SAP HANA Data Management Suite

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What problem are we addressing?

Businesses need to provide all users with the **right information in context at the right moment** for the task at hand.

Businesses need to **harness the power of all their data** – business and new data types – and to anticipate and influence business outcomes.

Business users need to have all the data relevant to their decision and they need to **trust the security and accuracy of their data**.
Today: Data sprawl, impossible to govern, security complexity
Business situation and implications

Most enterprises now have data in 6-8 clouds

Data has become less accessible due to the proliferation of cloud based solutions and business unit build applications further fragmenting the data landscape

Company’s understanding of their customers, suppliers, products has been in decline, caused by data being inaccessible

Substantial legal risks due to lack of governance, e.g. GDPR

Difficulty of operationalizing data science use in everyday business processes
Business situation and implications

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**Data has become less accessible** due to the proliferation of cloud based solutions and business unit build applications further fragmenting the data landscape

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**Substantial legal risks** due to lack of governance, e.g. GDPR

**Difficulty of operationalizing data science** use in everyday business processes
SAP HANA Data Management Suite enables secure, governed enterprise class applications and analytics by providing an open, hybrid, and multi-cloud enabled solution suite that orchestrates all the data you need into a trusted, unified landscape. We do this by reducing complexity with the SAP HANA Data Management Suite.
Vision: Common data model, all data used by everyone, simple
What does SAP HANA Data Management Suite mean for customers?

<table>
<thead>
<tr>
<th>Capabilities</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Understanding</td>
<td>Weak</td>
<td>Comprehensive</td>
</tr>
<tr>
<td>Business modeling</td>
<td>Limited</td>
<td>Comprehensive</td>
</tr>
<tr>
<td>Central metadata understanding</td>
<td>Limited</td>
<td>Comprehensive</td>
</tr>
<tr>
<td>Self Service</td>
<td>Limited</td>
<td>Open</td>
</tr>
<tr>
<td>Security</td>
<td>Weak</td>
<td>Enterprise grade</td>
</tr>
<tr>
<td>Governance</td>
<td>Limited</td>
<td>Comprehensive</td>
</tr>
<tr>
<td>Lineage &amp; traceability</td>
<td>Limited</td>
<td>Comprehensive</td>
</tr>
<tr>
<td>Central monitoring</td>
<td>Limited</td>
<td>Comprehensive</td>
</tr>
<tr>
<td>Advanced use cases (e.g. Machine Learning)</td>
<td>Inhibited</td>
<td>Possible</td>
</tr>
<tr>
<td>Latency</td>
<td>Batch</td>
<td>Real-time</td>
</tr>
</tbody>
</table>

Current customer situation

SAP HANA Data Management Suite

1 Of customer, supplier, product, employee, reseller, etc.
SAP Strategy – Deliver the Intelligent Enterprise

THE INTELLIGENT ENTERPRISE features 3 KEY COMPONENTS:
SAP HANA Data Management Suite

Trusted Data | Connected, Intelligent Data | Cloud Architecture Flexibility

SAP Intelligent Enterprise Suite

SAP Leonardo and SAP Analytics Cloud

Third-Party Applications

**SAP HANA Data Management Suite**

- In-memory transaction & analytics
- Data discovery & governance
- Data orchestration & integration
- Data cleansing & enrichment
- Data storage & compute

**SAP HANA**

- SAP Data Hub

**SAP Enterprise Architecture Designer**

- SAP Big Data Services

**Third-Party Services & Products**

- Spark
- Hadoop
- Third-party Databases
- Third-party Data Management

**SAP Add-On API Services & Products**

- SAP HANA Spatial services
- SAP HANA Blockchain service
- SAP HANA Streaming Analytics
- Other SAP Cloud Platform and SAP Leonardo Services
- SAP EIM Solutions

**SAP Cloud Platform**

- Business Data
- Cloud Application Data
- IoT
- Spatial
- Social
- Image

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The decision factory for the intelligent enterprise

Managed Data

Stream
ETL
Dynamic Access

Access Data

Join
Filter
Cleanse

Connected, Intelligent Data

Unify

Cloud & Architecture Flexibility

Analyze
Transact
Machine Learning

Present

Packaged & Custom Applications

Analytics

All data sources and types

Capture

Ingest

Process

Orchestrated

Compute

Consume

SAP HANA Data Management Suite
SAP HANA Data Management Suite
Common capabilities today and tomorrow

**Today**

- Development platform for applications that need analytics on real-time transactions
- Data governance, anonymization, and pipeline flow to protect and refine data across the landscape
- Modelling across business, data, and technology
- In-memory multi-model analytics and data processing on a distributed computing framework

**Future**

- Unified UX across administration and development tools from SAP & third-party
- Common metadata catalog, business models, and comprehensive data governance
- Seamless Cloud Service
- Applied AI to automate data operations and pre-defined business application scenarios
SAP HANA Data Management Suite

**Trusted Data**
Data you can rely on for your business decisions

**Connected, Intelligent Data**
Single, unified view enabling advanced applications and data management

**Cloud and Architecture Flexibility**
Cloud freedom for data systems, applications, and system development
Trusted data
Data you can rely on for your business decisions

Discover
• Discover and document where data & content resides
• Discover and document how your data moves throughout your organization
• Identify and document what data & content is subject to which internal policies and external regulatory requirements

Enrich
• Cleanse, match, consolidate and enrich data
• Continually monitor and measure data quality
• Manage and synchronize master data across applications

Improve
• Manage content lifecycle
• Implement access controls, anonymization, and encryption
• Embed validation checks into business process and data entry workflow
• Implement archiving, retention and deletion policies and rules
Connected, intelligent data
A single, unified view enabling advanced analytics

Query data wherever it resides | Ingest data from various data sources with smart data integration | Capture relevant events with smart data streaming | Ensure accurate data with data quality

All data sources and types

- Managed Data
- Access Data

Rationalize, Filter, Cleanse

SAP HANA Data Management Suite

- Ingestion
- Governance
- Security
- Orchestration
- Federation
- Modelling
- Tiering
- Ageing

Multi-Cloud and Hybrid Cloud Computing | Data Lake / Hadoop Integration

Multi-Cloud | Data Lake
Connected, intelligent data
Multi-model analytics and machine learning

Structured Data
Unified data model and SQL language across all data types

Predictive
Proactive and intelligent decisions

Spatial
Combine business data with geographical data

Machine Learning
Train machine learning models to classify images via Google Tensorflow*

Graph
Build and analyze relationships in data on the fly

SAP HANA Data Management Suite

Text & Search
Full-text search, navigation, and access to structured and unstructured data

Streaming
Real-time analysis of data streams

Time Series Data
Capture and analyze a sequence of successive data points

* Partner integration
Cloud and architecture flexibility
Cloud freedom for data systems, applications, and system development

<table>
<thead>
<tr>
<th>Multiple Patterns from One Architecture</th>
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</thead>
<tbody>
<tr>
<td><strong>Big Data Warehouse</strong></td>
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<tr>
<td>SAP BW/4HANA</td>
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<td>SAP HANA</td>
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<td>SAP HANA</td>
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<tr>
<td>SAP EA Designer</td>
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<tr>
<td>SAP BW/4HANA</td>
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<td>Business Intelligence Tools</td>
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<td>SAP Data Hub</td>
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<td>Big Data services from SAP</td>
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<td><strong>Leonardo Platform</strong></td>
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<td>SAP Leonardo</td>
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<td>SAP HANA</td>
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<tr>
<td><strong>S/4HANA Expansion</strong></td>
</tr>
<tr>
<td>SAP S/4HANA</td>
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<td>SAP EA Designer</td>
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<td>Big Data services from SAP</td>
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<td><strong>Spatial Analytics</strong></td>
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<td>Earth Observation Analysis</td>
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<td>SAP Cloud Platform Spatial</td>
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<td>SAP HANA</td>
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<td><strong>Analytics Data Mart</strong></td>
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Cloud and architecture flexibility
Freedom for data systems, applications, and system development

Provides freedom of movement and synchronization of data, instances and queries spanning local, private and multi-public clouds.
Industry Recognition for SAP HANA Data Management Solutions

**Recognized as a Leader**

- Gartner Magic Quadrant for Operational Database Management Systems, November 2017 *
- Gartner Magic Quadrant for Data Integration Tools, August 2017 *
- Gartner Magic Quadrant for Data Quality Tools, October 2017 *
- Gartner Magic Quadrant for Data Management Solutions for Analytics, February 2018 *

**Recognized as a Leader**

- The Forrester Wave™: Translytical Data Platforms, Q4 2017
- The Forrester Wave™: Enterprise Data Virtualization, Q4 2017
- The Forrester Wave™: Streaming Analytics, Q3 2017
- The Forrester Wave™: Big Data Warehouse, Q2 2017
- The Forrester Wave™: In-Memory Databases, Q1 2017
- The Forrester Wave™: Predictive Analytics and Machine Learning Solutions, Q1 2017

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SAP HANA Data Management Suite enables secure, governed enterprise class applications and analytics by providing an open, frictionless cloud solution suite that orchestrates all the data you need into a trusted, unified landscape

- Open and flexible data system for the multi and hybrid cloud
- Federated governance, security, lineage and discovery

Data Framework
Big Data, IOT, EDW, and analytic systems supporting SAP Leonardo, our digital innovation system

Data Insight
An in-memory analytic database for highly agile advanced analytics and innovative application development

Data Governance
Data compliance strategies, process optimization, data governance, lineage, and quality
Data framework
Where to start?

**Big Data Warehouse**
Combine refined Big Data with enterprise data, into a trusted, unified landscape for advanced, real-time analytics

**For Leonardo Projects**
Support all IoT & ML projects, combining refined Big Data, streaming data with enterprise data spanning ingestion to consumption

**For S/4 HANA Projects**
An S/4HANA project impacts all other data management projects such as reporting, analytics, MDG, EIM, governance, Big Data and innovation projects. Simplify with HDMS
## Data Insight

### Where to start?

<table>
<thead>
<tr>
<th>Industry Solutions</th>
<th>Innovative industry specific innovation use cases</th>
<th>Vodafone</th>
<th>AMEC</th>
<th>HSE24</th>
<th>Burberry</th>
<th>Bank Hapoalim</th>
<th>Paypal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytics Data Mart</td>
<td>Deliver analytic solutions much faster than alternative approaches</td>
<td>Indiana</td>
<td>Adobe</td>
<td>Dell</td>
<td>Reuters</td>
<td>Loblaw</td>
<td>iControl</td>
</tr>
<tr>
<td>Spatial</td>
<td>SAP HANA combined with ArcGIS will transform the way you look at your data with geospatial capabilities</td>
<td>MunichRe</td>
<td>CapeTown</td>
<td>Alliander</td>
<td>Nanjing</td>
<td>NSW Fire&amp;Rescue</td>
<td></td>
</tr>
<tr>
<td>Modernization</td>
<td>Compute cycles on the MF are expensive, and data can be offloaded to HANA for advanced analytics</td>
<td>Citco</td>
<td>UZLeuven</td>
<td>Sony Communications</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Data governance and optimization

### Where to start?

<table>
<thead>
<tr>
<th><strong>Data Hub</strong></th>
<th>Enable agile data operations across the enterprise</th>
<th>B/S/H</th>
<th>RedBull</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information and Process Excellence</strong></td>
<td>Trusted, governed data and efficient business processes</td>
<td>ACEA</td>
<td>Vodafone</td>
</tr>
<tr>
<td><strong>Compliance &amp; Data Protection</strong></td>
<td>Tagging, profiling, movement, and accuracy of personal data across landscapes</td>
<td>Graphic Packaging</td>
<td>CONA</td>
</tr>
<tr>
<td><strong>Digital Content Transformation</strong></td>
<td>Manage the unstructured content lifecycle within the context of business processes</td>
<td>Citco</td>
<td>UZLeuven</td>
</tr>
<tr>
<td><strong>Agile IT Operations</strong></td>
<td>Standardize and automate IT operations across the entire infrastructure</td>
<td>SRP</td>
<td>YPTO</td>
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Next Steps

Work with SAP and our partners
We have a defined process that has proved successful
Thank you.

Contact information:

F name L name
Title
Address
Phone number