

End to End Research Management

Keith Harmon, Industry Business Solutions, Higher Education & Research April 2014





# End to End Research Management

1 Introduction

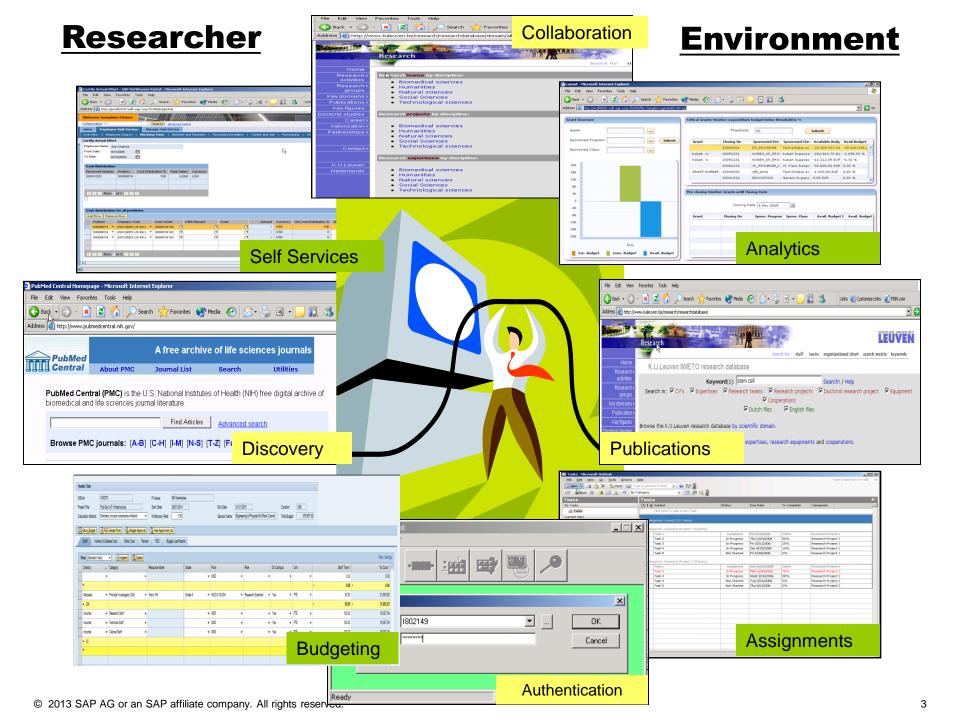
2

#### **Research Management**

- For the Researchers...
- For the Organizations...

**Q&A / Discussion** 





#### The "New Normal"



**Economic Uncertainty** 

The primary objective is to elevate the **University's ranking** among the top Universities.



Shifting Priorities



Constrained Resources

#### Goals

- Minimize the Researcher's administrative work and provide intuitive end to end processes
- Facilitate collaboration within and outside the University
- Support research outcomes and discoveries
- Maximize external sources of funding
- Increase the funding success rate
- Ensure compliance is fulfilled
- Increase visibility of research proposals and projects
- Track Key Performance indicators (KPIs)

#### **End to End Research Management**

#### **Sponsored Program Management**

- Pre-Award Proposal Development
- Post-Award Project Management
- Faculty Time & Effort
- Resource commitments and allocations
- Collaboration
- Document Management
- Publications, Citations

- ✓ Portfolio and Project Management (PPM) integrated with SAP ERP: Financials, HCM, Procurement, etc..
- ✓ Grants Management + PPM
- Effort Certification & Reporting
- ✓ Grants Management + Reporting Dashboards
- Collaboration (SFSF, PPM)
- ✓ Integrated in solutions: GM & PPM
- Portal + Business Process Platform

#### **Research Management**

- Financial management and KPIs
- Research data management and analysis
- Research outcomes

- BOBJ: <u>Dashboards</u> and Web Intelligence reporting
- ✓ HANA & HANA Enterprise Cloud
- ✓ BOBJ Predictive Analytics KXEN
- ✓ BOBJ Explorer & <u>Lumira</u>

#### **Administrative Processes**

- Compliance
- Discoveries and commercialization
- Platform for Research

- GRC: EHS, Access Control
- Intellectual Property Management
- HANA

## **Solutions supporting Researchers**

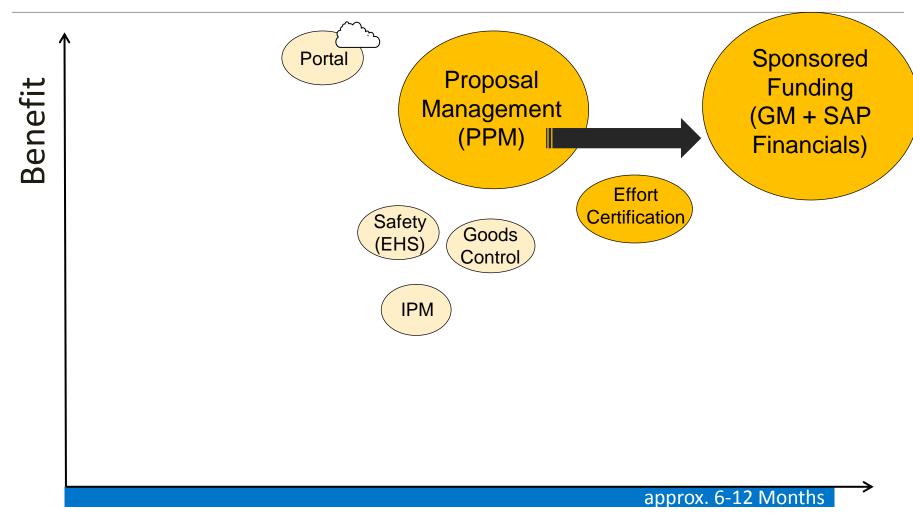
- Portal with Self Services
- Analytics and Reporting solutions
- Proposal and Project Management,
  Grants Management,
  Fundraising Management
- HANA Platform

#### Painpoints:

- Peace of mind for Sponsor and Internal Compliance
- Spend less time on Administrative tasks
- ✓ Increase collaboration = reputation = University Brand
- Need to increase research funding
- Align Resources and University Priorities
- Have to search for information needed to complete tasks
- Cannot easily analyze scientific results

# **SAP Industry Solutions**

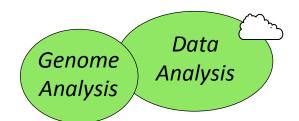




#### **SAP HANA**



Benefit



Research Platform

Energy and Environmental Intelligence

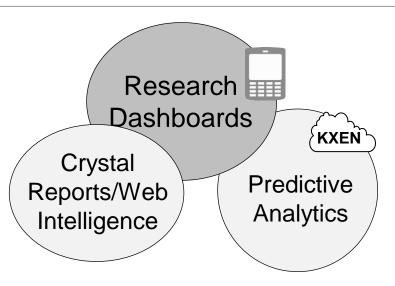
approx. 6-12 Months

# **SAP Analytics**



Benefit

Lumira (visualization)

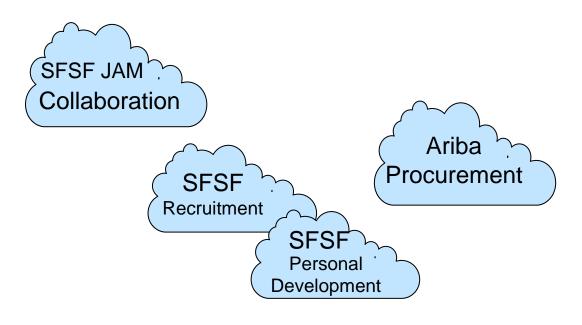


approx. 6-9 Months

#### **SAP Cloud**



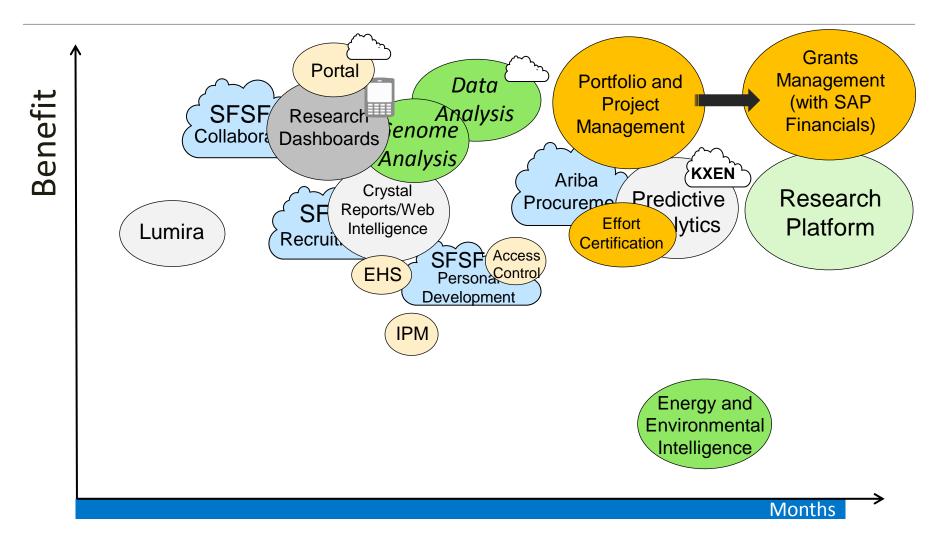




approx. 3-6 Months

# SAP's Comprehensive Research Offering







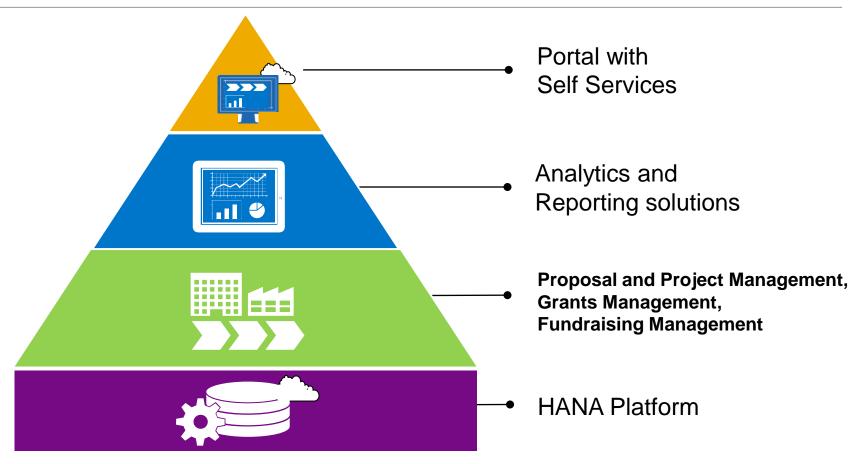
# **Questions & Discussion**

### **Appendix**

#### **SAP Solutions**

- BOBJ: Research Dashboard content
- HANA Enterprise Cloud Portal: <u>HERUG site</u> and University of the Future Proof of Concept
- HANA Customer stories. Engage Customers with Free trials and Learn and Co-Innovate HANA Academy MOOC
- HANA Enterprise Cloud
- <u>Lumira</u> data visualization made easy
- Fiori consistent User experience across device (PC, Tablet and Phone)
- Rapid Deployment Solutions (RDS) to accelerate implementations and lower costs

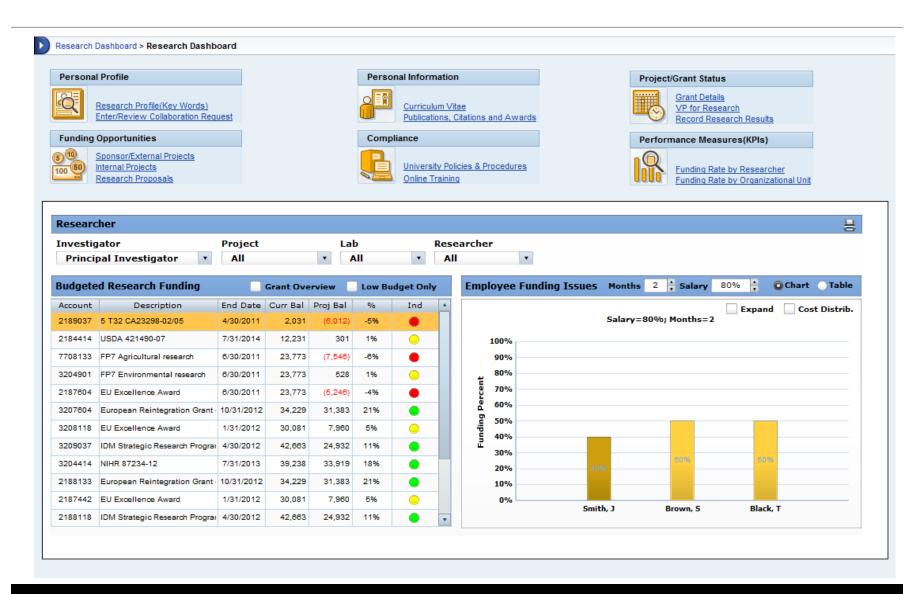
### **Solutions supporting Researchers**



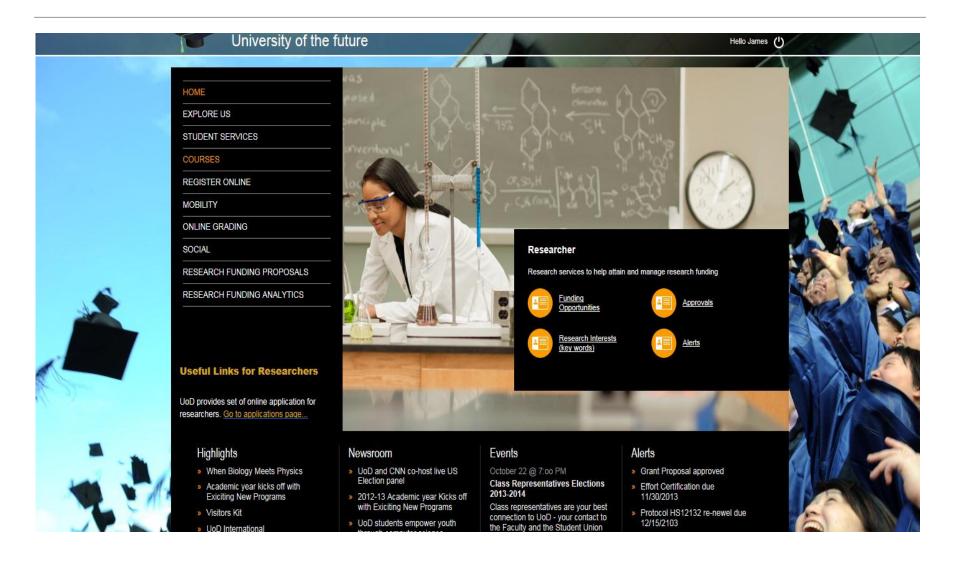
#### Painpoints:

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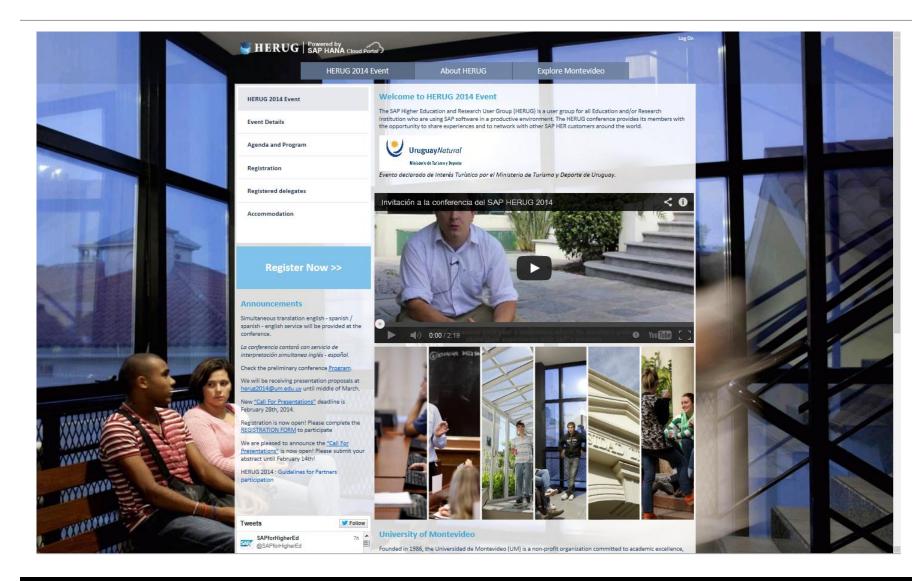
#### **Traditional Portal with Business Processes**



### **HANA Enterprise Cloud Portal**



#### **HERUG** conference site runs SAP HANA Enterprise Cloud Portal



#### What does Gartner say...



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Gartner.

### SAP Hana Cloud Portal Is a Front End for SAP Innovation

28 January 2013 ID:G00246259

Analyst(s): Jim Murphy

VIEW SUMMARY

#### Overview

#### Impacts

- SAP Hana Cloud Portal will help organizations meet the next wave of portal demands.
- Hana Cloud Portal puts SAP back on a path toward portal innovation.
- Hana Cloud Portal's lean, agile, evolving quality will require customers to define its scope and role clearly.
- Hana Cloud Portal will play an important role in the transition to the cloud and the broader Hana platform.

#### Recommendations

- Use Hana Cloud Portal, but only with a governance plan, defining its role and coordinating it with other systems to unify and improve the user experience (UX).
- SAP customers should pilot Hana Cloud Portal as a proving ground for the portal platform as a service (pPaaS) model, new portal standards and mobile scenarios.
- All organizations SAP customers or not must examine how their portals will exploit
  and interact with cloud-based services.
- Current NetWeaver Portal customers should define Hana Cloud Portal's relative role and determine the optimal means of integration between the two.

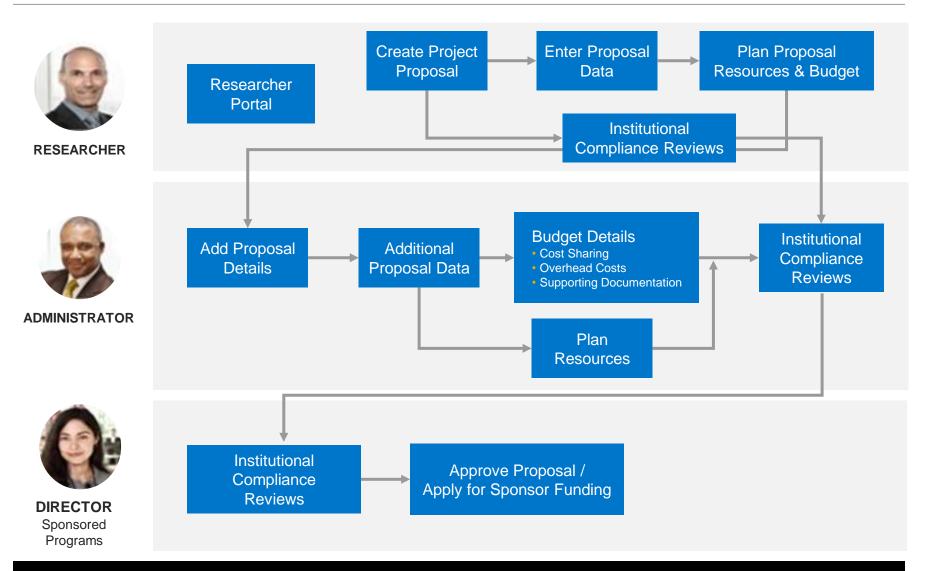
#### Analysis

This document was revised on 23 April 2013. The document you are viewing is the corrected version. For more information, see the Corrections page on gartner.com.

#### "SAP HANA Cloud Portal

will have significant impacts for customers trying to improve portal agility, performance, relevance and access to business applications."

# **Proposal Development Business Process**



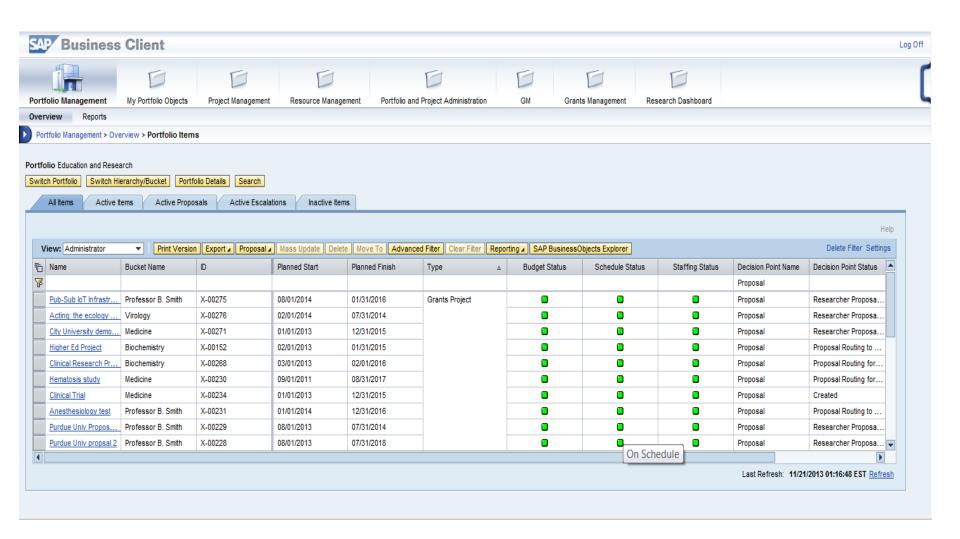
# Proposal Development using SAP Portfolio and Project Management (PPM)

## **Key Takeaways**

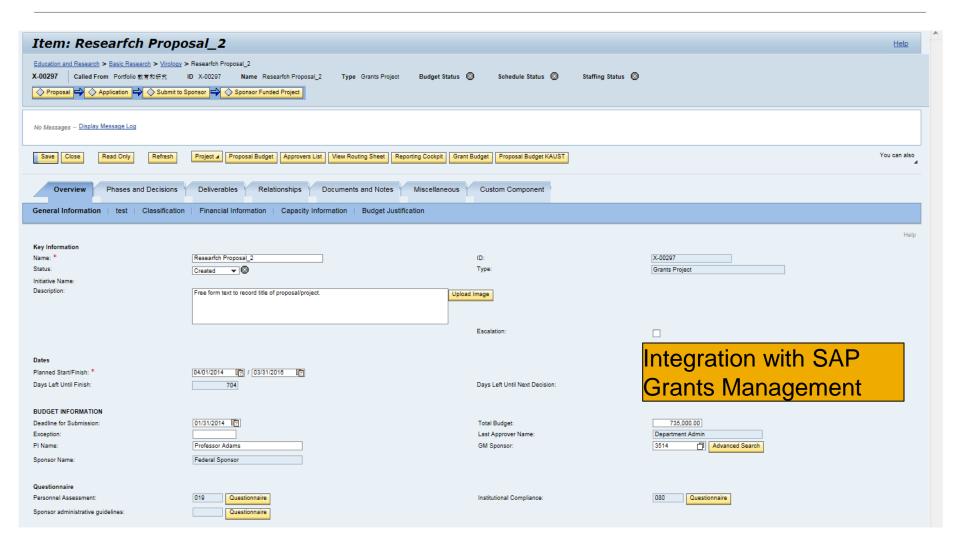
- Streamline the proposal development process
- Reduce time to create proposals and funding requests
- Provide all proposal information in one central system
- Organize the processes in a logical and intuitive process flows
- Provide budget templates and calculation methods based on the Sponsor's rules
- Facilitate collaboration among the Researchers, Finance and the Research office
- Automate the reviews and approvals
- Consolidate the financial aspects of the proposal
- Increased transparency of Research proposals... align with Organizational priorities... assess Financial Impact



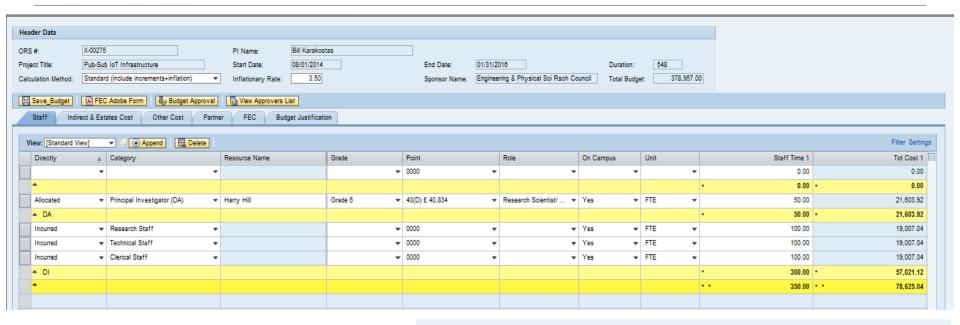
#### **Proposal and Project Overview**

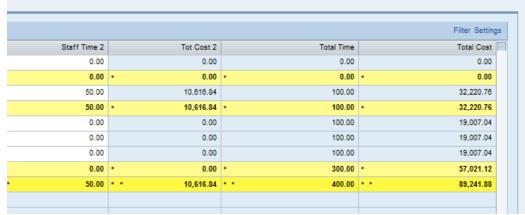


### **Proposal Master Data**

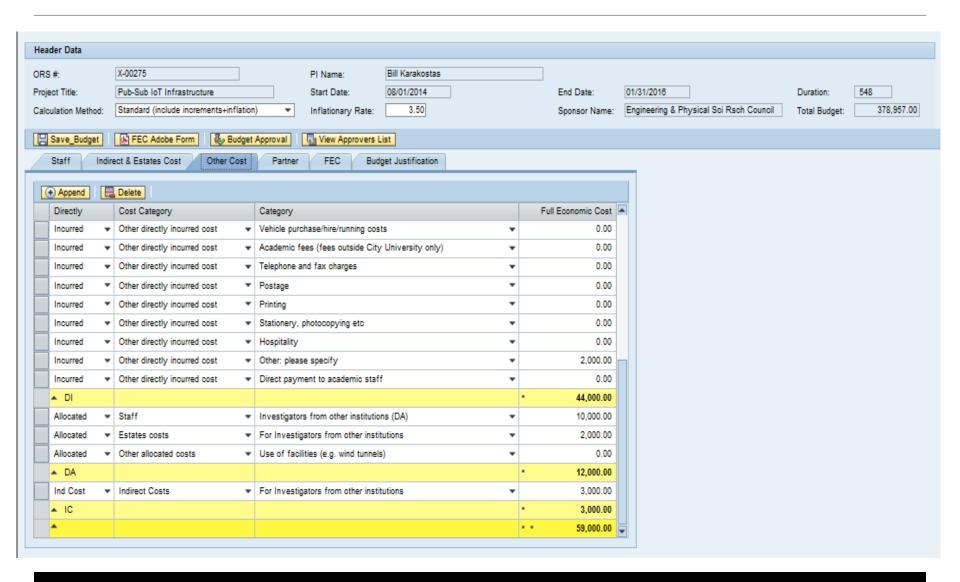


### **Proposal Budget – Personnel**

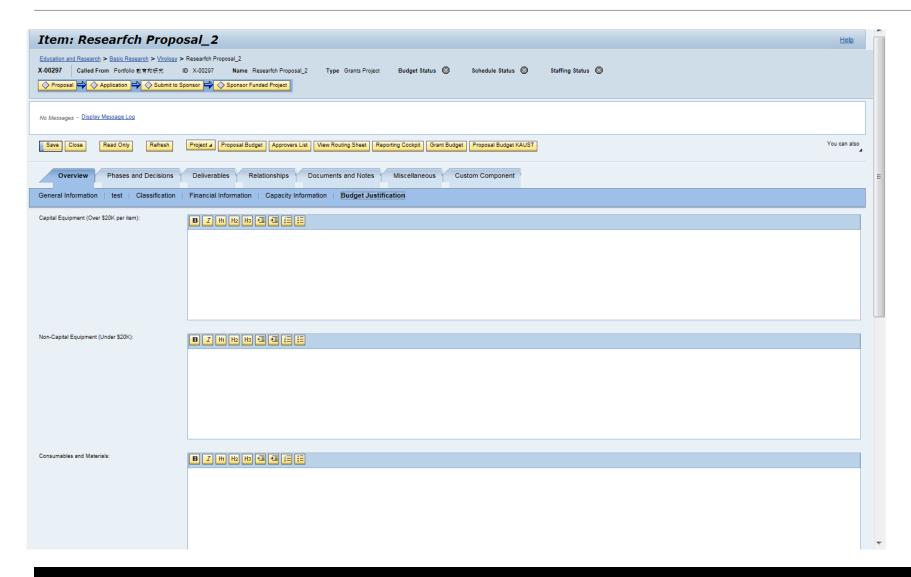




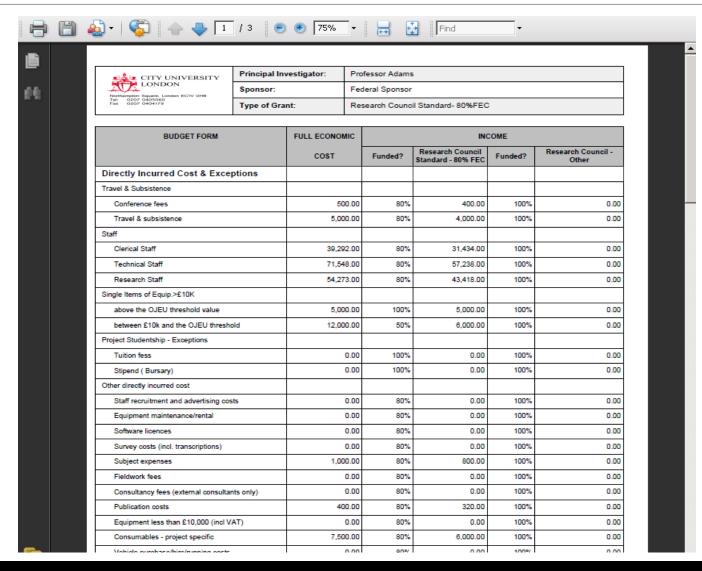
#### **Proposal Budget – Other Costs**



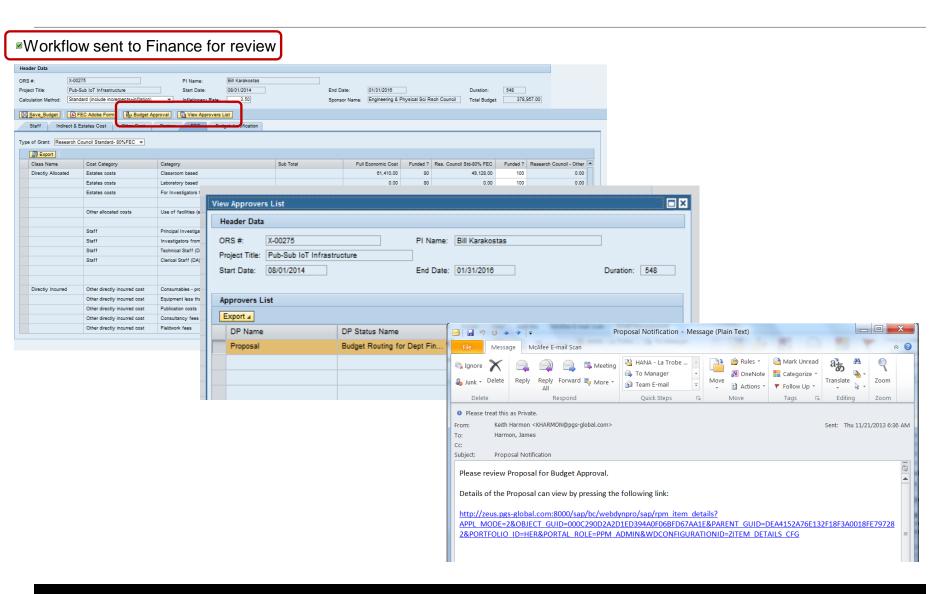
# **Proposal Budget Justification**



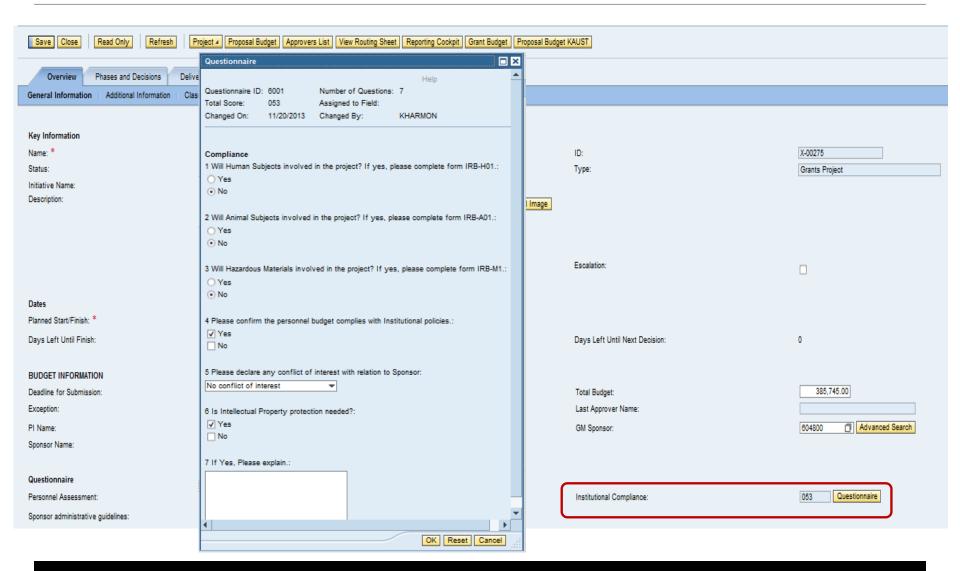
## **Sponsor Application – Proposal Overview**



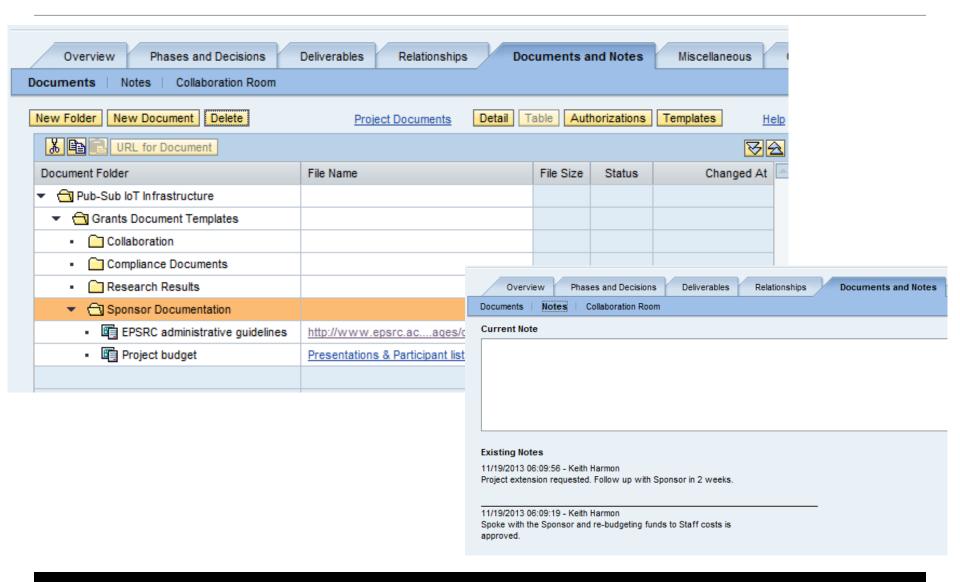
### **Approvals & Budget justification**



### Compliance



### **Document Management**





# End to End Research Management

- Introduction
- **2** Researcher Desktop Concept
- Sponsored Program Management
  - For the Researchers...
  - For the Organizations...
- 4 Analytics and HANA for Higher Education & Research



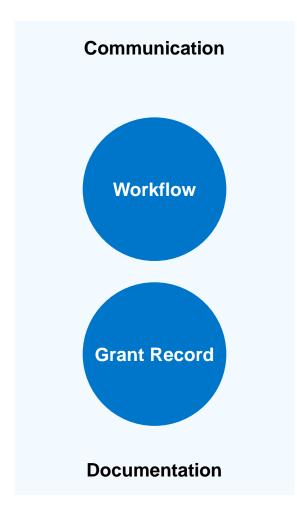
# Post Award administration using SAP Grants Management (GM)

# **Key Takeaways**

- Perform post-award accounting functions
- Document each Grant's financial and administrative rules
- Flexible budgeting scenarios
- Enforce Sponsor compliance: postings, budget availability, close-out
- Prevent Project overruns and possibility of deficit spending
- Manage Sponsor billing rules
- Automate billing process
- Aged receivable by Grant and Sponsor
- Grant line Item reporting with drilldown capabilities for detailed reconciliation at close out



### **Managing Sponsor / Grant Requirements**



What kind of expenses will the sponsor fund?

What are the **stages** of the grant?

How to **budget and consume** the grant?

How to calculate overhead costs?

How much do we have to contribute?

How to consider revenues?

How to **bill the sponsor** and when?

Which **reports** are due and when?

Which translation rates apply for **foreign currencies**?

## **Enforce Sponsor Compliance using Grants Management**

# **Comprehensive Sponsored Program Management**

- Support entire grant lifecycle business processes: pre- and post-award
- Budget sponsor funding and cost sharing requirements
- Accommodate funding period differences between Sponsor & Grantee organizations
- On-line, real time funds availability checks

#### **Flexible Master Data**

- Relate an organization's financial structures to sponsor's requirements
- Document and record sponsor's rules and requirements for managing the grants

# Overhead / Indirect Costs Calculations

Flexible options supported

#### **Billing**

Multiple billing scenarios supported

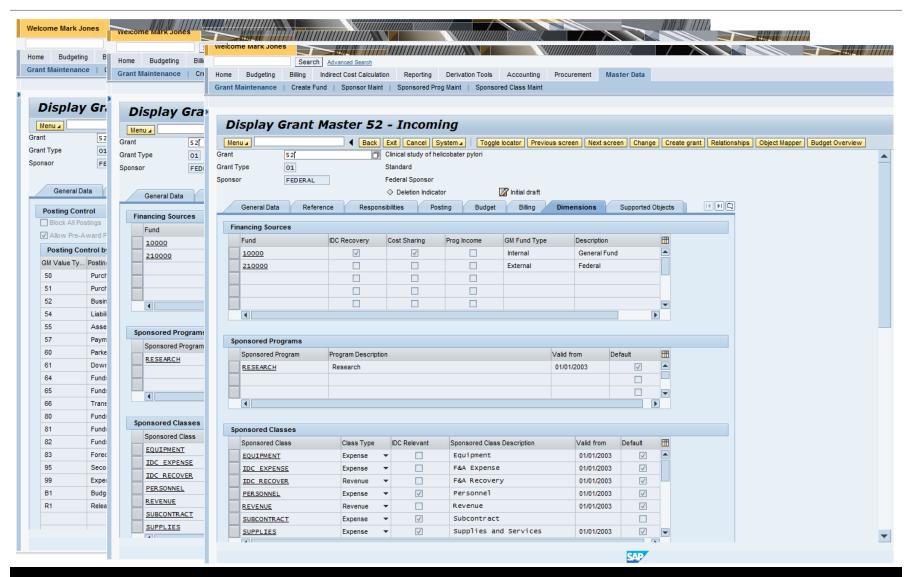
#### Reporting

Sponsor and Organizational Views

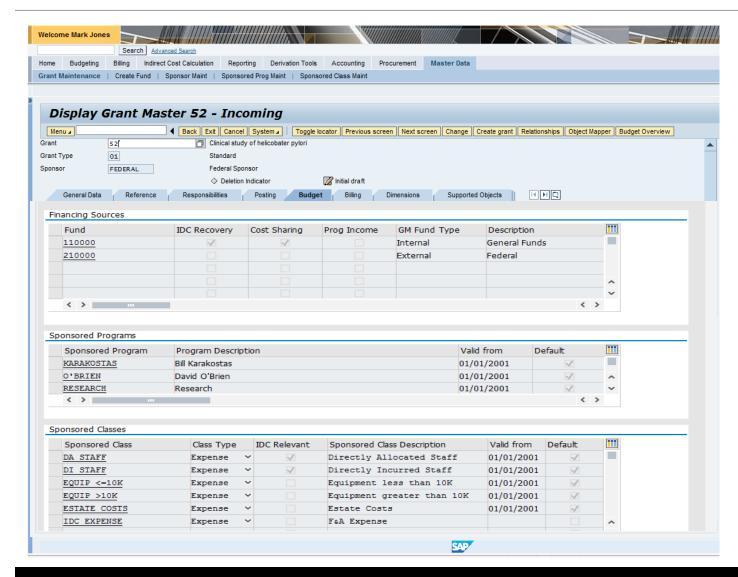
#### **Records Management**

Support grant related documentation

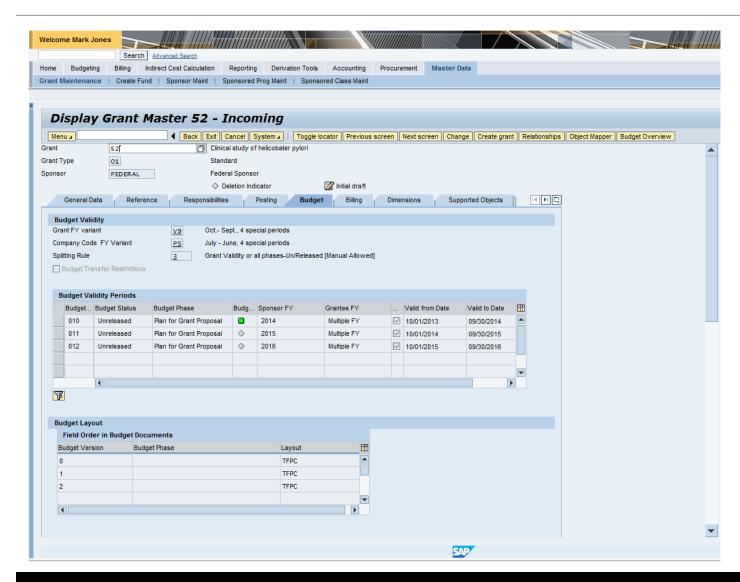
# **Compliance: Posting Controls**



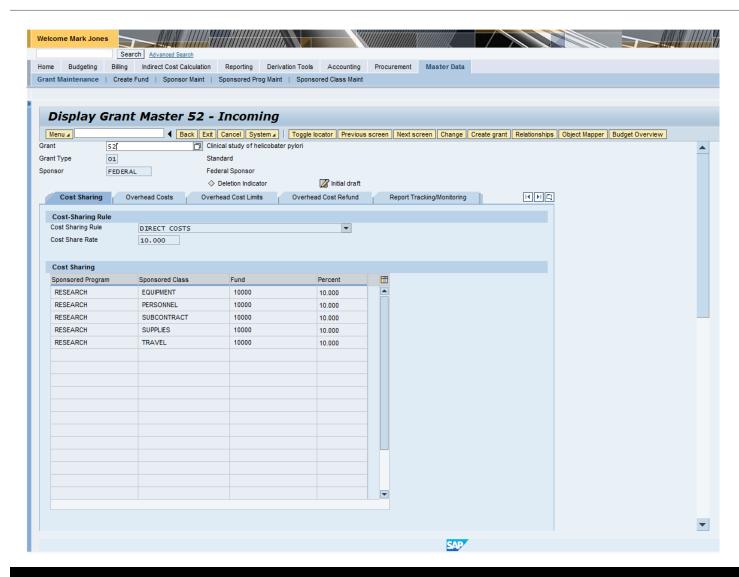
## **Compliance: Sponsor administrative rules**



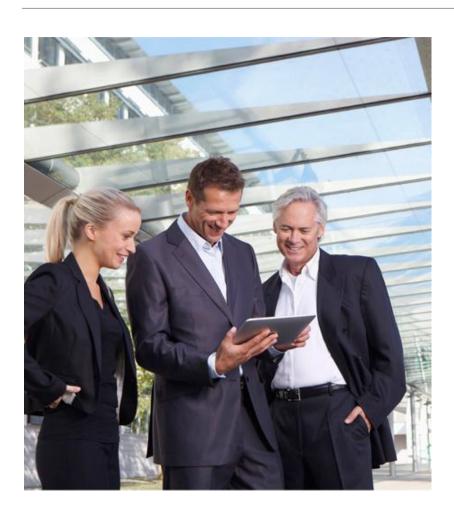
# Compliance: Budgeting Rules and Availability Checking



## **Compliance: Sponsor Cost Sharing requirement**



## Grants Management is fully integrated with SAP ERP



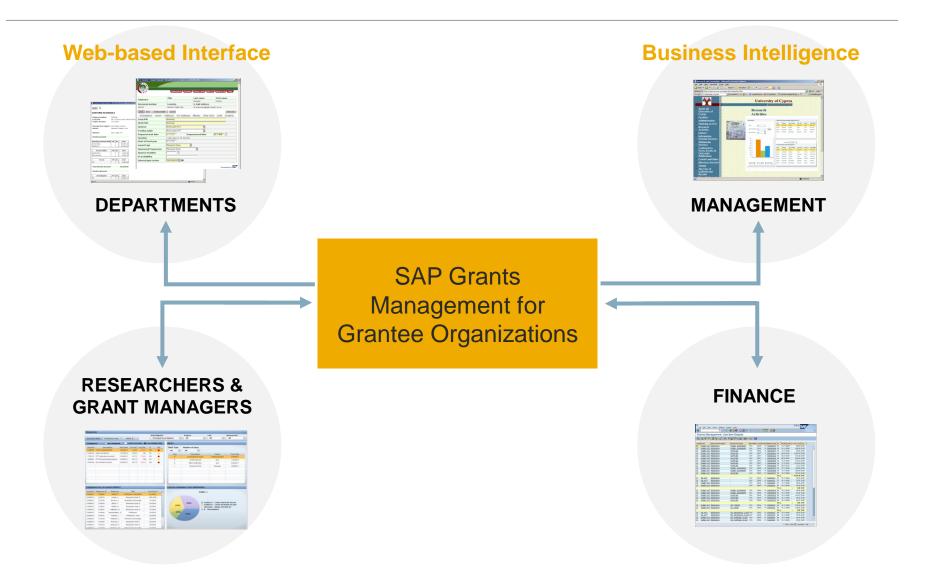
## With SAP Grants Management, every business transaction is

- <u>Checked</u> whether it contributes (directly or indirectly) to the costs of the grant
- Recorded for that grant as a real or statistical posting

... according to each sponsor's own rules!

Each item can be <u>reported</u> and <u>billed</u> to the sponsor.

## Research Reporting Landscape: Access to Information



## **End to End Research Management**

### Financials, HCM, Procurement Sponsored Program Management

- Pre-Award/Proposal Development
- Post-Award/Project Management
- Faculty Time & Effort
- Reporting
- Collaboration
- Document Management
- Publications, Citations

- ✓ Integrated ERP: Financials, HCM, Procurement, etc..
- Portfolio and Project Management (PPM)
- ✓ Grants Management + PPM
- Effort Certification & Reporting
- ✓ GM + Dashboard
- Collaboration (SFSF, PPM)
- ✓ Integrated in solutions: GM & PPM
- ✓ Portal + Business Process Platform

### Research Planning

- Pre-Award/Proposal Development
- Post-Award/Project Management
- Faculty Time & Effort

- ✓ HANA + BOBJ
- ✓ HANA + Predictive Analytics
- ✓ HANA + EPM, PPM

### **Administrative Processes**

- Pre-Award/Proposal Development
- Post-Award/Project Management
- Faculty Time & Effort

- ✓ HANA
- ✓ GRC: EHS, Access Control
- Intellectual Property Management

# Manage Research funding using SAP Business Objects (BOBJ)

### In general...

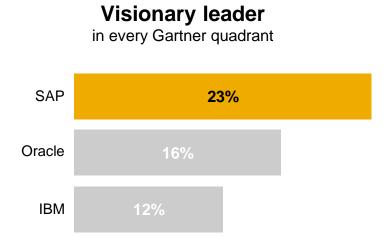
- Data from many sources
- Single source of truth for the Organization

### For Grant funding...

- Consolidate Financial and Administrative data
- Easily determine disposition of Grant and all funding
- Reduce time to assess over grant position
- View personnel cost assignments
- Alerts and Reminders to meet deadlines.
- If/Then analysis for all funding and specific grants
- Overview and detailed KPI results



## SAP BusinessObjects (BOBJ) Why SAP Leads the Market



**#1 in BI** analytic applications



100,000+

Customers

2 Million+

**Community Subscribers** 

**800+** 

**OEM Partners** 

7,000+

SAP BusinessObjects Solutions & Partners

1,200+

Global Service and Technology Partners

## **Enterprise Business Intelligence**



## SAP BusinessObjects Business Intelligence Platform



### **BI Core**

- Continued Solution Leader
- Core for Innovation
- Complete BI Suite



#### **Creative BI**

- For Researchers and Department
- Fast time-to-value
- Connected to the Enterprise



### **Mobile BI**

- Mobile experience for BI
- Content to point of impact
- Expand to untapped users



#### **Extreme Analytics**

- Big Data
- Real-time
- Predictive

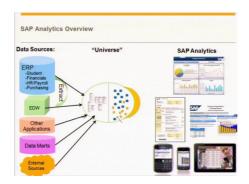


#### Social

- Collaboration: Capture the decision
- Opinion & Facts
- Leverage the Network

**Innovation without Disruption** 

- Connect with any data sources
- Integrated SAP solutions
- Industry delivered content to accelerate implementations and reduce costs





## Co-innovation for SAP Research analytic content

Univ of Bielefeld Baylor College of Medicine

Duke University Broad Institute

Johns Hopkins University Central Michigan University

University of Kentucky University of Cincinnati

KIT Karlsruhe Ole Miss

National University of Singapore Massachusetts Institute of

University of Vechta Technology (MIT)

Texas State University

Weill Cornell Medical College

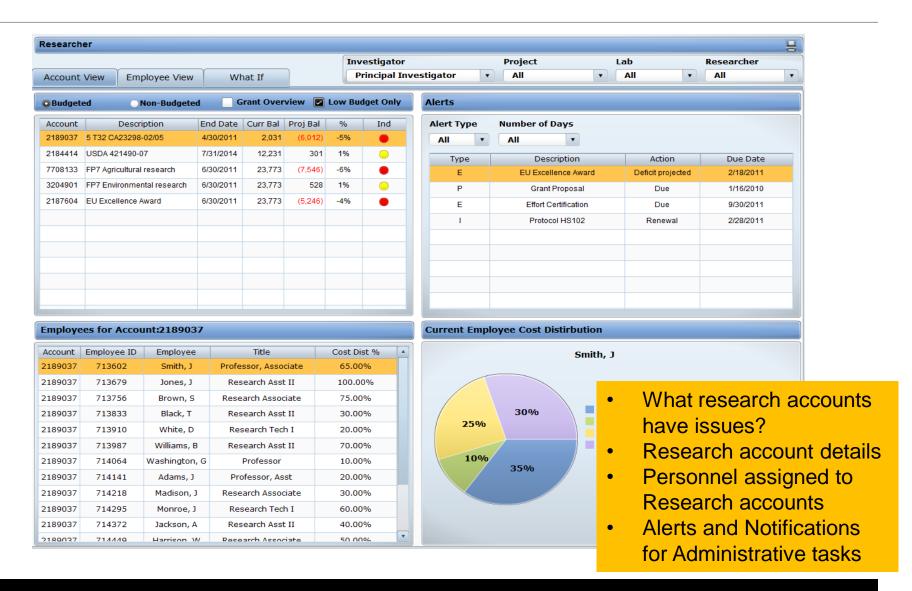
**Cornell University** 

**LSI Consulting** 

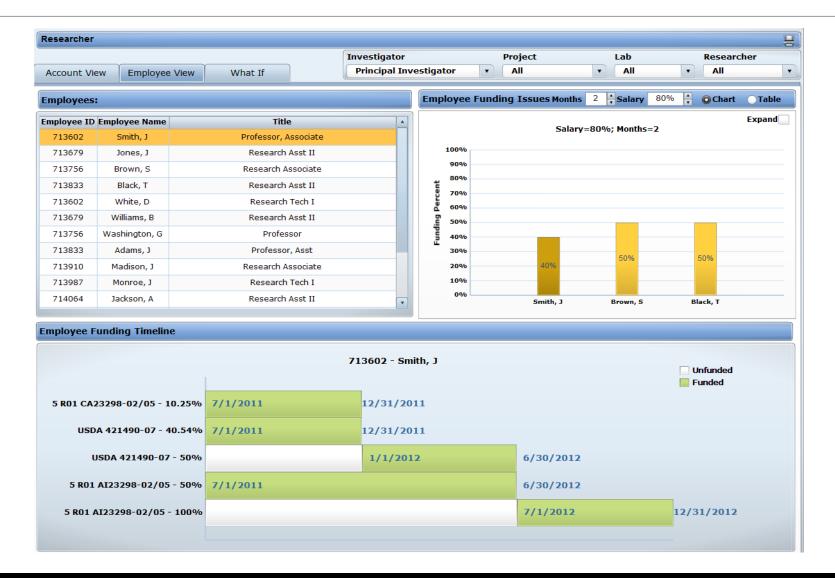
### From the Researcher's perspective

- What is the status of my research funding for my projects?
- Do I have enough research funding to cover my lab (personnel / supplies) currently and projected until the project termination and end of the funding?
- What percentage of the funding has been expended?
- When are my projects ending?
- Do I have enough funds for more resources: people, equipment, etc...
- To help the Researcher... the Research Administrator must see the same information
- Projects, Proposals, Alerts...
- When will my research protocols need to be renewed?
- Are any employees trainings due?

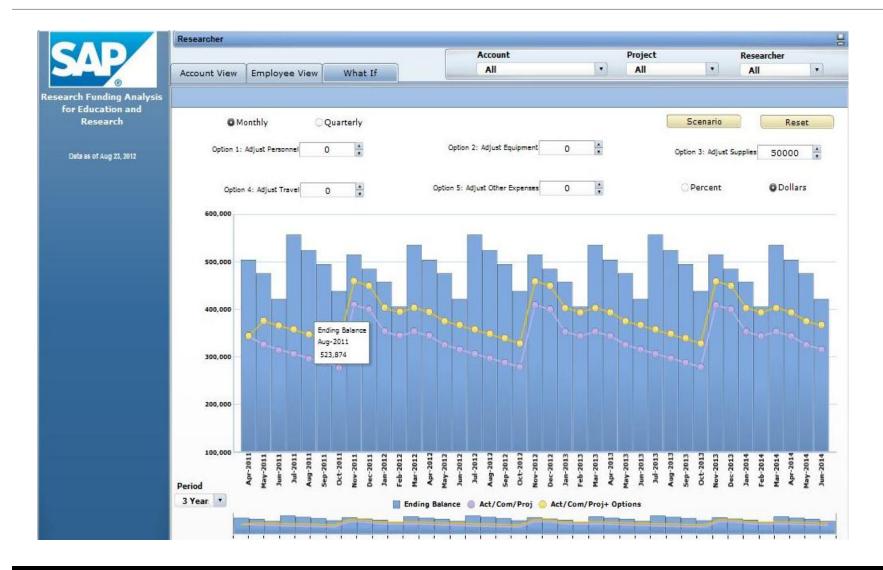
## Researcher and Research Administrator Funding overview dashboards



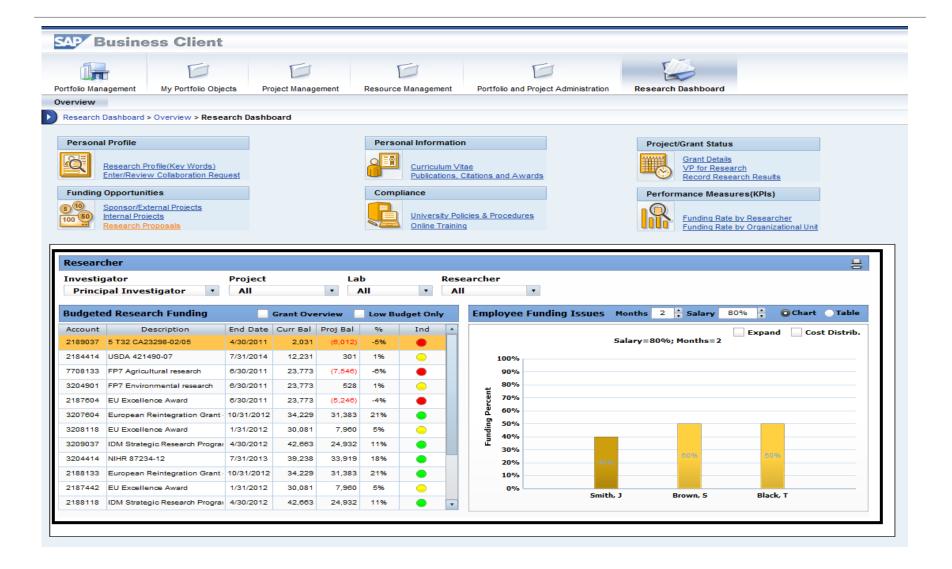
## Researcher and Research Administrator dashboards Resource overview



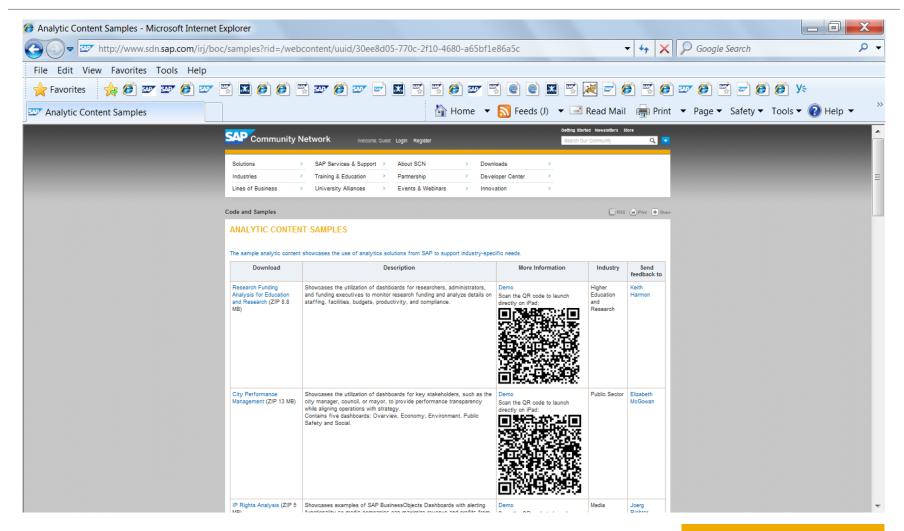
# Researcher and Research Administrator What if? Scenario modeling



## Incorporated into the Researcher Portal



## SAP's Analytic Content for Research Organizations



Link in SAP SDN

## **Exploring Possibilities for a Research Platform**





**SAP HANA Cloud Portal** 







### SAP HANA App Services

Native HANA | Java | Portal | Mobile | Collaboration | Integration | HTML5



### SAP HANA DB Services

In-Memory | Transactions | Analytics | Text | Predictive | Planning



**SAP HANA Cloud Platform** 



**SAP HANA Cloud Platform Infrastructure Layer** 

ВО

FIN

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# HANA Experience Customer site <a href="http://www.saphana.com/community/try">http://www.saphana.com/community/try</a>



Home > Learn > Customer Stories

#### **Customer & Startups Stories on SAP HANA**



Charité uses SAP HANA to enable faster and more flexible reporting

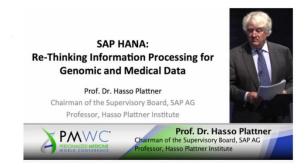


MKI: Real-time big data analysis with SAP HANA, R, Hadoop for genome interpretation



Genome Analysis with SAP HANA

### **Additional Videos:**







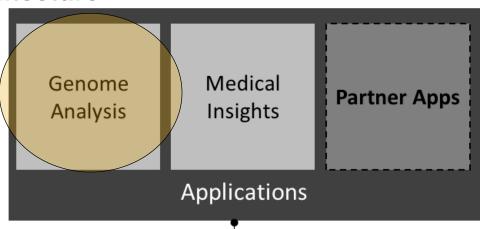
University of Kentucky



## **SAP Genome Analysis**

### SAP HANA Platform for Healthcare

### **High-Level Architecture**



### **SAP HANA + Healthcare Content**

SDKs/Partner SDKs/SQL, SQLScript, MDX, JavaScript, R

Data Models
Tables, Views,
Stored
Procedures

Partners/Stan dard Content

ICD codes, annotations

Algorithms

Functions, Predictive algorithms, Genomics Semantic Services

Text mining, Geospatial Data Services (ETL, Data Cleansing)

VCF Load ATL

## **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

to Strategy and Operations

The strategy and Operations

The strategy and Operations of the s



Facilities: Education, Research and General Purpose

Energy can be

20 to 33%

of operating costs

Source: Industry Market Trends
Source: US EPA

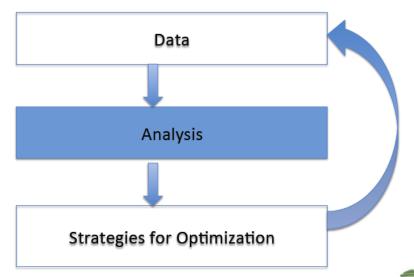


### **SAP HANA Energy and Environmental Intelligence**

Co-innovation with Massachusetts Institute of Technology (MIT)

### **Optimize Building Energy Efficiency**

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





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.

Enhance University brand through responsible stewardship of natural resources.

## 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.



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



## **Managing the University Brand**

### 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

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





## **Thank You!**

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