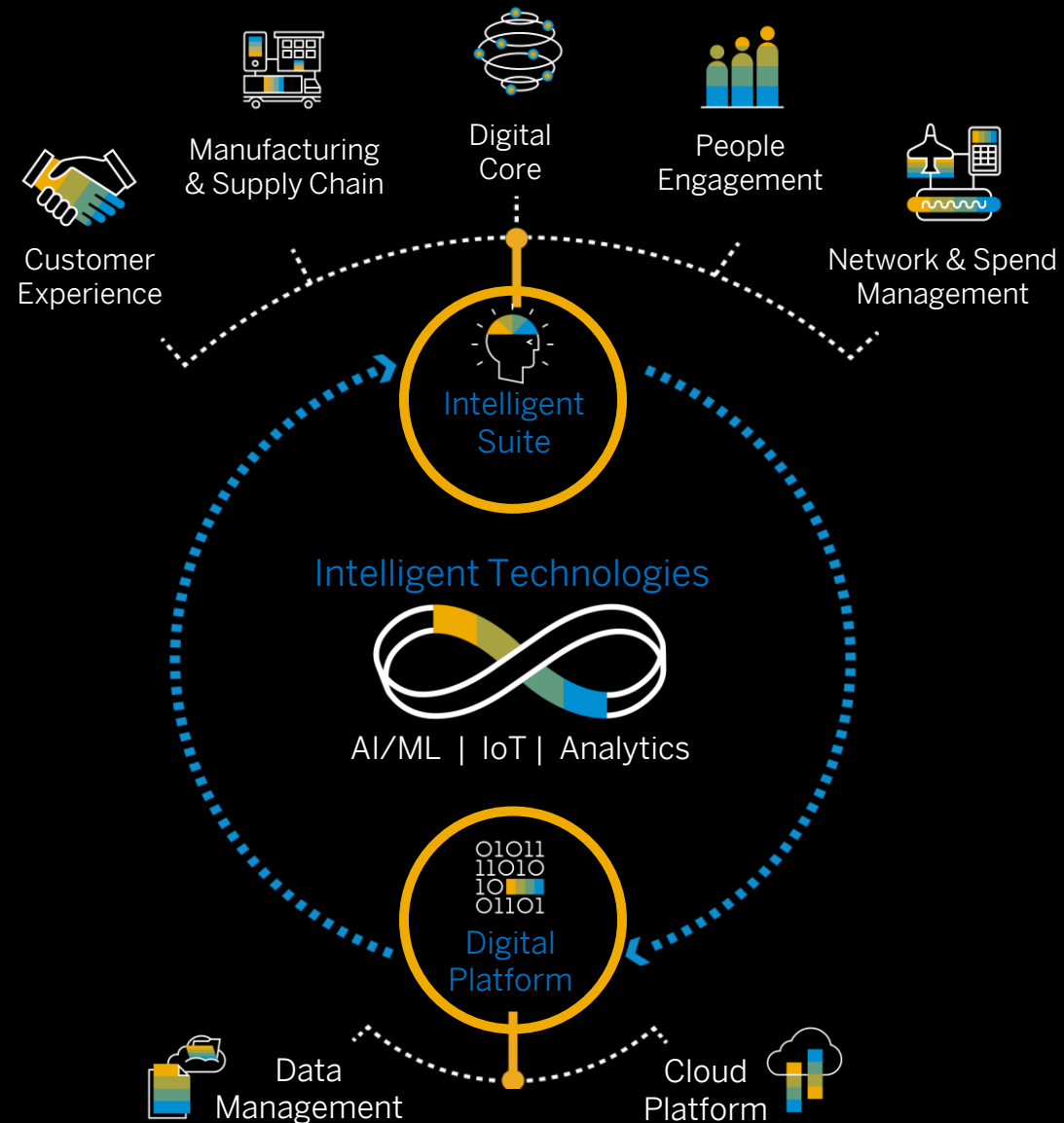




Digital Platforms: Basis of the Intelligent Enterprise

Dirk Haeussermann, SAP
October 11, 2018

The Intelligent Enterprise Framework



THE INTELLIGENT ENTERPRISE features 3 KEY COMPONENTS:

1 Intelligent Enterprise Suite

2 Digital Platform

3 Intelligent Technologies

2008

ExxonMobil

Petro China

Walmart

China Mobile

Bank of China

Microsoft

Procter & Gamble

AT&T

Johnson & Johnson

Royal Dutch Shell

2018



Apple



Alphabet



Microsoft



Amazon.com



Tencent Holdings

Berkshire Hathaway



Alibaba Group

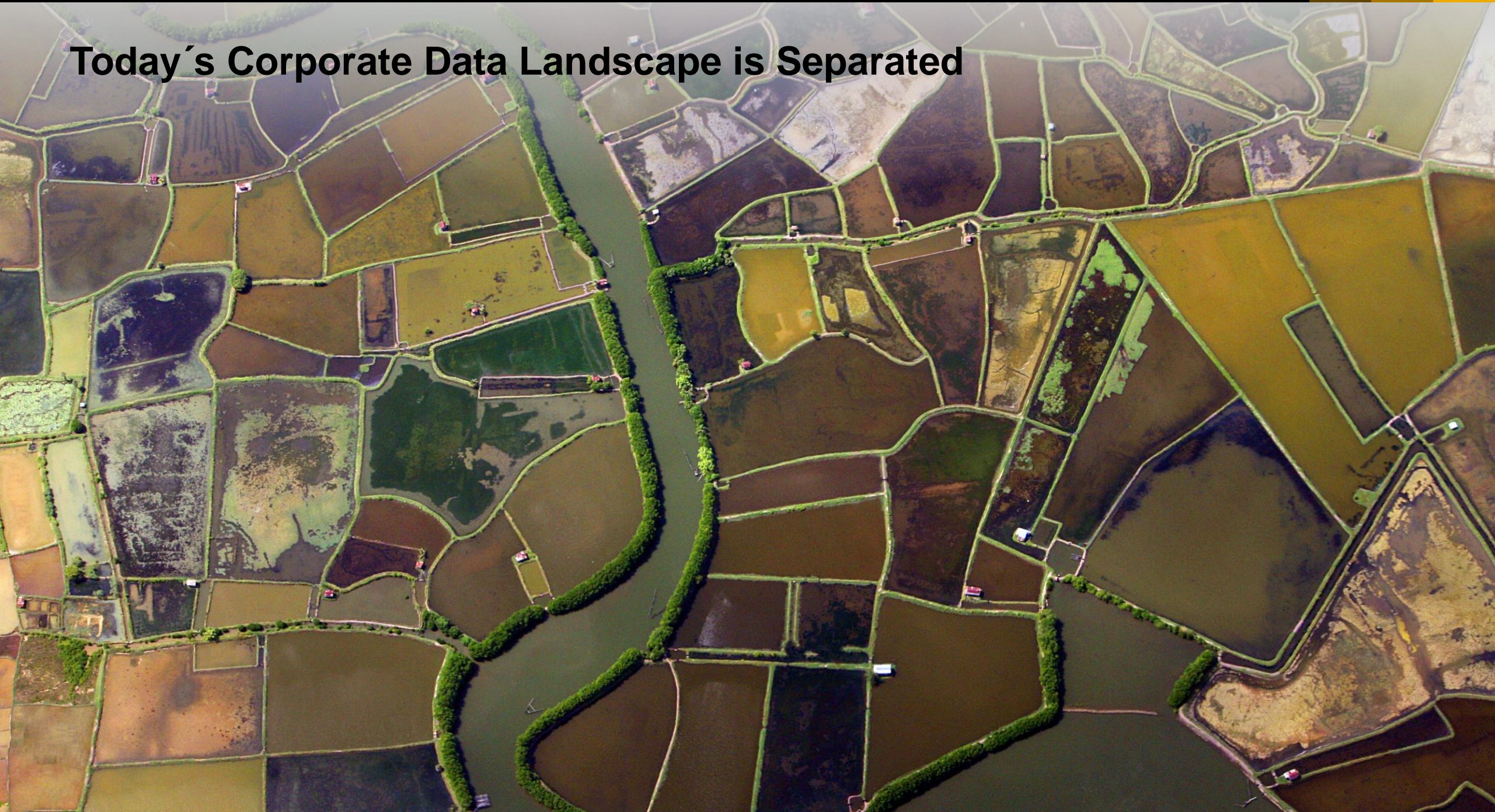


Facebook

JPMorgan Chase

Johnson & Johnson

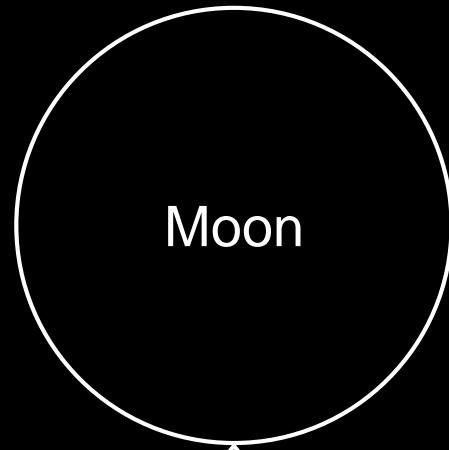
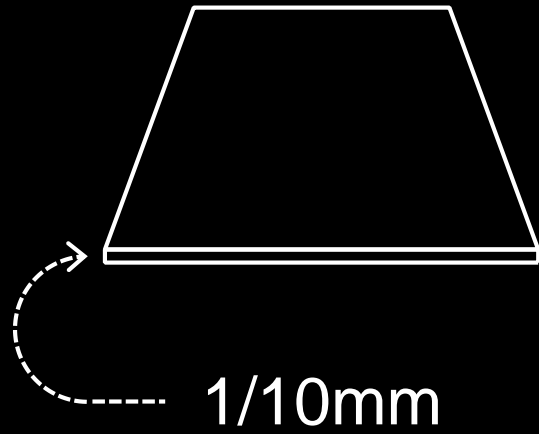
Today's Corporate Data Landscape is Separated



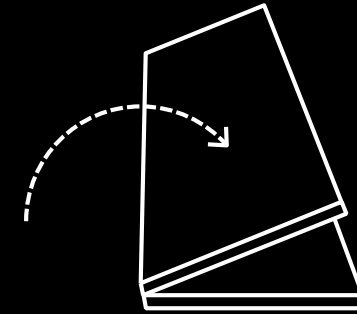
Data Volume and Data Complexity Increases



Exponential Developments



400.000km



Data Explosion

Exponential Mechanisms in IT

last 100 years



Understanding Data is Important



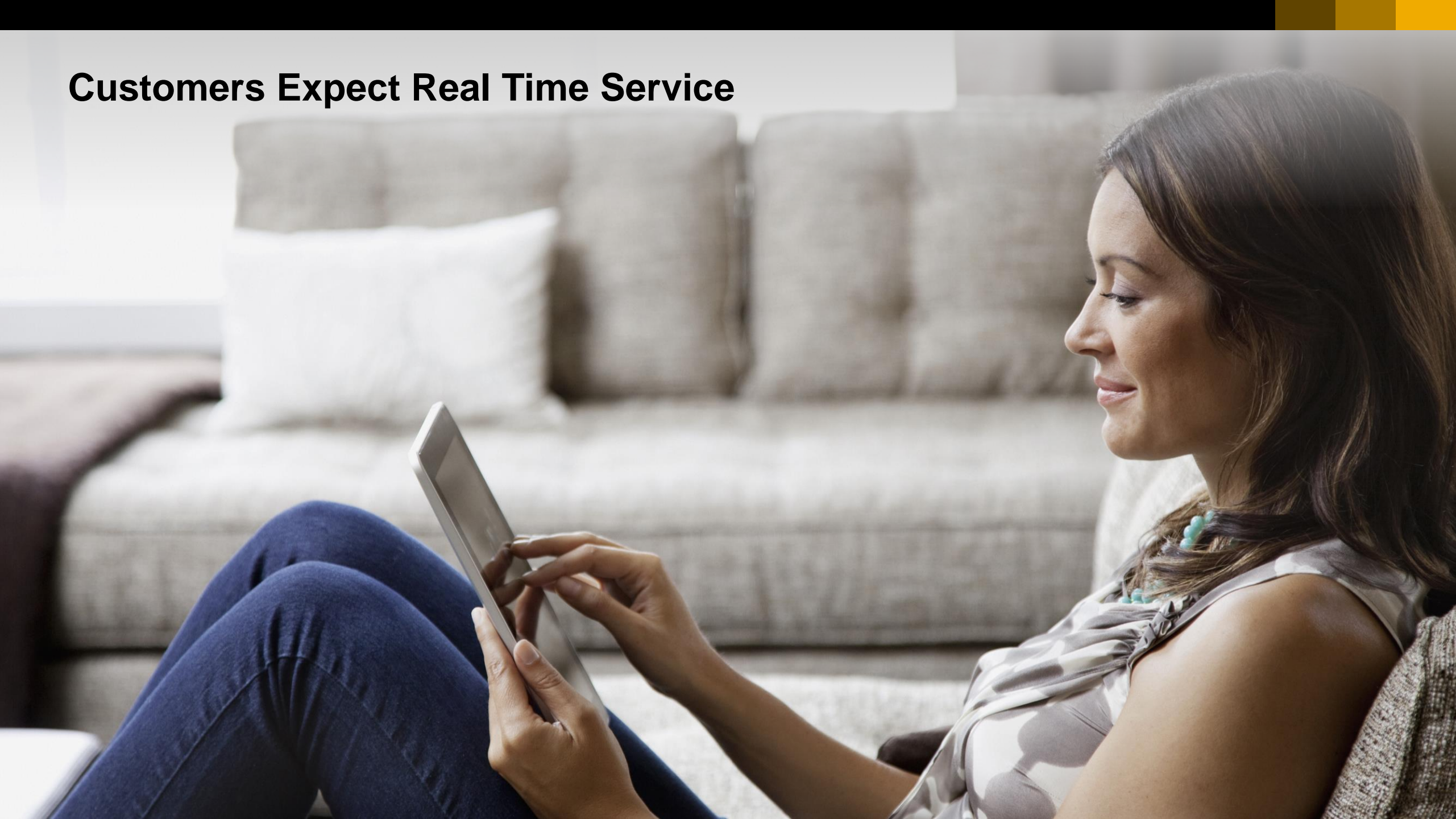
Understanding Data is Important



Understanding Data is Important

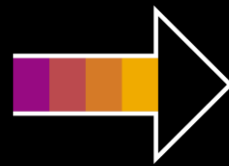


Customers Expect Real Time Service



The data challenge with current IT landscapes

Silos, delay, and complexity hinder business agility and innovation



- Partial business view
- No real-time insights
- Limited ability to innovate

Solution: One data platform for all applications

Comprehensive services to make information available to any application



ONE Platform for ALL Applications

Corporate / Hot Data

Data Lake

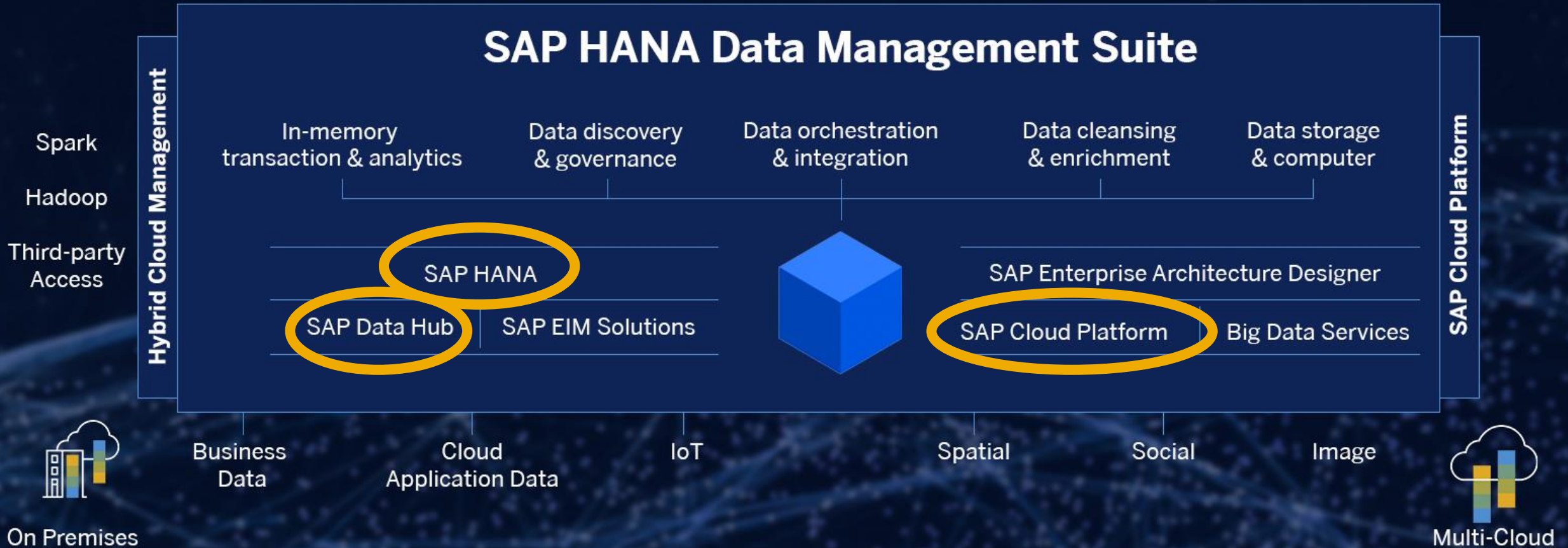
Cloud



- Speed
- Simplicity
- Innovation

Solution: One data platform for all applications

Comprehensive services to make information available to any application

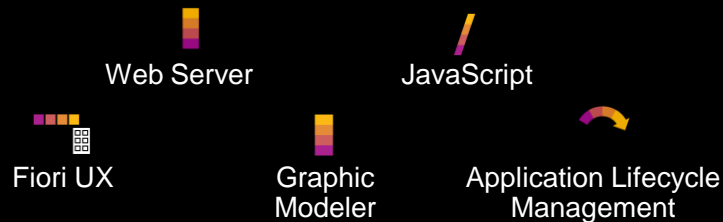


SAP HANA: The only business data platform for the intelligent enterprise

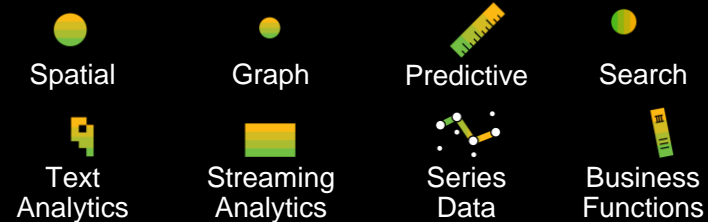
Comprehensive services to make information available to any application

SAP HANA PLATFORM

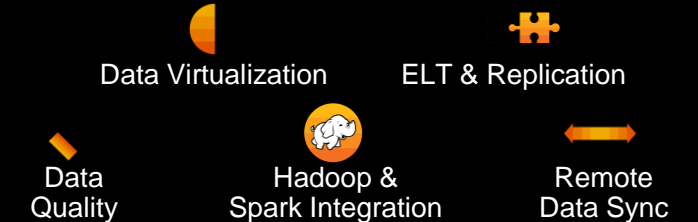
APPLICATION DEVELOPMENT



ADVANCED ANALYTICAL PROCESSING



DATA INTEGRATION & QUALITY



DATABASE MANAGEMENT



A large roll of glowing yellow metal is being processed in a dark industrial setting. The metal is bright and glowing, contrasting sharply with the dark background. The roll is partially unspooled, and the metal surface has a textured, crystalline appearance. The lighting is dramatic, with strong highlights on the metal and deep shadows in the surrounding environment.

Severstal JSC

SAP HANA, SAP MaxAttention

Up to **100x** faster reporting

250% improvement in data compression

SAP HANA / Cloud Platform

The Platform for Digital Business

All Devices

SAP, ISV and
Custom Applications

SAP Cloud Platform



Data Integration
& Quality



Application
Development



Advanced Analytical
Processing



Machine
Learning



Database
Management

SAP HANA

ONE Open Platform

OLTP + OLAP

ONE Copy of the Data



Swarovski

SAP Cloud Platform, ML

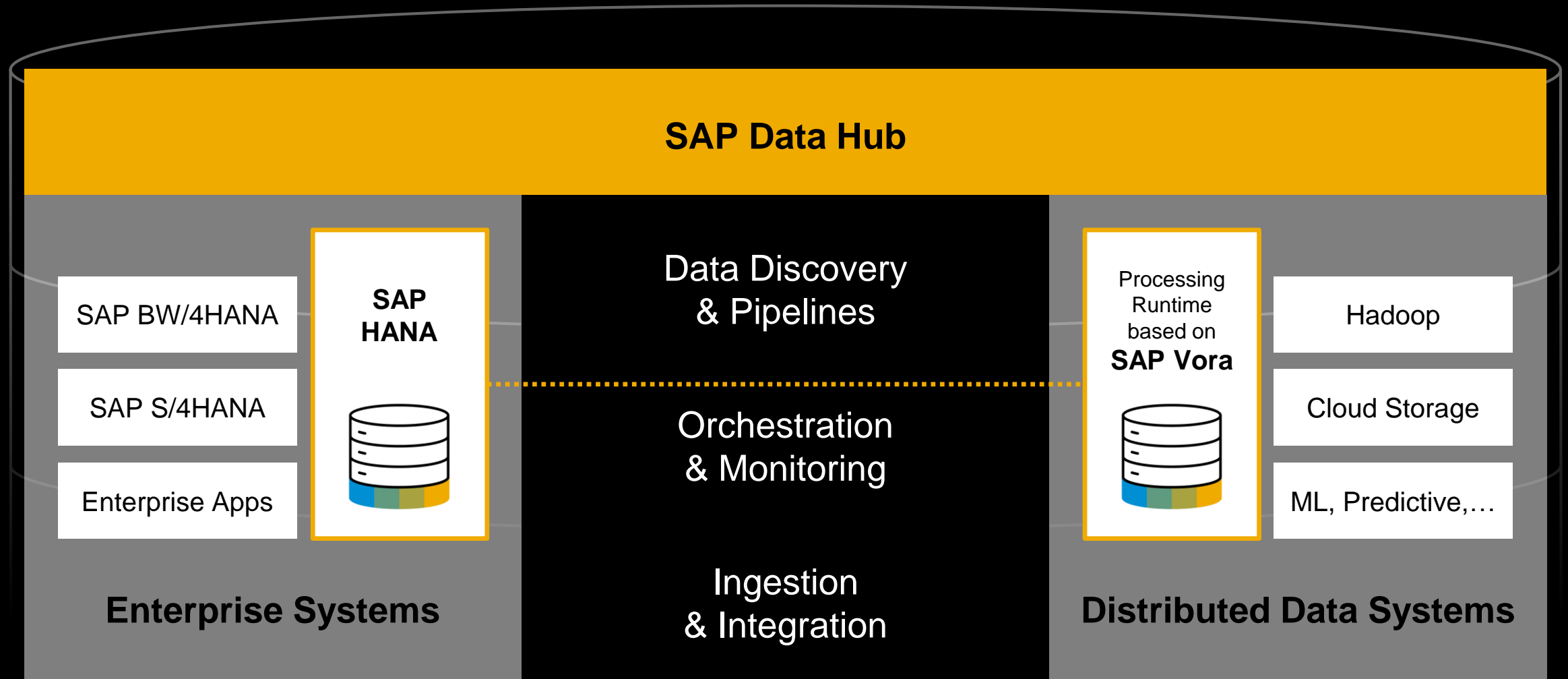
Create **one-and-only buying experience** with Swarovski
Added **Machine Learning** for product maintenance

SAP Data Hub



SAP Data Hub

Unifying Data Silos



Coding vs. Data Hub

```
1 from __future__ import division
2 from collections import Counter, defaultdict
3 from functools import partial
4 from linear_algebra import shape, get_row, get_column, make_matrix, \
5     vector_mean, vector_sum, dot, magnitude, vector_subtract, scalar_multiply
6 from statistics import correlation, standard_deviation, mean
7 from probability import inverse_normal_cdf
8 from gradient_descent import maximize_batch
9 import math, random, csv
10 import matplotlib.pyplot as plt
11 import dateutil.parser
12
13 def bucketize(point, bucket_size):
14     """floor the point to the next lower multiple of bucket_size"""
15     return bucket_size * math.floor(point / bucket_size)
16
17 def make_histogram(points, bucket_size):
18     """buckets the points and counts how many in each bucket"""
19     return Counter(bucketize(point, bucket_size) for point in points)
20
21 def plot_histogram(points, bucket_size, title=""):
22     histogram = make_histogram(points, bucket_size)
23     plt.bar(histogram.keys(), histogram.values(), width=bucket_size)
24     plt.title(title)
25     plt.show()
26
27 def compare_two_distributions():
28
29     random.seed(0)
30
31     uniform = [random.randrange(-100,101) for _ in range(200)]
32     normal = [57 * inverse_normal_cdf(random.random())
```

Coding vs. Data Hub

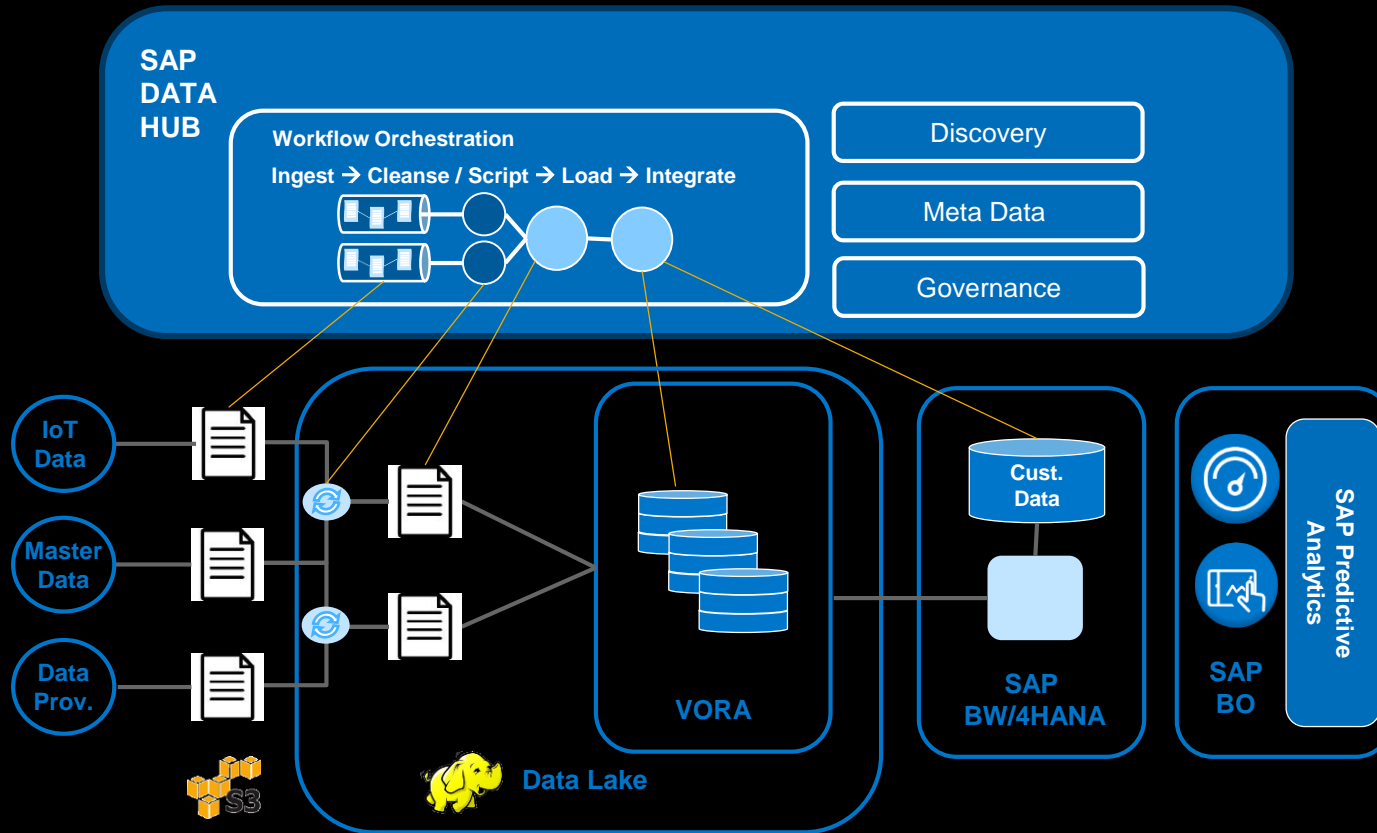


Connecting Machine and Customer Data



SAP Data Hub as Integration Layer for Data Driven Processes

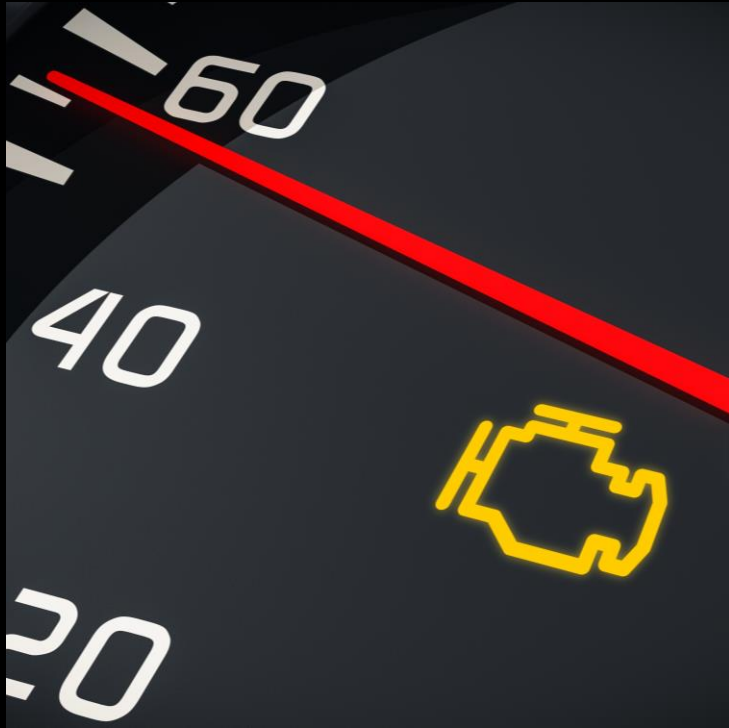
Customer Example: Overcoming silos and complexity



- **Machine data is collected** from smart appliances and pushed into S3
- Files are received in the data lake and data is being **transformed into a common layout**
- **Cleansed line items** are loaded into Vora and further processed in memory
- **Data is joined** in BW with customer data
- The **final data** is consumed by SAP BO
- Additional **advanced analytics** is performed by Data Scientists on top of Vora

Build you Future on Data

My personal Customer Empathy Story



An aerial, long-exposure photograph of a complex highway interchange at night. The image shows multiple levels of elevated roads and ramps, with light trails from cars creating a sense of motion. The scene is illuminated by streetlights and the lights of the buildings in the background. The overall color palette is dominated by blues and oranges from the artificial lighting.

**Build the future on the
POWER OF DATA
in your organization!**

Thank you.

Contact information:

Dirk Haeussermann

Head of Platform and Data Management, Middle & Eastern Europe

Walldorf, Germany

+49 172 617 5668

Follow all of SAP



www.sap.com/contactsap

© 2018 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company.

The information contained herein may be changed without prior notice. Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

In particular, SAP SE or its affiliated companies have no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation, and SAP SE's or its affiliated companies' strategy and possible future developments, products, and/or platforms, directions, and functionality are all subject to change and may be changed by SAP SE or its affiliated companies at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, and they should not be relied upon in making purchasing decisions.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies.

See www.sap.com/corporate-en/legal/copyright/index.epx for additional trademark information and notices.

