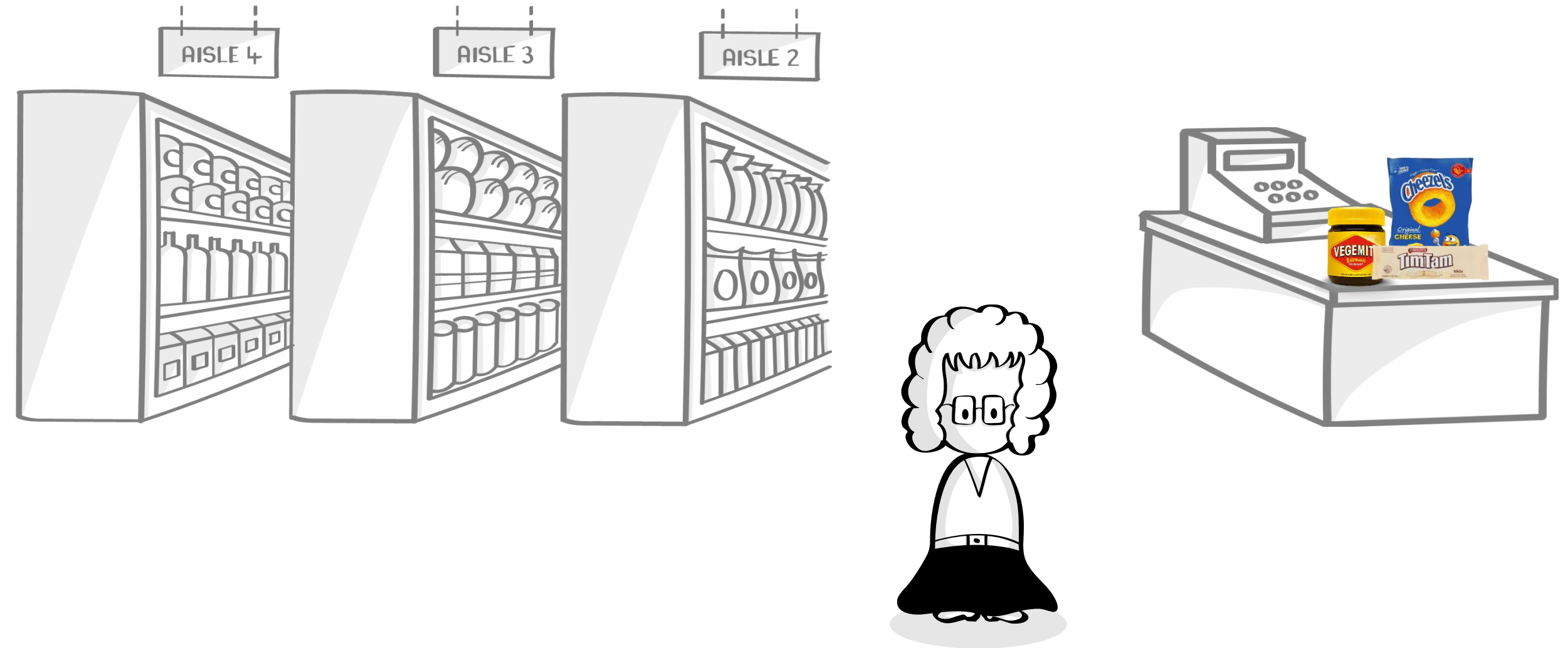


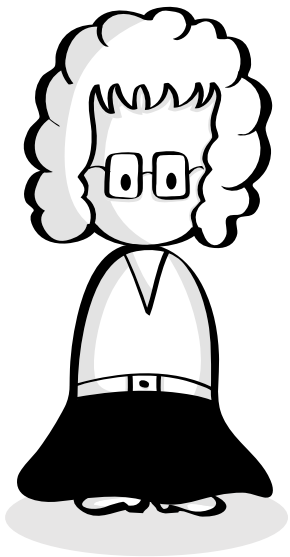


Deep Dive: SAP Analytics Cloud, SAP Analytics Cloud, Analytics Designer, and SAP Datasphere

Ingo Hilgefort, SAP Alumni

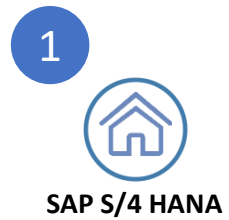


Lucy, Head of Analytics



Lucy, Head of Analytics

- Combine Actual Sales (S/4) with Forecast (XLS from Store Manager)
- Update it on a monthly basis
- Identify Top / Bottom products & Store Locations
- Quickly identify changes
- Do all this without having to rely on IT / DW Team all the time



SAP Datasphere



Virtualization



Replication



Data Flow



Transformation

3

4



Data Models

SAP Analytics Cloud

5



Explore

6



Predict



Analyze



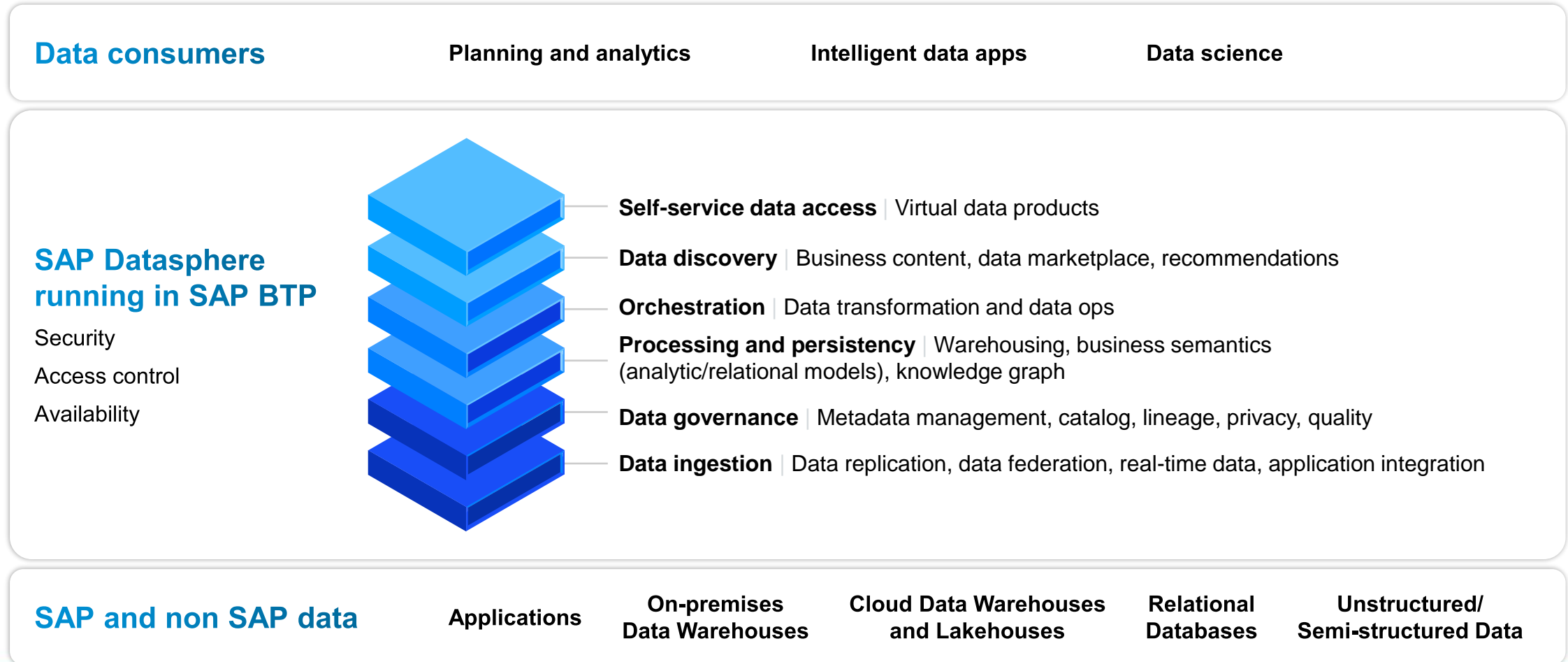
Plan

- 1 Actual Sales from S/4 (Live)
- 2 Forecast data (CSV / XLS) via AWS S3
- 3 Virtual Access to the information
- 4 Combine Actual and Forecast
- 5 Use a SAP Analytics Story to compare Actual with Forecast
- 6 Leverage Data Change Insights



SAP Datasphere

SAP Datasphere is the foundation for a business data fabric architecture



Unleash the power of business data with SAP Datasphere



Access authoritative data

Deliver business data in its business context

Make it effortless to model your business

Ensure governance throughout the data lifecycle



Enrich all data projects

Virtually access or physically store data from anywhere

Leverage trusted data partners and securely share data across the organization

Integrate with industry-leading data and AI platforms to capitalize on data investments



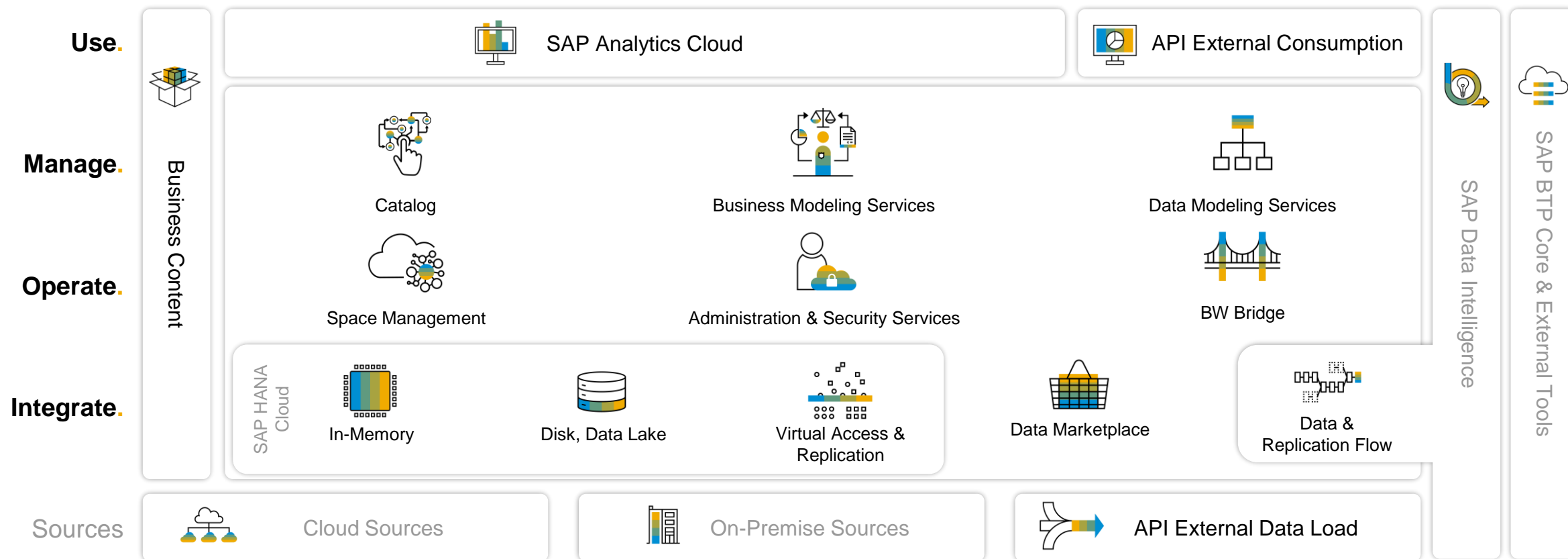
Simplify the data landscape

Innovate across hybrid architectures leveraging existing SAP models

Enable self-service data access

Leverage existing SAP BW models and transformations to innovate in the cloud

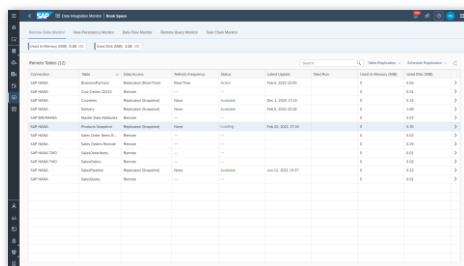
SAP Datasphere. Architecture



Provide your users an end-to-end view of their data landscape that is trusted, secure, and actionable

Integrate. Open for Virtual Access and Persistence

Virtual Access

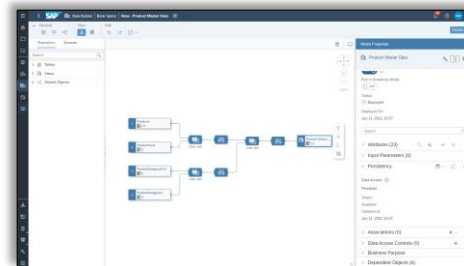


Remote table federation

- Leave data in the source system and access remotely in real-time when needed
- No upfront data movement
- Federation is supported across various sources and hyperscalers



Persistence



Remote table replication

- Real-time replication or snapshots using single entities

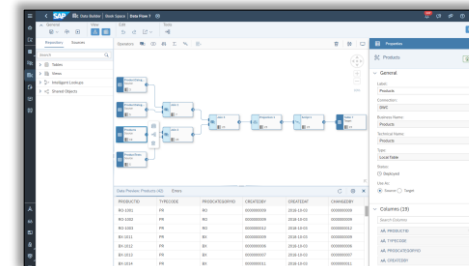
Replication flow

- Replication with multiple entities and flexible targets

View Persistence

- Materialize view output results in a stable persistence

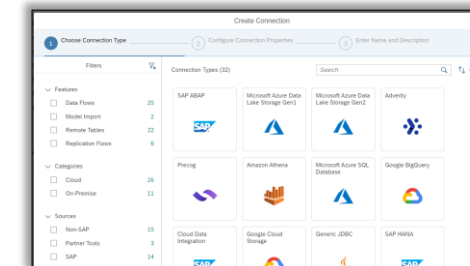
Data Flow



Batch loads & transformations

- Combine structured and semi structured data while defining ETL processes
- Advanced transformation capabilities leveraging Python 3
- Schedule in task chains

External Tools

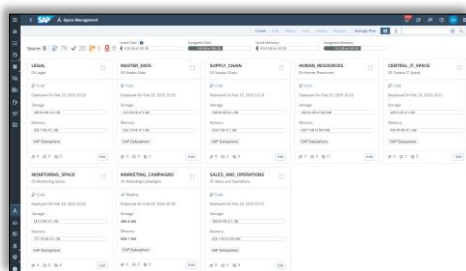


Integrate with all data sources

Allow external data movement tools like SAP Data Services, SAP Data Intelligence, SAP OpenConnectors, SnapLogic, Precog, Adverity, etc. to bring data into the system using SQL interfaces and the open SQL schema

Operate. Unlocking data insights with integrity

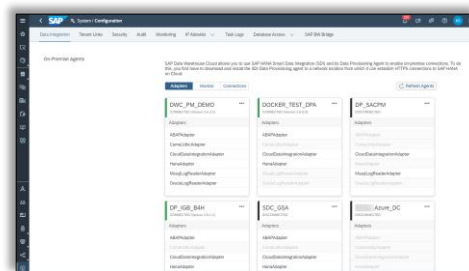
Space Management



Collaboration across spaces

- Access to globally managed data without export & import
- Work independently with your local data and create new insights
- Share your results with others
- Governed by IT

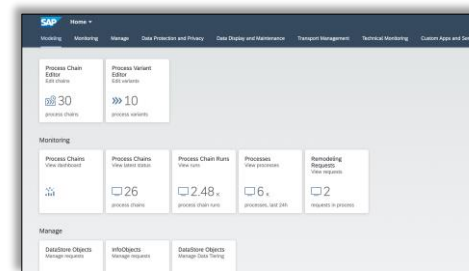
Admin & Security



Manage your settings

- IP Allowlisting & DP Agents
- 3rd Party driver & certificates
- User & Role Management
- Row-level Security & Remote Authorizations from SAP BW/4HANA
- Access HANA Cloud Cockpit
- Auditing & Resource Monitoring

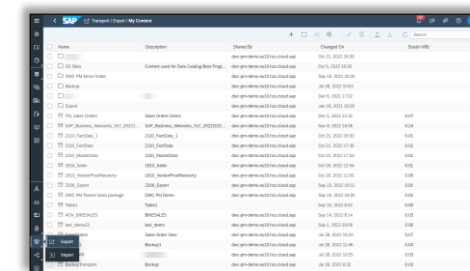
SAP BW bridge



Leverage SAP BW bridge

- SAP BW-based data integration
- Custom ABAP code support
- SAP BW/4HANA Content available for Data Integration
- Tool-supported move of SAP BW-based integration and staging (details see [SAP Note 3141688](#))

Transport



Transfer content between tenants

- Move your own content between different tenants
- Export content packages and share with other tenants

Manage. Modeling for Everybody

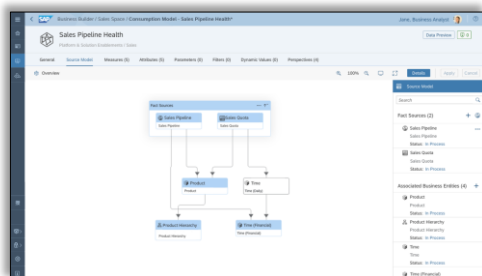
Business Analyst
No Code / Low Code



Developer / Power User
Pro Code

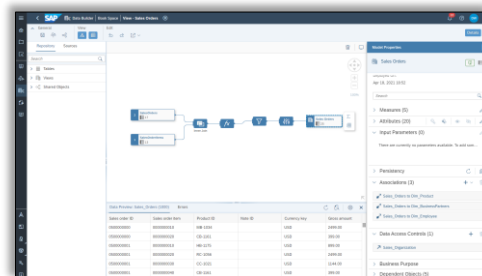
BUILT-IN EDITORS
modeling for all users

Business Modeling



- Allow for a greater degree of self-service
- Non-disruptive environment for business scenarios – independent from the data integration layer

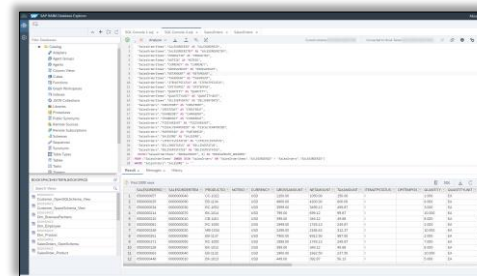
Graphical & Scripted



- Collection of no code/low code editors to support Graphical Modeling
- Model E/R-models, Tables, Views, SQL & SQL-Script Views
- Focuses on most-used modeling operators

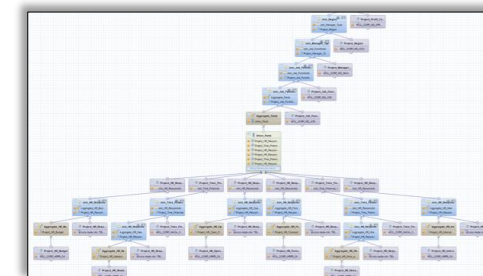
EXTERNAL EDITORS
integrated SQL Data Warehousing

Open SQL Schema



- Option to use SQL DDL & DML leveraging e.g. SQL Views, Tables, Procedures, etc.
- Leveraging existing SQL-tooling & skillset
- SAP Database Explorer

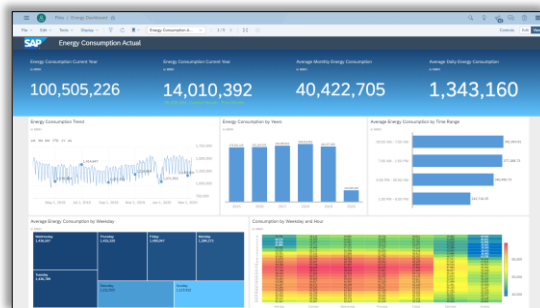
SAP HANA Deployment Infrastructure



- SAP HANA Cloud Modeling capabilities leveraging Calculation View, Flowgraph, Synonym, etc.
- Simply re-use HANA based Modeling within SAP Datasphere

Use. Choice and openness with pre-built business content

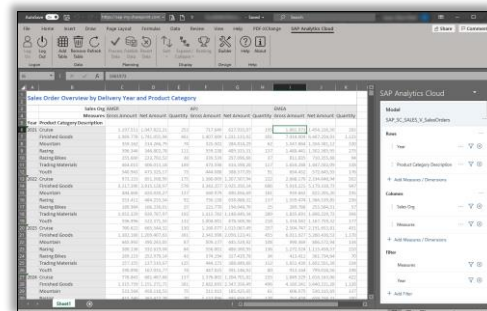
SAP Analytics Cloud



One seamless user experience

- Direct consumption of models in SAP Analytics Cloud (live connection)
- Any number of SAP Datasphere systems can be connected to any number of SAP Analytics Cloud systems

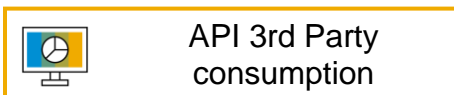
MS Office Integration



Live Connection to MS Excel

- SAP Analytics Cloud, add-in for Microsoft Office 365 (live connection) online or desktop version
- SAP Datasphere with SAP Analysis for Microsoft Office 2.8 SP14+

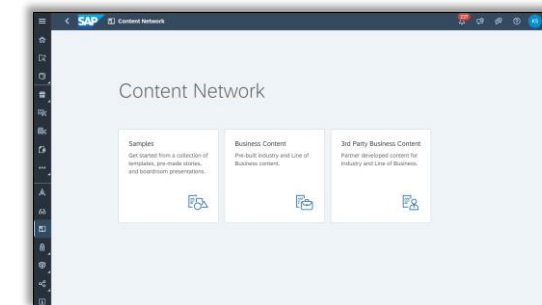
External API



External API for consumption

- Freedom of choice
- Use consumption interface to connect any 3rd party front end tool to your exposed views
- Make your data models accessible for consumption tools & applications

Business Content



Business accelerators

- Content packages ready to use and accelerate your project
- Packages SAP and partners for various LOB and industry scenarios
- Separate packages for data models and visualizations



SAP Analytics Cloud

SAP Analytics Cloud



SAP Analytics Catalog
Centralized Portal

Mobile
iOS & Android



User
Experience

Digital Boardroom

Stories

Analytic Applications

MS Office Integration

Analytic
Capabilities

Business Intelligence

Data Exploration

Dashboards & Visualizations

Enterprise Reporting

Augmented Analytics

Conversational Analytics

Automated Analytics

Predictive Analytics

Enterprise Planning

Events & Workflows

Sharing & Simulation

Predictive Planning

Platform

Data
Connectivity

Data
Modeling

User
Management

Auditing &
Monitoring

Content
Translation

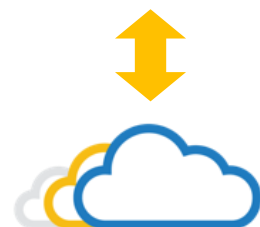
Lifecycle
Mgmt

Collaboration

Scheduling &
Publishing

APIs

SAP Business Technology Platform



Cloud Data Sources
and Applications

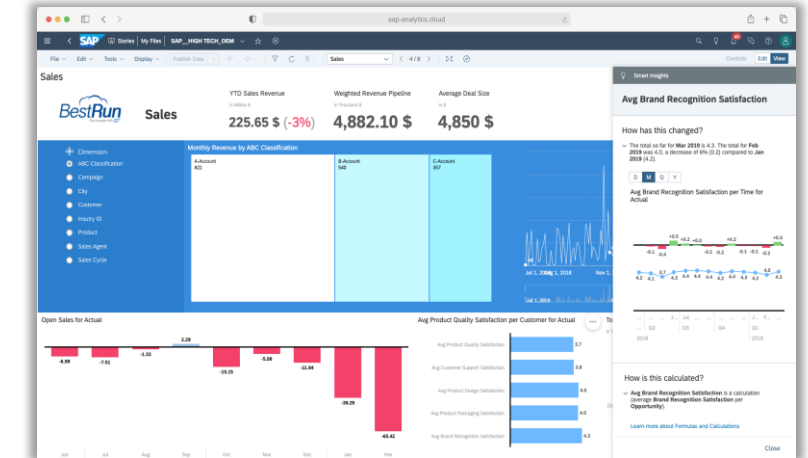


3rd party Data Sources and
Applications

Analytics and Business Intelligence

Explore data across the organization and deliver insights at the point of decision

Store ID	Location	Retailer	Address	City	State
1 3403	Indoor	Pharmacy	3403 Park Blvd	Monrovia	CA
1 30227	Indoor	Supermarket	3403 Park Blvd	Monrovia	CA
1 30991	Indoor	Supermarket	3403 Park Blvd	Monrovia	CA
1 30772	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 29177	Outdoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 29194	Outdoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 34790	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 30138	Indoor	Specialty Retailer	3403 Park Blvd	Monrovia	CA
1 24028	Indoor	Supermarket	3403 Park Blvd	Monrovia	CA
1 24028	Indoor	Supermarket	3403 Park Blvd	Monrovia	CA
1 24044	Outdoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 24044	Outdoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 24767	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 27060	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 27061	Indoor	Mobile	3403 Park Blvd	Monrovia	CA
1 20261	Outdoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 30053	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 24944	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 27153	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 24991	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 29443	Indoor	Supermarket	3403 Park Blvd	Monrovia	CA
1 24991	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 24991	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 27077	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 20228	Outdoor	Supermarket	3403 Park Blvd	Monrovia	CA
1 38019	Indoor	Pharmacy	3403 Park Blvd	Monrovia	CA
1 28130	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 27146	Indoor	Convenience Store	3403 Park Blvd	Monrovia	CA
1 3403	Outdoor	Pharmacy	3403 Park Blvd	Monrovia	CA



Data Modeling & Preparation

Set key performance metrics, dimensions, and hierarchies and automate data wrangling to gain deeper insights.

Data Exploration & Visualization

Discover insights and inspire audiences with interactive visualizations and data stories by slicing and dicing data, regardless of volume size.

Augmented Analytics

Go the last mile of data-driven decision-making with machine-generated analytics and insights.

Dashboards & Visualizations

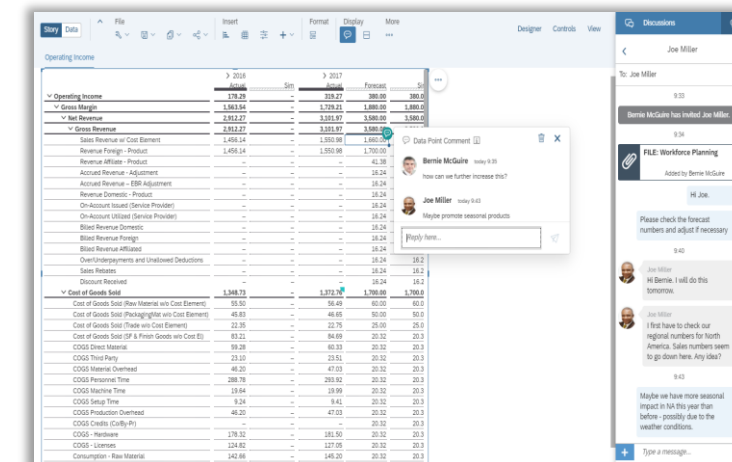
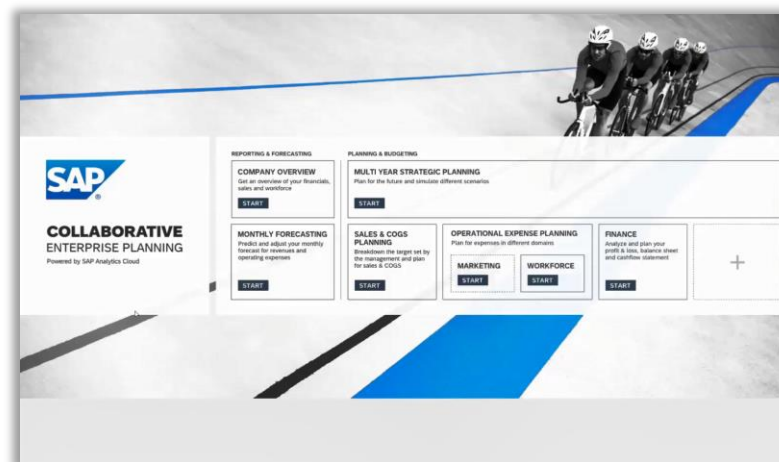
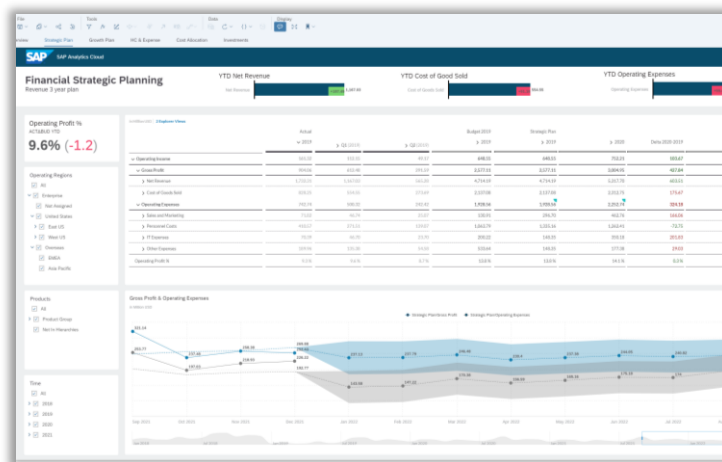
Design and deliver stunning, interactive enterprise dashboards across all lines of business

- Extensive visualization library, geo maps powered by ESRI and custom R visualizations
- Define custom calculations, calculated dimensions, aggregations and more
- Display variance, dynamic text, custom tooltips, CAGR and more
- Easily comment, collaborate and share content via document link with other users



Enterprise Planning

Analyze, predict and plan in one application to reduce errors and increase organizational agility



Budgeting and forecasting

Create and modify versions of a planning model for data-driven budgeting, forecasting, and analysis from one cloud interface

Predictive planning

Automate data-driven enterprise planning and accelerate planning cycles with time series forecasting thanks to a tight integration between Smart Predict and Planning

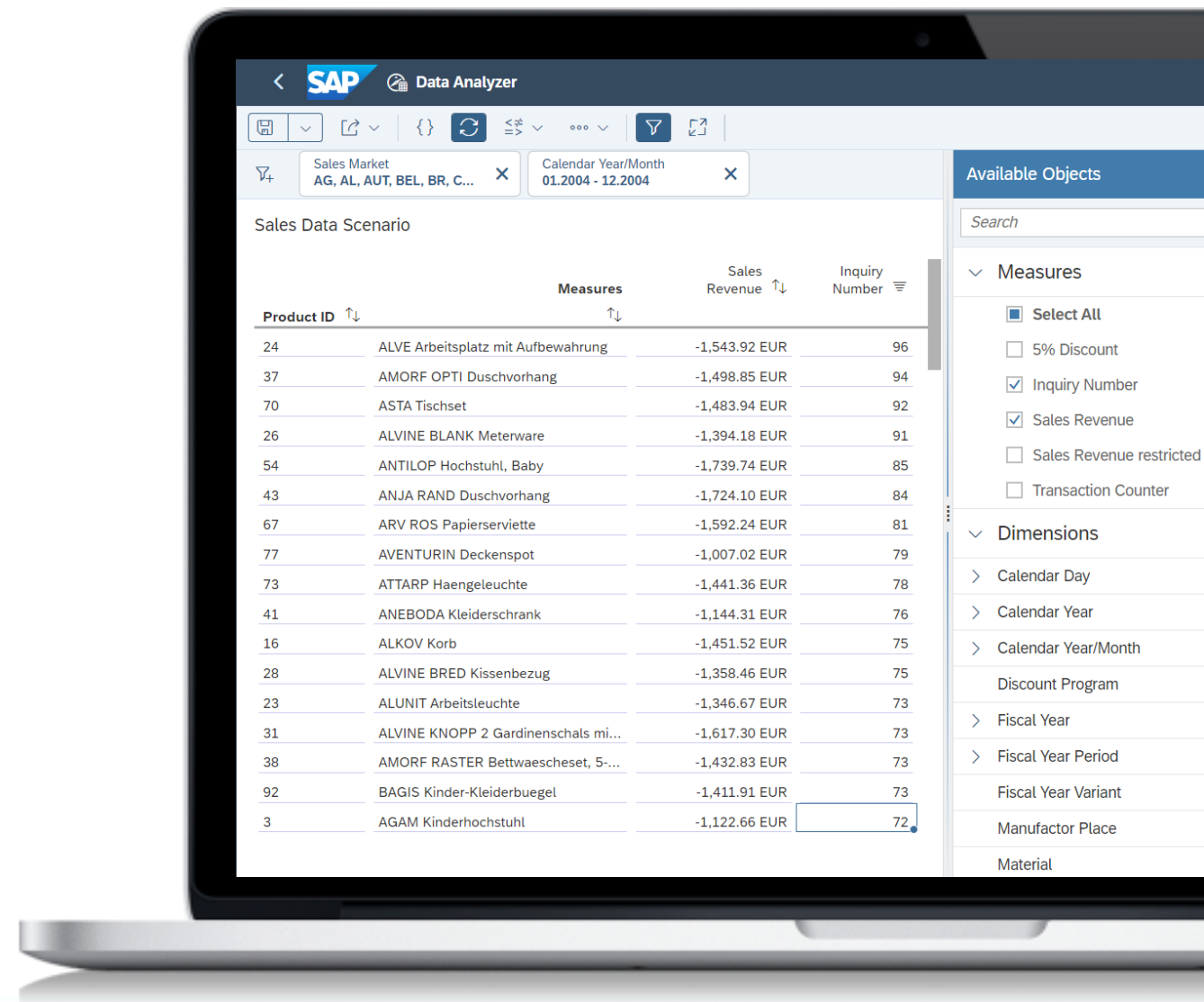
Collaborative planning

Plan across all lines of business to turn real-time insight into action, ensure strategic alignment, and decide confidently.

Data Analyzer

Query your data directly and perform ad-hoc analysis in a pivot-table style analysis view

- Standalone exploration tool with easy access from the side navigation bar
- Transient access to SAP BW and SAP HANA data sources
- Save Insights, share and publish
- Contextual exploration



Enterprise Reporting

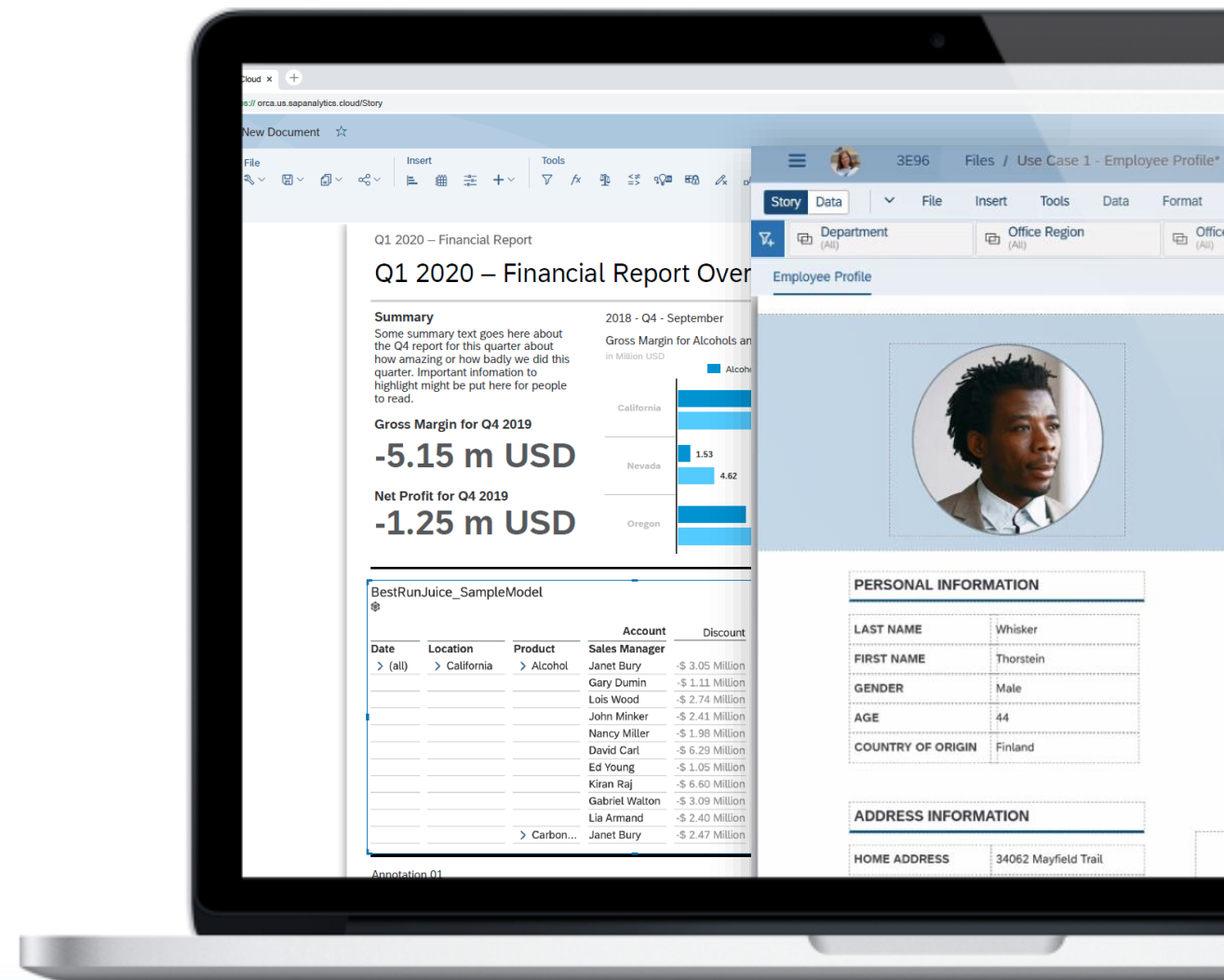
Design reports and distribute to the workforce on-demand or scheduled

Report Formatting

- Multi-page reports
- Report sections, headers and footers
- Paginated export to pdf and pptx

Report Delivery

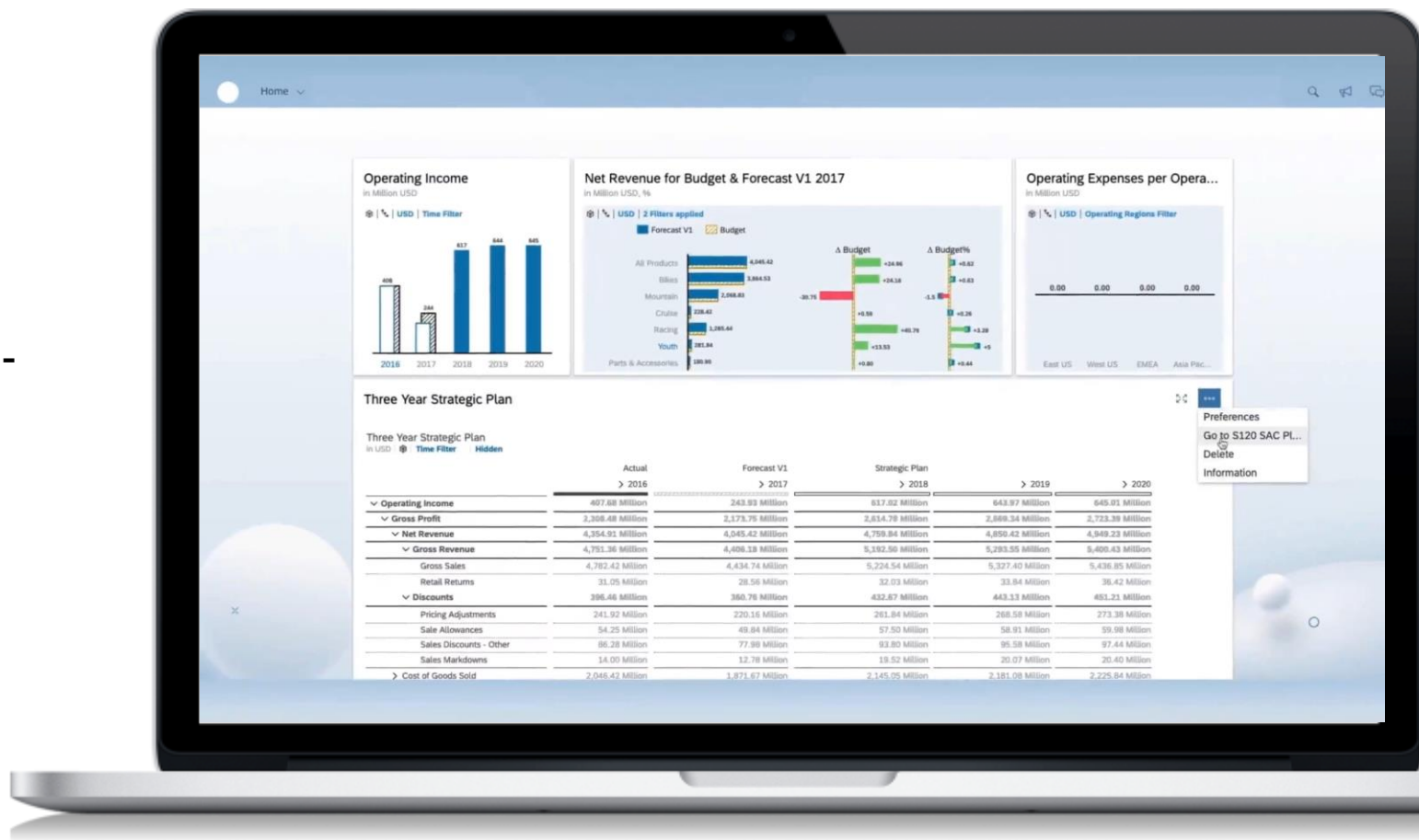
- Schedule and distribute reports to SAP Analytics Cloud and non-SAP Analytics Cloud recipients
- Burst personalized content to SAP Analytics Cloud recipients based on recipient authorization



What-If Analysis

Simulate “what-if” scenarios to test possible outcomes

- Perform what-if visually with value driver trees and tables
- Perform top-down bottom and bottom-up simulations
- Answer questions like:
 - What if you increase discount by 20%?
 - What if you hire more staff?
 - What if costs of goods increased?

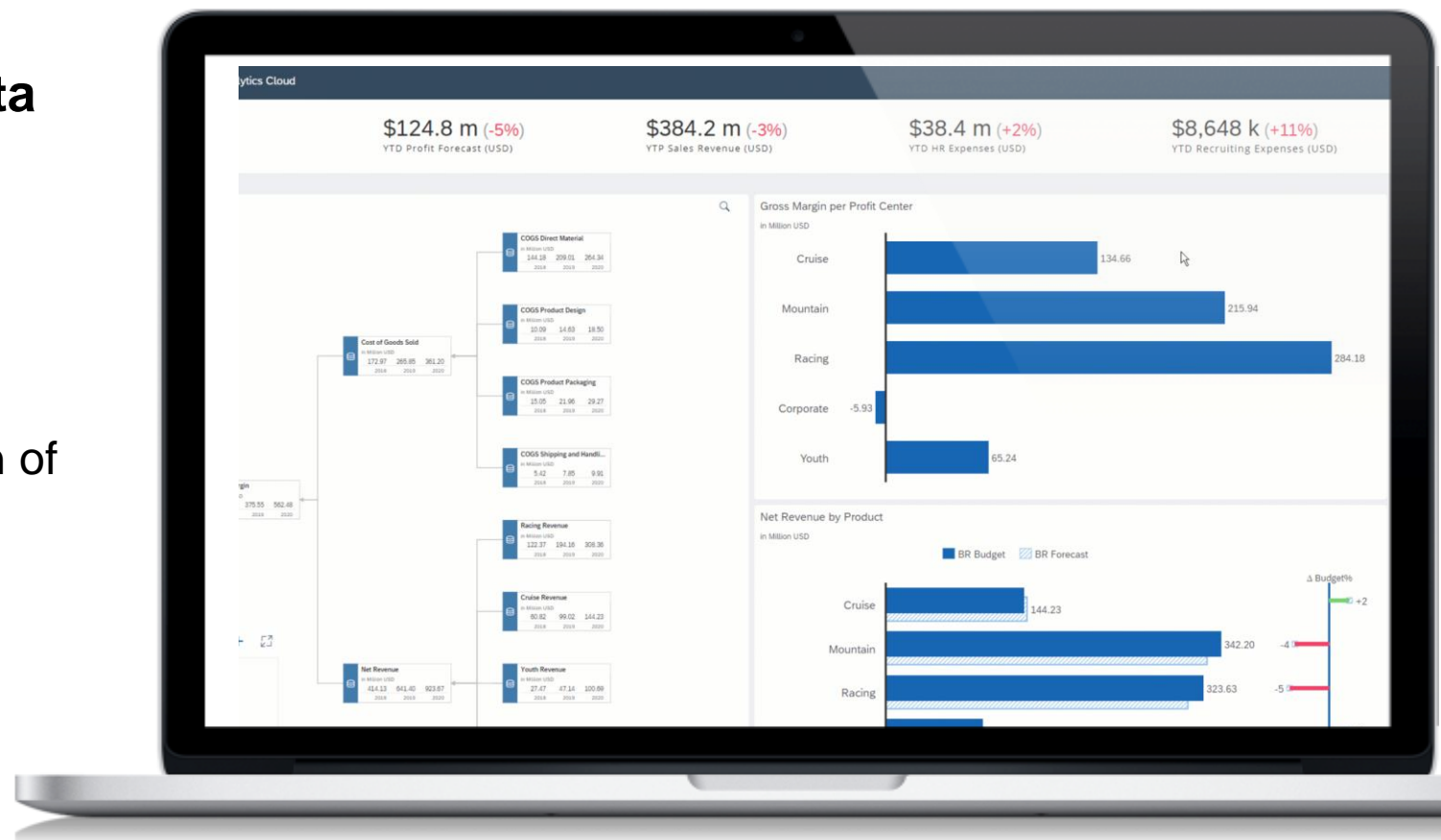


Smart Insights

Insight in one click from dimension members contributing most to a data point or to its variance

Tailored for BI Consumers

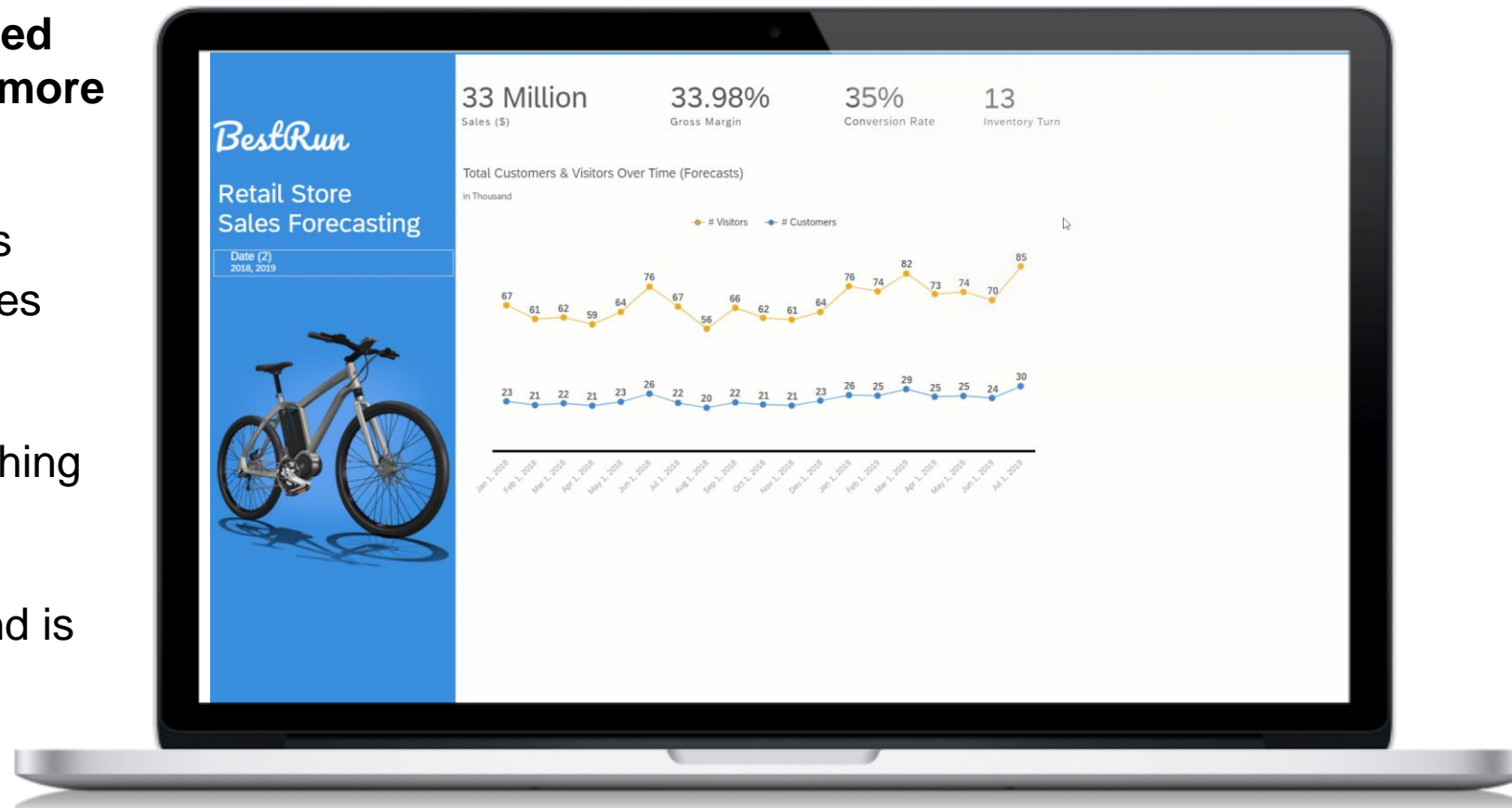
- Beyond filter & drill, open up exploration of underlying model
- Natural language that explains top contributors



Time Series Forecasting

Predict future values of a series based on historical data to help you make more confident decisions

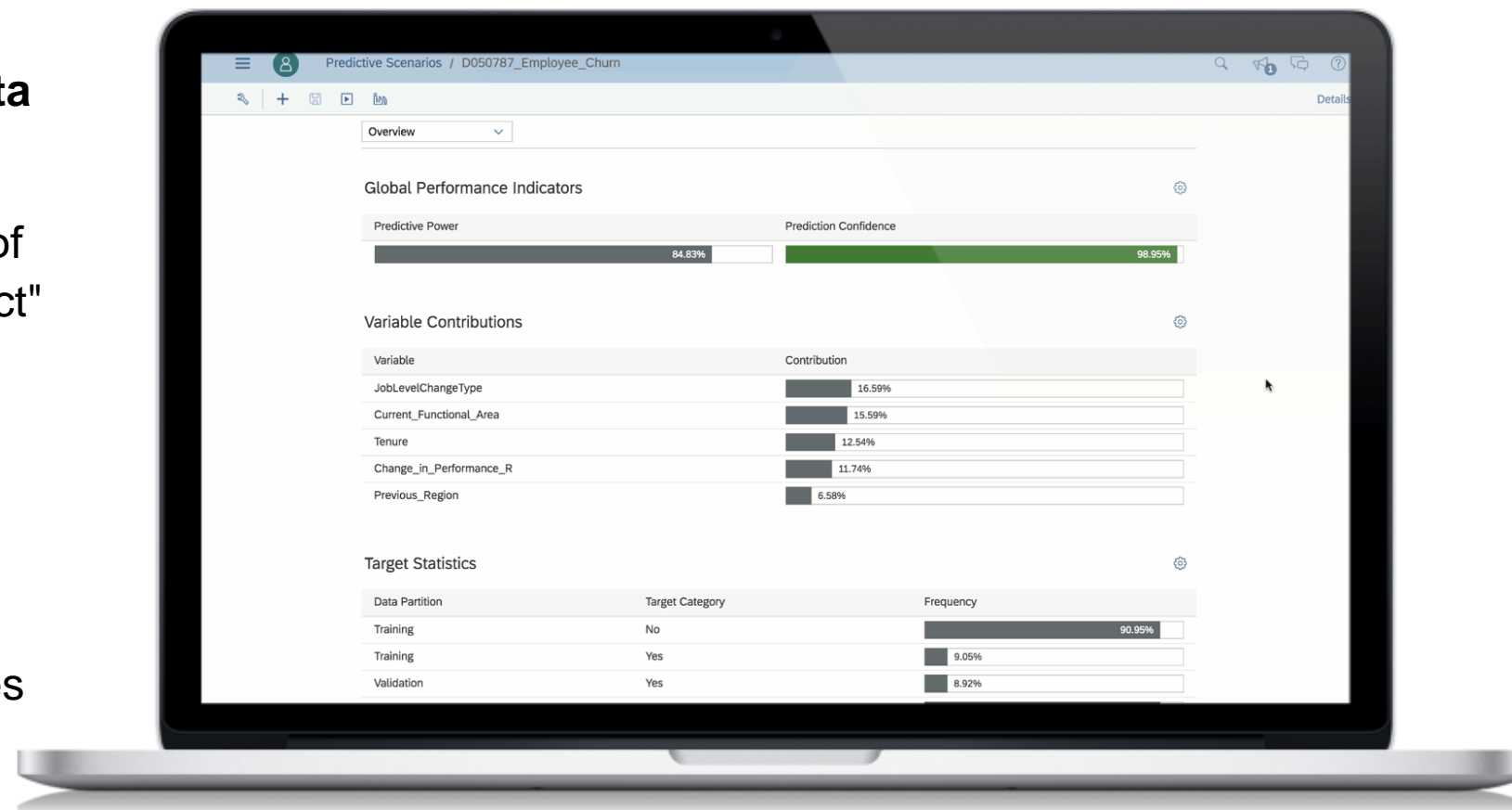
- Automatic forecasting on time series charts, line charts and planning tables
- Apply advanced options like linear regression, triple exponential smoothing and include additional inputs
- Forecast quality based on MAPE and is displayed as 0-5 rating



Smart Predict

Build trusted and actionable predictions without the help of a data scientist

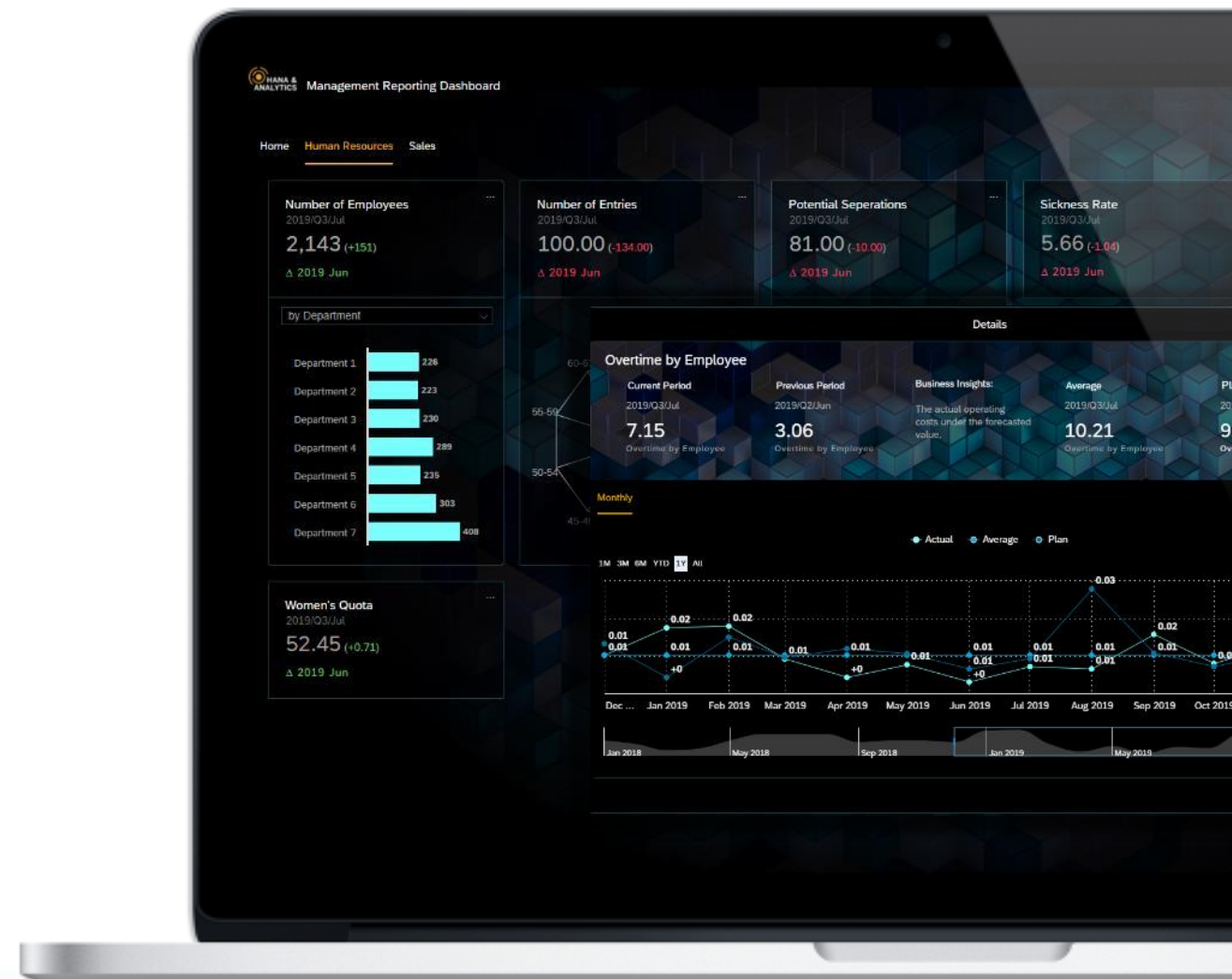
- Classification: "Create a sorted list of prospects to focus on for this product"
- Regression: "Give me revenue estimates for each customer for the next 6 months"
- Time Series: "Forecast revenue for each product and each point of sales daily for the next 30 days"



Analytic Applications

Fulfill unique and advanced use cases and workflows with analytic applications built with Analytics Designer

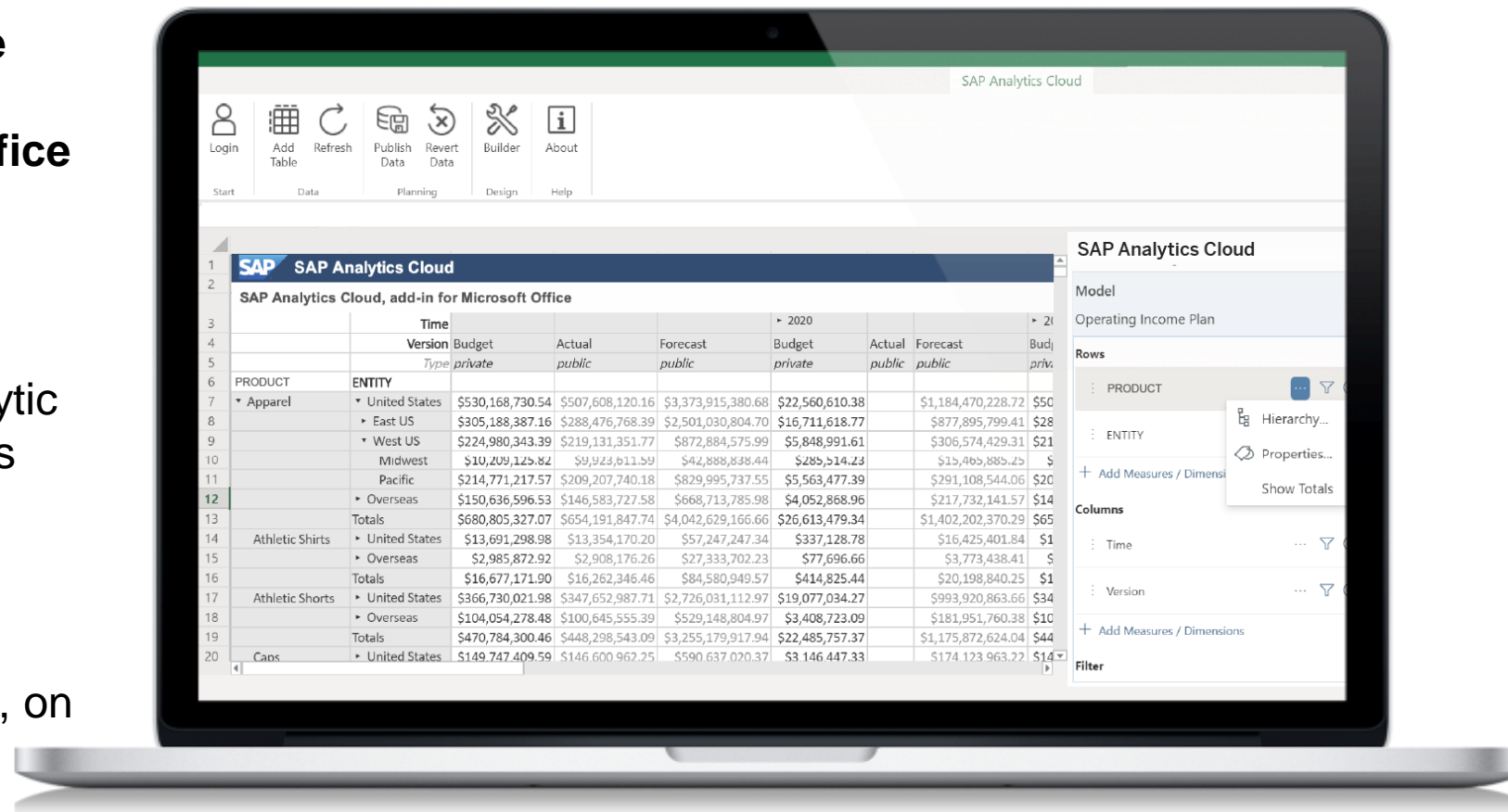
- Develop analytic applications that bring together BI, Planning, and Predictive capabilities
- Start from existing content, reuse user stories widgets, customize, integrate and extend
- Guide the users and adjust the widgets behavior based on their expectations

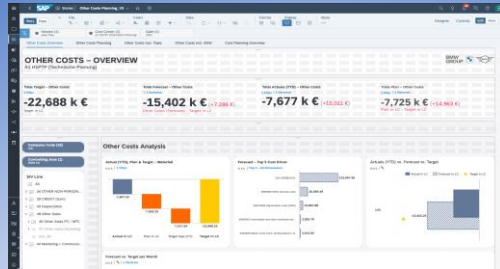


Add-in for Microsoft Office

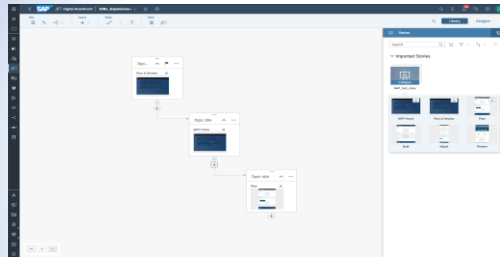
Analyze your plans, simulate future outcomes, and make effective business actions with Microsoft Office Excel 365

- Design formatted reports in Excel
- Created formatted reports on analytic and planning acquired data models
- Plan, simulate and write back to planning models
- Collaborate with colleagues online, on desktop, Windows or Mac

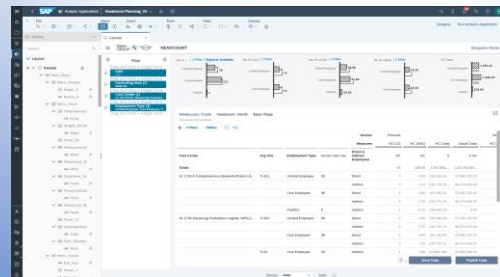




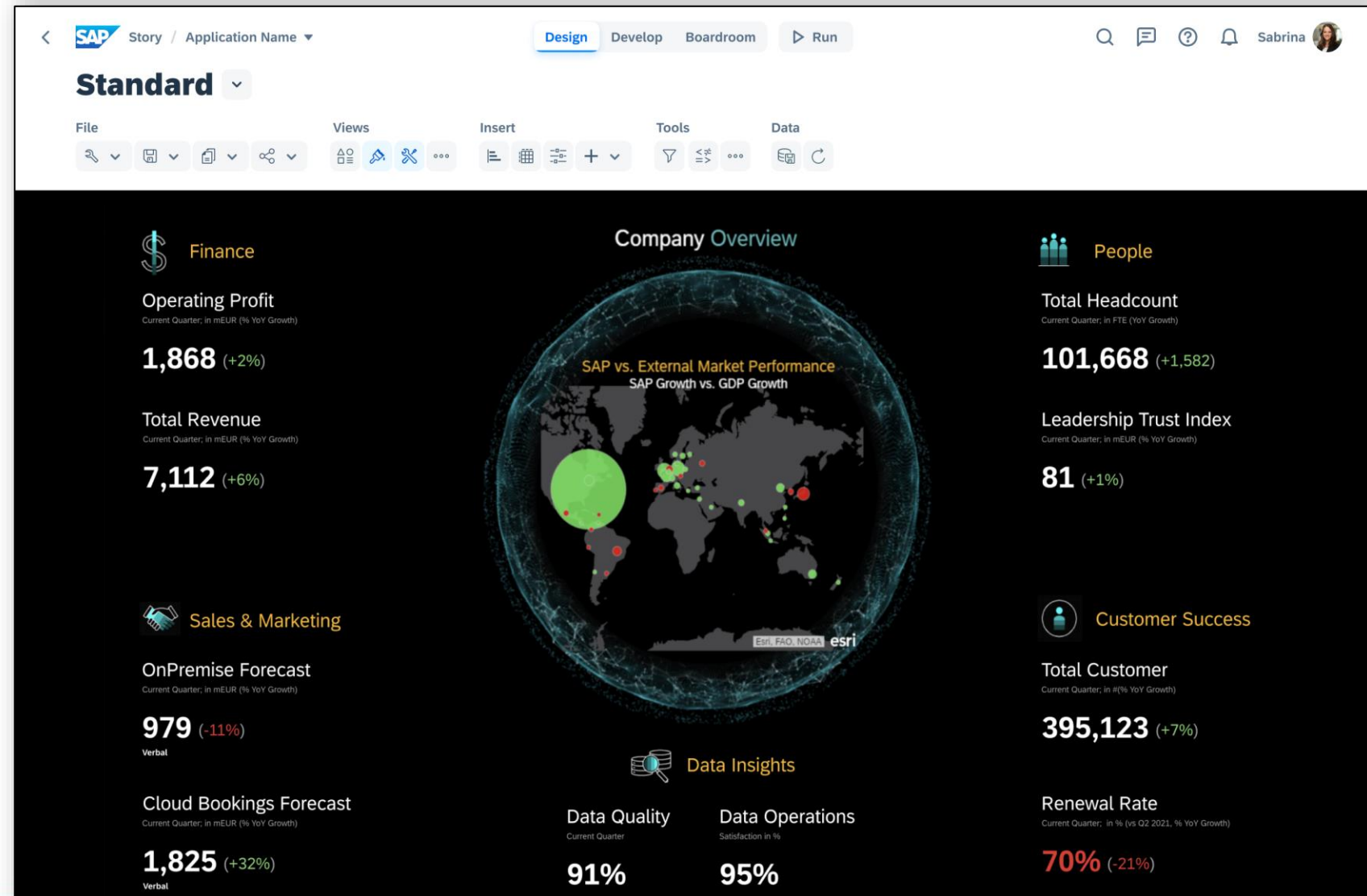
Story Builder



Digital Boardroom

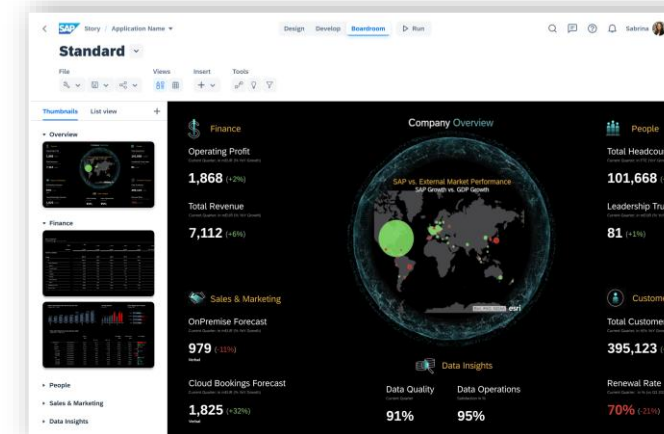
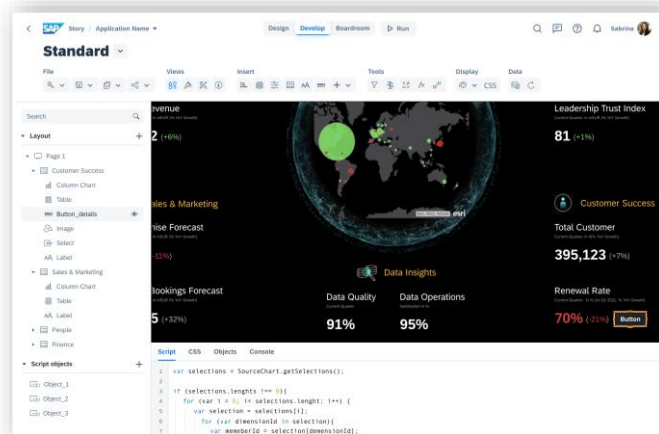
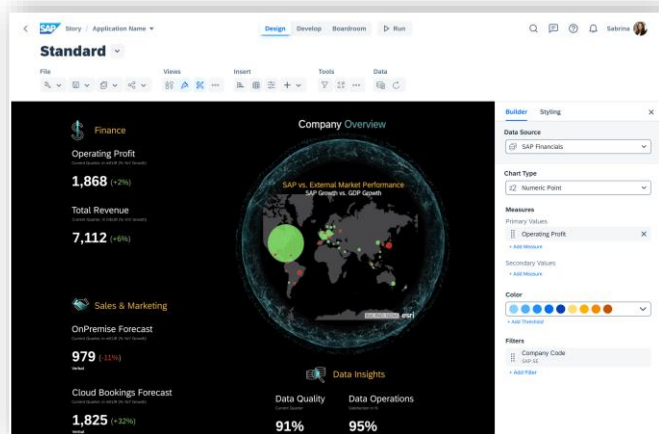


Analytic Application



One Tool For All - Story, Analytics Designer & Digital Boardroom

Simplicity, Consistency and Extensibility



DESIGN

- Simple mode
- Define the layout
- Add data visualizations

DEVELOP

- Advanced mode
- CSS and pixel perfect
- Enhance with code/logic

BOARDROOM

- Build your presentation
- Add pages from stories
- Define navigation paths



SAP Analytics Cloud, Analytics Designer

The SAP Analytics Designer Vision

Application development framework in SAP Analytics Cloud



COMPLETE

Extend SAP
Analytics Cloud
capabilities



FAST

Reduce Time to
Roll-Out



INTEGRATED

Script BI, Planning,
and Predictive
together

COMPLETE: Extend SAP Analytics Cloud Capabilities

One Analytics Platform

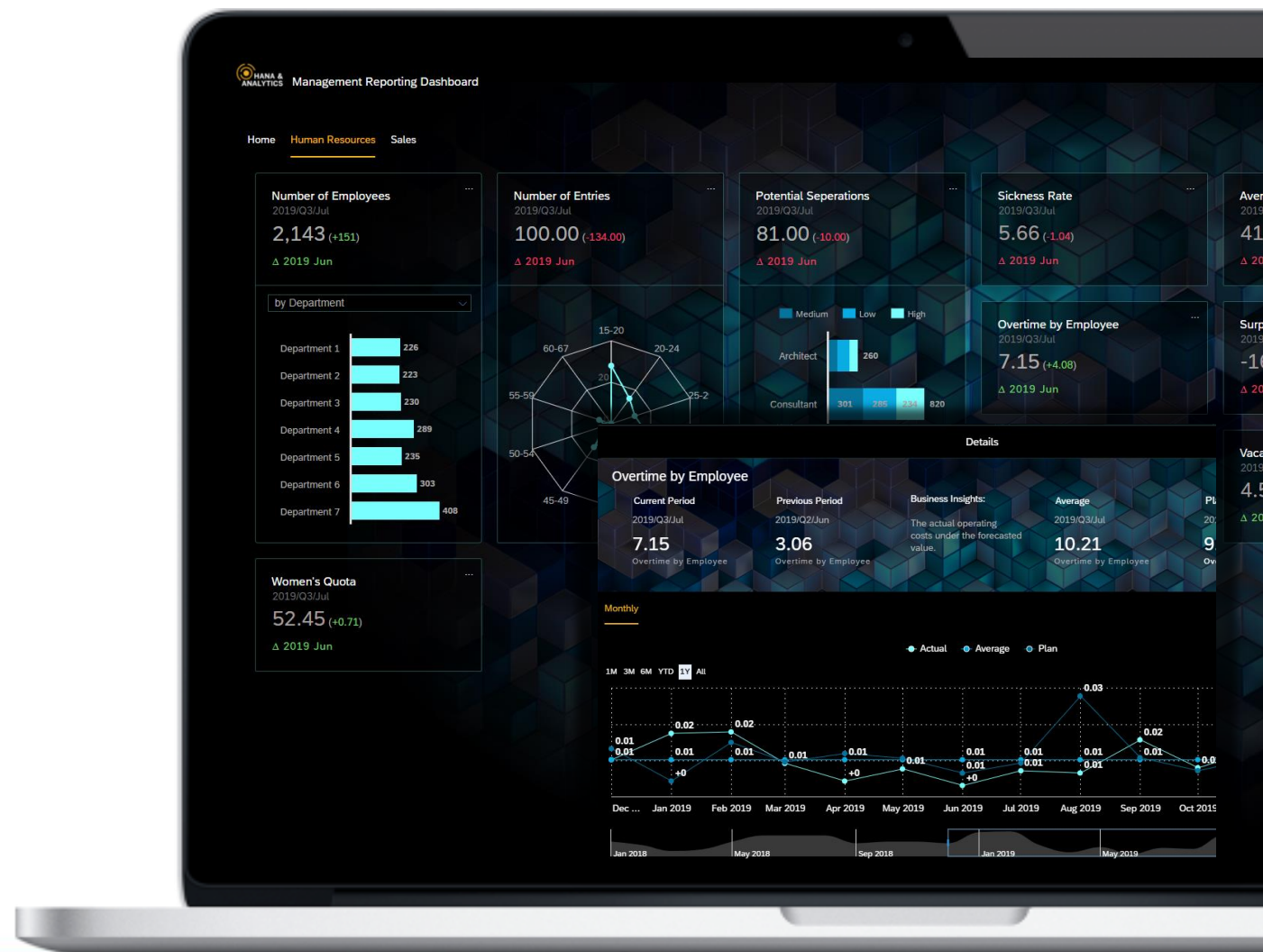
- Bring together BI, Planning, and Predictive
- Reuse existing datasets, models, connections...
- Create sophisticated custom widgets

Meet users expectations

- Go beyond stories
- Create custom applications
- Create custom themes

Advanced business scenarios

- Close loop scenario
- What if scenario
- Augmented analytics scenario



FAST: Reduce Time to Roll-Out

One Design Environment

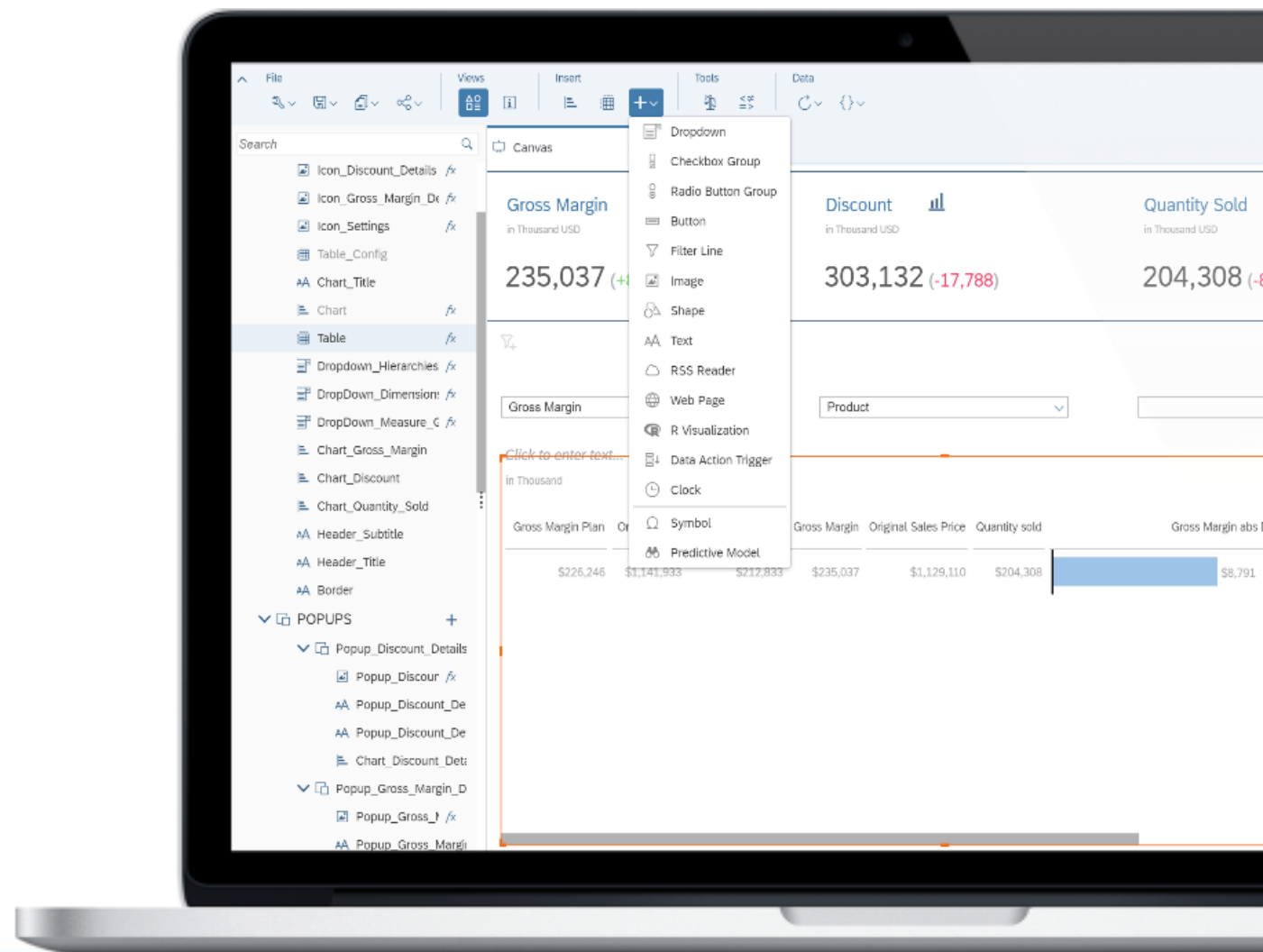
- Exposes SAP Analytics Cloud capabilities in a powerful environment geared for professional designers of analytical applications

Rapid Prototyping

- Application are based on the same data models
- Start from existing content, templates or stories

Standardization of analytics content

- Use of the same UI elements provides a consistent user experience
- Create composites, packaging UI elements and application logic
- Drive standardization by reusing centrally maintained composites



INTEGRATED: Build End-to-End Analytic Applications

Planning and Predictive together

- Control planning functions from scripts
- Control smart features from scripts

Interact via external backend services

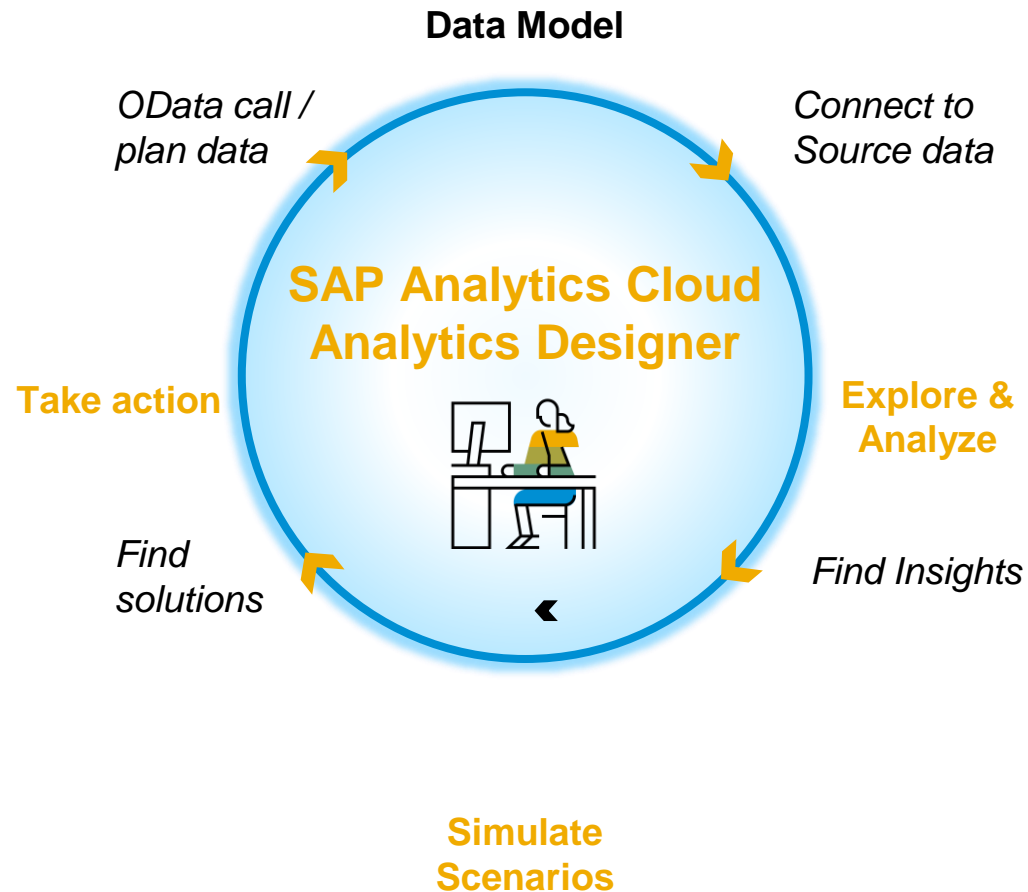
- OData action for easy integration
- R Server calls with scripting access

Embedded applications

- Embed analytic applications into SAP Line-of-Business applications
- Embed HTML page in analytics applications

Analytics Designer

An integrated, end-to-end experience



- Implement Close loop scenario with Analytics Designer. Explorer, analyze, simulate and take action from a single Analytic application.
- Analytic Application can connect to a wide range of data source (Planning model, S/4HANA transactional data, ...)
- Custom logic can be implemented in a application to run simulations. Or use predictive planning to create smart baseline for the forecasting activities
- Use script API to plan your budget, expenses, hiring ...
- Use oData call component in Analytic Designer to change a value (price, number of units ...) into a S4/Hana system.

Major Analytic Designer **Use-Cases**

Generic Application

Flexible ad hoc analysis of
SAC models

Table centric

Application template

Planning Application

Customized planning UI

Guided planning experience

User friendly UX for planning
users

Extended Application

Extend SAC capabilities with
custom widgets

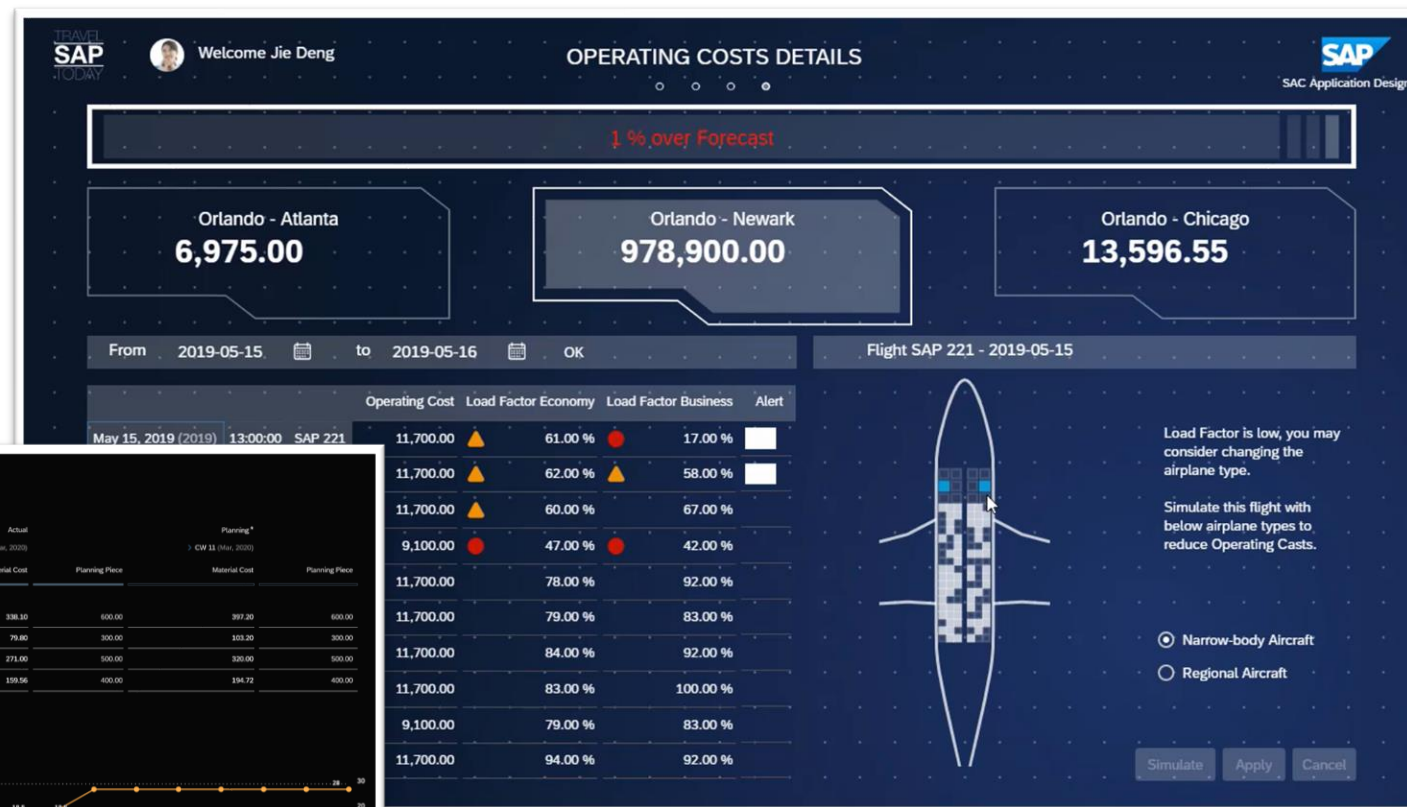
Implement non-standard
scenario

Partner extension

Typical Analytics Designer Use Cases

Guided analytic applications

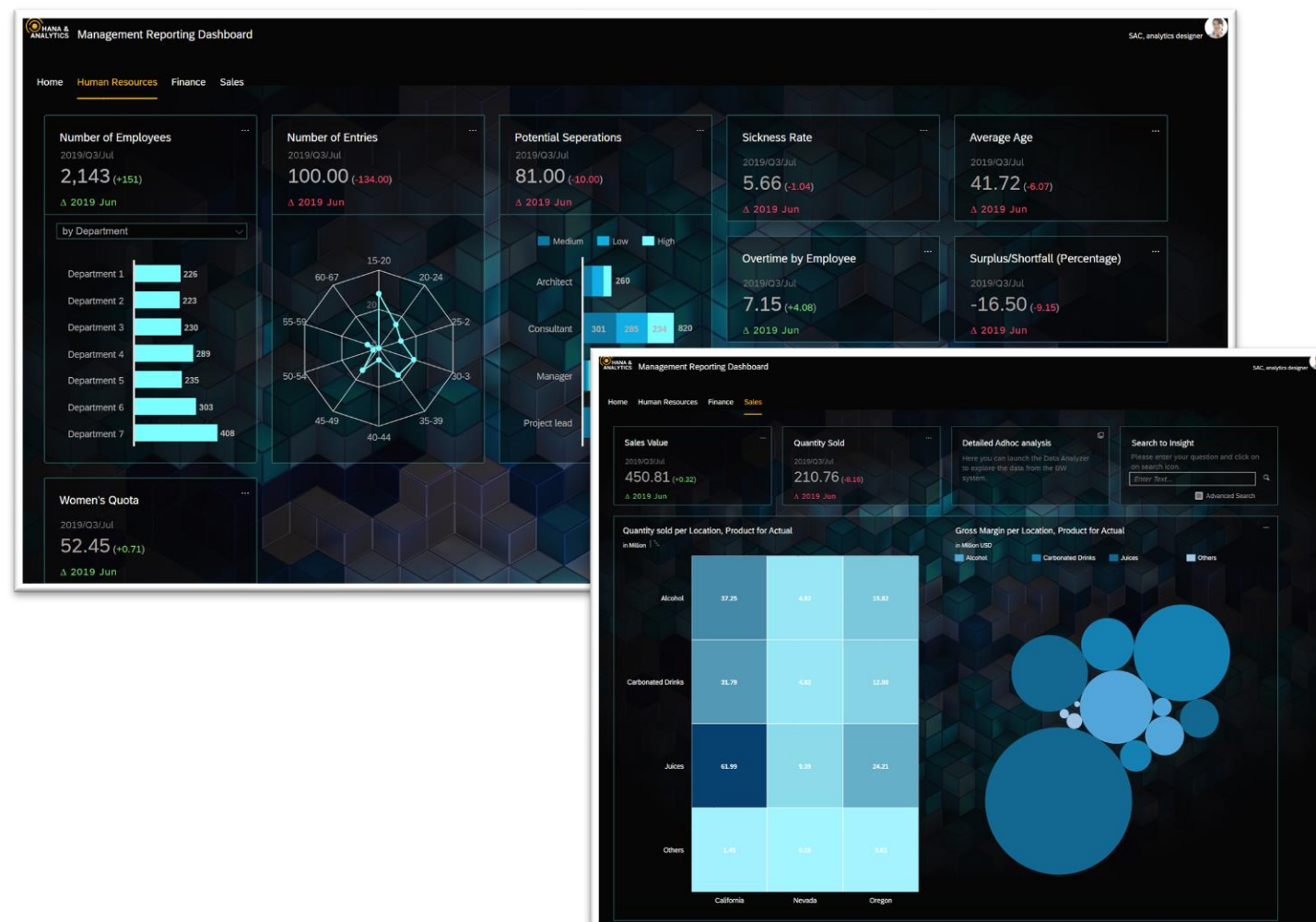
- Provide end user guidance /analysis path
- Support closed loop scenarios (notification → analyze issue → simulation → take actions)



Typical Analytics Designer Use Cases

Dashboarding including flexible interactions and layout

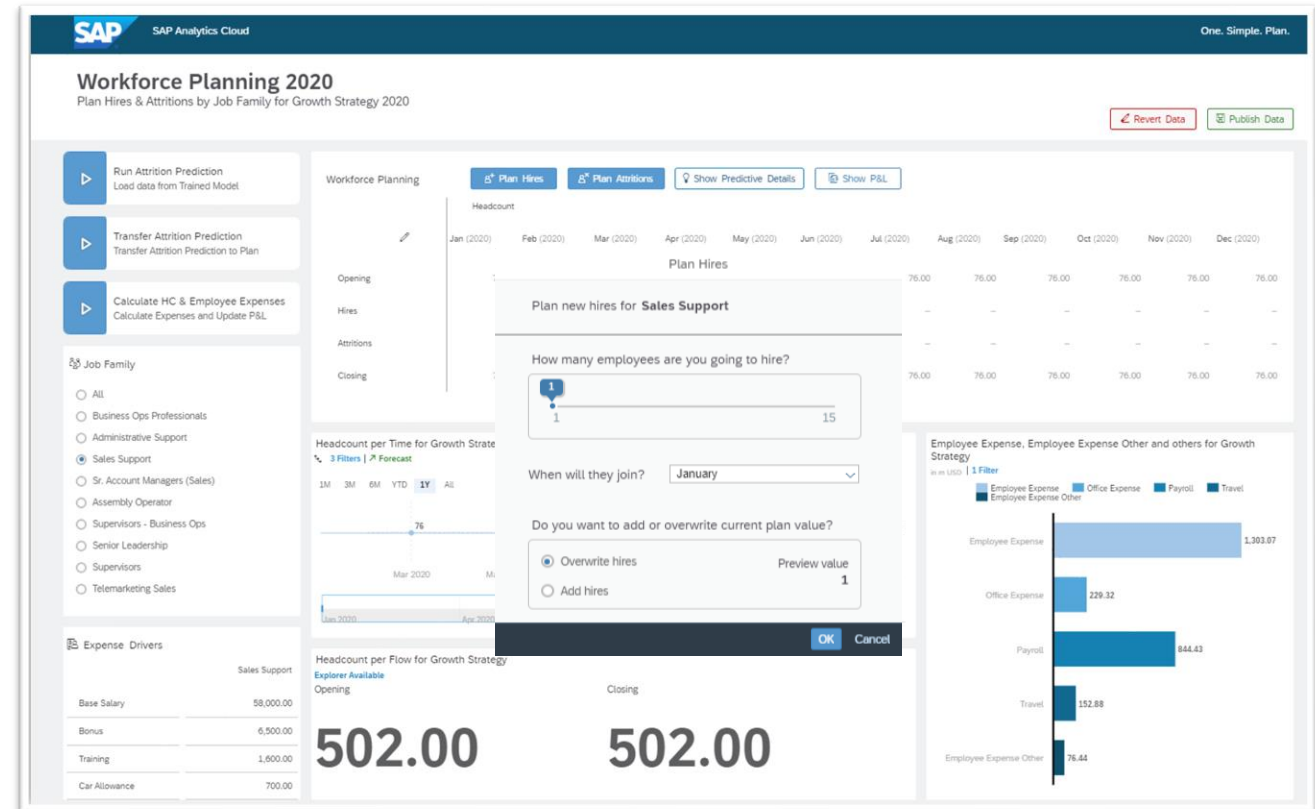
- Complex navigation and interaction
- Flexible Layout / Responsive layout



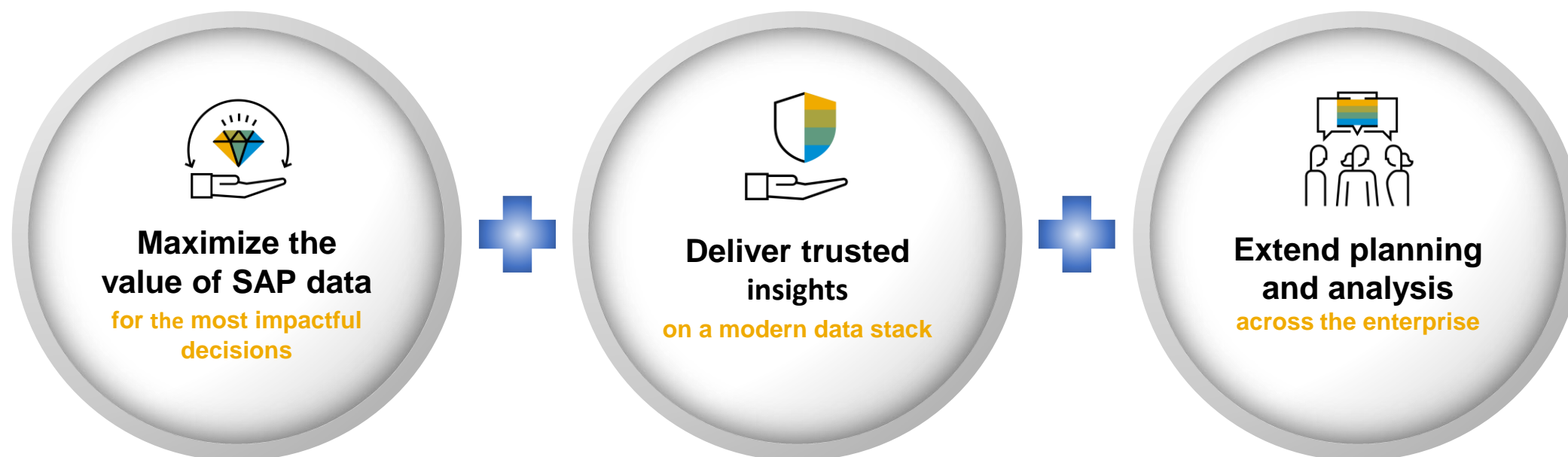
Typical Analytics Designer Use Cases

Planning applications (customized planning UI)

- Guided planning experience
- More user friendly and tailored UX for planning users
- Mobile usage



SAP data and analytics solutions





THANK YOU

How to Connect with Me

E: Ingo.Hilgefort@rizing.com

Li: www.linkedin.com/in/ingohilgefort