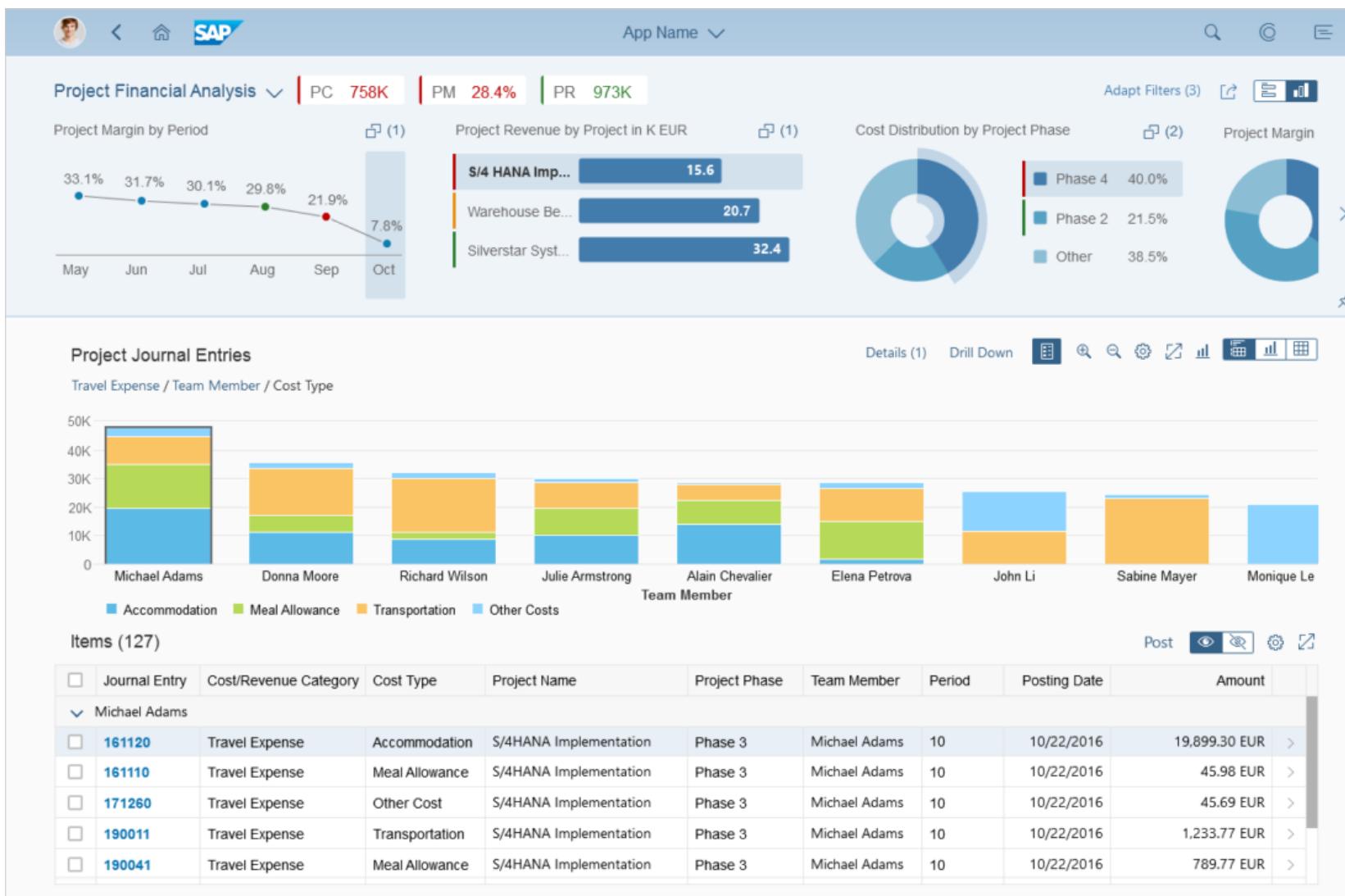


The image shows two screenshots of the SAP Query Browser interface. The left screenshot is a landing page with a teal header and a white content area. It features a 'Query Browser' tile with a search icon and a 'Launch tile' button. Below this are sections for 'Identity and Access Management' (with tiles for Business Users, Technical Users, Communication Users, and Catalog Roles) and 'Install Additional Software' (with a tile for Additional Software). The right screenshot is a detailed view of the 'Analytical Queries' list. The header shows 'Analytical Queries' with a '207 Views' badge. The list table has columns for 'View Name', 'View Description', and 'Application Component'. Each row in the table represents a different analytical query, such as 'CZ_ACDOCA_QUERY' (View Name), 'CZ_ACDOCA_QUERY' (View Description), and 'SD-SLS' (Application Component). The table includes a 'Show All' dropdown, a search bar, and a toolbar with a star icon, a 'Tags' button, and a 'Search' button.

View Name	View Description	Application Component
CZ_ACDOCA_QUERY	CZ_ACDOCA_QUERY	SD-SLS
CZ_ACDOCA_QUERY_COPY	CZ_AcDocA_Query_Copy	SD-SLS
CZ_ACTIVEPROJECTS	Active Projects	FI-GL
CZ_CASHFLOW	CZ_CASHFLOW	FI-GL
CZ_EASILINEITEMS	CZ_EASILINEITEMS	FI-GL
CZ_EASILINEITEMS_WO_PARAMS	EASI Line Items without parameters	FI-GL
CZ_GLLINEITEMSQ0001	ss	SD-SLS
CZ_KPIS	CZ_KPIS	FI-GL
CZ_PAYMENTS	payment card	FI-GL
CZ_PROJECTKPI	CZ_ProjectKPIs	FI-GL
CZ_PROKPIAGGT	Cz_Prokpiagg	FI-GL
CZ_TIMEDEPCHECK	Time Dependency Check	FI-GL
C_ACTUALCASHFLOWANALYTICS	Actual Cash Flow in 90 days	FIN-FSCM-CLM
C_APcashdiscountforecast	Cash discount forecast	FI-GL-IS
C_APcashdiscountutilization	Account Payable Cash Discount Utilization	FI-GL-IS
C_APdayspayoutst	Accounts Payable. Days Payables Outstanding	FI-GL-IS
C_APflexibleaging	Aging Analysis	FI-GL-IS
C_APfutureaccountspayable	Accounts Payable. Future Accounts Payable	FI-GL-IS

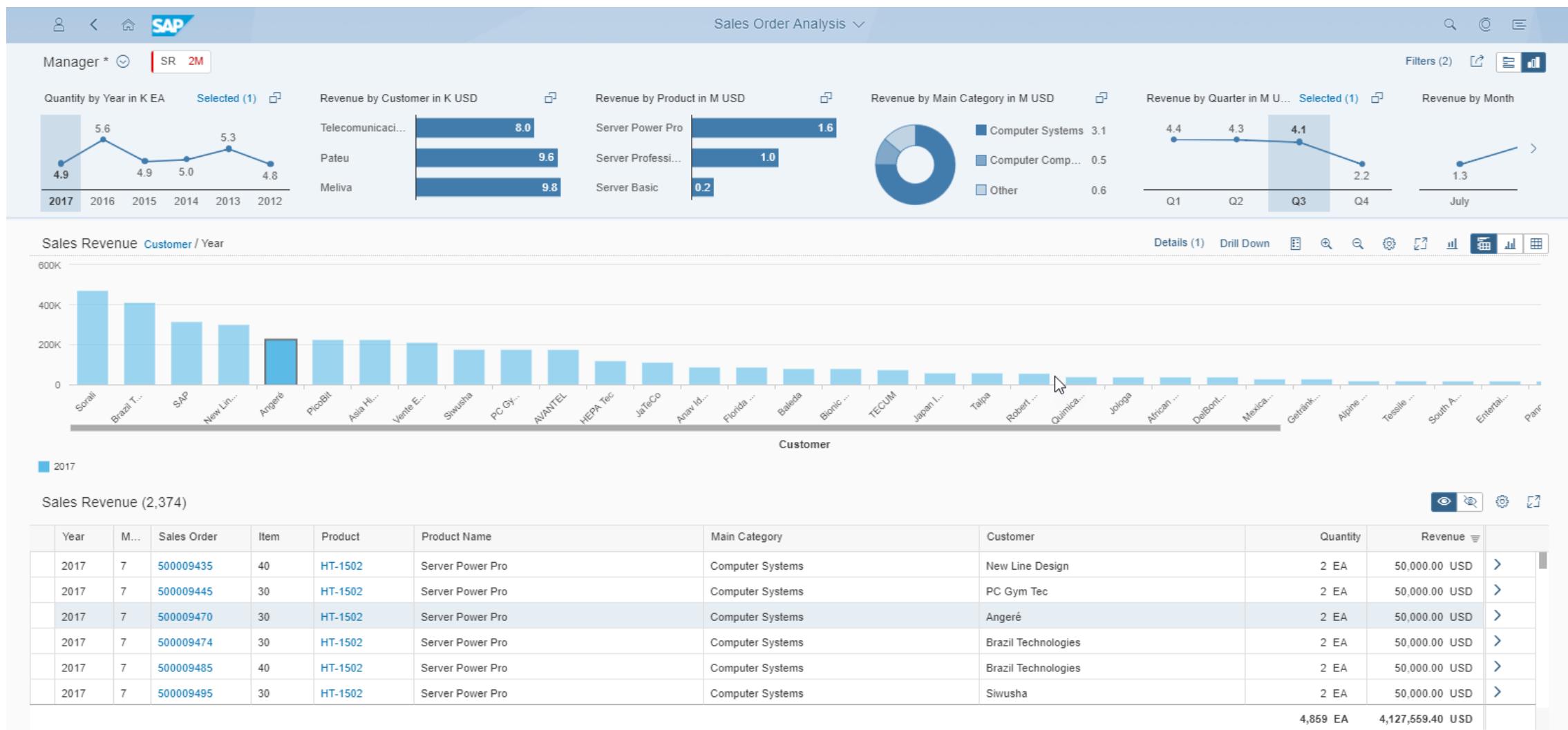
Out-of-the-Box-Analytics

Analytical List Page 1/3



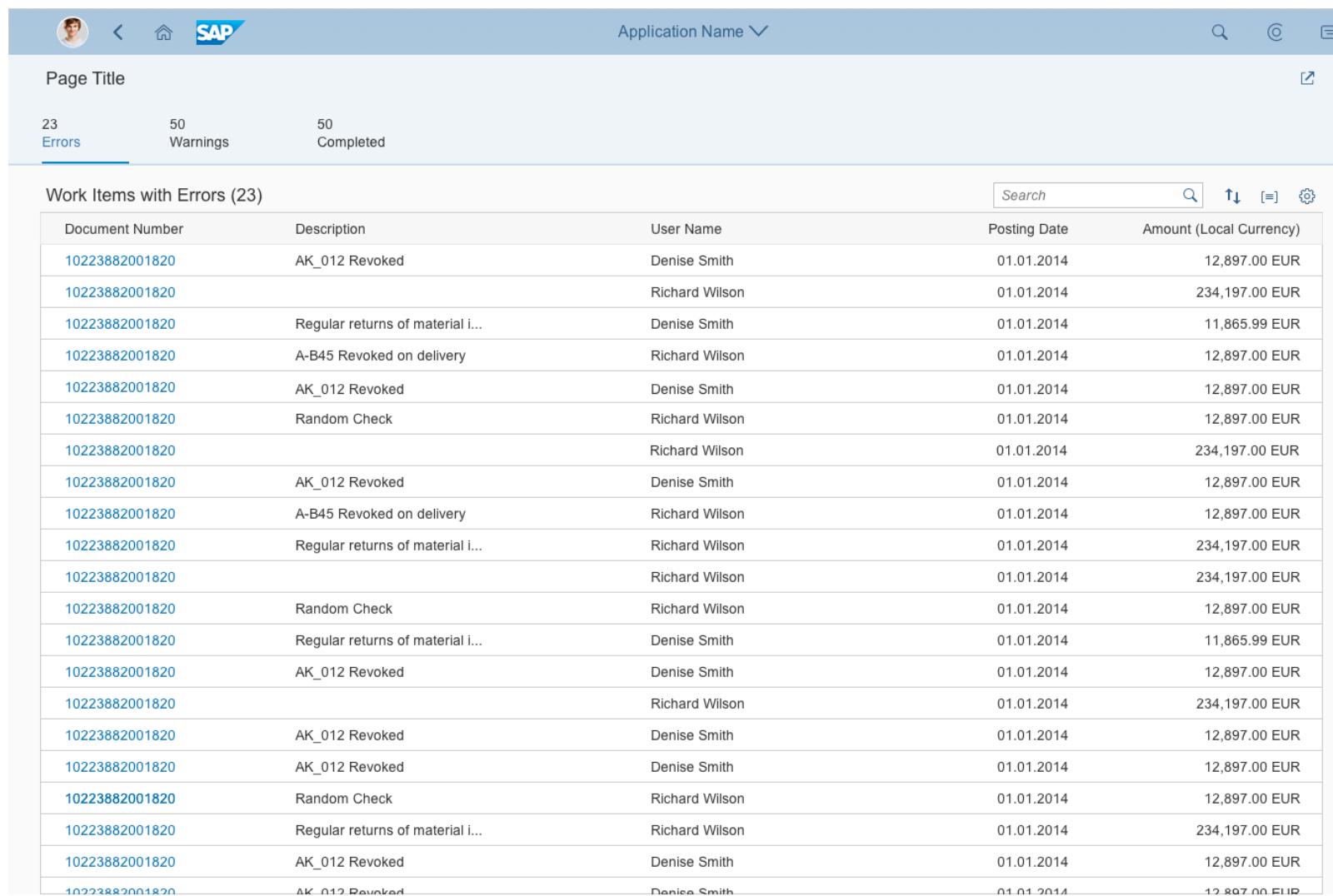
Out-of-the-Box-Analytics

Analytical List Page 2/3



Out-of-the-Box-Analytics

Analytical List Page 3/3: Comparison to a simple list



Page Title

Application Name ▾

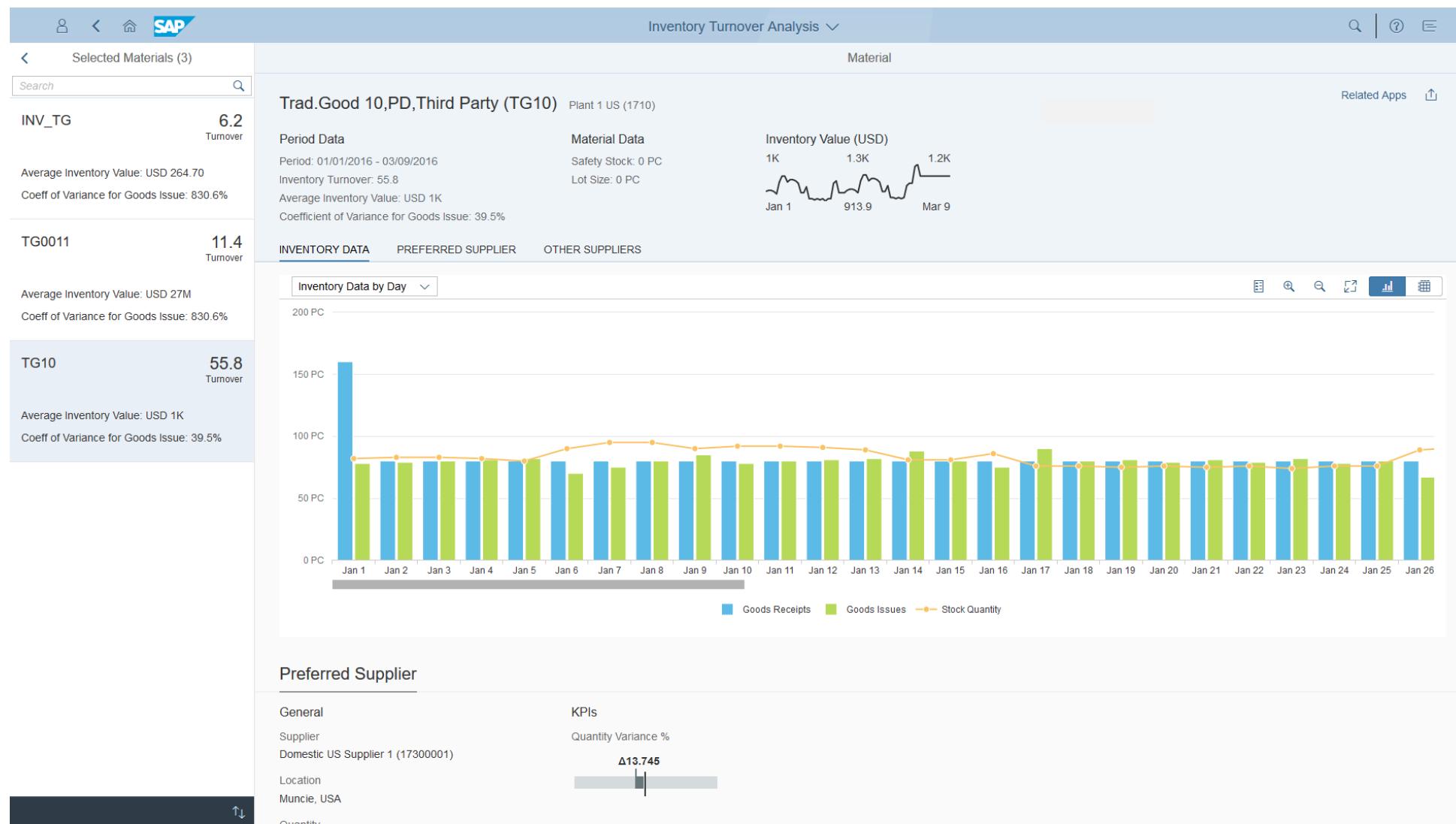
23 Errors 50 Warnings 50 Completed

Work Items with Errors (23)

Document Number	Description	User Name	Posting Date	Amount (Local Currency)
10223882001820	AK_012 Revoked	Denise Smith	01.01.2014	12,897.00 EUR
10223882001820		Richard Wilson	01.01.2014	234,197.00 EUR
10223882001820	Regular returns of material i...	Denise Smith	01.01.2014	11,865.99 EUR
10223882001820	A-B45 Revoked on delivery	Richard Wilson	01.01.2014	12,897.00 EUR
10223882001820	AK_012 Revoked	Denise Smith	01.01.2014	12,897.00 EUR
10223882001820	Random Check	Richard Wilson	01.01.2014	12,897.00 EUR
10223882001820		Richard Wilson	01.01.2014	234,197.00 EUR
10223882001820	AK_012 Revoked	Denise Smith	01.01.2014	12,897.00 EUR
10223882001820	A-B45 Revoked on delivery	Richard Wilson	01.01.2014	12,897.00 EUR
10223882001820	Regular returns of material i...	Richard Wilson	01.01.2014	234,197.00 EUR
10223882001820		Richard Wilson	01.01.2014	234,197.00 EUR
10223882001820	Random Check	Richard Wilson	01.01.2014	12,897.00 EUR
10223882001820	Regular returns of material i...	Denise Smith	01.01.2014	11,865.99 EUR
10223882001820	AK_012 Revoked	Denise Smith	01.01.2014	12,897.00 EUR
10223882001820		Richard Wilson	01.01.2014	234,197.00 EUR
10223882001820	AK_012 Revoked	Denise Smith	01.01.2014	12,897.00 EUR
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10223882001820	AK_012 Revoked	Denise Smith	01.01.2014	12,897.00 EUR
10223882001820	AK_012 Revoked	Denise Smith	01.01.2014	12,897.00 EUR

Out-of-the-Box-Analytics

Analytical SAP Fiori Applications 1/3



Out-of-the-Box-Analytics

Analytical SAP Fiori Applications 2/3

SAP

Inventory Turnover Analysis

Selected Materials (3)

Material	Turnover
INV_TG	6.2
TG0011	11.4
TG10	55.8

Average Inventory Value: USD 264.70
Coeff of Variance for Goods Issue: 830.6%

Average Inventory Value: USD 27M
Coeff of Variance for Goods Issue: 830.6%

Average Inventory Value: USD 1K
Coeff of Variance for Goods Issue: 39.5%

Preferred Supplier

General
Supplier: Domestic US Supplier 1 (17300001)
Location: Muncie, USA
Quantity: 15,413 PC

KPIs
Quantity Variance %: **Δ13.745**

Time Variance %: **Δ22.225**

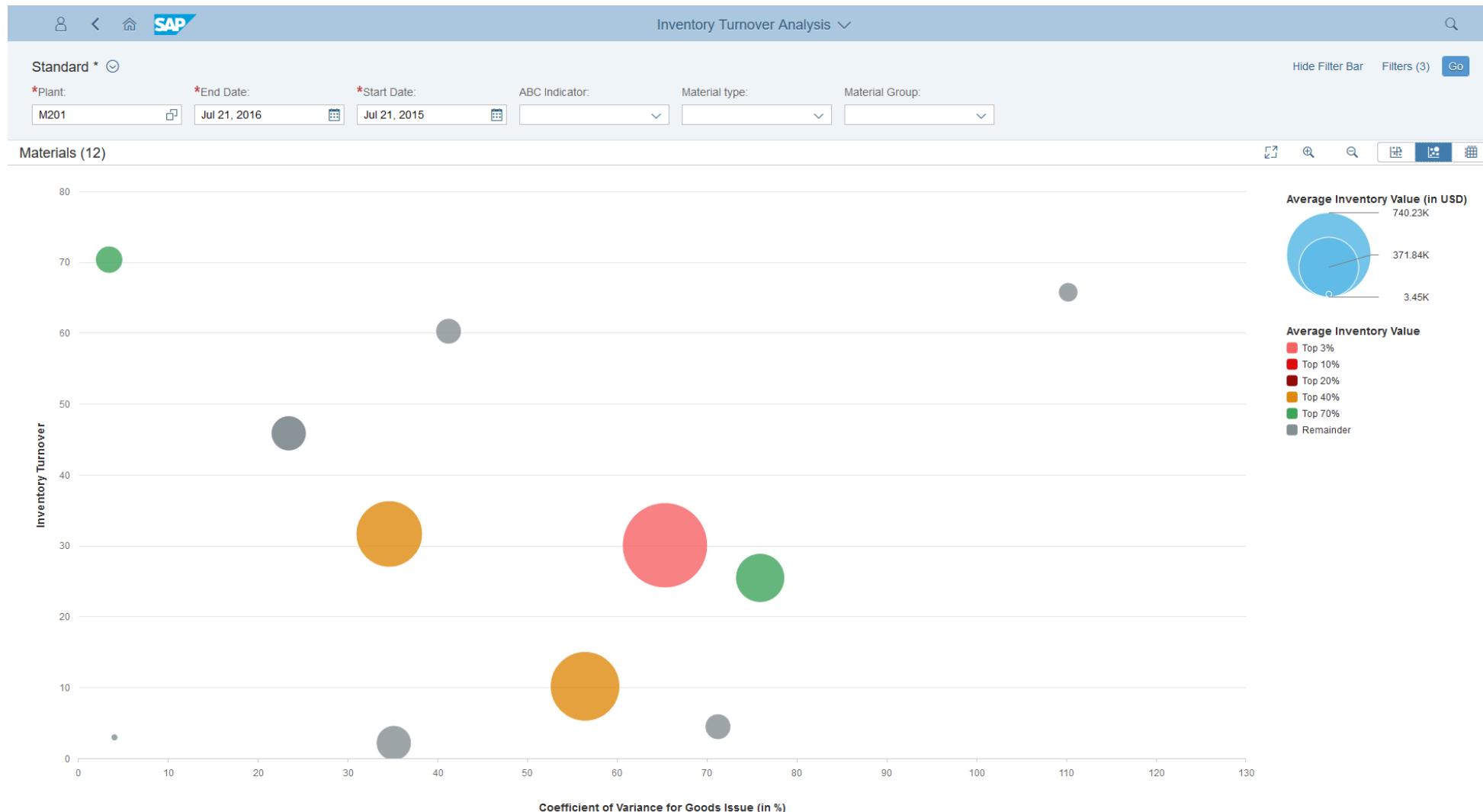
Other Suppliers

Suppliers (1)

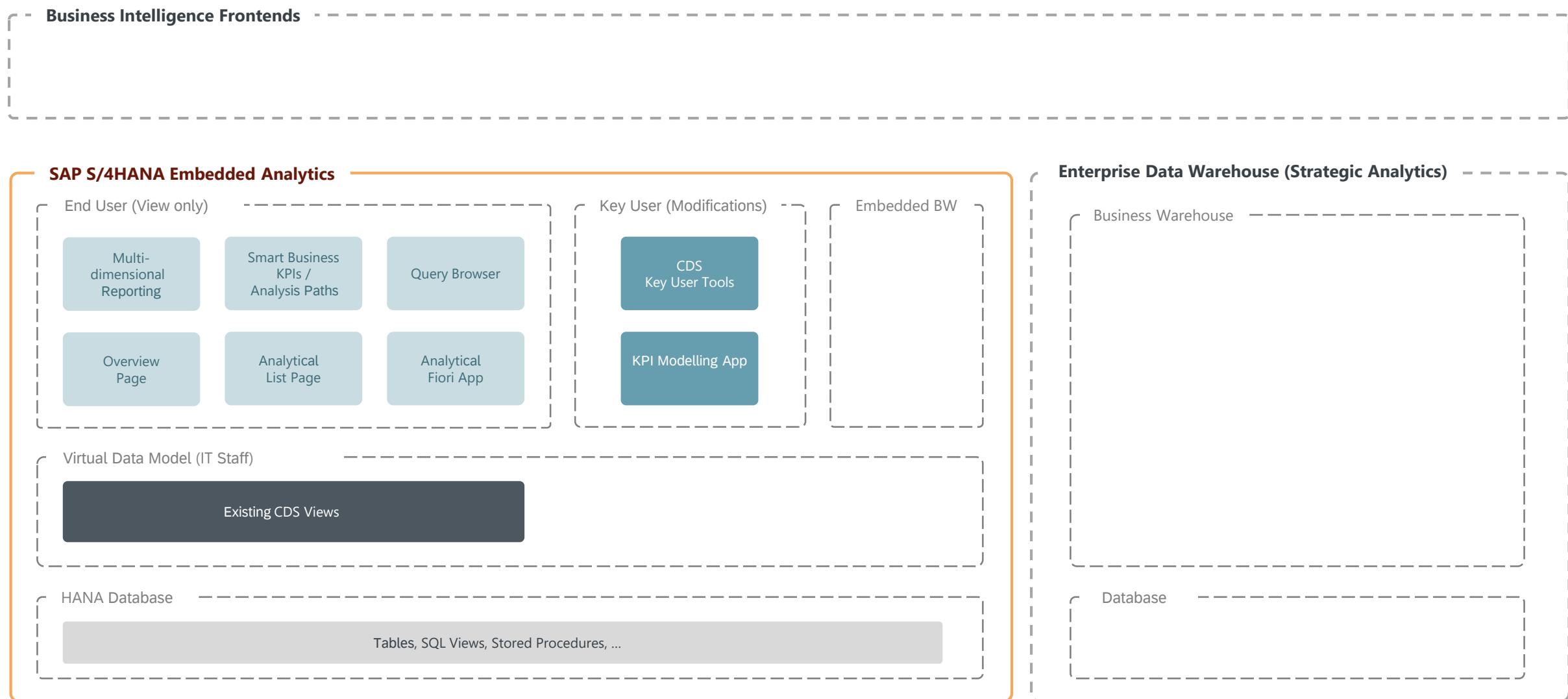
Supplier	City	Country	Quantity	Time Variance	Quantity Variance
Domestic US Supplier 2 (17300002)	Bismarck	USA		0%	0%

Out-of-the-Box-Analytics

Analytical SAP Fiori Applications 3/3

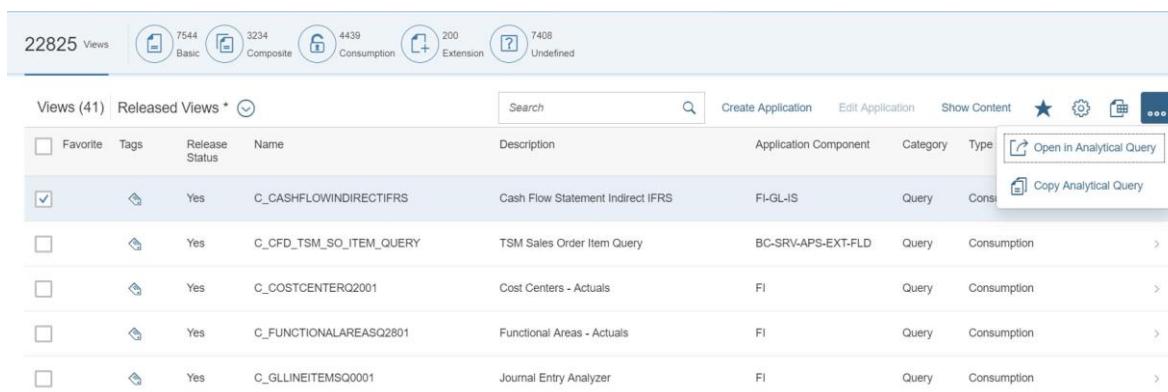


Overview Analytics with SAP S/4HANA



Out-of-the-Box-Analytics

CDS Key User Tools 1/3



The screenshot shows the SAP View Browser interface. At the top, there are statistics: 22825 Views, 7544 Basic, 3234 Composite, 4439 Consumption, 200 Extension, and 7408 Undefined. Below this is a search bar and navigation buttons for 'Create Application', 'Edit Application', and 'Show Content'. A context menu is open over a selected row, showing options like 'Open in Analytical Query' and 'Copy Analytical Query'. The main table lists 41 views, each with columns for 'Name', 'Description', 'Application Component', 'Category', 'Type', and a 'More' button. One row is selected, showing 'C_CASHFLOWINDIRECTIFRS' as the name, 'Cash Flow Statement Indirect IFRS' as the description, 'FI-GL-IS' as the application component, 'Query' as the category, and 'Consumption' as the type.

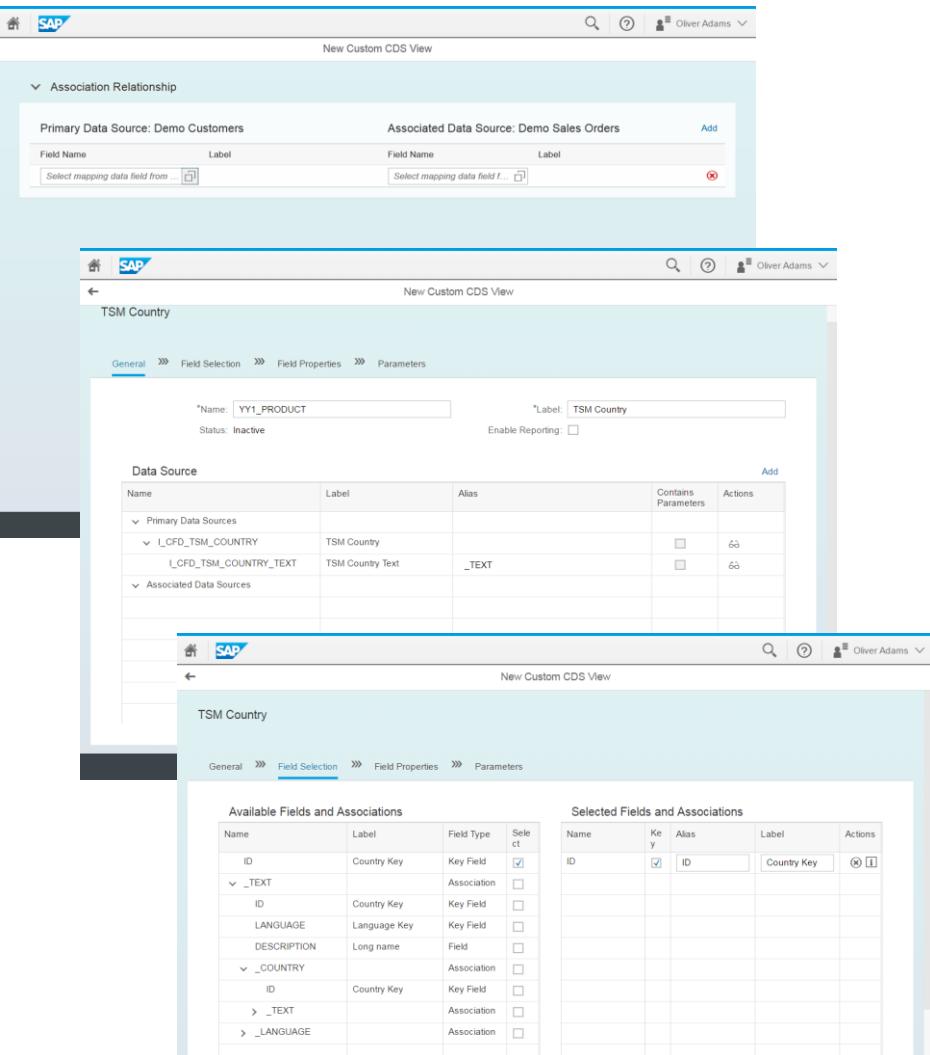
Name	Description	Application Component	Category	Type
C_CASHFLOWINDIRECTIFRS	Cash Flow Statement Indirect IFRS	FI-GL-IS	Query	Consumption
C_CFD_TSM_SO_ITEM_QUERY	TSM Sales Order Item Query	BC-SRV-APS-EXT-FLD	Query	Consumption
C_COSTCENTERQ2001	Cost Centers - Actuals	FI	Query	Consumption
C_FUNCTIONALAREASQ2801	Functional Areas - Actuals	FI	Query	Consumption
C_GLLINEITEMSQ001	Journal Entry Analyzer	FI	Query	Consumption

View Browser

- The View Browser allows you to display thousands of CDS views and the data accessible via them.
- Views can be found by keyword search using the following fields
 - ID
 - Description
 - Application component
 - Comments
 - Field names
 - Names of database tables
 - Tags
- Views can be marked as favorites and tagged

Out-of-the-Box-Analytics

CDS Key User Tools 2/3



Custom CDS View

- With the Custom CDS View App, key users can model their own CDS views, which can be based on the following sources
 - Public views of the Virtual Data Model (VDM) delivered by SAP.
 - Customer-specific CDS views
- For details, see "[Create and expose a custom CDS view](#)"

Out-of-the-Box-Analytics

CDS Key User Tools 3/3

Test for CDS Analytics extensibility (YY1_AAA_MKT_INTERACT_INT_1)

Custom Analytical Queries

General Field Selection Display Filters

Available Fields (0) Selected Fields (0)

Type	Label	Name	Selection
Communication Medium	CommunicationMedium	CommunicationMedium	<input type="checkbox"/>
Interaction	Interaction	Interaction	<input checked="" type="checkbox"/>
Interaction Channel	InteractionChannel	InteractionChannel	<input checked="" type="checkbox"/>
Direction	InteractionDirection	InteractionDirection	<input checked="" type="checkbox"/>
Interaction Type	InteractionType	InteractionType	<input checked="" type="checkbox"/>
Date	InteractionUTCDate	InteractionUTCDate	<input checked="" type="checkbox"/>
Item of Interest	ItemOfInterest	ItemOfInterest	<input type="checkbox"/>
Interaction Interests	NumberOfInteractionInterests	NumberOfInteractionInterests	<input checked="" type="checkbox"/>
BAdI Import IA 4 IC	YY1_BAdIImportIAIC1_MIA	YY1_BAdIImportIAIC1_MIA	<input type="checkbox"/>
CAR BRANDS	YY1_CARBRANDS_MIA	YY1_CARBRANDS_MIA	<input type="checkbox"/>
CUSTOM_FIELD_IA	YY1_CUSTOM_FIELD_IA_MIA	YY1_CUSTOM_FIELD_IA_MIA	<input checked="" type="checkbox"/>
CUSTOM_VALUE_FIELD_I	YY1_CUSTOM_VALUE_FIELD_MIA	YY1_CUSTOM_VALUE_FIELD_MIA	<input checked="" type="checkbox"/>
Year Week	YearWeek	YearWeek	<input type="checkbox"/>

Type	Label	Name	Display	Filter	Remove
Interaction	Interaction	Interaction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Interaction Channel	InteractionChannel	InteractionChannel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Interaction Type	InteractionType	InteractionType	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Direction	InteractionDirection	InteractionDirection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Date	InteractionUTCDate	InteractionUTCDate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Extended Dimension ABC	YY1_CUSTOM_FIELD_IA_MIA	YY1_CUSTOM_FIELD_IA_MIA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Interaction Interests	NumberOfInteractionInterests	NumberOfInteractionInterests	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Extended Keyfigure DEF	YY1_CUSTOM_VALUE_FIELD_MIA	YY1_CUSTOM_VALUE_FIELD_MIA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Test for CDS Analytics extensibility (YY1_AAA_MKT_INTERACT_INT_1)

Custom Analytical Queries

General Field Selection Display Filters

Display Fields (0)

Type	Label	Name	Display	Filter	Remove
Interaction	Interaction	Interaction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Interaction Channel	InteractionChannel	InteractionChannel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Interaction Type	InteractionType	InteractionType	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Direction	InteractionDirection	InteractionDirection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Date	InteractionUTCDate	InteractionUTCDate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Extended Dimension ABC	YY1_CUSTOM_FIELD_IA_MIA	YY1_CUSTOM_FIELD_IA_MIA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Interaction Interests	NumberOfInteractionInterests	NumberOfInteractionInterests	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Extended Keyfigure DEF	YY1_CUSTOM_VALUE_FIELD_MIA	YY1_CUSTOM_VALUE_FIELD_MIA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Properties : Interaction (Dimension)

Label	Name	Dimension	Display	Display Result
Interaction	Interaction		<input checked="" type="checkbox"/>	Hide

Out-of-the-Box-Analytics

KPI Modelling App

© Screenshots: SAP

Overview Analytics with SAP S/4HANA

Business Intelligence Frontends

SAP S/4HANA Embedded Analytics

End User (View only)

Multi-dimensional Reports

Smart Business KPIs / Analysis Paths

Query Browser

Overview Page

Analytical List Page

Analytical Fiori App

Key User (Modifications)

CDS Key User Tools

KPI Modelling App

Embedded BW

Enterprise Data Warehouse (Strategic Analytics)

Business Warehouse

Virtual Data Model (IT Staff)

Existing CDS Views

CDS View Customizing via ABAP for Eclipse

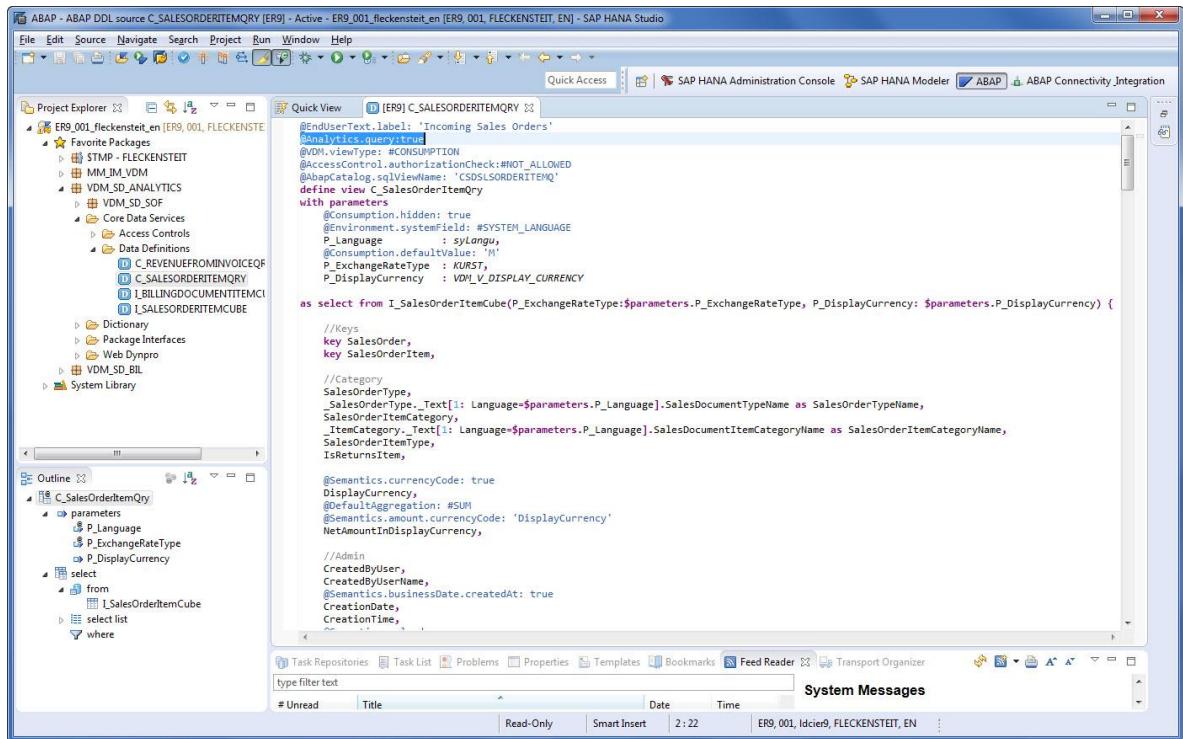
Creation of CDS View via ABAP for Eclipse

HANA Database

Tables, SQL Views, Stored Procedures, ...

Out-of-the-Box-Analytics

CDS Views with ABAP for Eclipse



```
ABAP - ABAP DDL source C_SALESORDERITEMQRY [ER9] - Active - ER9_001.fleckenstei_en [ER9_001, FLECKENSTEIT, EN] - SAP HANA Studio
File Edit Source Navigate Search Project Run Window Help
Project Explorer SAP HANA Administration Console SAP HANA Modeler ABAP ABAP Connectivity Integration
Quick View [ER9] C_SALESORDERITEMQRY
@EndUserText-label: 'Incoming Sales Orders'
@Analytics:query:true
@OM: viewType: #CONSUMPTION
@AccessControl:authorizationCheck:#NOT_ALLOWED
@abapCatalog:sqlViewName: 'CSDSLSORDERITEMQ'
define view C_SalesOrderItemQry
with parameters
@Consumption:hidden: true
@Environment:systemField: #SYSTEM_LANGUAGE
P_language : sysLang
@Consumption.defaultValue: 'M'
P_ExchangeRateType : KURST,
P_DisplayCurrency : VDM_V_DISPLAY_CURRENCY
as select from I_SalesOrderItemCube(P_ExchangeRateType:$parameters.P_ExchangeRateType, P_DisplayCurrency: $parameters.P_DisplayCurrency) {
  //Keys
  key SalesOrder,
  key SalesOrderItem,
  //Category
  SalesOrderType,
  _SalesOrderType__Text[1: Language=$parameters.P_Language].SalesDocumentTypeName as SalesOrderTypeName,
  SalesOrderCategory,
  _ItemCategory__Text[1: Language=$parameters.P_Language].SalesDocumentItemCategoryName as SalesOrderItemCategoryName,
  SalesOrderItemType,
  IsReturnable,
  //Semantics
  @Semantics.currencyCode: true
  DisplayCurrency,
  @DefaultAggregation: #SUM
  @Semantics.amount.currencyCode: 'DisplayCurrency'
  NetAmountInDisplayCurrency,
  //Admin
  CreatedByUser,
  CreatedByUserName,
  @Semantics.businessDate.createdAt: true
  CreationDate,
  CreationTime,
  ...
}

C_SalesOrderItemQry
parameters
  P_Language
  P_ExchangeRateType
  P_DisplayCurrency
select
  from
    I_SalesOrderItemCube
  select list
  where
    ...

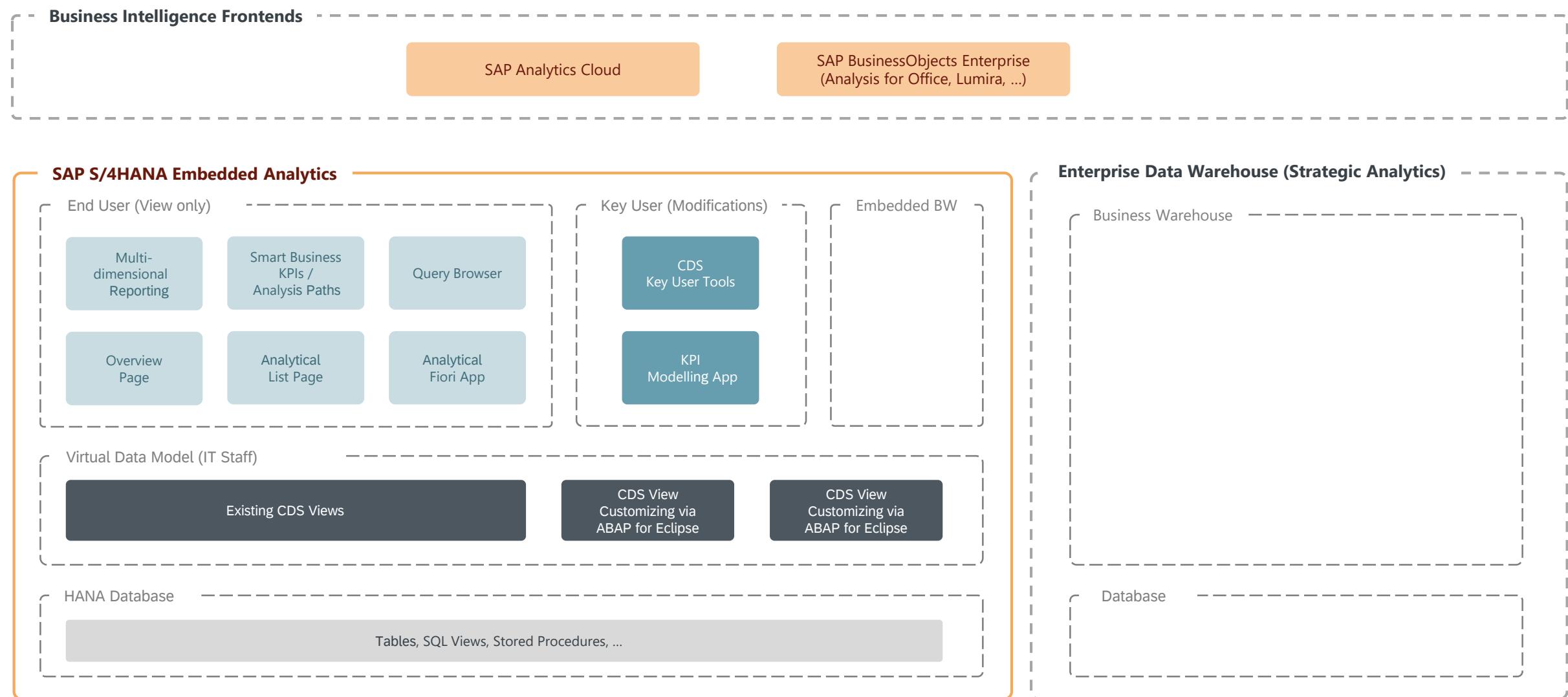
```

ABAP for Eclipse

- CDS views can be created and modified by IT using ABAP for Eclipse.
- Details:
 - [ABAP Core Data Services – Introduction \(ABAP CDS view\)](#)
 - [Create a CDS View \(ABAP\)](#)
 - [Create an analytical model based on ABAP CDS views](#)

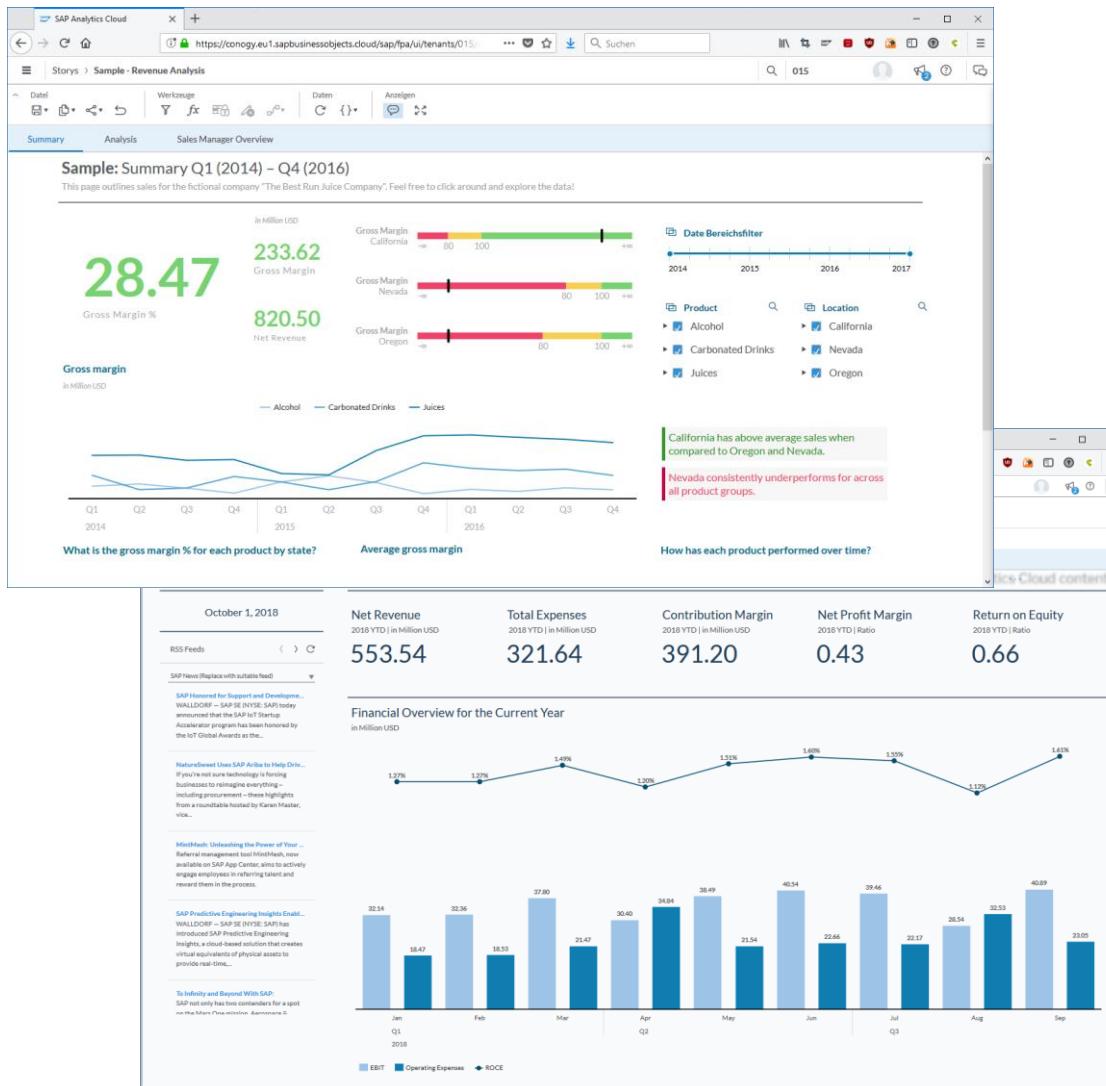
No	Topic
1	[...]
2	Overview Analytics with SAP S/4HANA
3	Terms & Architecture
4	Out-of-the-Box-Analytics
5	Interaction between S/4HANA Analytics with BW and BI Frontends
6	[...]

Overview Analytics with SAP S/4HANA



Interaction between S/4HANA Analytics with BW and BI Frontends

SAP Analytics Cloud (SAC)



SAP Analytics Cloud (SAC)

- SAC is currently only available as a SaaS solution.
- The focus on the SAP Analytics Cloud is a strategic goal of SAP. Nevertheless, parallel investments are being made in on-premise analytics solutions.
- The SAC combines reporting, planning, predictive, and GRC.
- A connection between the SAC and a local on-premise SAP system is possible without the customer's own data leaving the customer's own network.
- SAP Analytics Cloud can connect to BW BEx queries, universes, and SAP S/4HANA, among others.
- Business Content for displaying S/4HANA data is ready for use
- Note: The SAC must be licensed separately!

Interaction between S/4HANA Analytics with BW and BI Frontends

Business Objects Enterprise

The screenshot shows the SAP BusinessObjects Design Studio interface. The top half displays a 'Sales Dashboard US - Region North East - State Maine' with various charts and a map. The bottom half shows a detailed table view of sales data for different regions and months. The interface includes a toolbar, a component palette, and a properties panel on the right.

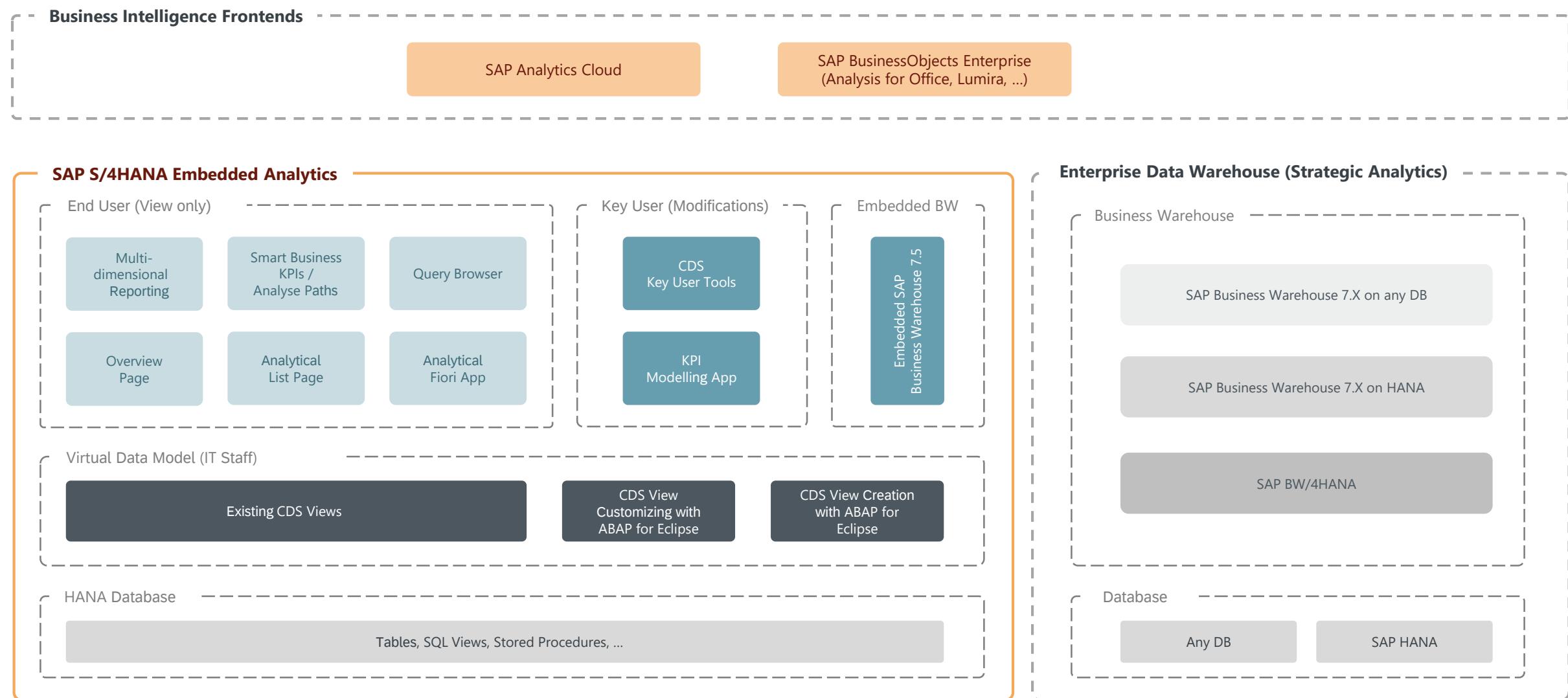
Region	Berlin	California	London	Paris
JAN 2014	11.201.500,00	9.899.000,00	9.899.000,00	6.903.250,00
FEB 2014	9.378.000,00	10.941.000,00	9.247.750,00	7.294.000,00
MAR 2014	10.285.750,00	10.320.000,00	10.320.000,00	7.033.500,00
APR 2014	10.550.250,00	9.508.250,00	9.247.750,00	6.512.500,00
MAY 2014	10.285.750,00	9.899.000,00	8.726.750,00	6.642.750,00
JUN 2014	10.810.750,00	11.462.000,00	7.945.250,00	6.773.000,00
JUL 2014	10.420.000,00	9.899.000,00	7.815.000,00	7.294.000,00
AUG 2014	10.159.500,00	11.071.250,00	8.466.250,00	6.773.000,00
SEP 2014	10.025.250,00	11.592.250,00	8.596.500,00	7.033.500,00
OCT 2014	10.159.500,00	11.201.500,00	8.075.000,00	7.354.500,00
NOV 2014	10.941.000,00	10.941.000,00	8.857.000,00	7.033.500,00
DEC 2014	12.331.750,00	11.201.500,00	9.508.250,00	7.294.000,00
Overall Result	125.821.500,00	126.993.750,00	105.502.500,00	84.532.250,00

Below the table is a line chart showing product costs for Berlin, California, London, and Paris from January to December 2014.

Business Objects Enterprise

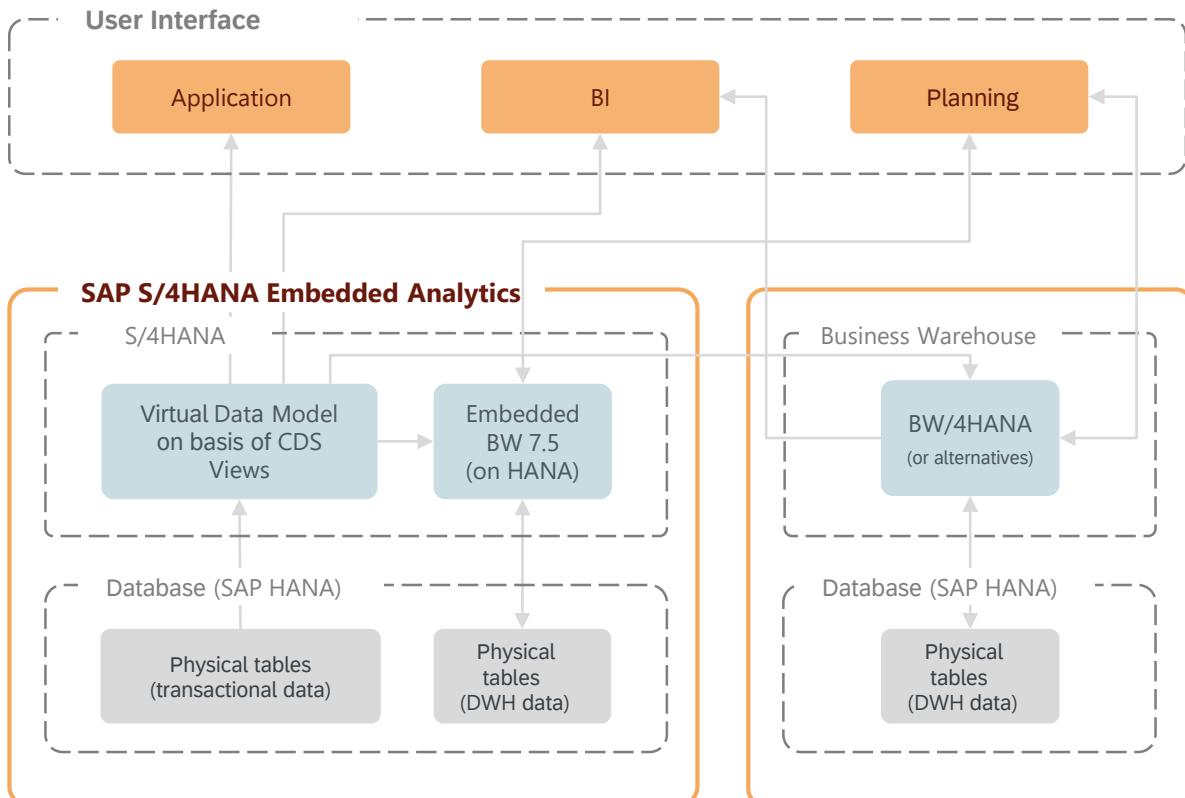
- The "typical" BO Enterprise Frontend tools can be used to access S/4HANA. These are in particular
 - Lumira Designer / Design Studio
 - Analysis for Office
- For planning, BPC can be used as a tool in addition to Fiori-based planning.
- In addition, Crystal Reports and Web Intelligence can also be used.
- Note: All tools mentioned here must be licensed separately

Overview Analytics with SAP S/4HANA



Interaction between S/4HANA Analytics with BW and BI Frontends

Embedded BW vs. Stand-alone BW



S/4HANA Embedded BW

- The BW integrated in S/4HANA is intended by SAP to support business processes integrated in S/4HANA, e.g. integrated financial planning (aka BPC Optimized).
- It is not recommended to use the integrated BW as an Enterprise Data Warehouse.
- The volume of data in the integrated BW should not exceed 20% of the total data volume.
- The integrated BW is based on BW 7.5 on HANA. A future upgrade to an integrated BW/4HANA is currently not planned.
- All future developments in the area of Business Warehouse will take place in BW/4HANA.

Stand-alone BW

- Recommended for
 - Bigger data sets
 - Integration of different data sources
- BW/4HANA as the business warehouse of the future