

In-Memory Analytics - SAP Big Data

Analytics Tools Selection - **SAP HANA & SAP Business Objects**



Experfy



MADE IN BOSTON @
**THE HARVARD
INNOVATION LAB**

Agenda

- **Executive View**
- **SAP In-Memory Analytics Solutions**
- **SAP In-Memory Analytics Technologies**
 - Key Capabilities
 - Deployment and Delivery Options
 - Use Cases
- **Key Takeaways**
- **Contact Experts**
- **Appendix**
 - Business Value Proposition
 - Technical Landscape

"... Blown away by the amazing driver based Planning, Forecasting and Financial Fast Close Solutions built by CubeInsights and team on SAP BPC NW 10 on SAP HANA..."

Director
EPM, Global Center of Excellence
SAP

Objective

- Review SAP In-Memory Analytics Solutions
- Understand SAP In-Memory Analytics Technologies
- Learn Which SAP In-Memory Analytics Technology Best Fits Your Business
 - Tool Capabilities
 - Support For Big Data
 - Use Cases

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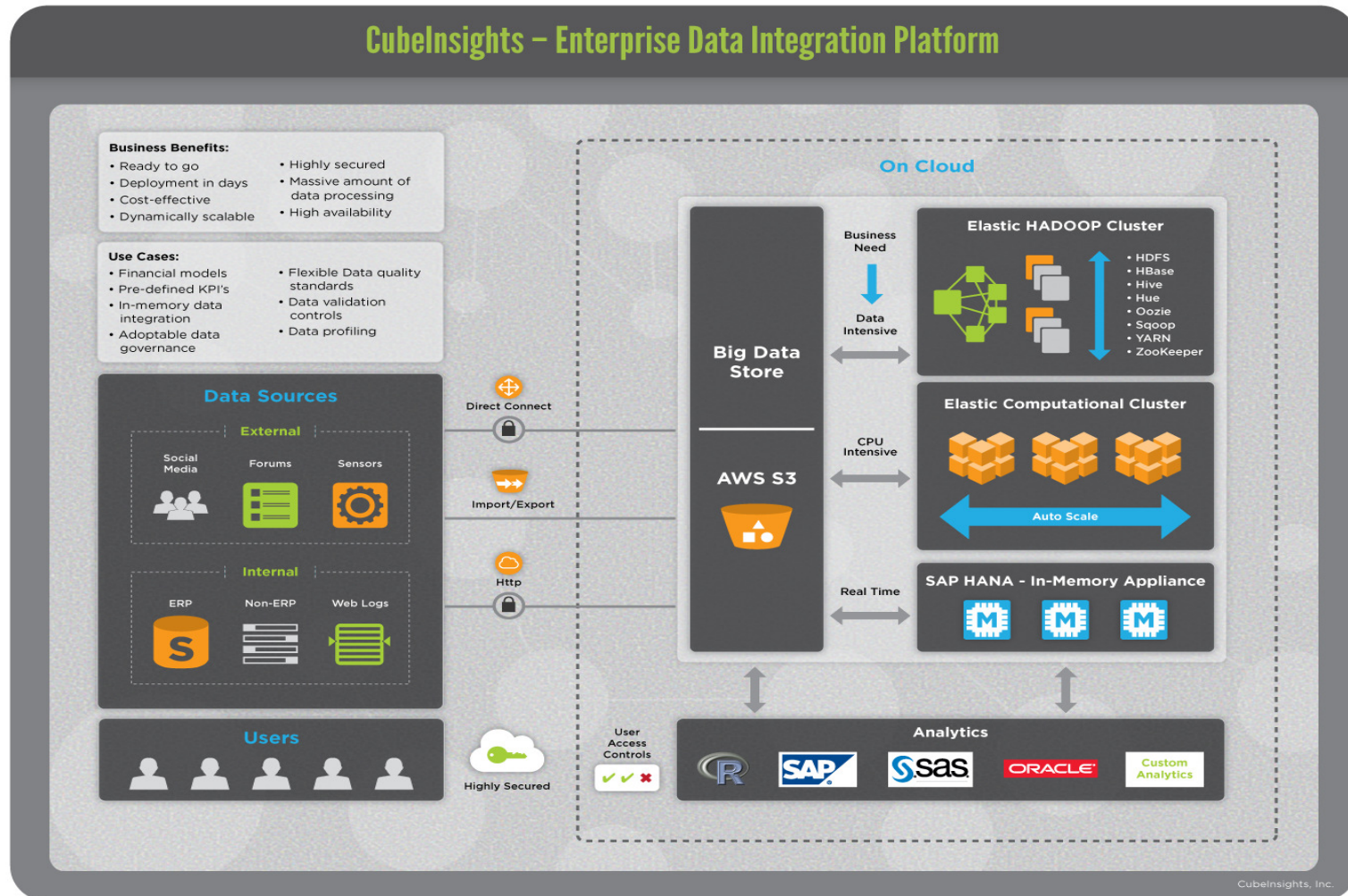
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2013**

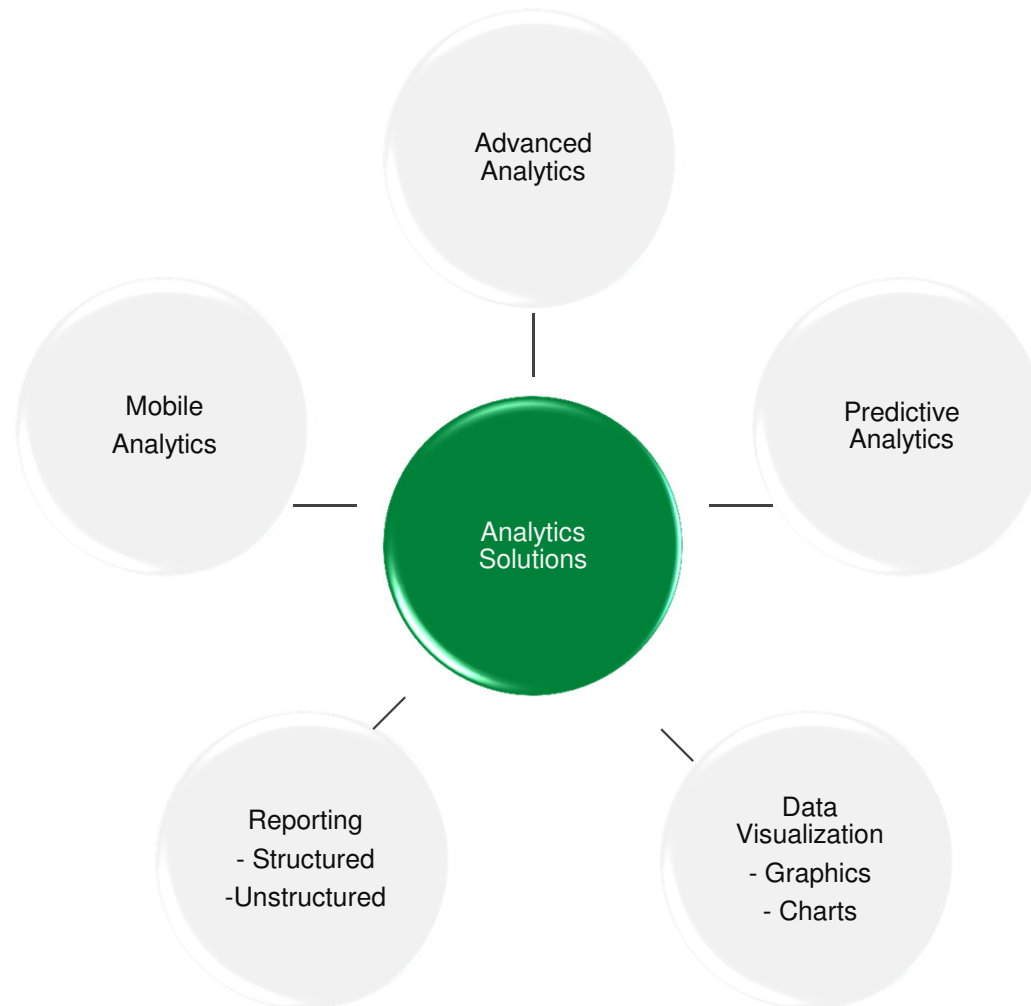
Assumptions

- Users are familiar with SAP In-memory analytics technology
- Users are familiar with the concepts of Big Data and its enabling technologies
- Users have some prior experience in implementing business intelligence (BI) and information management (IM) solutions
- Users are familiar with the terminologies around SAP HANA , SAP Business Objects, and SAP Big Data Analytics

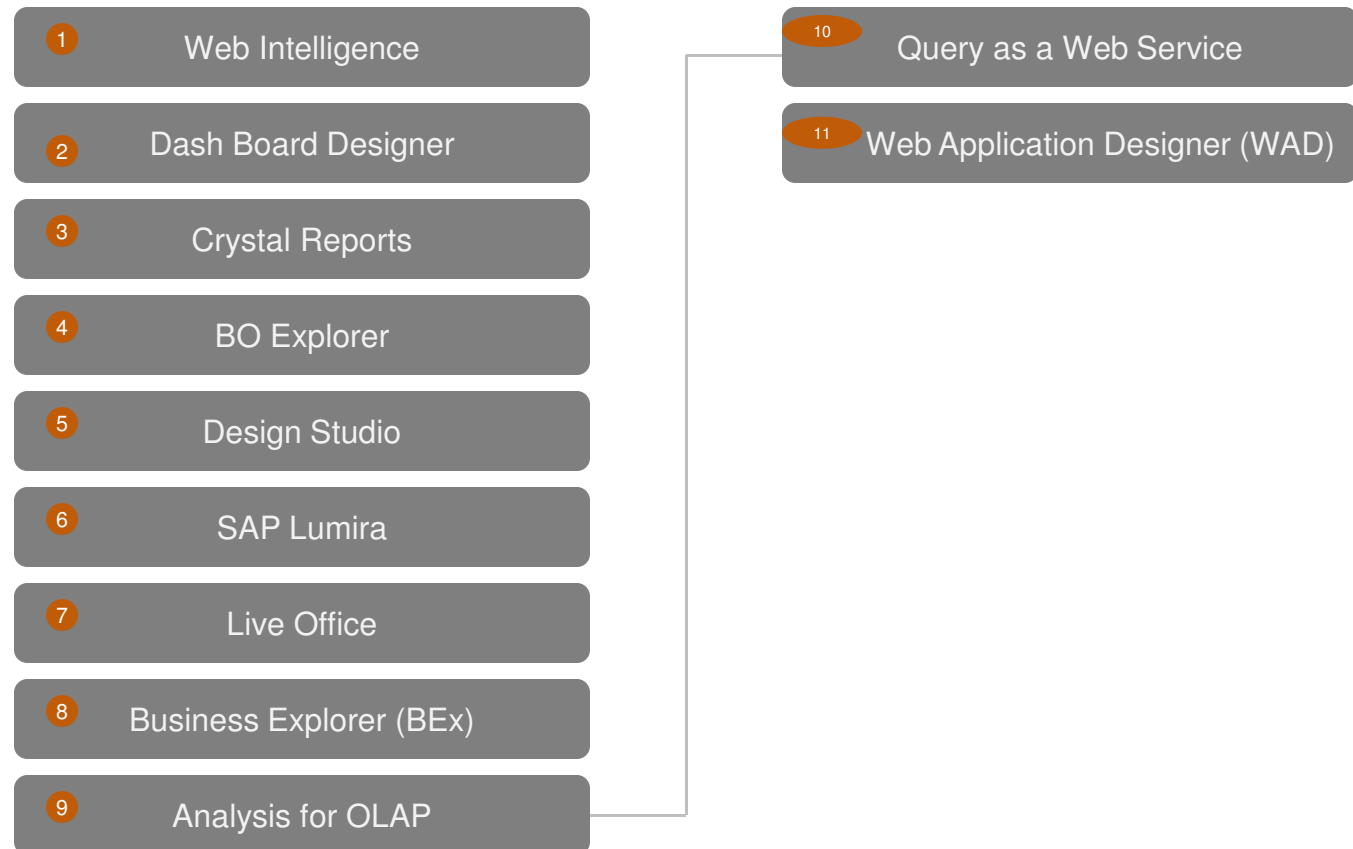
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In this article, we deeply analyzed the following SAP Business Objects (BOBJ) analytics tools and technologies from SAP Big Data and In-Memory analytics perspective



SAP In-Memory Analytics Technologies

Key Capabilities and Observations

SAP Analytics Tools	Target Business Users	Key Capabilities/Functionality	Analytical Capabilities	Analytical Capabilities Limitation	Implementation Complexity
Web Intelligence	<ul style="list-style-type: none"> Business Analyst Data Analyst Self Servicing Business Users 	<ul style="list-style-type: none"> Self-Service, Ad-hoc Queries Web Based Solution Multi Data Source Support SAP HANA and HADOOP Support – Big Data 	<ul style="list-style-type: none"> Interactive Analysis Deeper Data Analysis Reporting Drill-Down/-Up/-Through Ad-hoc reporting/queries 	<ul style="list-style-type: none"> Search Capabilities Advanced Analytics 	Medium
Dash Board Designer	<ul style="list-style-type: none"> Executives Management Team Leadership Team 	<ul style="list-style-type: none"> Interactive Graphical Interface Guided Analysis Multiple Data Source Support Online and offline Mobile Dashboards SAP HANA and HADOOP Support – Big Data 	<ul style="list-style-type: none"> Visual Data Analysis Summary Level Data Analysis Drill Down/Up 	<ul style="list-style-type: none"> Search Capabilities Ad-hoc Query Capabilities Less data volume processing 	Medium
Crystal Reports	<ul style="list-style-type: none"> Operational Users Management Team 	<ul style="list-style-type: none"> Operational and Statutory Reporting Highly Formatted Reports Canned Report Templates Guided Navigation, Sub Reports Access almost any Data Source SAP HANA and HADOOP Support – Big Data 	<ul style="list-style-type: none"> Reporting Line Item Level Details 	<ul style="list-style-type: none"> Limited Graphs Ad-hoc query and Analysis Self-Service Advanced Analytics 	Medium
BO Explorer	<ul style="list-style-type: none"> Executives Management Team Leadership Team 	<ul style="list-style-type: none"> Data Exploration Key Word Search – Just Like Google Business tool, no IT support needed Maps – Put your data in context On iPad – SAP's most popular 'App'. 	<ul style="list-style-type: none"> Search Data Analysis Ad-hoc query/reporting 	<ul style="list-style-type: none"> Search limited to Information Space Limited Graphs Ad-hoc query and Analysis 	Medium

Note: We conducted deep research on each topics, More depth details available upon request

SAP In-Memory Analytics Technologies

Key Capabilities and Observations

SAP Analytics Tools	Target Business Users	Key Capabilities/Functionality	Analytical Capabilities	Analytical Capabilities Limitation	Implementation Complexity
Design Studio	<ul style="list-style-type: none"> Executives Management Team Leadership Team 	<ul style="list-style-type: none"> Direct and Native Support for HANA & BW Dash Boarding Solution for your existing BW OLAP Sources Premium Alternative to BEx Web Application Designer Mobile Support 	<ul style="list-style-type: none"> Visual Data Analysis Summary Level Drill Down/Up 	<ul style="list-style-type: none"> No Search Operations No Ad-hoc querying Less data volume processing 	Medium
SAP Lumira	<ul style="list-style-type: none"> Executives Management Team Leadership Team 	<ul style="list-style-type: none"> Self-Service Data Visualization Point and Click Interface Reduce dependency on IT Quickly create Visualizations Merge Existing datasets 	<ul style="list-style-type: none"> Predictive Analytics Advanced Analytics 	<ul style="list-style-type: none"> Dataset Upload Size Number of Columns Ad-hoc querying/data analysis 	Medium
Live Office	<ul style="list-style-type: none"> Executives Management Team Leadership Team 	<ul style="list-style-type: none"> Corporate Data in MS Office Cut IT dependency Dynamically refresh MS Office documents 	<ul style="list-style-type: none"> Line Item and Detail data analysis Ad-hoc query/data analysis 	<ul style="list-style-type: none"> Search Operations Ad-hoc querying/data analysis Drill capabilities 	Easy
Business Explorer (BEx)	<ul style="list-style-type: none"> Business Analyst Data Analyst Operational Users 	<ul style="list-style-type: none"> OLAP Reporting Hierarchical Nodes Filter Navigation 	<ul style="list-style-type: none"> Reporting Data Analysis Ad-hoc query/reporting 	<ul style="list-style-type: none"> Search capabilities Graphical and visual chart supports 	Medium

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SAP In-Memory Analytics Technologies

Key Capabilities and Observations

SAP Analytics Tools ↓	Target Business Users	Key Capabilities/Functionality	Analytical Capabilities	Analytical Capabilities Limitation	Implementation Complexity
Analysis for OLAP	<ul style="list-style-type: none"> Executives Business Analyst Data Analyst Operational Users 	<ul style="list-style-type: none"> Usage of Microsoft Excel/PPT Drill Down / Drill Up features 	<ul style="list-style-type: none"> Reporting Data Analysis Ad-hoc query/reporting 	<ul style="list-style-type: none"> Search capabilities Ad-hoc querying/data analysis 	Medium
Query as a Web Service	<ul style="list-style-type: none"> Business Analyst Data Analyst Operational Users 	<ul style="list-style-type: none"> Secure Queries from Universe Publish as Web Services Crystal reports/Dashboards to consume the Web Services 	<ul style="list-style-type: none"> Data Analysis Ad-hoc query/reporting 	<ul style="list-style-type: none"> Formatted Output Search capabilities Drill capabilities 	Medium
Web Application Designer (WAD)	<ul style="list-style-type: none"> Business Analyst Data Analyst Operational Users 	<ul style="list-style-type: none"> HTML Page Creation Pattern Wizard Old fashioned “Look and Feel” Web Cockpits iViews 	<ul style="list-style-type: none"> Reporting Data Analysis Ad-hoc query/reporting 	<ul style="list-style-type: none"> Complex Property Editing Complex Command Specification Graphical and visual chart supports 	Medium

Note: We conducted deep research on each topics, More details available upon request

SAP In-Memory Analytics Technologies

Key Capabilities and Observations

SAP Analytics Tools ↓	User Role (Sample)	Type of Analytics	Tool Maturity	User Adoption	Big Data Analytics Support - SAP HANA and HADOOP	Business Area
Web Intelligence	Cost Profitability Analysis	Predictive Analytics	5	5	Supported Through Universe Connectivity	FI, CO, PA, HR, SCM, CRM and all others...
Dash Board	Revenue Analysis	Descriptive Analytics	5	5	Supported Through Universe Connectivity	Executives in any functions
Crystal Reports	Sales Order Analysis	Diagnostic Analytics	5	5	Direct Connection to HANA possible	Operational and Legal
BO Explorer	Accelerated Data Discovery	Diagnostic Analytics	4	4	Direct Connection to HANA	FI, CO, PA, HR, SCM, CRM and all others...
Design Studio	Smart Grid Analysis	Prescriptive Analytics	2	2	Supported Through Universe Connectivity	Executives in any functions
SAP Lumira	Point of Care Analysis	Predictive Analytics	1	2	Direct Connection to HANA	FI, CO, PA, HR, SCM, CRM and all others...
Live Office	Power Utilization Analysis	Descriptive Analytics	3	3	CONNECTION TO BI PLATFORM REPOSITORY	FI, CO, PA, HR, SCM, CRM and all others...

Note: We conducted deep research on each topics, More depth details available upon request

SAP In-Memory Analytics Technologies

Key Capabilities and Observations

SAP Analytics Tools	User Role (Sample)	Type of Analytics	Tool Maturity	User Adoption	Big Data Analytics Support - SAP HANA and HADOOP	Business Area
BEx Query Designer	Information Consumer	Descriptive Analytics	3	3	DIRECT ACCESS VIA BICS CONNECTION	FI, CO, PA, HR, SCM, CRM and all others...
Analysis for OLAP	Sales Hierarchy Analysis	Diagnostic Analytics	3	4	CONNECTION TO HANA VIA ODBC MIDDLEWARE	FI, CO, PA, HR, SCM, CRM and all others...
Query as a Web Service	Asset Liability Analysis	Descriptive Analytics	2	3	Supported Through Universe Connectivity	FI, CO, PA, HR, SCM, CRM and all others...
Web Application Designer	Customer Loyalty Analysis	Descriptive Analytics	3	3	Supported Through Universe Connectivity	FI, CO, PA, HR, SCM, CRM and all others...

Note: We conducted deep research on each topics, More depth details available upon request

SAP In-Memory Analytics Technologies

Key Capabilities and Observations

Legend	Recommended		Supported		Might need a lot of work		
<div>SAP Analytics Tools</div> <div>↓</div>	Descriptive Analytics	Diagnostic Analytics	Predictive Analytics	Prescriptive Analytics	Graphs and Charts	Structured Report	Mobile Analytics
Web Intelligence							
Dash Board							
Crystal Reports							
Business Explorer							
Design Studio							
SAP Lumira							
Live Office							
BEx Query							
SAP Analysis for OLAP							
Query as Web-Service							
Web Application Designer							

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SAP In-Memory Analytics Technologies Deployment and Delivery Options

Analytics Tools ↓	Desktop	Web	Mobile	Cloud
Analysis For OLAP				
Analysis For OLAP For Excel				
BEx (Business Explorer)				
BO Explorer				
Crystal Reports				
Dashboard				
Design Studio				
Query as a Web Service				
SAP Lumira				
Web Application Designer				
Web Intelligence				

Legend

Recommended	
Might need a lot of work	

Note: We conducted deep research on each topics, More depth details available upon request

Analytics Tools ↓	Retail Industry	Power and Utility	Oil & Gas Industry	Health Care & Life Sciences Industry	Financials
Web Intelligence	Market Basket Analysis	Real-Time Micro Grid Power Quality analysis	Reservoir trend Analysis	Personalized Medicine and Prescriptive Analysis	Cost Profitability Analysis
Crystal Reports	Loss Prevention Analysis	Power Utilization Analysis	Upstream Analysis	Population Health Management and Suggestive Analysis	Revenue Analysis
Dash Boards	Merchandise Management Analysis	Power Capacity Analysis	Cross Stream Analysis	Drug Efficacy Analysis	Cash Flow Analysis

Note: We conducted deep research on each topics, More depth details available upon request

Analytics Tools ↓	Retail Industry	Power and Utility	Oil & Gas Industry	Health Care & Life Sciences Industry	Financials
Design Studio	Point of Sales Analysis	Smart Grid Analytics	Down Stream Analysis	Patent Cliff Analysis	Expense Analysis
SAP Lumira	Sales Patterns Analysis	Public Utility analysis	Reservoir trend analysis	Break –Even Analysis	Asset Liability Analysis
Analysis Edition for OLAP - PPT	Seasonality Analysis	Carbon Foot Print Analysis	Asset optimization Analysis	Point of Care Analysis	Cost Allocation Analysis
Analysis Edition for OLAP - EXCEL	Turnover Potential Analysis	Peak Load Analysis	Reservoir trend Analysis	Population Health Analytics	Equity Earnings Analysis

Note: We conducted deep research on each topics, More depth details available upon request

SAP In-Memory Analytics Technologies Industry Use Cases

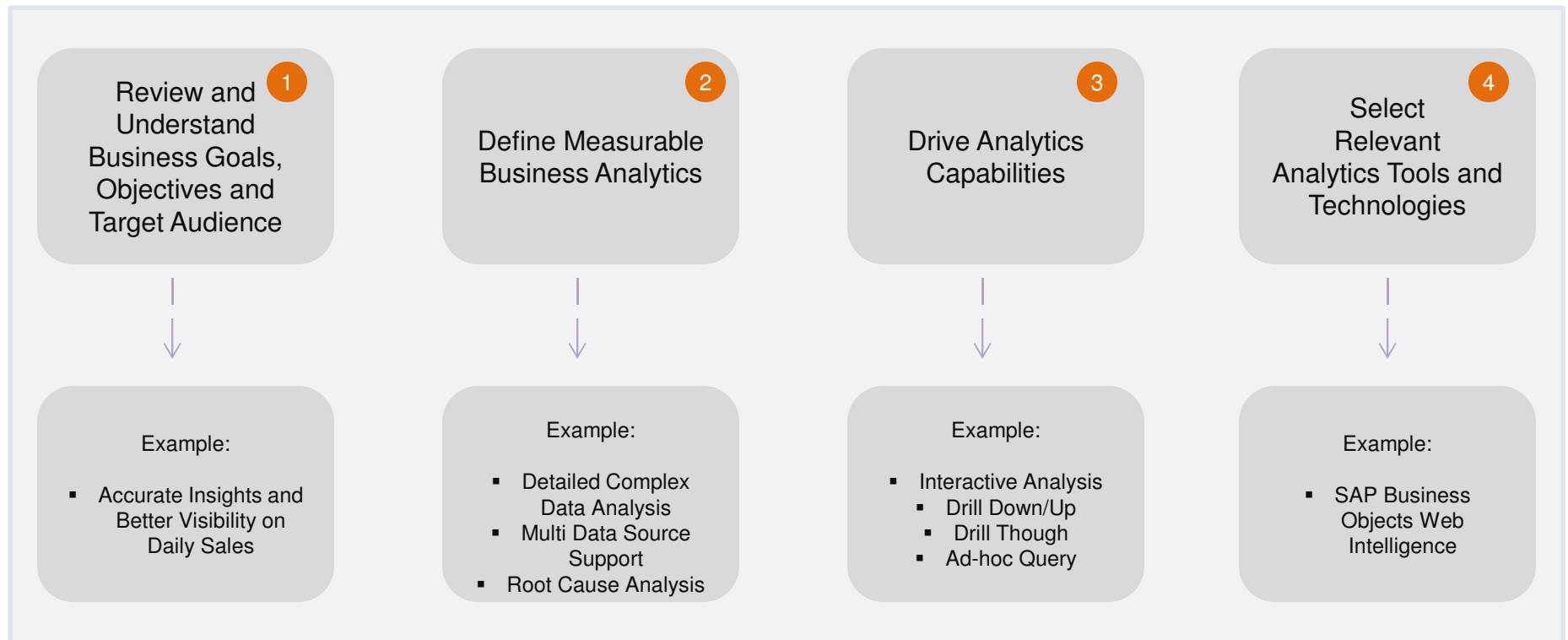
Analytics Tools	Retail Industry	Power and Utility	Oil & Gas Industry	Health Care & Life Sciences Industry	Financials
↓ BW Business Explorer	Inventory Management and Performance Analysis	Real-Time Micro Grid Power Quality analysis	Upstream Analysis	Root Cause Analysis	Sales Growth Analysis
Query as Web Service	Item Cannibalization Analysis	Power Utilization Analysis	Cross Stream Analysis	Drug Efficacy Analysis	Market Segment Analysis
Live Office	Customer Loyalty Analysis	Power Capacity Analysis	Down Stream Analysis	Patent Cliff Analysis	Financial Ratio Analysis
Web Application Designer	Customer Segmentation Analysis	Carbon Foot Print Analysis	Reservoir trend analysis	Break –Even Analysis	Break Even Analysis
BO Explorer	Advertising Effectiveness Analysis	Peak Load Analysis	Asset optimization Analysis	Point of Care Analysis	Sales growth Analysis

Note: We conducted deep research on each topics, More depth details available upon request



- Understand your business objectives, identify measurable business analytics to achieve your business objectives and then choose appropriate technology with proven analytics capabilities
- Your BI Strategy should align with your business goals
- Start with small by defining your requirements and your desired outcome
- Focus on your business pain points by business priority. One use case after the other – not all in once.
- Understand your audience. Let them describe their analytics.

Analytics Tool Selection Approach



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Data Scientist
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Business Value Proposition

- Drill, Slice & Dice and format information
- Simple Drag and Drop feature to create reports
- Create Charts and Graphs with supporting data with ease
- Set up alerts for certain event or information that matters

Functionality/Capability

- Get your insights whenever and wherever users are
- Self-Service allowing users to create their own Ad-Hoc Reports
- Create Interactive Analytics
- Drill data down/up as needed

Technical Landscape

- Business user tool, No technical skills required to use
- Can be deployed in Web, Desktop or Mobile
- Takes Analysis and Universe as your data sources

Business Value Proposition

- Faster decision making with interactive "What-if" analysis
- Deliver live data by connecting to live data sources
- Go mobile your dashboards via iPad for insights
- Individual contributors understand what is important
- Sustainable and Flexible

Functionality/Capability

- Easy to learn by business users
- Simplify KPIs linking to details
- Create/Compare Trend Charts
- Colorful visuals with/without data

Technical Landscape

- Deliver actionable insights in visual
- Read sales and revenue numbers in a flash
- Mobile solution is available

Business Value Proposition

- Improve Productivity and efficiency
- Help business users make informed decisions
- Meet specific reporting needs
- Minimize use of technical resources
- Multi-lingual information in a single Deployment

Functionality/Capability

- Professional fixed formatted report design
- Large-scale report distribution
- Data-Rich Documents
- Deliver reports to internal and external business users

Technical Landscape

- Client/Server Architecture
- Can be deployed in Web Portal
- Supports any DBMS/RDMS/File system as data source
- Supports many different types of connectivity

Business Value Proposition

- Web-based Search and exploration
- Drill down from search details
- Mobile Ready
- Objects mapped to data for a specific business process

Functionality/Capability

- Easily Sort/Rank data
- Deliver using other SAP BOBJ tools such as Webi
- Email Data, Export Data to flat files or as Image

Technical Landscape

- Connect to SAP HANA Information Model

Business Value Proposition

- Lower the cost of enterprise grade applications
- Align tested/trusted insights for business groups
- Informed Decision Making
- Visualizations are multidimensional, interactive and mobile ready
- Delivering a holistic view of data

Functionality/Capability

- Trusted data from Native data sources
- Flexible to customize
- Guided Navigation built in
- Pre-built templates available for faster development
- Time and Money saved by reusable assets

Technical Landscape

- Connect InfoCubes and Views from SAP HANA
- Optimized for BIG Data
- BI Apps for mobile are much faster and easier to access
- Eclipse based application design environment
- Interoperability with SAP BOBJ Analysis for OLAP edition
- Renders Dashboards and other visualizations in HTML5

Business Value Proposition

- Deliver Faster with latest visualization technologies
- Maximize Business Knowledge, Combine Business Insights and Detailed Data
- Powered with Self-service and all Analytic technologies
- Reduce IT Dependency, Accelerated time to insight for quicker and better decisions
- Visualization in the Cloud

Functionality/Capability

- Expose SAP HANA as data source
- Share Knowledge
- Use Interactive Maps and Geolocations
- Share datasets and Analytics via Web or Mobile devices

Technical Landscape

- Security thru SAP HANA Platform, Supports Manual and SSO (SAML) Authentication
- Backup/Recovery as SAP HANA Instance
- Needs BOBJ Mobile App for mobile renderings
- Support Multiple data sources (XLSX, RDBMS, SAP BOBJ Universe)
- Simple Drag and Drop interface

Business Value Proposition

- Embed BI information in to MS Office Documents
- Extend BI information to MS Office user groups of Organization
- Reduce Delivery Cost by using your MS Office Suite as media
- Familiar MS Office look and feel for Business Users

Functionality/Capability

- Embed trusted, refreshable information from any data source in MS Office Excel and Power Point
- React faster on ad-hoc requests

Technical Landscape

- Integrate BI directly with MS Office environment
- SAP HANA Information model a recommended data source

Business Value Proposition

- Integrate easily with tools such as BEx Web Application, Web API Kit, BEx Mobile Intelligence
- Can be used to deploy your analytics on desktop, Web or Mobile

Functionality/Capability

- OLAP Reporting
- Hierarchical display of structures
- Filter operations
- Guided Navigation

Technical Landscape

- BW InfoCube as Data source
- The number of structural components in a structure is restricted to 999

Business Value Proposition

- Multidimensional analysis software
- Easy to Filter and Manipulate data
- Data discovery without the help of IT
- Increase analyst efficiency with content re-use
- Make use of In-Memory technology

Functionality/Capability

- Easy to use by Business users allowing them to create their own ad-hoc reports
- Embed analytics into live PPT presentations
- Identify Trends and Business patterns
- Easy to Share insights

Technical Landscape

- Connect InfoCubes and Views from SAP HANA
- Connect to SAP Universe and Multidimensional data structure

Business Value Proposition

- Re-use any Universe Queries to Publish as a Webservice
- Quick and familiar Webi view of data as needed when wanted
- Uses existing Business Objects Security

Functionality/Capability

- Self-Service – build your own analytics, tabular reports
- Not a Formatted Output, No Drill down/up/through

Technical Landscape

- Crystal Reports/Dashboards Consume these Web Services
- Secure data transfer

Business Value Proposition

- Discover data about your organization for better business decisions
- One of the best Data mining tool

Functionality/Capability

- HTML5 Page creation
- Identify patterns and discover unusual data
- Old-Fashioned "Look and Feel"

Technical Landscape

- Can be deployed in Web, Desktop or Mobile
- Takes Analysis and Universe as your data sources

Thank You !

CubeInsights, Inc.
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TECHNOLOGY PARTNER

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