

HERUG 2014

SAP Higher Education & Research

SAP HANA and Analytics

Stefan Schafer, Glooobal

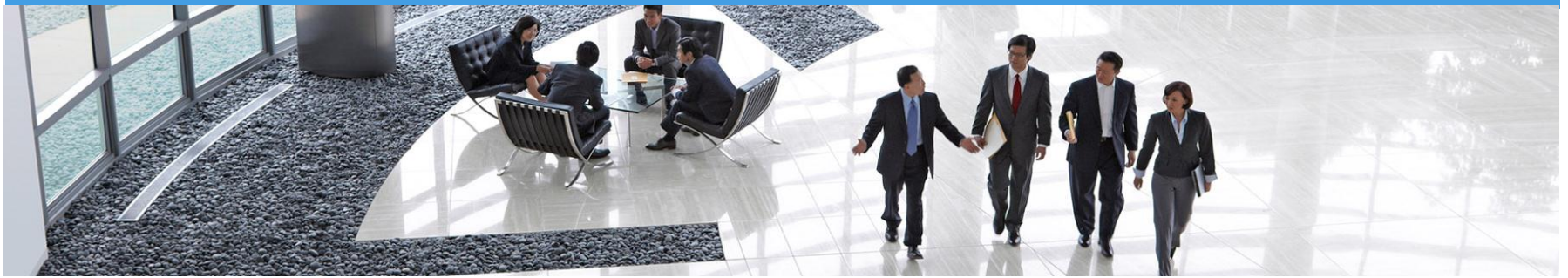
Keith Harmon, SAP, Industry Business Solutions, Higher Education & Research

April 2014



Disclaimer

This presentation outlines our general product direction and should not be relied on in making a purchase decision. This presentation is not subject to your license agreement or any other agreement with SAP. SAP has no obligation to pursue any course of business outlined in this presentation or to develop or release any functionality mentioned in this presentation. This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement. SAP assumes no responsibility for errors or omissions in this document, except if such damages were caused by SAP intentionally or grossly negligent.



HANA and Analytics for Higher Education & Research

1 Introduction

2 HANA Overview

3 HANA for Higher Education & Research

- Industry focused content
 - What are Customers and Partners doing?
-

4 Analytics for Higher Education & Research

- Industry focused content
-



HANA and Analytics for Higher Education & Research

1 Introduction

2 HANA Overview

3 HANA for Higher Education & Research

- Industry focused content
 - What are Customers and Partners doing?
-

4 Analytics for Higher Education & Research

- Industry focused content
-



Stefan Schafer
Co-Founder and CEO

What is SAP HANA?

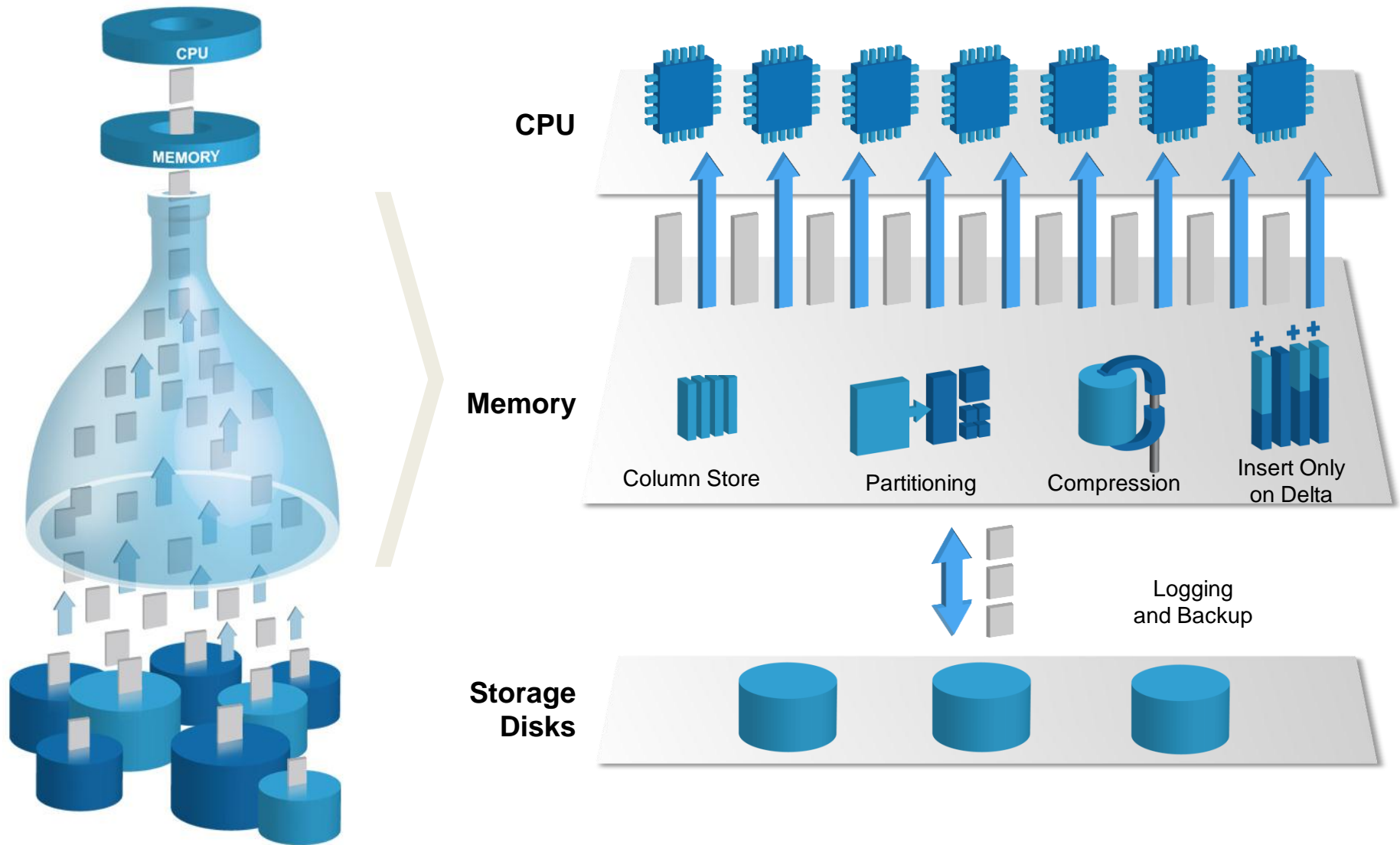
SAP HANA is a product of SAP released in 2011

The core of SAP HANA is a newly architected in-memory database

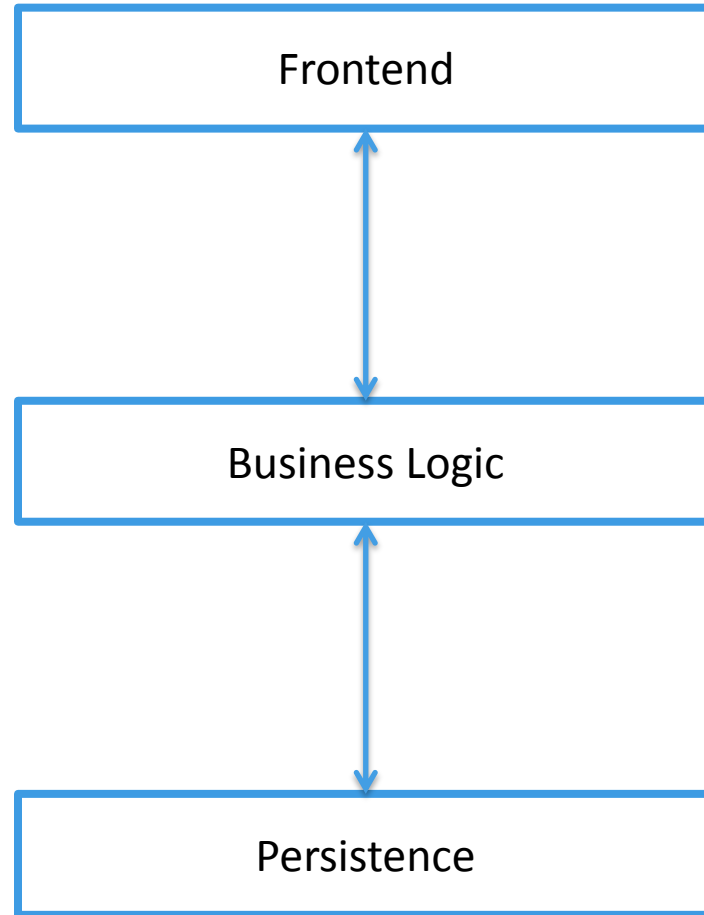
While SAP HANA can replace traditional databases, it is distinctly different from them, allowing the development of a new generation of applications

SAP HANA can be operated on premises on certified standard hardware or in a variety of cloud deployments

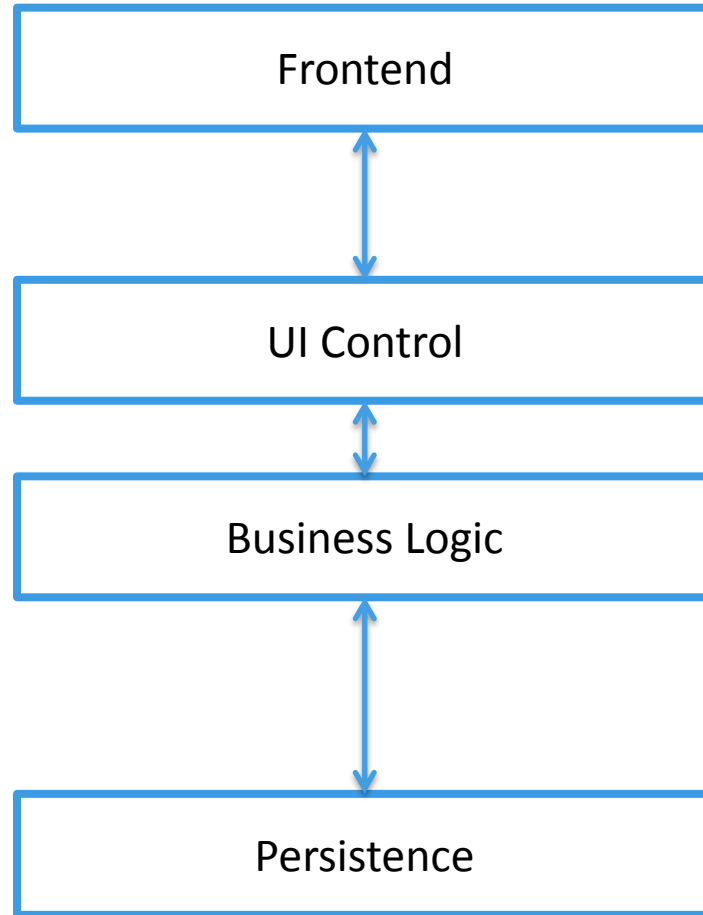
Why is SAP HANA so Powerful?



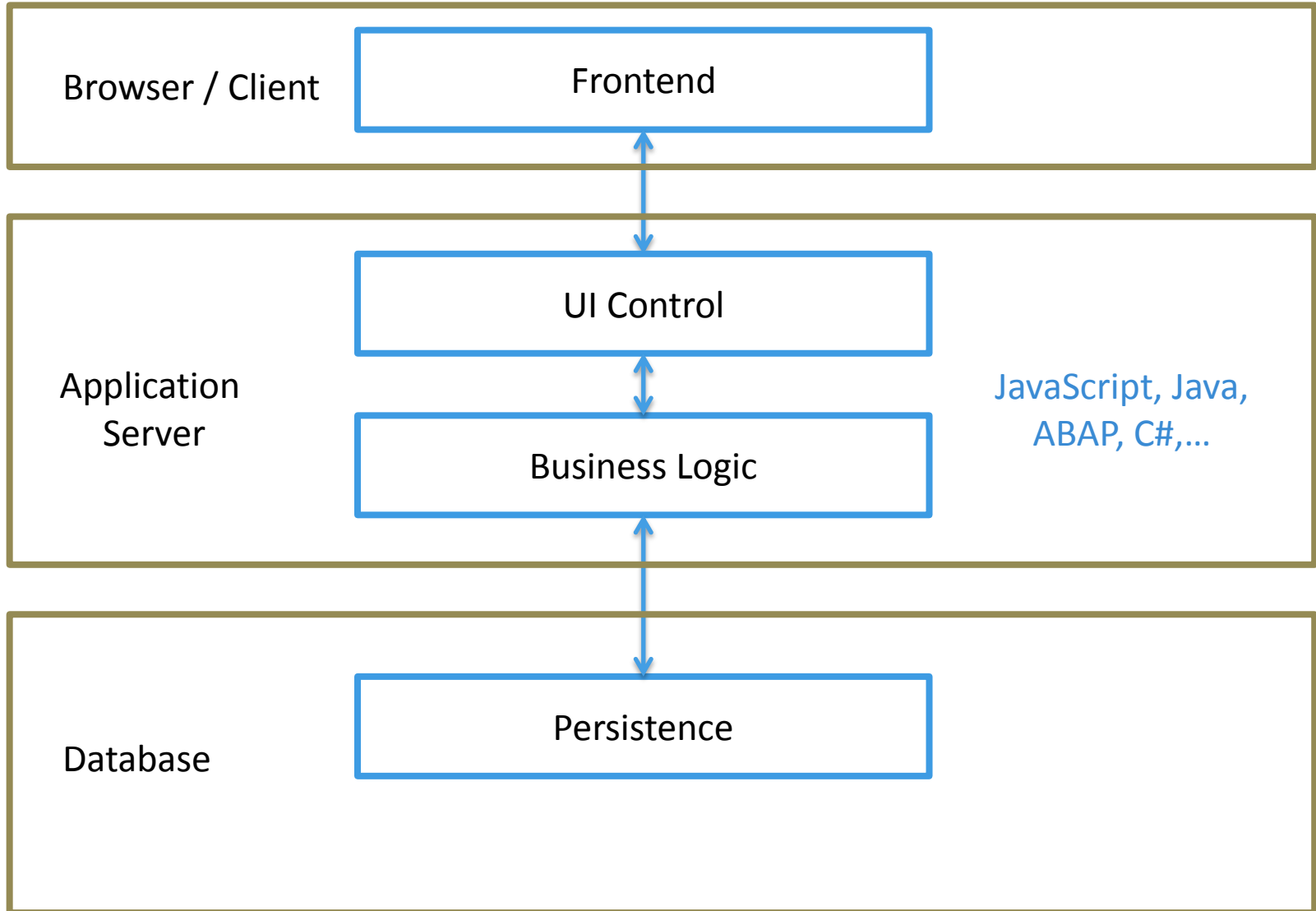
Developing Applications



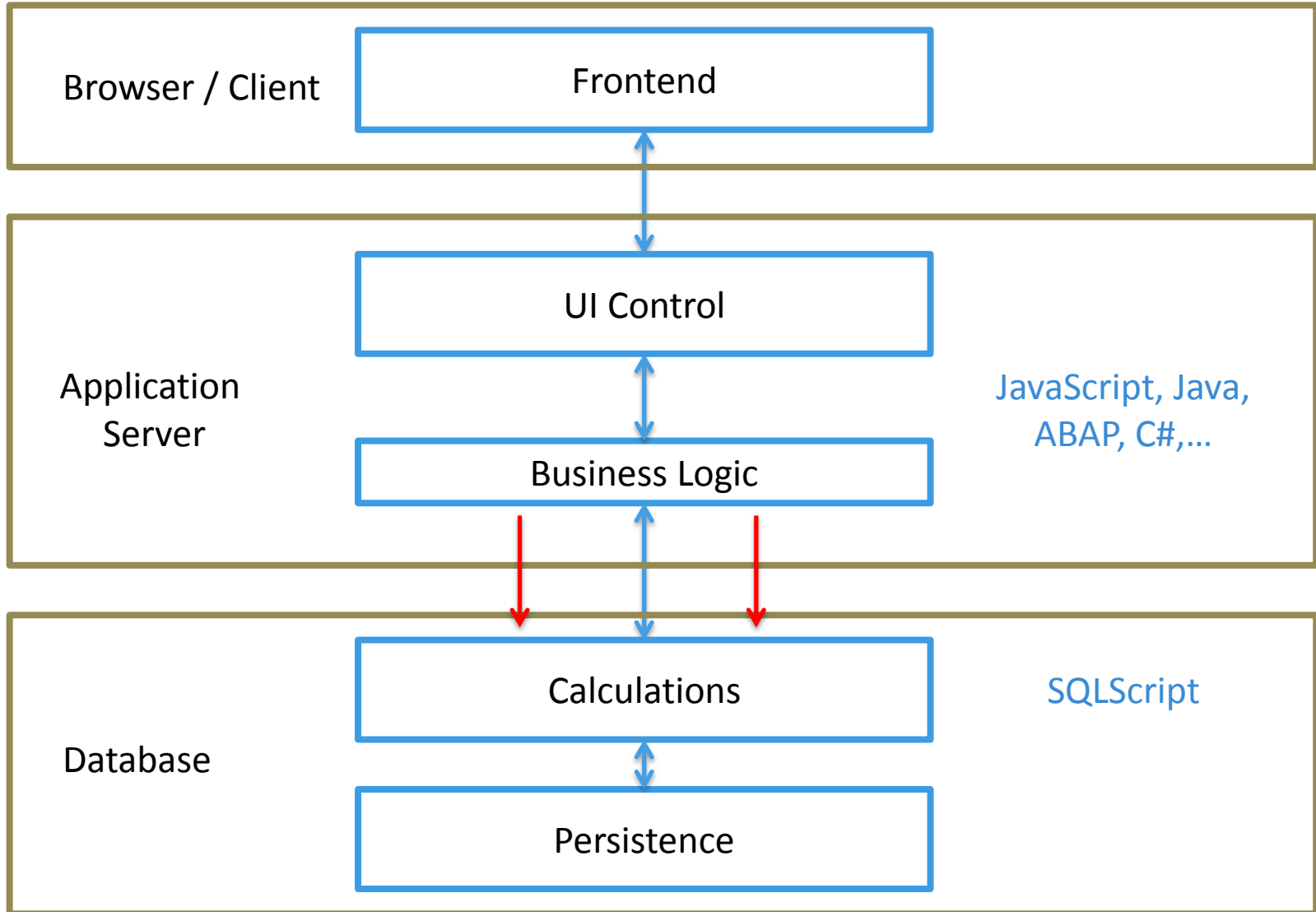
Developing Applications



Developing Applications: The Traditional Way

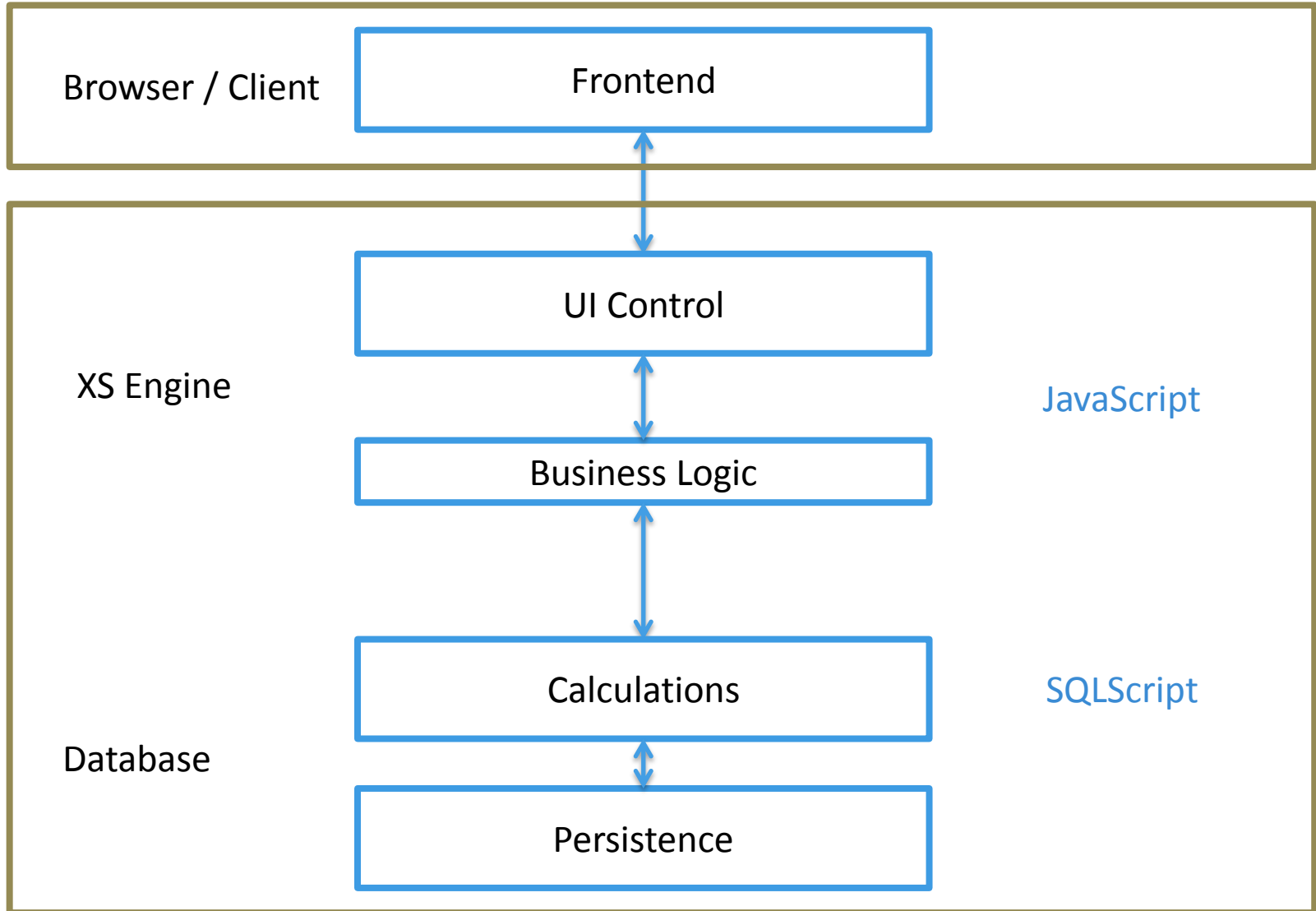


Developing Applications: Optimizing Applications for HANA

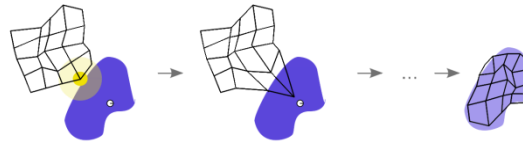


SAP HANA

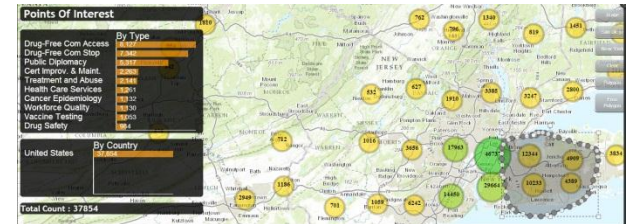
Developing Applications: HANA Native Applications



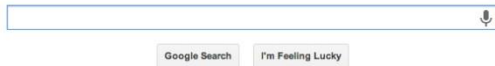
SAP HANA Can Do More



Predictive Library



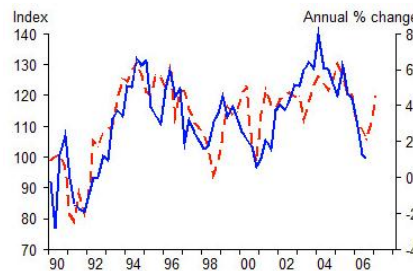
Geo-spatial Data and Functions



Fuzzy Search

@thenerd: The new XS-321 is much better than the previous product

Text Analysis

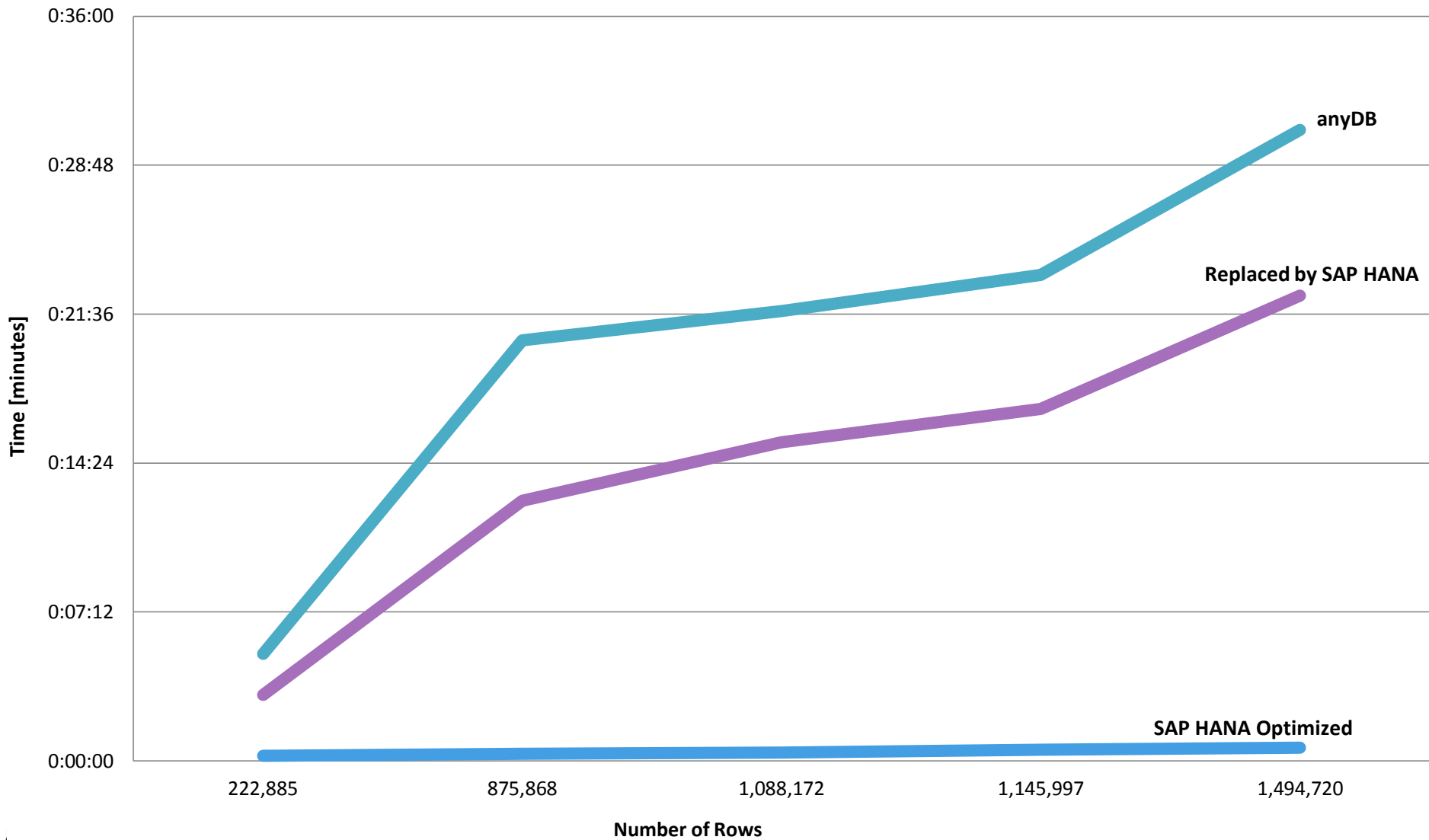


Forecasting & Planning Functions



Currency & Unit Conversion

The HANA Effect



Putting this in Perspective

Computer Chips get Smaller, Cheaper and Faster: What do we do with it?



This would be lame. Just like using SAP HANA just to reduce the performance of reports





**Using SAP HANA only
for accelerated
Reporting is a missed
Opportunity for
Innovation**

What does this mean for me?

Do I need new Developers?

What does this mean for SAP customers?

SAP will continue to support the databases it supports today

SAP however will focus (and has already done so) its innovation investments in leveraging SAP HANA's capabilities

In order to do so, logic will be moved into the HANA layer

As a consequence, the application and the database (read HANA) layer will merge

Implications for SAP customers

If you want to benefit from future innovations from SAP and its Eco-System, you need a HANA Roadmap

SAP HANA Use-Cases

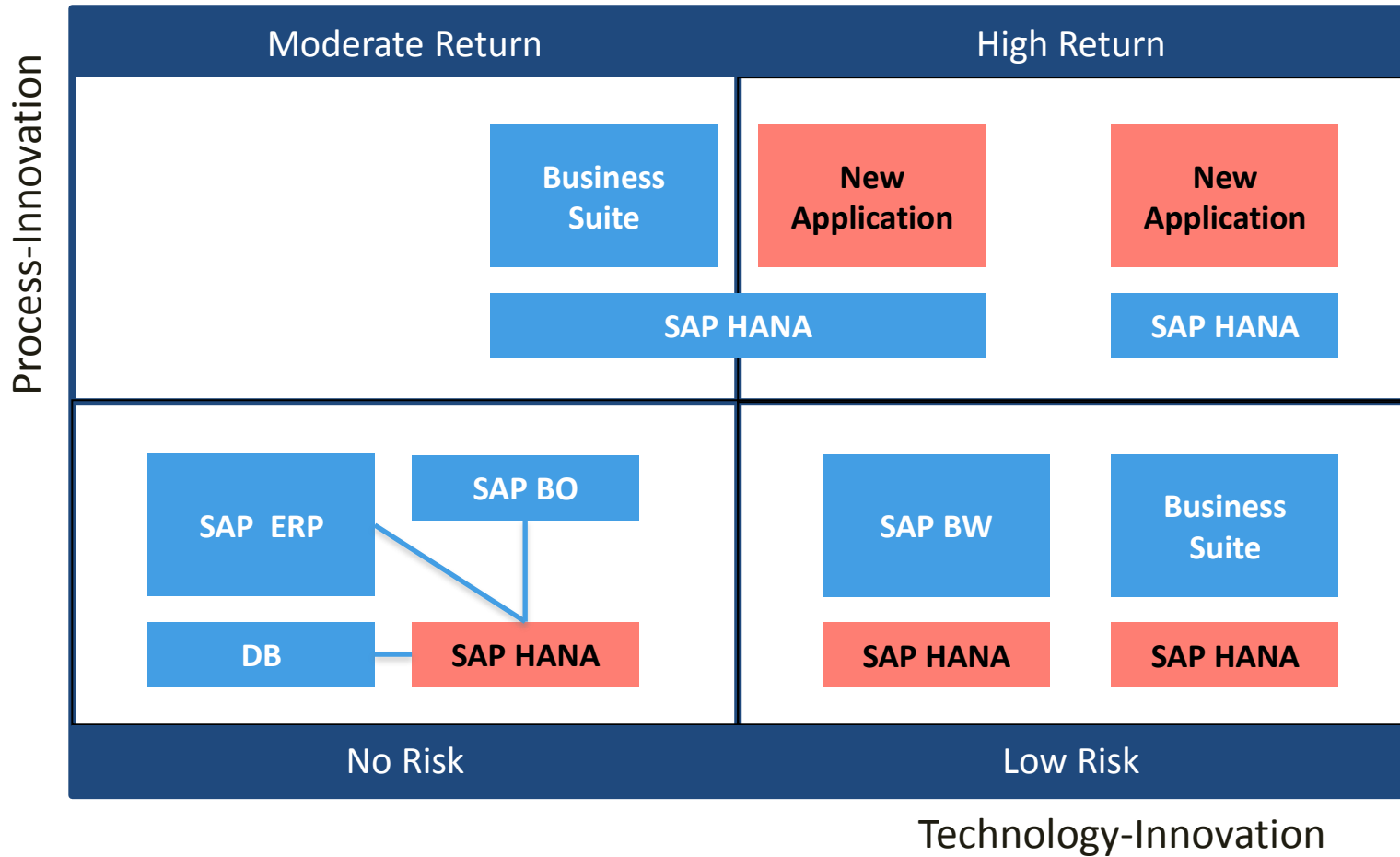
SAP HANA is much more than a reporting accelerator

SAP HANA has a long-term impact on almost all areas of SAP applications

SAP HANA provides an opportunity for significant competitive differentiation

SAP HANA re-vitalizes the opportunity for custom-specific innovation

SAP HANA Use Cases



Accelerators

How does it work?

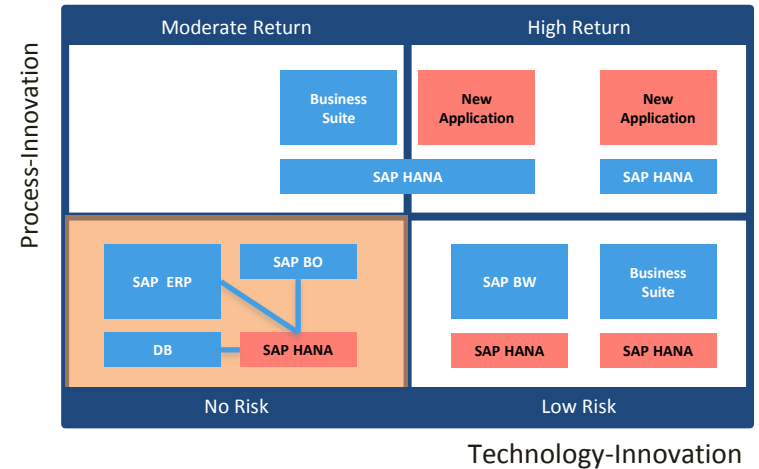
- Data is replicated selectively into SAP HANA through SLT
- SAP implemented the possibility to redirect Business Suite reports to a side-car HANA system
- Write operations continue to go against the primary database

Benefits

- Leverage SAP HANA to speed up reporting within SAP ERP or SAP CRM
- No-risk implementation
- Unchanged user interface

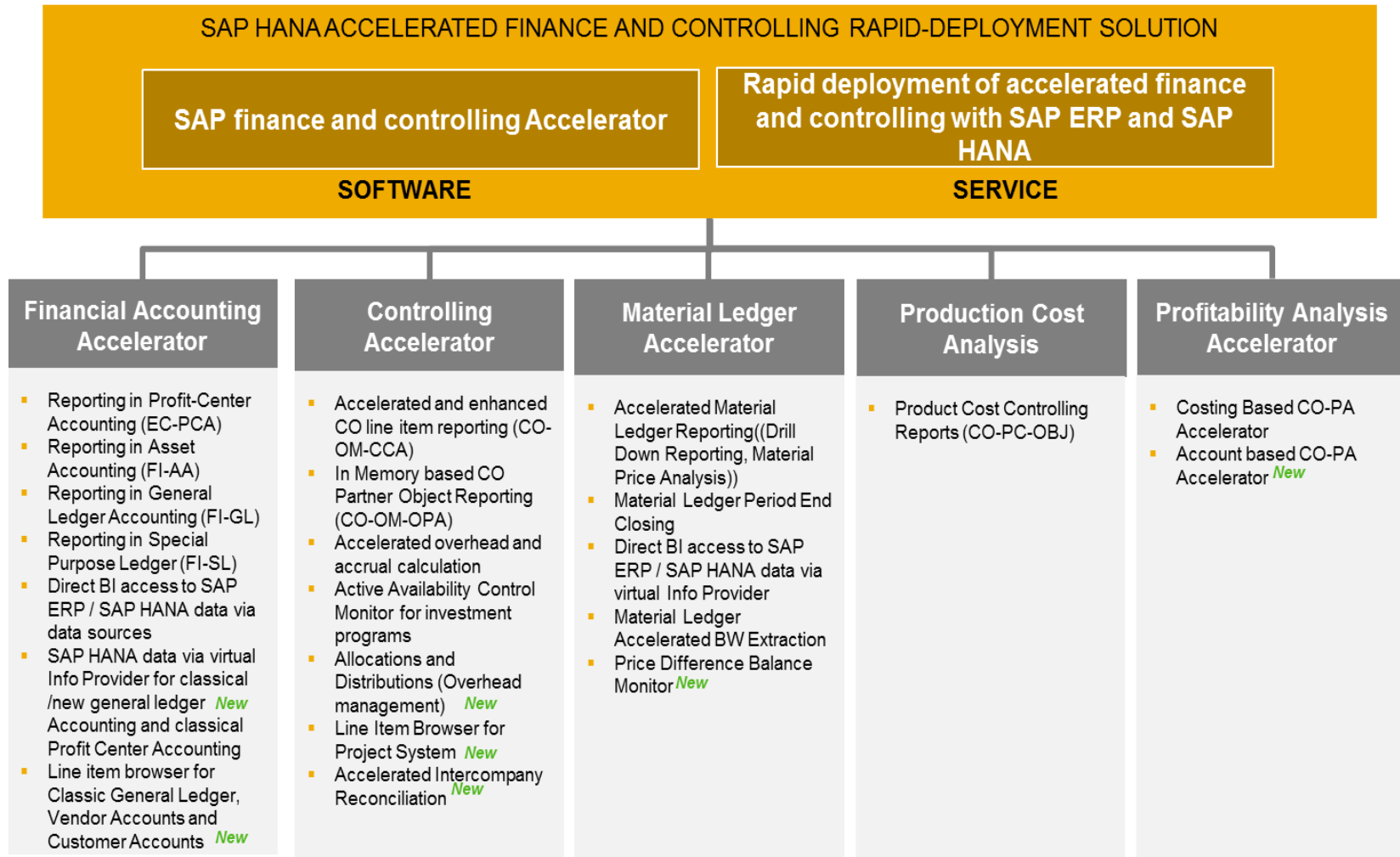
Implementation

- Weeks, fix-price offerings available (Rapid Deployment Solutions)



**Included in /
obsolete with
Business Suite on
HANA**

Example: Accelerators for Financials



Operational Reporting (How is this different from BW on HANA?)

How does it work?

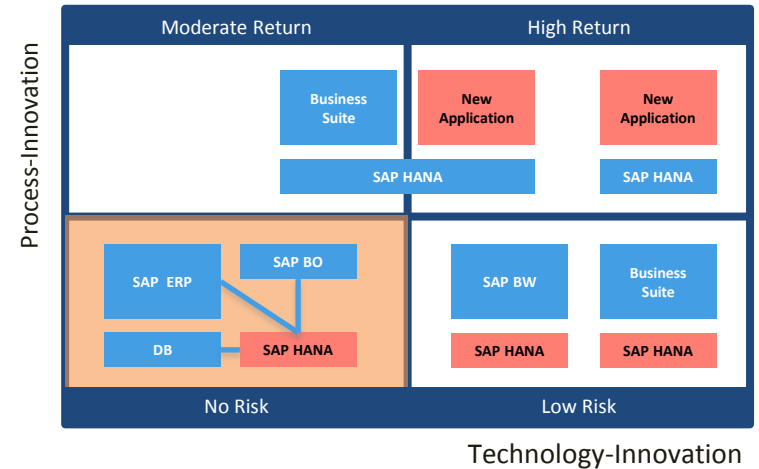
- Data is replicated selectively into SAP HANA through SLT
- With HANA Live, SAP defined view layers, providing access to business data on a semantic level

Benefits

- Leverage SAP Business Objects (or other) reporting tools to create reports against operational table at lowest level
- No-risk implementation
- No need to create materialized aggregates

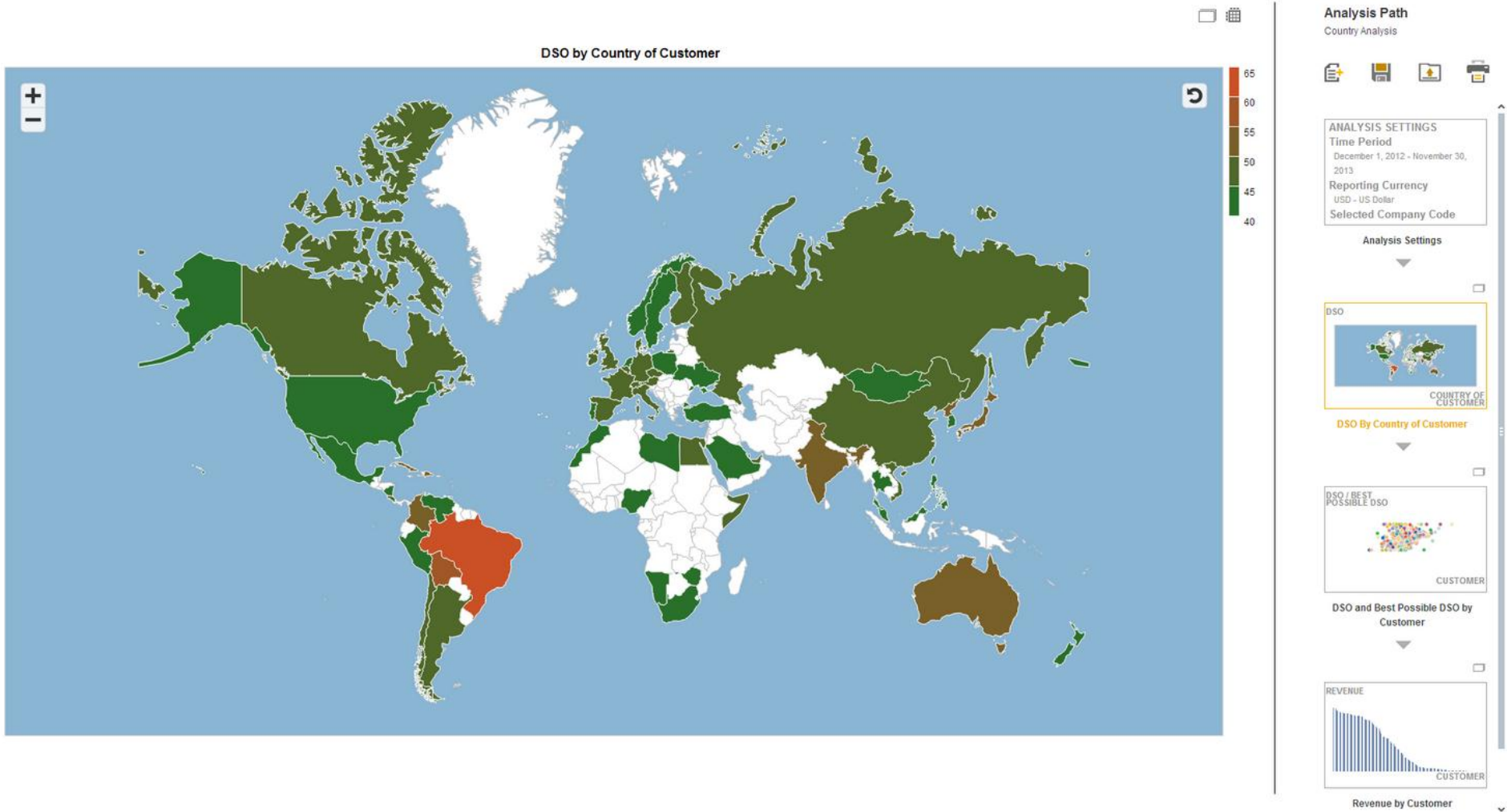
Implementation

- Weeks, fix-price offerings available (Rapid Deployment Solutions)



**Included in /
obsolete with
Business Suite on
HANA**

Example: Working Capital Analysis



SAP BW on SAP HANA

How does it work?

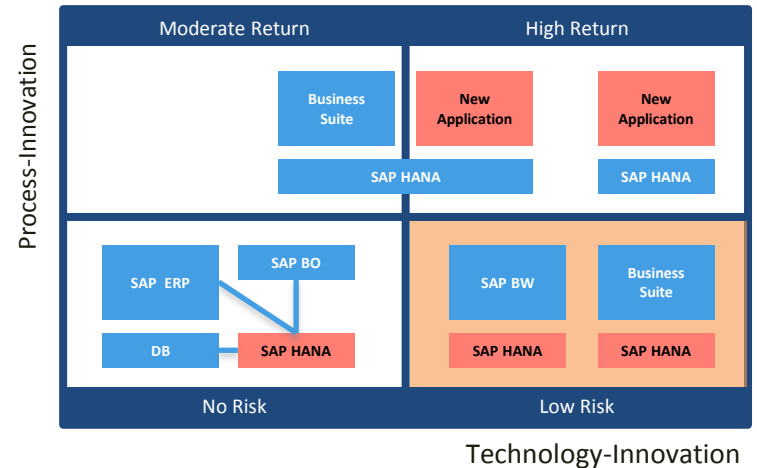
- SAP HANA replaces the traditional database underneath SAP BW
- SAP has optimized several aspects of BW (data access, data loading and activation, planning) for SAP HANA

Benefits

- Much improved reporting performance
- Reduced need for materialized aggregates and process chains
- Faster planning, loading and aggregation
- Reporting and planning on much more fine-grain levels
- Very easy migration

Implementation

- Weeks, fix-price offerings available (Rapid Deployment Solutions)



SAP Business Suite on SAP HANA

How does it work?

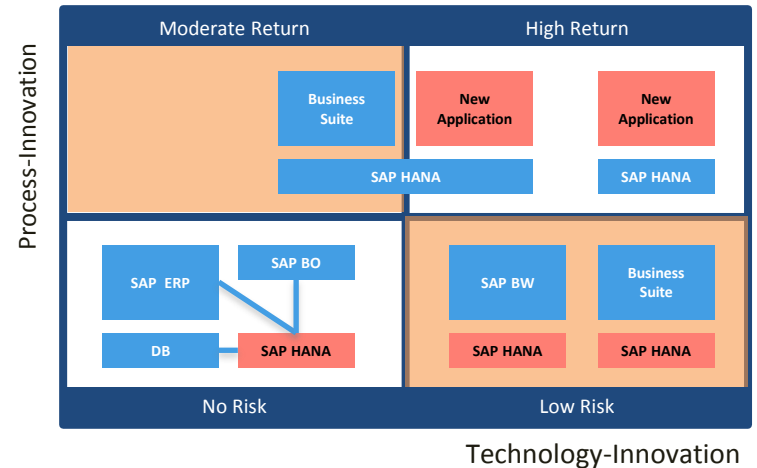
- SAP HANA replaces the traditional database underneath SAP Business Suite (ERP, CRM, SCM, SRM)
- SAP has optimized several aspects of Business Suite (reporting, batch-operations, selected functional areas) for SAP HANA

Benefits

- Much improved reporting performance
- Reporting with external reporting tools directly against operational data
- Growing number of new / optimized features
- Integration with new applications build for SAP HANA without replication
- Relatively easy migration (adaptation of custom code may be required)

Implementation

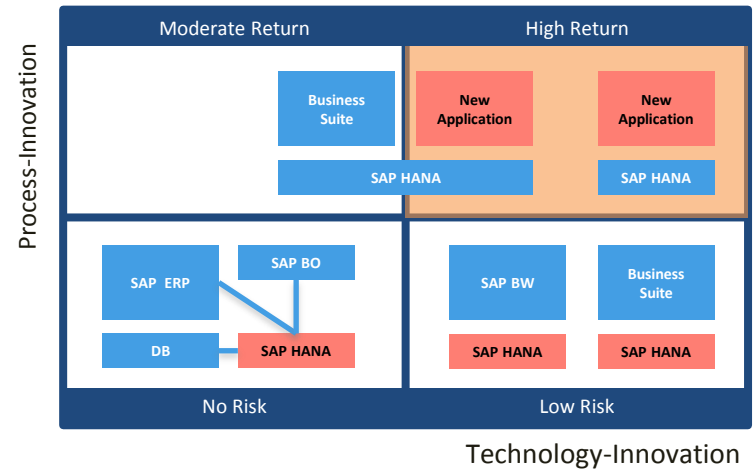
- Months, fix-price offerings available (Rapid Deployment Solutions)



New Packaged Applications on HANA

How does it work?

- SAP and partners develop a rapidly growing set of innovative & attractive applications optimized for SAP HANA
- Applications can be deployed side-by-side or directly on the SAP HANA database powering Business Suite or BW



Benefits

- Access to innovative functionality not possible before HANA
- Easy integration with SAP and non-SAP
- Low risk / high return

Implementation

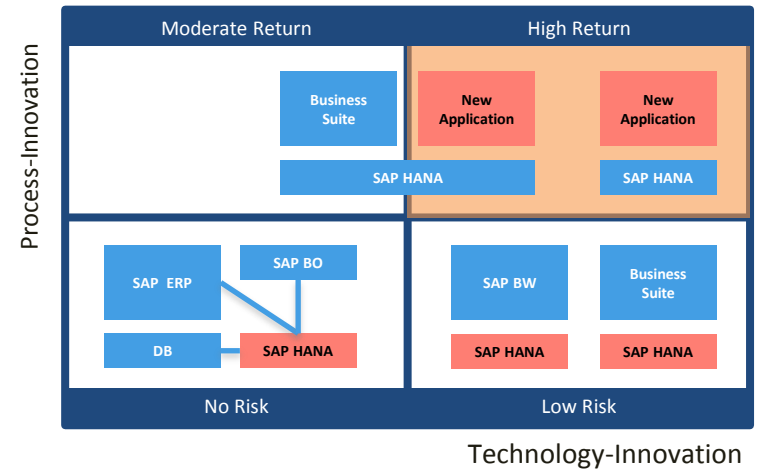
- Usually weeks, fix-price offerings partially available (Rapid Deployment Solutions)

SAP Fraud Management By: SAP No Ratings	SAP Audience Discovery and Targeting By: SAP No Ratings	SAP BW Powered by SAP HANA - Trial Offer By: SAP ★★★★★
SAP HANA One By: SAP No Ratings	SAP Lumira Standard Edition By: SAP ★★★★★	SAP Accelerated Trade Promotion Planning By: SAP No Ratings
SAP Sales and Operations Planning (S&OP) By: SAP AG ★★★★★	SAP HANA One Premium By: SAP ★★★★★	SAP Precision Marketing Free Trial By: SAP ★★★★★
Demand Signal Management By: SAP ★★★★★	SAP Collections Insight By: SAP ★★★★★	SAP Operational Process Intelligence By: SAP AG ★★★★★
SAP HANA Sentiment Intelligence... By: SAP ★★★★★	PhotoTribe By: SAP AG No Ratings	SAP Scouting By: SAP AG No Ratings

Custom Applications on HANA

How does it work?

- SAP HANA provides the possibility to create highly differentiating applications that were not possible before at surprisingly low cost
- Leverage HANA advanced features on SAP and non-SAP data

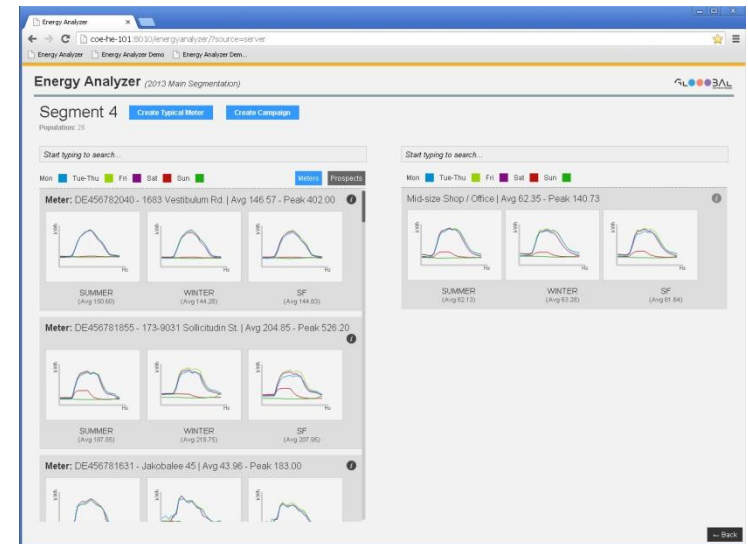


Benefits

- Maximum opportunity for competitive differentiation
- Low cost, as advanced features are integrated into SAP HANA

Implementation

- Usually weeks



How to economically use SAP HANA on a Departmental level?

GLOOBAL Energy Analyzer

The screenshot displays the GLOOBAL Energy Analyzer web application. The browser address bar shows the URL `coe-he-101:8010/energyanalyzer/?source=server`. The page title is "Energy Analyzer (2013 Main Segmentation)". The main content area is titled "Segment 4" and includes buttons for "Create Typical Meter" and "Create Campaign". Below this, there is a search bar and a legend for days of the week: Mon (blue), Tue-Thu (green), Fri (yellow), Sat (purple), Sun (red), and a green square for an unlabeled day. Two tabs, "Meters" and "Prospects", are visible, with "Meters" selected.

The "Meters" section displays three meter profiles, each with three line graphs representing energy usage (kWh) over time (Hr) for Summer, Winter, and Spring/Fall (SF) seasons. The data for these meters is as follows:

Meter ID	Address	Avg Usage (kWh)	Peak Usage (kWh)
DE456782040	1683 Vestibulum Rd	146.57	402.00
DE456781855	173-9031 Sollicitudin St	204.85	526.20
DE456781631	Jakobalee 45	43.96	183.00

The "Prospects" section displays a single prospect profile, "Mid-size Shop / Office", with three line graphs for Summer, Winter, and SF seasons. The data for this prospect is as follows:

Prospect Name	Avg Usage (kWh)	Peak Usage (kWh)
Mid-size Shop / Office	62.35	140.73

At the bottom right of the interface, there is a "Back" button.

Demo: GLOOBBAL Energy Analyzer

SAP Customer Engagement Intelligence, powered by SAP HANA

Welcome SSCHAFFERZ | Application Help

HOME AUDIENCE DISCOVERY AND TARGETING CUSTOMER VALUE INTELLIGENCE TARGET GROUPS INITIATIVES **ENERGY ANALYZER**

GL●●●BAL

HELP

Load a saved run or create a new one [New](#)

Start typing to search...

	Main Segmentation Q3: To be used in Q3	
Name:	Main Segmentation Q3	
Description:	To be used in Q3	
Segments:	45	
Monday:	100	
Tue-Thu:	100	
Friday:	100	
Saturday:	100	
Sunday:	100	
Winter:	0	
Summer:	0	
Spring/Fall:	0	
Peak:	0	
% Outlier:	5	
Target Group:	undefined	

	Main Segmentation Q4: To be used in Q4	
Name:	Main Segmentation Q4	
Description:	To be used in Q4	
Segments:	45	
Monday:	100	
Tue-Thu:	100	
Friday:	100	
Saturday:	100	
Sunday:	100	
Winter:	0	
Summer:	0	
Spring/Fall:	0	
Peak:	0	
% Outlier:	5	
Target Group:	Customer Inside Sales Team	

SAP HANA Roadmap Development

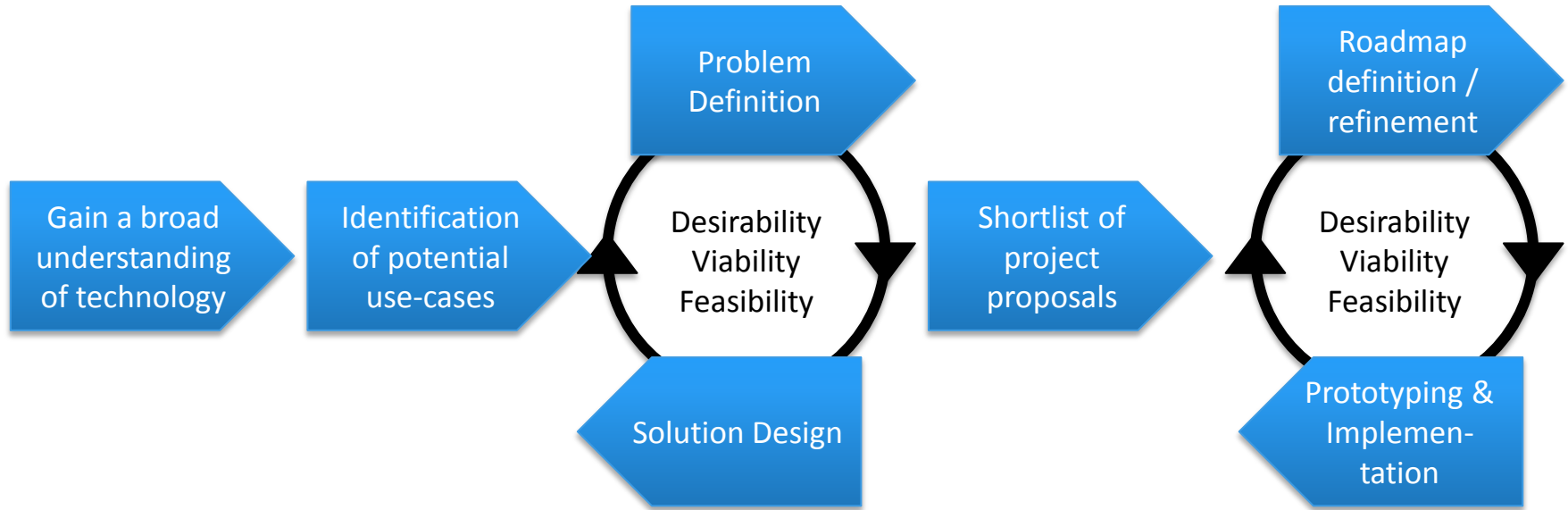
Our Recommendation

SAP customers need to include SAP HANA into their IT roadmap now

SAP HANA should be looked at from the viewpoint of competitive differentiation

We recommend starting a cross-functional process in a true partnership between IT and business

HANA Roadmap Definition Process



Goal

- Common understanding across business and IT

Format

- Half-day workshop
- Possibly followed by special interest groups

Goal

- Unconstraint thinking!
- Integrate different backgrounds

Format

- One-day moderated workshop
- Cross-functional
- Technology expert to back up

Goal

- Refine problem
- Sketch solutions
- Refine promising options
- Define shortlist

Format

- Cascade of workshops & breakout sessions
- Access to technology experts

Goal

- Decide on first project shortlist to be integrated in IT roadmap
- Define business case

Format

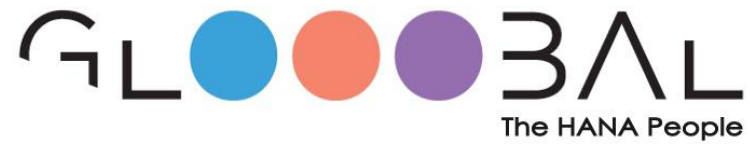
- Integrate into the company's roadmap decision process

Goal

- Define living roadmap (expect adaptations)
- Gain experience
- Demonstrate results
- Share risk between IT and business

Format

- IT projects with strong business involvement



Headquarter

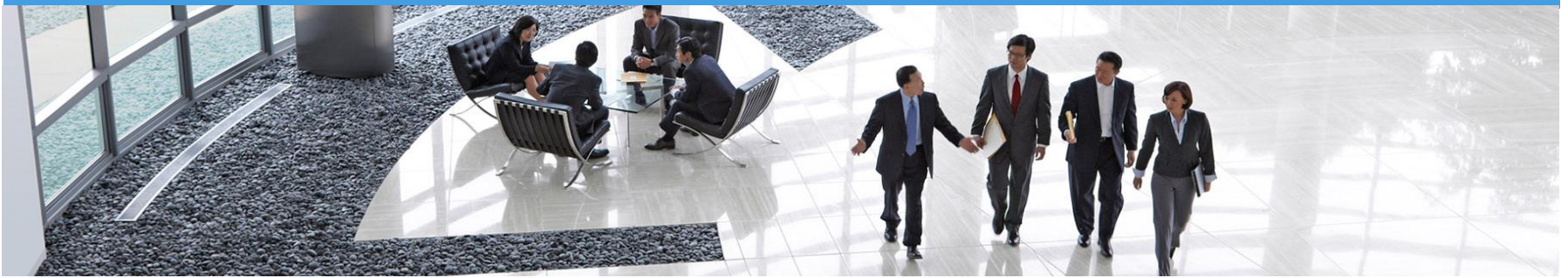
Ludolf-Krehl-Str. 31
69120 Heidelberg
Germany

Latin America Office

Bouchard 644, 6th Floor
C11006ABJ – Buenos Aires
Argentina

Email

info@gloobal.com



HANA and Analytics for Higher Education & Research

1 Introduction

2 HANA Overview

HANA for Higher Education & Research

3

- Industry focused content
 - What are Customers and Partners doing?
-

4

Analytics for Higher Education & Research

- Industry focused content
-

HANA Experience Customer site

<http://www.saphana.com/community/try>



Home > Learn > Customer Stories

Customer & Startups Stories on SAP HANA



Charité uses SAP HANA to enable faster and more flexible reporting



MKI: Real-time big data analysis with SAP HANA, R, Hadoop for genome interpretation



Genome Analysis with SAP HANA

Additional Videos:

What Professionals Desire is Simple
Use Case 2: Researcher

Identify Causal Variants or Mutations in Cohorts (> 10,000 Individuals) Suffering from Diseases of Interest, e.g. Autism



Needs:

- Comparison of Variants in Diseased and Healthy Cohorts
- Flexible Queries to Verify Hypotheses in Real-Time



Revolutionizing the Customer Experience with SAP HANA

Duration: 20 min



HANA for Higher Education and Research

Home > SAP HANA Academy



How To

Analytics

Startups

Projects

Featured Videos and Courses

Introducing the latest content for the SAP HANA Academy!

SAP Live2 Project NEW	50+ videos	SAP HANA Cloud Platform NEW	9 videos
SAP HANA Text Analysis and Search NEW	19 videos	SAP HANA and ABAP	8 videos
SAP HANA Smart Data Access NEW	13 videos	SAP HANA Recommends project	50+ videos
SAP Lumira NEW	15 videos	Predictive Analysis Library	15 NEW algorithms NEW
SAP HANA SPS 7 NEW	50+ videos	R Integration with SAP HANA	8 videos
SAP River NEW	22 videos	Intro to Software Development on SAP HANA	openSAP

+ SAP HANA SPS 7 - What's New **NEW**

Tutorial videos on new features introduced with Support Package Stack 7

+ SAP HANA SPS 6 - What's New

Tutorial videos on new features introduced with Support Package Stack 6

+ SAP River development environment **NEW**

Tutorial videos on the exciting new SAP River development environment for building business applications based on SAP HANA in-memory platform introduced with SAP HANA SPS 7.

+ SAP HANA Cloud Platform **NEW**

Tutorial videos on the exciting new SAP HANA Cloud Platform. This Platform-as-a-service (PaaS) offering provides developers with a set of application and database services to build, extend and run applications in the cloud.



HANA for HER

AVAILABLE NOW



Overall Status as of April 2014

- ❑ **Business Suite released on HANA**
- ❑ **Funds Management Budget Execution and Grants Management scenarios released**
 - ❑ Various scenarios have been optimized
- ❑ **SLCM has been ported on HANA and has been released**
 - ❑ Optimization in progress
- ❑ **Ongoing optimization of HCM Organizational Management**
- ❑ **Planned optimization of SLCM processes, transactions and function modules**

HANA Optimizations as of April 2014

Funds Management

- Budget maintenance in the Budget Control System
 - New Overview Monitors for Budget and AVC data
 - Accelerated Mass Budgeting Transactions
- Reporting
 - New Overview of Commitment / Actual reporting
 - New Line Item Browser
 - Accelerated Drill-Down and Report Writer reporting
- Closing Operations
 - New Fiscal year change monitor
 - Accelerated Commitment Closing and Carry-Forward (Chain)
- Accelerated Reassignment tool
- Accelerated Reconciliation

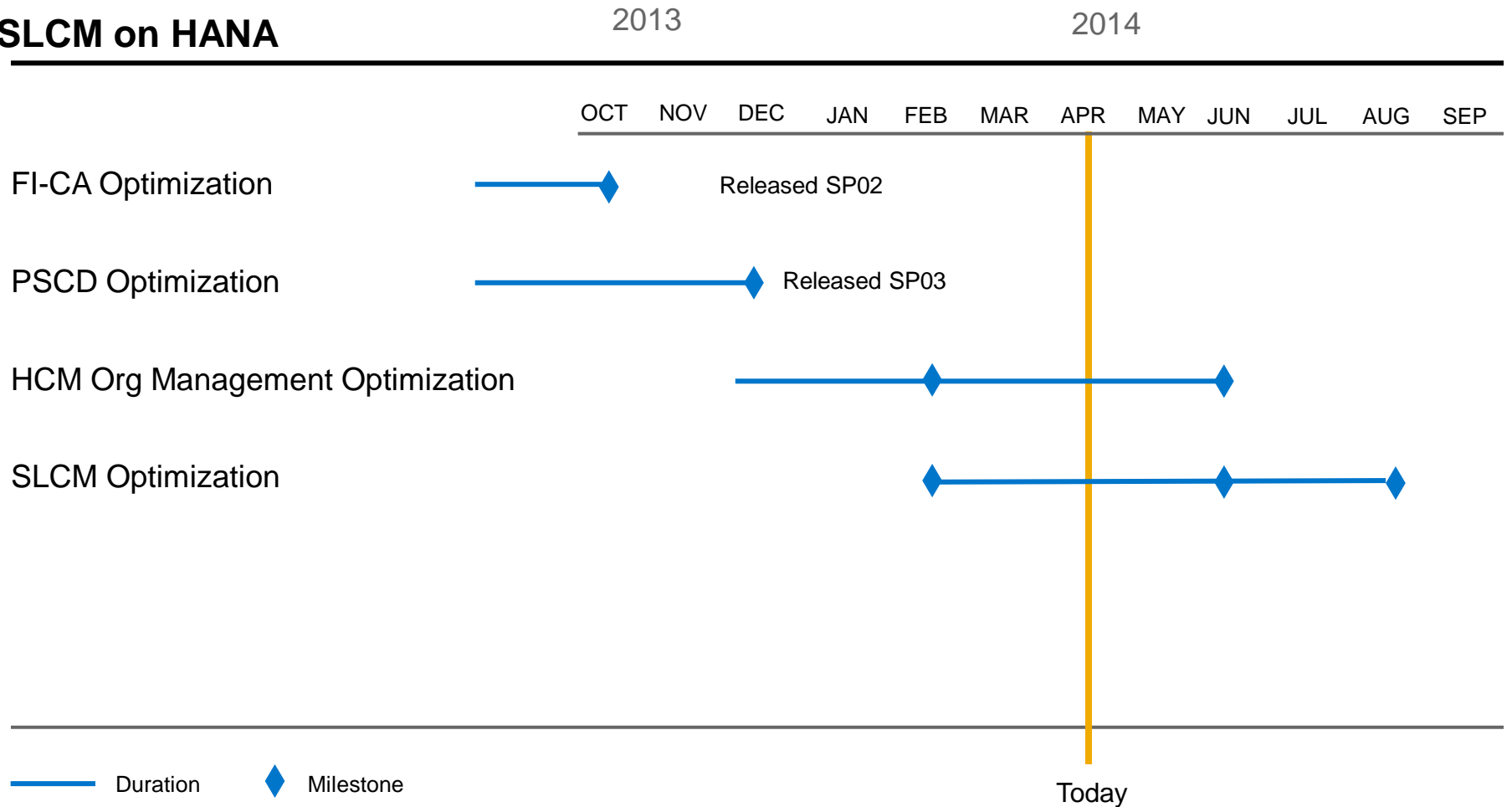
Grantee Management

- Accelerated Grantee Management Reporting
- Accelerated Grant Billing
- Accelerated Indirect Cost Calculation

Current SLCM on HANA Roadmap

In Progress

SLCM on HANA



HANA Optimizations as of April 2014

Financial Accounting

- Reporting for New General Ledger
- Reporting for classical General Ledger [new]
- Reporting for Profit-Center Accounting
- Reporting for Asset Accounting
- Reporting for Special Ledger
- Accelerated Intercompany Reconciliation [new]
- Optional BW-based in-memory reporting through data sources
- Data access to SAP HANA via Virtual Info Providers residing in the ERP system (embedded BI layer) [new]

Overhead Management

- CO Line Item reporting
- CO Partner object reporting
- Accelerated Overhead calculation
- Accelerated Accrual calculation
- Assessment & distributions [new]
- Accelerated Line Item Browser for Project System



HANA and Analytics for Higher Education & Research

1 Introduction

2 HANA Overview

HANA for Higher Education & Research

- ## 3
- What are Customers and Partners doing?
 - Industry focused content
-

4 Analytics for Higher Education & Research

- Industry focused content

University of Kentucky: Continuing a Tradition of Success with a Real-time Data Platform from SAP

Organization

University of Kentucky

Location

Lexington, Kentucky

Industry

Higher education and research

Products and Services

Graduate and undergraduate degrees in a variety of majors, medical research

Employees

12,345

Budget

US\$2.68 billion

Web Site

www.uky.edu

Partners

SAP® Consulting, Dell Inc.

The company's top objectives

- Provide holistic view of data by integrating various data sources
- Improve student retention rates by enabling earlier intervention by faculty advisors
- Gain greater insight into finances and use of resources

The resolution

- Product suite that included SAP HANA® platform, SAP® Data Services software, SAP Landscape Transformation software, and SAP BusinessObjects™ business intelligence solutions
- Partnering with SAP Consulting and Dell Inc.
- Rapid 2½-day initial setup

The key benefits

- Better support services with real-time insight into student performance
- Reduced extract, transform, and load process time from 8 hours to less than 1 hour
- Ability to conduct predictive tuition and revenue modeling

420x

Faster reporting speeds

15x

Improvement in query load times

\$250K

Projected annual savings in IT costs

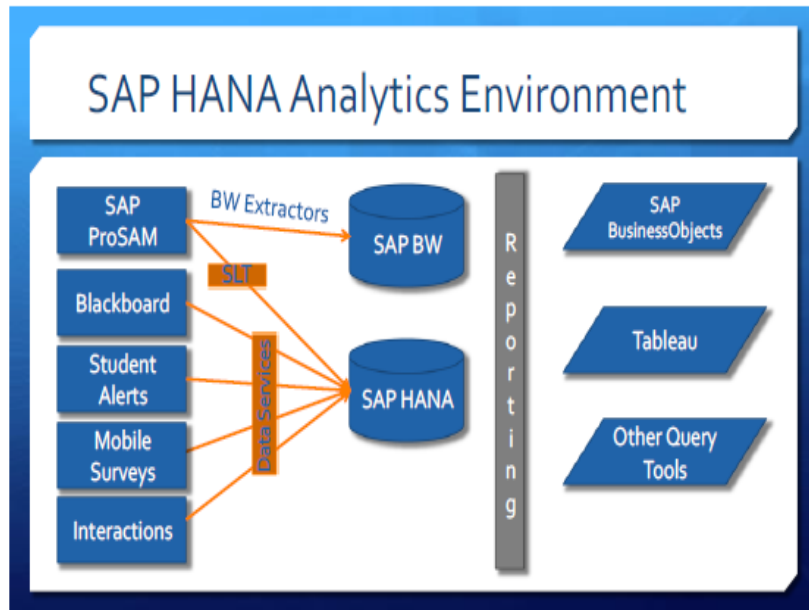
“We have a challenge in education to use the data we have to build a better experience for our students. SAP HANA is going to be at the center of this effort at the University of Kentucky.”

Vince Kellen, Chief Information Officer, University of Kentucky



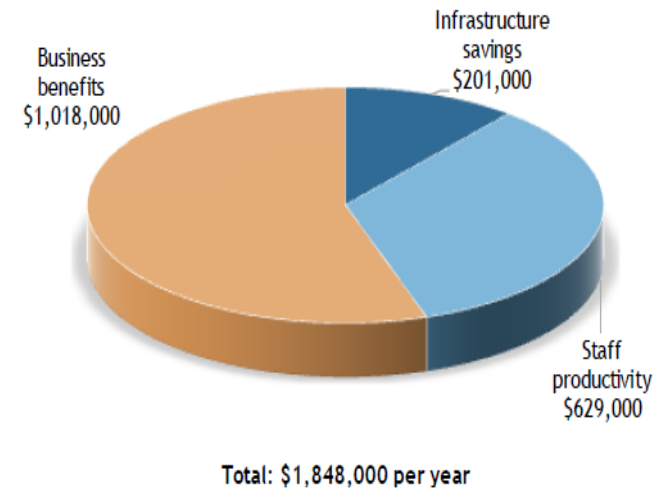
University of Kentucky Leveraging SAP HANA for Student Engagement and Retention

SAP HANA Business Intelligence Environment



Source: University of Kentucky, 2014

Average Annual Benefits (\$)



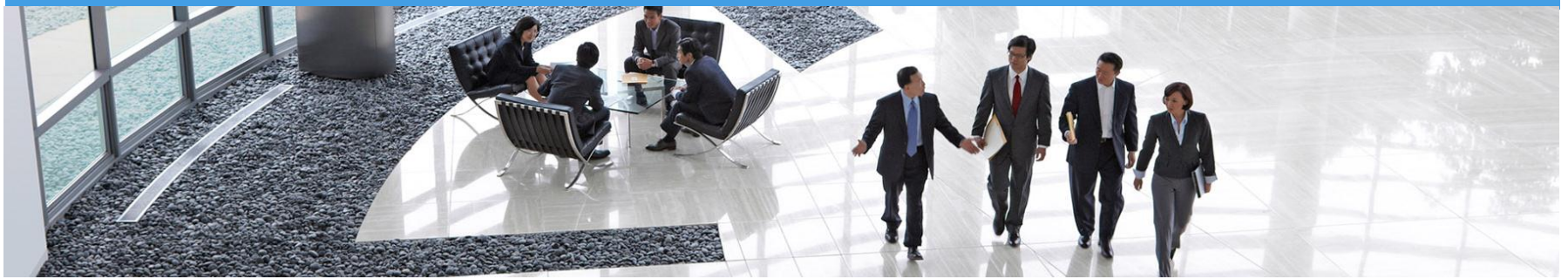
Source: IDC

Five-Year ROI Analysis

Benefit (discounted)	\$6.17 million
Investment (discounted)	\$1.01 million
Net present value (NPV)	\$5.16 million
Return on investment (ROI)	509%
Payback period	9.5 months
Discount rate	12%

Presentations and Discussions @ HERUG

- ❑ **University of Amsterdam: Migrating to BW on HANA and Suite (ERP) on HANA in 7 months**
- ❑ **Charite' – University of Berlin: Medical Information Gateway on HANA**
- ❑ **KU Leuven: RDS Finance for public sector (FI-FM) for improved reporting**
- ❑ **Internet2 collaboration opportunity**
- ❑ **Dunn Solutions Enterprise Student database (US)**



HANA and Analytics for Higher Education & Research

1 Introduction

2 HANA Overview

HANA for Higher Education & Research

- ## 3
- What are Customers and Partners doing?
 - **Industry focused content**
-

4 Analytics for Higher Education & Research

- Industry focused content
-



*Energy and Environmental Management are Integral
to Strategy and Operations*



Facilities: Education, Research
and General Purpose

Energy can be
20 to 33%
of operating costs

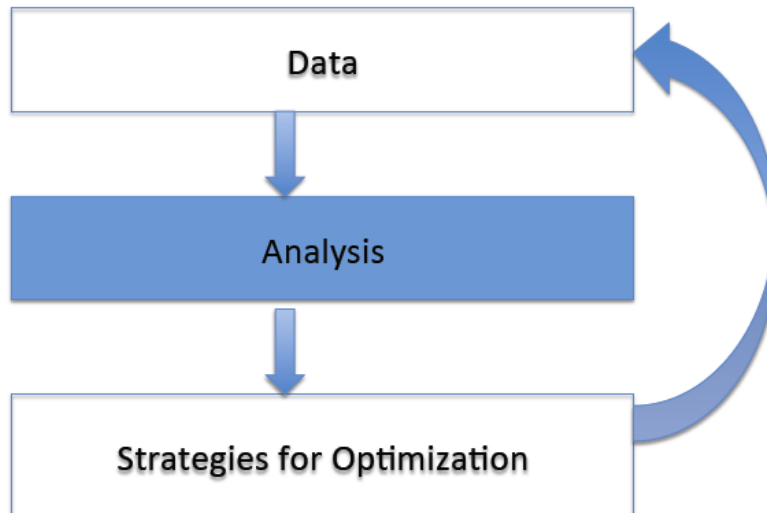
SAP HANA Energy and Environmental Intelligence

Co-innovation with Massachusetts Institute of Technology (MIT)

Optimize Building Energy Efficiency

Building Energy Use

= f (Type, Age, Size, Climate, Systems, Maintenance, Behavior)



Enhance University brand through responsible stewardship of natural resources.

Manage energy with the same diligence as other assets: human resources, financial, etc...

Enable operations to correlate energy use within working environment and identify ways to optimize utilization and cost savings.

Consolidate, evaluate and prioritize a portfolio of energy reduction and abatement initiatives

Manage Green House Gas (GHG) as well as other air or water emissions for voluntary or regulatory disclosure , as well as permit management .

Manage University Energy and Environmental Impact

SAP Energy and Environmental Intelligence (powered by SAP HANA)



Energy Transparency and Performance Management

Sharpen visibility of energy costs, consumption, and emissions across assets, individual sites, and the entire enterprise.

Energy and Environmental Initiatives Management

Consolidate, evaluate, and prioritize the portfolio of energy and emissions projects.

Emissions Management

Manage greenhouse gas (GHG) and other air or water emissions for voluntary or regulatory disclosure.

RUN

with more visibility to achieve operational excellence



Increase Operating Margin

- Track energy and environmental costs and consumption with same rigor as other materials
- Enable continuous monitoring and improvement



Improve Asset Productivity

- Include energy and emissions in asset maintenance strategies
- Include energy efficiency in asset procurement



Optimize Workforce Efficiency

- Reduce manual efforts for data collection, data validation, reporting, and planning across site(s)
- Affect energy consumption behavior and attitudes

Demo

HANA Energy and Environmental Intelligence



HANA Energy and Environmental Intelligence



HANA Energy and Environmental Intelligence

Facilities - Track Energy Anomalies ▾



Austin Bldg. 1 Energy
Energy Consumption (KWH)

12.1 M KWH

Aug-13

LAST UPDATED: 27/04/2014 14:10 PM

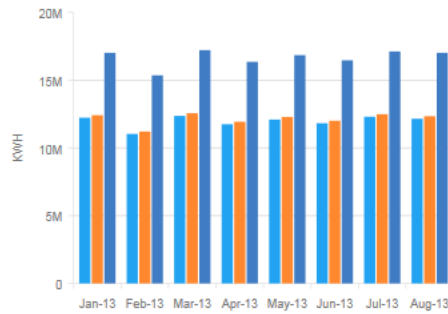
Austin Bldg. 3 Energy Costs
Monthly Energy Billed Cost

2.1 M USD

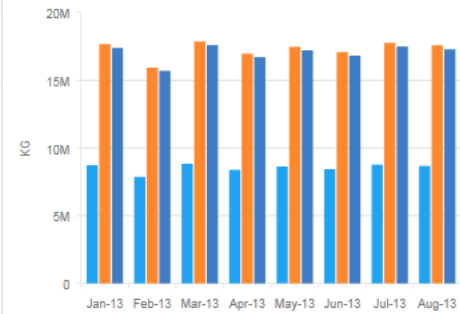
Aug-13

LAST UPDATED: 27/04/2014 14:10 PM

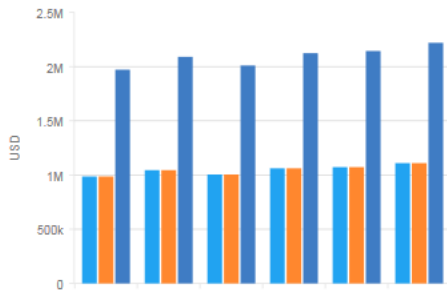
Austin Plant Building Performance
Monthly Energy Consumption (KWH)



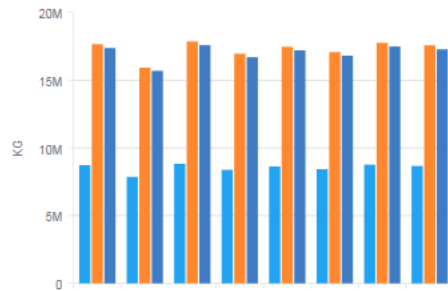
Energy Consumption (KWH)
Monthly Emissions Monitoring (CO2e)



Austin Plant Bldgs. - Monthly Billed Cost Monitoring
Monthly Billed Cost Monitoring (USD)



University Campus
Monthly Emissions Monitoring (CO2e)



Managing the University Brand

SAP HANA Sentiment Intelligence

From (un)structured data...



- Pre-configured data acquisition from public social media and other unstructured text sources, automated text data processing (NLP)
- Integration with SAP CRM campaign / promotions and service management

SAP HANA Sentiment Intelligence

SAP HANA Info Access,
SAP BusinessObjects BI,
SAP LUMIRA, Mobile
/Pilot

SAP Data Services

SAP HANA (SPS6) with
text analysis and models
& views

...to insight!



- SAP HANA HTML5 Information Access (InA), SAP BusinessObjects Explorer Views, SAP LUMIRA, Mobile for prebuilt analytical reporting and action taking, extraction routines, transformations, loading, universes, and analytics, based on pre-defined SAP HANA models
- How-to guides and additional service offering to extend unstructured channels integration and analytical reporting

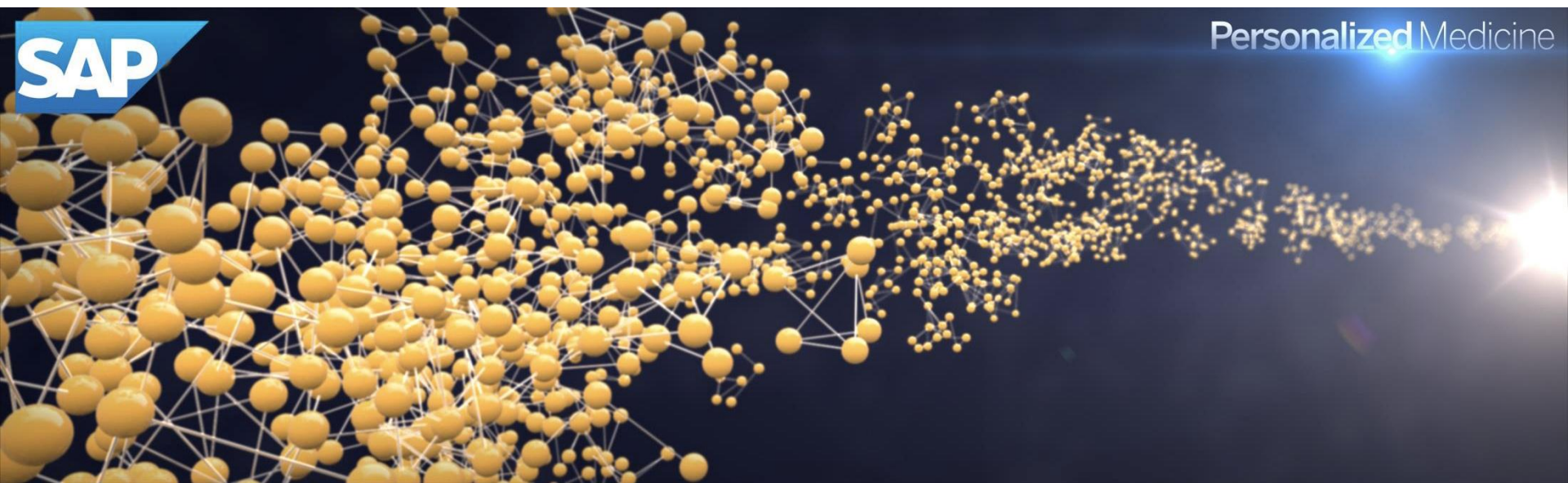




HANA for HER

COMING SOON

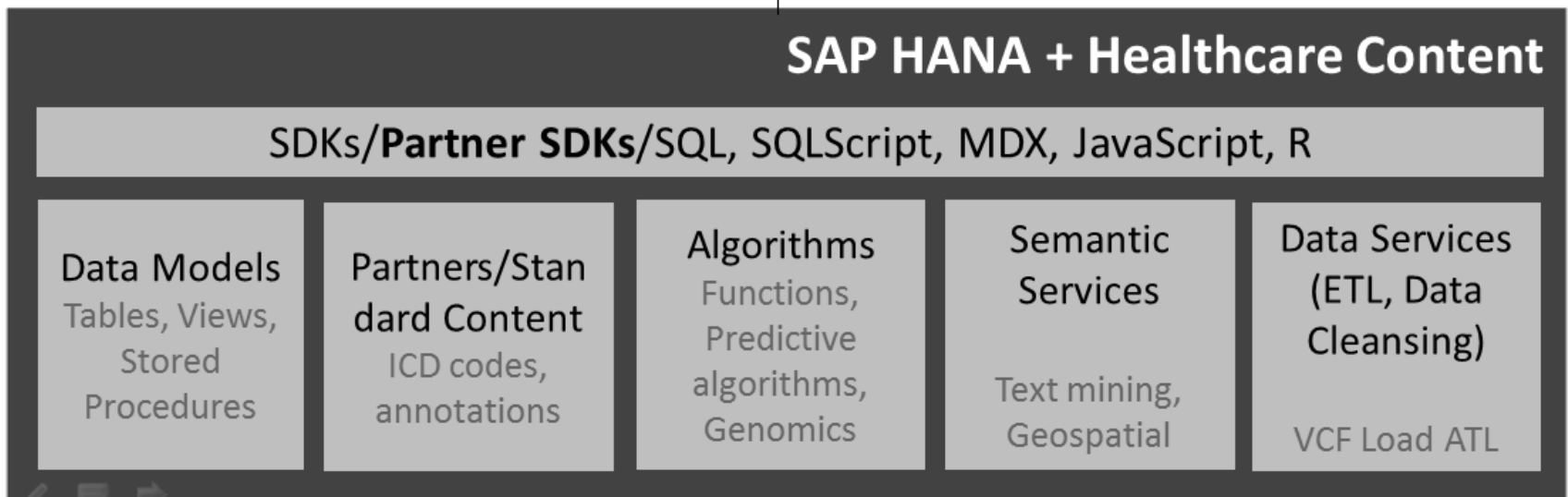
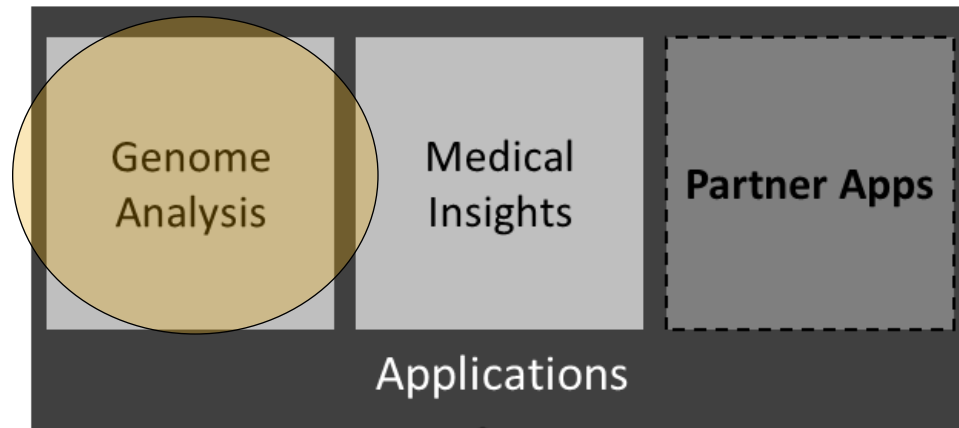




SAP Genome Analysis

SAP HANA Platform for Healthcare

High-Level Architecture



Genome Analysis Project

SAP Early Adoption (Pilot) Program

Target users: Academic researchers, genetic counselors or any user who wants to process or analyze genetic or genomic information

Looking for a maximum of 5 early adoption customers to test and evaluate the genome analysis application

Testers must provide feedback after the ~90 day testing period

Demo

HANA Genome Analysis



Genome Analysis Project

ANALYSIS DATA

Folders Templates Query

Search Folder

DEMO_USER

GENOMINDEV

SIZING_TEST

GENOMINDEV

Folder Name GENOMINDEV

Owner GENOMINDEV

Data Set Sharing

Search Data Set

Data Set Name	Action
488	
585	
Allbigvcf	
big1only	
big2only	
big3only	
big4only	
bigvcf	
ds3	
nhi 3	

Total Variants 3,688,952

Total Samples 1,093

Chromosomes 21, 22, X, Y

Search Query

Saved Query	Modified Time
Ref/Nonref Allele Count by Chrom	Apr 25, 2014 1:00:58 PM
Site Frequency Spectrum - Genominde	Mar 24, 2014 2:59:32 PM

Click to Select

Genome Analysis Project

SAP Genome Analysis | DEMO_USER | About |

ANALYSIS DATA

Folders Templates Query

Saved queries My Templates >>

RefNonref Allele Count by Chrom ✕

RefNonref Allele Count by Chrom

Folder * GENOMINDEV

Execute the query

Filters

FILTER CHROM

Fields	Operator	Operand
"GENOMINDEV"."VARIANT_SAMPLE"."CHROM" ▾	>= ▾	1
"GENOMINDEV"."VARIANT_SAMPLE"."CHROM" ▾	<= ▾	Y

FILTER DATASET

Fields	Operator	Operand
"GENOMINDEV"."VARIANT_SAMPLE"."DATA_S" ▾	= ▾	Allbigvcf

Select, Copy or Create a Query

SAP Genome Analysis | DEMO_USER | About |

ANALYSIS DATA

Import Pipeline

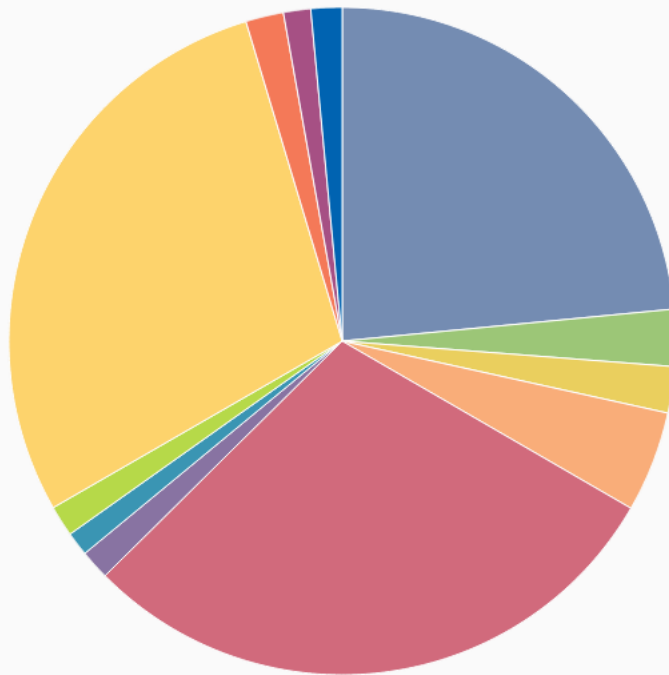
Apr 27, 2014 2:36:47 PM Import Other Data

Status	Data Set	Imported File	Mapping File	Upload Identifier	Folder	Requested Time
Complete	Allbigvcf				GENOMINDEV	2014.05.02

Genome Analysis Project

D Ref/Nonref Allele Count by Chrom

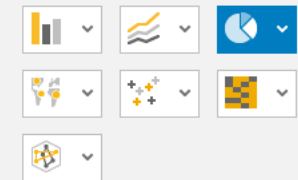
Charts Table



- 21/0/0
- 21/0/1
- 21/1/0
- 21/1/1
- 22/0/0
- 22/0/1
- 22/1/0
- 22/1/1
- X/0/0
- X/0/1
- X/1/0
- X/1/1

Build

TYPE: Pie Chart



MEASURES

Pie Sectors

OCCURRENCES

ATTRIBUTES

Legend Color

CHROM

ALLELE1

ALLELE2

TRELLIS

Genome Analysis Project

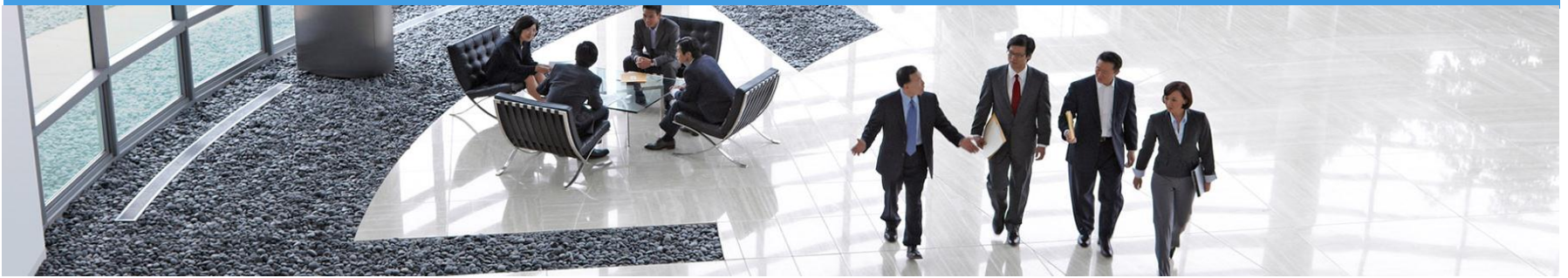
D Ref/Nonref Allele Count by Chrom



Charts **Table**



CHROM	ALLELE1	ALLELE2	OCCURRENCES
21	0	0	745562
21	0	1	87403
21	1	0	71105
21	1	1	155170
22	0	0	929169
22	0	1	45683
22	1	0	36777
22	1	1	47611
X	0	0	910027
X	0	1	58364



HANA and Analytics for Higher Education & Research

1 Introduction

2 HANA Overview

3 HANA for Higher Education & Research

- Industry focused content
 - What are Customers and Partners doing?
-

4 Analytics for Higher Education & Research

- Industry focused content
-

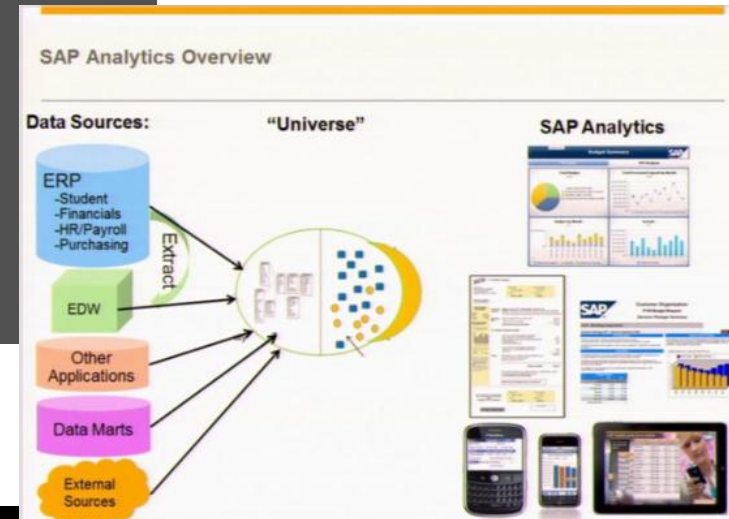
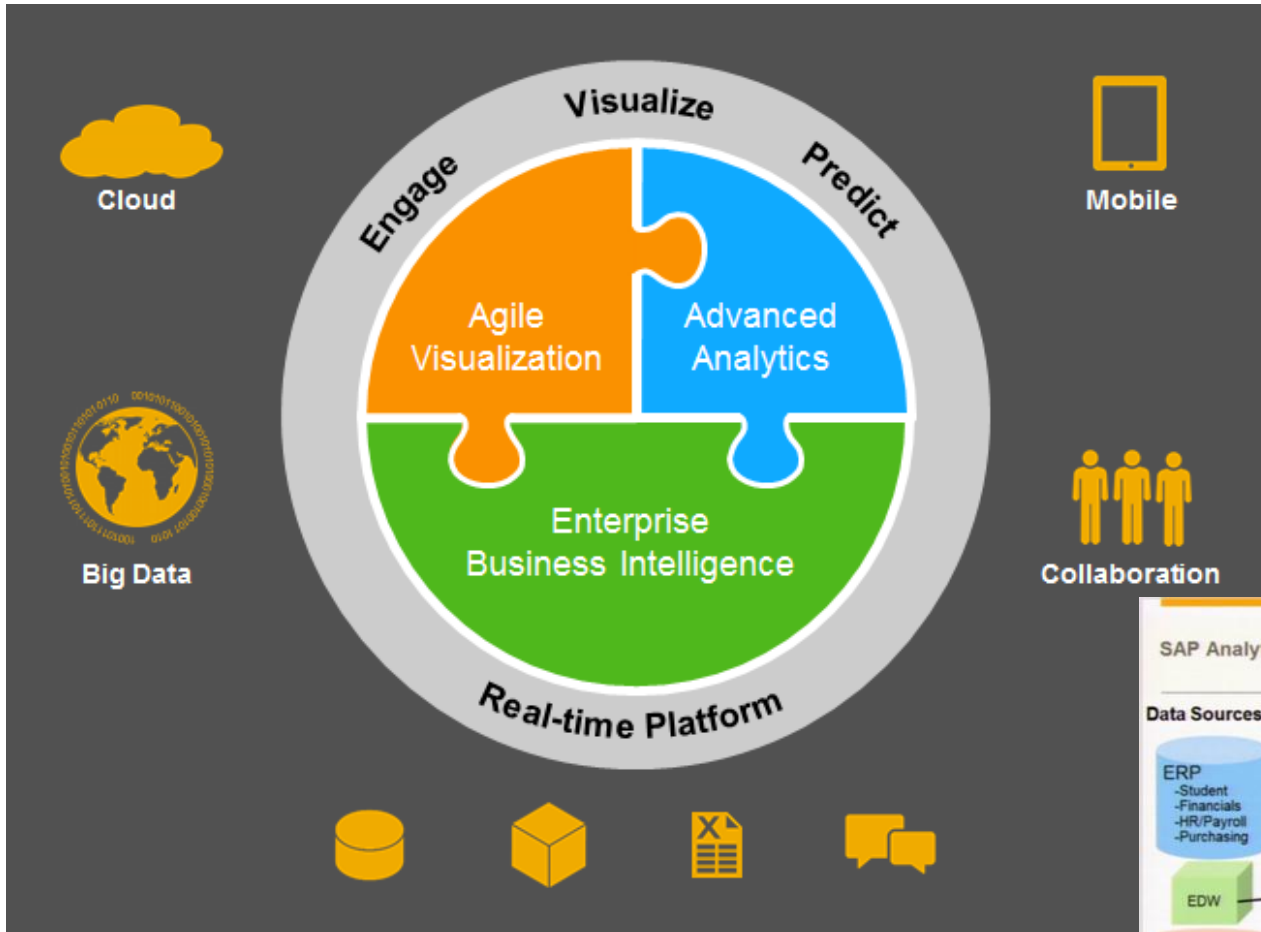


Analytics for HER

AVAILABLE



SAP Business Intelligence Platform



Researcher and Research Administrator Funding overview dashboards



Researcher

Account View | Employee View | What If

Investigator: **Principal Investigator**
Project: **All**
Lab: **All**
Researcher: **All**

Budgeted
 Non-Budgeted
 Grant Overview
 Low Budget Only

Account	Description	End Date	Curr Bal	Proj Bal	%	Ind
2189037	5 T32 CA23298-02/05	4/30/2011	2,031	(6,012)	-5%	●
2184414	USDA 421490-07	7/31/2014	12,231	301	1%	●
7708133	FP7 Agricultural research	6/30/2011	23,773	(7,546)	-6%	●
3204901	FP7 Environmental research	6/30/2011	23,773	528	1%	●
2187604	EU Excellence Award	6/30/2011	23,773	(5,246)	-4%	●

Alerts

Alert Type: **All**
Number of Days: **All**

Type	Description	Action	Due Date
E	EU Excellence Award	Deficit projected	2/18/2011
P	Grant Proposal	Due	1/16/2010
E	Effort Certification	Due	9/30/2011
I	Protocol HS102	Renewal	2/28/2011

Employees for Account: 2189037

Account	Employee ID	Employee	Title	Cost Dist %
2189037	713602	Smith, J	Professor, Associate	65.00%
2189037	713679	Jones, J	Research Asst II	100.00%
2189037	713756	Brown, S	Research Associate	75.00%
2189037	713833	Black, T	Research Asst II	30.00%
2189037	713910	White, D	Research Tech I	20.00%
2189037	713987	Williams, B	Research Asst II	70.00%
2189037	714064	Washington, G	Professor	10.00%
2189037	714141	Adams, J	Professor, Asst	20.00%
2189037	714218	Madison, J	Research Associate	30.00%
2189037	714295	Monroe, J	Research Tech I	60.00%
2189037	714372	Jackson, A	Research Asst II	40.00%
2189037	714440	Harrison, W	Research Associate	50.00%

Current Employee Cost Distribution

Smith, J

- What research accounts have issues?
- Research account details
- Personnel assigned to Research accounts
- Alerts and Notifications for Administrative tasks

Researcher and Research Administrator Resource overview dashboard



Researcher

Account View
Employee View
What If

Investigator
Principal Investigator

Project
All

Lab
All

Researcher
All

Employees:

Employee Funding Issues Months Salary Chart Table

Employee ID	Employee Name	Title
713602	Smith, J	Professor, Associate
713679	Jones, J	Research Asst II
713756	Brown, S	Research Associate
713833	Black, T	Research Asst II
713602	White, D	Research Tech I
713679	Williams, B	Research Asst II
713756	Washington, G	Professor
713833	Adams, J	Professor, Asst
713910	Madison, J	Research Associate
713987	Monroe, J	Research Tech I
714064	Jackson, A	Research Asst II

Employee Funding Issues Months Salary Chart Table

Expand

Salary=80%; Months=2

Employee Name	Funding Percent
Smith, J	40%
Brown, S	50%
Black, T	50%

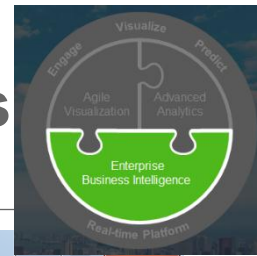
Employee Funding Timeline

713602 - Smith, J

- 5 R01 CA23298-02/05 - 10.25%
- USDA 421490-07 - 40.54%
- USDA 421490-07 - 50%
- 5 R01 AI23298-02/05 - 50%
- 5 R01 AI23298-02/05 - 100%

- Unfunded
- Funded

SAP's Analytic Content for Research Organizations



Microsoft Internet Explorer browser window showing the SAP Community Network page for 'Analytic Content Samples'.

URL: <http://www.sdn.sap.com/irj/boc/samples?rid=/webcontent/uuid/30ee8d05-770c-2f10-4680-a65bf1e86a5c>

Navigation: File Edit View Favorites Tools Help

Search: Search Our Community




Community Network: Welcome, Guest Login Register

Menu: Solutions, Industries, Lines of Business, SAP Services & Support, About SCN, Downloads, Training & Education, Partnership, Developer Center, University Alliances, Events & Webinars, Innovation

Code and Samples

ANALYTIC CONTENT SAMPLES

The sample analytic content showcases the use of analytics solutions from SAP to support industry-specific needs.

Download	Description	More Information	Industry	Send feedback to
Research Funding Analysis for Education and Research (ZIP 8.8 MB)	Showcases the utilization of dashboards for researchers, administrators, and funding executives to monitor research funding and analyze details on staffing, facilities, budgets, productivity, and compliance.	Demo Scan the QR code to launch directly on iPad: 	Higher Education and Research	Keith Harmon
City Performance Management (ZIP 13 MB)	Showcases the utilization of dashboards for key stakeholders, such as the city manager, council, or mayor, to provide performance transparency while aligning operations with strategy. Contains five dashboards: Overview, Economy, Environment, Public Safety and Social.	Demo Scan the QR code to launch directly on iPad: 	Public Sector	Elizabeth McGowan
IP Rights Analysis (ZIP 5 MB)	Showcases examples of SAP BusinessObjects Dashboards with alerting functionality to monitor and manage research and media from	Demo Scan the QR code to launch directly on iPad: 	Media	Joerg Dierker

[Link in SAP SDN](#)

BI for everyone in the organization



Self-service user experience

No need for IT to create predefined content

Universal data access

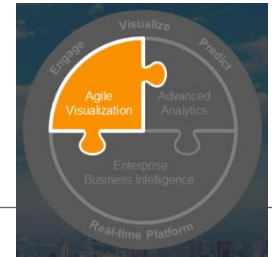
On web, mobile, and desktop – online and offline

Easy to get and deploy

Cloud and on-premise options with SAP Lumira



LUMIRA overview



← Discipline_time

? Explore

Description: Discipline_time Last Modified: 4/22/14 11:37 PM

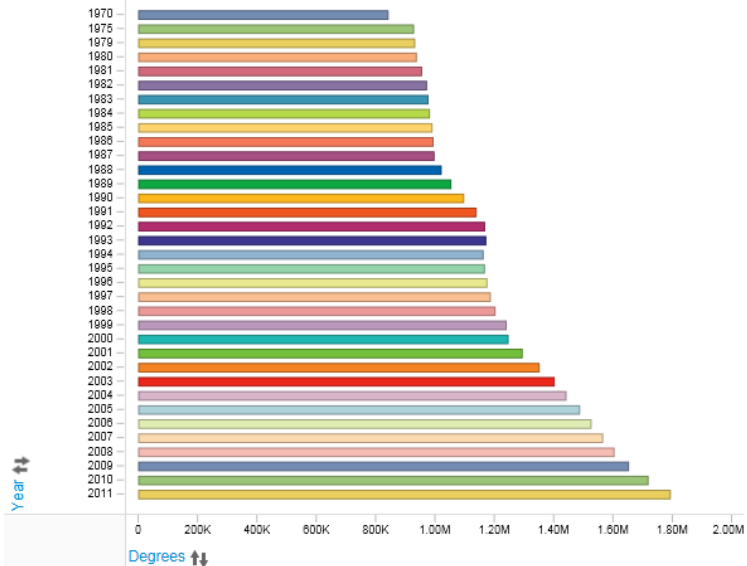
Visual Discoveries 3 / 3

▮ Degrees by Year

▮ Degrees by Discipline

▮ Degrees by Discipline and Year

▮ Degrees by Year



DID YOU KNOW?

➕ 367K

Degrees is high when Discipline is Business and Year is 2011. It is 12 times higher than the average.

➕ 9.06M

Degrees is high when Discipline is Business. It is 9 times higher than the average.

Show Less



LUMIRA overview



Discipline_time

MEASURES 1

Measure Group All

Degrees Sum

ABC Discipline	33	ABC Year	35
Agriculture and natural resources		1970	
Architecture and related services		1975	
Area, ethnic, cultural, gender, and grou...		1979	
Biological and biomedical sciences		1980	
Business		1981	
Communication, journalism, and relate...		1982	
Communications technologies		1983	

Visualization options: Explore, Analyze

Comparison, Contribution, Trend, Correlation, Custom

Data Y-Axis: Degrees X-Axis & Values: Discipline

SAP POWERED BY SAP HANA CLOUD

Demo

Lumira



Learn more and test drive SAP Lumira
([link](#))



Analytics for HER

COMING SOON

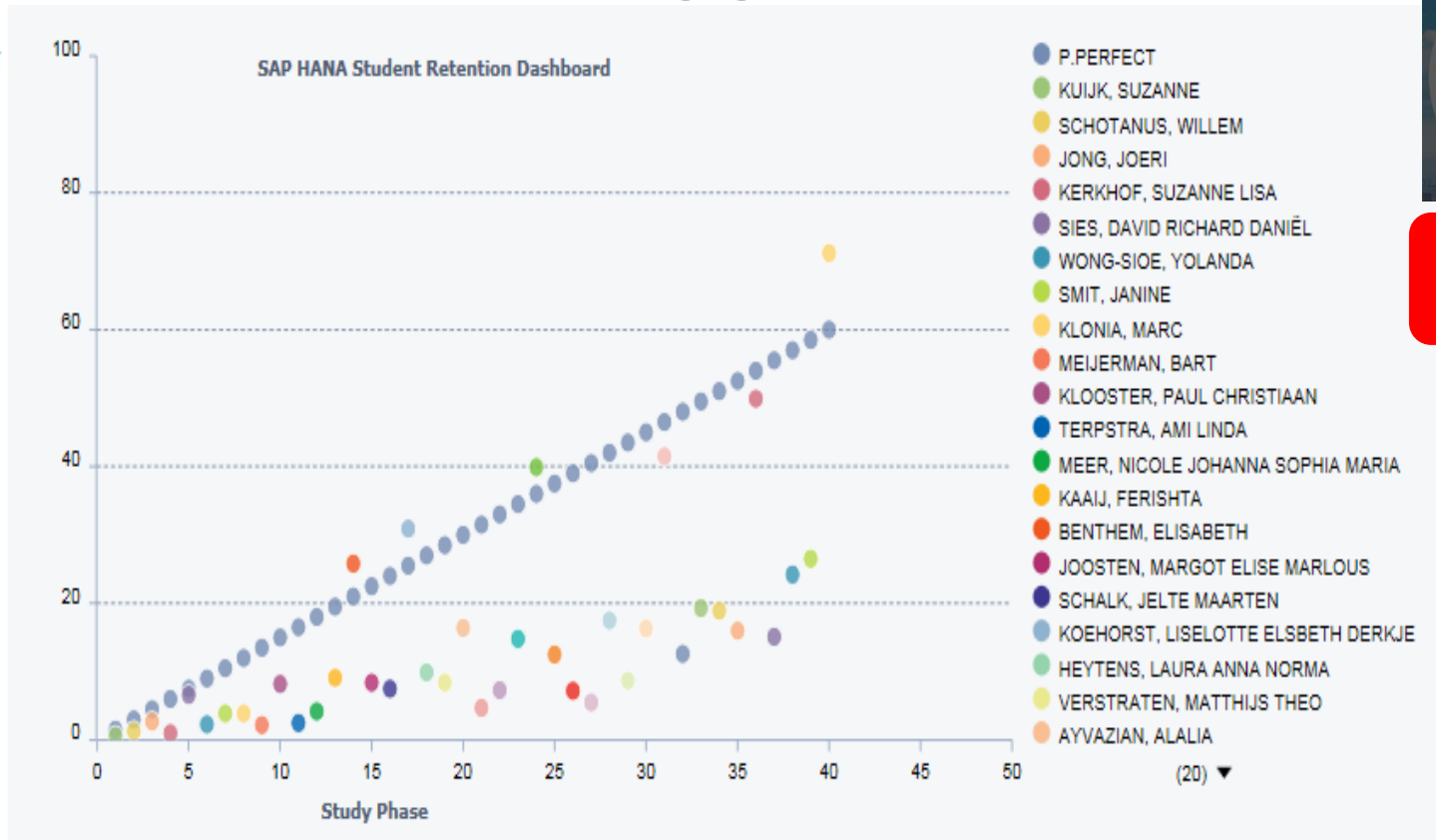


The Proof-of-Concept **SAP HANA Student Engagement Dashboard**



Select Advisor

Griffith



DRAFT

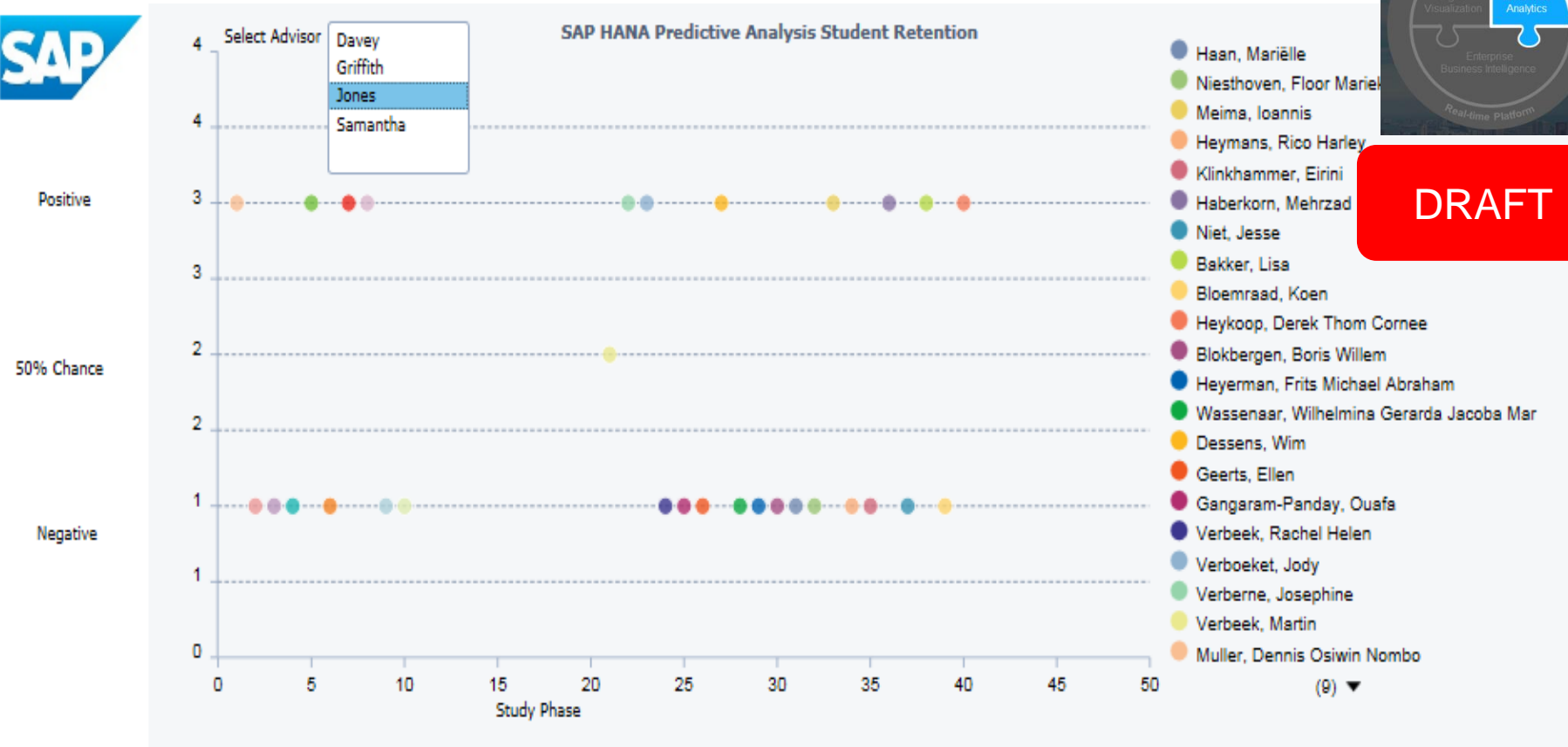
Students with red flags

Advisor	Student	Week	Retention Rate	Motivation Factor	Study Selection Process	Birth Country Father	Faculty	Program Of Study	Course
Griffith	Verdam, Juul	21	0.15	10	9	USA	F1000	P1001	C1004
	Verdonk, Lynn	22	0.22	10	9	USA	F1000	P1001	C1004
	Peek, Robin Heather	25	0.33	3	4	Morocco	F1001	P1002	C1006
	Gerbranda, Lotte Elisabeth	26	0.18	3	4	Morocco	F1001	P1002	C1006
	Pelk, Chérie Chayenne Mercedes	27	0.14	3	4	Morocco	F1001	P1002	C1006
	Kruse, Noranne	29	0.2	5	5	Australia	F1000	P1001	C1001

SAP HANA Predictive Analysis Student Engagement



DRAFT



Students with red flags

Advisor	Student	Type	Birthdate	Place	Gender	CR	Week	Motivation Factor	Study Selection Process
Jones	Megens, Leona Enayat	1	11/28/76	Hoorn	2	5.2	2	3	1
	Nieuwenhof, Zoë Rose	1	10/17/88	Heemstede	2	7.8	3	1	2
	Heyenk, Marieke	1	9/7/83	Boekarest	2	10.4	4	2	1
	Wallart, Jesse	1	12/8/86	Amsterdam	1	15.6	6	2	1
	Waaijer, Daniëlla	1	1/24/68	Woerden	2	23.4	9	1	1
	Mehciz, Franziska	1	8/30/84	Amsterdam	2	27	10	2	4



Thank you!



Questions & Discussion

Appendix

SAP Solutions

- BOBJ: [Research Dashboard content](#)
- [Lumira](#) data visualization made easy
- [KXEN](#) extend the power of predictive analytics into the cloud.
- [HANA](#) Customer stories. **Engage** Customers with Free trials and **Learn** and **Co-Innovate** HANA Academy MOOC
- [HANA Enterprise Cloud](#)
- HANA Enterprise Cloud Portal: [HERUG site](#) and University of the Future Proof of Concept

© 2014 SAP AG 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 AG or an SAP affiliate company.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG (or an SAP affiliate company) in Germany and other countries. Please see <http://global12.sap.com/corporate-en/legal/copyright/index.epx> for additional trademark information and notices.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

National product specifications may vary.

These materials are provided by SAP AG or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP AG or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP AG 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 AG 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 AG's or its affiliated companies' strategy and possible future developments, products, and/or platform directions and functionality are all subject to change and may be changed by SAP AG 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, which speak only as of their dates, and they should not be relied upon in making purchasing decisions.