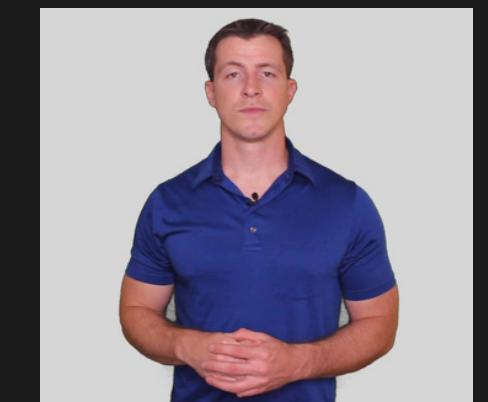




SAP Analytics Cloud Essentials



Michael Todd



Frederick Higgins

Analytics and BI market



SOURCE: GARTNER FEB 2020

//02

One | Simple | Cloud

Business Intelligence



Data Preparation
Storytelling

Planning



Sharing
Simulation

Predictive



Forecasting
Automated Insights

Application Design



Custom Apps
SDK Extensions

Digital Boardroom



On Premise

Mobile



Hybrid

SAP Analytics Hub



Cloud

SAP Analytics Cloud

SOURCE: SAP.COM

SAP Analytics Cloud

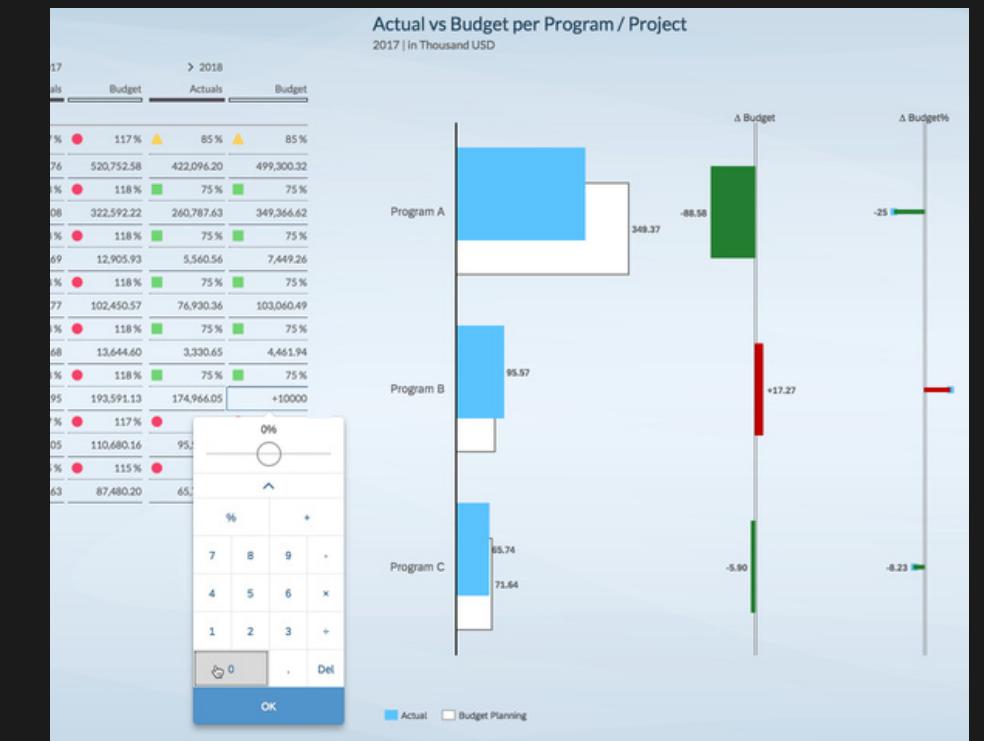


Select a Predictive Scenario

Classification
You want to predict membership of categories such as Yes/No, or a population ranked from the most probable case to the least.

Regression
You want to predict numerical values for fluctuations in correlated variables.

Time Series
You want to forecast numerical values over a time period taking into account variables that may or may not be correlated.



BUSINESS INTELLIGENCE

PREDICT

PLANNING

Using excises

The image shows a computer screen with two windows open. On the left is a video player window displaying a course titled "Data Analysis with Python for Data Science". A dropdown menu is open over the video player, showing course sections and exercises. The section "4. Recommended editing software" is selected, and its resources are listed. On the right is a Windows File Explorer window showing a folder containing several Excel files and a ZIP archive.

Course Content (Dropdown Menu):

- 4. Recommended editing software
 - 1min
 - Resources** (highlighted)
- Section 3
 - Simple editing techniques
 - 12min
- Section 4
 - Editing examples from real courses
 - 12min
- 8. Learn from other Udemy instructors
 - 1min
- 9. Editing example #1
 - 2min

File Explorer Contents:

Name	Date modified	Type	Size
Actual.csv	1/6/2021 9:35 AM	Microsoft Excel C...	369 KB
Model.XLSX	1/6/2021 10:40 AM	Microsoft Excel W...	128 KB
Sample_data1.xlsx	1/3/2021 8:54 PM	Microsoft Excel W...	21 KB
Superstore with profit.xlsx	1/4/2021 5:52 PM	Microsoft Excel W...	1,047 KB
Superstore without profit.xlsx	1/4/2021 5:52 PM	Microsoft Excel W...	266 KB
Superstore.xlsx	1/4/2021 12:46 PM	Microsoft Excel W...	1,295 KB
data.zip	2/6/2021 2:17 PM	WinRAR ZIP archive	2,762 KB

To get the most of this course, I'd recommend that you could follow the demos and practice in your SAC environment

The latest version of Google Chrome is always my recommendation for using SAP Analytics Cloud

SAC also supports:

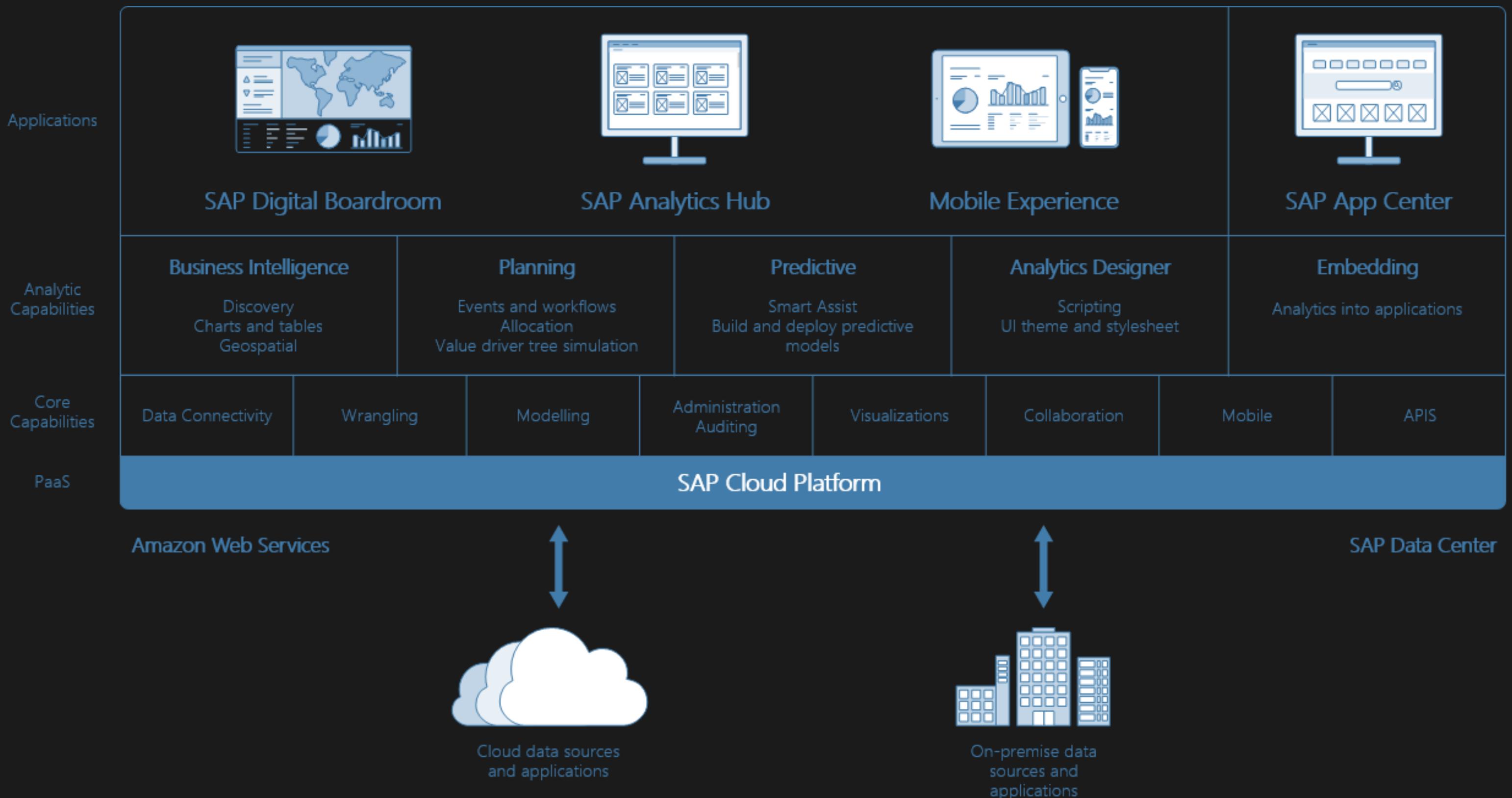
Microsoft Edge
Internet Explorer 11
Safari



The latest information can always be found at here

<https://help.sap.com/doc/00f68c2e08b941f081002fd3691d86a7/release/en-US/11b4e5ff76eb4747bc255d7037be1f01.html>

SAP Analytics Cloud is an intuitive web based platform, and it combines planning, predictive analytics, and BI in a single software as a service

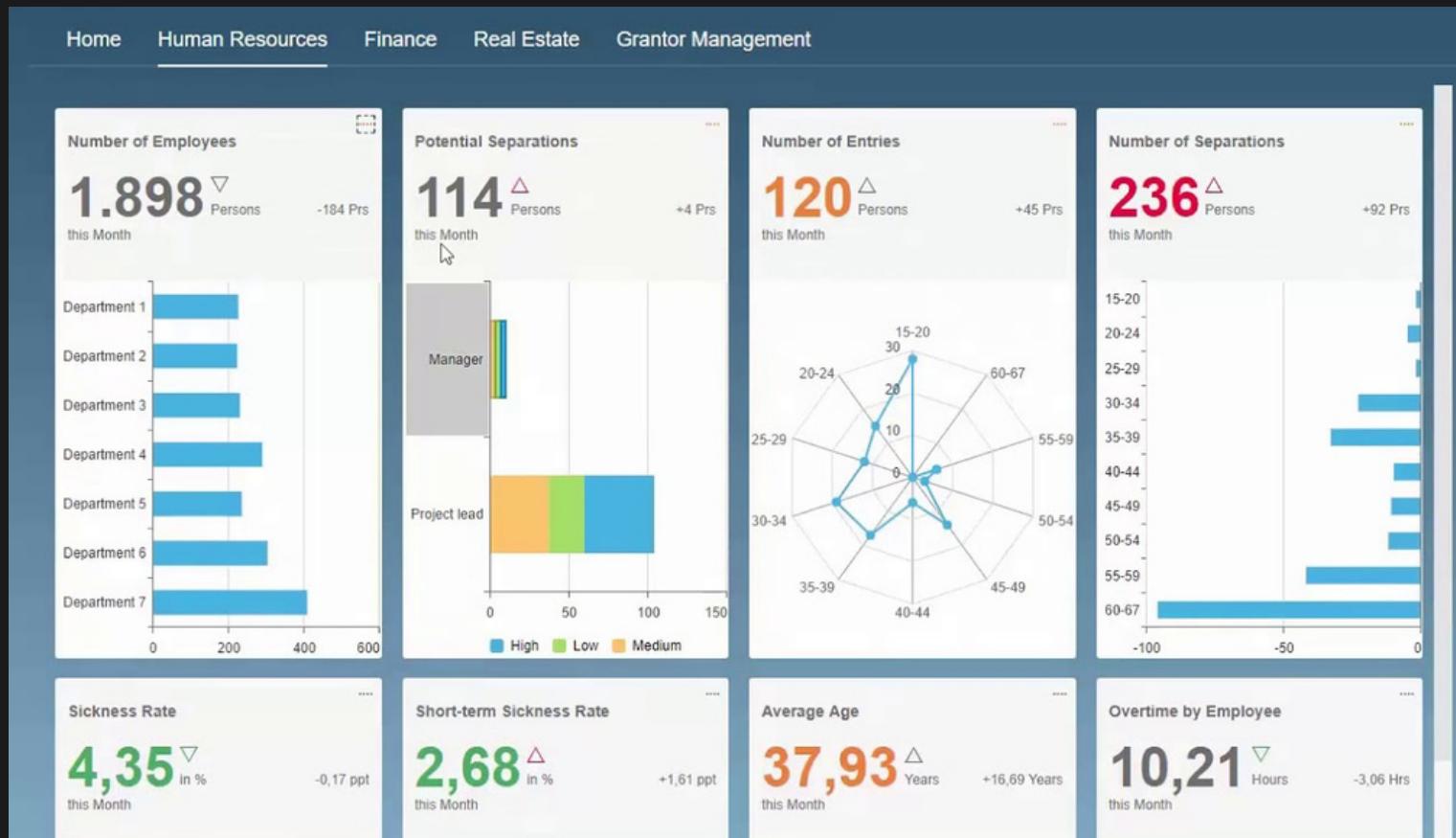


SAP has been trying hard to find ways into the BI market, a market that is largely dominated by niche players like Tableau and Power BI

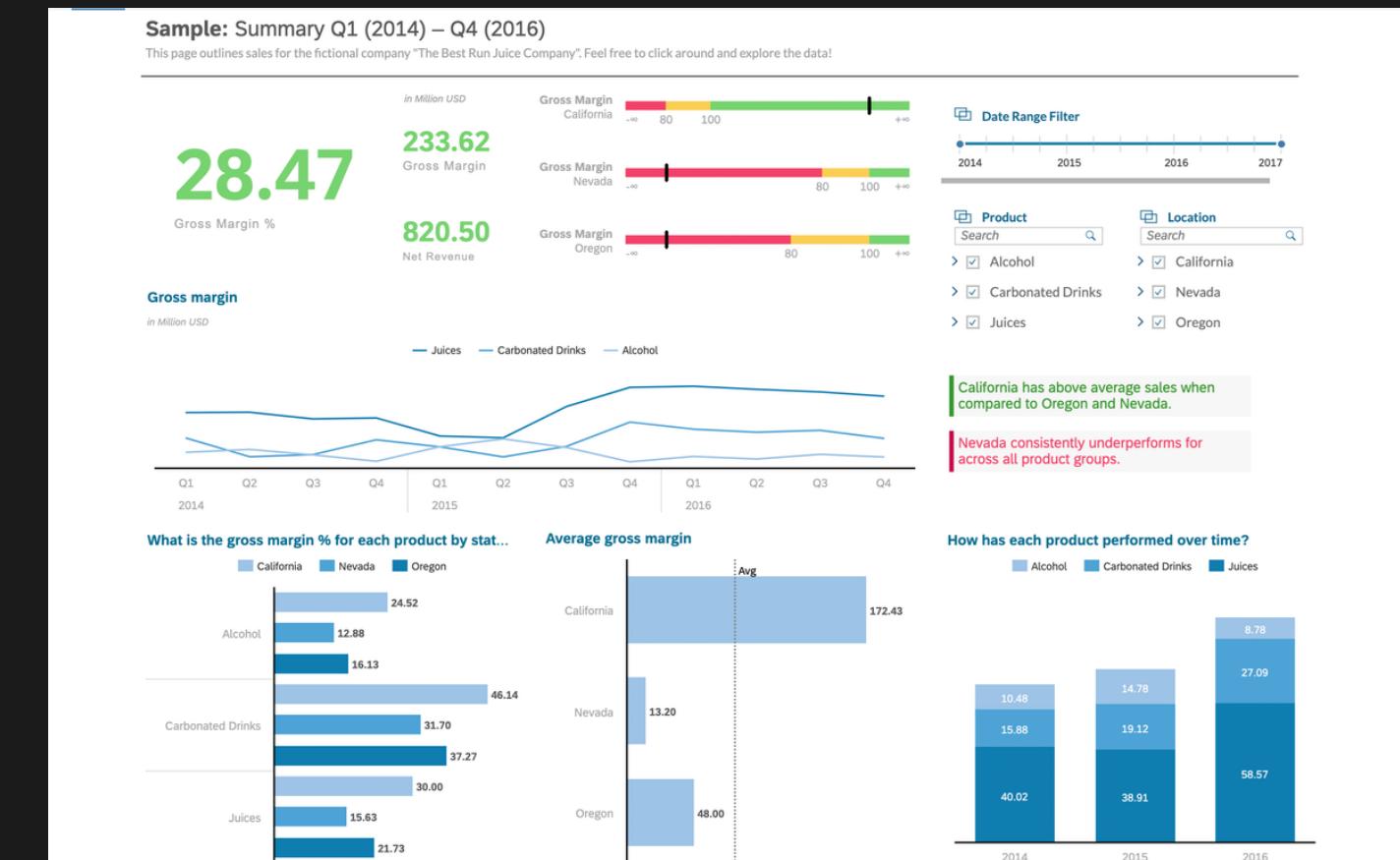


SOURCE: GARTNER FEB 2020

In those years, SAP Lumira and Analytics Cloud have shared SAP's data visualization focus.



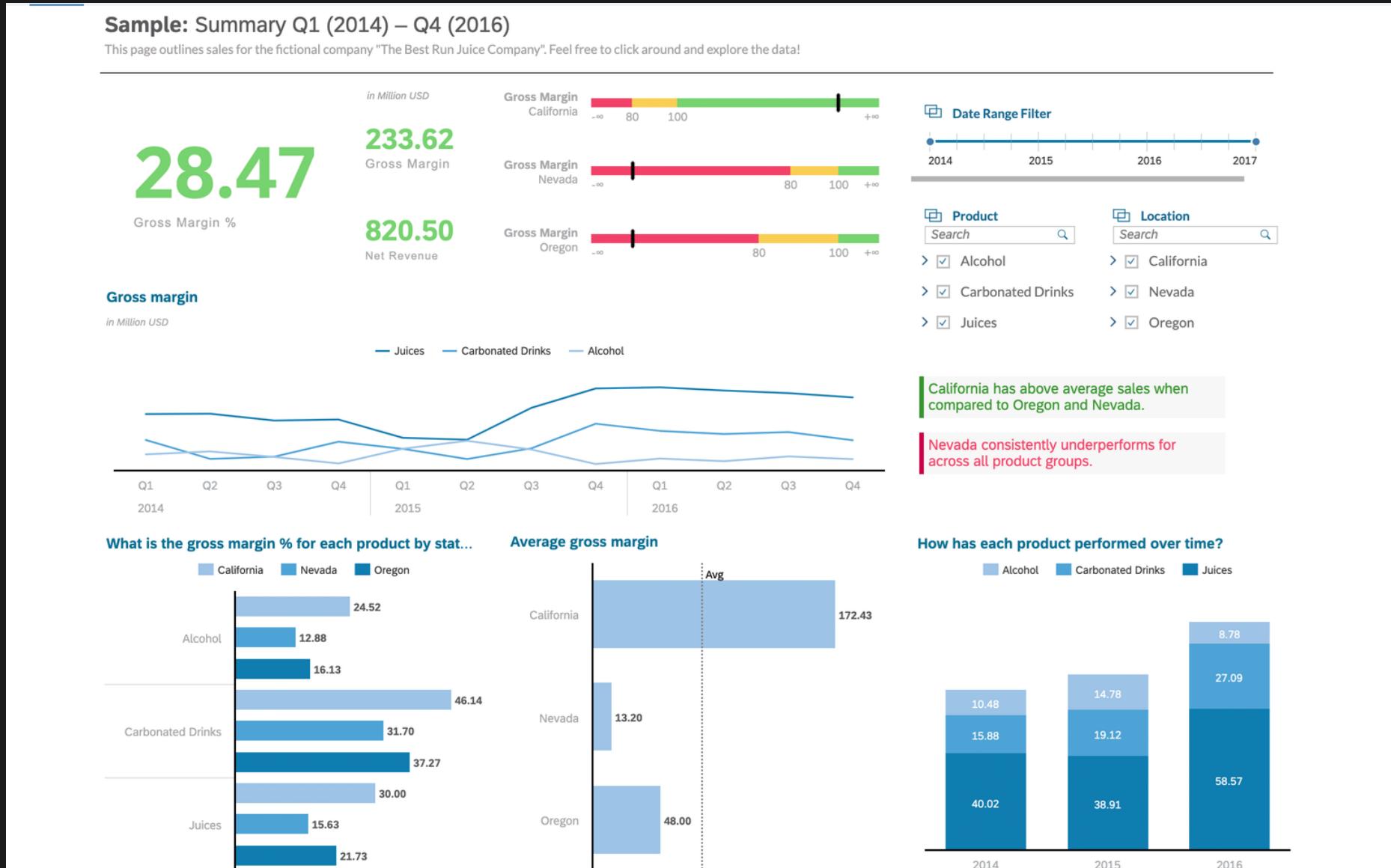
SAP LUMIRA



SAP ANALYTICS CLOUD

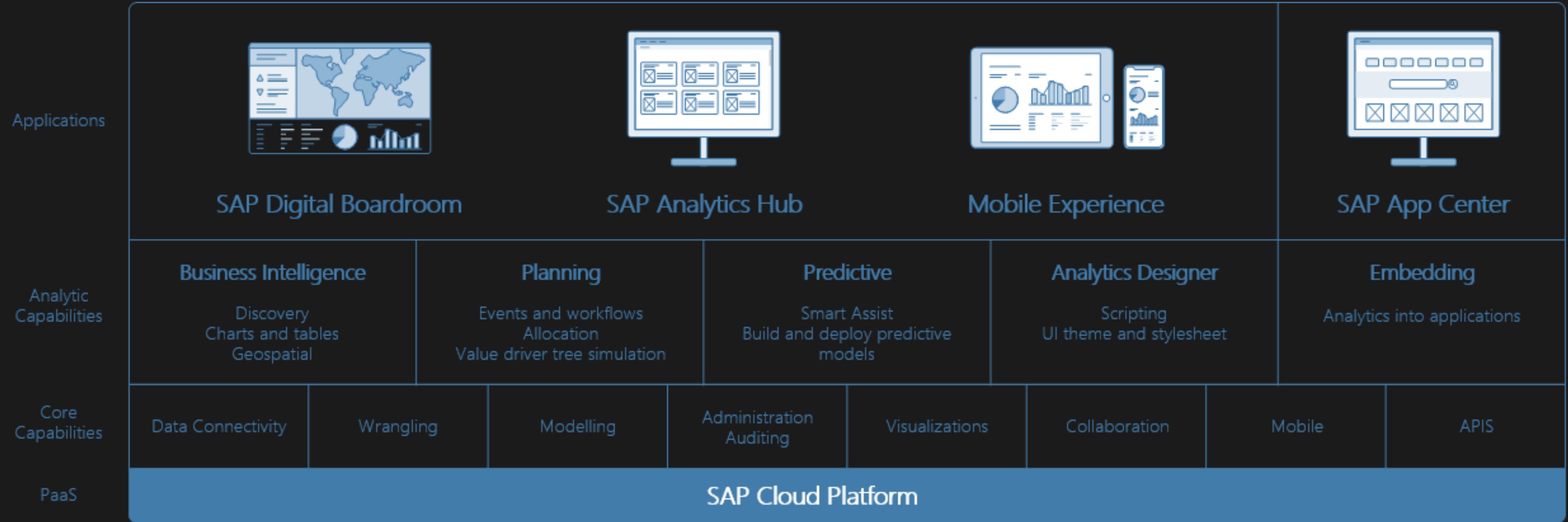
SOURCE: BLOG.SAP.COM

The decision to pick SAP Analytics Cloud over SAP Lumira and BusinessObjects came down to the trending market

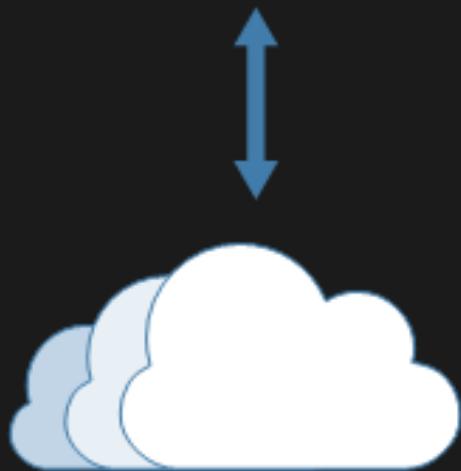
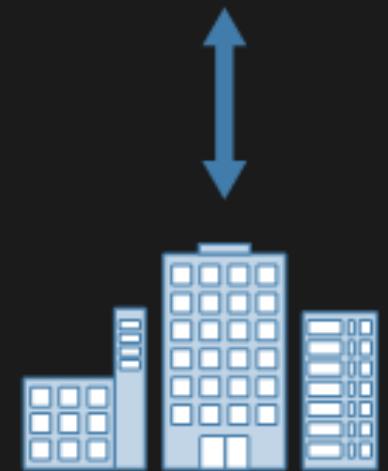


SAP ANALYTICS CLOUD

SOURCE: BLOG.SAP.COM



Amazon Web Services

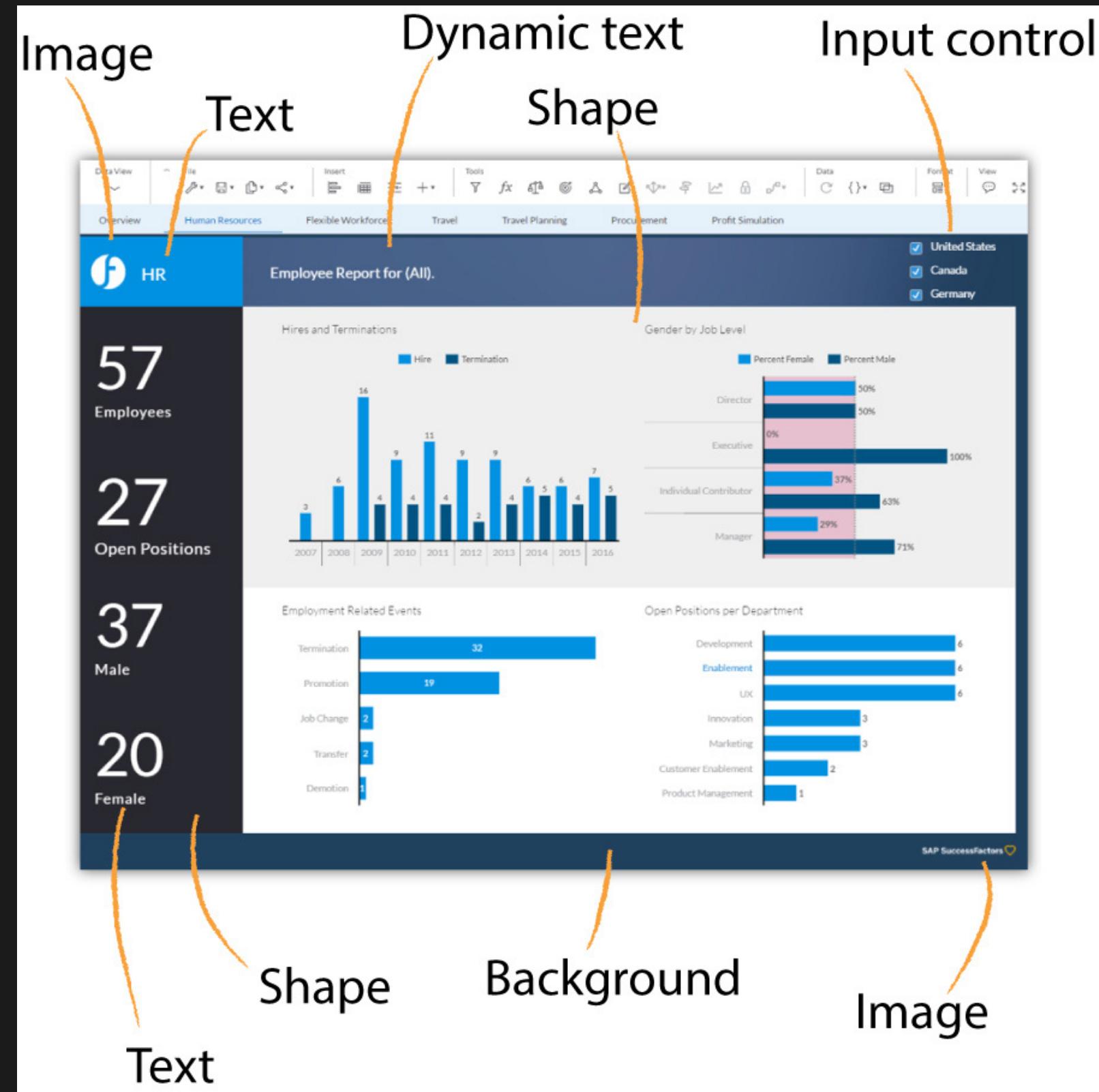
Cloud data sources
and applicationsOn-premise data
sources and
applications

SAP Data Center

Data visualization is essential because it makes ‘understanding’ easier



A story consists of one or more pages to present data using the objects like charts, geomaps, tables, text, shapes, and images.



We can use Smart Predict to generate predictive analytics based on historical data

The image shows a screenshot of the Smart Predict application interface. At the top, there is a header bar with the title "Predictive Scenarios / New Predictive Scenario". On the right side of the header are several icons: a search icon, a notification icon with a '1' (indicating one new item), a message icon, and a help icon.

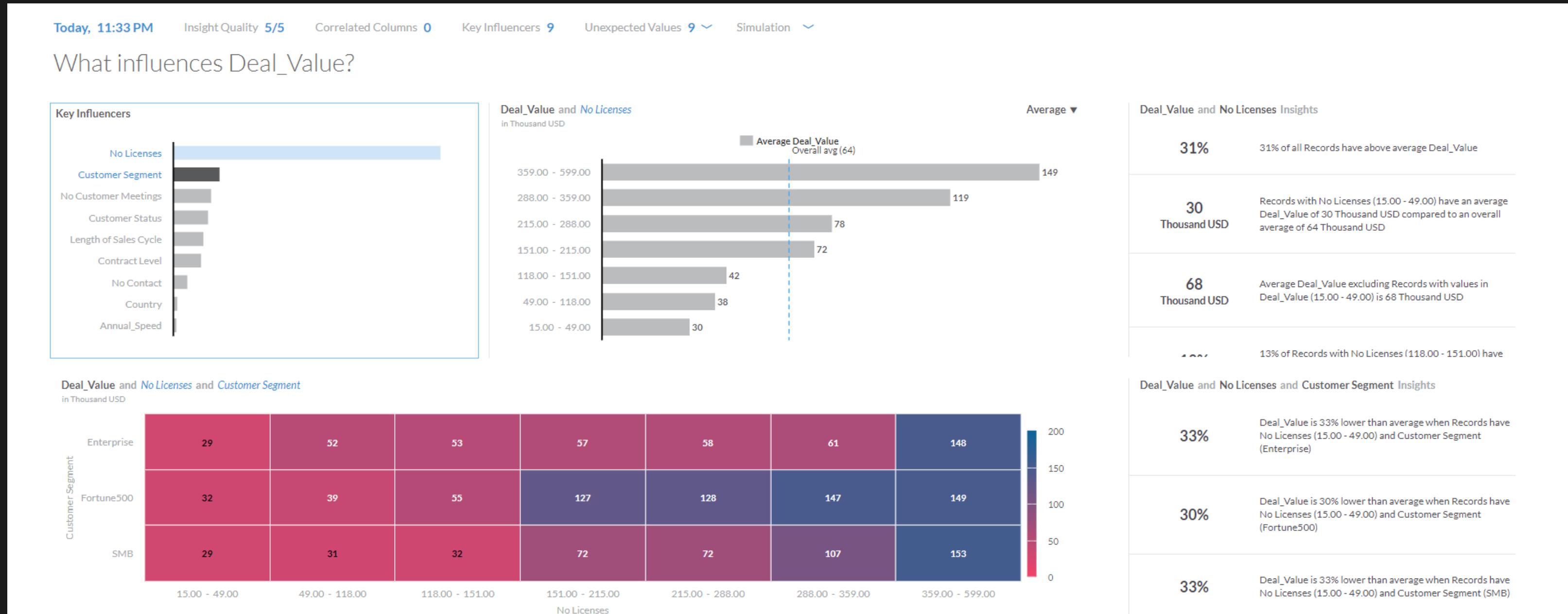
Select a Predictive Scenario

Classification
You want to predict membership of categories such as Yes/No, on a population ranked from the most probable case to the least.
Example: Predict if a customer is likely to churn or not, or if a manufacturing process component will require replacing within a short, or longer interval.

Regression
You want to predict numerical values for a variable based on fluctuations in correlated variables.
Example: Predict the price of an imported product based on projected transport charges, and tax duties.

Time Series
You want to forecast numerical values over a time period taking into account variables that may or may not be correlated.
Example: Forecast the volume of ice cream sold by a retailer for a future period using historical sales information, along with month and temperature data as variables that influence demand.

We can use Smart Assist to generate automatic insights



Smart Assist has 4 main features

- Smart Insights for data points
- Smart Discovery
- Smart Transformations
- Smart Grouping

To get the most value out of SAP Analytics Cloud, the data that you import must be well structured

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
I	Date	Customer_ID	Product_ID	Quantity	Unit_Price	Sales_Revenue	Product_Description	Product_Category	Product_Line	Raw_Material	Region	Latitude	Longitude			
2	20210601	98	321	1	117.3060162	117.3060162	Cycling Jerseys	Sports	Tops	Fabrics	York	53.958332	-1.080278			
3	20210602	92	261	4	32.27240332	129.0896133	Casual Shirts	Menswear	Tops	Cotton	Worcester	52.192001	-2.22			
4	20210603	92	264	1	36.19336404	36.19336404	Casual Shirts	Menswear	Tops	Cotton	Worcester	52.192001	-2.22			
5	20210604	99	251	3	29.91340346	89.74021037	Jeans	Menswear	Trousers	Cotton	Winchester	51.063202	-1.308			
6	20210605	66	251	1	41.84343048	41.84343048	Shorts	Womenswear	Trousers	Cotton	Winchester	51.063202	-1.308			
7	20210606	97	304	3	49.88752415	149.6625725	Belts	Accessories	Leathers	Leather	Wells	51.209	-2.647			
8	20210607	45	357	2	35.41601593	70.83203185	Ties	Accessories	Tops	Leather	Wakefield	53.68	-1.49			
9	20210608	81	258	1	29.08420533	29.08420533	Polo Shirts	Menswear	Tops	Cotton	Wakefield	53.68	-1.49			
10	20210609	47	260	3	44.49807734	133.494232	Tshirts	Womenswear	Tops	Cotton	Wakefield	53.68	-1.49			
11	20210610	24	263	3	38.49739685	115.4921905	Formal Shirts	Womenswear	Tops	Wool	Winchester	51.063202	-1.308			
12	20210611	10	265	4	27.04895601	108.195824	Formal Shirts	Menswear	Tops	Wool	Wakefield	53.68	-1.49			
13	20210612	45	260	3	28.54089924	85.62269771	Polo Shirts	Menswear	Tops	Cotton	Wakefield	53.68	-1.49			
14	20210613	55	260	1	34.74291321	34.74291321	Formal Shirts	Menswear	Tops	Cotton	York	53.958332	-1.080278			
15	20210614	44	286	3	27.02857115	81.08571344	Knitwear	Womenswear	Tops	Cashmere	Wells	51.209	-2.647			
16	20210615	97	291	1	34.79245255	34.79245255	Knitwear	Menswear	Tops	Cashmere	Wells	51.209	-2.647			
17	20210616	31	265	4	43.871537	175.486148	Suits	Menswear	Tops	Wool	Wakefield	53.68	-1.49			
18	20210617	47	274	1	51.96824385	51.96824385	Sweats	Womenswear	Tops	Polyester	Wakefield	53.68	-1.49			
19	20210618	47	276	4	33.93177484	135.7270994	Shorts	Womenswear	Tops	Cotton	Wakefield	53.68	-1.49			
20	20210619	98	280	3	41.41250434	124.237513	Pants	Womenswear	Trousers	Cotton	York	53.958332	-1.080278			
21	20210620	34	273	1	38.51621801	38.51621801	Pants	Womenswear	Trousers	Cotton	Wakefield	53.68	-1.49			
22	20210621	90	336	1	21.96581177	21.96581177	GolfShoes	Sports	Shoes	Leather	Truro	50.259998	-5.051			
23	20210622	12	293	2	38.71883954	77.43767908	Dress	Womenswear	Tops	Polyester	Truro	50.259998	-5.051			
24	20210623	9	285	3	36.19045837	108.5713751	Coats	Womenswear	Tops	Cotton	Truro	50.259998	-5.051			
25	20210624	66	276	1	54.99430496	54.99430496	Underwear	Womenswear	Tops	Cotton	Winchester	51.063202	-1.308			
26	20210625	89	277	2	50.79595734	101.5919147	Pyjamas	Womenswear	Tops	Cotton	Truro	50.259998	-5.051			
27	20210626	32	278	2	47.43331644	94.86663288	Pyjamas	Menswear	Tops	Cotton	Truro	50.259998	-5.051			
28	20210627	15	288	1	50.00261903	50.00261903	Pants	Menswear	Trousers	Leather	Worcester	52.192001	-2.22			
29	20210628	56	262	1	33.47093586	33.47093586	Formal Shirts	Menswear	Tops	Wool	York	53.958332	-1.080278			

To get the most value out of SAP Analytics Cloud, the data that you import must be well structured

The screenshot shows a Udemy course interface. A sidebar on the left lists course sections: "Section 1", "Section 2", "Section 3", "Section 4", "Section 5", "Section 6", "Section 7", and "Section 8". The "Section 3" section is expanded, showing "Simple editing techniques" and "Editing examples from real courses". A "Resources" button is highlighted in yellow. The main content area displays a list of recommended editing software:

- 4. Recommended editing software
 - 1min
- Section 3
 - Simple editing techniques
 - 12min
- Section 4
 - Editing examples from real courses
 - 12min
- 8. Learn from other Udemy instructors
 - 1min
- 9. Editing example #1
 - 2min

Name	Date modified	Type	Size
Actual.csv	1/6/2021 9:35 AM	Microsoft Excel C...	369 KB
Model.XLSX	1/6/2021 10:40 AM	Microsoft Excel W...	128 KB
Sample_data1.xlsx	1/3/2021 8:54 PM	Microsoft Excel W...	21 KB
Superstore with profit.xlsx	1/4/2021 5:52 PM	Microsoft Excel W...	1,047 KB
Superstore without profit.xlsx	1/4/2021 5:52 PM	Microsoft Excel W...	266 KB
Superstore.xlsx	1/4/2021 12:46 PM	Microsoft Excel W...	1,295 KB
data.zip	2/6/2021 2:17 PM	WinRAR ZIP archive	2,762 KB

The primary frameworks of SAP Analytics Cloud are called data models

New features are available. [Check them out.](#)

Files / New Document* ☆

Mode Data Display Actions Details Transform Log

FirstModel_Samp...

Create Transform

	Customer...	Neighbor...	Order_Date	Quantity	Unit_Price	Sales	Product_ID	Product_I...	Product_...	Pr...
2	98	Capilano	20170601	1	108	108	316	Bench	Exercise	Equ...
3	92	Cypress Falls	20170602	4	28	112	254	Short Sleeved Shir	Tops	Me...
4	92	Cypress Falls	20170603	1	28	28	254	Short Sleeved Shir	Tops	Me...
5	44	Edgemont	20170604	3	26	78	282	Crew Neck Shirt	Tops	Me...
6	45	Canyon Heights	20170605	1	38	38	246	Sweat Pants	Bottoms - Pants	Wo...
7	97	Edgemont	20170606	3	42	126	302	Yoga Bag	Bags and Cases	Acc...
8	81	Cedardale	20170607	2	26	52	355	Waterproof Case	Bags and Cases	Acc...
9	81	Cedardale	20170608	1	28	28	255	Short Sleeved Shir	Tops	Me...
10	47	Lynn Valley	20170609	3	38	114	252	Pullover W	Tops	Wo...
11	24	Canyon Heights	20170610	3	33	99	257	Long Sleeved Shirt	Tops	Wo...
12	10	Cedardale	20170611	4	27	108	259	Long Sleeved Shirt	Tops	Me...
13	69	Glenmore	20170612	3	28	84	255	Short Sleeved Shir	Tops	Me...
14	67	Capilano	20170615	1	27	27	259	Long Sleeved Shirt	Tops	Me...
15	44	Edgemont	20170616	3	27	81	284	Active Long Sleeve	Tops	Wo...
16	97	Edgemont	20170617	1	27	27	291	Active Long Sleeve	Tops	Me...
17	31	Lynn Valley	20170619	4	42	168	260	Long Sleeved Shirt	Tops	Me...
18	47	Lynn Valley	20170622	1	42	42	265	Shorts S	Bottoms - Pants	Wo...
19	47	Lynn Valley	20170623	4	26	104	266	Shorts	Bottoms - Pants	Wo...
20	98	Capilano	20170624	3	34	102	273	Pants	Bottoms - Pants	Wo...
21	55	Lynn Valley	20170625	1	34	34	273	Pants	Bottoms - Pants	Wo...
22	51	Glenmore	2017 July 1	1	14	14	327	Yoga Block	Exercise	Equ...
23	77	Blueridge	20170702	2	37	74	285	Capri Pants S	Bottoms - Pants	Wo...
24	28	Seymour	20170703	3	30	90	283	Hooded Long Slee	Tops	Wo...
25	66	Canyon Heights	20170704	1	52	52	274	Yoga Pants S	Bottoms - Pants	Wo...

FirstModel_SampleData.csv

Rows	Columns	Dimensions	Measures
27	11	9	2

Model Requirements No issues detected

Model Information

Data FirstModel_SampleData.csv

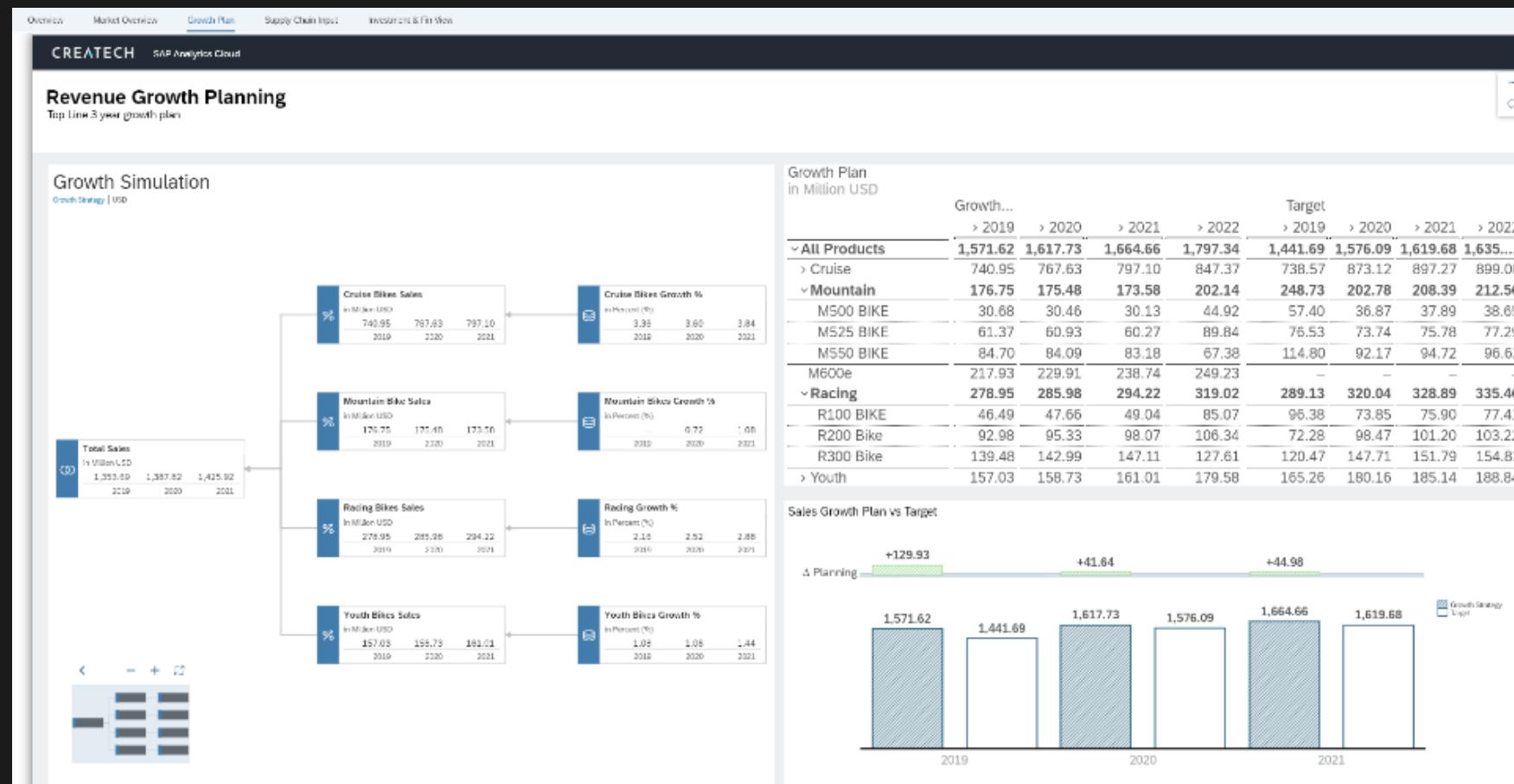
Name FirstModel_SampleData.csv

Description FirstModel_SampleData.csv

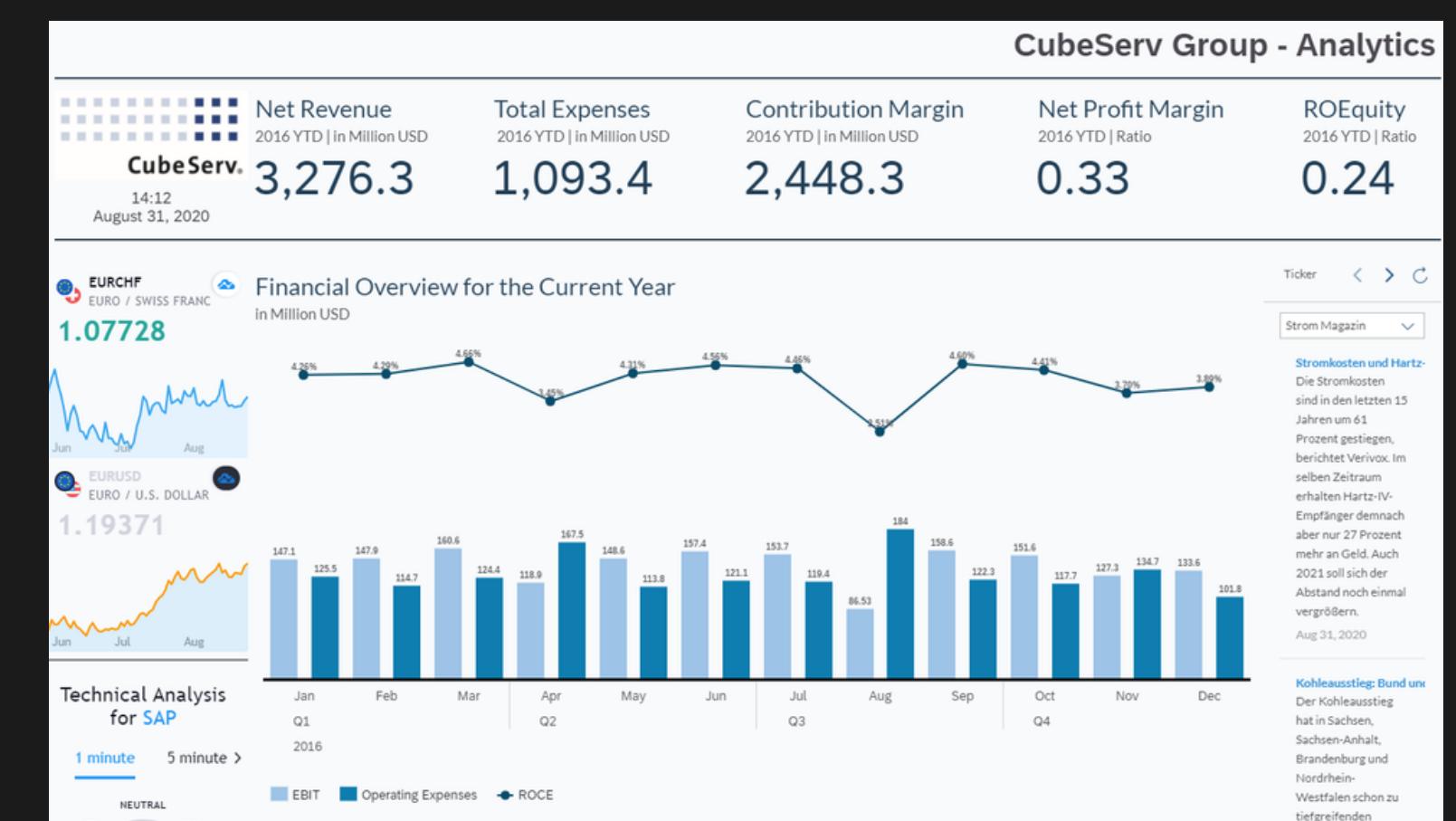
Model Options

Fill empty ID cells with the "#" value

There are 2 types of models in SAP Analytics Cloud: Planning and Analytics

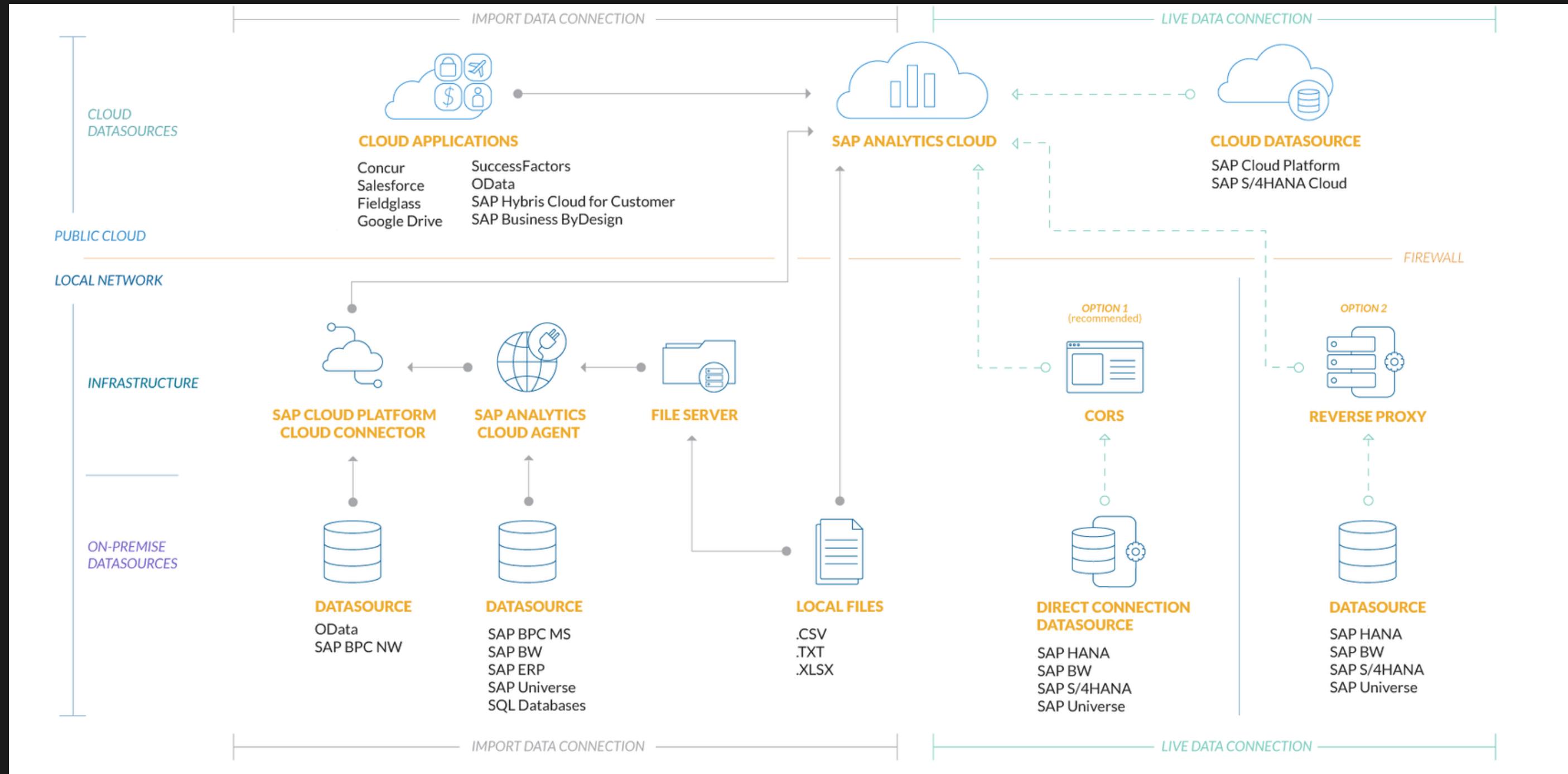


PLANNING



ANALYTICS

We can import a file from computer or from a cloud app such as Google Drive or SuccessFactors, or connect with a data source



In this video, I will show you how to create an analytical model using an Excel file.

I	A	B	C	D	E	F	G	H	I	J	K	L	M
	Date	Customer_ID	Product_ID	Quantity	Unit_Price	Sales_Revenue	Product_Description	Product_Category	Product_Line	Raw_Material	Region	Latitude	Longitude
2	20210601	98	321	1	117.3060162	117.3060162	Cycling Jerseys	Sports	Tops	Fabrics	York	53.958332	-1.080278
3	20210602	92	261	4	32.27240332	129.0896133	Casual Shirts	Menswear	Tops	Cotton	Worcester	52.192001	-2.22
4	20210603	92	264	1	36.19336404	36.19336404	Casual Shirts	Menswear	Tops	Cotton	Worcester	52.192001	-2.22
5	20210604	99	251	3	29.91340346	89.74021037	Jeans	Menswear	Trousers	Cotton	Winchester	51.063202	-1.308
6	20210605	66	251	1	41.84343048	41.84343048	Shorts	Womenswear	Trousers	Cotton	Winchester	51.063202	-1.308
7	20210606	97	304	3	49.88752415	149.6625725	Belts	Accessories	Leathers	Leather	Wells	51.209	-2.647
8	20210607	45	357	2	35.41601593	70.83203185	Ties	Accessories	Tops	Leather	Wakefield	53.68	-1.49
9	20210608	81	258	1	29.08420533	29.08420533	Polo Shirts	Menswear	Tops	Cotton	Wakefield	53.68	-1.49
10	20210609	47	260	3	44.49807734	133.494232	Tshirts	Womenswear	Tops	Cotton	Wakefield	53.68	-1.49
11	20210610	24	263	3	38.49739685	115.4921905	Formal Shirts	Womenswear	Tops	Wool	Winchester	51.063202	-1.308
12	20210611	10	265	4	27.04895601	108.195824	Formal Shirts	Menswear	Tops	Wool	Wakefield	53.68	-1.49
13	20210612	45	260	3	28.54089924	85.62269771	Polo Shirts	Menswear	Tops	Cotton	Wakefield	53.68	-1.49
14	20210613	55	260	1	34.74291321	34.74291321	Formal Shirts	Menswear	Tops	Cotton	York	53.958332	-1.080278
15	20210614	44	286	3	27.02857115	81.08571344	Knitwear	Womenswear	Tops	Cashmere	Wells	51.209	-2.647
16	20210615	97	291	1	34.79245255	34.79245255	Knitwear	Menswear	Tops	Cashmere	Wells	51.209	-2.647
17	20210616	31	265	4	43.871537	175.486148	Suits	Menswear	Tops	Wool	Wakefield	53.68	-1.49
18	20210617	47	274	1	51.96824385	51.96824385	Sweats	Womenswear	Tops	Polyester	Wakefield	53.68	-1.49
19	20210618	47	276	4	33.93177484	135.7270994	Shorts	Womenswear	Tops	Cotton	Wakefield	53.68	-1.49
20	20210619	98	280	3	41.41250434	124.237513	Pants	Womenswear	Trousers	Cotton	York	53.958332	-1.080278
21	20210620	34	273	1	38.51621801	38.51621801	Pants	Womenswear	Trousers	Cotton	Wakefield	53.68	-1.49
22	20210621	90	336	1	21.96581177	21.96581177	GolfShoes	Sports	Shoes	Leather	Truro	50.259998	-5.051
23	20210622	12	293	2	38.71883954	77.43767908	Dress	Womenswear	Tops	Polyester	Truro	50.259998	-5.051
24	20210623	9	285	3	36.19045837	108.5713751	Coats	Womenswear	Tops	Cotton	Truro	50.259998	-5.051
25	20210624	66	276	1	54.99430496	54.99430496	Underwear	Womenswear	Tops	Cotton	Winchester	51.063202	-1.308
26	20210625	89	277	2	50.79595734	101.5919147	Pyjamas	Womenswear	Tops	Cotton	Truro	50.259998	-5.051
27	20210626	32	278	2	47.43331644	94.86663288	Pyjamas	Menswear	Tops	Cotton	Truro	50.259998	-5.051
28	20210627	15	288	1	50.00261903	50.00261903	Pants	Menswear	Trousers	Leather	Worcester	52.192001	-2.22
29	20210628	56	262	1	33.47093586	33.47093586	Formal Shirts	Menswear	Tops	Wool	York	53.958332	-1.080278

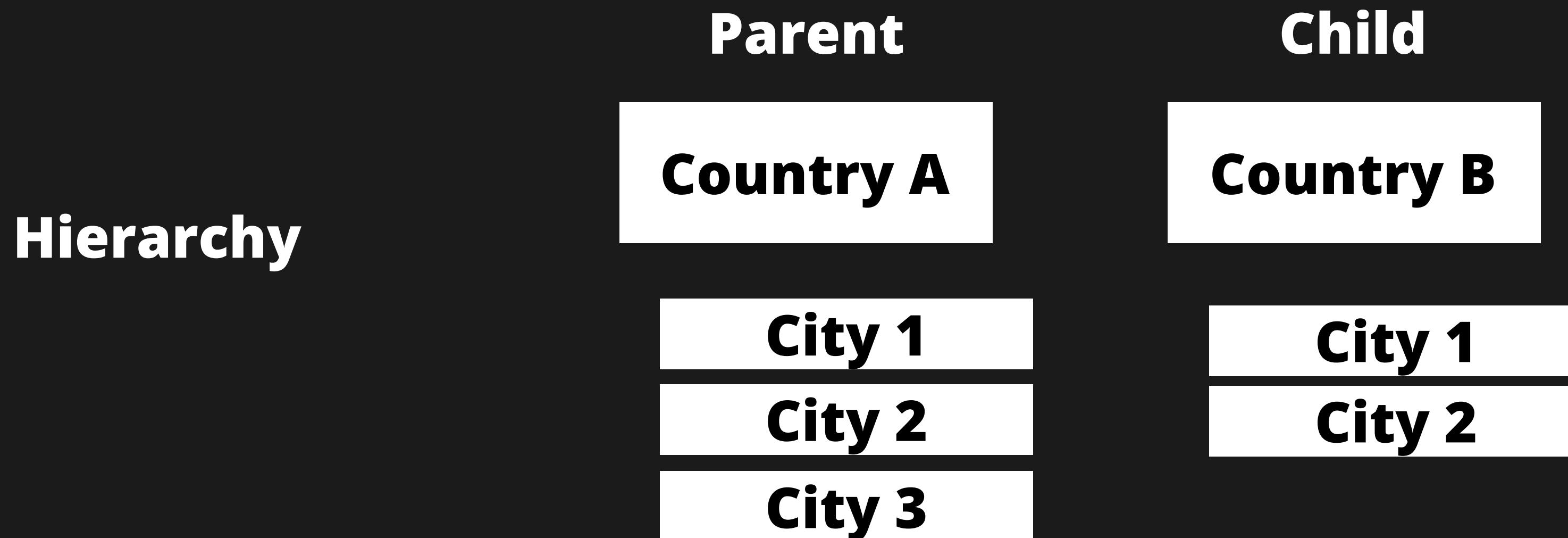
To determine what content to include in your model, you must first identify the columns from the source data on which users need to query.

Dimension

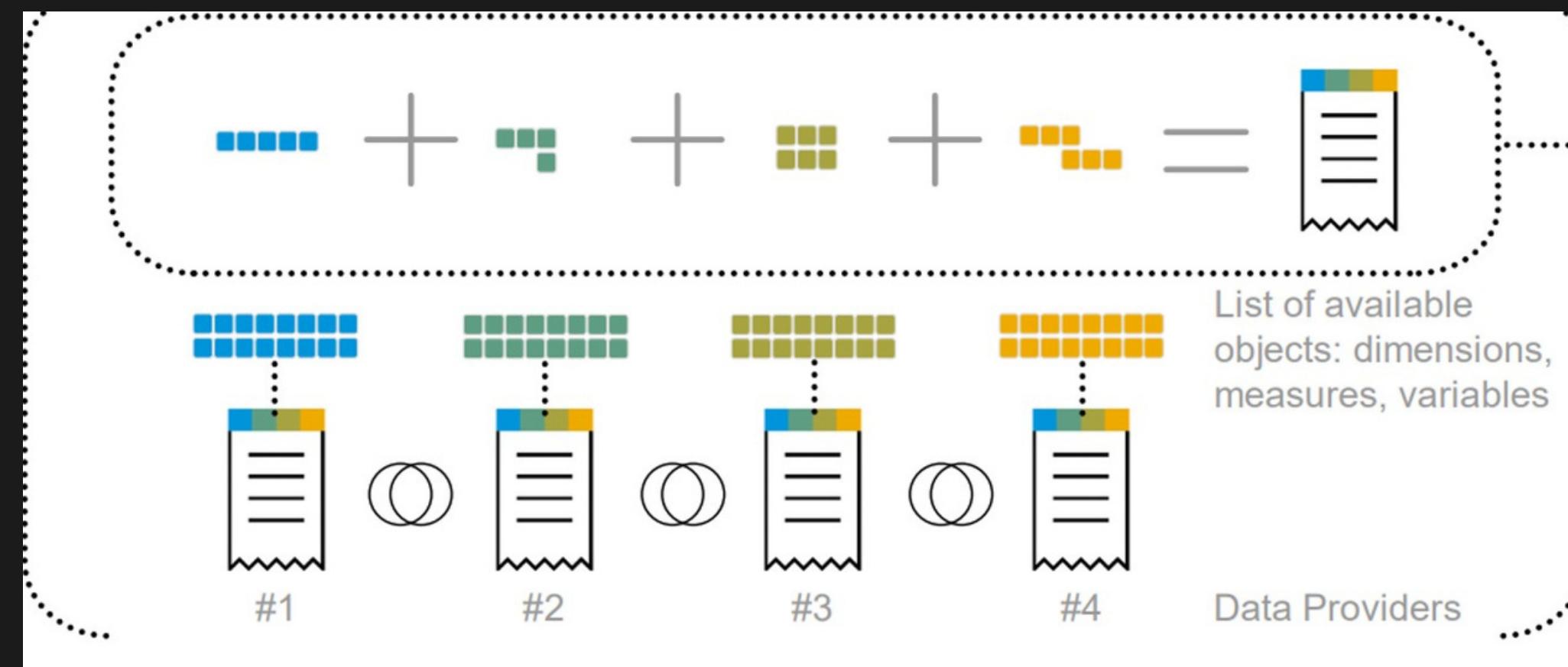
- Account
- Generic
- Date
- Organization

Measure

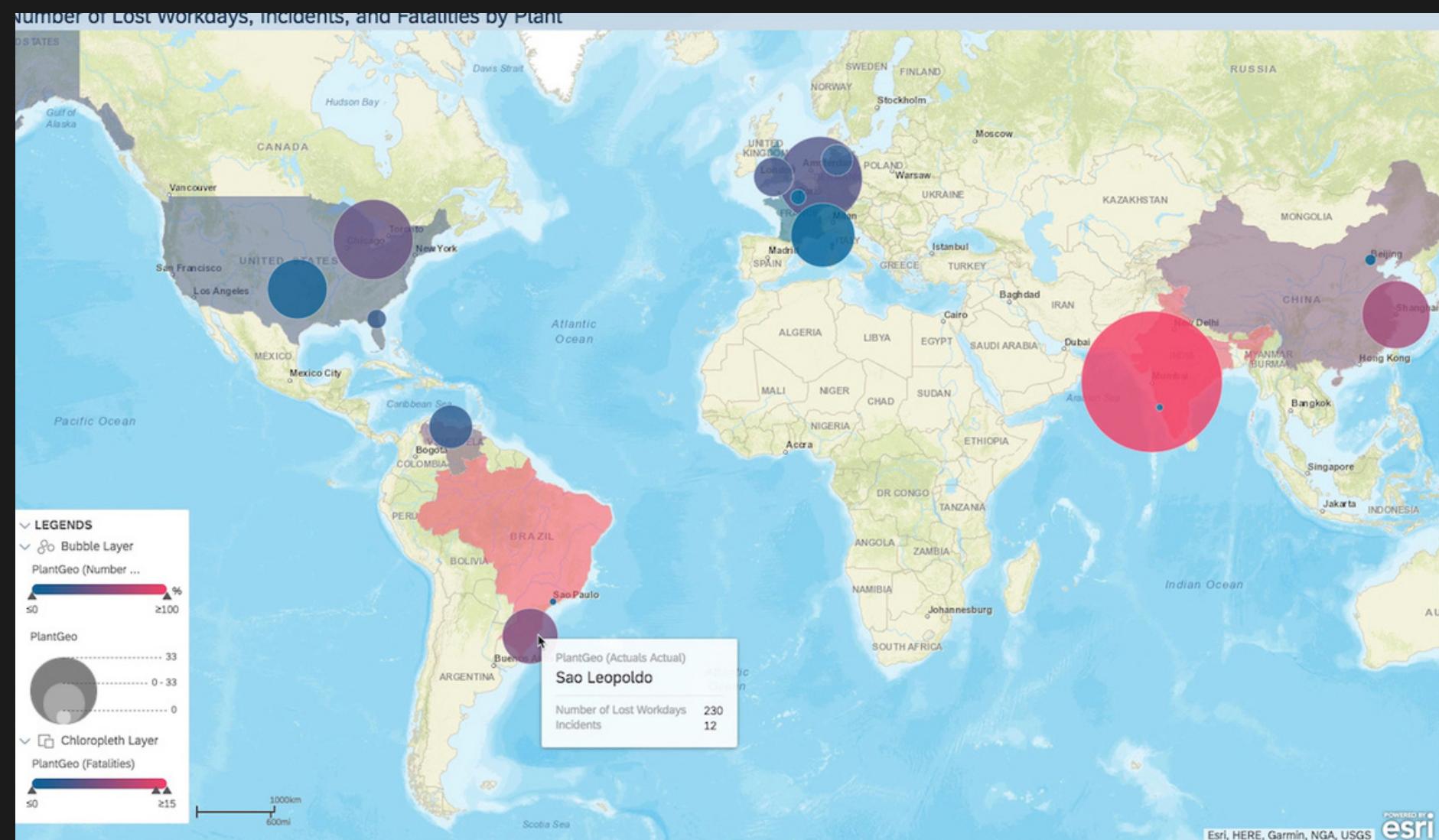
Setting the columns up as a hierarchy allows us to drill up and down between the category and product values in charts.



There's nothing worse than creating charts that just don't look right or don't make any sense



SAP Analytics Cloud offers a variety of geographical mapping options to display your regional data, trends, flow.

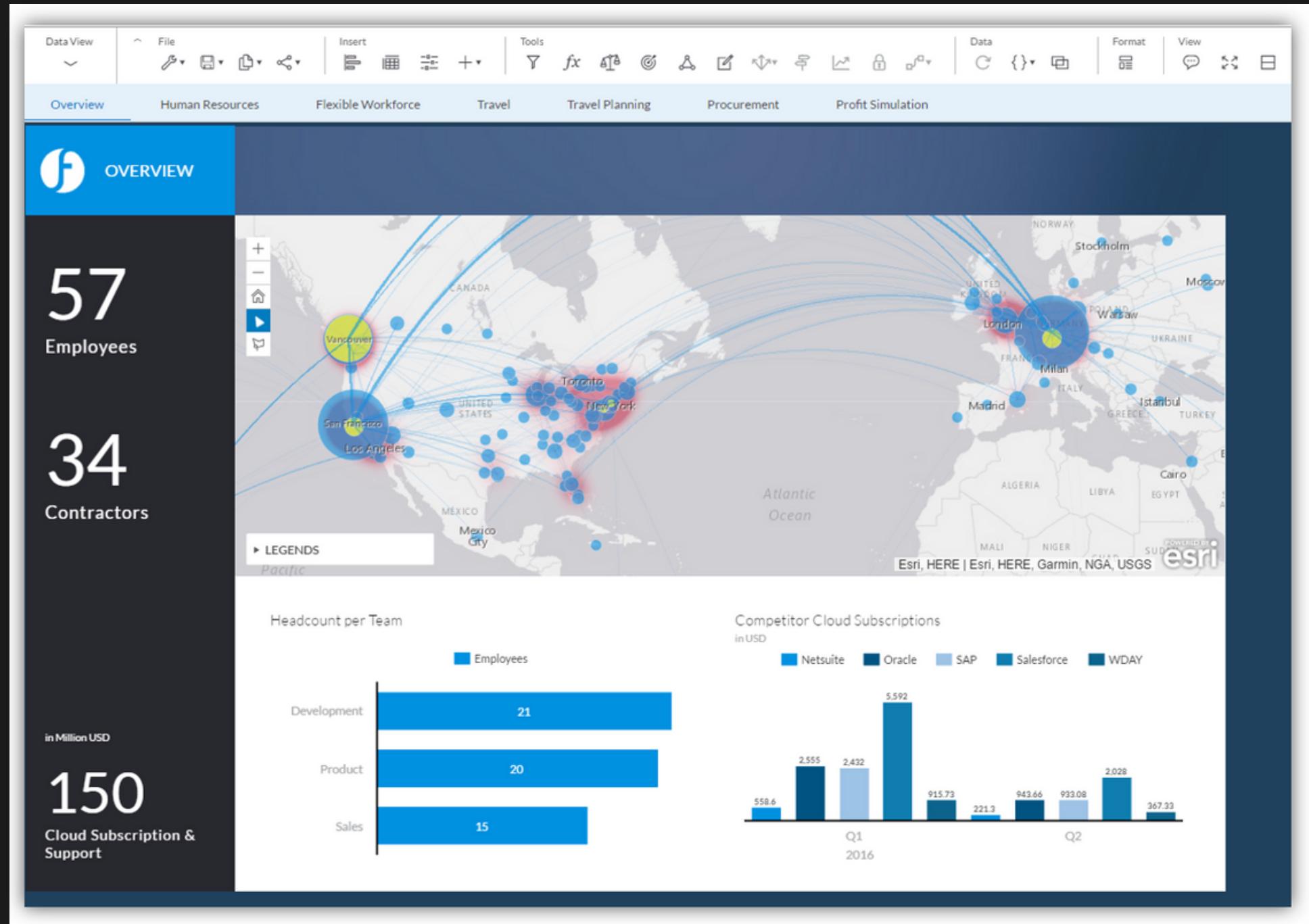


Jobs enable automatic update of data at regular intervals into a model.

An import job enables bringing data into the model.

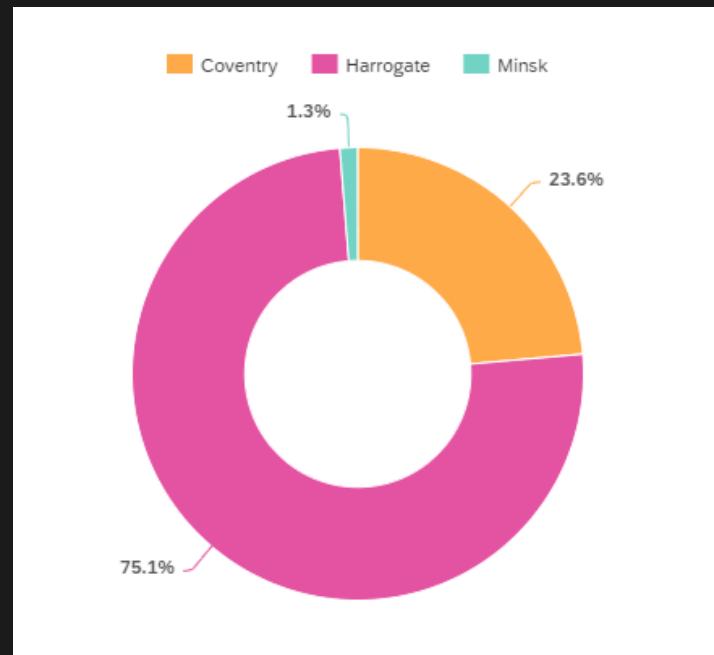
An export job enables moving the data from the model into a csv file or back into the data source.

Stories are used in SAP Analytics Cloud to present data graphically using charts, tables, geo maps, text, images, and shapes.

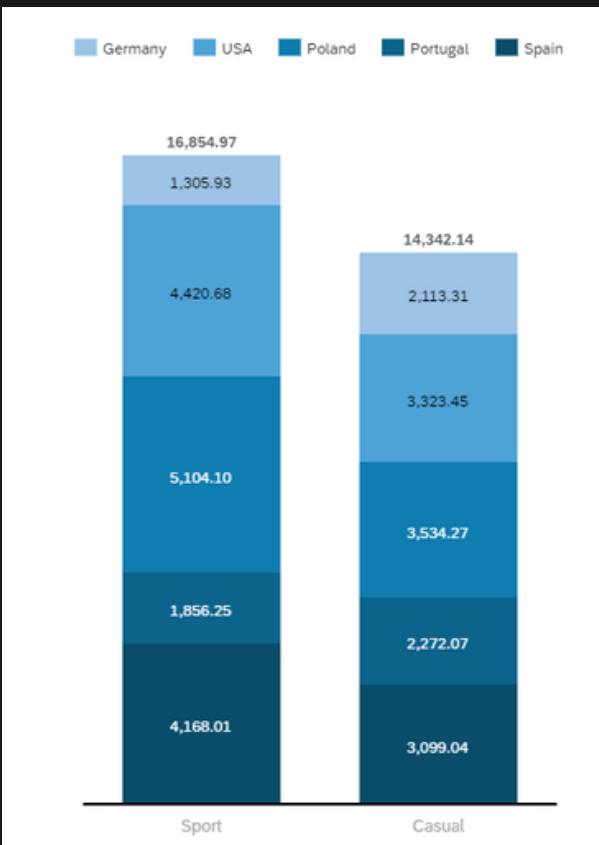


Choose the chart type to present your data more properly in SAC (1/2)

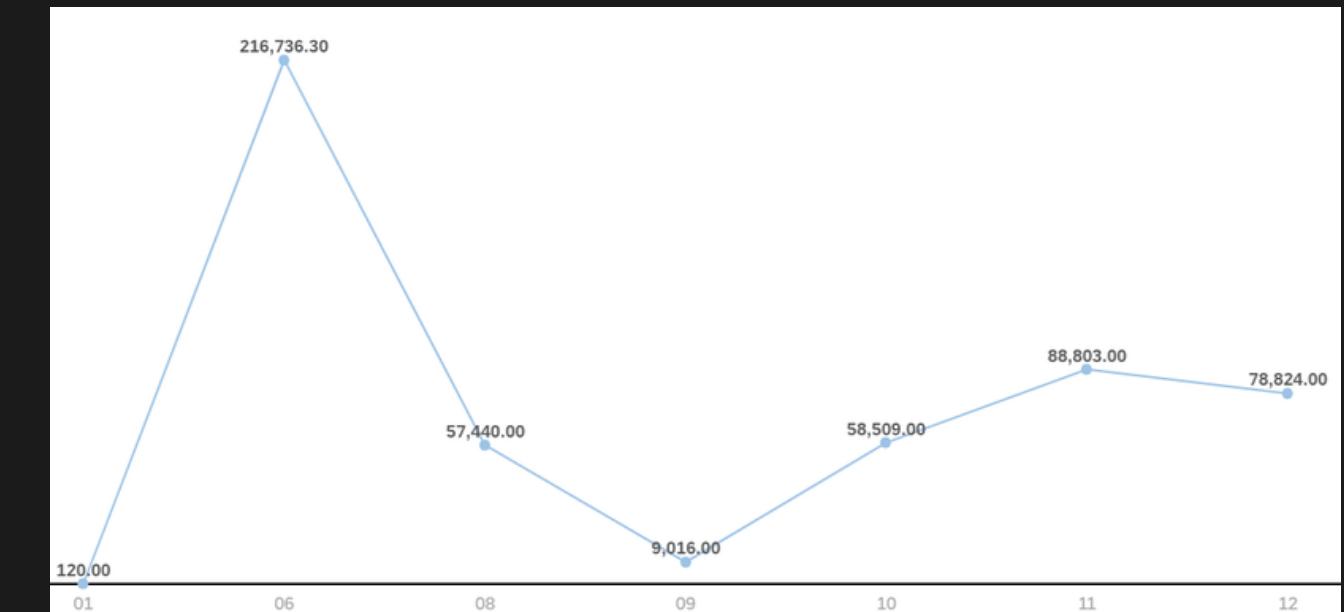
PIE



STACKED BAR

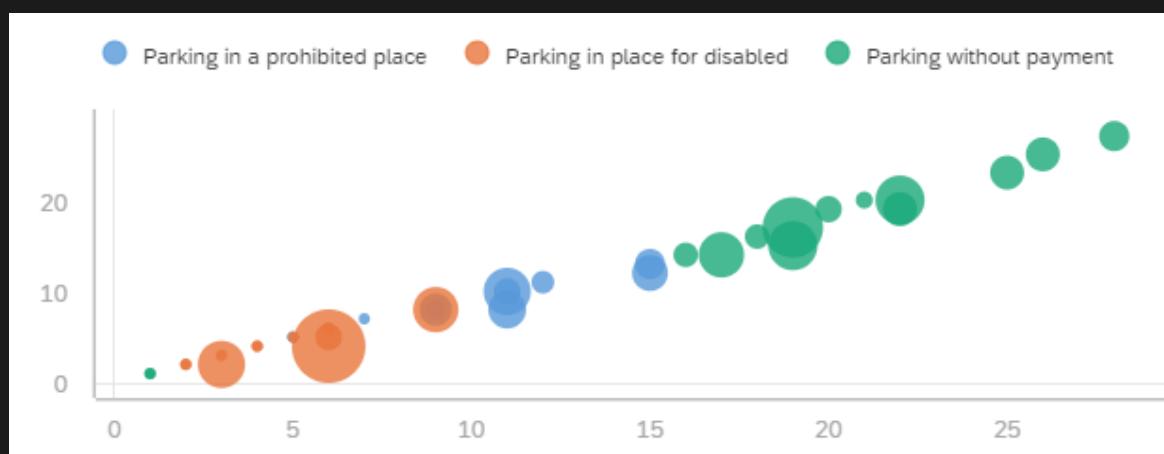


TREND

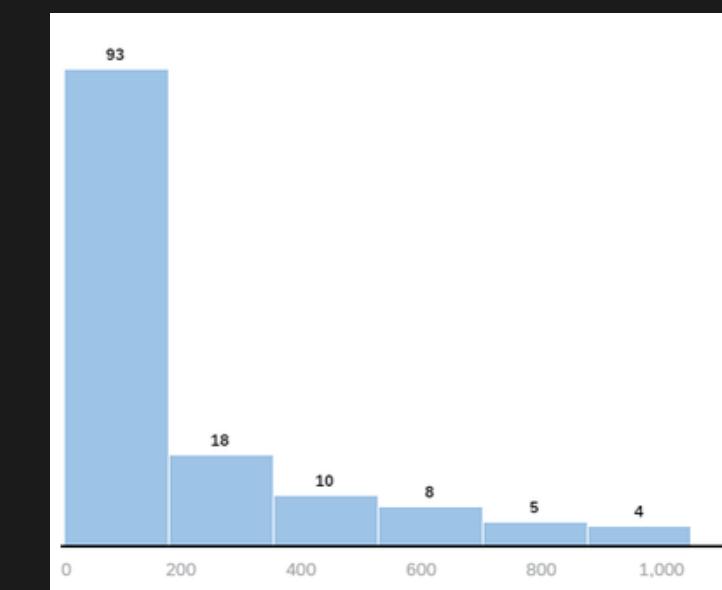


Choose the chart type to present your data more properly in SAC (2/2)

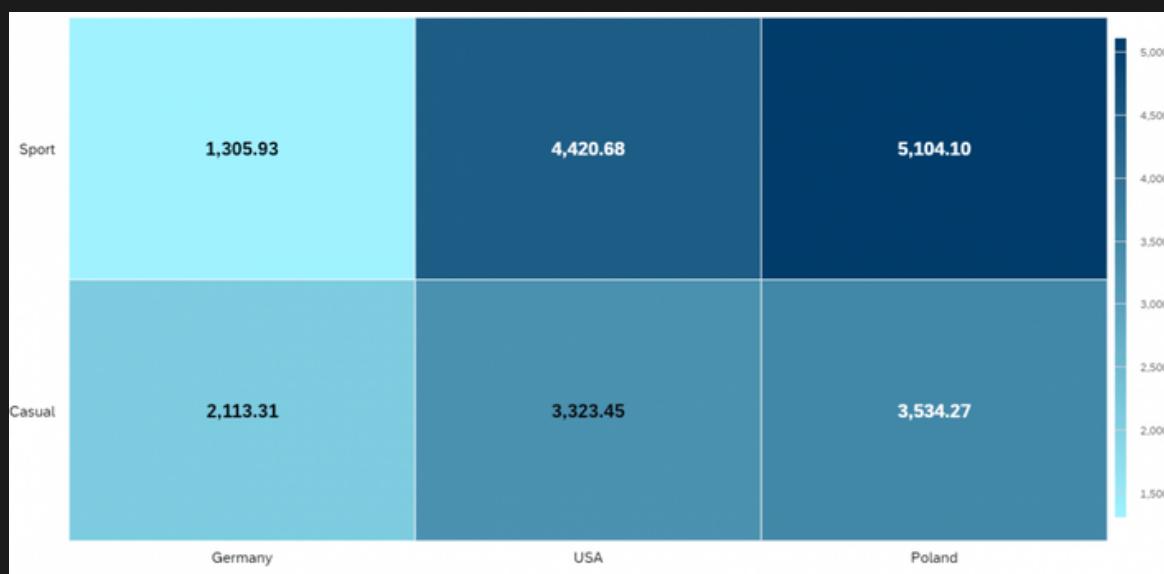
CORRELATION



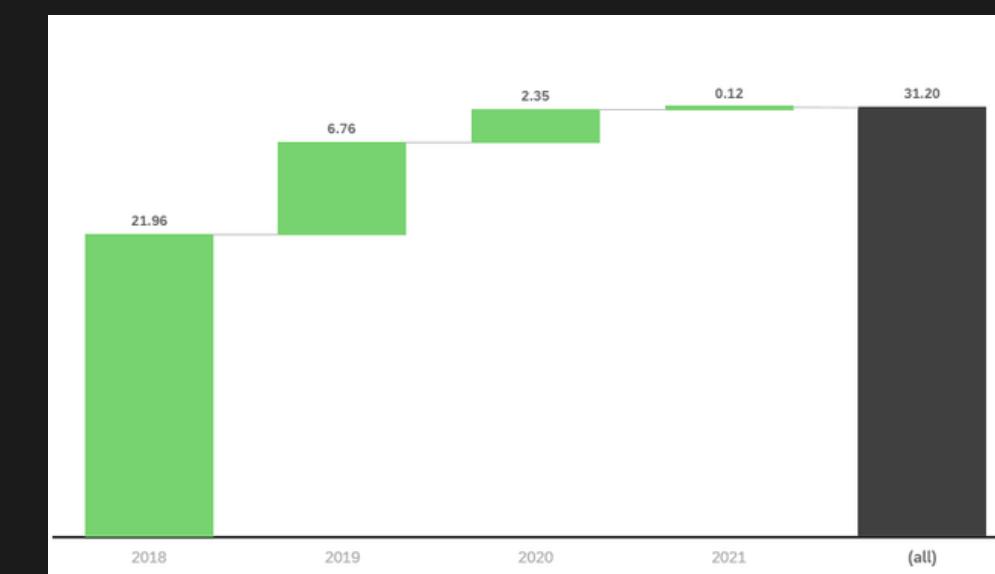
HISTOGRAM



HEATMAP



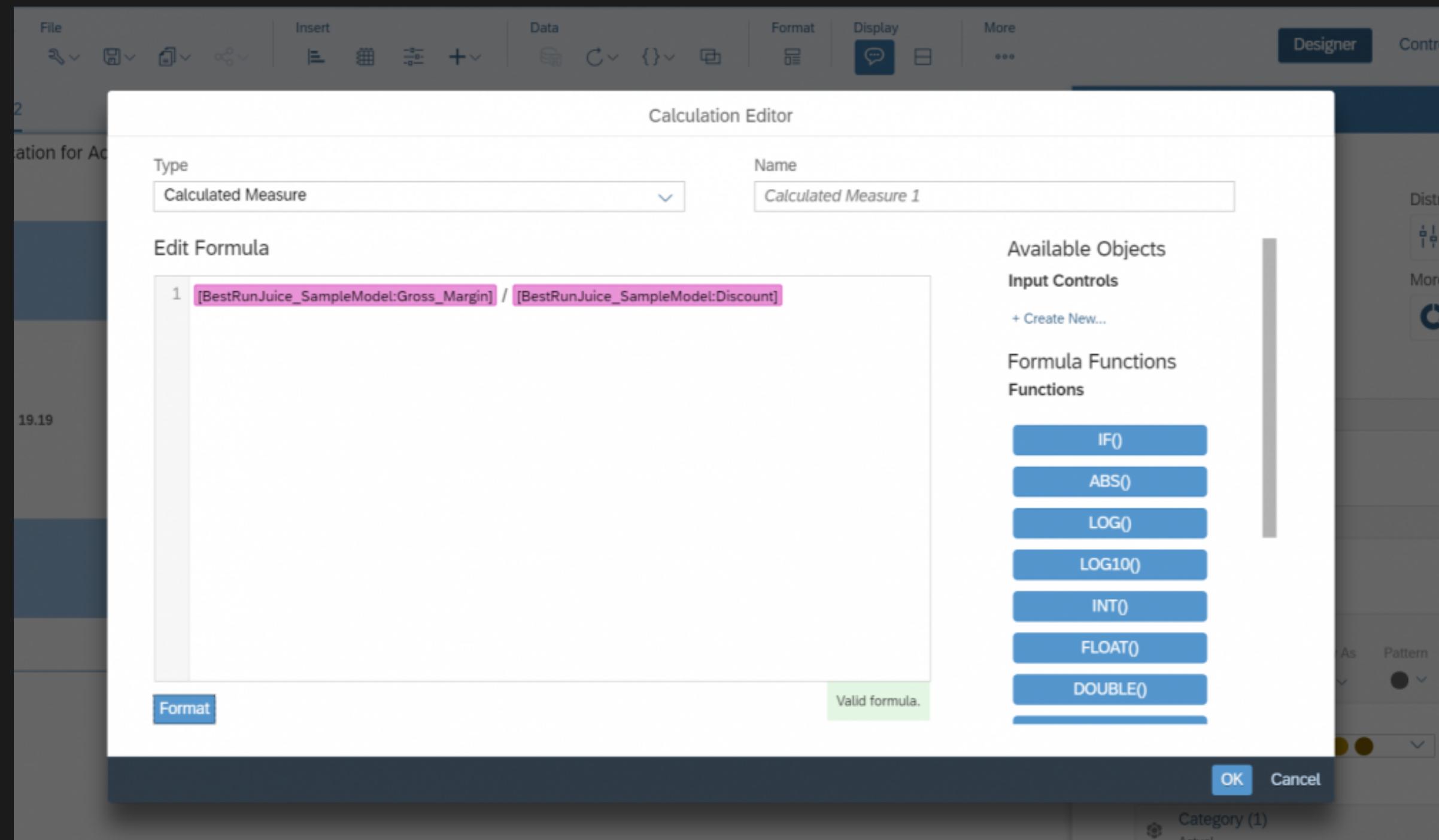
WATERFALL



In-story calculations create story-specific measures that can be added to any chart within the story

- Calculated Measure
- Restricted Measure
- Difference From
- Aggregation

Calculated Measure



Calculated Measure

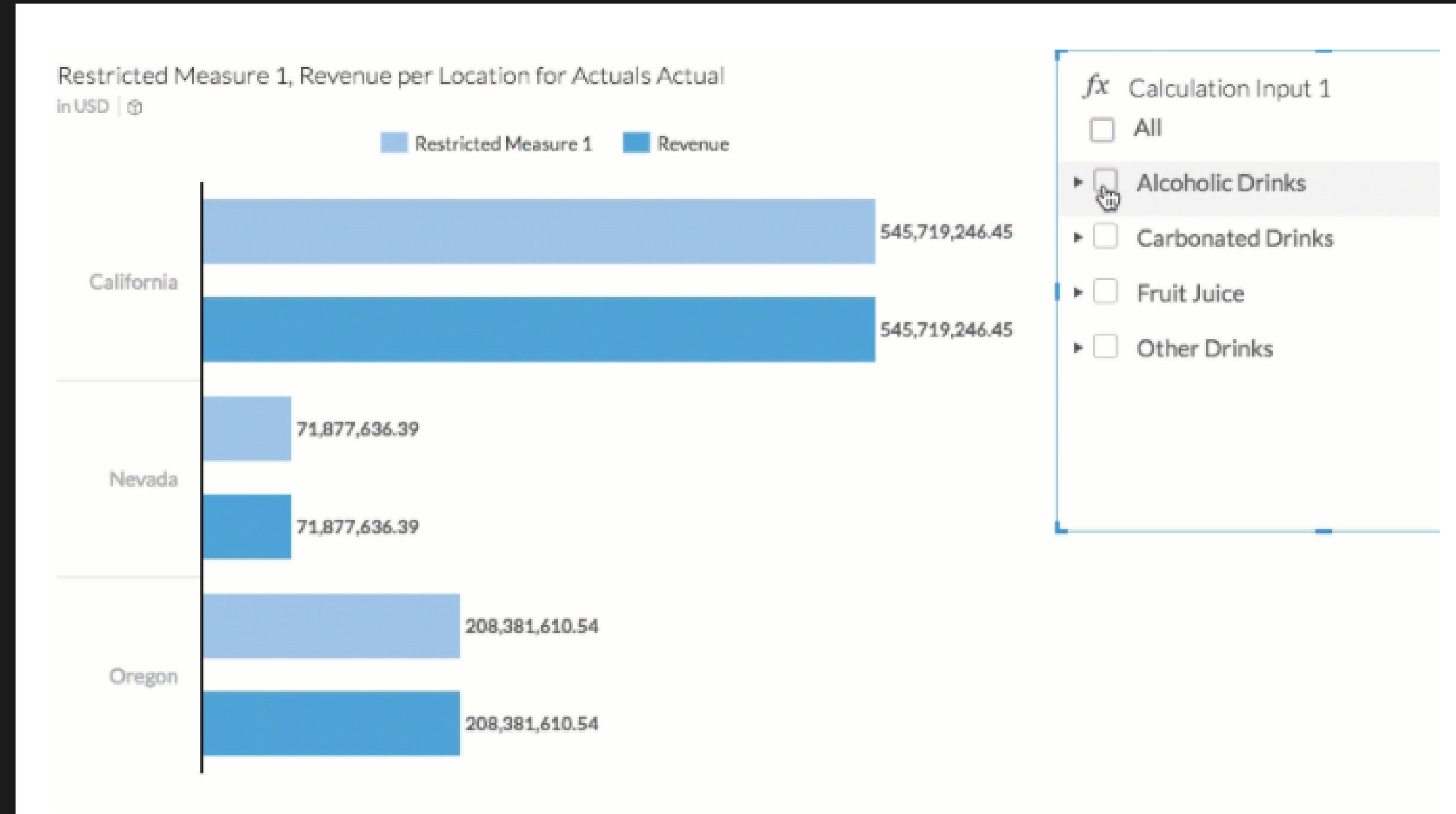
Calculation Editor

Type	Name
Calculated Measure	Calculated Measure 1

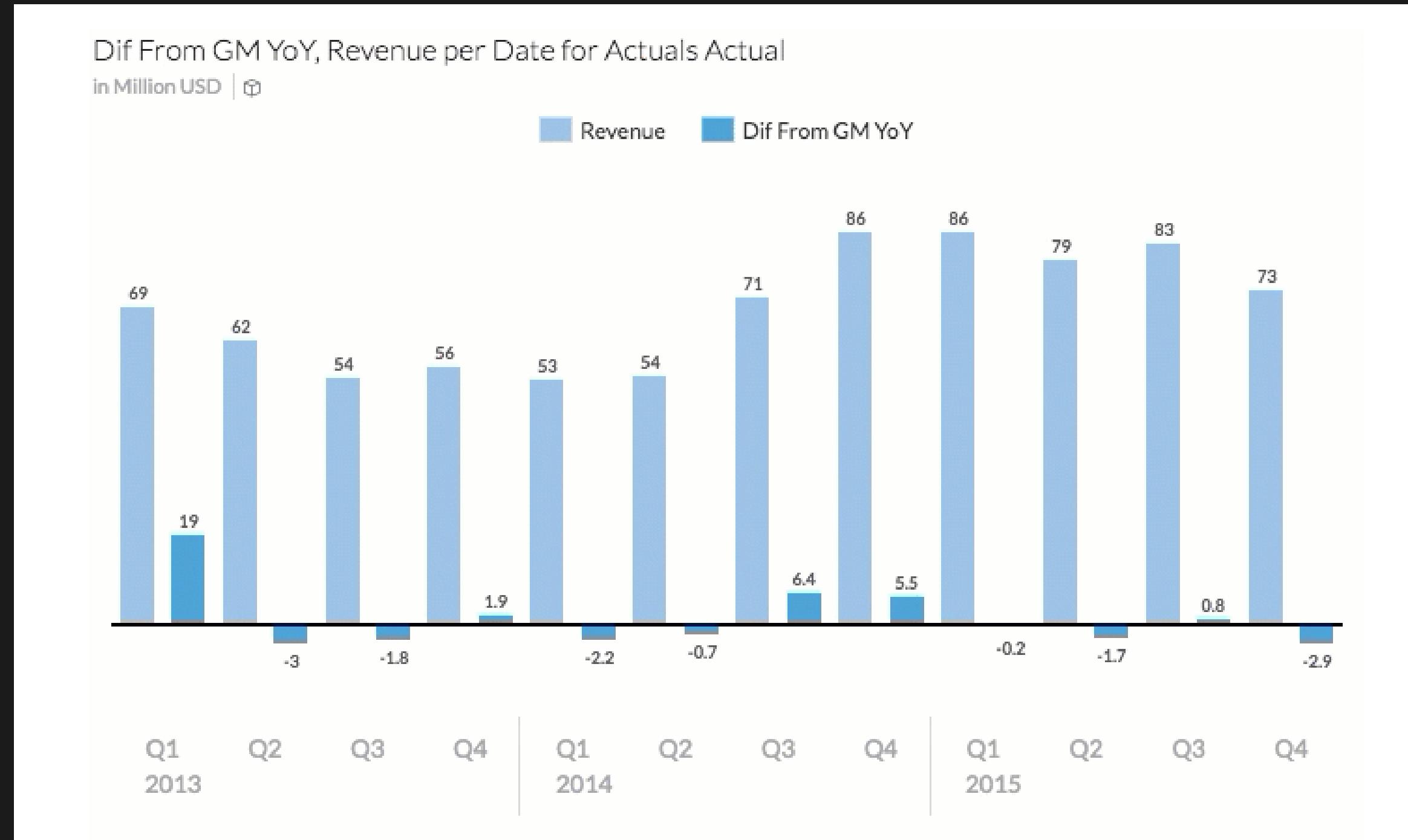
Edit Formula

```
1 [BestRunJuice_SampleModel:Gross_Margin] / [BestRunJuice_SampleModel:Discount]
```

Restricted Measures



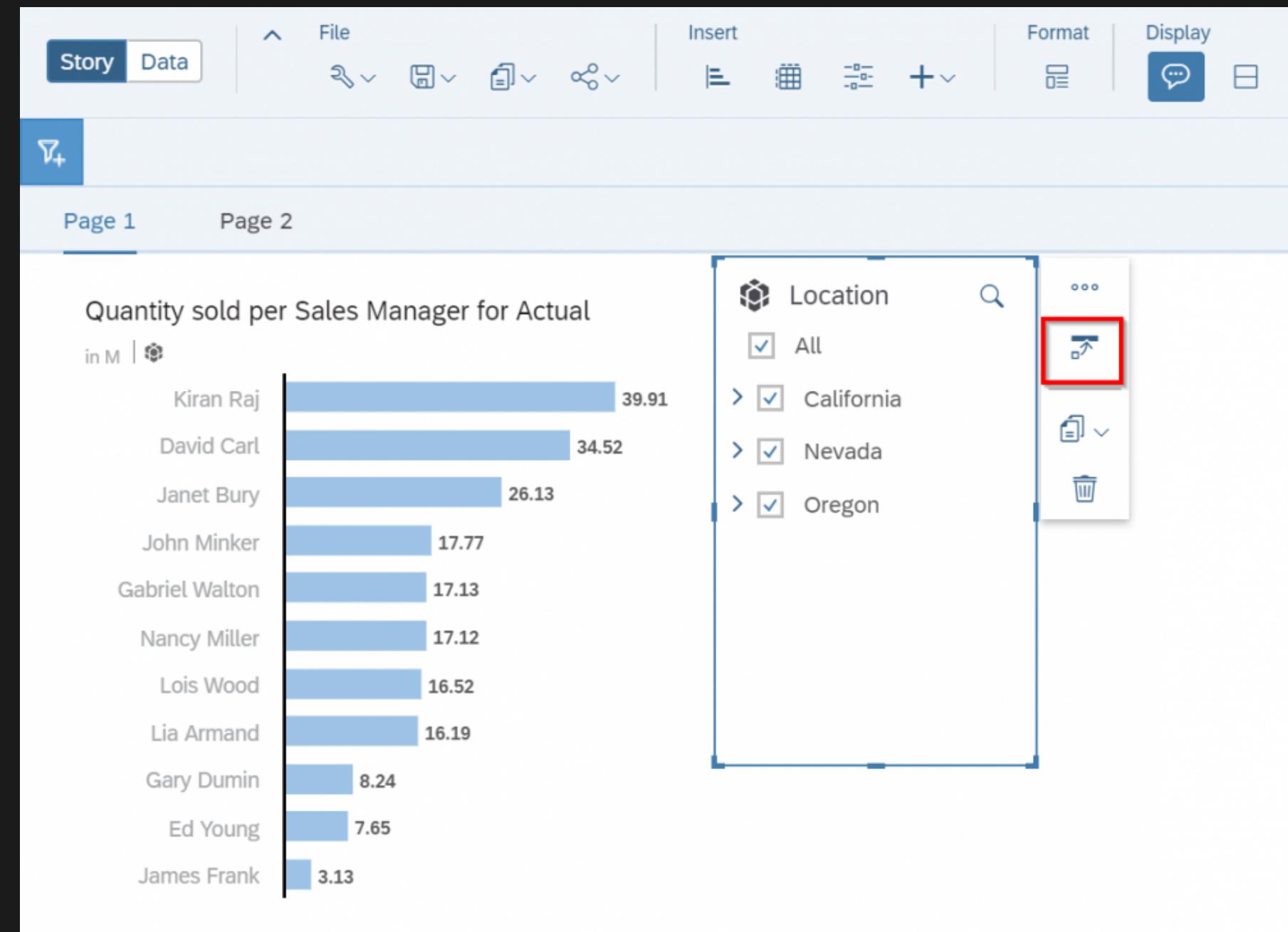
Difference From



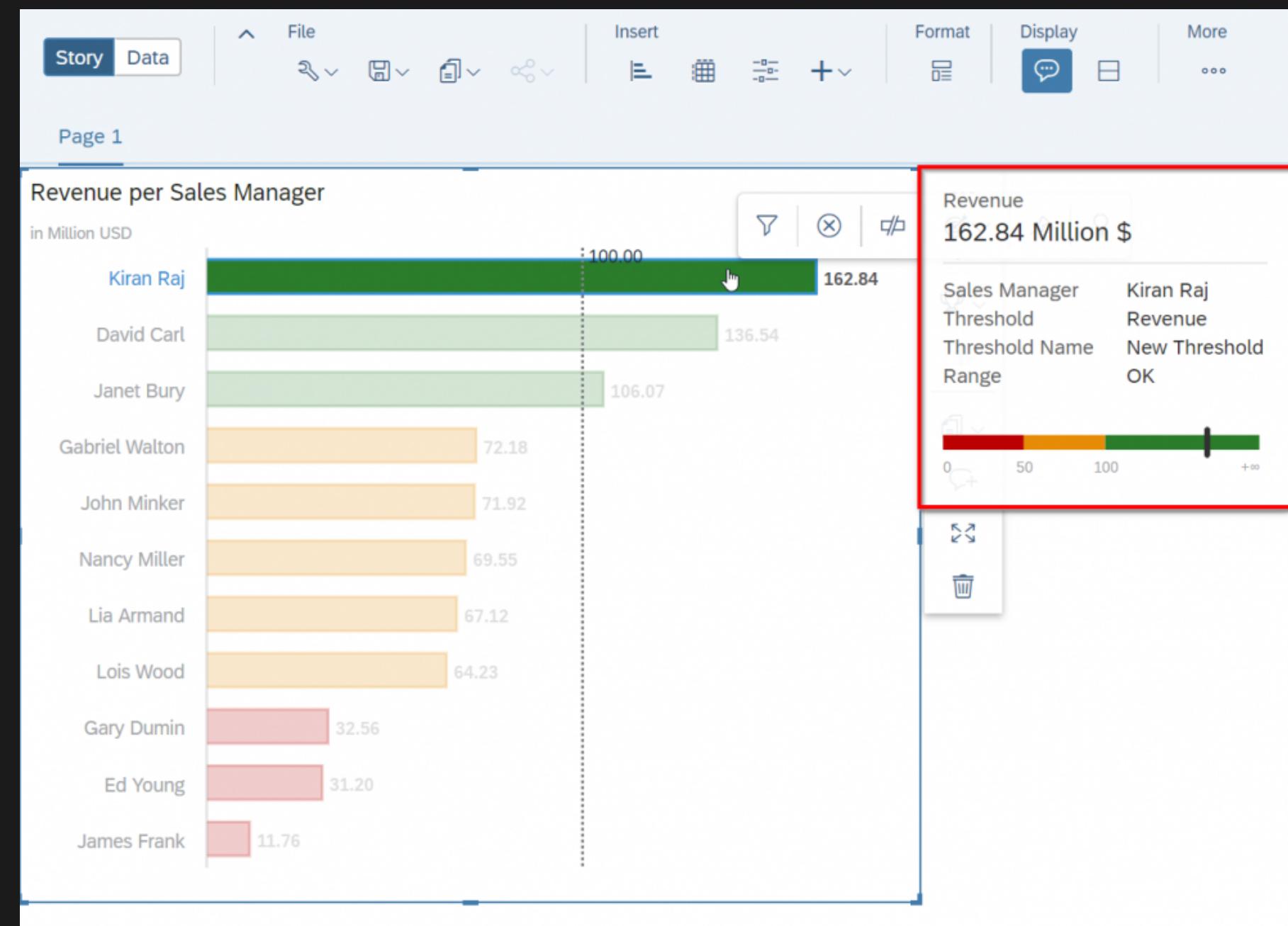
Aggregation

Function	Result
Sum	Sum of the measure's values across all members of the selected dimensions.
Count	Number of values of the selected dimensions. Empty values are not counted.
Count Dimensions	Number of members of the selected dimensions, regardless of whether their values are empty or not.
Average	Average of the measure's values across the selected dimensions.
Min	Smallest value across the selected dimensions.
Max	Largest value across the selected dimensions.

Input control can help us to filter data, compare figures, and explore relationships.



Conditional formatting is the option to change the format of cells or charts based on certain predefined conditions

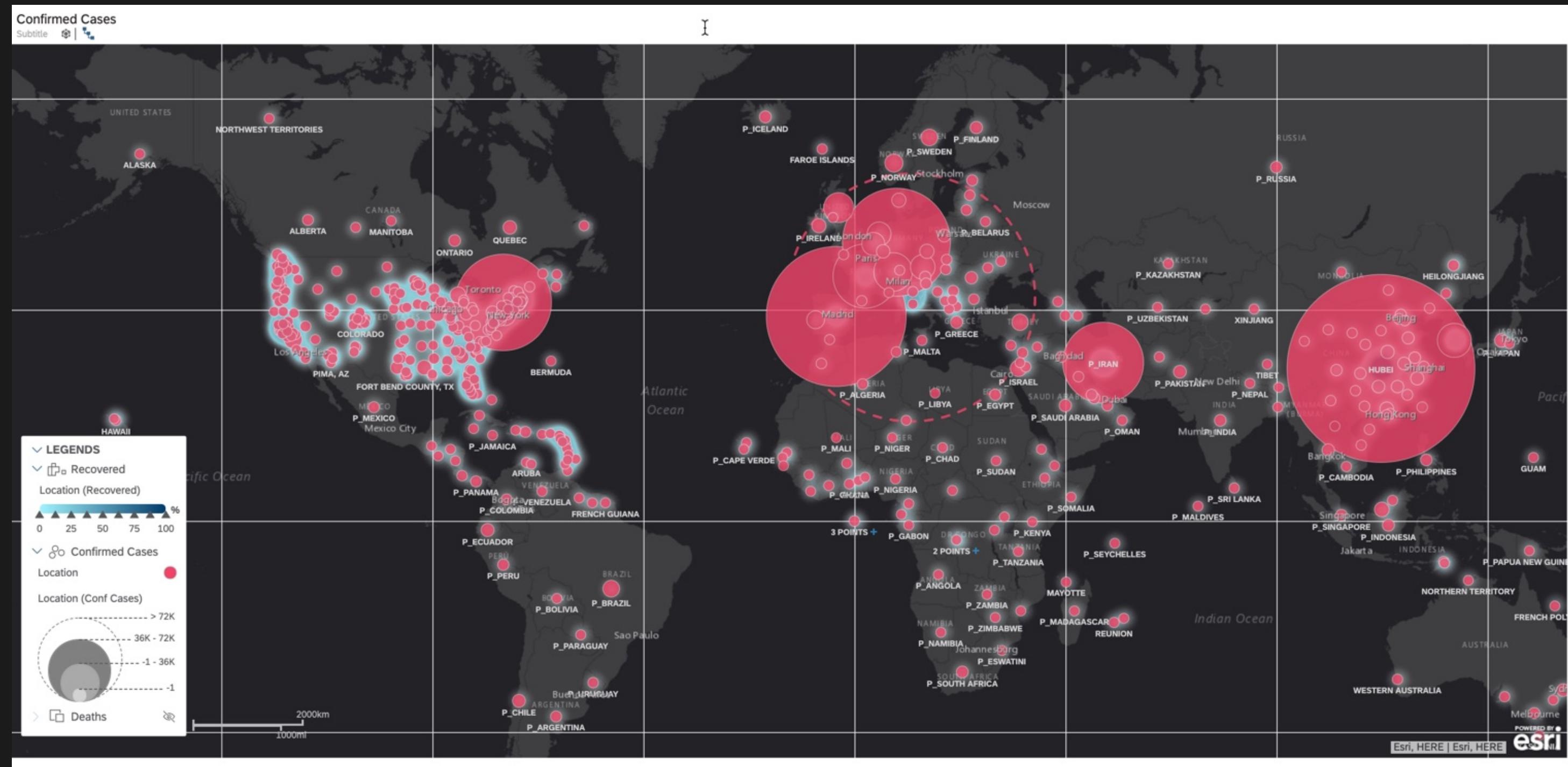


Story creation

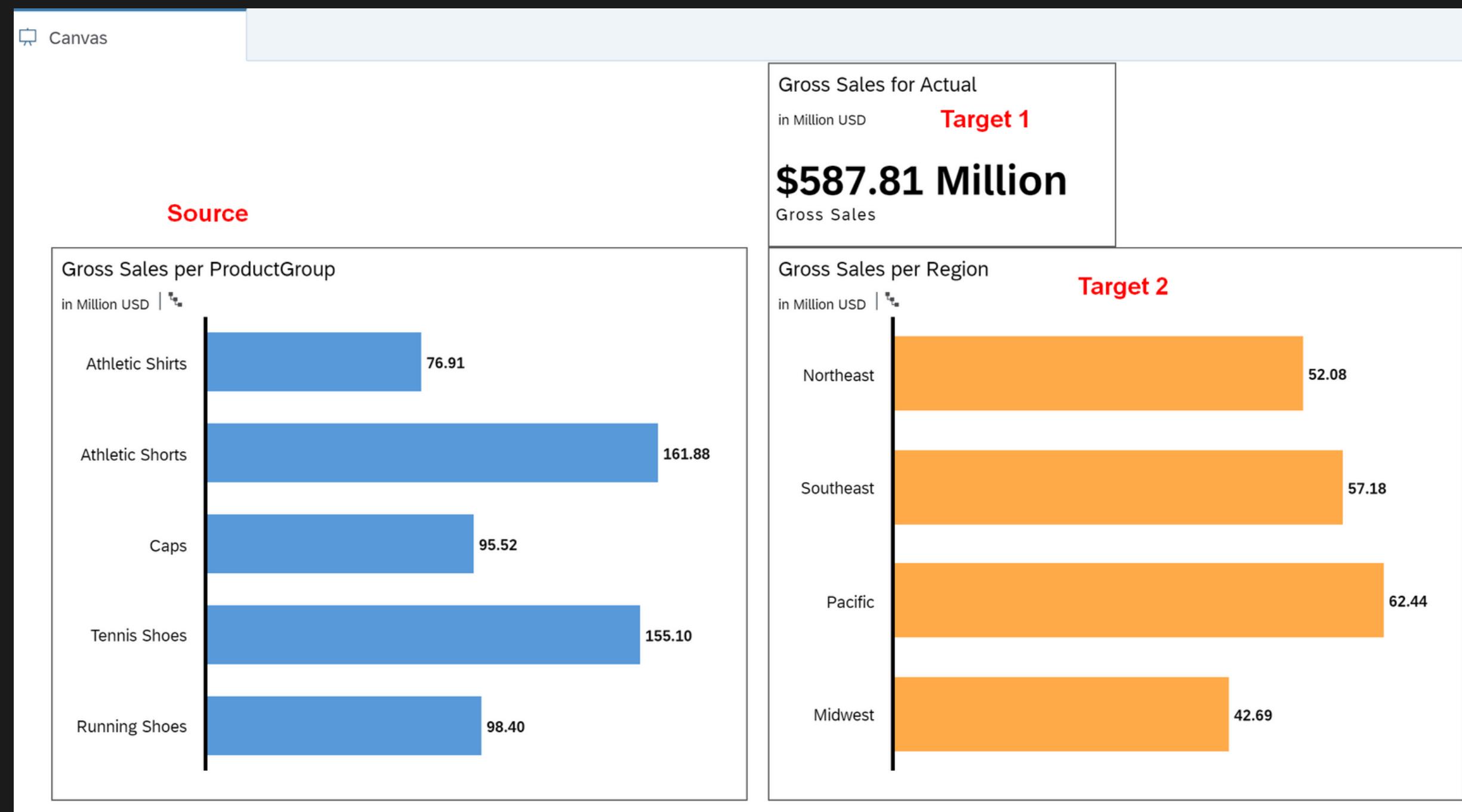
- Story development
- How to choose chart type
- Format
- Filter
- In-Story Calculations
- Measure input control
- Dimension input control
- Conditional formatting

In the next chapter, we will go through advanced features to customize and empower the story

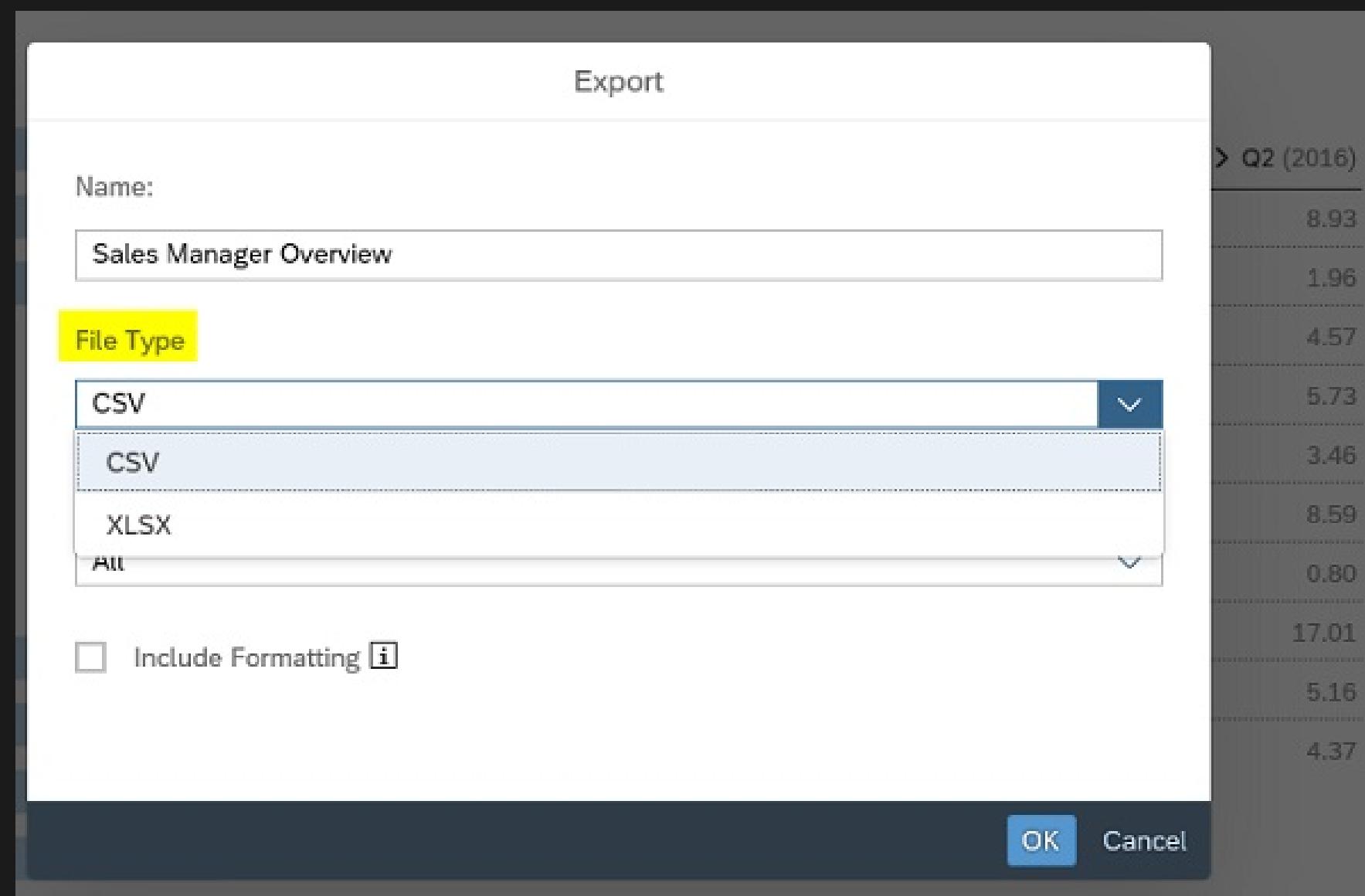
if the models include latitude and longitude information, we can work with this type of data source to visualize data in geomaps



The main difference between filters and linked analysis is that, in linked analysis, the filters are applied only to the charts you include in the analysis, whereas page and story filters affect all the charts



We can use “Save as” option to save the complete story or can use export option for each chart to export data



Scheduling publications will finish repetitive tasks to a specific set of users at a specific time

Deliver to different users and teams in SAP Analytics Cloud via email

Specify schedule frequency for recurring schedules

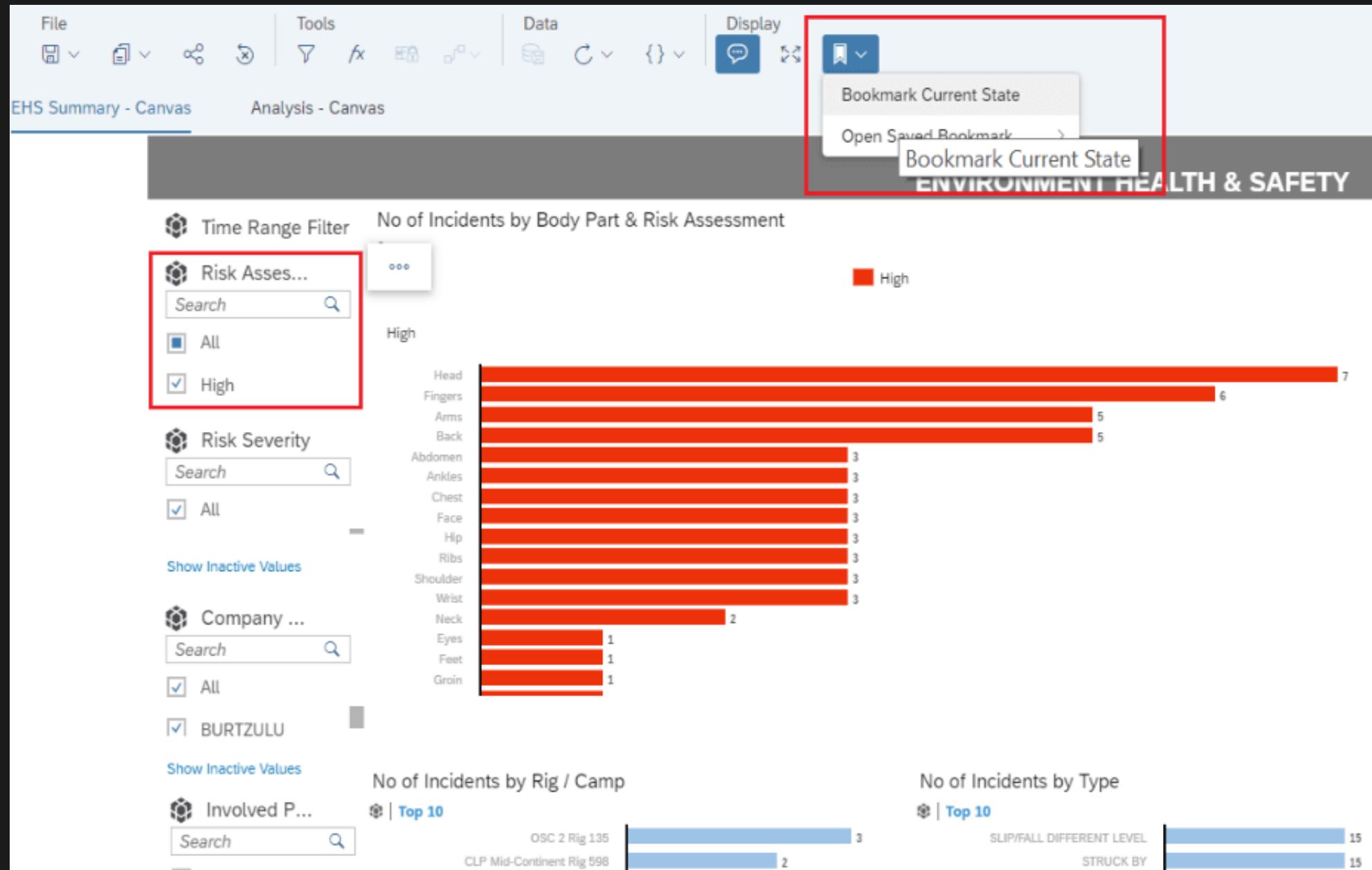
Schedule with personalization to batch users using bookmarks

Schedule stories for both Acquired and Live data connections

Scheduling Publications is available only for tenants on Cloud Foundry

Distribute generated output from stories or analytic applications to report users at a regular basis

Creating a bookmark gives a quick access to frequently used scenarios

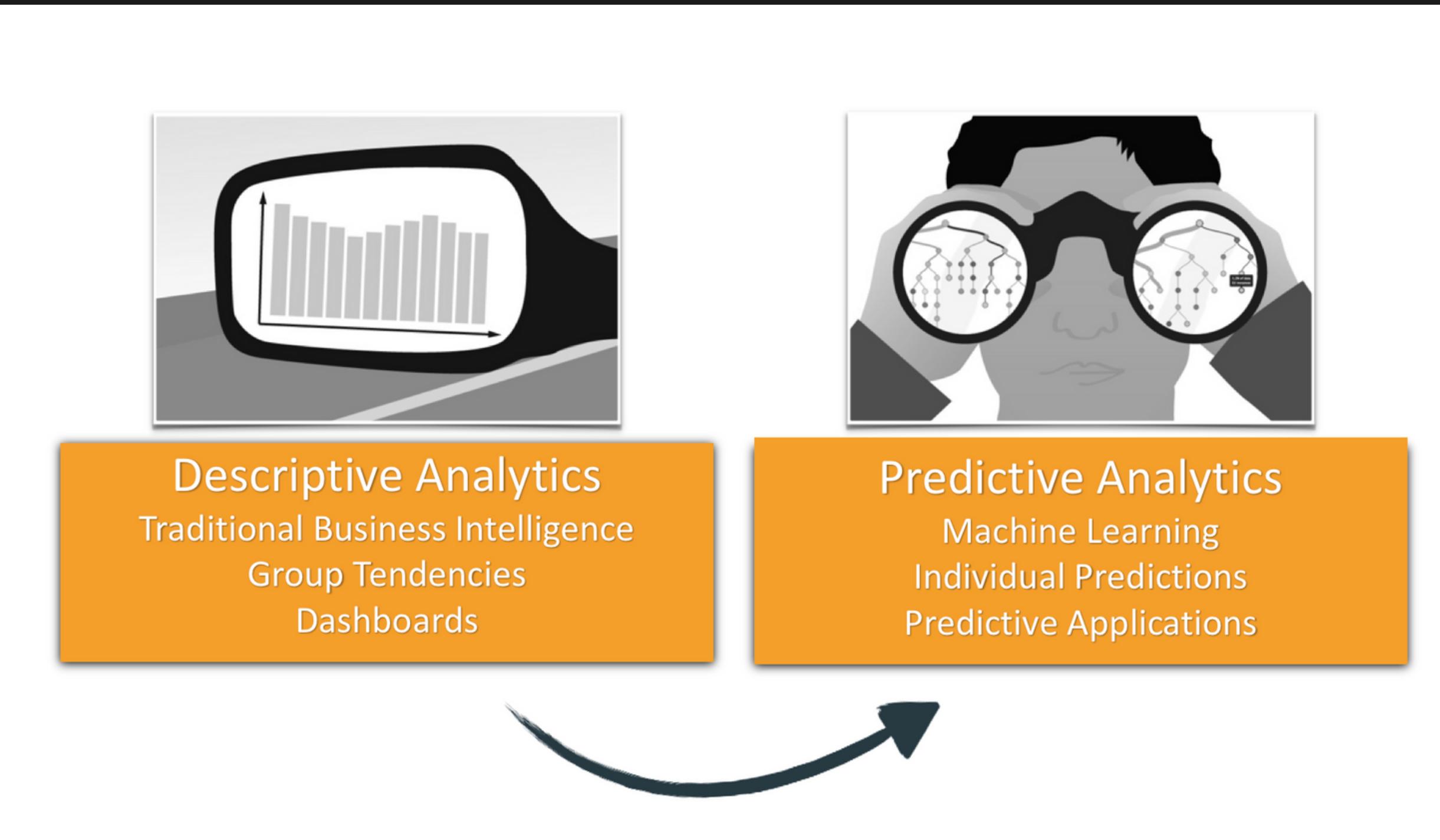


In this chapter, we've learnt

- Geo map
- Linked analysis
- Data blending
- Customize homescreen
- Share
- Comment
- Schedule publication
- Bookmark

In the next chapter, we will learn some more important techniques to use augmented and predictive analytics tools in SAC.

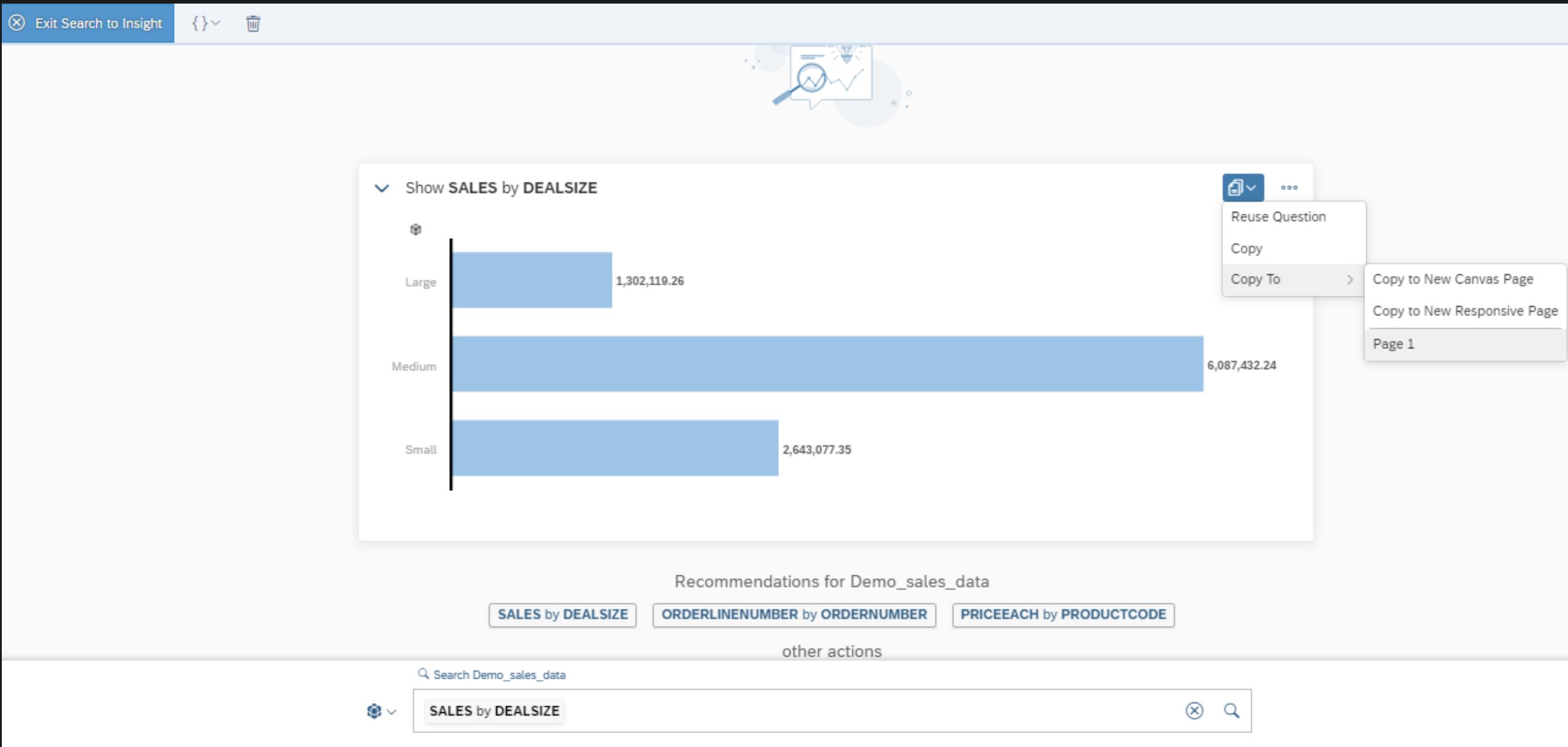
Organizations across verticals are looking to collect and transform big data into business value.



Smart Assist offers AI features to expand the conversation beyond just visualizations, charts, and data connectivity

- Search to Insight
- Smart Insights
- Smart Discovery
- Time Series Forecasting
- Smart Grouping
- R-visualization

Search to Insight is a search engine to answer questions about your data



We can run a discovery against a measure or dimension within a model to determine the influencers on the focus of the discovery, how they relate to one another, and key members or value ranges

Key Influencers

What influences Revenue?

Key Influencers
Product
Store ID
Location
Sales Manager
Date

Drill Down

Revenue and Product in Million USD

Average

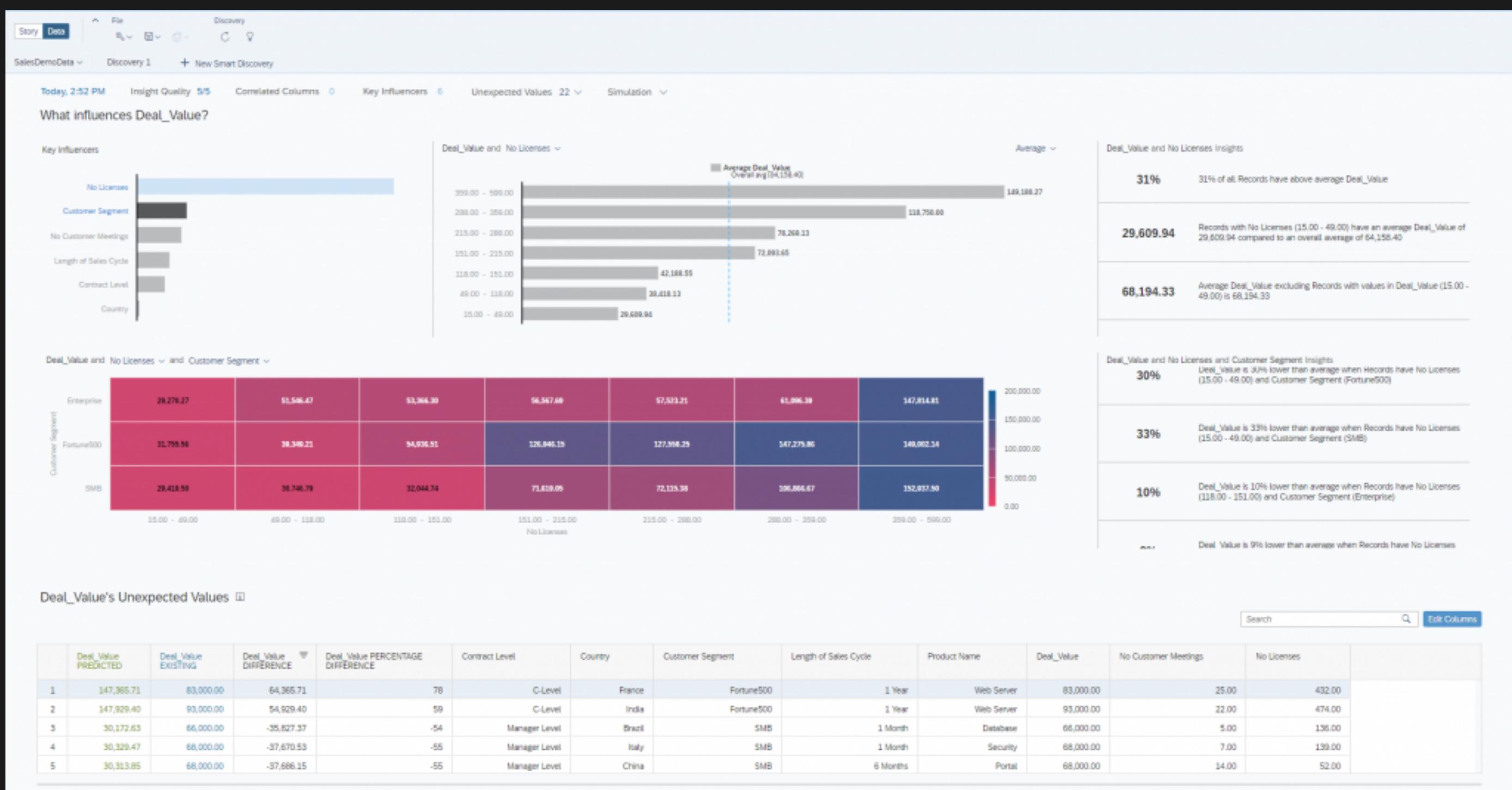
Product	Revenue
PD10	0.16
PD21	0.04
PD7	0.03
PD12, PD13, PD5	0.01
PD27	0.01
PD2, PD6	0.01
Other, PD16	0.01
PD17	0.01
PD22	0.01
PD23	0.01
PD24	+0.00
PD15, PD25	+0.00

Insights

Revenue and Product Insights

16%	16% of all Records have above average Revenue
13%	13% of Records with Product (Other, PD16) have above average Revenue
6%	6% of Records with above average Revenue have Product (Other, PD16)
...	Records with Product (Other, PD16) have an average

We can run a discovery against a measure or dimension within a model to determine the influencers on the focus of the discovery, how they relate to one another, and key members or value ranges



Overview

Files / New Document* Trial ends in 55 days Buy Now 12

Story Data File Insert Tools Data Display More Designer Controls Edit View

Overview Key Influencers Unexpected Values Simulation

Overview of Sales for Country, City, Product ID, and 7 others

Total Sales for Country, City, Product ID, and 7 others
1,838,517.81

Total number of Country, City, Product ID, and 7 others
7,998

Minimum value
0.44

Maximum value
22,638.48

Distribution of Country, City, Product ID, and 7 others by Sales
in Thousand | 16 Bins

Sales Bin (Thousands)	Count
0 - 2.5	159
2.5 - 5	28
5 - 7.5	13
7.5 - 10	2
10 - 12.5	4
12.5 - 15	2
15 - 17.5	2
17.5 - 20	1
20 - 22.5	1
22.5 - 25	1

Sales over time
Forecast

Sales by Country, City, Product ID, and 7 others
Top 10

Location	Sales (Thousands)
United States+Home Office+South+Standard Class+6+Florida+Jacksonville+Cisco TelePresence S...	22,638.48
United States+Corporate+Central+Standard Class+5+Indiana+Lafayette+Canon imageCLASS 220...	17,499.95
United States+Home Office+East+First Class+4+New York+New York City+Canon imageCLASS 22...	11,199.97
United States+Consumer+East+Standard Class+3+Delaware+Newark+Canon imageCLASS 2200 ...	10,499.97
United States+Consumer+Central+Standard Class+5+Minnesota+Minneapolis+Ibico EPK-21 Elect...	9,449.95
United States+Corporate+East+Standard Class+7+New Jersey+Lakewood+3D Systems Cube Prin...	9,099.93

Key Influencers

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Story Data File Insert Tools Data Display More

Overview Key Influencers Unexpected Values Simulation Designer Controls Edit View

Key influencers of Sales for Country, City, Product ID, and 7 others

We found 9 key influencers of Sales for Country, City, Product ID, and 7 others and have highlighted the top 3:

Feb 8, 2021 10:22 |

Dimension	Influence Score
Profit	High
Discount	Medium
Quantity	Low
Region	Very Low
State	Very Low
City	Very Low
Product Name	Very Low
Segment	Very Low
Ship Mode	Very Low

Summary
The predictive algorithm driving Smart Discovery identified 9 columns as key influencers of Sales for Country, City, Product ID, and 7 others. These key influencers are the dimensions or measures within Superstorewithprofit that impact Sales for Country, City, Product ID, and 7 others the most. Profit has the highest influence, followed by Discount.

We aggregate all the relevant measures and dimensions to the level of the entity. For the dimensions that can have several values for one entity, we count the number of dimension members of each entity.

How Profit influences Sales for Country, City, Product ID, and 7 others

Distribution of Country, City, Product ID, and 7 others by Sales and Profit

Profit Range	A [..1415.32]	B [1415.32..2830.20]	C [2830.20..4245.08]	D [4245.08..5659.95]	Total												
A [..-68.19]	295	460	786	335	474	406	417	523	1,000	500	570	415	525	398	357	325	
B [-68.19..-14.97]		27	3	1					1	1			1	10	115		
C [-14.97..0.50]				3	1							2	1	21			
D [0.50..1.64]						3									10		
E [1.64..3.03]																	
F [3.03..4.20]																	

Average Sales for Country, City, Product ID, and 7 others by Profit

Profit Range	Avg Sales
A [..-68.19]	756.18
B [-68.19..-14.97]	201.96
C [-14.97..0.50]	70.77
D [0.50..1.64]	14.40
E [1.64..3.03]	18.41
F [3.03..4.20]	21.44

Unexpected Values

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Story Data Tools Data Display More

File Insert Tools Data Display More

Unexpected values in **Sales for Country, City, Product ID, and 7 others**

We found 191 Country, City, Product ID, and 7 others which were unexpected.

Feb 8, 2021 10:22 |

	Sales Actual	Sales Expected	Sales Difference	Sales % Difference	Profit	Discount	Quantity	Region	State	City	Product Name	Segment	Ship Mode
1	22,638.48	19.13	22,619.35	118250 %	-1,811.08	0.50	6	South	Florida	Jacksonville	Cisco TelePrese...	Home Office	Standard Cla
2	17,499.95	6,881.94	10,618.01	154 %	8,399.98	0.00	5	Central	Indiana	Lafayette	Canon imageC...	Corporate	Standard Cla
3	7,999.98	-99.77	8,099.75	-8119 %	-3,839.99	0.50	4	South	North Carolina	Burlington	Cubify CubeX 3...	Corporate	Same Day
4	8,159.95	199.89	7,960.06	3982 %	-1,359.99	0.40	8	Central	Texas	San Antonio	Lexmark MX61...	Consumer	Standard Cla
5	11,199.97	3,818.89	7,381.08	193 %	3,919.99	0.20	4	East	New York	New York City	Canon imageC...	Home Office	First Class
6	8,187.65	1,383.68	6,803.97	492 %	327.51	0.00	5	West	California	San Francisco	High Speed Aut...	Consumer	Second Clas
7	9,099.93	2,805.51	6,294.42	224 %	2,365.98	0.00	7	East	New Jersey	Lakewood	3D Systems Cu...	Corporate	Standard Cla
8	8,399.98	2,275.46	6,124.52	269 %	1,120.00	0.40	4	East	Pennsylvania	Philadelphia	Canon imageC...	Consumer	Standard Cla
9	10,499.97	4,544.21	5,955.76	131 %	5,039.99	0.00	3	East	Delaware	Newark	Canon imageC...	Consumer	Standard Cla
10	9,449.95	4,291.60	5,158.35	120 %	4,630.48	0.00	5	Central	Minnesota	Minneapolis	Ibico EPK-21 El...	Consumer	Standard Cla
11	4,499.99	-283.51	4,783.49	-1687 %	-6,599.98	0.70	5	East	Ohio	Lancaster	Cubify CubeX 3...	Consumer	Standard Cla
12	4,663.74	100.24	4,563.50	4553 %	-1,049.34	0.20	7	East	Pennsylvania	Philadelphia	Martin Yale Cha...	Consumer	Second Clas
13	6,999.96	2,640.84	4,359.12	165 %	2,239.99	0.00	4	East	New York	New York City	HP Designjet T...	Consumer	Standard Cla

Association between the actual and expected **Sales for Country, City, Product ID, and 7 others**

Feb 8, 2021 10:22 |

Feb 8, 2021 10:22 |

Actual Expected

Simulation

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Story Data File Insert Tools Data Display More

Overview Key Influencers Unexpected Values Simulation

How my influencers have an impact on Sales for Country, City, Product ID, and 7 others

Expected Sales for Country, City, Product ID, and 7 others
Feb 8, 2021 10:22 |

2,012.83

Expected Sales for Country, City, Product ID, and 7 others is 2,012.83, positively influenced mainly by Profit [900] + Discount [0.4].

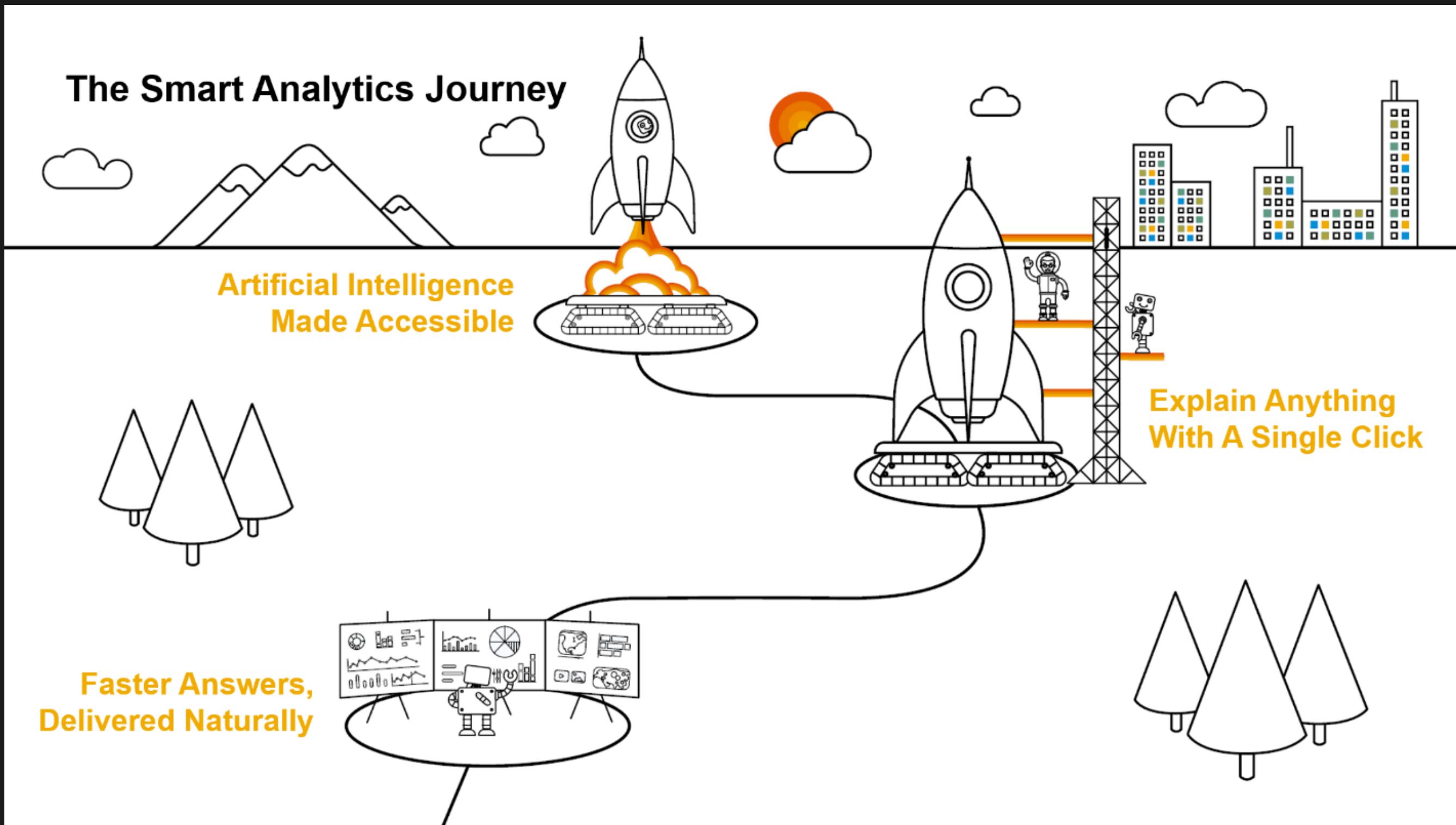
Summary
Use the Simulation view to discover how changing the values of your key influencers could have an impact on the value of your Sales for Country, City, Product ID, and 7 others. Simply specify a new value for one or more of your key influencers, and choose the 'Simulate' button.

Change the influencer values below, and choose 'Simulate' to see the impact on Sales for Country, City, Product ID, and 7 others:

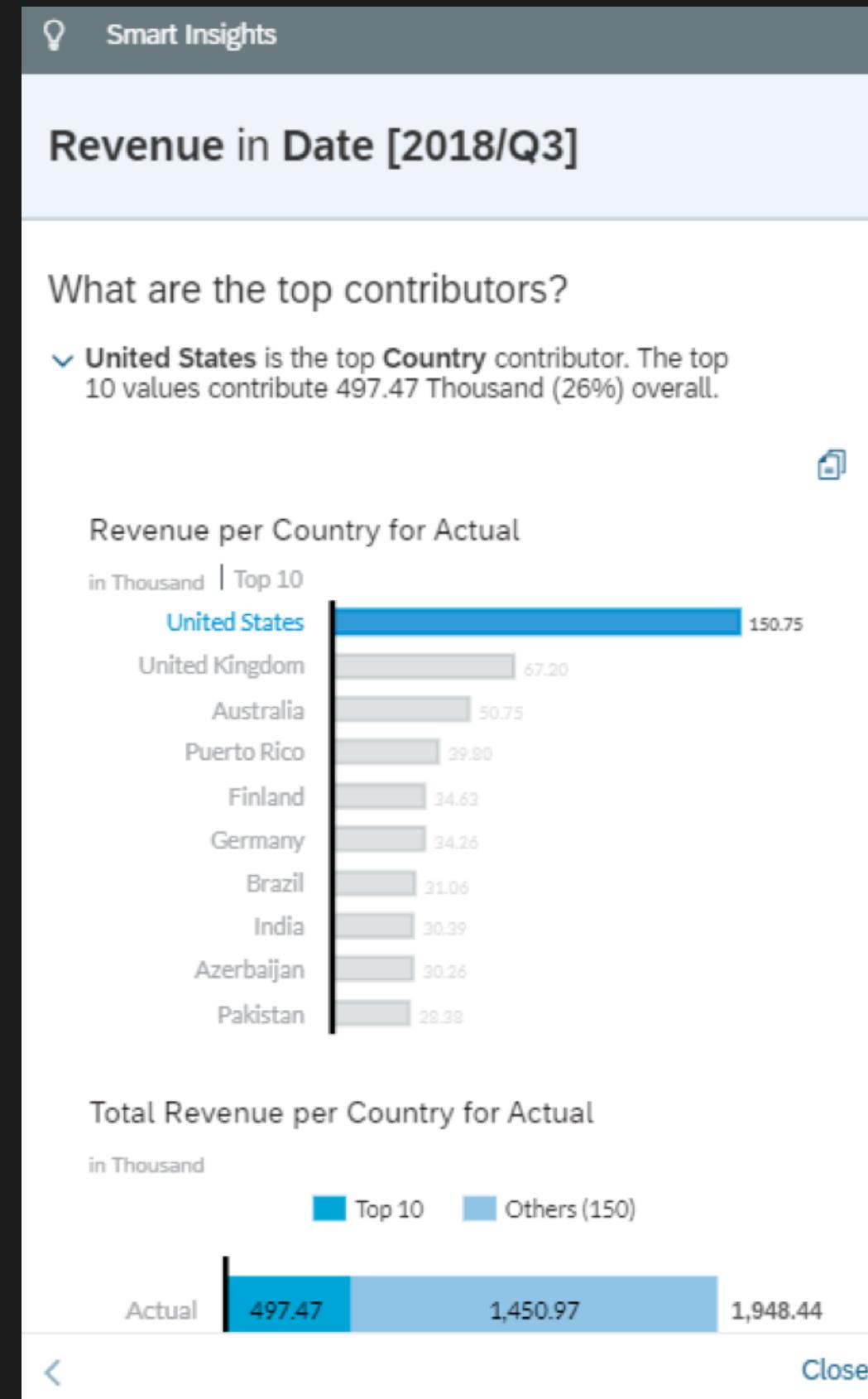
Influencers	Impact	Influencers	Impact
Profit 900.00	● ● ● Strongly Positive	Discount 0.40	● ● ● Strongly Positive
Quantity 1	● ○ ○ Neutral	Region Central	● ○ ○ Neutral
State Alabama	● ○ ○ Neutral	City Abilene	● ○ ○ Neutral
Product Name "While you Were ..."	● ○ ○ Neutral	Segment Consumer	● ○ ○ Neutral
Ship Mode First Class	● ○ ○ Neutral		

Simulate

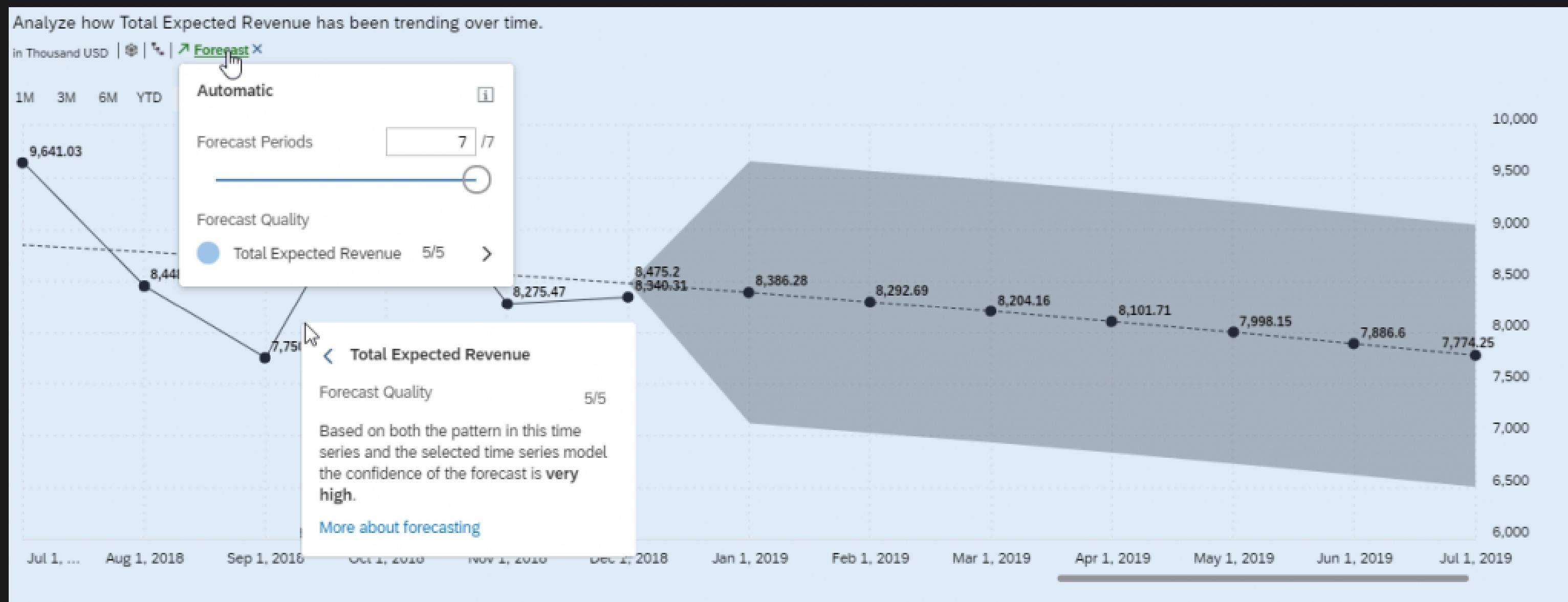
The Smart data discovery process is automated and requires only minimal interaction to specify which would be the base measure



Smart Insights understand the top contributors of specific data points without having to manually pivot or slice and dice your data.



Time series forecasting is useful for estimating future values of a measure where you have a time dimension available to identify a trend



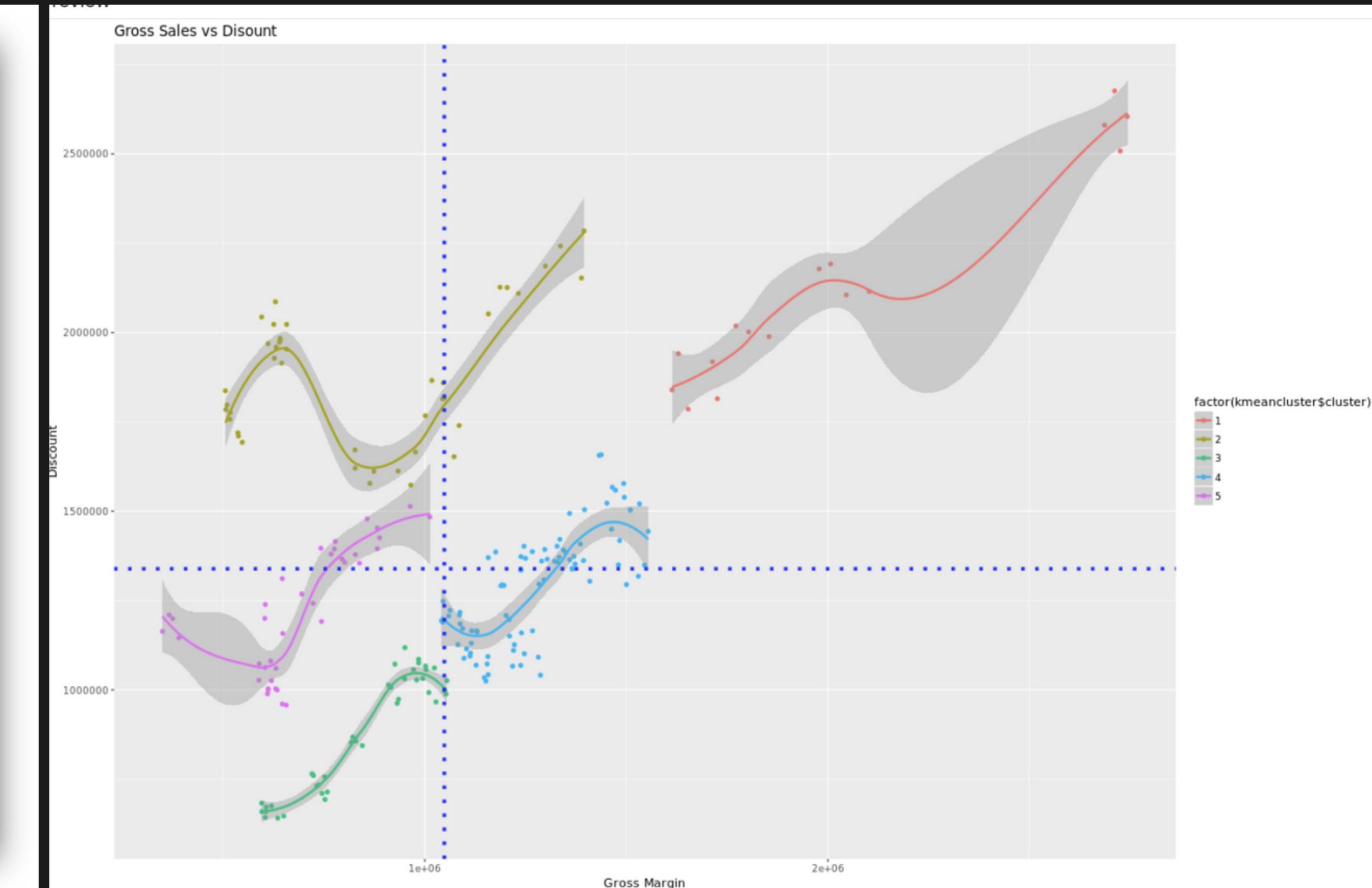
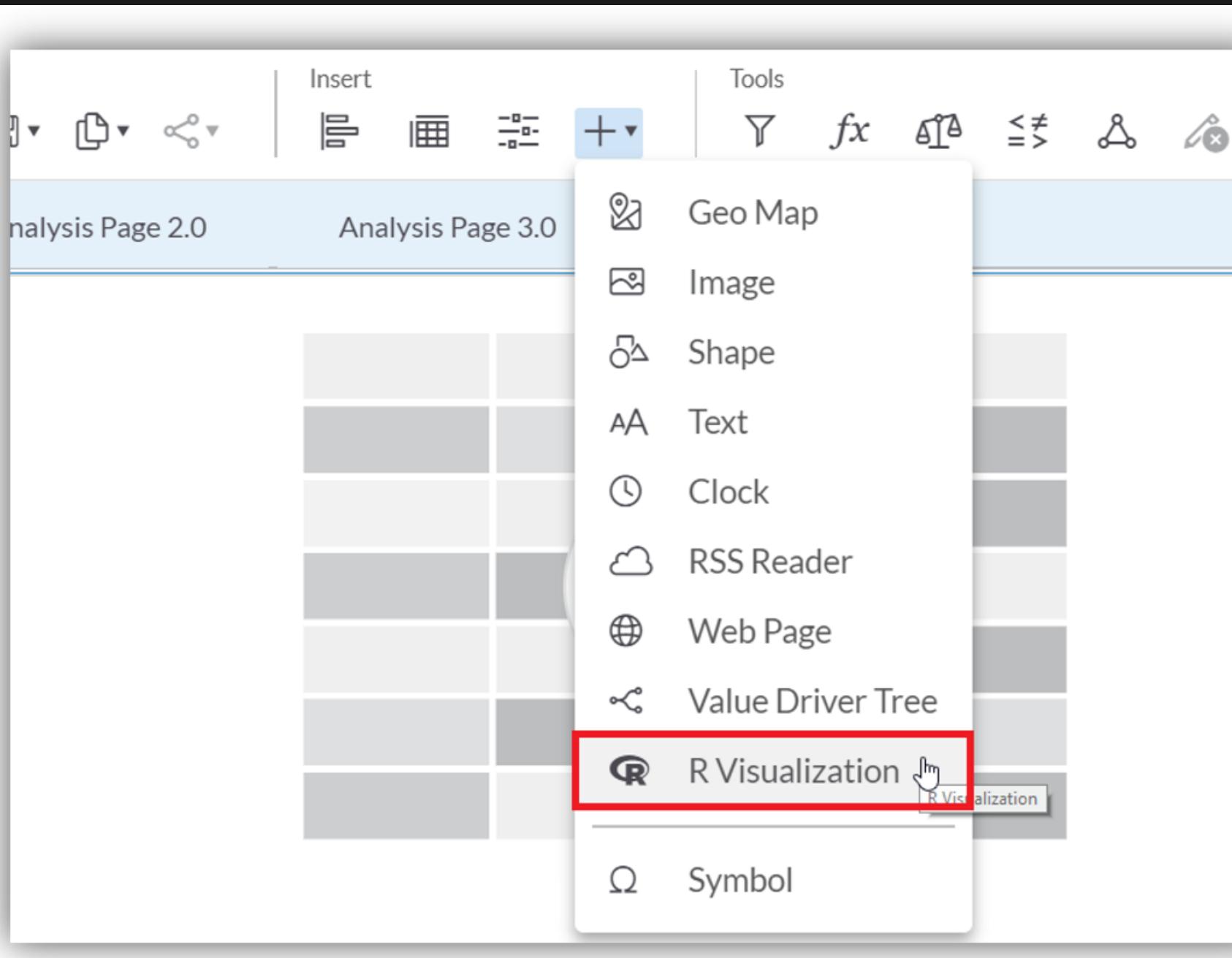
Time series forecasting is useful for estimating future values of a measure where you have a time dimension available to identify a trend

- How the revenue of my shop will change over the next month?
- What are the expected sales by product per regions for the next weeks?
- How the stock of my products will vary in my warehouse over the following weeks?
- How to predict the evolution of my cash flow during the next quarter?

4 components in time series forecast

- Historical Data
- The Upper confidence level determines the upper limit for the level of errors
- The Lower confidence level determines the lower limit for the level of errors
- The forecasted value should ideally be between these two levels.

R Visualizations in SAP Analytics Cloud



With R, you can

- Insert R visualizations into your stories
- Interact with your visualizations, using controls such as filters
- Edit your R scripts and preview visualizations
- Share stories containing R visualizations with other users

Benefits

People all over the world are using R to create new types of statistical charts and graphs

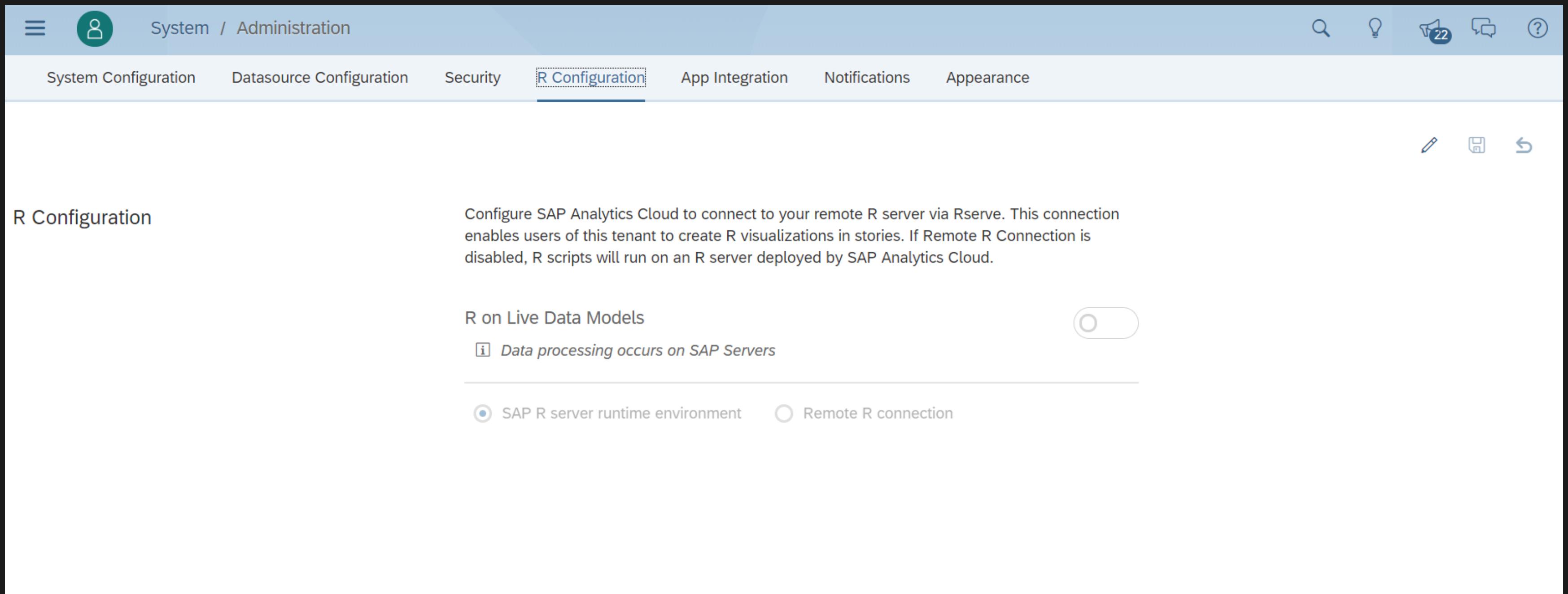
Integrating R with SAC is flexible

R is the most used language and environment for statistical analysis

R makes stunning visualizations

RStudio is free

To add R visualizations



The screenshot shows the SAP Analytics Cloud interface for configuration. The top navigation bar includes a user icon, the text "System / Administration", and several global icons for search, ideas, notifications (with 22), and help. Below this is a secondary navigation bar with tabs: "System Configuration", "Datasource Configuration", "Security", "R Configuration" (which is highlighted in blue), "App Integration", "Notifications", and "Appearance". On the far right of this bar are edit, save, and cancel icons. The main content area has a title "R Configuration" and a descriptive text: "Configure SAP Analytics Cloud to connect to your remote R server via Rserve. This connection enables users of this tenant to create R visualizations in stories. If Remote R Connection is disabled, R scripts will run on an R server deployed by SAP Analytics Cloud." Below this is a section titled "R on Live Data Models" with a toggle switch that is currently off. A tooltip for the switch states: "Data processing occurs on SAP Servers". At the bottom of this section are two radio button options: "SAP R server runtime environment" (which is selected) and "Remote R connection".

R Configuration

Configure SAP Analytics Cloud to connect to your remote R server via Rserve. This connection enables users of this tenant to create R visualizations in stories. If Remote R Connection is disabled, R scripts will run on an R server deployed by SAP Analytics Cloud.

R on Live Data Models

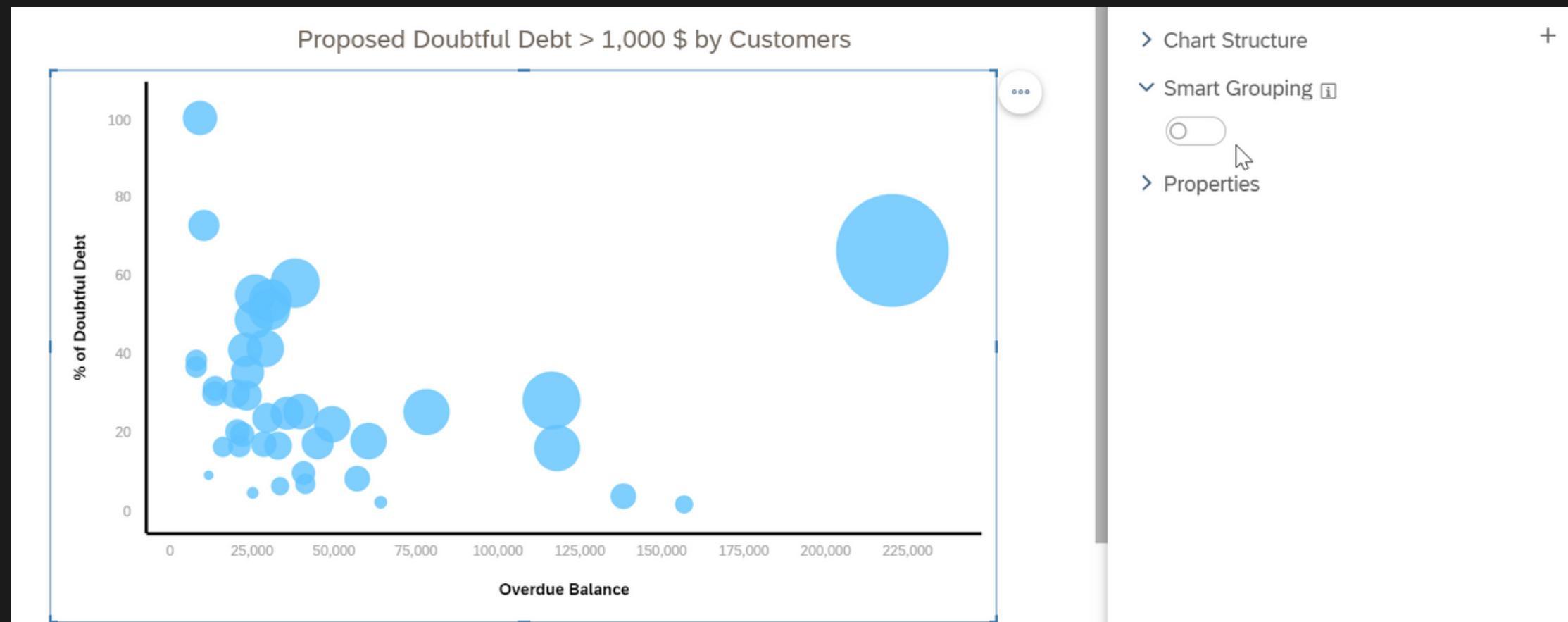
Off

i Data processing occurs on SAP Servers

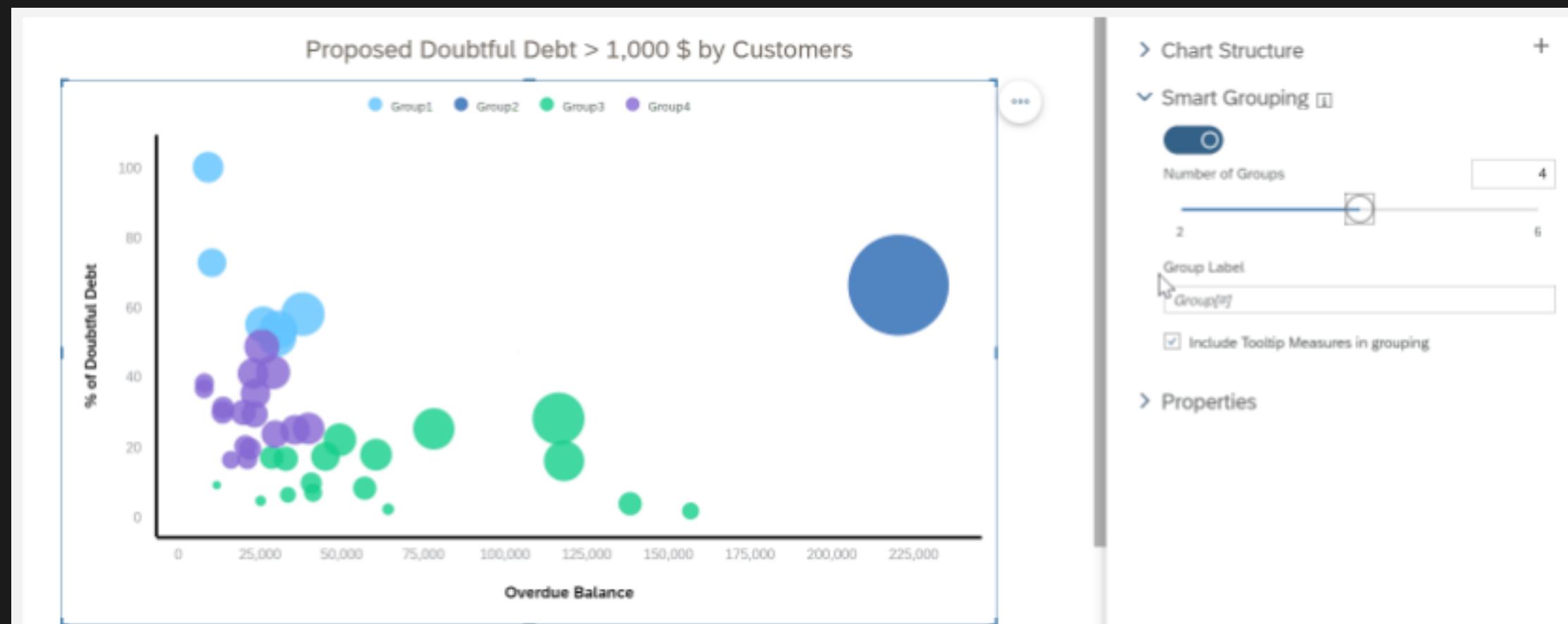
SAP R server runtime environment Remote R connection

Smart Grouping can be applied to scatter/ bubble charts that segregate the data points into groups for easier classification

Before



After



Smart Predict combines an intuitive interface with predefined algorithms to allow anyone to take on the role of data scientist

Predictive Scenarios / New Predictive Scenario

Select a Predictive Scenario

Classification
You want to predict membership of categories such as Yes/No, on a population ranked from the most probable case to the least.



Regression
You want to predict numerical values for a variable based on fluctuations in correlated variables.



Example: Predict if a customer is likely to churn or not, or if a manufacturing process component will require replacing within a short, or longer interval.

Time Series
You want to forecast numerical values over a time period taking into account variables that may or may not be correlated.



Example: Forecast the volume of ice cream sold by a retailer for a future period using historical sales information, along with month and temperature data as variables that influence demand.

Predictive Scenarios / D050787_Employee_Churn

Indicators

Prediction Confidence
84.80% 96.95%

Variable Contributions

Variable	Contribution
JobLevelChangeType	26.59%
Current_Functional_Area	15.59%
Tenure	12.54%
Change_in_Performance_R	11.74%
Previous_Region	6.58%

Target Statistics

Data Partition	Target Category	Frequency
Training	No	90.95%
Training	Yes	9.05%
Validation	Yes	8.92%
Validation	No	91.08%

> Predictive Models (1)

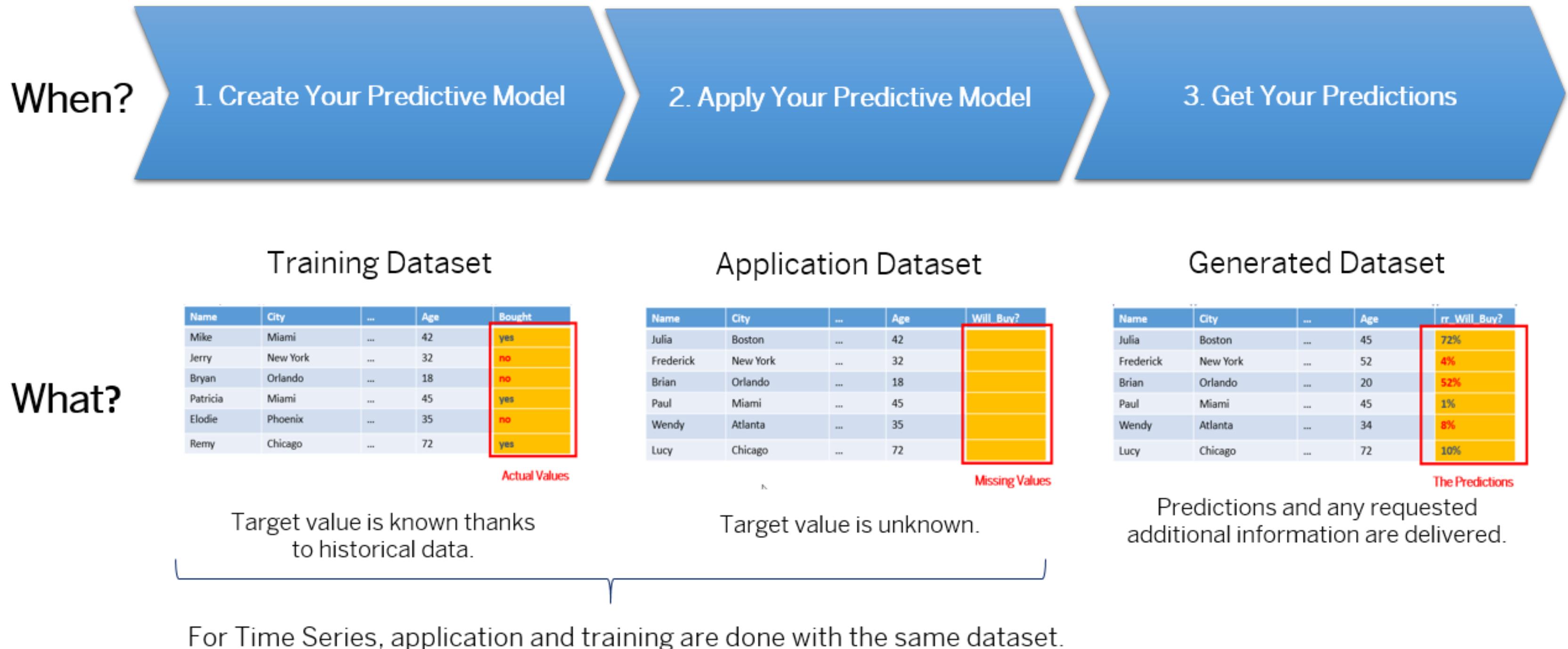
There are 3 types of predictive scenarios:

Classification: Predict the value of a target. SAP Analytics Cloud returns a percentage probability of each of two outcomes occurring

Regression: Predict the numerical value of a target depending on a selection of variables describing it

Time Series: Forecast numerical values over a specified time period, based on existing data

In order to create a Predictive Scenario, we need to train the model using an existing dataset



When we train the model, SAC splits the dataset into 2 subsets



Generate predict model

Test predict model

A dataset is like a table with data arranged in a columnar structure

- Training Dataset
- Application Dataset
- Output Dataset

- Training Dataset

Data in the Training type of a dataset is used to train the model and build the predictive scenario

- Application Dataset

The data in the Application type of dataset is the input to the trained predictive model

- Output Dataset

The output dataset is the output of the predictive model that has processed the data from the Application Dataset and delivered prediction

Like app store, we can use Content Network to manage the life cycle of SAP Analytics Cloud artifacts

Browse / Content Network

Content Network

Export a New Package
Create a package to share with other tenants.

Manage Packages
View, update, and export existing packages.

+

My Content
Access private content that other tenants have shared with you.

Samples
Get started from a collection of templates, pre-made stories, and boardroom presentations.

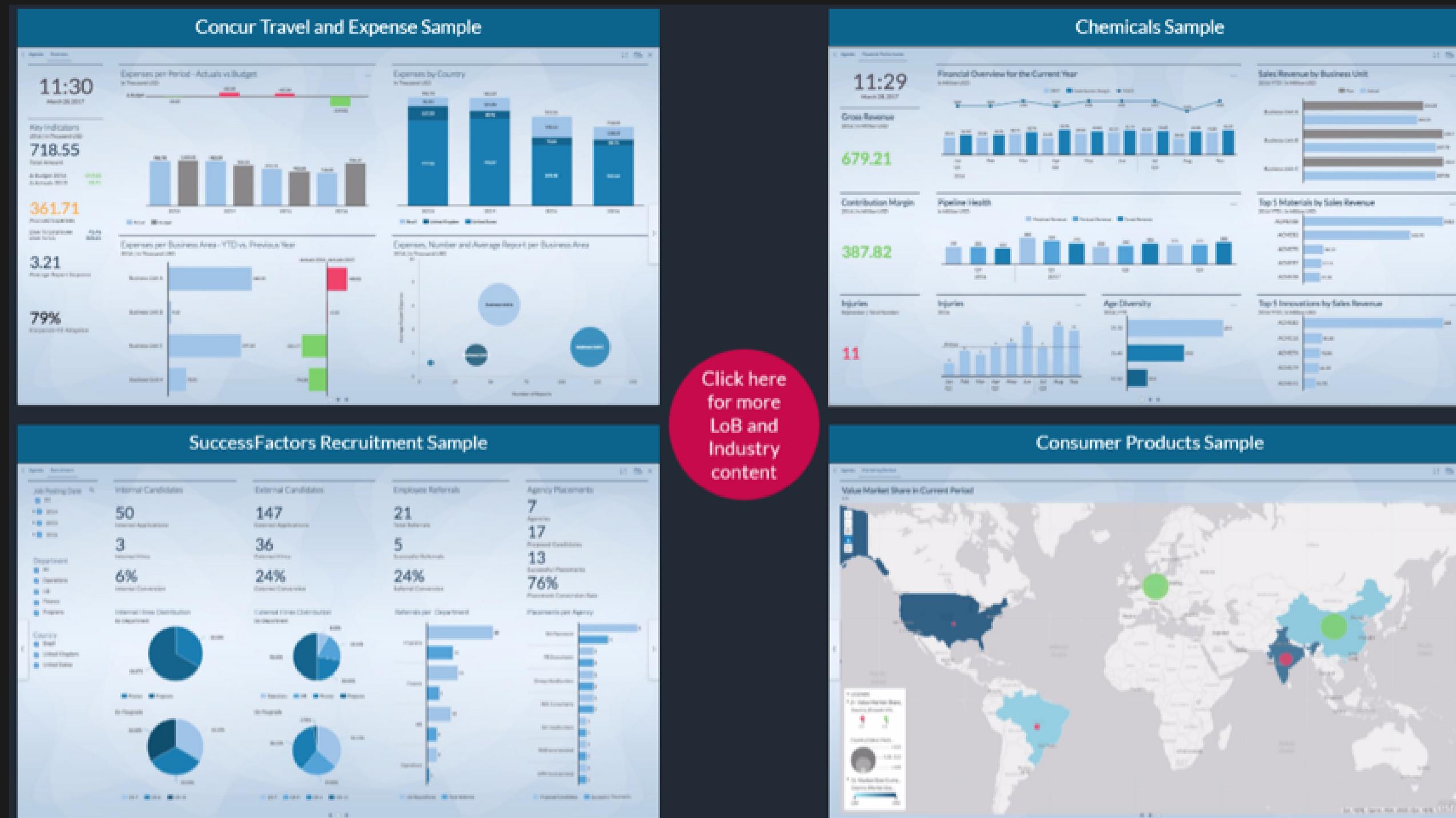
Business Content
Pre-built industry and Line of Business content.

3rd Party Business Content
Partner developed content for Industry and Line of Business.

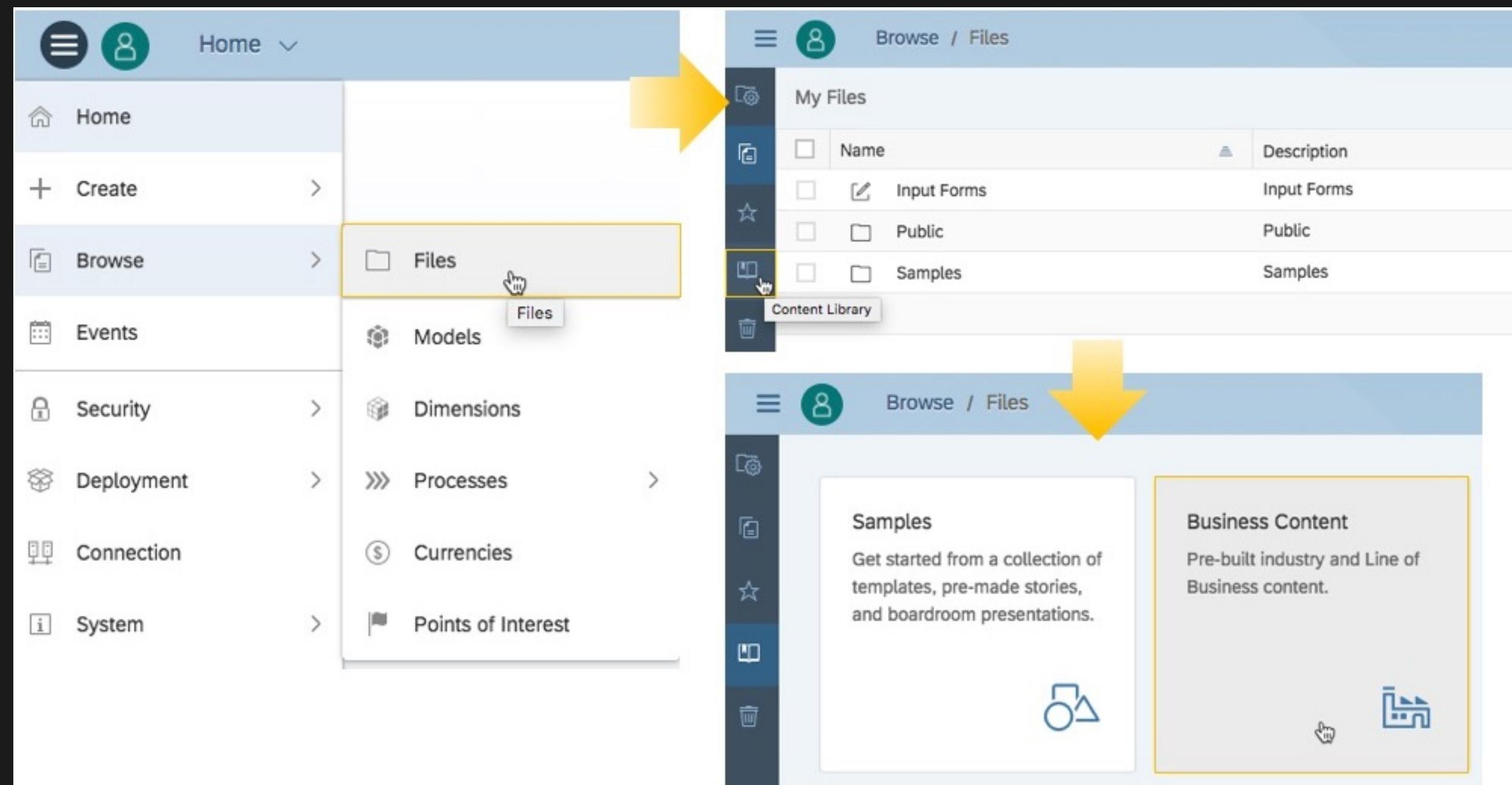
The Content Network combines 2 tools:

- Package Transportation
- Business Content and Samples

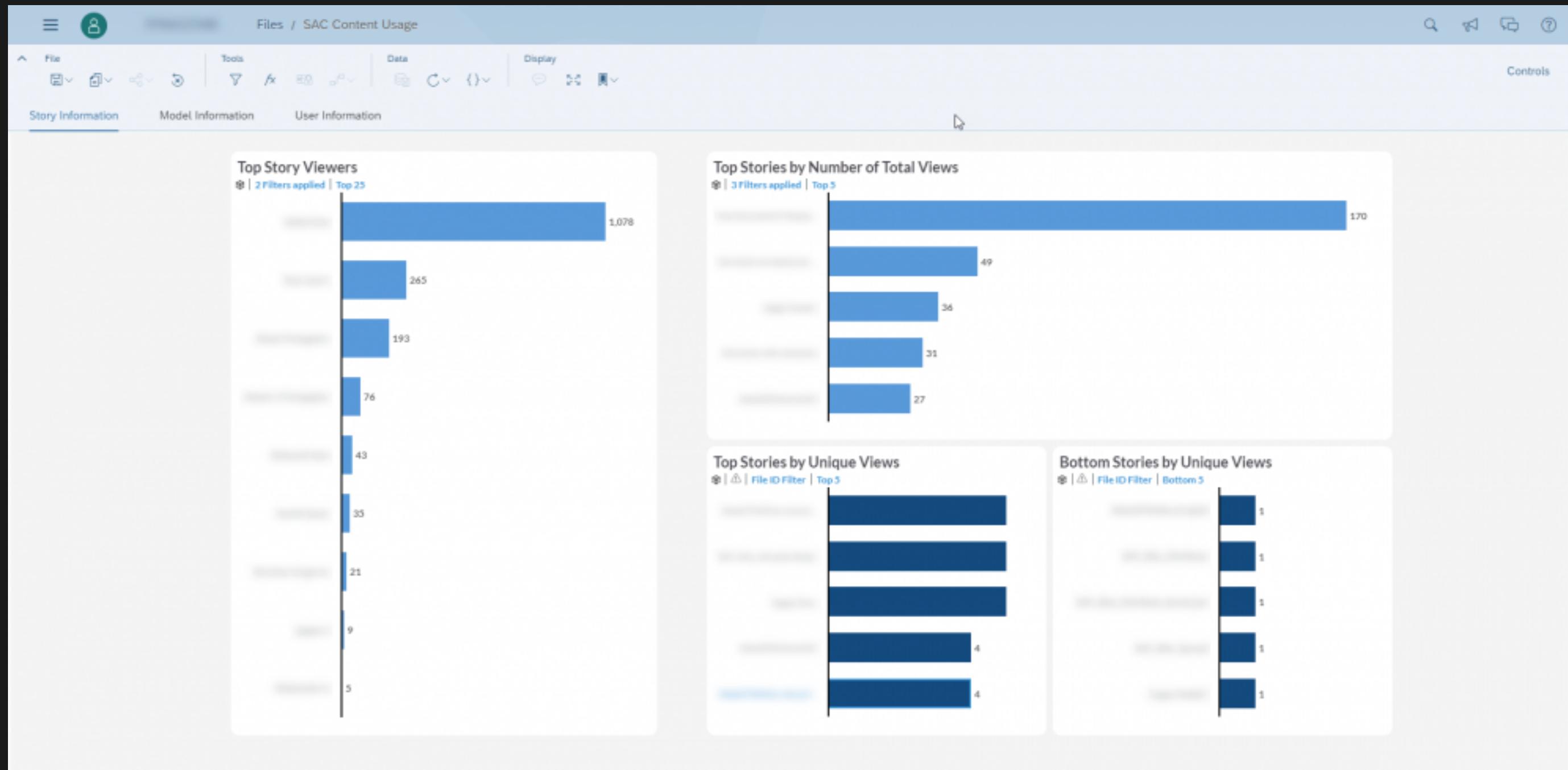
Business Content is a collection of prebuilt SAC models and reporting objects, tailored specifically to individual industries and lines-of-business



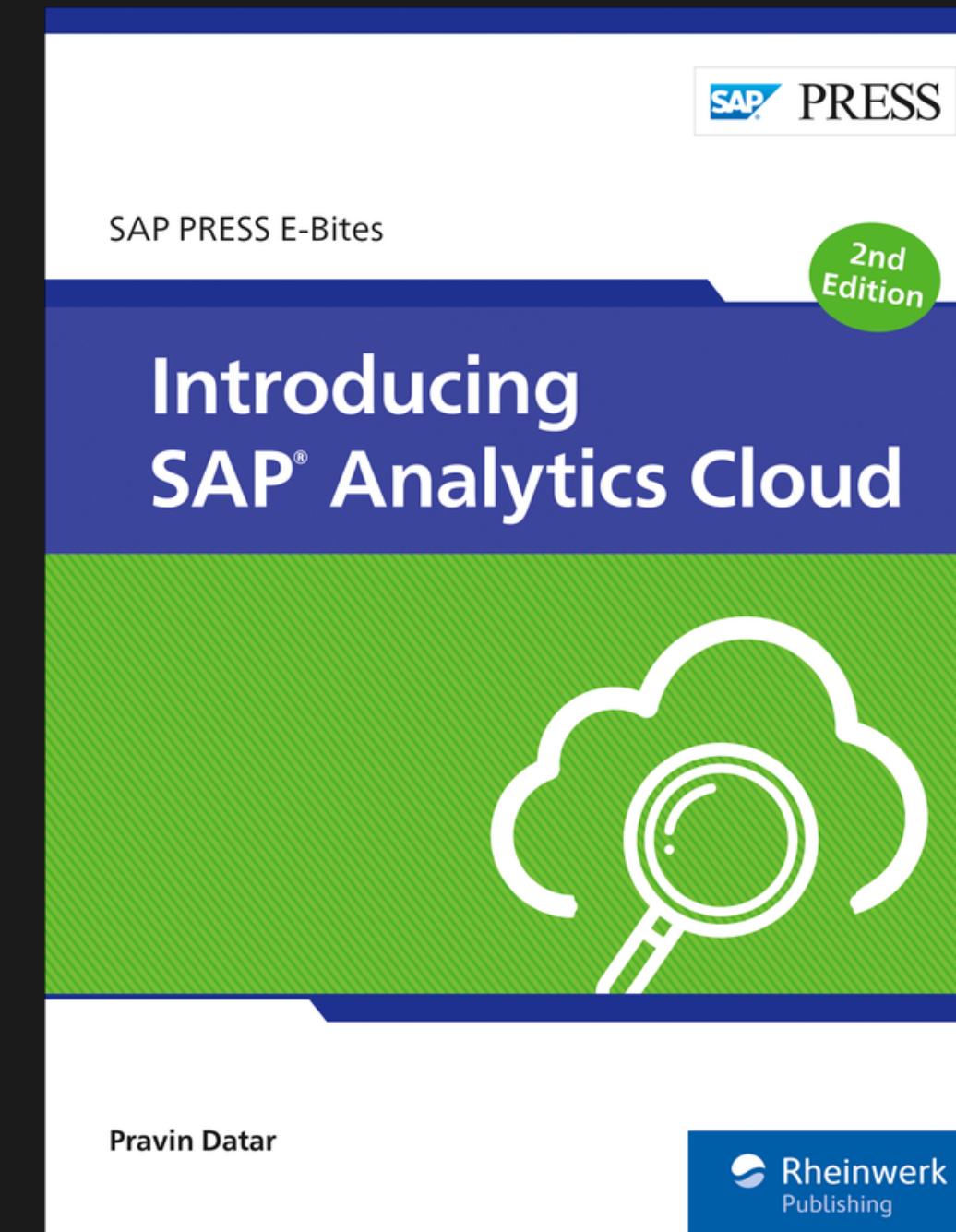
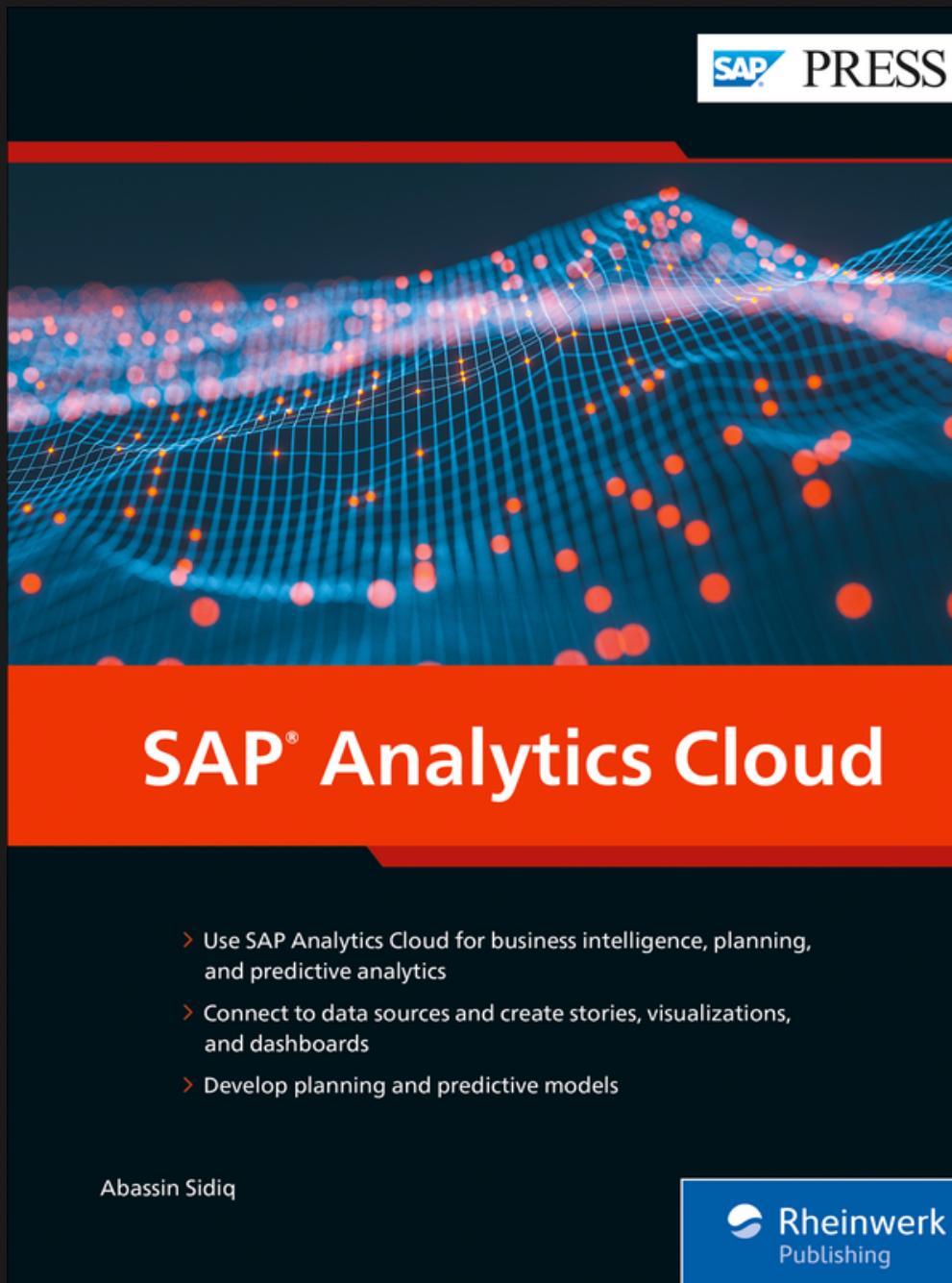
Business Content is a collection of prebuilt SAC models and reporting objects, tailored specifically to individual industries and lines-of-business



We can use usage tracking content to logs all activities performed by users on business objects



For BI consultant, file and content deployment can be a very important work during a SAC project, especially in a large multi-user environment.



<https://www.sap-press.com/search/?q=sap+analytics+cloud>

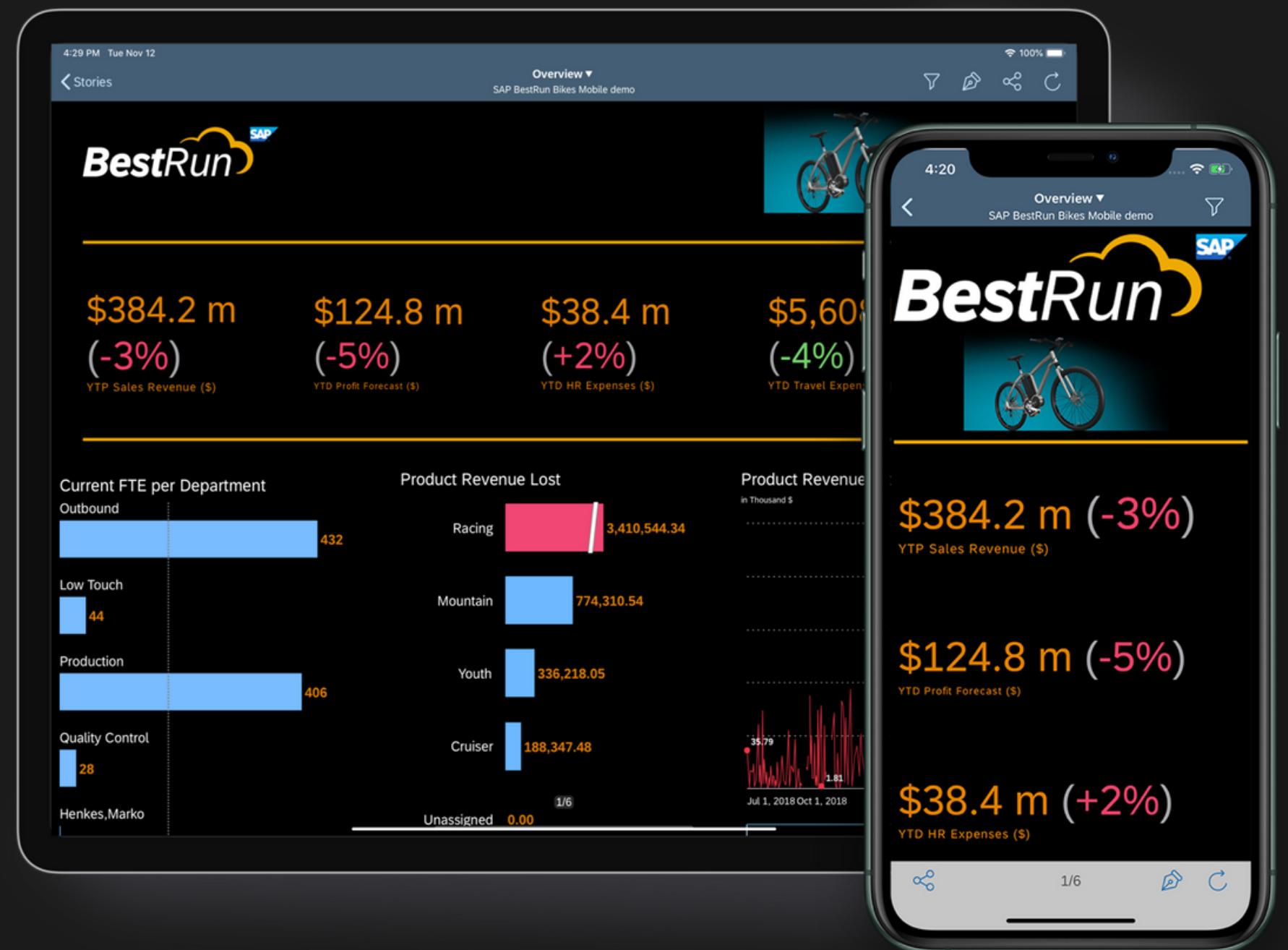
in analytics designer, we can use scripting, extensions, old data, and visual widgets to build dashboards, planning, and predictive apps.

The screenshot shows the SAP Analytics Cloud Designer interface. On the left, the file tree displays components like D_Table_Flights, D_DatePicker_to_Label, and various KPI charts. The central canvas shows a "SAP TRAVEL" dashboard with three cards: "Orlando - Atlanta" (6,975.00 (+460) Actuals - Forecast), "Orlando - Newark" (978,900.00 (+64,525) Actuals - Forecast), and "Orlando - Chicago" (13,596.55 (+986) Actuals - Forecast). Below these cards is a table titled "Flight SAP 221 - Flight ID: F20221 - May 15, 2019". The table lists flight details for May 15, 2019, from 13:00:00 to 20:00:00, including columns for Operating Cost, Load Factor Economy, Load Factor Business, and Check-in. To the right of the table is a graphic of an airplane with a grid pattern. A sidebar on the right contains the "Builder" panel, which shows the "FlightPlanningData" data source and its table structure, rows, columns, and filters. The "Properties" panel at the bottom right shows settings for view mode and enable explorer.

Like most of the native consumer app, we can use SAC mobile app to access stories and digital boardroom presentations via mobile devices



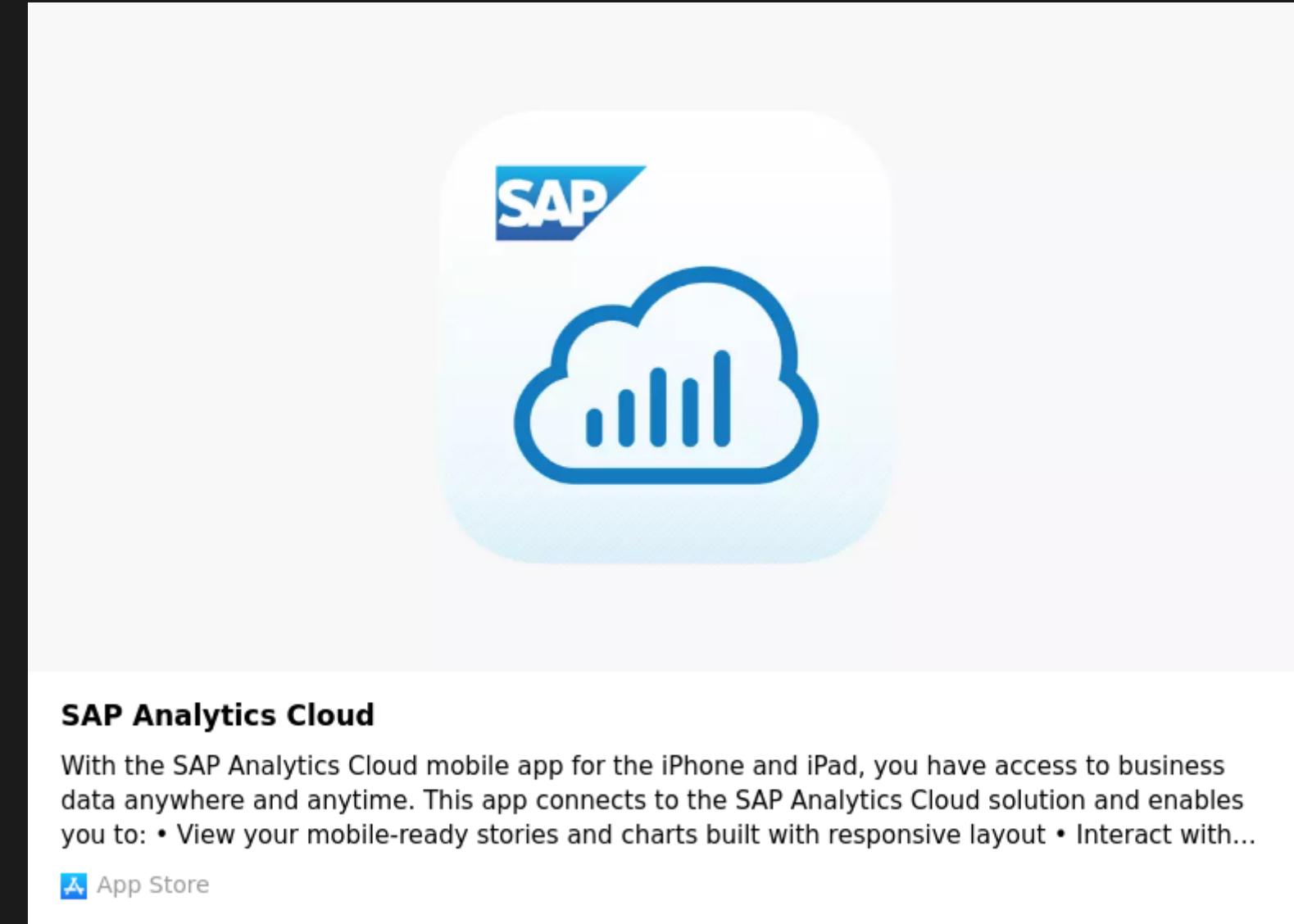
Like most of the native consumer app, we can use SAC mobile app to access stories and digital boardroom presentations via mobile devices



To install the SAC mobile app, you'll need to make sure you meet the following requirements.

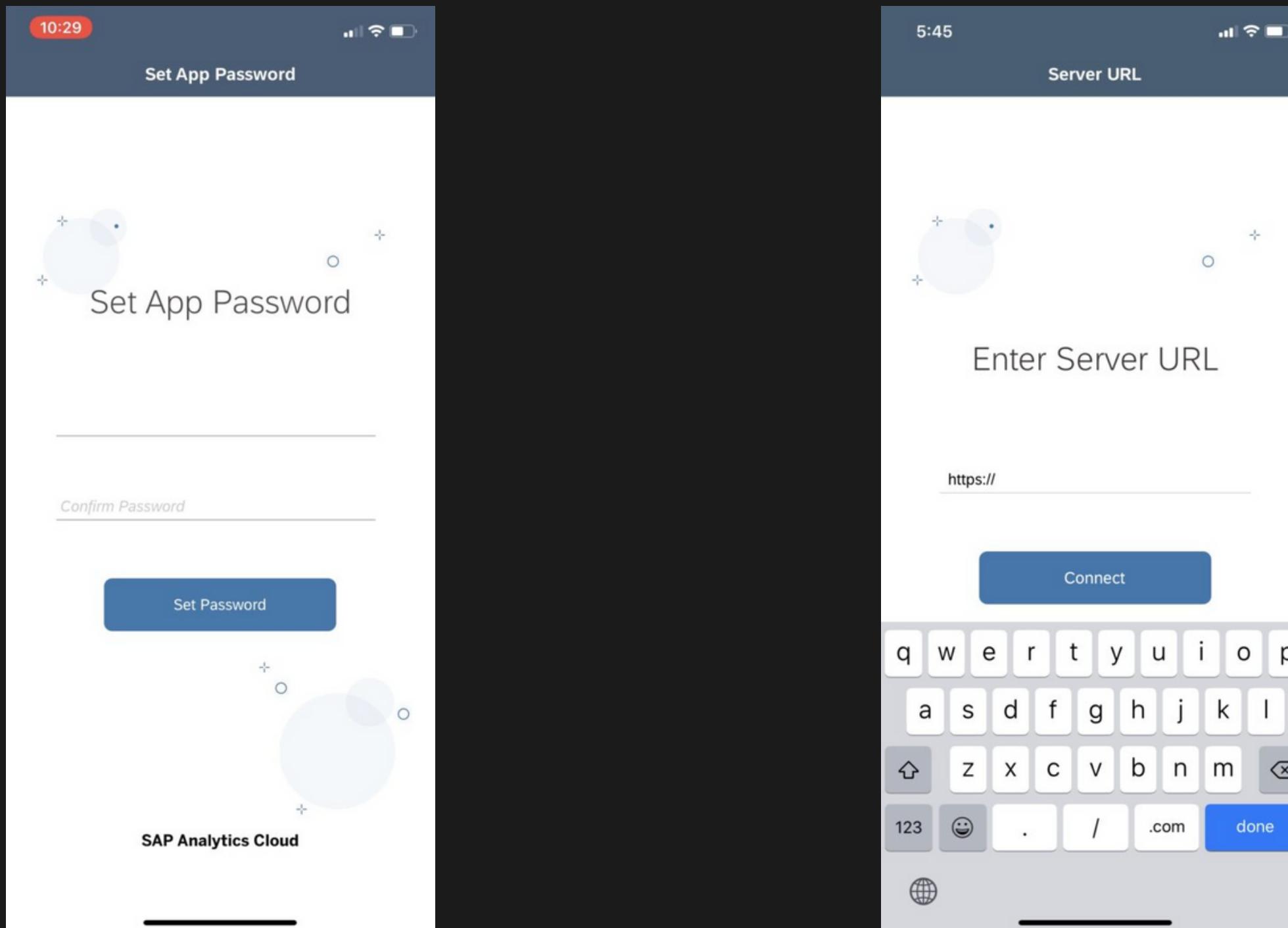
	iOS	Android
Mobile Operating Systems	Requires iOS 13.0 or later.	Required Android 9.0 or later.
Compatible Devices	Compatible with iPhone and iPad only. Requires an iOS mobile device with 2 GB of RAM or more (iPhone 6s or later, iPad Air 2 or later, iPad Pro).	Supported devices include Samsung Galaxy S9/S9 plus S10/S10plus, S4 Tab, S5 Tab, Google Pixel, Google Pixel 3 XL. Requires an Android mobile device with at least 4 GB of RAM.
For the best experience...	Use an iPad Pro or a mobile device with a fast processor and a good data or WIFI connection.	Use a Samsung S10 plus or a mobile device with a fast processor and a good data or WIFI connection.

To get the best user experience, I'd recommend that you could use iPad pro or any mobiles with faster processor with a good data connection.

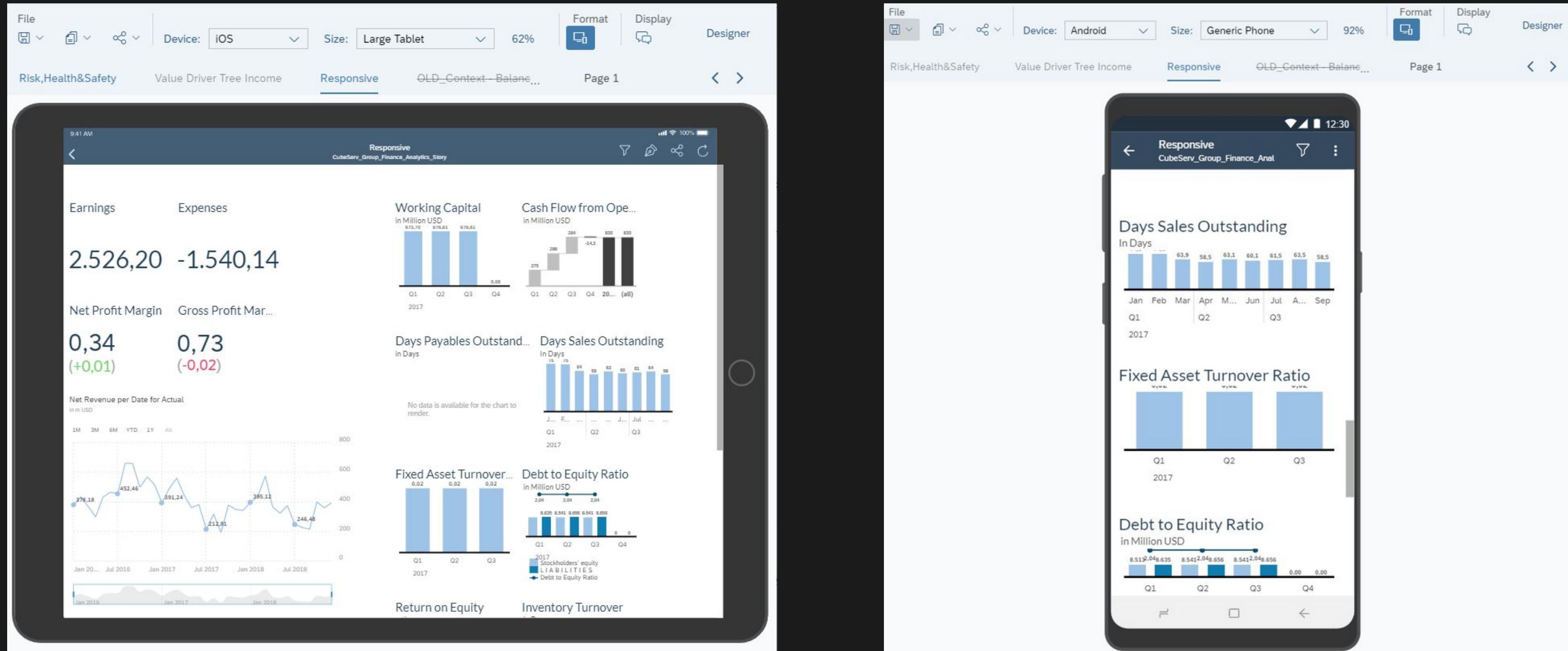


<https://apps.apple.com/us/app/sap-analytics-cloud/id981727250>

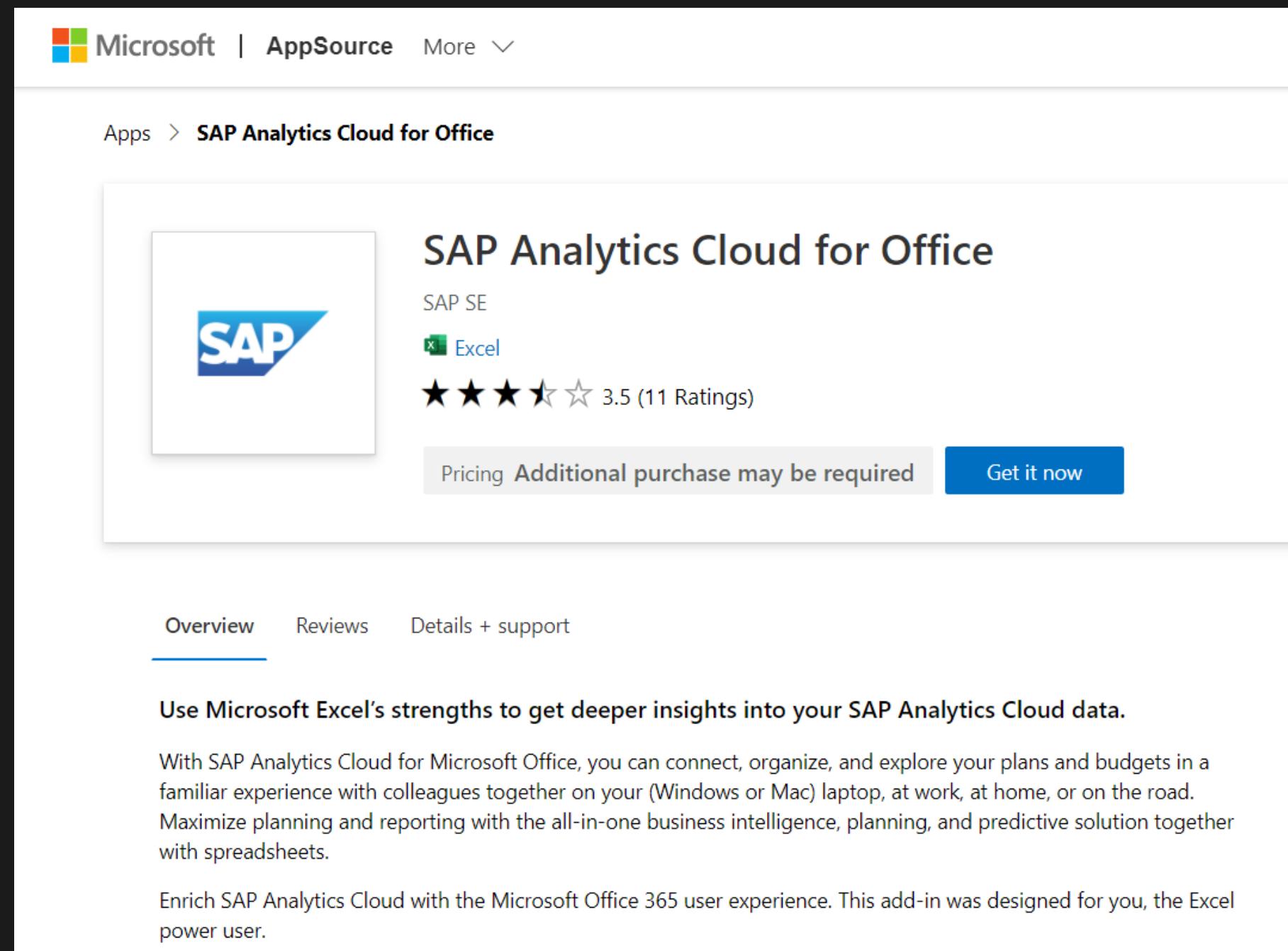
To get the best user experience, I'd recommend that you could use iPad pro or any mobiles with faster processor with a good data connection.



You can use the Device Preview Mode on the top menu bar to review how your designs may appear on different screen sizes and devices



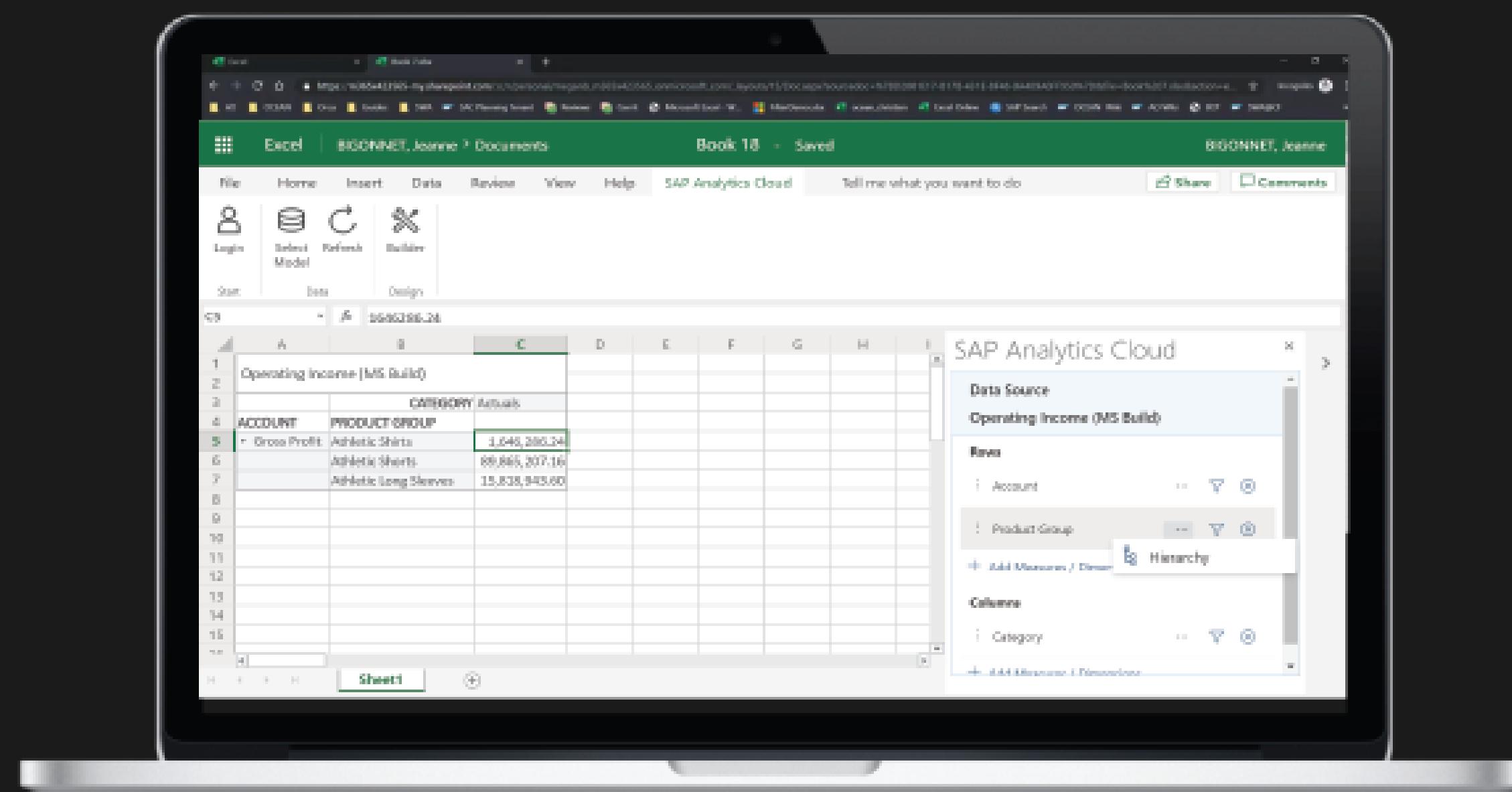
With SAP Analytics Cloud for Microsoft Office add in, we can connect, organize, and explore the plans and budgets in Excel



The screenshot shows the Microsoft AppSource page for the SAP Analytics Cloud for Office add-in. At the top, there's a navigation bar with the Microsoft logo, "AppSource", and a "More" dropdown. Below it, a breadcrumb trail shows "Apps > SAP Analytics Cloud for Office". The main section features a large thumbnail with the SAP logo, the product name "SAP Analytics Cloud for Office", the developer "SAP SE", the compatible application "Excel", and a rating of "3.5 (11 Ratings)". Below this, there are buttons for "Pricing" and "Get it now". At the bottom of the main section, there are tabs for "Overview", "Reviews", and "Details + support", with "Overview" being the active tab. The "Overview" section contains a summary text: "Use Microsoft Excel's strengths to get deeper insights into your SAP Analytics Cloud data. With SAP Analytics Cloud for Microsoft Office, you can connect, organize, and explore your plans and budgets in a familiar experience with colleagues together on your (Windows or Mac) laptop, at work, at home, or on the road. Maximize planning and reporting with the all-in-one business intelligence, planning, and predictive solution together with spreadsheets. Enrich SAP Analytics Cloud with the Microsoft Office 365 user experience. This add-in was designed for you, the Excel power user."

<https://appsource.microsoft.com/en-us/product/office/WA20000169?tab=Overview>

With SAP Analytics Cloud for Microsoft Office add in, we can connect, organize, and explore the plans and budgets in Excel



SAC, as a software as a service app, allows rapid scaling in terms of capacity as well as users to the existing landscape.

Private edition:

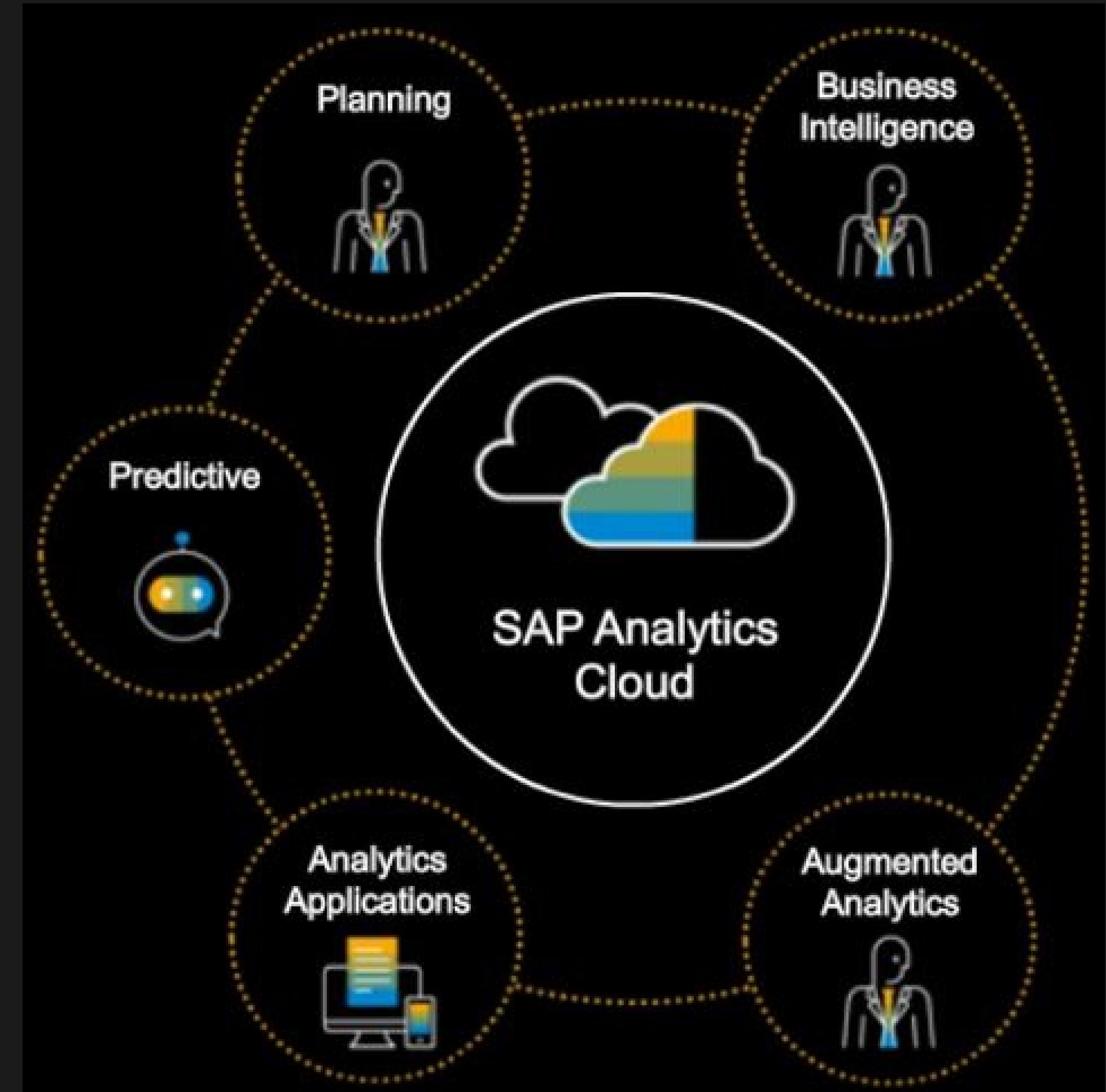
Host only one customer, so they have a dedicated data center, the default system is 128 gigabits in memory

Public edition:

Share the hardware resources with others, so for sure, the license cost for private edition will be greater than private edition

After choosing the Edition, different type of users need different licenses





Starting with version 2018.19 of SAP Analytics Cloud, SAP is moving to a quarterly release schedule



Congratulations! We have successfully created the 1st story and learnt how to use great smart assist and predict features to find the hidden pattern of our datasets

The next chapter will move you further ahead to a separate app - digital boardroom

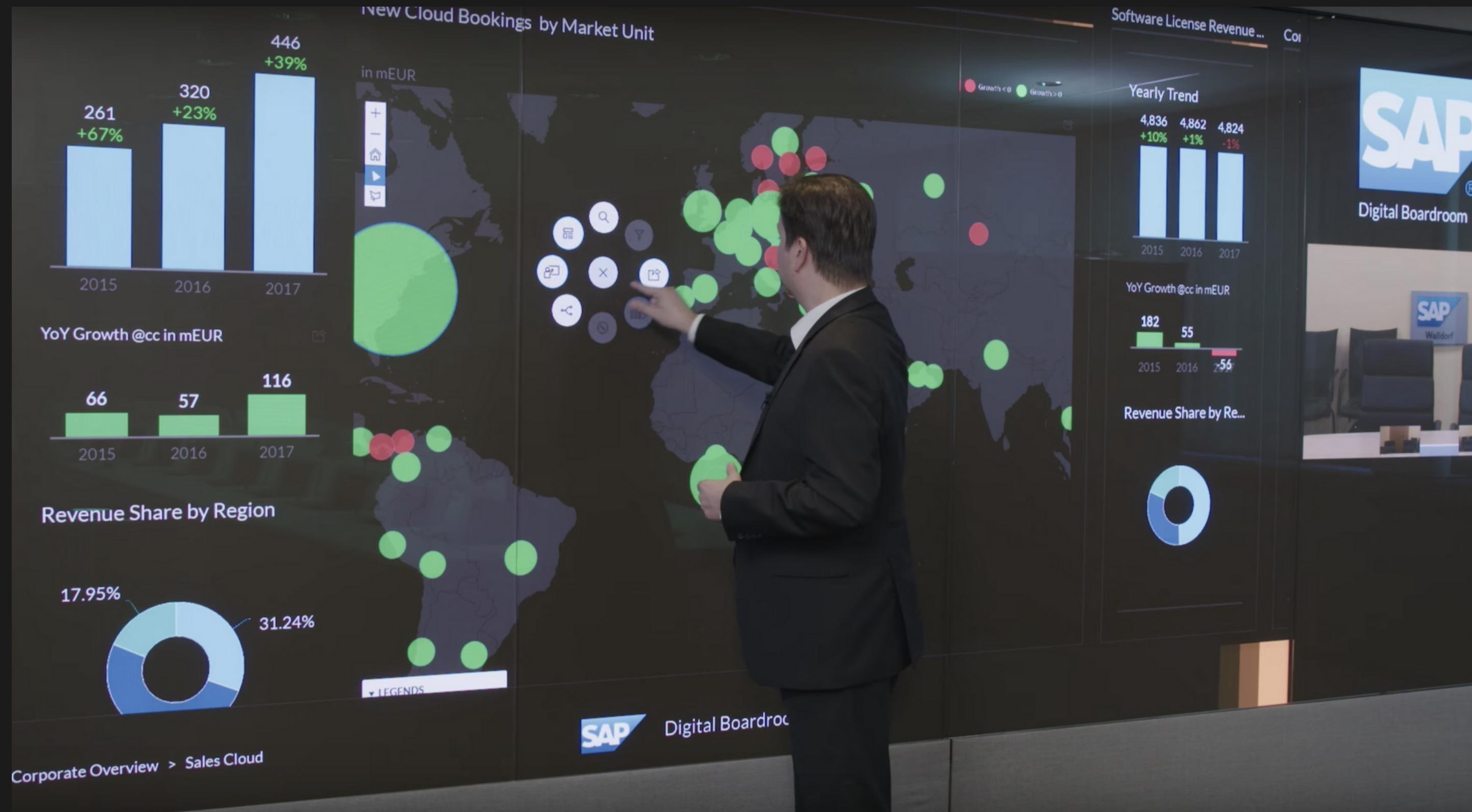
Digital Boardroom presents a live picture of the organization across three interlinked touch screens to make faster, better executive decisions



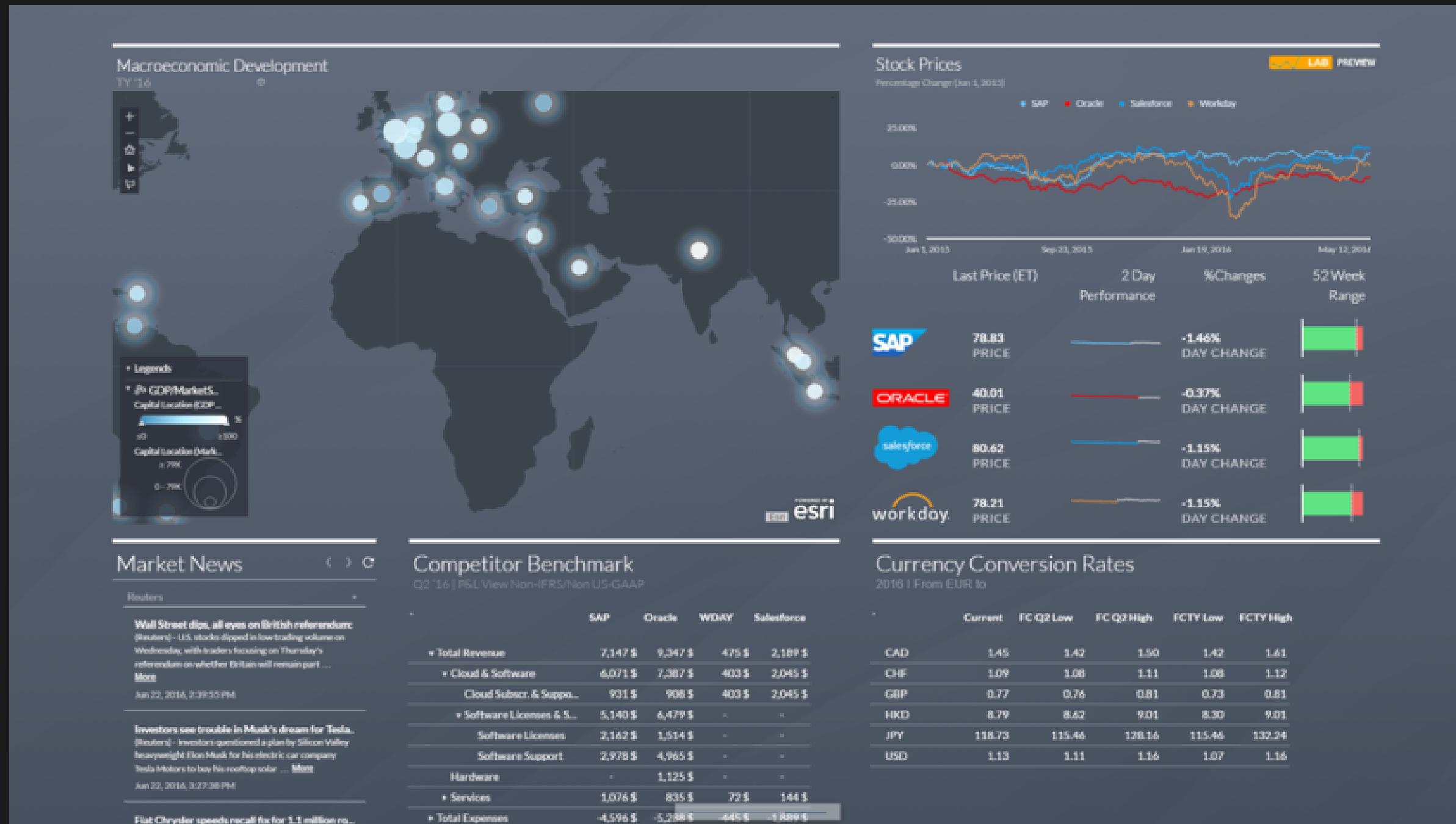
Impactful Meetings



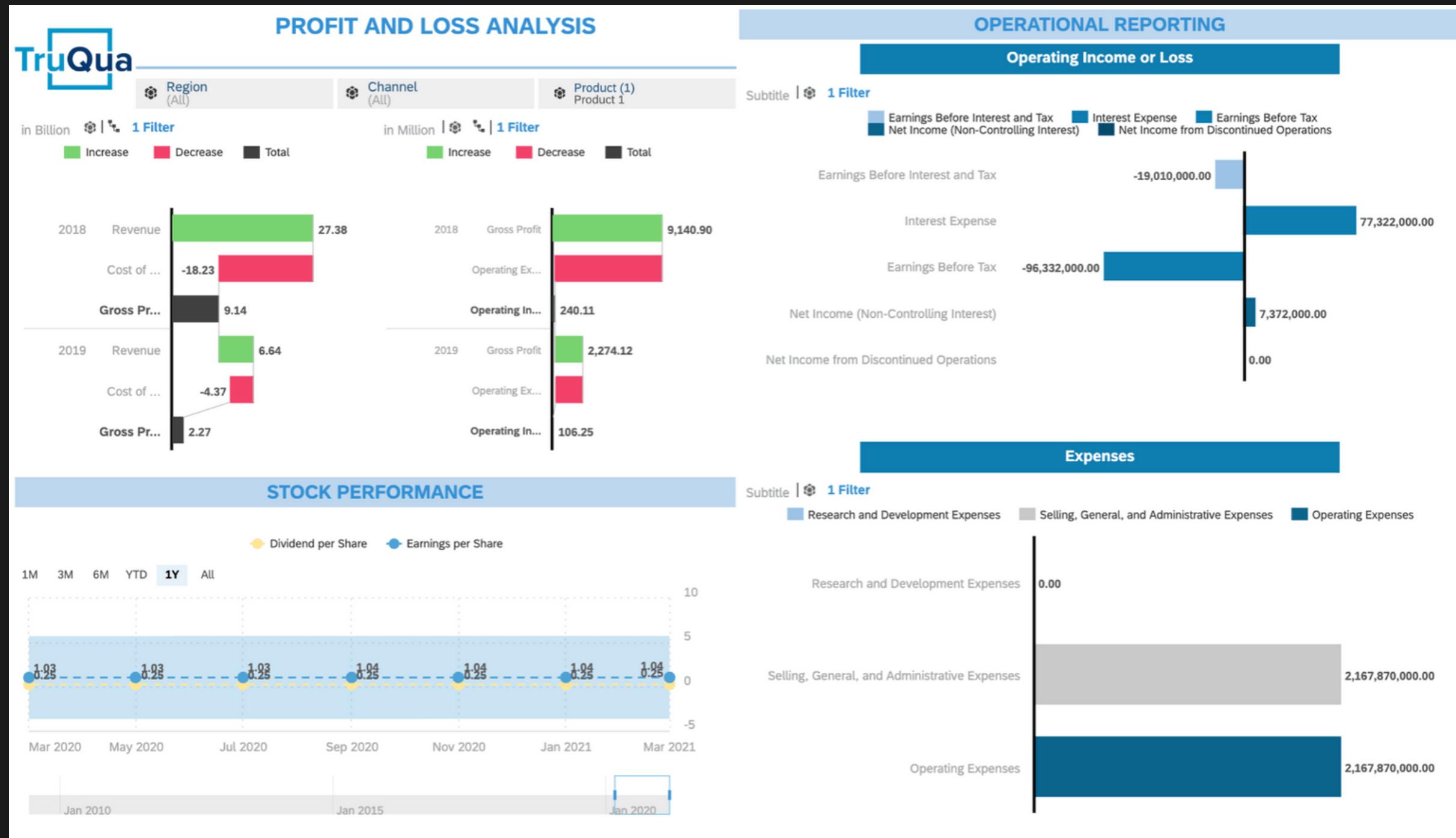
Impactful Meetings



Planning and Simulation



Planning and Simulation



Data Exploration

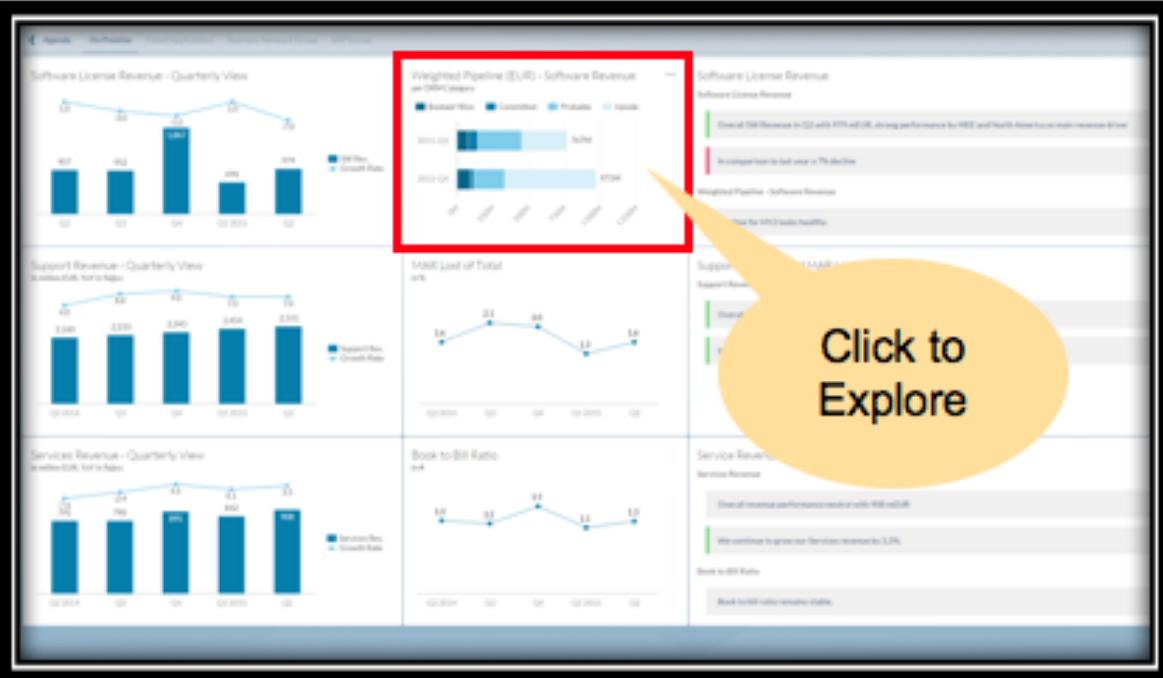


Data Exploration

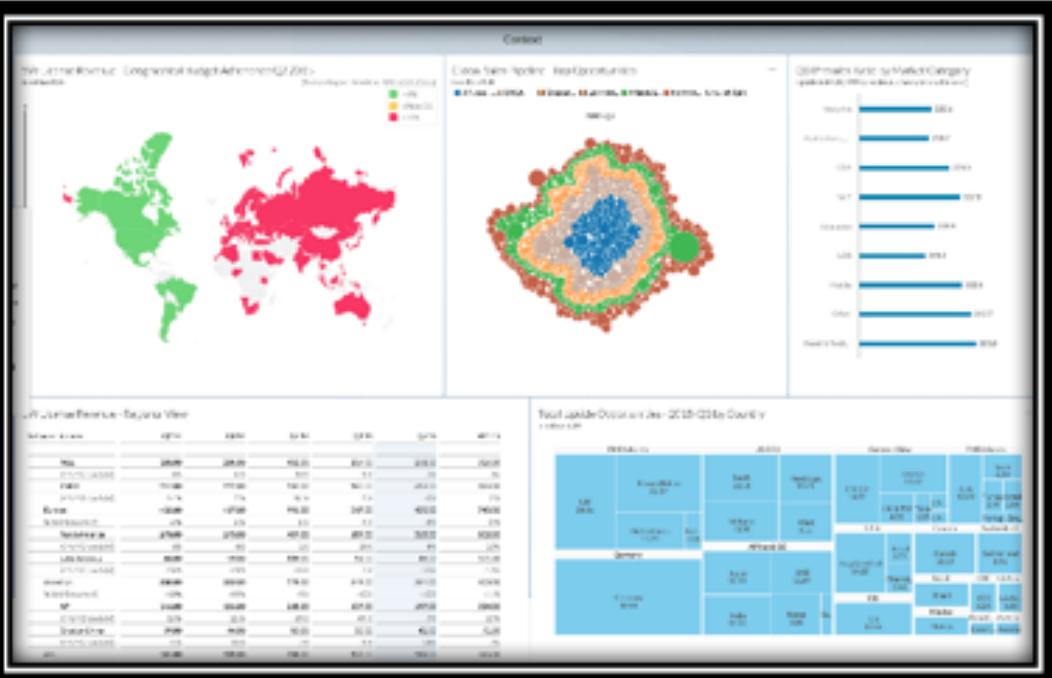
Overview Screen



Main & Exploration Screen



Context Screen



Supports the current agenda topic

Details on the current agenda story

Details on the current agenda story

At the moment, digital boardroom app requires a standalone license to use, so you may not see this feature in your trial account

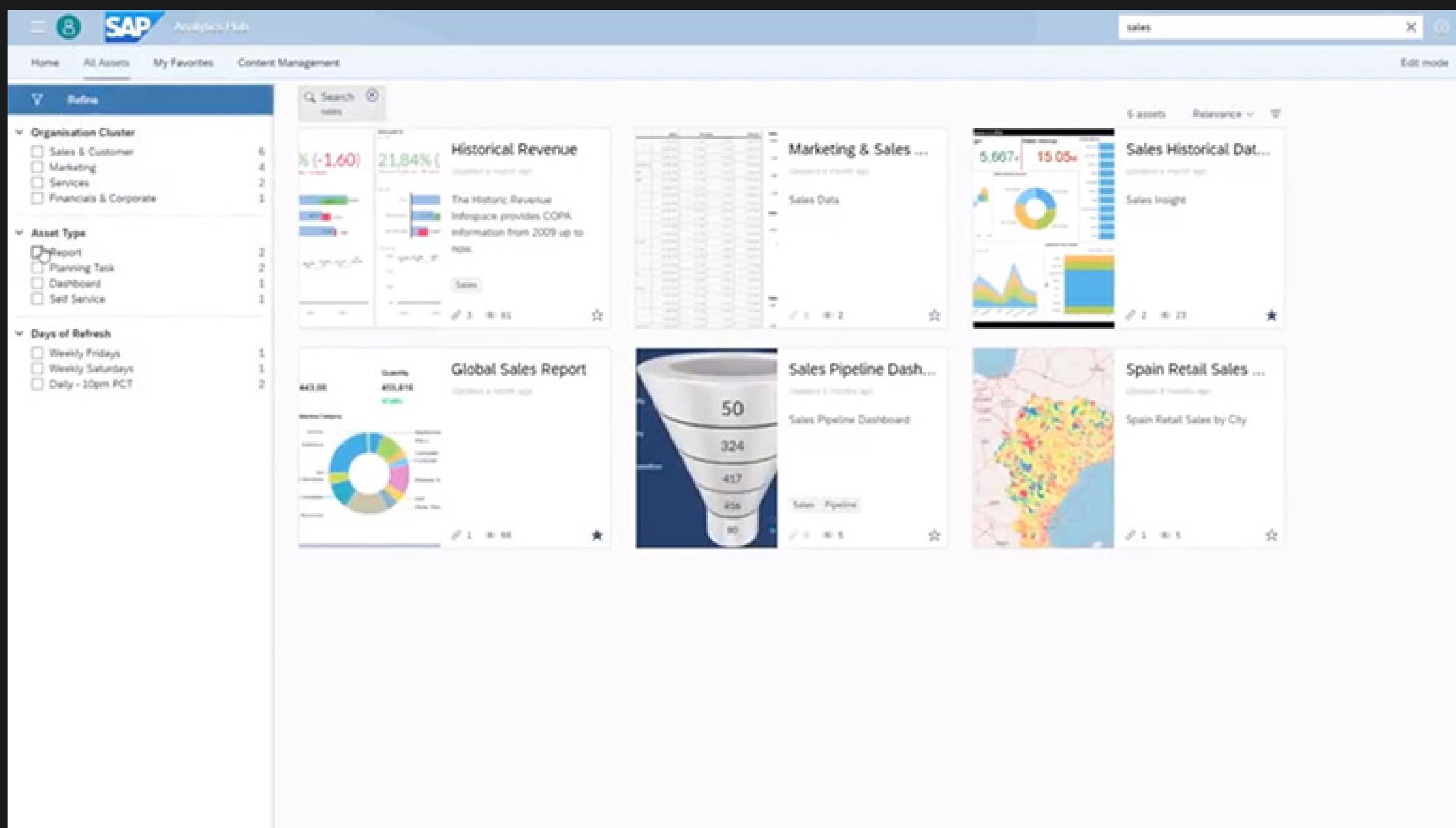


In the next chapter, we will learn how to use SAP analytics hub

SAP Analytics Hub is the great solution to integrate all Cloud and local analytical resources into a single interface platform



SAP Analytics Hub provides users with access to a catalog of assets displayed as tiles.



There are 5 roles available for managing assets in SAP Analytics Hub:

Business User - view all assets in SAP Analytics Hub, and also save no more than 50 as favorites

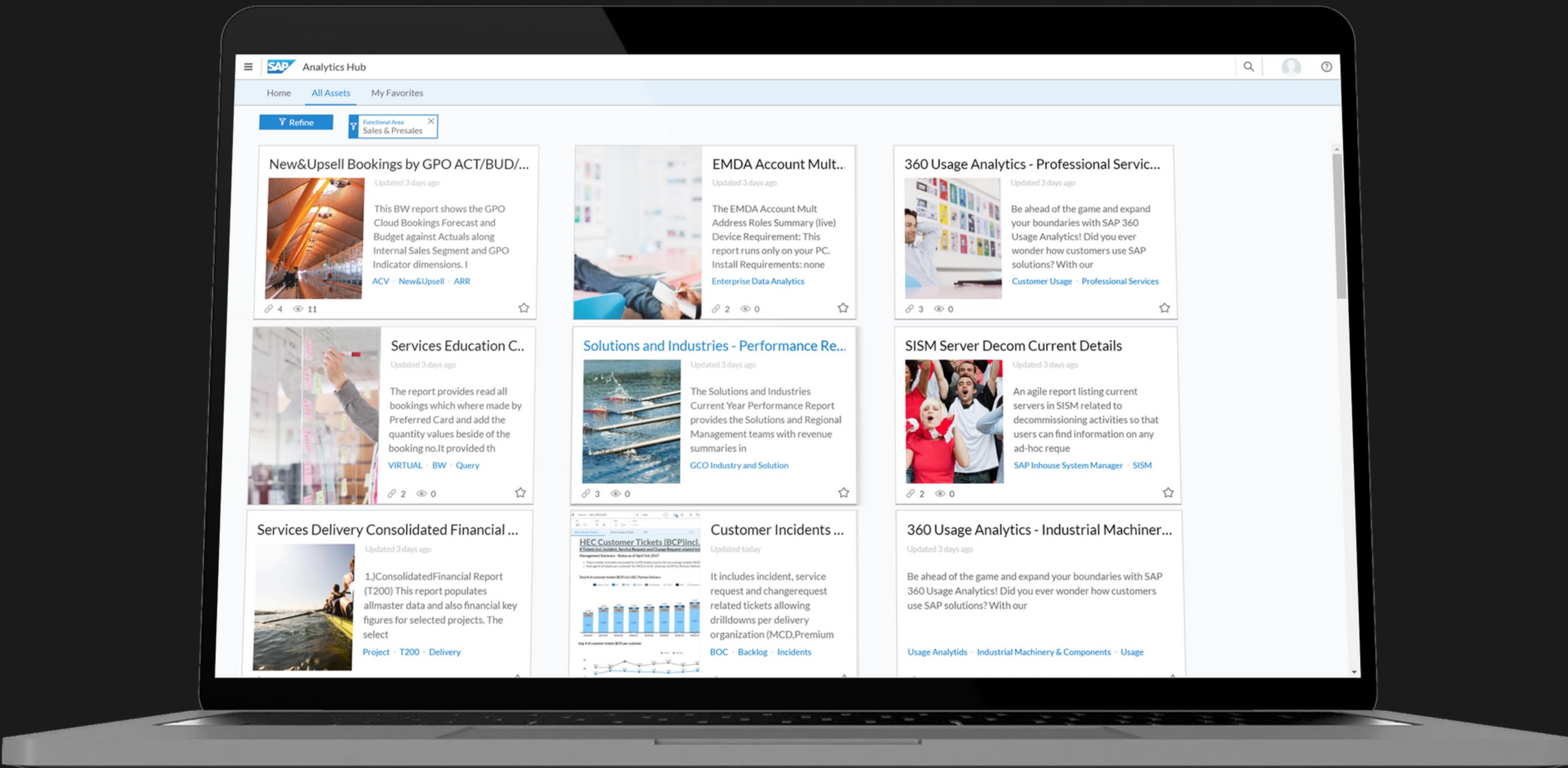
Content Editor - create a draft of an asset and send it for review, view and edit all visible assets

Content Validator - check the relevance and quality of the resources that are created or updated by content editors

Chief Content Editor - has all the features of a content editor and content validator

Administrator - has all the possible functionality for working with assets and assigns roles to users

To find an asset with a required report, the user can use the search field using keywords or the filter function



Business Catalog

Today Catalog Favorites Shared With Me

Published | 13 Items

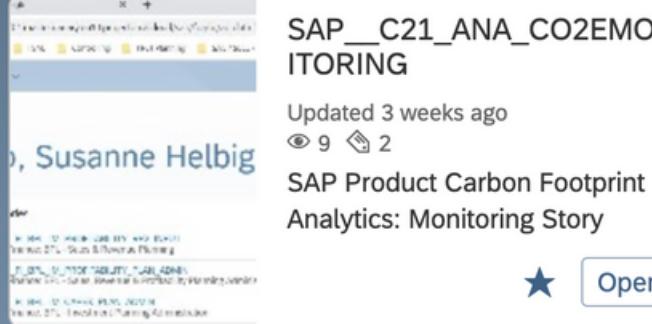
Filter Recently added | Refresh Search

SAP__C21_ANA_CO2EMONITORING

Updated 3 weeks ago

9 views, 2 comments

SAP Product Carbon Footprint Analytics: Monitoring Story



[Open](#)

SAP__ACR_GEN_COMPLIANCEREPORTING_V2

Updated 1 month ago

10 views, 1 comment

Advanced Compliance Reporting (ACR): General - Compliance R...



[Open](#)

SAP__TE_GEN_TRAVELEXPENSE

Updated 1 month ago

67 views, 2 comments

SAP Concur Travel Expenses



[Open](#)

SAP__CEC_MKT_MBLPUSHSUCCESS

Updated 2 months ago

1 view, 0 comments

This content is to verify the performance of Mobile push no...



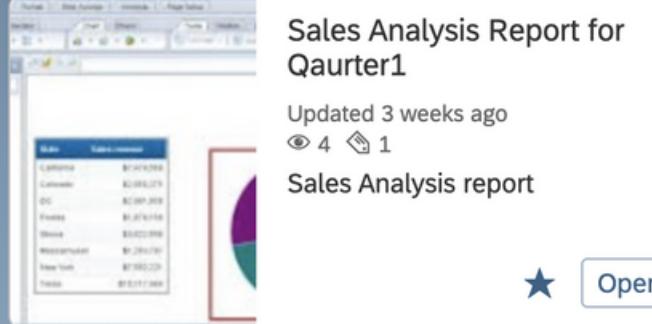
[Open](#)

Sales Analysis Report for Quarter1

Updated 3 weeks ago

4 views, 1 comment

Sales Analysis report



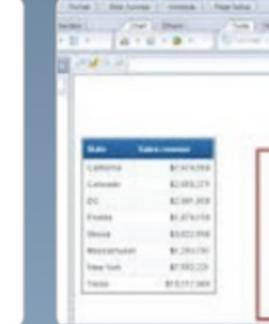
[Open](#)

Marketing Data Analysis

Updated 2 months ago

- views, 2 comments

Feedback analysis by accounts



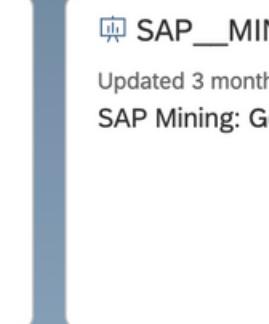
[Open](#)

SAP__MIN_GEN_OVERVIEW_001

Updated 3 months ago

1 view, 0 comments

SAP Mining: General Overview



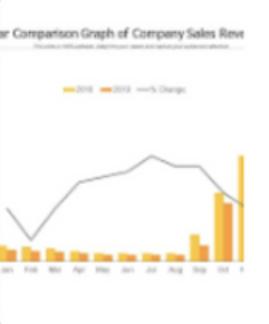
[Open](#)

Finance Analysis Report

Updated 3 months ago

20 views, 3 comments

SAP Finance: Financial Boardroom



[Open](#)

Financial Analysis for First Quarter

Updated 4 months ago

1 view, 3 comments

SAP Finance: Financial Boardroom



[Open](#)

Finance Report 2020 Q1

Updated 4 months ago

2 views, 0 comments



[Open](#)

Show/Hide Columns Test

Updated 4 months ago

6 views, 0 comments



[Open](#)

SAP__PROC_NW_BUYERINVOICES

Updated 5 months ago

4 views, 1 comment

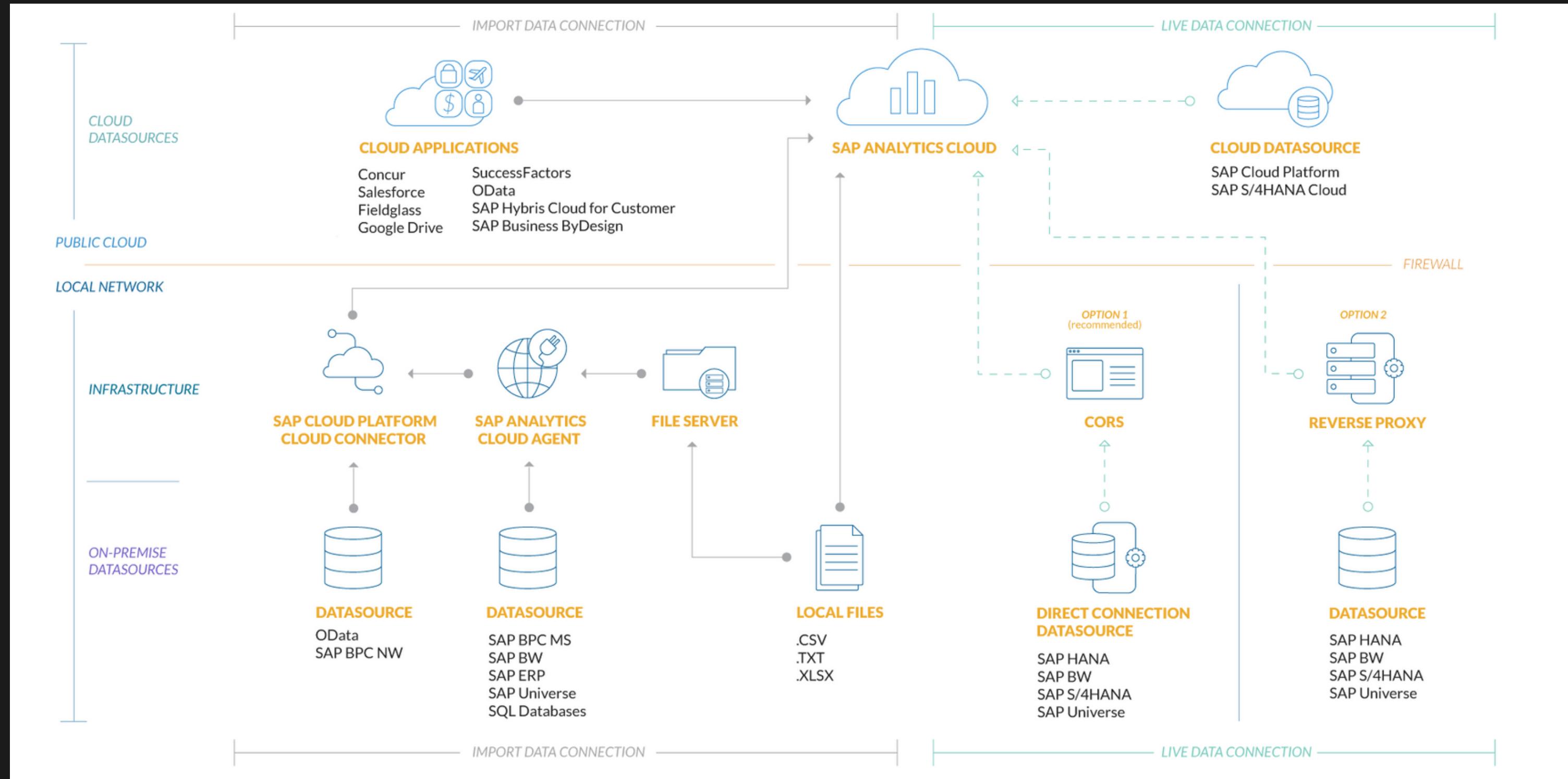
SAP Procurement: Network - Buyer Network Analysis



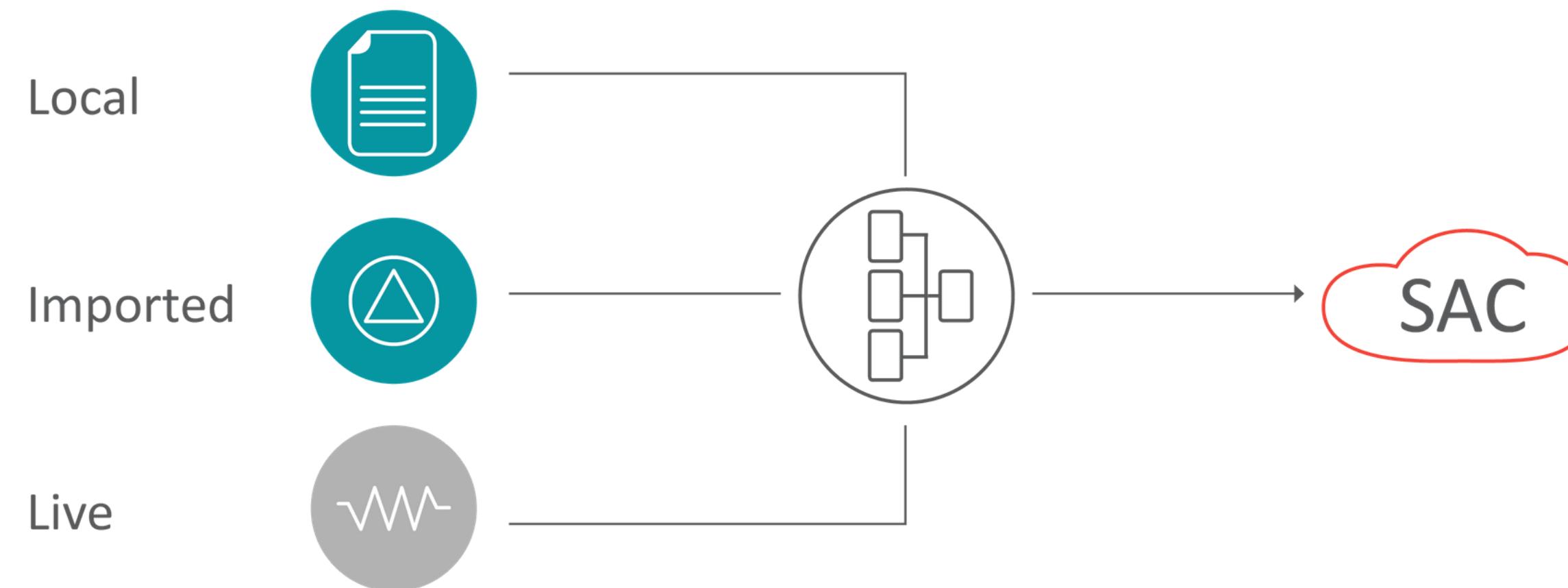
[Open](#)

Language Support

SAC supports native connectivity to multiple sources



SAC supports native connectivity to multiple sources



We can use simple deployment kit to streamline the installation process, this would usually reduce installation time from over 1 hour to less than 10 minutes

The screenshot shows an Administrator Windows PowerShell window with the title "Administrator: Windows PowerShell". The window displays the output of a deployment script. The text in the window includes:

```
Execution Policy Change
The execution policy helpcmd (default is "Y"): y
you to the security risks
... Starting deployment script for SNC Agent Simple Deployment Kit ...
Log file moved to: C:\Program Files\SAP\SACAgentKit\log\sacagentsetup_180724191909.log
... SNC Agent Simple Deployment Kit ...
This script creates a simple deployment of SAP Cloud Platform Cloud Connector and SNC agent.
... Detecting previously installed software ...
This is a clean install.
[WARNING] Running the current script will install 2 web application servers, SAP Cloud Connector and Apache Tomcat.
Please beware of risks of securing web application server.
... Checking if script configuration file exists ...
No custom parameters found. Installation will proceed with default parameters.
Do you want to continue:
[1] Continue
[0] Quit
Option: 1
... Generating preset
wp.exe ...
... Generating preset credentials ...
SAP Cloud Connector credentials:
Username: Administrator
Password: DHSUW2K12
SNC agent credentials:
Username: Cloudagent
Password: ca1!DHSUW2K12
... Ready to Start Software Installation and Configuration ...
... Installing Dependency Microsoft Visual C++ Redistributable Packages for Visual Studio 2010 ...
... Installing Dependency Microsoft Visual C++ Redistributable Packages for Visual Studio 2013 ...
```

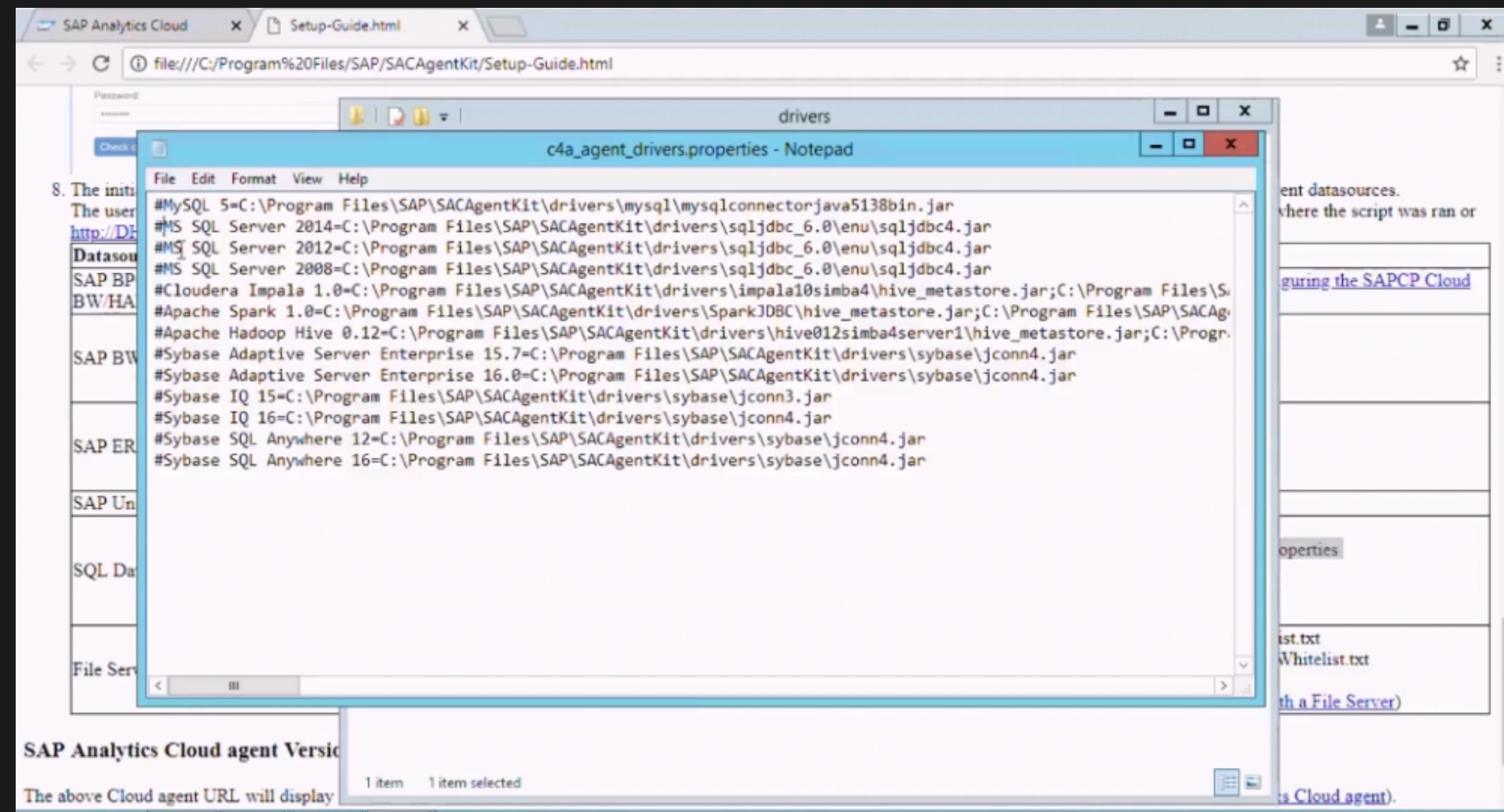
You can go to the SAP software download portal and search SAP analytics cloud kit and download the latest version

The screenshot shows the SAP Software Downloads interface. At the top, there's a navigation bar with the SAP logo, a 'Software Downloads' link, a dropdown menu set to 'Downloads', a search bar containing 'SAP ANALYTICS CLOUD KIT', and a microphone icon. Below the header, a progress bar says 'Processing ...'. Under 'SOFTWARE CATEGORIES', it says 'Choose the Next Category (1)' and lists 'SAP ANALYTICS CLOUD KIT 1.0'. A 'Filter' button and a magnifying glass icon are next to the category name. To the right, a link points to 'Maintenance Software Component'. The main area is titled 'AVAILABLE TO DOWNLOAD'. A warning message in an orange box states: '⚠ You don't have proper authorization to download software. To request profile B_SWDC_DL_NO for system W71 go to Access Request Management.' Below this, a table shows 'Items (2)'. The first item is 'SACKIT118_0-70004101.ZIP', a 'Support Package SAP ANALYTICS CLOUD KIT 1.0' for 'Windows on x64 64bit'. The second item is 'SACKIT119_0-70004101.ZIP', another 'Support Package SAP ANALYTICS CLOUD KIT 1.0' for 'Windows on x64 64bit'. Both items have checkboxes next to their names. A note at the bottom says '(*) for validation only'.

Name	Type	Related Info
SACKIT118_0-70004101.ZIP	Support Package SAP ANALYTICS CLOUD KIT 1.0 Windows on x64 64bit	
SACKIT119_0-70004101.ZIP	Support Package SAP ANALYTICS CLOUD KIT 1.0 Windows on x64 64bit	

<https://support.sap.com/en/my-support/software-downloads.html>

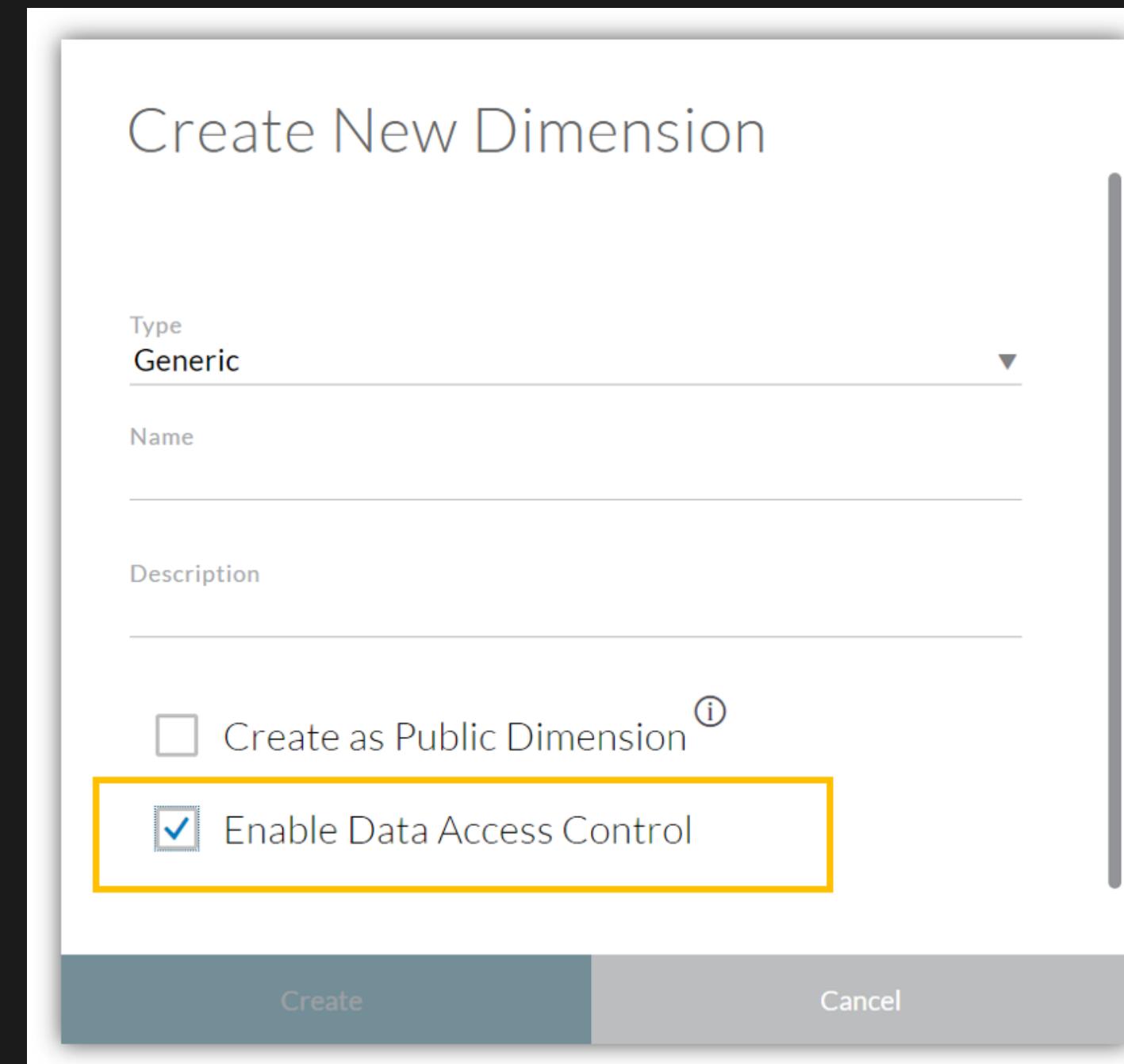
As the setup script runs in the background, you can install any additional drivers and complimentary components to connect to your data source



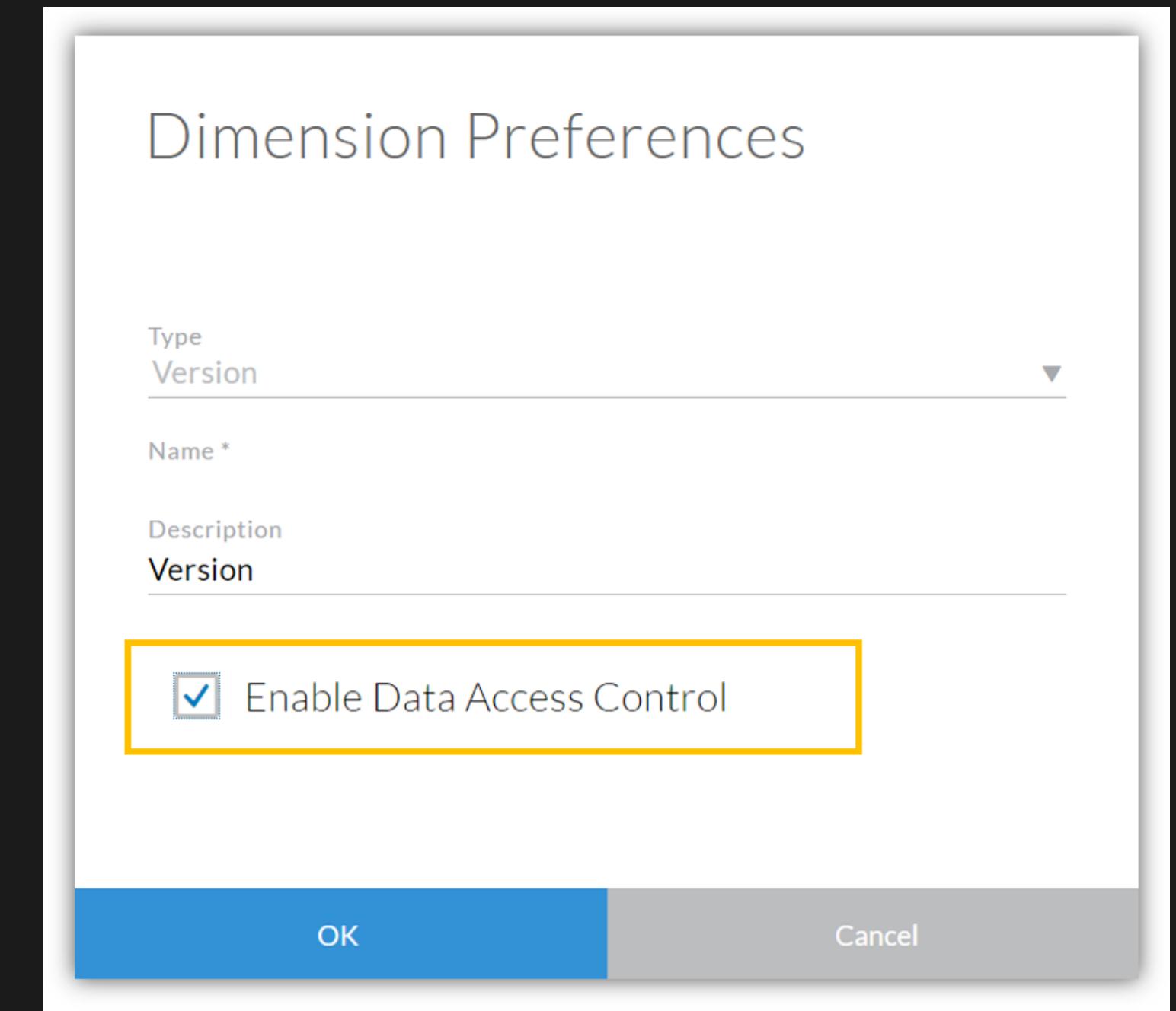
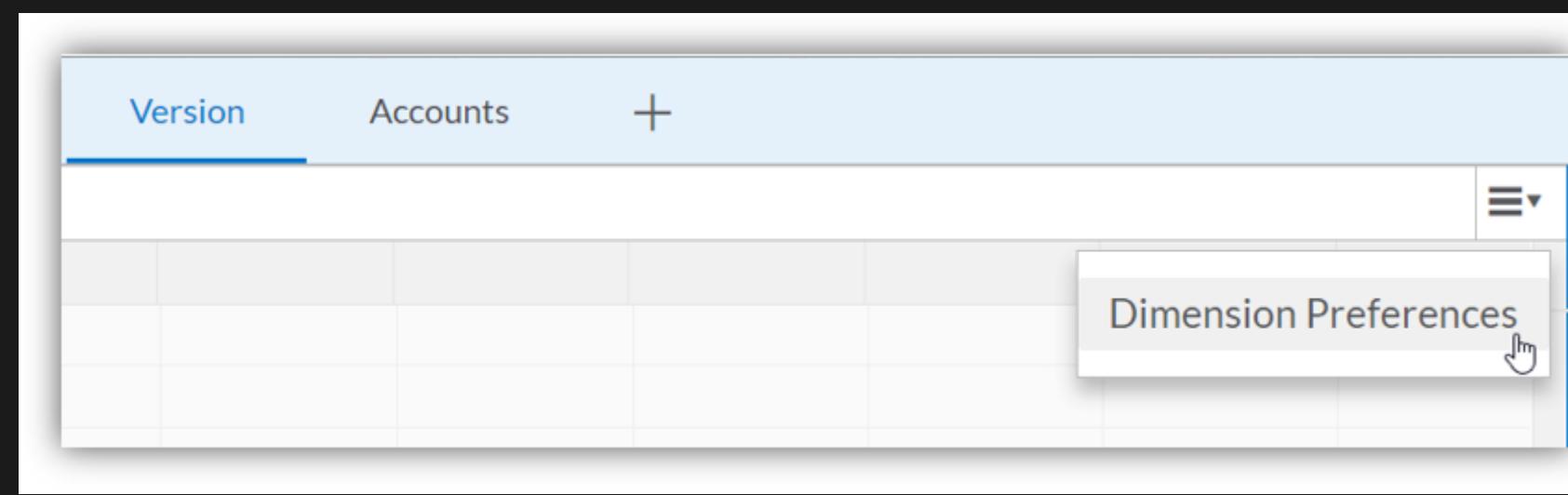
Roles define a specific set of permissions for user types within SAP Analytics Cloud

- Assign permissions to individuals from within the model itself
- Assign model permissions to a role from within the role definition

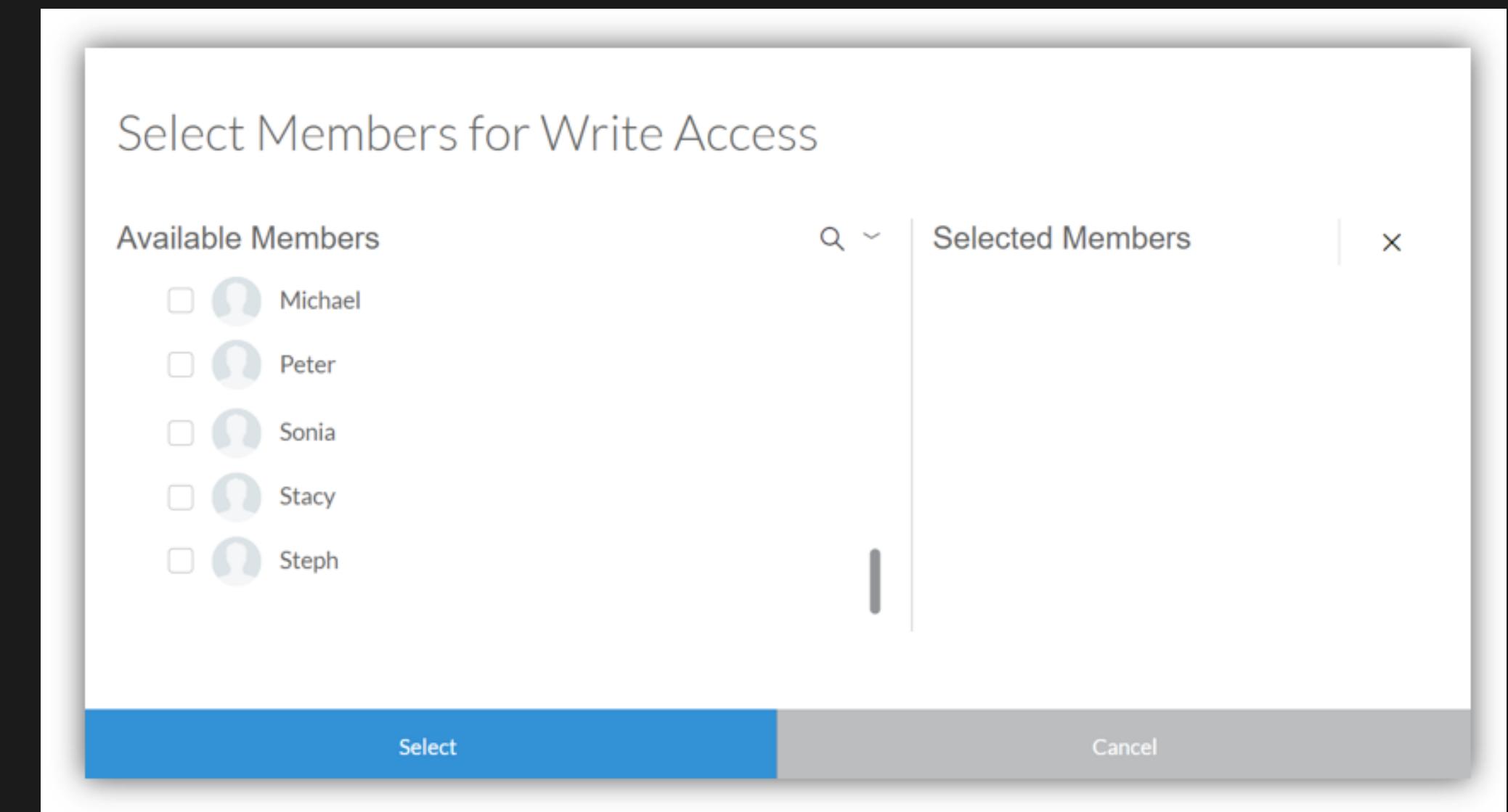
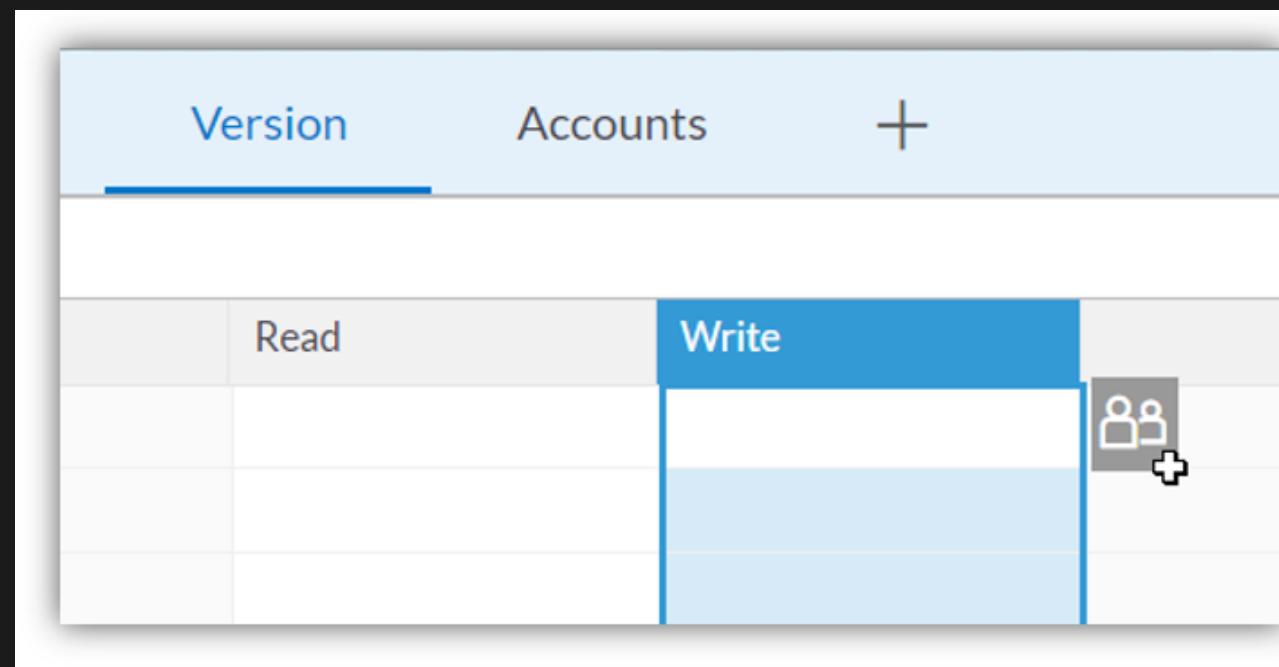
To apply model security and assign permissions to individuals, you first need to enable data access control for each model dimension that you want secure



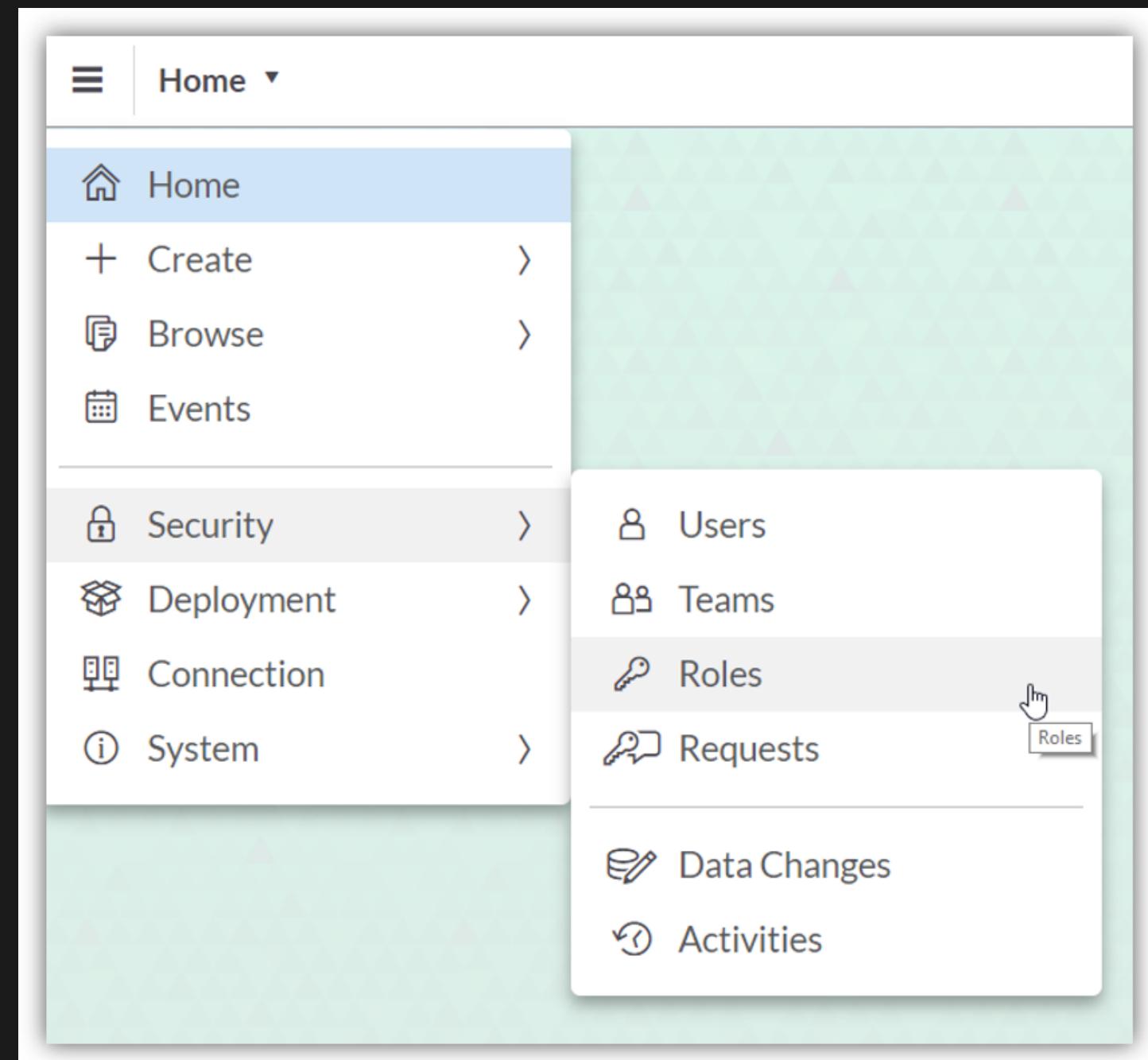
Another way to enable data access control is in the Dimension Preferences setting (1/2)



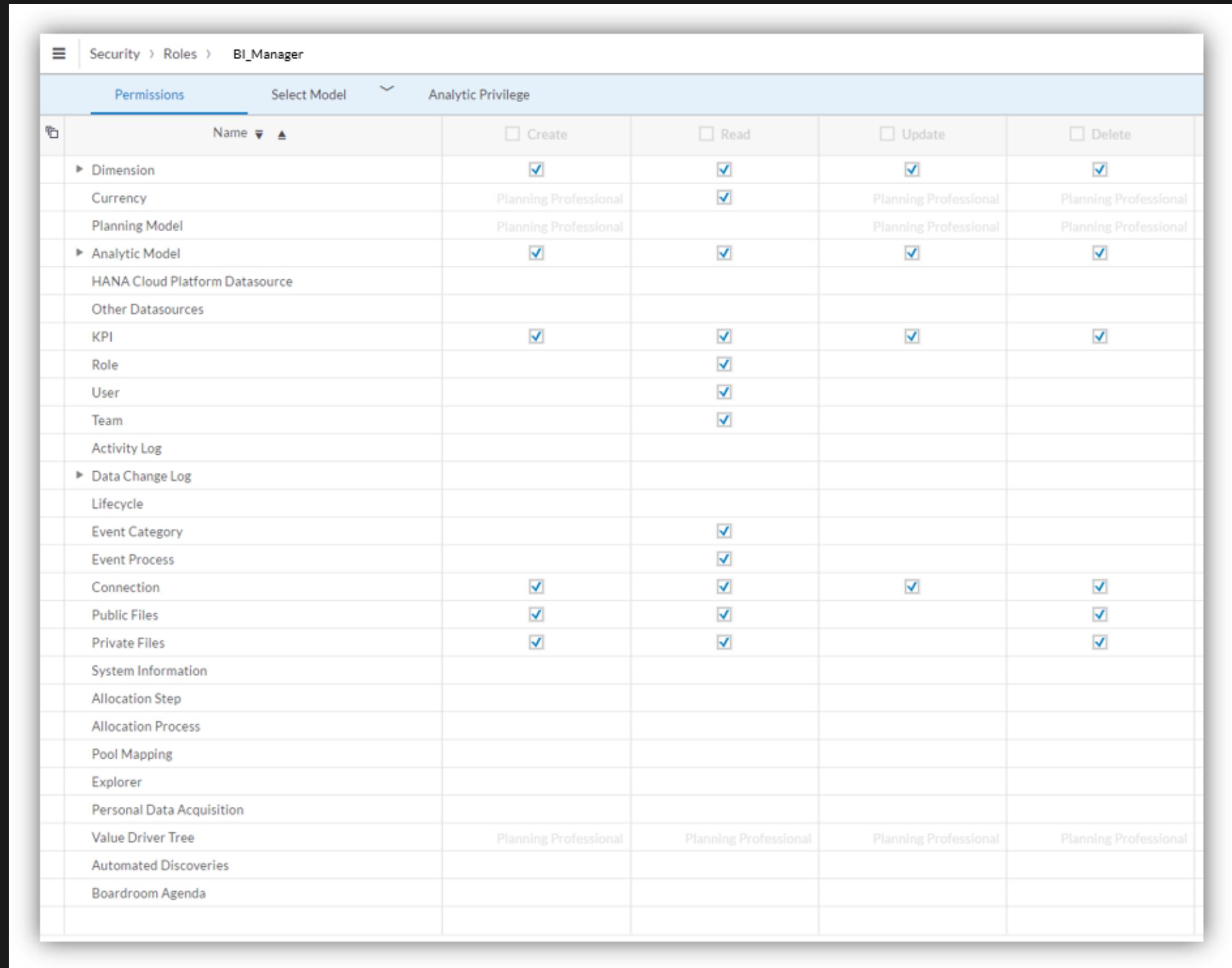
Another way to enable data access control is in the Dimension Preferences setting (2/2)



Creating a secondary admin is a good first step since it acts as a safety net in the event that you are unavailable for some reason



Manager role



The screenshot shows the SAP Fiori interface for managing roles. The title bar indicates the current path: Security > Roles > BI_Manager. The main area is a table titled "Permissions" with a "Select Model" dropdown menu. The table has columns for "Name", "Create", "Read", "Update", and "Delete". The "Name" column lists various objects, and the "Create" column contains checkboxes. Most checkboxes are checked, indicating the role has full permissions for these objects. A "Planning Professional" label is present in some rows.

Permissions					
	Name	Create	Read	Update	Delete
	► Dimension	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Currency	Planning Professional	<input checked="" type="checkbox"/>	Planning Professional	Planning Professional
	Planning Model	Planning Professional		Planning Professional	Planning Professional
	► Analytic Model	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	HANA Cloud Platform Datasource				
	Other Datasources				
	KPI	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Role		<input checked="" type="checkbox"/>		
	User		<input checked="" type="checkbox"/>		
	Team		<input checked="" type="checkbox"/>		
	Activity Log				
	► Data Change Log				
	Lifecycle				
	Event Category		<input checked="" type="checkbox"/>		
	Event Process		<input checked="" type="checkbox"/>		
	Connection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Public Files	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	Private Files	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	System Information				
	Allocation Step				
	Allocation Process				
	Pool Mapping				
	Explorer				
	Personal Data Acquisition				
	Value Driver Tree	Planning Professional	Planning Professional	Planning Professional	Planning Professional
	Automated Discoveries				
	Boardroom Agenda				

Permission Settings

- Dimensions
- Event Category and Event Process
- Public and Private Files
- Explorer and Personal Data Acquisition

Dimensions

Security > Roles > Basic_Story_Creator

Permissions	Select Model	Analytic Privilege
Name	<input type="checkbox"/> Create	<input type="checkbox"/> Read
► Dimension	<input checked="" type="checkbox"/>	
Currency	Planning Professional	
Planning Model	Planning Professional	
► Analytic Model		
HANA Cloud Platform Datasource		
Other		

Event Category and Event Process

The screenshot shows the SAP Fiori interface for managing roles. The title bar indicates the current path: Security > Roles > Basic_Story_Creator. The main area is a table titled "Permissions" with three columns: "Name", "Create", and "Read". The "Name" column lists various entities, and the "Create" and "Read" columns show whether these permissions are granted or denied. A yellow box highlights the last two rows of the table, which correspond to "Event Category" and "Event Process". Both of these entities have both "Create" and "Read" permissions checked.

	Name	Create	Read
▶ Dimension			<input checked="" type="checkbox"/>
Currency		Planning Professional	
Planning Model		Planning Professional	
▶ Analytic Model			
HANA Cloud Platform Datasource			
Other Datasources			
KPI			
Role			
User			
Team			
Activity Log			
▶ Data Change Log			
Lifecycle			<input checked="" type="checkbox"/>
Event Category			<input checked="" type="checkbox"/>
Event Process			<input checked="" type="checkbox"/>

Public and Private Files

The screenshot shows the SAP Fiori interface for managing roles. The title bar indicates the path: Security > Roles > Basic_Story_Creator. The main area is titled "Permissions" and includes a "Select Model" dropdown set to "Analytic Privilege". The table lists various entities with their corresponding "Name" and "Analytic Privilege" levels. The columns for "Create", "Read", "Update", and "Delete" are highlighted with yellow boxes. The "Read" column for "Public Files" is checked, while "Create" and "Delete" are unchecked. The "Update" column for "Private Files" is checked, while "Create" and "Delete" are unchecked.

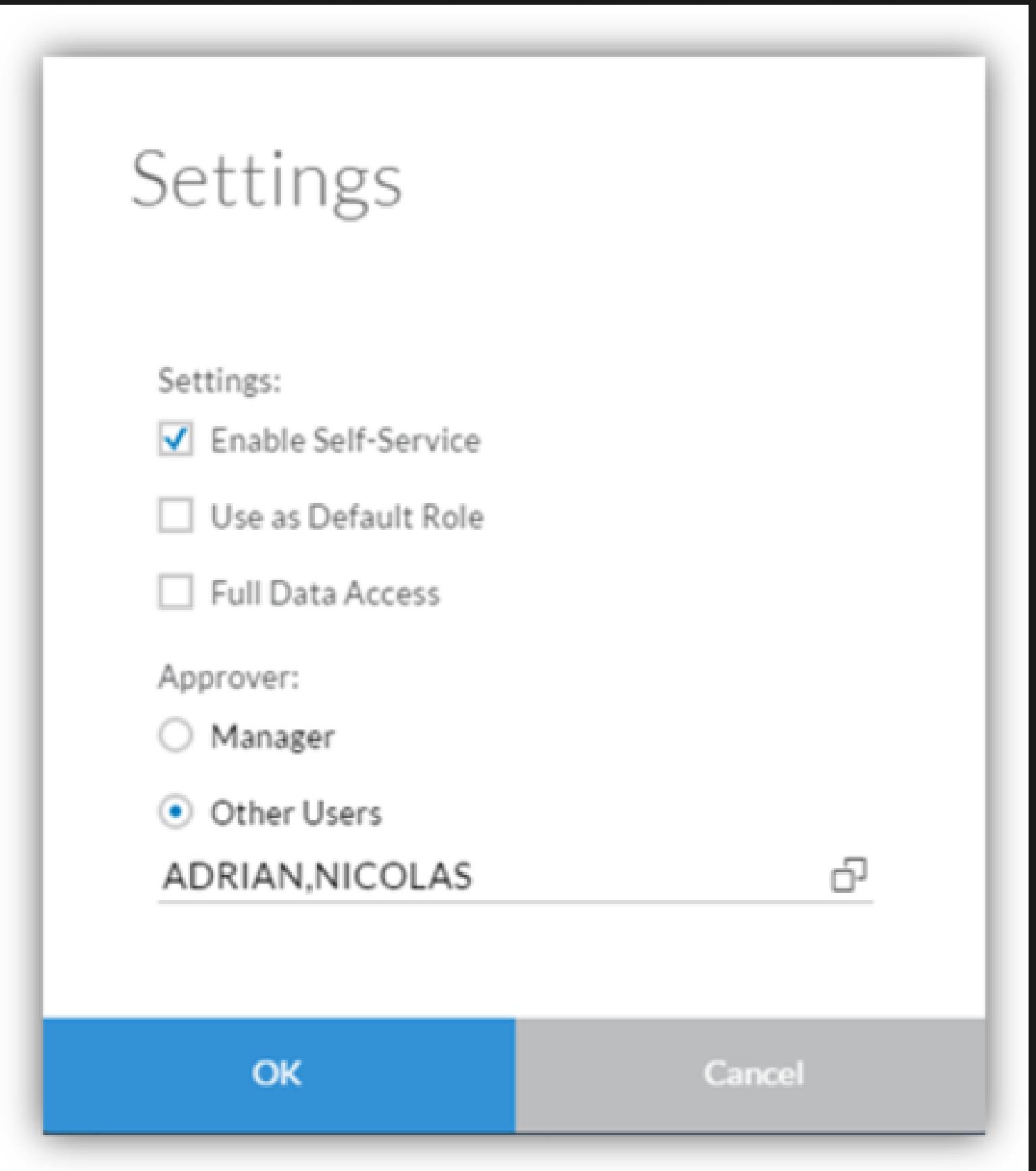
Entity	Name	Create	Read	Update	Delete
Dimension			<input checked="" type="checkbox"/>		
Currency				Planning Professional	Planning Professional
Planning Model			Planning Professional		Planning Professional
Analytic Model					
HANA Cloud Platform Datasource					
Other Datasources					
KPI					
Role					
User					
Team					
Activity Log					
Data Change Log				<input checked="" type="checkbox"/>	
Lifecycle			<input checked="" type="checkbox"/>		
Event Category			<input checked="" type="checkbox"/>		
Event Process			<input checked="" type="checkbox"/>		
Connection					
Public Files			<input checked="" type="checkbox"/>		
Private Files		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

Explorer and Personal Data Acquisition

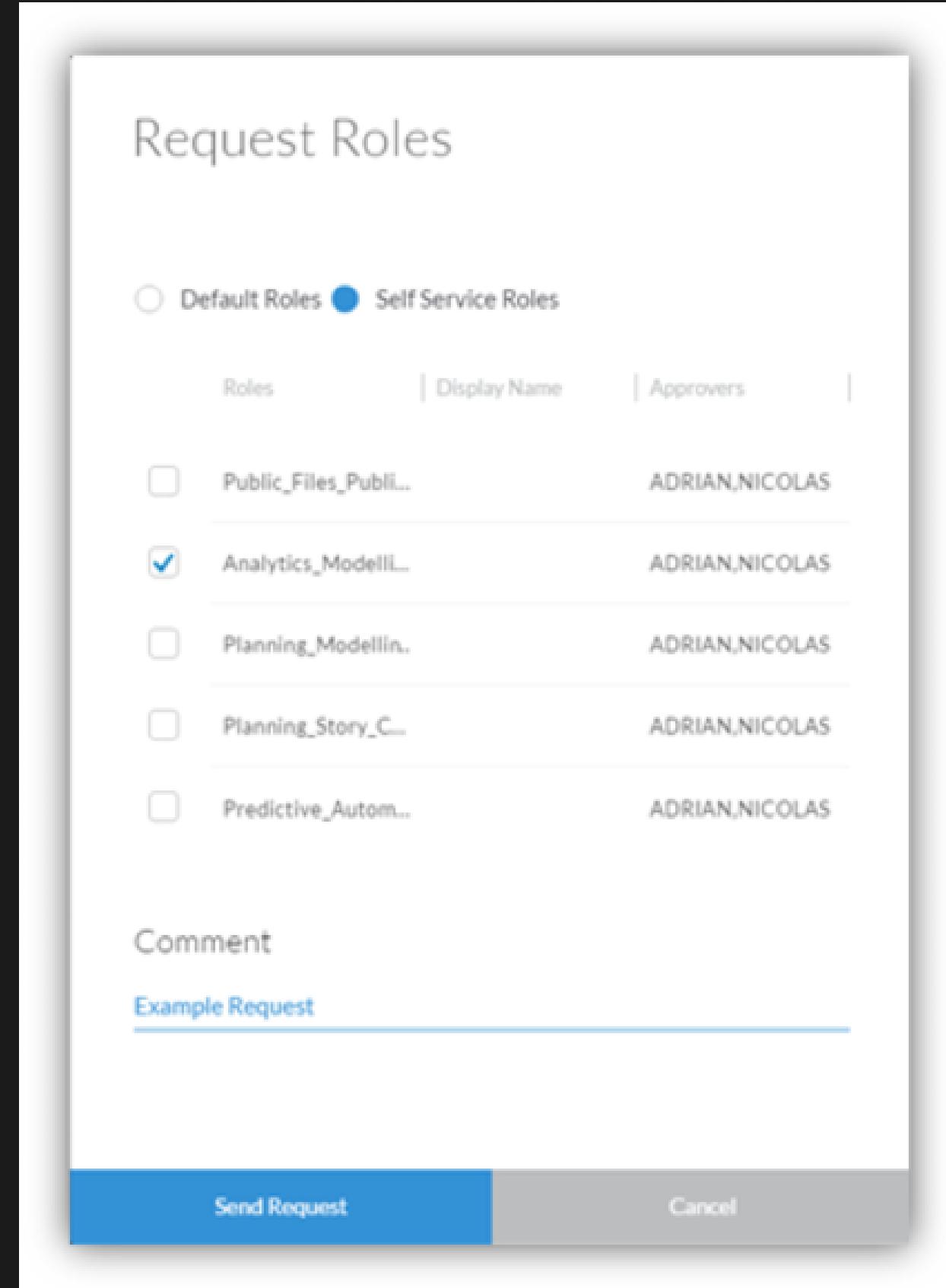
Permissions					
	Name	Create	Read	Update	Delete
► Dimension			<input checked="" type="checkbox"/>		
Currency		Planning Professional		Planning Professional	Planning Professional
Planning Model		Planning Professional		Planning Professional	Planning Professional
► Analytic Model					
HANA Cloud Platform Datasource					
Other Datasources					
KPI					
Role					
User					
Team					
Activity Log					
► Data Change Log					
Lifecycle			<input checked="" type="checkbox"/>		
Event Category			<input checked="" type="checkbox"/>		
Event Process			<input checked="" type="checkbox"/>		
Connection					
Public Files			<input checked="" type="checkbox"/>		
Private Files		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
System Information					
Allocation Step					
Allocation Process					
Pool Mapping					
Explorer					<input checked="" type="checkbox"/>
Personal Data Acquisition					<input checked="" type="checkbox"/>
Value Driver Tree	Planning Professional	Planning Professional	Planning Professional	Planning Professional	Planning Professional
Automated Discoveries					Predictive Standard
Boardroom Agenda					

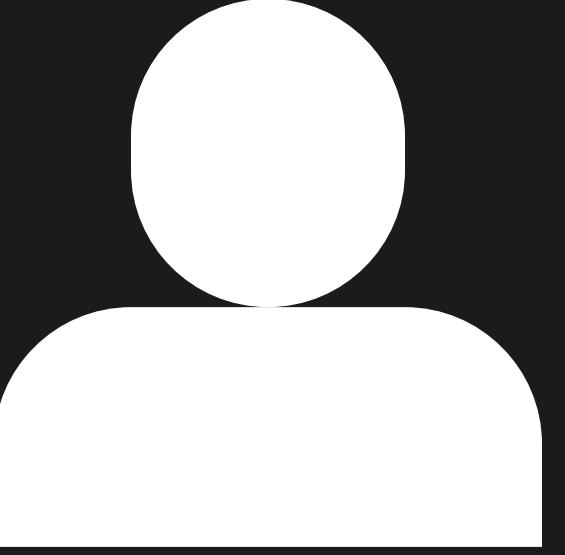
Role request settings

- Enable Self Service
- Use as Default Roles
- Full Data Access



For this example, we'll select Enable Self Service. This displays the list of roles that have been enabled for self-service.





SAC administration ensures that things are under control and secured. It also includes upkeep, configuration, and reliable operation of the application

System Configuration: Configure miscellaneous settings

Data source Configuration: Manage information needed to connect to remote systems

Security: Configure the authentication method

R Configuration: Configure connection settings to R

App Integration: Manage third-party application access

Notifications: Choose users to deliver system event notifications

Appearance: Customize the default homepage logo and background color for all users

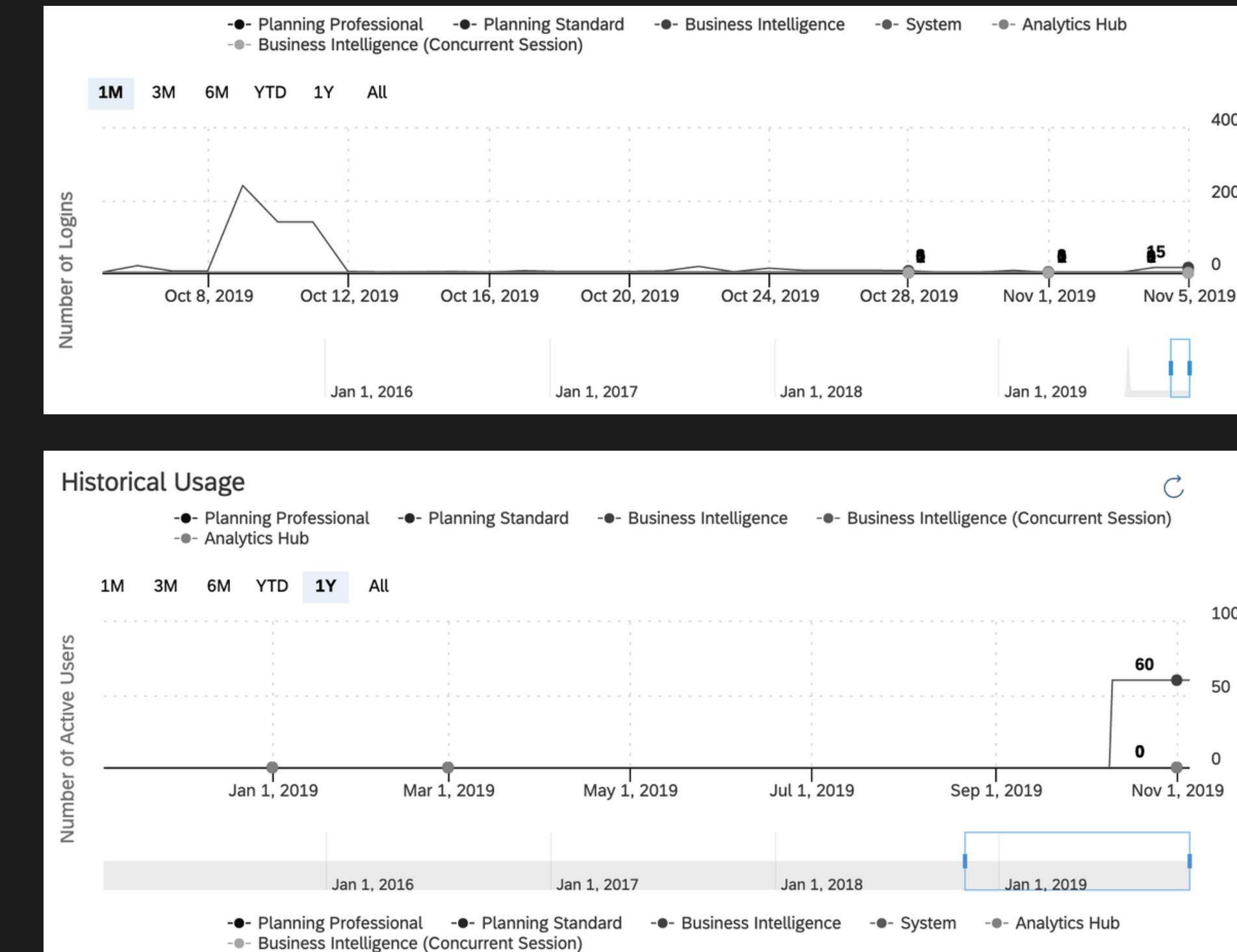
Catalog: Active Catalog feature

System Monitoring

New features are available. [Check them out.](#)

The screenshot shows a left-hand navigation menu with the following items:

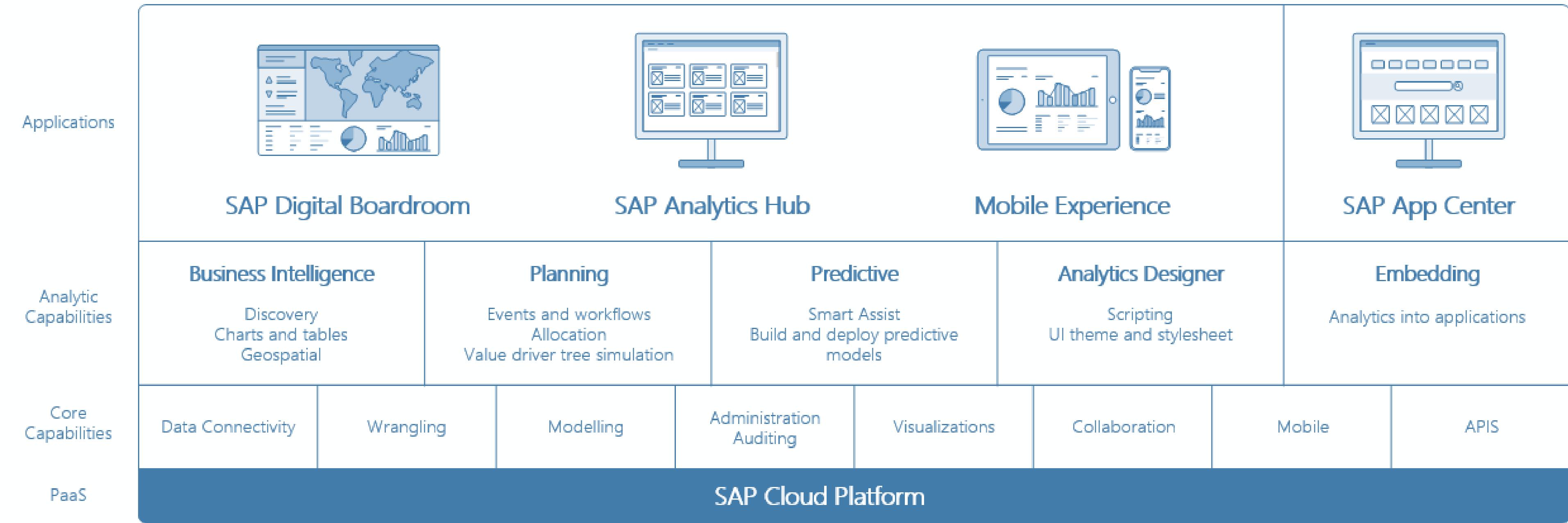
- Home
- Create >
- Browse >
- Calendar
- Security >
- Deployment >
- Connection
- System >** This item has a dashed red rectangle around it, indicating it's the current section.
 - Monitor** (highlighted with a dashed red rectangle)
 - Administration
 - About



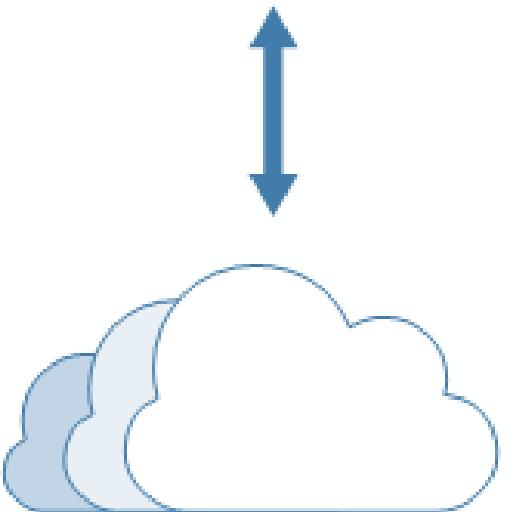
By now, we have successfully completed the BI section of SAC



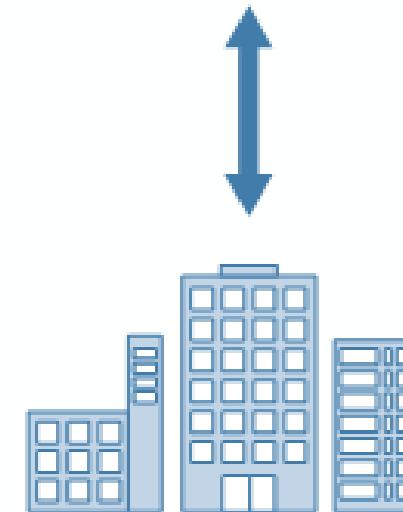
In the next chapter, you will learn how to manage planning activities



Amazon Web Services



Cloud data sources
and applications



On-premise data
sources and
applications

SAP Data Center

If data entry is done into unbooked cells, SAC equally distributes it to its child members

The screenshot shows the SAP Ariba Spend Analysis Cloud (SAC) interface. The top navigation bar includes 'File', 'Insert', 'Tools', 'Display', and 'More' tabs. Below the navigation bar is a toolbar with various icons. The main area displays a budget distribution grid. The grid has columns for TIME (2016, Q1, Q2, Apr, May, Jun, Jul, Aug) and CATEGORY (Actual, Actuals). The rows represent different expense categories: Travel Expense, Communication, Entertainment, Lodging / Hotel, Meals, Other, and Transportation. A context menu is open over the 'Travel Expense' row, specifically over the 'May (2016)' cell. The menu options are: Spreading, Distribute, Assign, and Execute Allocation. The 'Distribute' option is highlighted with a mouse cursor. The right side of the interface features a vertical toolbar with various icons for filtering, sorting, and other functions.

TIME	2016	> Q1 (2016)	> Q2 (2016)	Apr (2016)	May (2016)	Jun (2016)	Jul (2016)	Aug (2016)	
CATEGORY	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
CATEGORY	Actuals	Actuals	Actuals	Actuals	Actuals	Actuals	Actuals	Actuals	
CONCUR_PREDICTIVE_ACCOUNT									
Travel Expense	951,963.11	332,003.87	197,414.88	91,674.80	53,861.79	51,878.28	422,544.36	174,667.36	247,877.00
Communication	8,462.24	3,671.98	1,873.09	1,303.07	268.25	301.78	2,917.17	1,240.63	1,676.53
Entertainment	59,047.02	7,992.98	10,717.84	2,836.57	3,709.78	4,171.49	40,336.19	17,154.11	23,182.09
Lodging / Hotel	178,979.14	52,760.00	36,293.97	18,723.45	8,270.61	9,299.91	89,925.17	38,243.43	51,681.74
Meals	59,629.35	19,348.83	25,500.86	6,866.10	16,063.81	2,570.95	14,779.66	2,891.33	11,888.33
Other	56,441.29	27,664.66	14,879.42	6,933.82	722.63	7,222.96	13,897.20	4,098.56	9,798.64
Transportation	589,404.07	220,565.42	108,149.69	55,011.79	24,826.71	28,311.19	260,688.96	111,039.30	149,649.66

Mass data entry lets you make a bulk of entries and you can pause the re-calculations until you are ready for it.

The screenshot shows a software application window titled "Superstore - Procurement Analysis - Sales Orders - Data Entry". At the top, there are two buttons: "Process Data" and "Exit Mass Data Entry", with "Exit Mass Data Entry" being clicked by a mouse cursor. Below the buttons, the text "Page 1" is displayed. The main area contains a table with two columns: "Account" and "Amount". The table is organized by "Order Date". The data is as follows:

Account	Amount
Order Date	
▼ (all)	1,649,777.16
➤ 2016	509,402.50
➤ 2017	495,454.00
➤ 2018	644,920.66
▼ 2019	0.00
▼ Q1 (2019)	0.00
➤ Jan (2019)	5,000.00
➤ Feb (2019)	6,000.00
➤ Mar (2019)	5,000.00
➤ Q2 (2019)	0.00
➤ Q3 (2019)	0.00
➤ Q4 (2019)	0.00

What if analysis

The image shows a Microsoft Power BI dashboard with a dark blue background. On the left, there's a vertical orange bar with the JF logo and the word FINANCE. The dashboard displays the following financial data:

- 2017 Profit Forecast** (in %, Million USD): **205.1 (+20.4%)**
- YTD Sales Revenue** (in %, Million USD): **209.2 (+0.1%)**
- YTD Operating Expense** (in %, Million USD): **125.2 (-22.2%)**

Below the operating expense, there's a table for **Operating Expenses** showing values for 2014, 2015, 2016, and 2017.

	2014	2015	2016	2017
Operating Expenses	179.1	199.9	218.8	125.2

To the right of the dashboard is a floating what-if analysis interface with a yellow border. It shows a slider set to +20% and a numeric input field also set to 20. Below the slider is a grid for entering values from 1 to 9. At the bottom of the interface is a blue button labeled "OK".

+20%			
%	+	-	x
7	8	9	.
4	5	6	×
1	2	3	÷
0			Del

Versions of planning data

The screenshot illustrates a business intelligence interface with two main pages and a detailed view of planning data.

Page 1: Displays a table titled "J118_AccountData" in USD. The table has columns for VERSION (Actual and Planning) and CATEGORY (Actuals and Planning). The data shows material costs across regions: Germany (4,086.27), USA (4,000.37), Poland (11,428.40), Portugal (6,541.62), Spain (5,485.35), and Russia (8,232.00).

Page 2: Displays a chart titled "Material per Region for Actual, Planning". The chart compares actual and planning values for three regions: Russia (8,232.00 vs 5,485.35), Spain (5,485.35 vs 6,541.62), and Portugal (6,541.62 vs 5,485.35).

Version Management: A modal window titled "Version management" is open, showing the "Public Versions" section. It lists the "Actual" version (Edit Mode) and the "Planning" version. The "Data Source" is set to "J118_AccountData".

Region	Account	Actual	Planning
Unassigned	Material	-	0.00
Germany	Material	4,086.27	4,086.27
USA	Material	4,000.37	4,000.37
Poland	Material	11,428.40	11,428.40
Portugal	Material	6,541.62	6,541.62
Spain	Material	5,485.35	5,485.35
Russia	Material	-	8,232.00

Region	Actual	Planning
Russia	8,232.00	5,485.35
Spain	5,485.35	6,541.62
Portugal	6,541.62	5,485.35

Data Locking

The screenshot shows the SAP S/4HANA Data View interface. The top navigation bar includes 'APD' and 'Files / SAC_PLANNING_DEMO_MKR*'. The ribbon tabs are 'Story' (selected) and 'Data'. The main menu bar has 'File', 'Insert', 'Tools', 'Data', 'Format', and 'Display'.

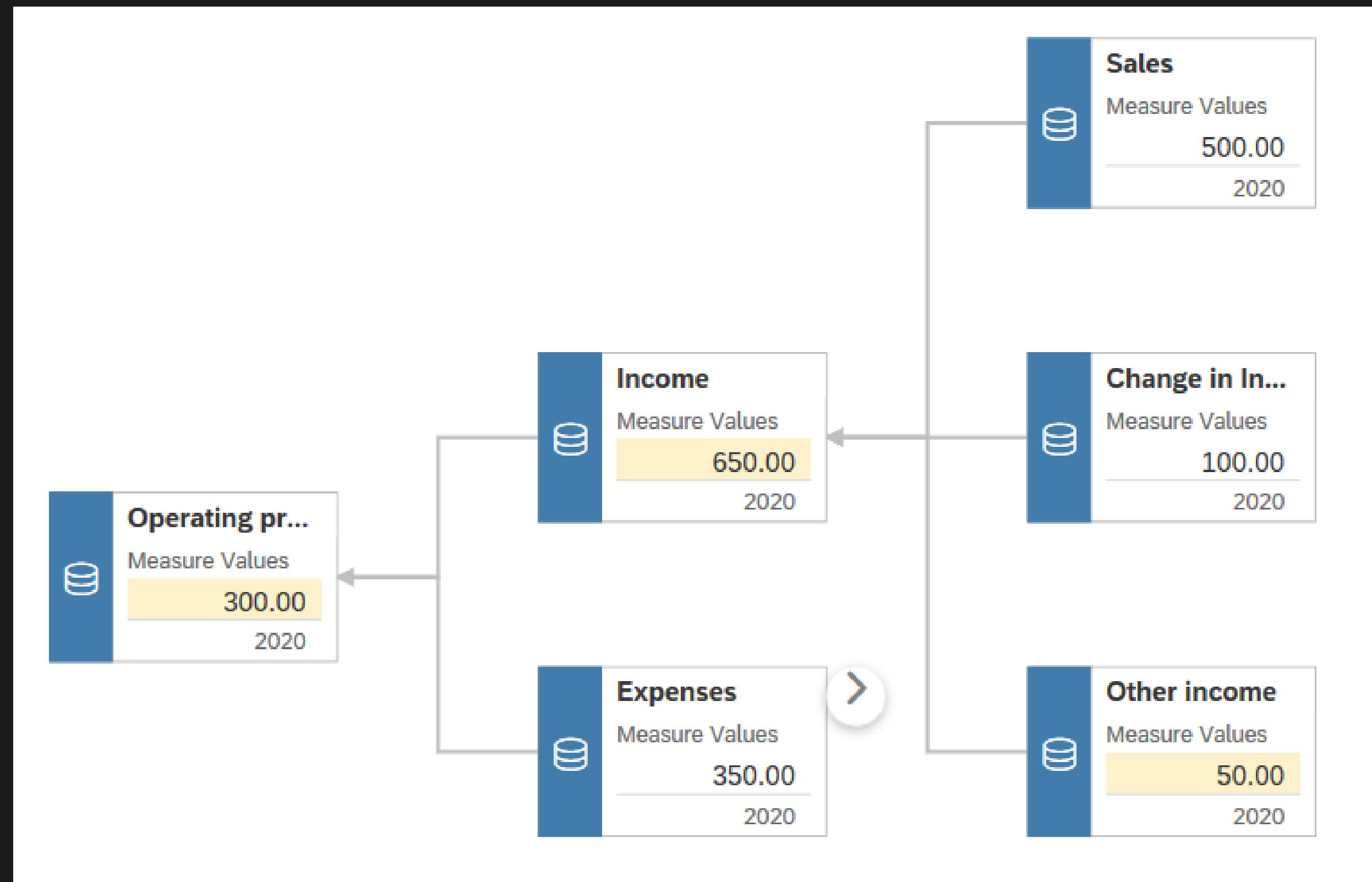
The main content area displays a grid titled 'Operating_Income in Million USD'. The columns include 'Actual', 'Budget 2017', 'Forecast', 'Forecast V1', 'Forecast V1 (Copy 1)', 'Sales Growth Plan', and 'Strategic PL...'. The rows list products like 'No Product', 'Athletic Shirts', 'Athletic Shorts', 'Caps', 'Glasses', 'Apparel', 'Footwear', 'All Products', and 'Product Group'. Most cells contain a lock icon, indicating they are locked.

A context menu, 'Data Locking Tools', is open over the grid. It includes sections for 'Driving Dimensions' and 'Grid'. The 'Driving Dimensions' section shows filters for 'Version', 'Time', 'Operating Regions', and 'Operating Product Gr...'. The 'Grid' section shows a detailed view of the 'Operating Product Gr...' dimension, with rows for 'Enterprise', 'Not Assigned', 'United States', and 'Overseas'. The 'Open' button in the 'Grid' section is highlighted with a blue border.

Forecast



Value Driver Tree



Collabration

The screenshot shows a Gantt chart interface with a calendar view from April 8 to April 14, 2018. The tasks are categorized by color: blue, orange, yellow, and red. A task builder dialog is open on the right side, showing details for a task named 'abc'.

Task Details:

- Overall Status:** IN REVIEW
- Your Progress:** 100%
- Common Work Files:** No Files
- Your Work Files:** No Files
- Assignee Results:** 1/1 ready

Description:
Hi! I have a Task for you. I will give you more details regarding this soon.

Time:

- Start:** Apr 12, 2018 - 10:51 AM
- Due:** Apr 13, 2018 - 10:51 AM
- Duration:** 23 Hours 59 Minutes
- Fixed

People:

Assignee
First Name Last Name In Review

Gantt Chart Tasks:

- ... p6 (0%)
- ... p1 2 (0%)
- p2 (0%)
- ... t3 (0%)
- ... t2 (80%)
- 13 (0%)
- azzzdsakjfhdsdlfsliejsldifsliejsfjsijft
- zzz (0%)
- p4 (0%)
- abc (100%)
- ... Test (50%)
- a1234 (0%)

Data action

The screenshot shows the 'Data Actions' interface in a software application. The title bar indicates the current view is 'Data Actions / BI_HCT_Initialize_FEB2020_FCST'. The top navigation bar includes tabs for General, Edit, Parameter, Add Action, Validation, and several icons for search, refresh, and help.

The main content area displays a 'Copy' action configuration. The 'Name' field is set to 'Copy1MonthJanForecast' and the 'Description' field contains the text 'Copy 1 month of previous Forecast + last month of 2019'. The 'Context' section shows a 'Data Source' of 'Bluefin Beverages HCT' and two selected filters: 'Category (1)' (JAN_FCST_2020) and 'Date (2)' (Dec (Q42019), Jan (Q1/2020)).

Below the context section, there are sections for 'Aggregate To', 'Copy Rules', and 'Options'. Under 'Options', the 'Write Mode' is set to 'Overwrite'.

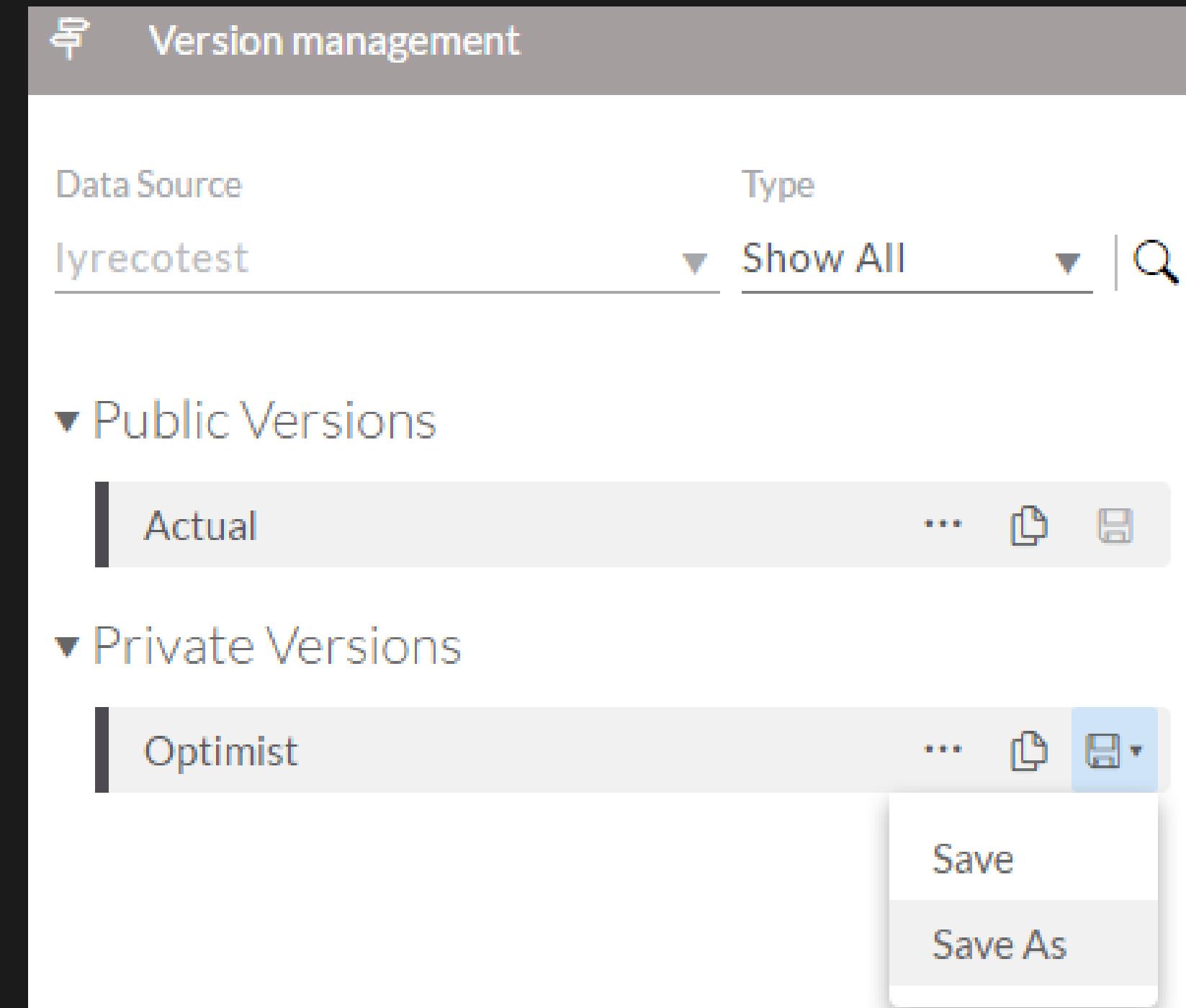
The three versions - actual, budget, and forecast of data you added to your planning model are known as public versions.

The screenshot shows the SAP Fiori Version management interface. At the top, there is a header with a document icon and the title "Version management". Below the header, a "Data Source" dropdown is set to "SAP_FI_BPL_IM_COSTCENTER".

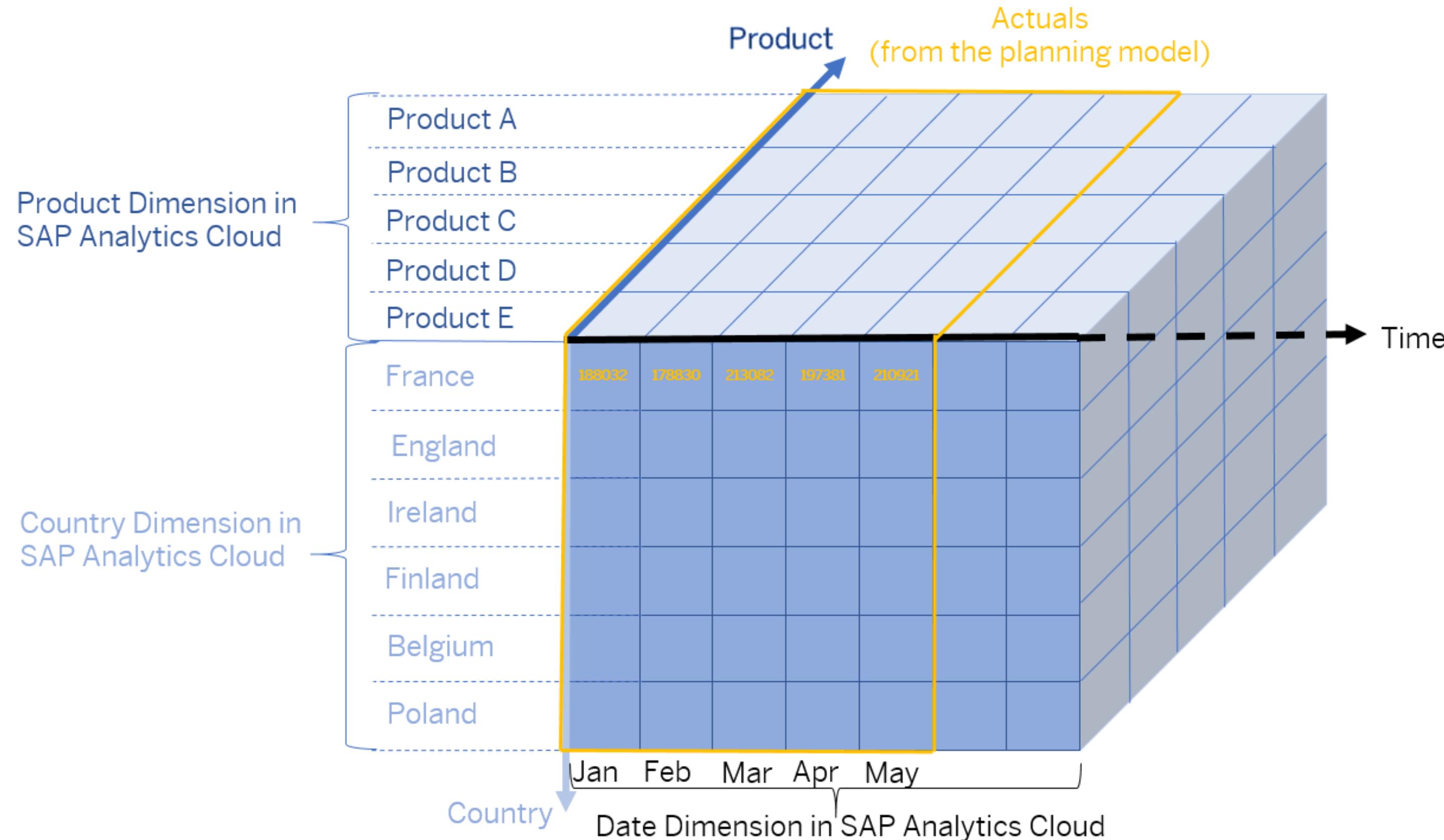
The interface is divided into two sections:

- Public Versions:** This section contains four items: "Actual", "Budget", "Forecast", and "Plan". Each item has a three-dot menu icon and a document icon.
- Private Versions:** This section contains one item: "Budget Unconfirmed". This item is highlighted with a blue background and has a three-dot menu icon and a document icon. A context menu is open below it, listing "Publish (Ctrl+S)" and "Publish As (Ctrl+Shift+S)".

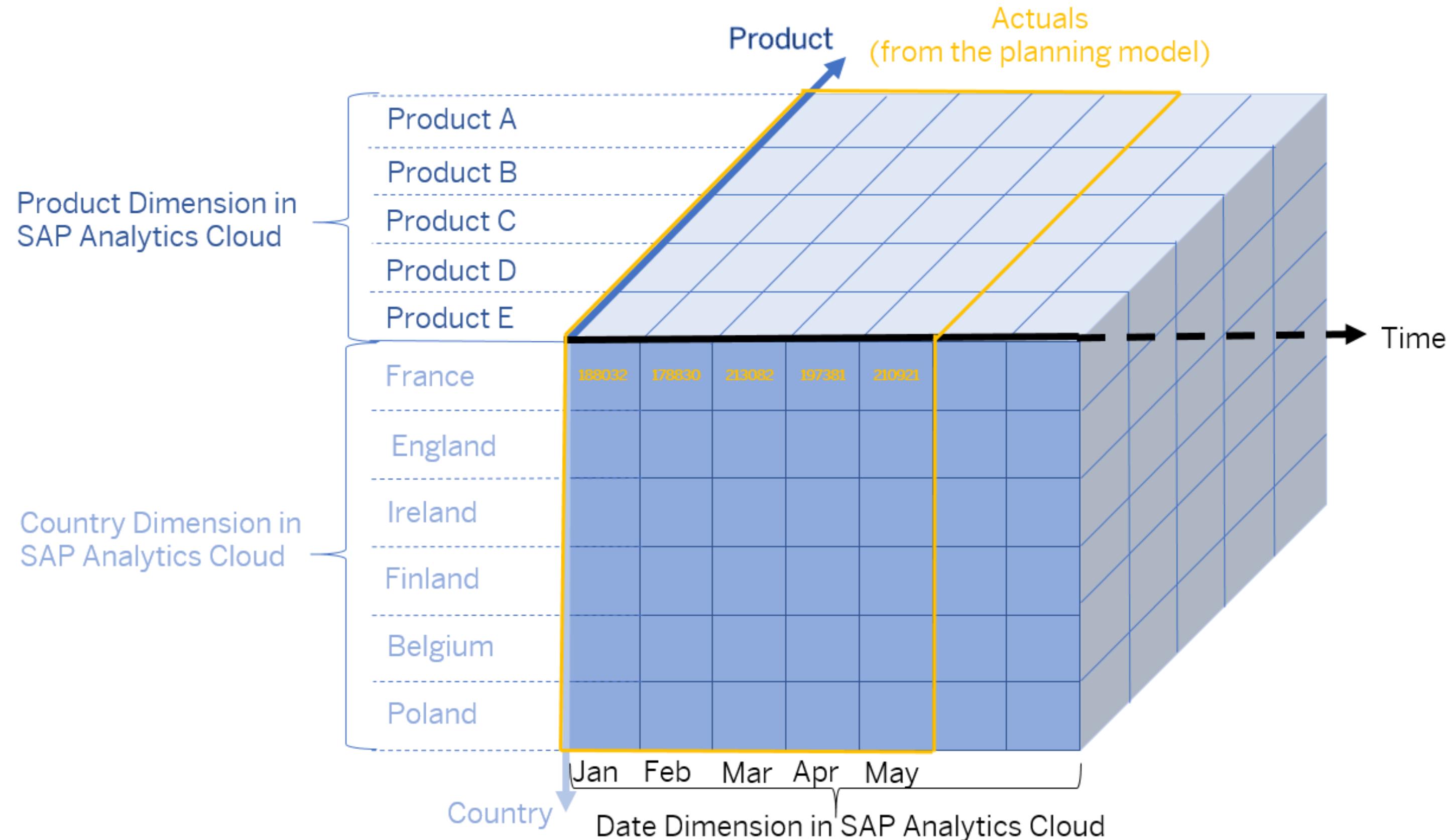
Private versions are only visible to the creator or owner of the model



Dimensions are data objects that represent categorical data in a dataset



Dimensions are data objects that represent categorical data in a dataset



In SAC, there are 2 types of models, Analytic model and Planning model

Analytic Models

1. Data can be acquired or live (SAP HANA SPS10)
2. No Categories or Time Dimension Required
 - Can edit measures
 - Define the aggregation
3. Use advanced formula language to calculate measures
4. Share dimensions
5. Diverse ways to load new data: scheduled refresh, map new dataset to a model

Planning Models

1. Requires data to be acquired
2. Requires Account, and Category & Time dimensions
3. Has different categories such as Budget, Plan, Forecast, Actuals Time
4. Can adjust or extend data using planning functions:
 - Spreading
 - Distribution
 - Allocations
 - Value Driver Trees
 - Predictive Forecasting
5. Can use private versions for scenario planning
6. Import and/or export to SAP BPC standard model

SAC provides 2 types of hierarchies, Level-based Hierarchy and Parent Child Hierarchy.

- **Level-based hierarchies are based on levels.**
- **Parent child hierarchies are based on structures where all members are of the same type.**

Import methods

- Update
- Append
- Clean and replace selected version data
- Clean and replace the subset of data

A grid is a space where we can create and work with formulas, with or without a table.

▼ Table Structure

ROWS

- Sales Manager X
- Location X 38

+ Add Measures/Dimensions

SALES MANAGER	LOCATION	ACCOUNT	Net Revenue	
			DATE	
Kiran Raj	▶ California	▼ 2016	320.84	85.60
		► Q1(2016)	50.05	14.53
		● A	10.20	2.71
	▶ Nevada		4.75	1.28
			39.41	10.90
			14.19	3.52

Top Sales Manager
in Million | Top 5 Quantity sold

Account	Quantity sold
Sales Manager	
Kiran Raj	39,91
David Carl	34,52
Janet Bury	26,13
John Minker	17,77
Gabriel Walton	17,13
Totals	204,31

Version Management

The screenshot displays a business intelligence interface with multiple panes:

- Top Bar:** File, Tools, Data, Display, Controls, Edit.
- Left Navigation:** Page 2 (selected), Page 1.
- Central Data View:** J118_AccountData in USD. A table shows data by Region, Account, Category, and Version (Actual, Planning). The "VERSION" column header is highlighted with a red border. The "Planning" row for USA is selected, indicated by a blue border and a cursor.
- Right Side:**
 - Version management:** Data Source: J118_AccountData.
 - Material per Region for Actual, Planning:** A chart comparing Russia, Spain, and Portugal across Actual and Planning categories.
 - Public Versions:** Actual (selected) and Planning.
 - Private Versions:** Planning.

Region	Account	Category	Version	Actual	Planning
Unassigned	Material			-	0.00
Germany	Material			4,086.27	4,086.27
USA	Material		VERSION	4,000.37	4,000.37
Poland	Material			11,428.40	11,428.40
Portugal	Material			6,541.62	6,541.62
Spain	Material			5,485.35	5,485.35
Russia	Material			-	8,232.00

Chart Data (Material per Region for Actual, Planning):

Region	Planning	Actual
Russia	8,232.00	5,485.35
Spain	5,485.35	6,541.62
Portugal	0.00	0.00

There is an option to set a lock on editing some cells when a group of employees collaborates

Data Locking Tools

Driving Dimensions Grid

Select owners of the selected slice

Driving Dimensions

VERSION (1)	Year (2)	Company Code
PLAN	2020, 2021	All

VERSION	PLAN	
Category	Planning	
Year	2020	2021

Company Code		
Unassigned	Open	Open
Germany	Restricted	Open
USA	Restricted	Restricted
France	Open	Open

The screenshot shows the SAP Fiori Data Locking Tools interface. At the top, there are tabs for 'Driving Dimensions' and 'Grid'. A button with a person icon is highlighted with a mouse cursor, and a tooltip says 'Select owners of the selected slice'. Below this, driving dimensions are listed: VERSION (1) PLAN, Year (2) 2020, 2021, and Company Code All. The main area is a grid with columns for VERSION, PLAN, Category, Year, and Company Code. Cells in the grid are colored: Unassigned (Open), Germany (Restricted), USA (Restricted), and France (Open). The USA cell in the Company Code column has a dropdown arrow indicating it can be edited.

Here are some of tips when using the copy and paste cell feature.

- In tables and grids, you can copy and paste cell values, the underlying values of their leaf members, and formulas; you can also create references between cells.
- Data can be copied within or across grids and tables, and you can also copy data from an external source such as an Excel spreadsheet.
- In a table, you can paste data into cells that can receive data input. You can also cut and paste values.
- When copying data within a table, there are two types of paste operations: pasting details or pasting overall values.

Planning Panel

The screenshot displays the SAP Analytics Cloud Advanced Planning interface. On the left, the main dashboard shows a whale icon and the title "The Planning Panel". Below it is a table for "BusinessPlanning_PanelDemo" in Million USD, with columns for Account, Responsibility Center, and time periods from 2017 to Q4 (2017). The table includes rows for Sales Expense, TRAVEL, and various geographical regions like North America, Latin America, and Asia Pacific. A specific cell in the TRAVEL row for North America is highlighted with a blue background. On the right, a modal window titled "Planning Panel" is open, showing a summary of the planning process. It includes sections for "What amount?", where a value of 20,000,000 is entered for cell D7, and "Where to?", which lists three regions with their respective values and percentages: North America (2,000,000, 10.0%), Latin America (3,000,000, 15.0%), and Asia Pacific (empty cell, 0%). The modal also shows available amounts of 15,000,000.00 and 5,000,000.00 for Total.

Planning Panel

What amount?

D7 20,000,000

Book as additional amount

Where to?

Cell	Driver
D6	North America
D8	Latin America
D9	Asia Pacific

Available Amount
Total

15,000,000.00 75.0 %
5,000,000.00 25.0 %

Apply Cancel

SAP Analytics Cloud - Advanced Planning - Review Wave 2020.08

Allocation is the process of splitting values derived from source data into multiple values and storing the values in target data

The screenshot shows a software interface for financial reporting, specifically focusing on travel expense management. The top navigation bar includes tabs for 'Story' and 'Data', and various tool icons like search, insert, and display. A dropdown menu under 'Tools' is open, showing options: Spreading, Distribute, Assign, and Execute Allocation, with 'Execute Allocation' being the selected option.

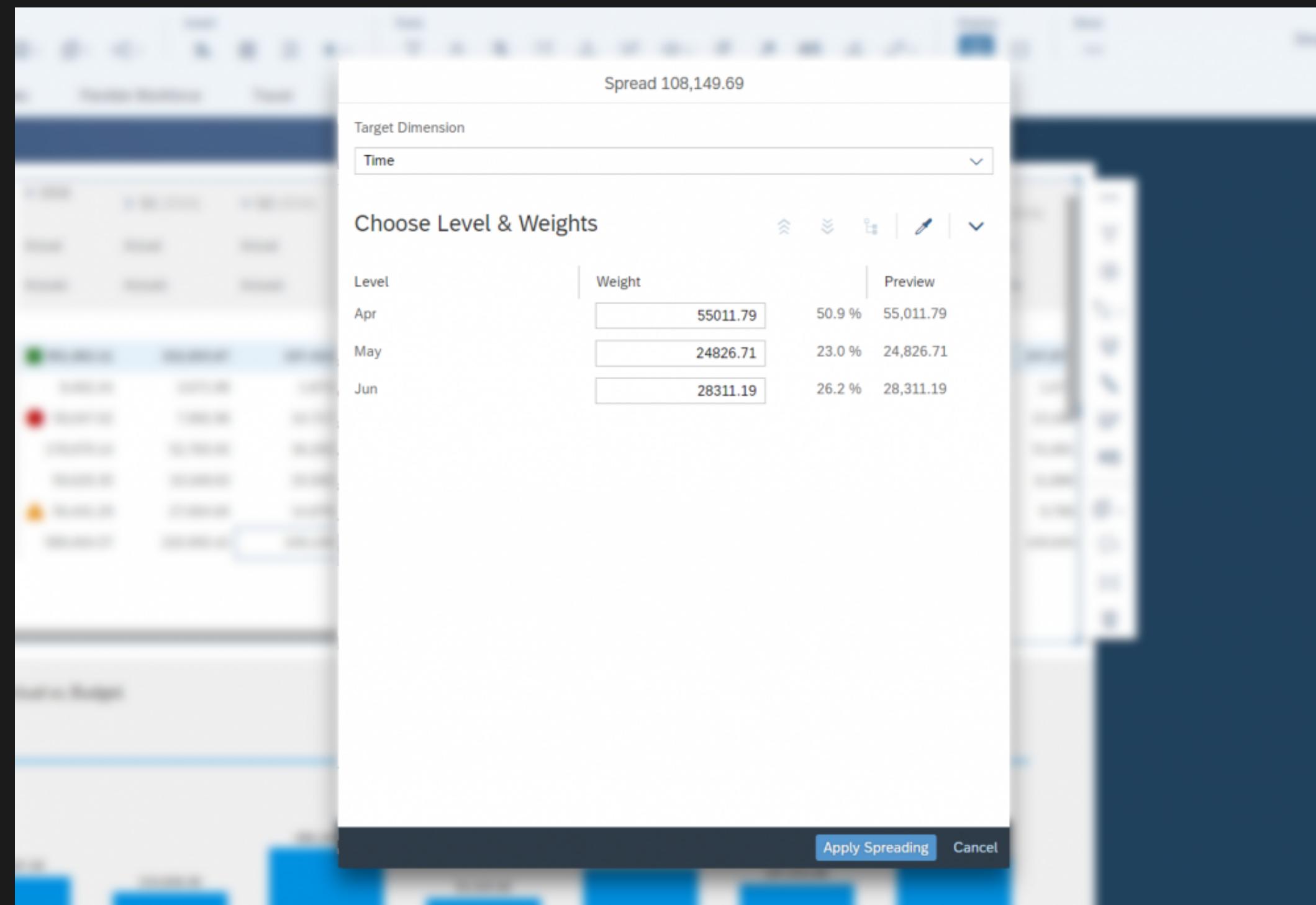
The main area displays a grid of data for 'Travel Planning'. The columns represent time periods: Q1 (2016) through Aug (2016). The rows categorize expenses by type: Travel Expense, Communication, Entertainment, Lodging / Hotel, Meals, Other, and Transportation. Each cell contains a numerical value and a small colored icon indicating the nature of the change (e.g., green for increase, red for decrease).

	TIME	Q1 (2016)	Q2 (2016)	Apr (2016)	May (2016)	Jun (2016)	Jul (2016)	Aug (2016)		
CATEGORY	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual		
CATEGORY	Actuals	Actuals	Actuals	Actuals	Actuals	Actuals	Actuals	Actuals		
CONCUR_PREDICTIVE_ACCOUNT	Travel Expense	951,963.11	332,003.87	197,414.88	91,674.80	53,861.79	51,878.28	422,544.36	174,667.36	247,877.00
	> Communication	8,462.24	3,671.98	1,873.09	1,303.07	268.25	301.78	2,917.17	1,240.63	1,676.53
	> Entertainment	59,047.02	7,992.98	10,717.84	2,836.57	3,709.78	4,171.49	40,336.19	17,154.11	23,182.09
	> Lodging / Hotel	178,979.14	52,760.00	36,293.97	18,723.45	8,270.61	9,299.91	89,925.17	38,243.43	51,681.74
	> Meals	59,629.35	19,348.83	25,500.86	6,866.10	16,063.81	2,570.95	14,779.66	2,891.33	11,888.33
	> Other	56,441.29	27,664.66	14,879.42	6,933.82	722.63	7,222.96	13,897.20	4,098.56	9,798.64
	> Transportation	589,404.07	220,565.42	108,149.69	55,011.79	24,826.71	28,311.19	260,688.96	111,039.30	149,649.66

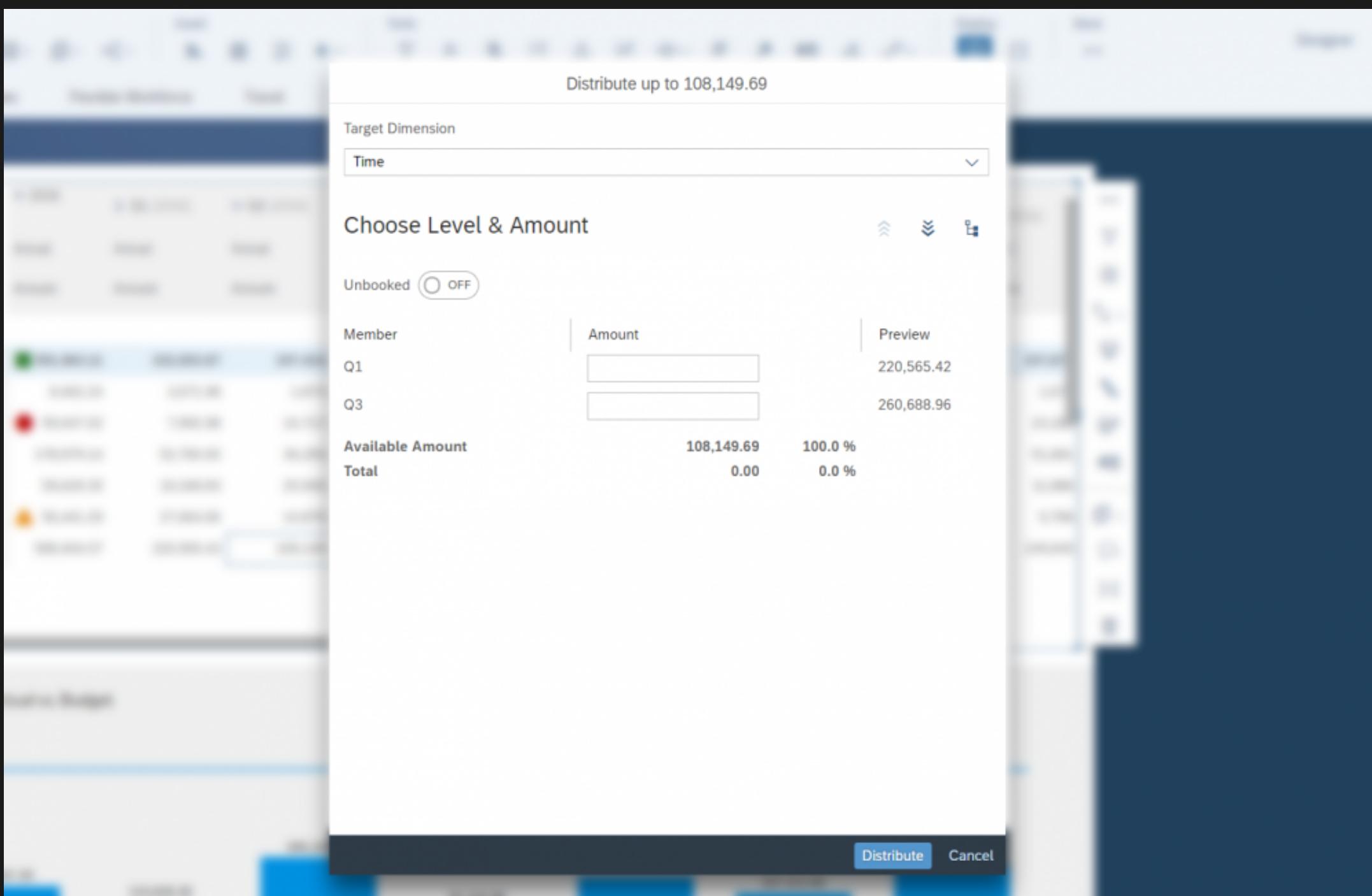
The spreading, distribution, and assigning operations are ways of allocating values in a table to one or more target cells

	A	B	C	D	E	F	G
1	SCN Blog: Spreading & Distribution						
2	CATEGORY	Budget					
3	VERSION	BudV1	BudV1	BudV1	BudV1	BudV1	
4	ACCOUNT_AUTO_2203	Sales Revenue					
5	TIME	▼ 2016	► Q1	► Q2	► Q3	► Q4	
6	BUSINESS UNIT						
7	▼ Europe	10,000,000.00	2,500,000.00	2,500,000.00	2,500,000.00	2,500,000.00	
8	United Kingdom	2,500,000.00	625,000.00	625,000.00	625,000.00	625,000.00	
9	France	3,000,000.00	750,000.00	750,000.00	750,000.00	750,000.00	
10	Germany	4,500,000.00	1,125,000.00	1,125,000.00	1,125,000.00	1,125,000.00	
11							

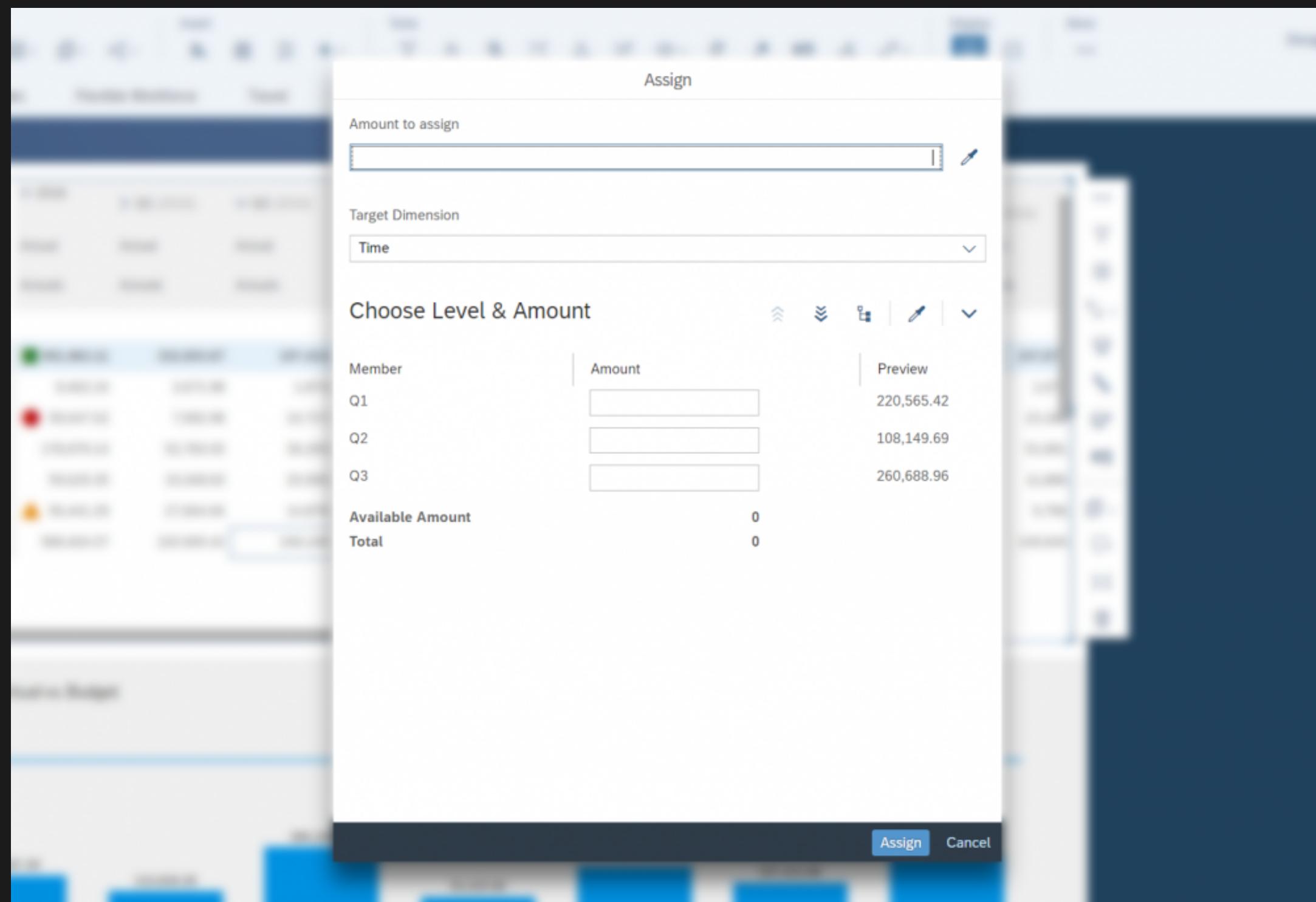
Spreading: In spreading operations, the value of a source cell is spread across leaf members



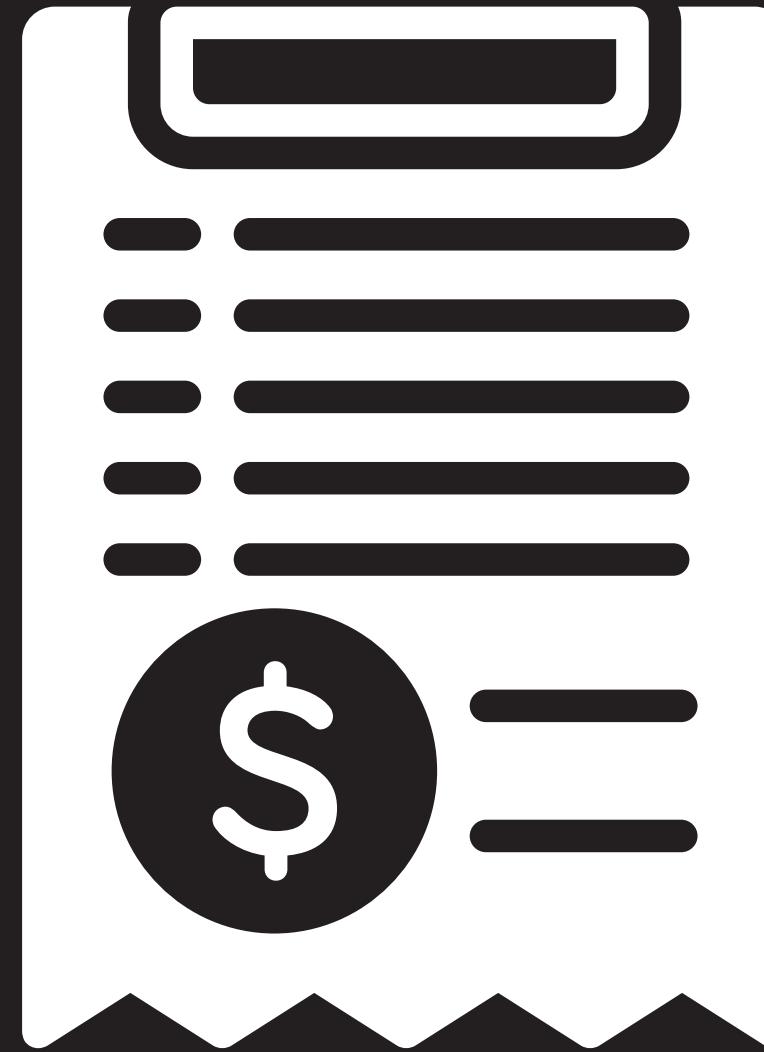
Distribution: In distribution, values are changed within a hierarchy by distributing amounts from a source member to leaf members of its siblings



Assigning: Using the assign feature, you can append or overwrite values to target cells without specifying a source cell



What are cost allocations?



Why are cost allocations important?



If a company wanted to better understand the margins of specific products or brands for example, we could take certain indirect costs and simply divide them by the number of products.

Why are cost allocations important?



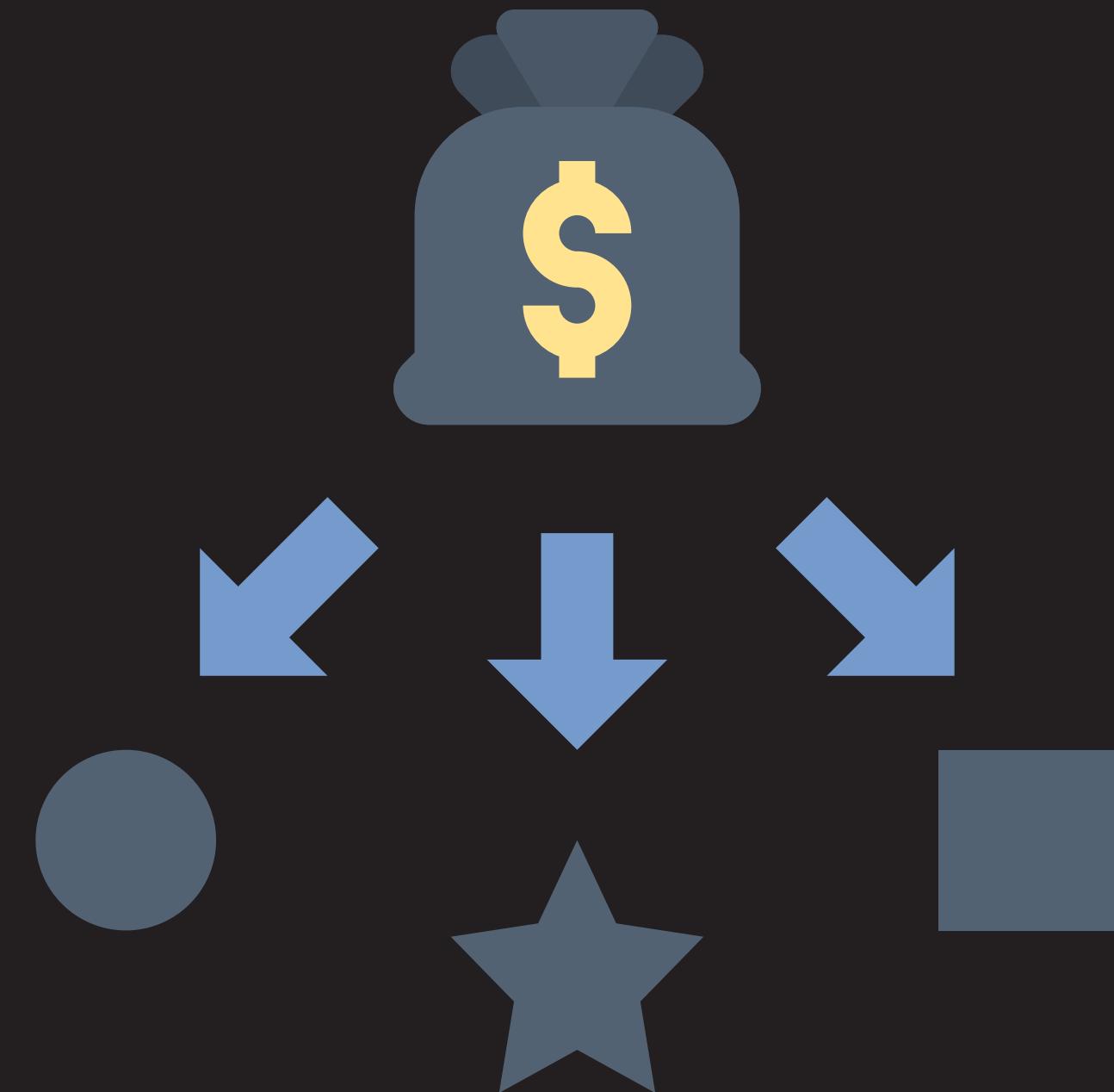
If a company wanted to better understand the margins of specific products or brands for example, we could take certain indirect costs and simply divide them by the number of products.

Why are cost allocations important?



If a company wanted to better understand the margins of specific products or brands for example, we could take certain indirect costs and simply divide them by the number of products.

A key decision when creating allocation rules is to determine what “drives” the allocation.



SAC provides an effective way to create and manage these allocations

The screenshot illustrates the SAP ALE Rule Editor interface, specifically the RuleEditorDemo-Step1 and RuleEditorDemo-Step2 tabs.

Step 1: RuleEditorDemo-Step1

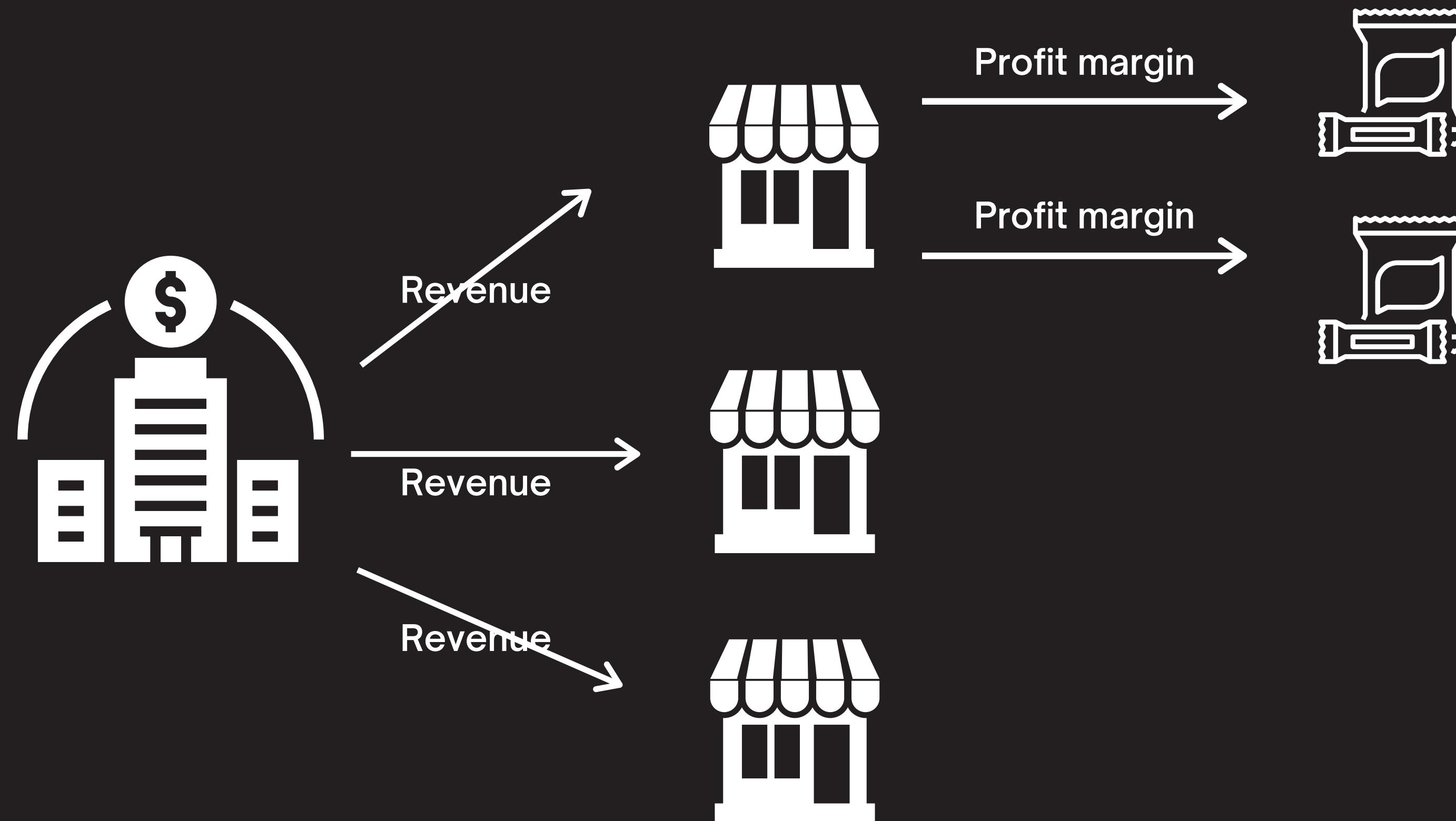
Customer (Source)	Stores (Overwrite)	Account (Driver)	Stores (Target)
All Customers	(all) > United States > California > Los Angeles	Direct Assignment	(all) > United States > California > Los Angeles
Online	(all) > United States > New York > New York	PAYROLL EXPENSE: SALARIES	(all) > United States > Pennsylvania > Harrisburg
Zalando	(all) > United States > Pennsylvania > Harrisburg	PAYROLL EXPENSE: WAGES	(all) > United States > Texas > Austin
Amazon	Austin Outlet	PAYROLL EXPENSE: BONUS MODEL	(all) > Germany > Washington > Dresden
Outlet	(all) > United States > Texas	PAYROLL BURDEN	TRAINING
Macy's	(all) > Germany > Washington > Dresden	EMPLOYEE EQUIPMENT	RECRUITING EXPENSE
CUST0004,CUST0005	(all) > United States > Texas > Washington	COMPUTER ALLOCATION	TUITION REIMBURSEMENT
Nike	(all) > United States > Texas > Washington	LAYOFF EXPENSE	RETIREMENT EXPENSE
Puma	(all) > United States > Texas > Washington	600065, 60006	600065, 60006
CUST0007xxx	(all) > United States > Texas > Washington		
Zalando	(all) > United States > Pennsylvania > Harrisburg		
UNASSIGNED	(all) > Unassigned > Unassigned > Unassigned		
Birkenstock	(all) > Germany > Washington > Dresden		

An error message is displayed in a tooltip: "Multiple target members have been pasted for a direct assignment. Only a single leaf member per dimension is allowed."

Step 2: RuleEditorDemo-Step2

Customer (Source)	Stores (Overwrite)	Account (Driver)	Stores (Target)	Show ID
ALL_CUSTOMERS	(all)	INCOME_STMT	(all)	Show ID
HCUST0001	(all)	TAXES	(all)	
CUST0001	(all)	700000	(all)	
CUST0002	(all)	SGA	(all)	
HCUST0002	(all)	OTHEREXP	(all)	
CUST0003	(all)	650000	(all)	
CUST0004	(all)	IT	(all)	
CUST0005	(all)	660000	(all)	
CUST0006	(all)	EMPLOYEEEXP	(all)	
CUST0007	(all)	600000	(all)	
CUST0008	(all)	600010	(all)	
#	(all)	600015	(all)	
ALL_CUSTOMERS	[Germany]	600020	[Germany]	
HCUST0001	[Germany]	600030	[Germany]	
CUST0001	[Germany]	600055	[Germany]	
CUST0002	[Germany]	600070	[Germany]	
HCUST0002	[Germany]	600071	[Germany]	
CUST0003	[Germany]	600085	[Germany]	
CUST0004	[Germany]	600060	[Germany]	
CUST0005	[Germany]	600065	[Germany]	
CUST0006	[Germany]	SALESEXp	[Germany]	
CUST0007	[Germany]	610000	[Germany]	
CUST0008	[Germany]	MARKETING	[Germany]	
#	[Germany]	640015	[Germany]	

Company X spends \$50,000 per month on advertising their line of organic health bars



How it works in SAP Analytics Cloud?

File Tools Data Display Controls Edit

Allocation

AllocationIterative
1 Filter

CostCenter	All Cost Center	Production	Production 1	Production 2	Distribution	Heating	Human Resources
	CostTypes		CostTypes	CostTypes	CostTypes	CostTypes	CostTypes
All Cost Types	1,680,000.00	1,500,000.00	500,000.00	1,000,000.00	180,000.00	100,000.00	80,000.00
Primarily Costs	1,680,000.00	1,500,000.00	500,000.00	1,000,000.00	180,000.00	100,000.00	80,000.00
Secondary Cost Reduction	-	-	-	-	-	-	-
Secondary Costs	-	-	-	-	-	-	-
Heating	-	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-	-
Square Meters	1,600.00	1,500.00	500.00	1,000.00	100.00	-	100.00
Number of Employees	305.00	300.00	100.00	200.00	5.00	5.00	-
Distribution	-	-	-	-	-	-	-

Allocation

The chart displays the total cost allocated to each category. Production 1 contributes 500,000.00 to Production, which is then split into 1,000,000.00 for Production 2 and 100,000.00 for Heating. Production 2 also contributes 100,000.00 to Heating. The remaining 80,000.00 is allocated to Human Resources.

Category	Allocation
Production 1	500,000.00
Production 2	1,000,000.00
Heating	100,000.00
Human Resources	80,000.00

Allocation rules

The source – Where is the aggregate value taken from?

The driver – The denominator for the allocation?

The target – To where are we directing the allocation?

Allocation rules

The source – Where is the aggregate value taken from?

The driver – The denominator for the allocation?

The target – To where are we directing the allocation?

By creating multiple modular steps, we can build sophisticated allocation rules by simply loading these steps into a new rule

Create Allocation Rule

Source

cost

- Financial Stmt for FP&A
- Net Income
- Earnings Before Interest & Tax
- Operating Income
- Gross Margin
- Cost of Goods Sold (Pl)
- Cost of Goods Sold
- Operating Expense
- Other Operating Expen
- Advertising and Sale
- DETAIL_PLANNING
- Sales Calculation
- GrossMargin
- Cost of Goods Sold (Dtl)

Driver

rev

- Earnings Before Interest & Tax
- Operating Income
- Gross Margin
- Net Revenue
- Gross Revenue
- Revenue Domestic -
- Sales Deductions
- Sales Discounts - Dc
- KPI_ALL
- Revenue
- Net Revenue
- DETAIL_PLANNING
- Factors
- Forecast and Planning Assumptio

Target

- Product
- Total Products
- Products
- Product 1
- Product 2
- Product 3
- Product 4
- Applications
- Application 1
- Application 2
- Application 3
- Application 4
- Unassigned
- Not In Hierarchies

Selected Allocation Rules

Source Member	Driver Member	Target
Cost of Goods Sold (PL)	Net Revenue	Products

1 2 3

Create Cancel

Run the allocation in SAC

SAC Allocation Editor

Overview RuleEditorDemo-Step1 RuleEditorDemo-Step2 +

	Customer (Source)	Stores (Overwrite)	Account (Driver)	Stores (Target)	Show ID
1	ALL_CUSTOMERS	(all)	INCOME_STMT	(all)	Show ID
2	HCUST0001	(all)	TAXES	(all)	
3	CUST0001	(all)	700000	(all)	
4	CUST0002	(all)	SGA	(all)	Show ID
5	HCUST0002	(all)	OTHEREXP	(all)	
6	CUST0003	(all)	650000	(all)	
7	CUST0004	(all)	IT	(all)	
8	CUST0005	(all)	660000	(all)	
9	CUST0006	(all)	EMPLOYEEEXP	(all)	
10	CUST0007	(all)	600000	(all)	
11	CUST0008	(all)	600010	(all)	
12	#	(all)	600015	(all)	
13	ALL_CUSTOMERS	[Germany]	600020	[Germany]	
14	HCUST0001	[Germany]	600030	[Germany]	
15	CUST0001	[Germany]	600055	[Germany]	
16	CUST0002	[Germany]	600070	[Germany]	
17	HCUST0002	[Germany]	600071	[Germany]	
18	CUST0003	[Germany]	600085	[Germany]	
19	CUST0004	[Germany]	600060	[Germany]	
20	CUST0005	[Germany]	600065	[Germany]	
21	CUST0006	[Germany]	SALESEXPR	[Germany]	
22	CUST0007	[Germany]	610000	[Germany]	
23	CUST0008	[Germany]	MARKETING	[Germany]	
24	#	[Germany]	640015	[Germany]	

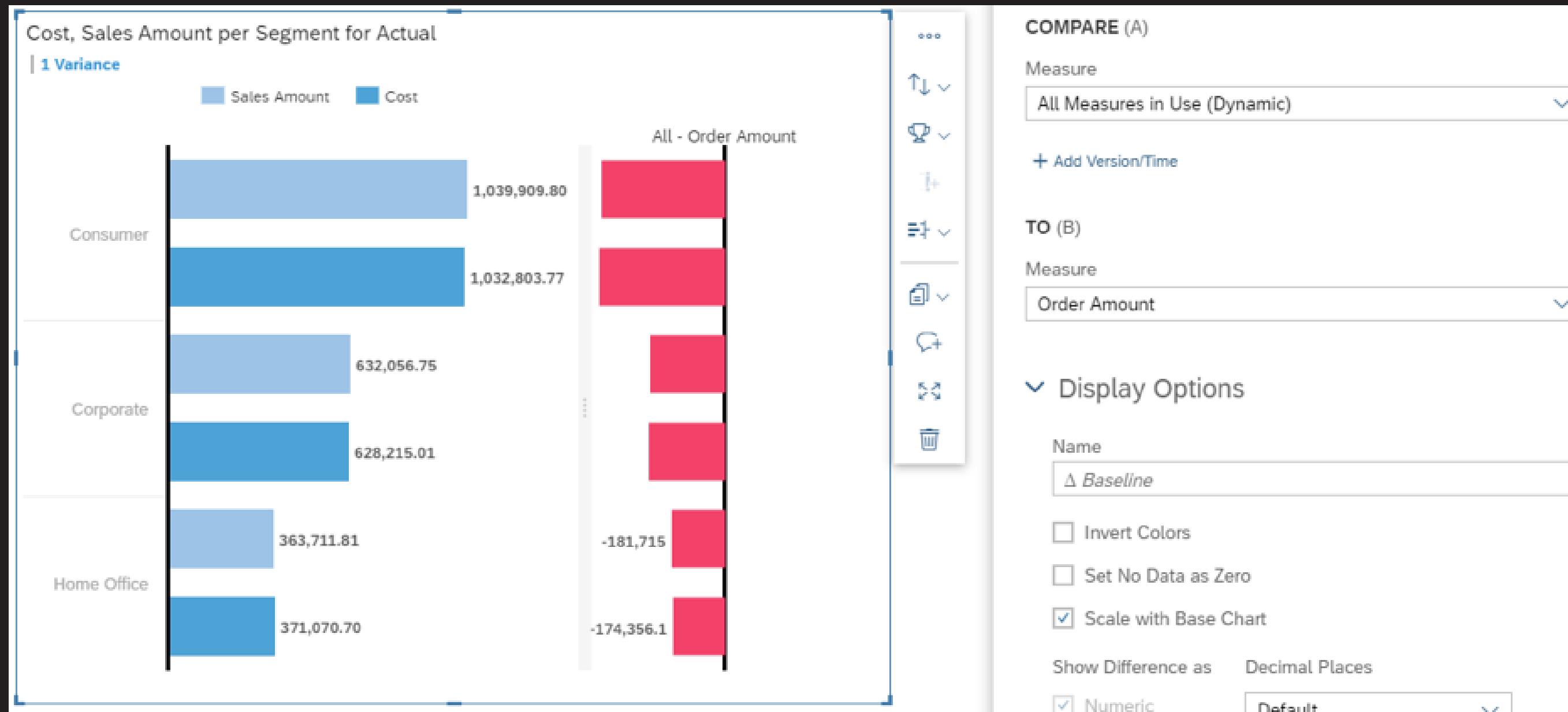
Steps Overview

Step 1 RuleEditorDemo-Step1
Customer → Stores

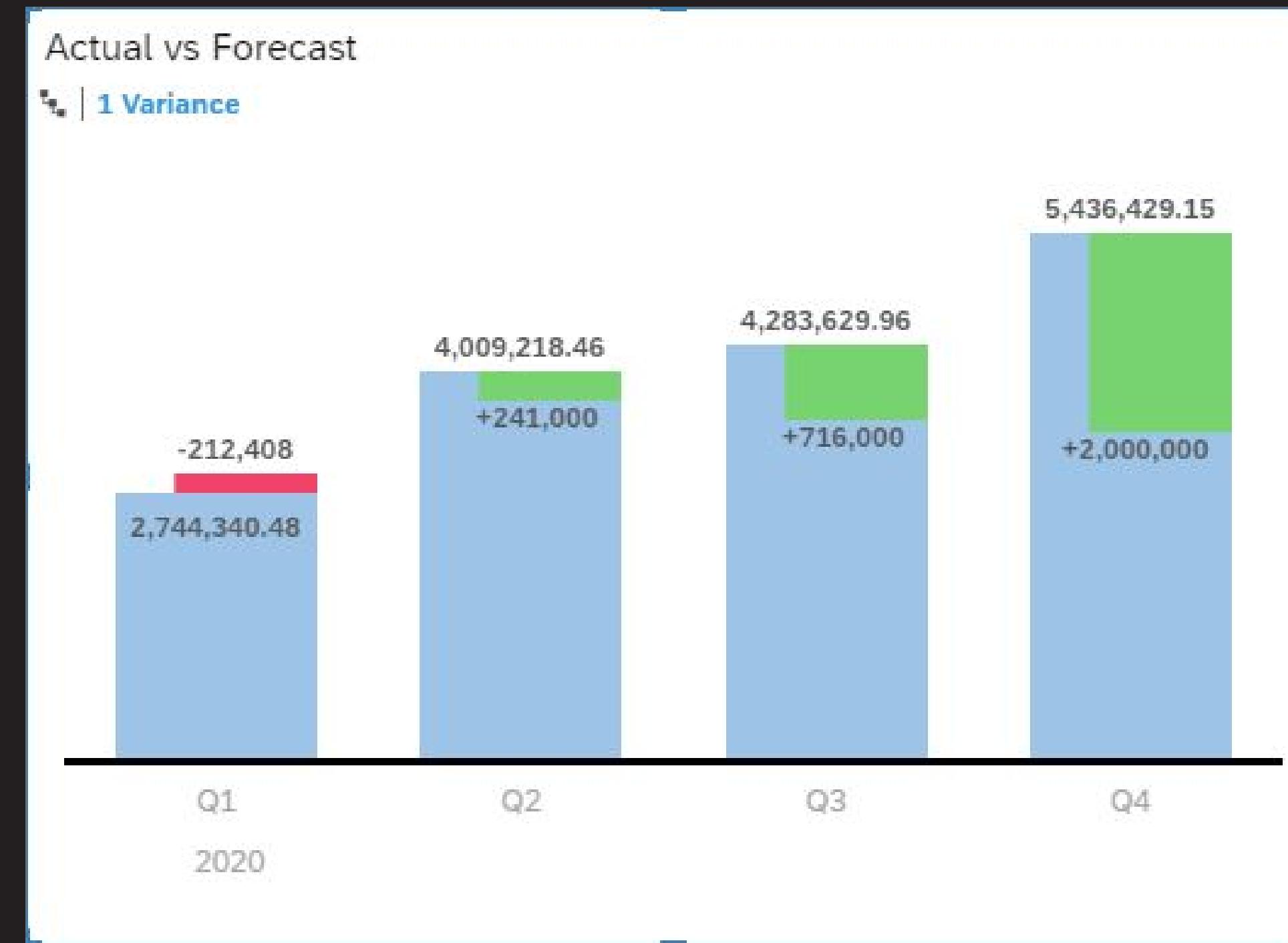
Step 2 RuleEditorDemo-Step2
Customer → Stores

+ Create Step

Variance analysis



Version-based variances show the difference in value between two versions of data, such as actuals vs. budget.



Time based variance

Period over Period: Compares to the time period directly prior.

Year over Year: Compares to the equivalent period in the year prior. For example, Q1 2017 would compare to Q1 2016.

Quarter over Quarter: Compares to the equivalent period in the previous quarter. For example, Month 1 in Q2 would compare to Month 1 in Q1.

Month over Month: Compares to the equivalent period in the previous month. For example, Day 1 in Month 2 would compare to Day 1 in Month 1.

Previous day over day: Compares to the day directly prior.

Member Formulas

Currency Million 2

Advanced Formula Editor

Edit Formula

1 q

CAGR

RESTRICT

CEIL

DECFLOAT

TRUNC

[Discount_d03e2f76a8567be9] Discount

[Original_Sales_Price_d03e2f76a8567be9] Original Sales Price

[Price_fixed_d03e2f76a8567be9] Price (fixed)

Format

Formula could not be computed: c. T

CAGR Business

Calculates the **Compound Annual Growth Rate** of an account for a given period.

Syntax

CAGR (Account , Start Year , End Year)

Example

CAGR ([NetRevenue] , "2014" , "2016")

Returns the **Compound Annual Growth Rate** of the account **NetRevenue** over the two-year period spanning the **end of 2014** to the **end of 2016**.

Remarks

The parameter **Start Year** must be smaller than or equal to the **End Year**.

Function

$$\text{CAGR} = \left(\frac{\text{Ending Value}}{\text{Beginning Value}} \right)^{\left(\frac{1}{\text{Number of years}} \right)} - 1$$

Cancel

The formula editor lists all the available functions (functions, conditions, operators) that can be used to build up a formula

Calculation Editor

Type: Calculated Dimension

Name: SA Product List

Edit Formula

```
1 IF ( ENDSWITH ( [d/"SAC_ORDER_FINANCE":Product] . [p/Description] ,  
2 "Juice" ) ,  
3 REPLACE ( [d/"SAC_ORDER_FINANCE":Product] . [p/Description] ,  
4 "Juice" ,  
5 "Coolaide"  
6 ) , [d/"SAC_ORDER_FINANCE":Product] . [p/Description] )
```

Format

Valid formula.

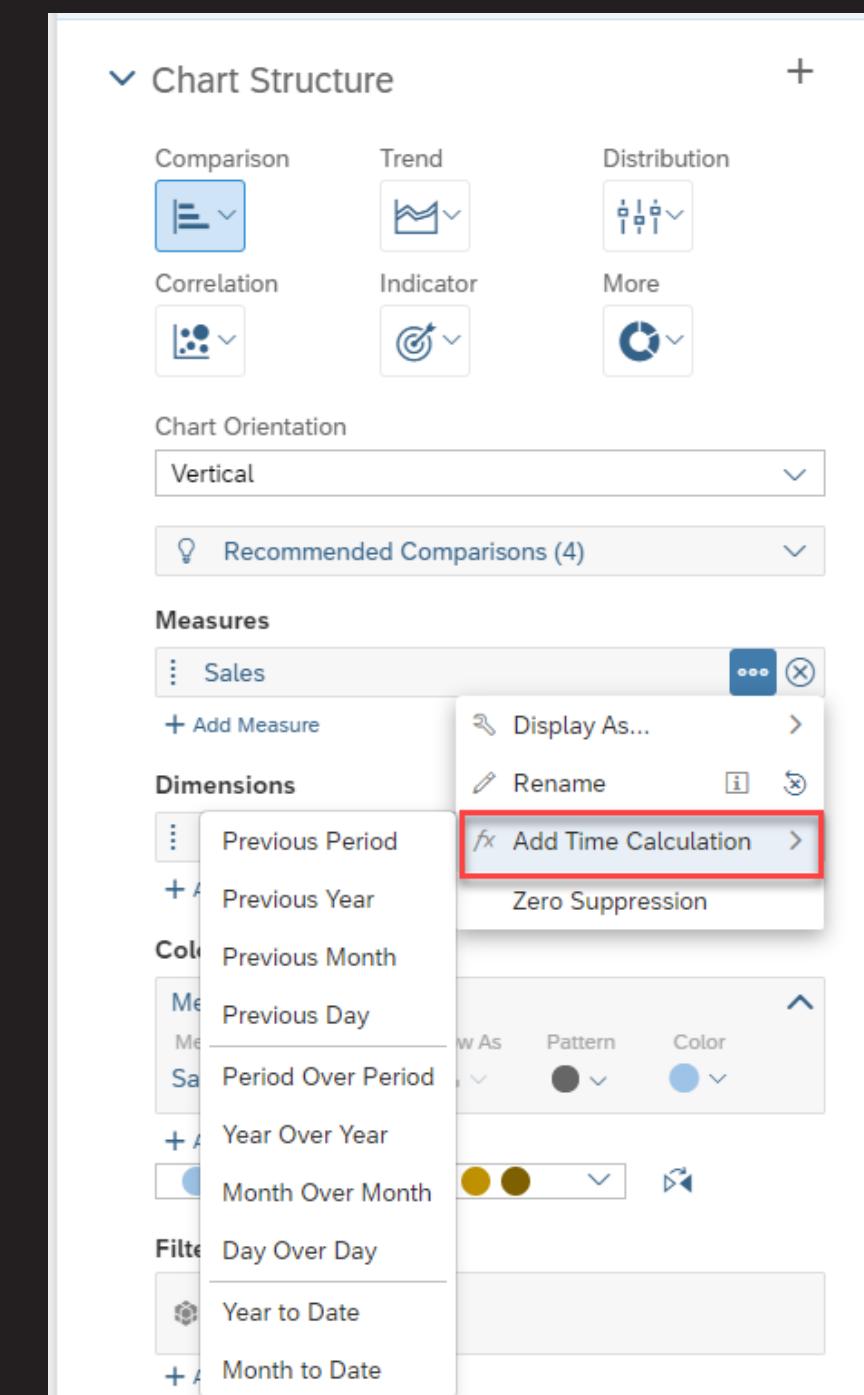
Formula Functions

Functions

- IF()
- TOTEXT()
- TRIM()
- REPLACE()
- TONUMBER()
- UPPERCASE()
- LOWERCASE()
- CONCAT()
- SPLIT()
- LEFT()

OK Cancel

In-story calculations create story-specific measures that can be added to any chart within your story.



Planning is a process that involves the determination of a future course of action.

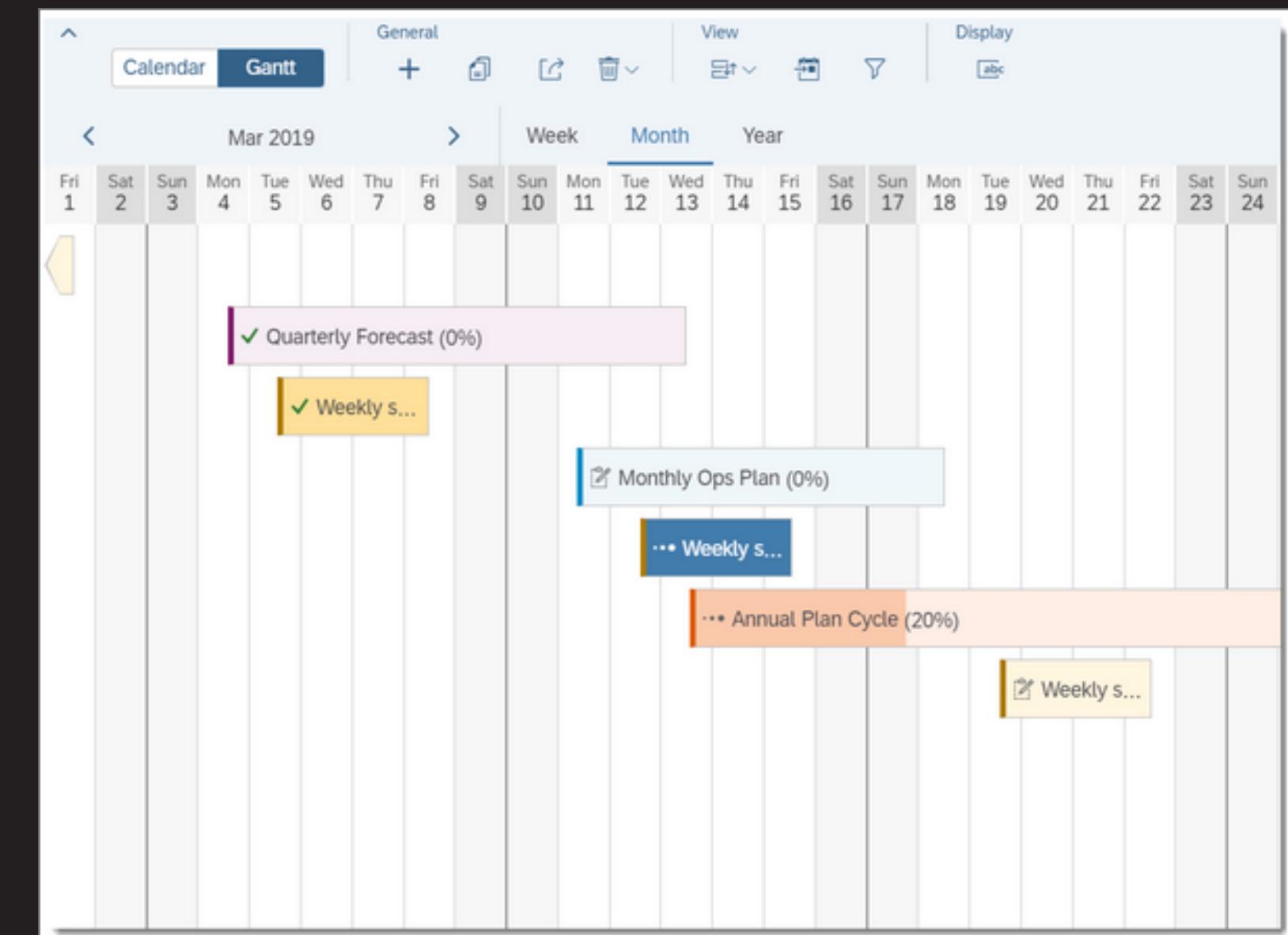
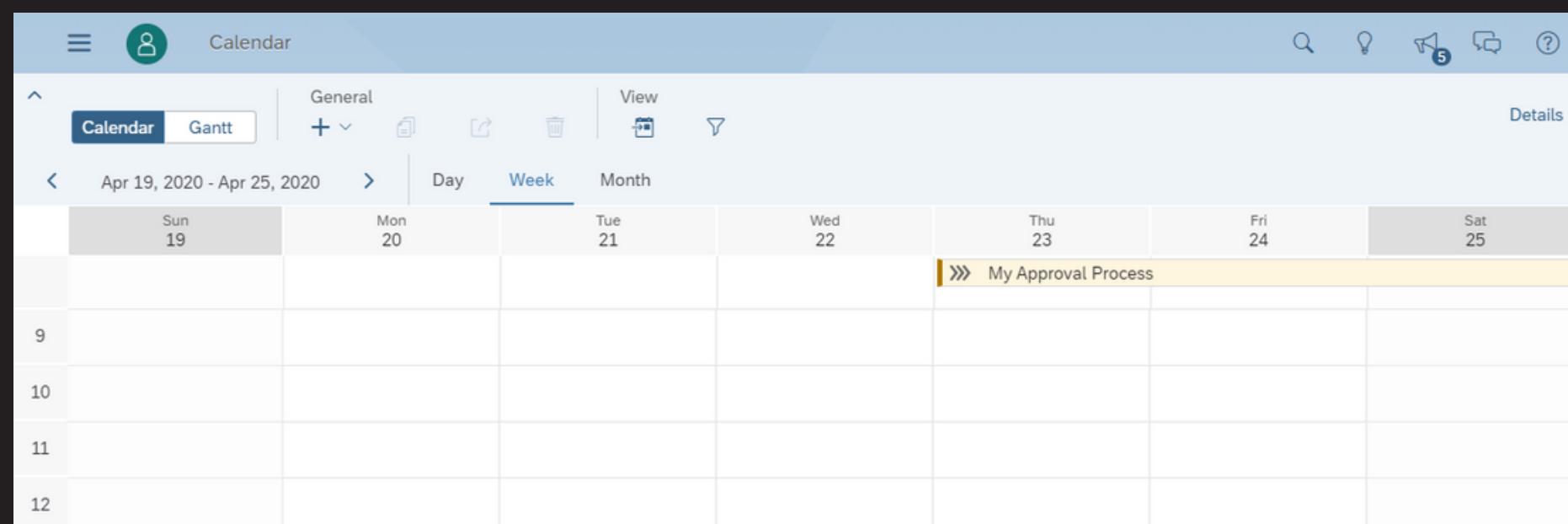


In the next chapter, we will use calendar feature to create processes and tasks to manage planning progress and assign precise tasks to specific people.

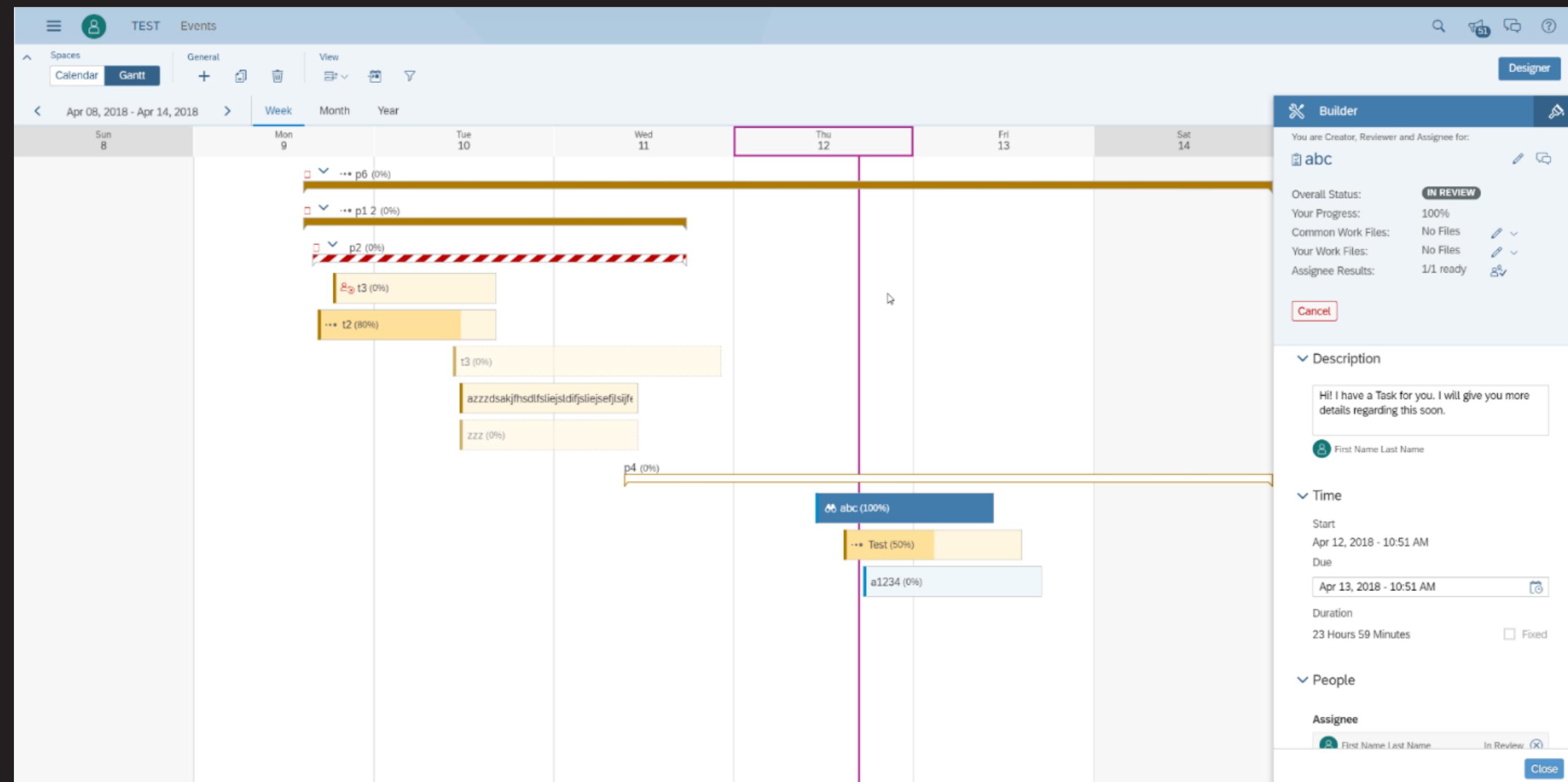
Calendar

The screenshot shows a software interface for managing tasks or projects. At the top, there's a navigation bar with tabs for 'Calendar' (selected) and 'Gantt'. Below the tabs are buttons for 'General' settings, a plus sign for adding new items, and icons for saving, undoing, redoing, and deleting. The main area displays a weekly calendar grid for the week of April 19, 2020, through April 25, 2020. The days of the week are labeled: Sun, Mon, Tue, Wed, Thu, Fri, Sat. The specific dates are highlighted in grey: Sunday, April 19; Monday, April 20; and Tuesday, April 21. The other days of the week are shown in white. The grid has 5 columns representing days and 6 rows representing hours. The first column (Sunday) contains the numbers 8, 9, and 10, likely representing task identifiers or sequence numbers.

In SAC, we have 2 views of process monitoring, Calendar and Gantt



The events and tasks feature in SAP Analytics Cloud are the two major sources that help you collaborate with other group members and manage your planning and analytic activities



Here are some typical work you can do with calendar

Create events based on categories and processes within categories

Create a task, assign it to users

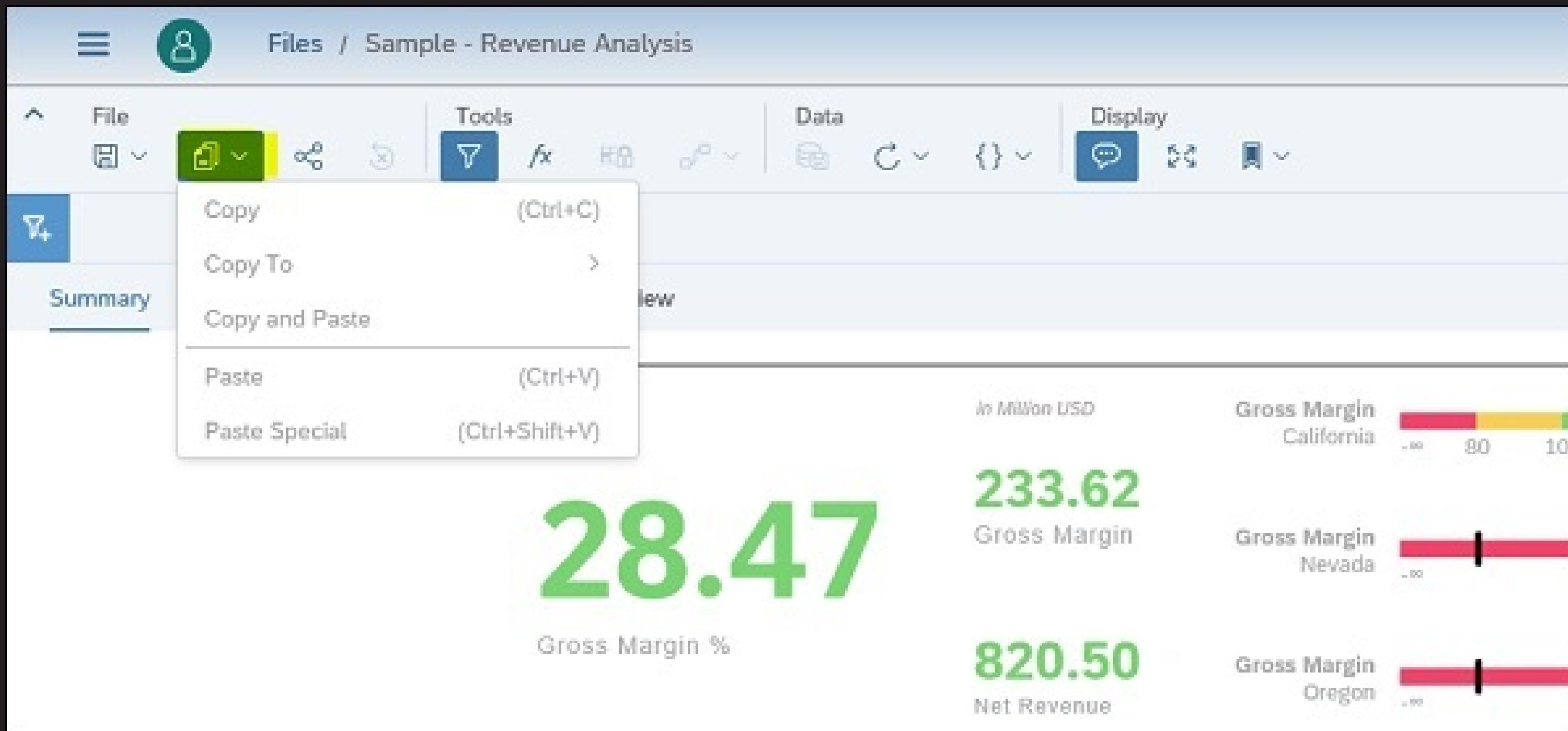
Set a due date for its submission

Monitor the task progress.

**An event is a calendar event scheduled for a specific day and time.
Meetings are good example of events.**

A task is an activity not scheduled for an exact day and time, but we can specify a due date for a task or there may not be a time or date that the tasks need to be completed by.

Data actions are a flexible planning tool for making structured changes to model data, including copying data from one model to another.



There are a couple of step types available in SAC

Copy step: It is very simple one, it's the type to copy data within a model based on a set of rules, filters, and aggregation settings.

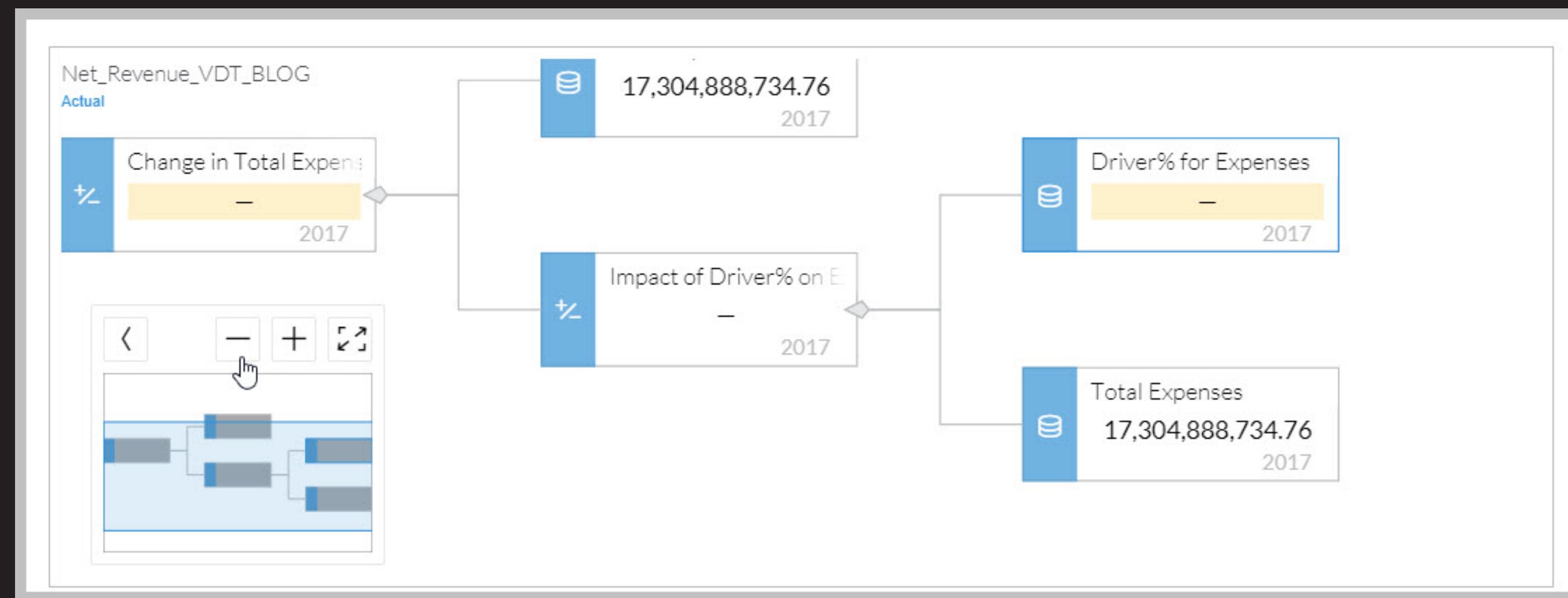
Cross-Model Copy step: we can sue this step to copy data from a different source planning model based on a set of filters and map between dimension members.

Allocation step: This type can help us run allocation from a source dimension to a target dimension by driver values, or by direct assignment.

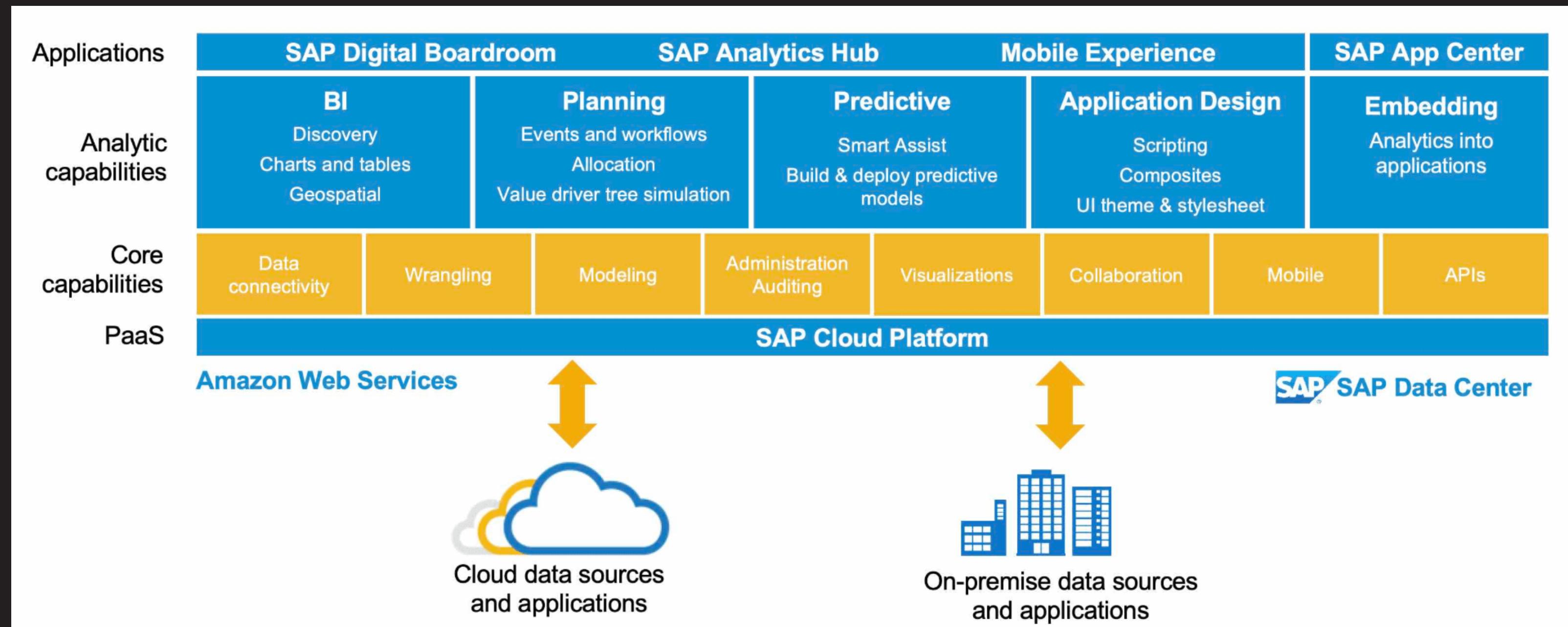
Embedded Data Action step: we can use it to run another data action.

Advanced Formulas step: We can use this step type to build advanced formulas by using the visual editor, or getting full control using a script editor.

A value diver tree is a what-if simulation that enables end users to simulate the outcome of their decisions



SAP Analytics Cloud features and your ability to understand business analytics is going to be an evolving science



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Open SAP

The screenshot shows the openSAP platform homepage. At the top, there is a navigation bar with the openSAP logo, language selection (EN), and user profile. Below the header, a large banner features the text "Open online courses by SAP" and "With complementary microlearning and podcasts!". It includes two prominent buttons: "Browse all courses" and "Play the video". The main content area displays three weeks of course offerings:

- Week 1:** Self-tests, Assignments, Bonus. Status: 100% completed. Points: 36.0/36.0. Includes a video icon.
- Week 2:** Self-tests, Assignments, Bonus. Status: 100% completed. Points: 36.0/36.0. Includes a video icon.
- Week 3:** Self-tests, Assignments, Bonus. Status: 100% completed. Points: 30.0/30.0. Includes a video icon.

Each week section contains course details such as enrollment dates, course names, and completion status. A "Helpdesk" button is located on the right side of the main content area.

<https://open.sap.com/>



SAP Analytics Cloud Essentials



Michael Todd



Frederick Higgins