

University of  
Luxembourg

Multilingual. Personalised.  
Connected.

HERUG 2019

360° view on projects through BI reporting and  
budgeting

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Costanzo Maiorano : UL-SAP CC Solution Architect*



HERUG

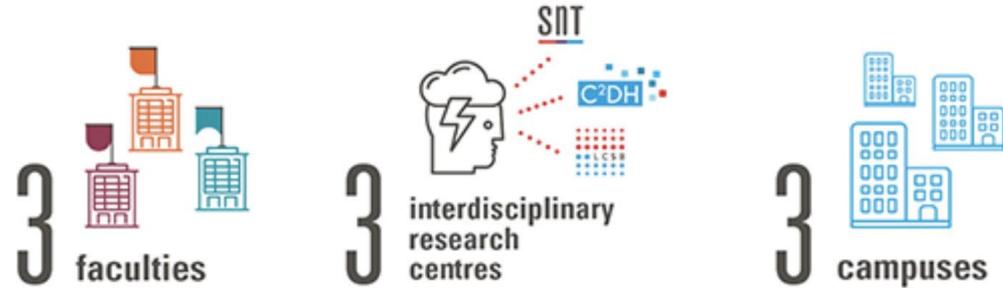
SAP Higher Education & Research User Group



UNIVERSITÉ DU  
LUXEMBOURG

- UL background
  - About
  - SAP @ UL
- BI / RSB Reports
- Budget Tool
- Demo
- What's next ?
- Q&A

# About University of Luxembourg



# SAP @ University of Luxembourg Milestones

Nov 2013

- **Decision for SAP:** Provide digital foundation
- Standardisation, single source of information, transparent and real time

Jun 2014

- Initial scope of work complete (blueprint)
- Human resources, Finance, Purchasing, Travel and Expense

Jan 2015

- **HR administration and payroll on SAP**
- Finance, Purchasing, Travel and Expense delayed to Jan 2016: Scope too large

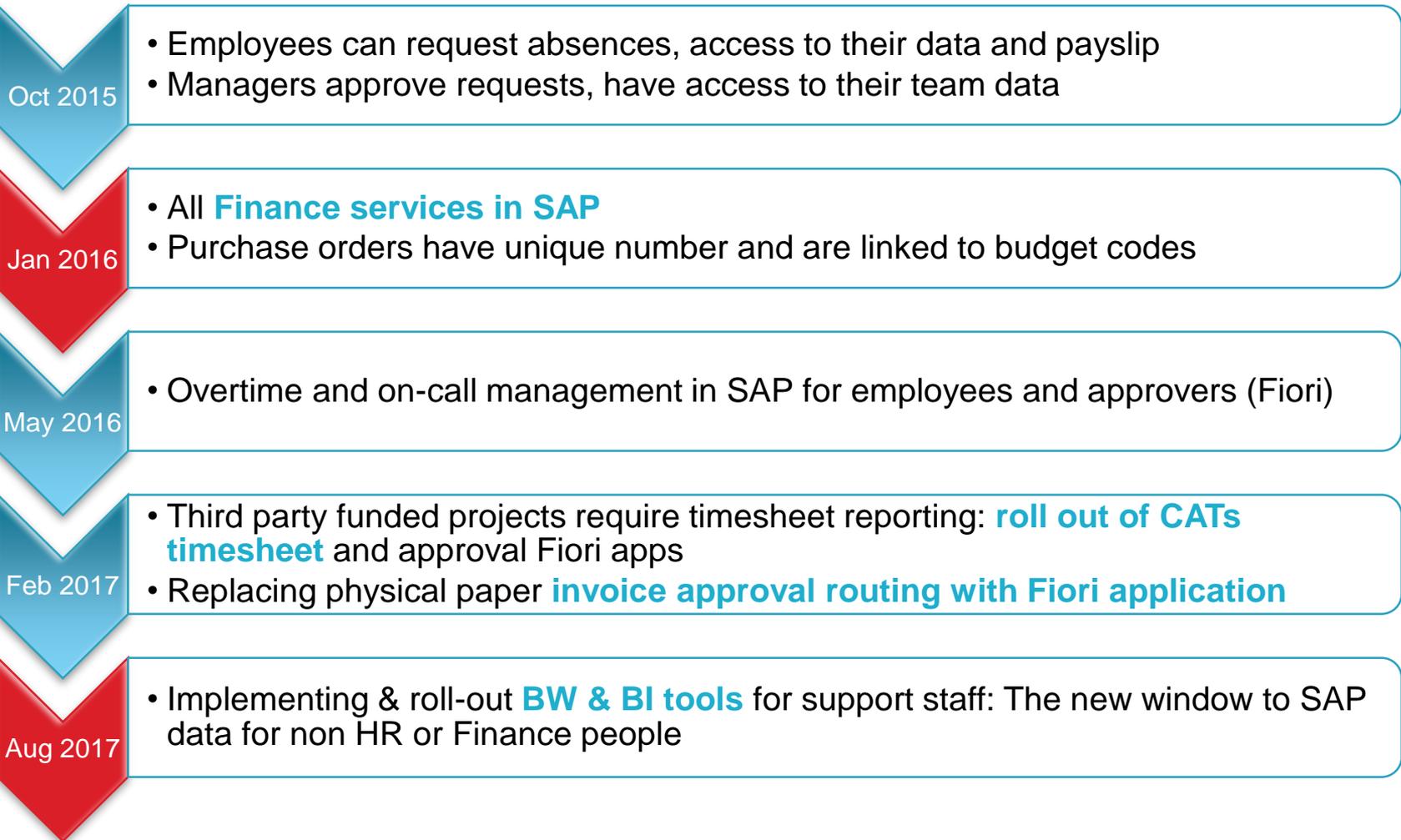
June 2015

- Other competing projects such as **Belval move** required to phasing development of finance, purchasing, travel and expense modules
- Decision to focus on Finance first

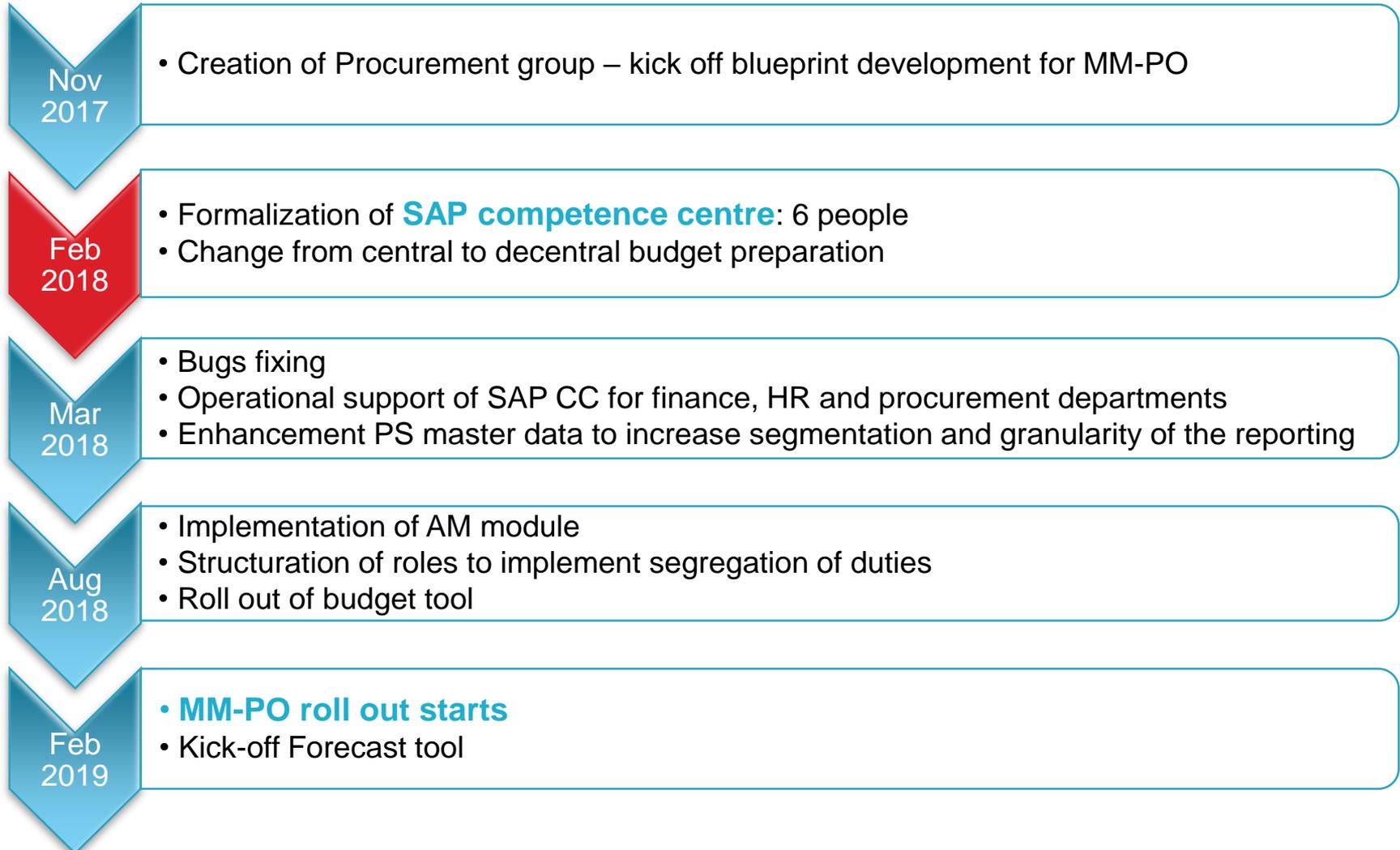
Oct 2015

- Employees can request absences (vacation, sickness, ...) in SAP, access to their data and payslip: **Fiori introduction**

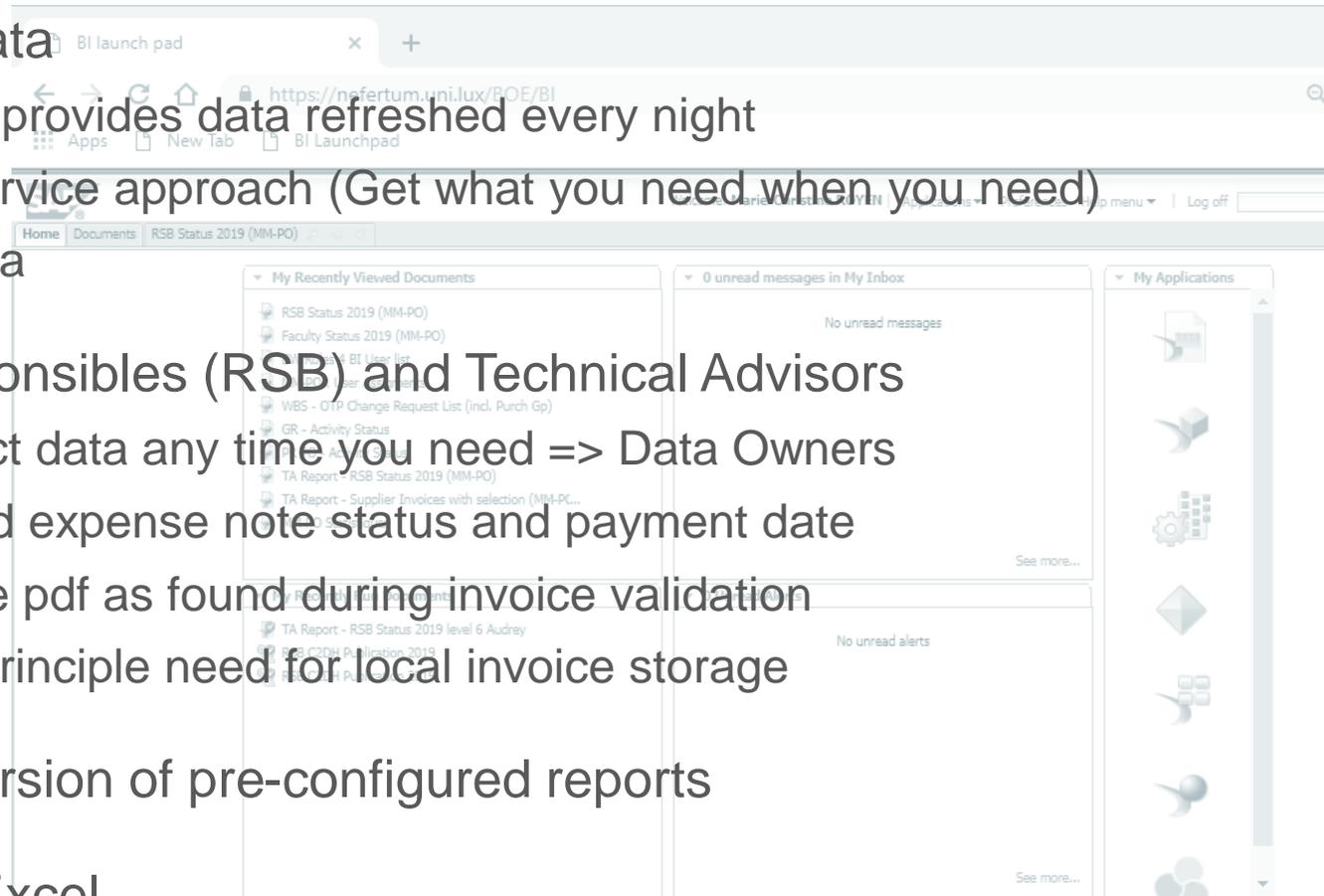
# SAP @ University of Luxembourg Milestones



# SAP @ University of Luxembourg Milestones

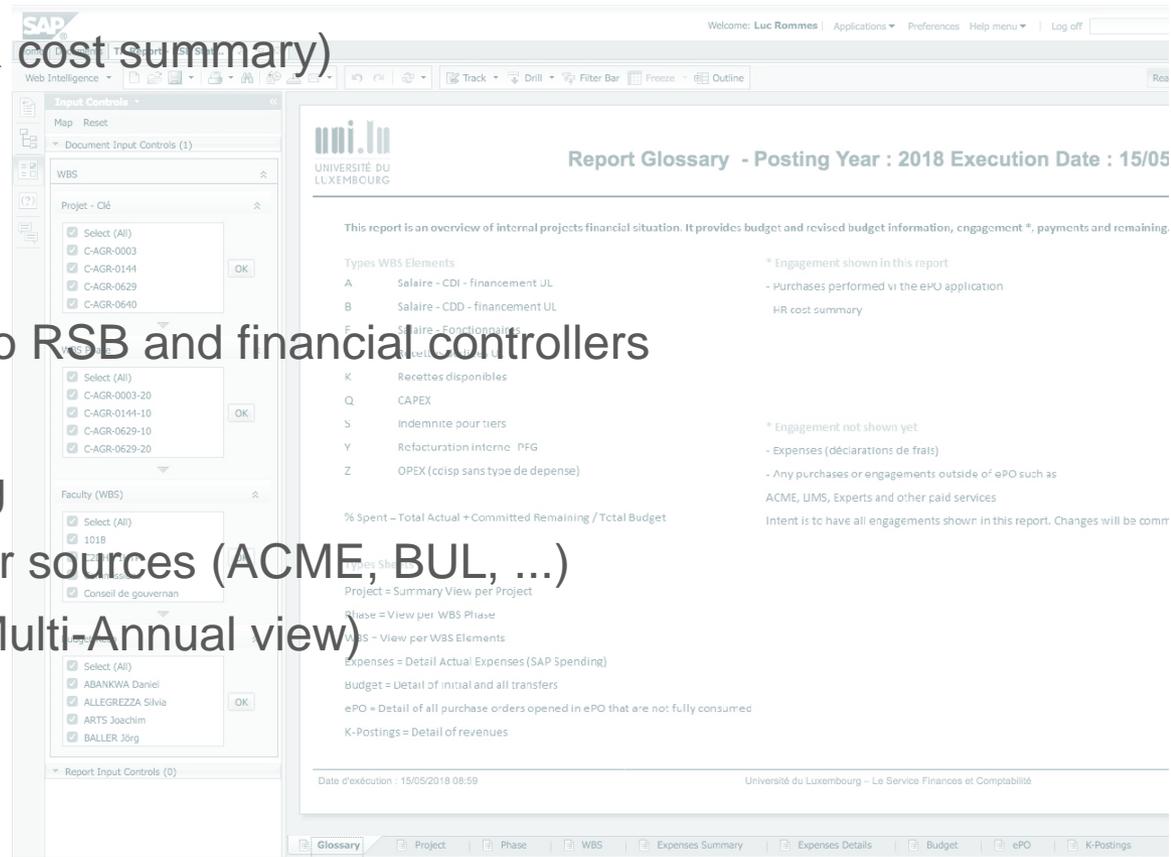


- For Admin Staff and Financial controllers : controlled access to SAP data and other data
  - Data warehouse provides data refreshed every night
  - Promotes self-service approach (Get what you need when you need)
  - Consolidated data
- For Project Responsibles (RSB) and Technical Advisors
  - Visibility of project data any time you need => Data Owners
  - Show invoice and expense note status and payment date
  - Access to invoice pdf as found during invoice validation
    - Eliminates in principle need for local invoice storage
- Save you own version of pre-configured reports
- Export to pdf or Excel



➤ **Datawarehouse breaks the walls of the data silos**

- RSB report is an annual overview of project data
  - Internal projects
  - Budget and revised budget
  - Commitment data (ePO, HR cost summary)
  - Paid expenses & invoices
  - Remaining calculation
- Report is distributed monthly to RSB and financial controllers
- Further developments ongoing
  - Commitment data from other sources (ACME, BUL, ...)
  - External project reporting (Multi-Annual view)



The screenshot displays the SAP RSB report interface. On the left, there are 'Input Controls' for selecting WBS elements and Faculty (WBS). The main area shows the 'Report Glossary - Posting Year : 2018 Execution Date : 15/05'. The glossary includes a description of the report, a list of WBS elements (A-Z), and a legend for various report types and filters. The bottom of the interface shows the execution date and time, and the user's name.

Report Glossary - Posting Year : 2018 Execution Date : 15/05

This report is an overview of internal projects financial situation. It provides budget and revised budget information, engagement \*, payments and remaining.

Types WBS Elements

A	Salaires - CDI - financement UL	* Engagement shown in this report
B	Salaires - CDD - financement UL	- Purchases performed via the ePO application
F	Salaires - Fonctionnaires	HR cost summary
K	Recettes disponibles	
Q	CAPEX	
S	Indemnité pour tiers	* Engagement not shown yet
Y	Refecturation interne PFG	- Expenses (déclarations de frais)
Z	OPEX (ccisp sans type de dépense)	- Any purchases or engagements outside of ePO such as ACME, LIMS, Experts and other paid services

% Spent = Total Actual + Committed Remaining / Total Budget

Intent is to have all engagements shown in this report. Changes will be comm

Date d'exécution : 15/05/2018 08:59 Université du Luxembourg - Le Service Finances et Comptabilité

# RSB report - Overview

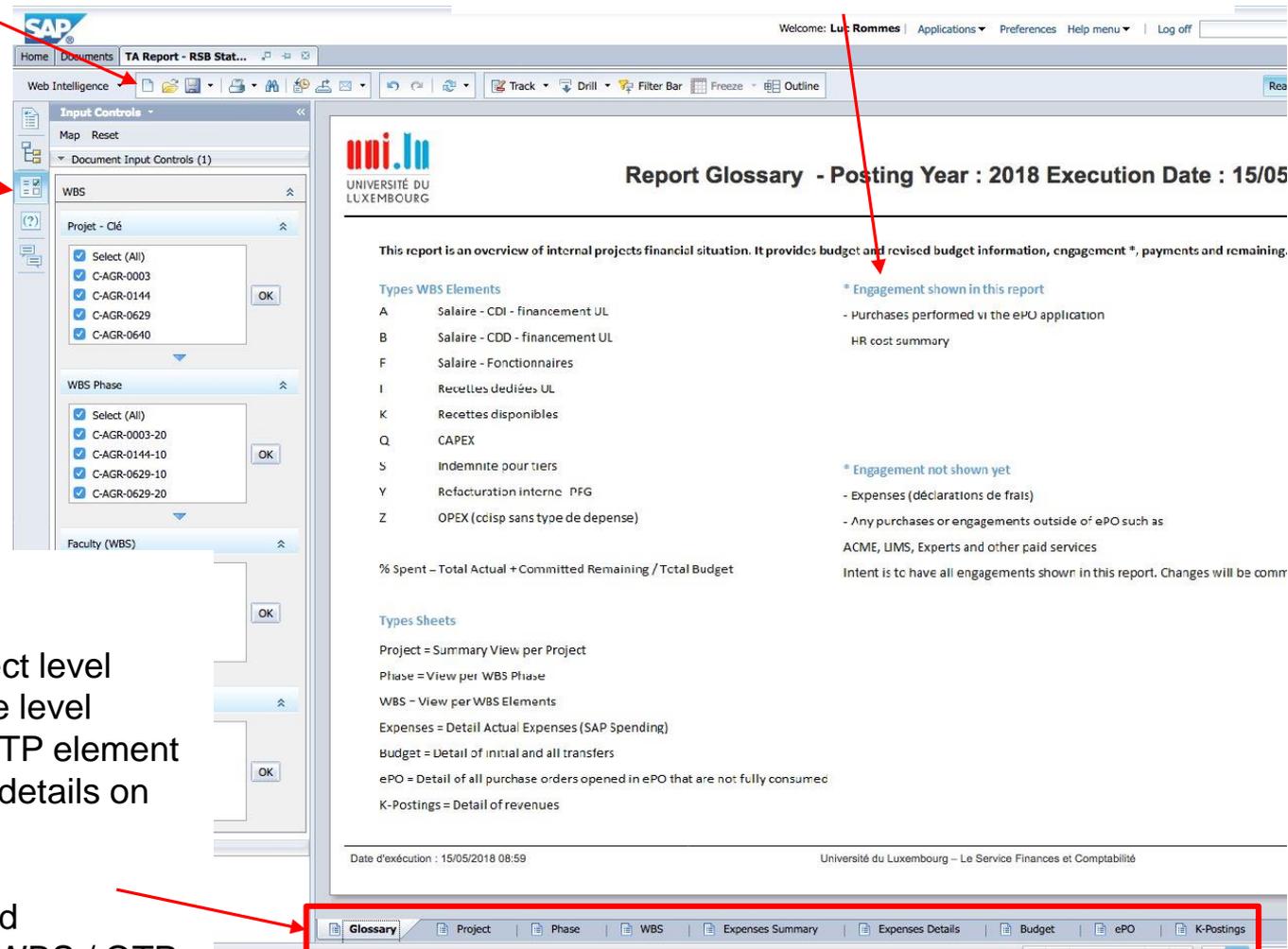
**Same menu bar** for all reports: print, export, save version

**Input controls** allow to filter on project, level of organization or RSB

## Tabs:

- Glossary – this page
- Project – summary at project level
- Phase – summary at phase level
- WBS – details on WBS / OTP element
- Expenses – summary and details on invoices and expenses
- Budget – revision history
- ePO – remaining committed
- K-Postings – revenues on WBS / OTP

**Available commitment**, is updated as new elements become available



The screenshot shows the SAP RSB report interface. The top menu bar includes 'Home', 'Documents', and 'TA Report - RSB Stat...'. Below the menu bar is a toolbar with icons for 'Web Intelligence', 'Track', 'Drill', 'Filter Bar', 'Freeze', and 'Outline'. The main content area is titled 'Report Glossary - Posting Year : 2018 Execution Date : 15/05'. It contains a description of the report and lists 'Types WBS Elements' (A, B, F, I, K, Q, S, Y, Z) and 'Types Sheets' (Project, Phase, WBS, Expenses, Budget, ePO, K-Postings). The 'Glossary' tab is highlighted in the bottom navigation bar.

Input Controls:

- WBS: Select (All), C-AGR-0003, C-AGR-0144, C-AGR-0629, C-AGR-0640
- WBS Phase: Select (All), C-AGR-0003-20, C-AGR-0144-10, C-AGR-0629-10, C-AGR-0629-20
- Faculty (WBS)

Types WBS Elements:

- A Salaire - CDI - financement UL
- B Salaire - CDD - financement UL
- F Salaire - Fonctionnaires
- I Recettes dédiées UL
- K Recettes disponibles
- Q CAPEX
- S Indemnité pour tiers
- Y Refacturation interne PFG
- Z OPEX (cdisp sans type de dépense)

Types Sheets:

- Project = Summary View per Project
- Phase = View per WBS Phase
- WBS = View per WBS Elements
- Expenses = Detail Actual Expenses (SAP Spending)
- Budget = Detail of initial and all transfers
- ePO = Detail of all purchase orders opened in ePO that are not fully consumed
- K-Postings = Detail of revenues

# RSB report – From budget to % spent

- For each Entity, RSB, project
- 360° view on data
- Scheduled on a monthly basis

Project	Budget Resp.	WBS Element	Balance from 12/2017	Initial Budget	Budget Revision	Total Budget	Actual Expenses	Commitment Committed Remaining	HR Commitment	Budget Remaining	% Spent
Example: S-STR-0035-01-Z			(0)	(1)	(2)	(3)	(4)	(5)	(6)	(3)+(4)+(5)+(6)	

0.00%	✓
48.77%	✓
40.00%	✓
262.01%	✗

- (0) Report from previous year
- (1) Budget as initially approved
- (2) Revised budget or report of previous year for non reportable projects
- (4) Invoices and expenses
- (5) Total of all commitments\* not invoiced
- (6) HR Commitment

% spent of budget (2)

Check if ≤ 100%

\* Refer to glossary page to see commitment data status

# RSB report – Summary and Details are available for deep dive analysis

## Expenses summary tab: Summarized by RSB and WBS / OTP

Person Responsible	WBS Element	Cost Group	Description	Posting Posting	1	2	3	4	5	Total
Name	S-STR-0000-00-Z	D-606-AUTR	AUTRES REMUNERATIONS D'INTERMEDIAIRES&HO			-234,00	-234,00			-468,00
			TRANSPORTS ADMINISTRATIFS			-61,86				-61,86
			TRANSPORTS SUR ACHATS	-114,66	-163,60	-184,86	-369,72	-832,84		
		D-607-FGEN	AUT. MATIERES ET FOURNITURES N. STOCKEES	-9.482,65	-3.834,17	-1.892,66	-2.502,82	-17.712,30		
			FOURNITURES&PETITS EQUIPEMENTS			-63,30	-269,32	-332,62		
	S-STR-0000-00-Z				-9.597,31	-4.293,63	-2.374,82	-3.141,86		-19.407,62
Name	Total				-9.597,31	-4.293,63	-2.374,82	-3.141,86		-19.407,62

## Expenses detail tab: All received invoices and expenses (declarations de frais)

For full details and access to invoices via TA reports

## Budget detail tab: All changes requested and validated on initial budget

Budget changes

Document Date	Segment text	VAT regime	Initial Budget	Budget Revision
2/1/18	insertion demande budgets 2018 - cf tableau Budget	2	81,000	
2/19/18	Transfert de budget demandé par le RSB - cf email	2		-40,000

## ePO tab: Shows all open or partially open PO as from November 2017

Budget Resp	Purchasing Doc	PO Created on	WBS Element	Description	Vendor	PO short description	PO created by	Committed	Invoiced	Committed Remaining

Committed remaining: If all goods and services received are received – close ePO



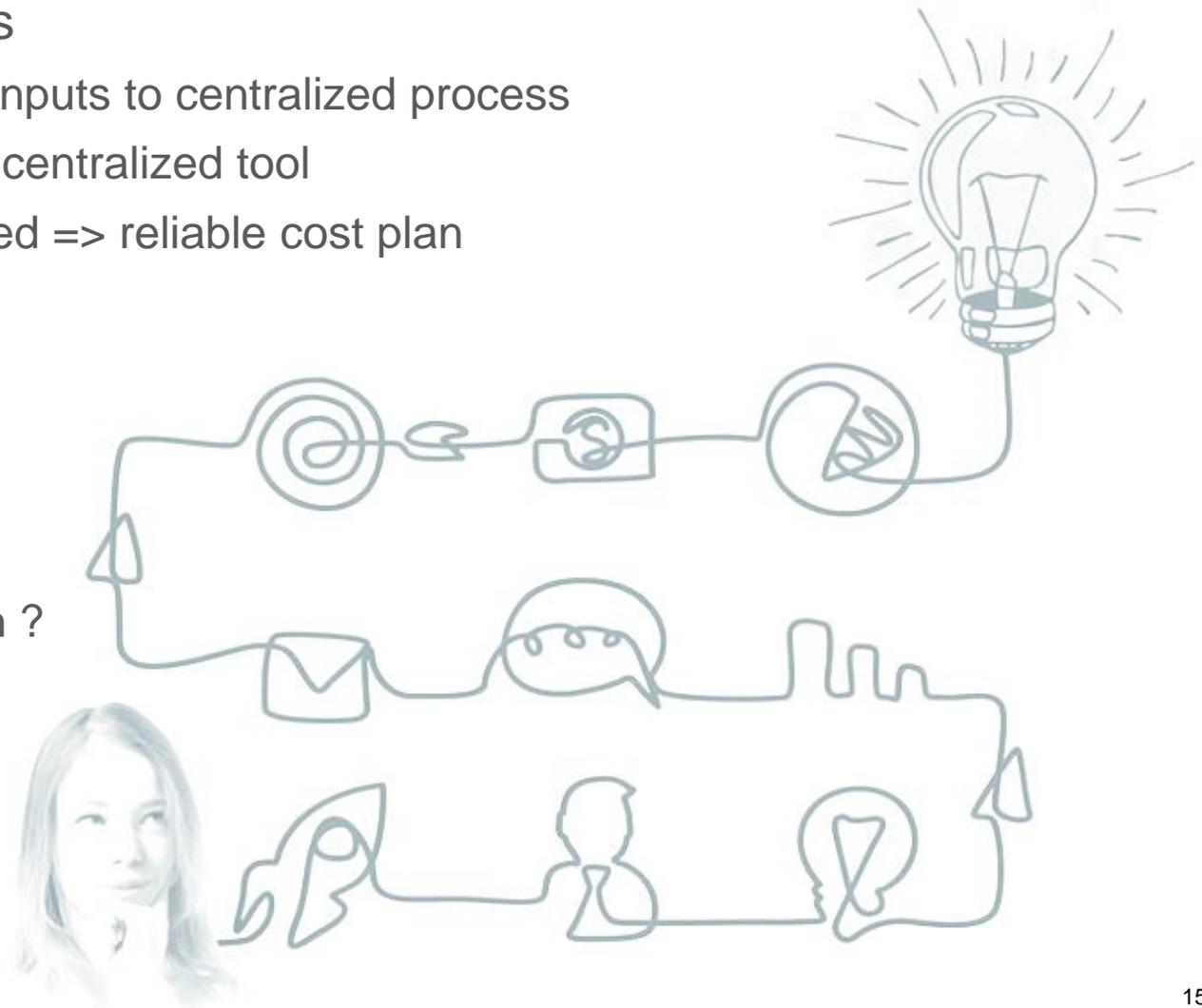
- Since first SAP implementation, budgets are not collected in SAP
- Each faculty/center is gathering information in XLS files
  - Long and painful budget exercise
  - Not harmonized process
  - Lack of consolidated / trusted view
  - Versioning heavy to maintain
  - Updates are difficult to integrate
- Capitalize on the BI reports success to collaborate with financial controllers and centralize the inputs
  - Collect OPEX/CAPEX budgets
  - Collect HR budgets based on HR Cost Plan

## ■ Business Challenges

- From decentralized inputs to centralized process
- From XLS sheets to centralized tool
- HR data to be cleaned => reliable cost plan

## ■ IT Challenges

- Which interface ?
- Reference data ?
- Frequency of refresh ?





- Collect HR data and prepare cost plan based on all active positions
- Collect and update OPEX / CAPEX data on multi-annual projects
- Reconcile HR cost plan into project allocation
- Enable aggregation at any level of organization



- Allow change position start / end date, FTE and OTP allocation
- Recalculate HR cost based on new hypotheses
- Add new positions and estimates costs
- Transform HR cost into projects (HR committed vs flexible)

# Budget Preparation

Planning Functions

Filters

Reference Data

Org. Structure

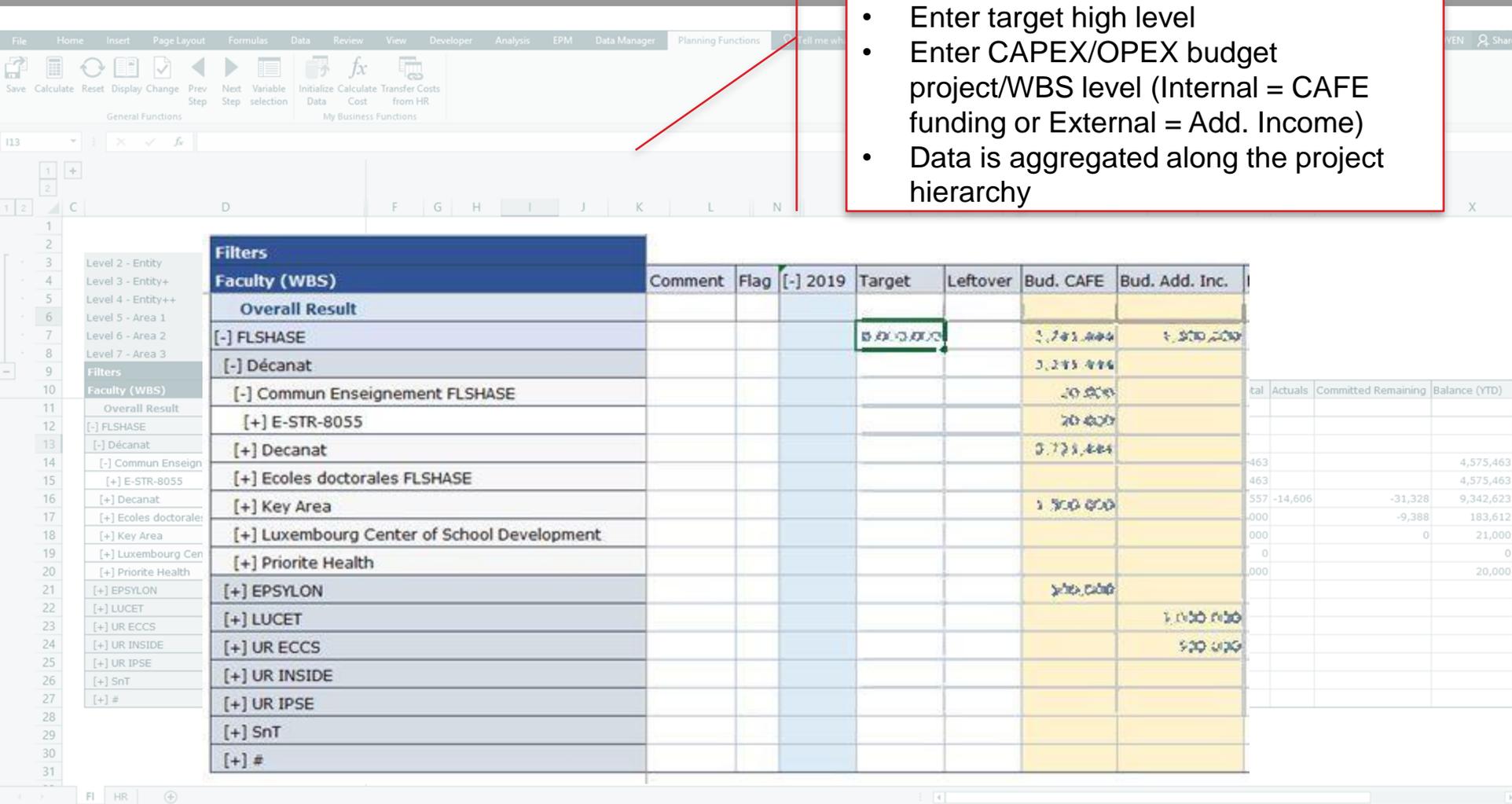
Data Input

Level 2 - Entity  
Level 3 - Entity+  
Level 4 - Entity++  
Level 5 - Area 1  
Level 6 - Area 2  
Level 7 - Area 3

Faculty (WBS)	Comment	Flag	[-] 2019	Target	Leftover	Bud. CAFÉ	Bud. Add. Inc.	Revision	[+] ePO Remaining	HR - Committed	HR - Flexible	Est. Opex HR	[-] 2018	Budget Total	Actuals	Committed Remaining	Balance (YTD)
Overall Result																	
[-] FLSHASE				8,000,000		5,741,444	1,500,000										
[-] Décanat						5,241,444											
[-] Commun Enseignement FLSHASE						20,000		0						4,575,463			4,575,463
[+] E-STR-8055						20,000		0						4,575,463			4,575,463
[+] Décanat						3,721,444		-84,947	-57,012	3,112,139	1,186,963	0		9,386,557	-14,606	-31,328	9,342,623
[+] Ecoles doctorales FLSHASE								0	1,600					193,000		-9,388	183,612
[+] Key Area						1,500,000		0	556					21,000		0	21,000
[+] Luxembourg Center of School Development								0						0			0
[+] Priorite Health														20,000			20,000
[+] EPSYLON						500,000											
[+] LUCET							1,000,000										
[+] UR ECCS							500,000										
[+] UR INSIDE																	
[+] UR IPSE																	
[+] SnT																	
[+] #																	

# Budget Preparation : OPEX / CAPEX input

- Enter target high level
- Enter CAPEX/OPEX budget project/WBS level (Internal = CAPE funding or External = Add. Income)
- Data is aggregated along the project hierarchy

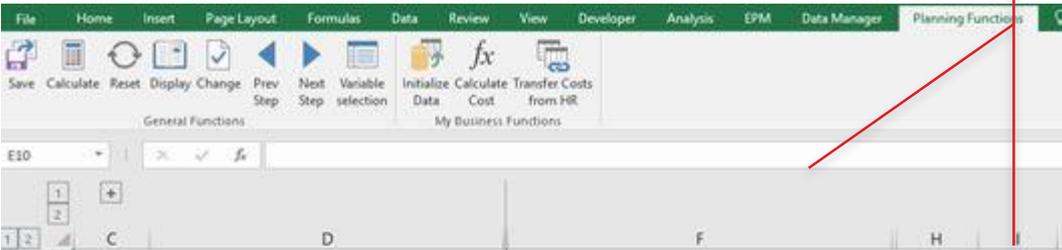


Filters	Comment	Flag	[-] 2019	Target	Leftover	Bud. CAPE	Bud. Add. Inc.
<b>Faculty (WBS)</b>							
<b>Overall Result</b>							
[-] FLSHASE				10,000,000		3,700,000	1,000,000
[-] Décanat						3,200,000	
[-] Commun Enseignement FLSHASE						20,000	
[+] E-STR-8055						20,000	
[+] Decanat						3,700,000	
[+] Ecoles doctorales FLSHASE							
[+] Key Area						1,000,000	
[+] Luxembourg Center of School Development							
[+] Priorite Health							
[+] EPSYLON						3,000,000	
[+] LUCET							1,000,000
[+] UR ECCS							500,000
[+] UR INSIDE							
[+] UR IPSE							
[+] SnT							
[+] #							
[+] UR IPSE							
[+] SnT							
[+] #							

# Budget Preparation : HR Cost



- HR Cost Plan is prepared in ECC and loaded into BI
- Each HR position is reported with cost allocation and start / end date



Position ID	Job	Employee	Ctrl. Type	Obj. Type	Start Date	End Date	WBS	FTE	OTP %	HR Cost
50003696 - Etudiant CDD	ECDD -Etudiant CDD	#	N/A	S	01.01.2019	31.12.2019	R-STR-3058-00-B	100	100	7.204,14
50003700 - Etudiant CDD	ECDD -Etudiant CDD	#	N/A	S	01.01.2019	31.12.2019	E-STR-3013-00-B	100	100	7.204,14
50003704 - Chercheur en formation doctorale	Phd -Chercheur en formation doctorale	#	N/A	S	01.01.2019	31.12.2019	R-AGR-3127-11-C	100	100	14.408,28
50008528 - Etudiant CDD	ECDD -Etudiant CDD	#	N/A	S	01.01.2019	31.12.2019	E-STR-3020-00-B	100	100	7.204,14
50008530 - Etudiant CDD	ECDD -Etudiant CDD	#	N/A	S	01.01.2019	31.12.2019	C-AGR-0617-10-C	100	100	7.204,14
50008534 - Etudiant CDD	ECDD -Etudiant CDD	#	N/A	S	01.01.2019	31.12.2019	R-AGR-0692-10-C	100	100	7.204,14
50008536 - Etudiant CDD	ECDD -Etudiant CDD	#	N/A	S	01.01.2019	31.12.2019	R-STR-3060-00-B	100	100	7.204,14
50008561	AdJR -Adjoint de Recherche	81307	CDI	P	01.05.2019	31.12.2019	R-STR-8030-00-A	100	100	14.408,28
50008570 - Chercheur en formation doctorale	Phd -Chercheur en formation doctorale	#	N/A	S	01.01.2019	31.12.2019	R-AGR-3079-18-C	100	100	14.408,28
50008610	ColSPost-Doc -Collaborateur Scientifique P-Doc Projet	86972	CDDE	P	01.01.2019	28.02.2019	R-AGR-0092-10-C	100	100	7.204,14

Position ID	WBS	FTE	OTP %	HR Cost	New Start	New End	New FTE	New OTP %	Est. Yearly Cost	Est. Cost	Est. Cost (FC)	Est. Opex	Flag	Comment	Pos. Start	Pos. End
50003696 - Etudiant CDD	R-STR-3058-00-B	100	100	7.204,14	01.01.2019	31.12.2019	100	100	7.204,14	7.204,14	7.204,14	0,00	0		15.02.2015	31.12.9999
50003700 - Etudiant CDD	E-STR-3013-00-B	100	100	7.204,14	01.01.2019	31.12.2019	100	100	7.204,14	7.204,14	7.204,14	0,00	0		01.02.2015	31.12.9999
50003704 - Chercheur en formation doctorale	R-AGR-3127-11-C	100	100	14.408,28	01.01.2019	31.12.2019	100	100	14.408,28	14.408,28	14.408,28	0,00	0		01.02.2015	31.03.2021
50008528 - Etudiant CDD	E-STR-3020-00-B	100	100	7.204,14	01.01.2019	31.12.2019	100	100	7.204,14	7.204,14	7.204,14	0,00	0		01.01.1900	31.12.9999
50008530 - Etudiant CDD	C-AGR-0617-10-C	100	100	7.204,14	01.01.2019	31.12.2019	100	100	7.204,14	7.204,14	7.204,14	0,00	0		01.02.2015	31.12.9999
50008534 - Etudiant CDD	R-AGR-0692-10-C	100	100	7.204,14	01.01.2019	31.12.2019	100	100	7.204,14	7.204,14	7.204,14	0,00	0		15.01.2015	31.12.9999
50008536 - Etudiant CDD	R-STR-3060-00-B	100	100	7.204,14	01.01.2019	31.12.2019	100	100	7.204,14	7.204,14	7.204,14	0,00	0		01.02.2015	31.12.9999
50008561	R-STR-8030-00-A	100	100	14.408,28	01.05.2019	31.12.2019	100	100	14.408,28	14.408,28	14.408,28	0,00	0		01.05.2019	31.12.9999
50008570 - Chercheur en formation doctorale	R-AGR-3079-18-C	100	100	14.408,28	01.01.2019	31.12.2019	100	100	14.408,28	14.408,28	14.408,28	0,00	0		15.02.2015	31.03.2021
50008610	R-AGR-0092-10-C	100	100	7.204,14	01.01.2019	28.02.2019	100	100	7.204,14	7.204,14	7.204,14	0,00	0		01.03.2015	28.02.2019

# Budget Preparation : HR Cost



- Users can change FTE, OTP allocation, start date and end date

- Estimated Cost is recalculated based on BI algorithm and new data

Cost	New Start	New End	New FTE	New OTP %	Est Cost	Employee #	Ctr. Type	Obj. Type	Start Date	End Date	WBS	FTE	OTP %	HR Cost
7,845	01.01.2019	31.12.2019	100	100										
7,845	01.01.2019	31.12.2019	100	100										
7,850	01.01.2019	31.12.2019	100	100										
7,845	01.01.2019	31.12.2019	100	100										
7,845	01.01.2019	31.12.2019	100	100										
7,845	01.01.2019	31.12.2019	100	100										
7,845	01.01.2019	31.12.2019	100	100										
7,845	01.01.2019	31.12.2019	100	100										
7,845	01.01.2019	31.12.2019	100	100										
7,470	01.05.2019	31.12.2019	100	100										
7,850	01.01.2019	31.12.2019	100	100										
7,758	01.01.2019	28.02.2019	100	100										

Position ID	FTE	OTP %	HR Cost	New Start	New End	New FTE	New OTP %	Est Cost	Flag	Comment	Pos. Start	Pos. End
50003696 - Etudiant	100	100	7,845	01.01.2019	31.12.2019	100	100	7,845	0		15.02.2015	31.12.9999
50003700 - Etudiant CDD	100	100	7,845	01.01.2019	31.12.2019	100	100	7,845	0		01.02.2015	31.12.9999
50003704 - Chercheur en formation doctorale	100	100	41,850	01.01.2019	31.12.2019	100	100	41,850	0		01.02.2015	31.03.2021
50008528 - Etudiant CDD	100	100	7,845	01.01.2019	31.12.2019	100	100	7,845	0		01.01.1900	31.12.9999
50008530 - Etudiant CDD	100	100	7,845	01.01.2019	31.12.2019	100	100	7,845	0		01.02.2015	31.12.9999
50008534 - Etudiant CDD	100	100	7,845	01.01.2019	31.12.2019	100	100	7,845	0		15.01.2015	31.12.9999
50008536 - Etudiant CDD	100	100	7,845	01.01.2019	31.12.2019	100	100	7,845	0		01.02.2015	31.12.9999
50008561	100	100	67,470	01.05.2019	31.12.2019	100	100	67,470	0		01.05.2019	31.12.9999
50008570 - Chercheur en formation doctorale	100	100	41,850	01.01.2019	31.12.2019	100	100	41,850	0		15.02.2015	31.03.2021
50008610	100	100	13,758	01.01.2019	28.02.2019	100	100	13,758	0		01.03.2015	28.02.2019

Review

fx

Calculate Transfer Costs from HR

My Business Functions

# Budget Preparation : HR Cost

- Users can use calculation or overwrite
- Additional OPEX can be requested
- Flag is used to lock the data
- Comment is entered to explain changes

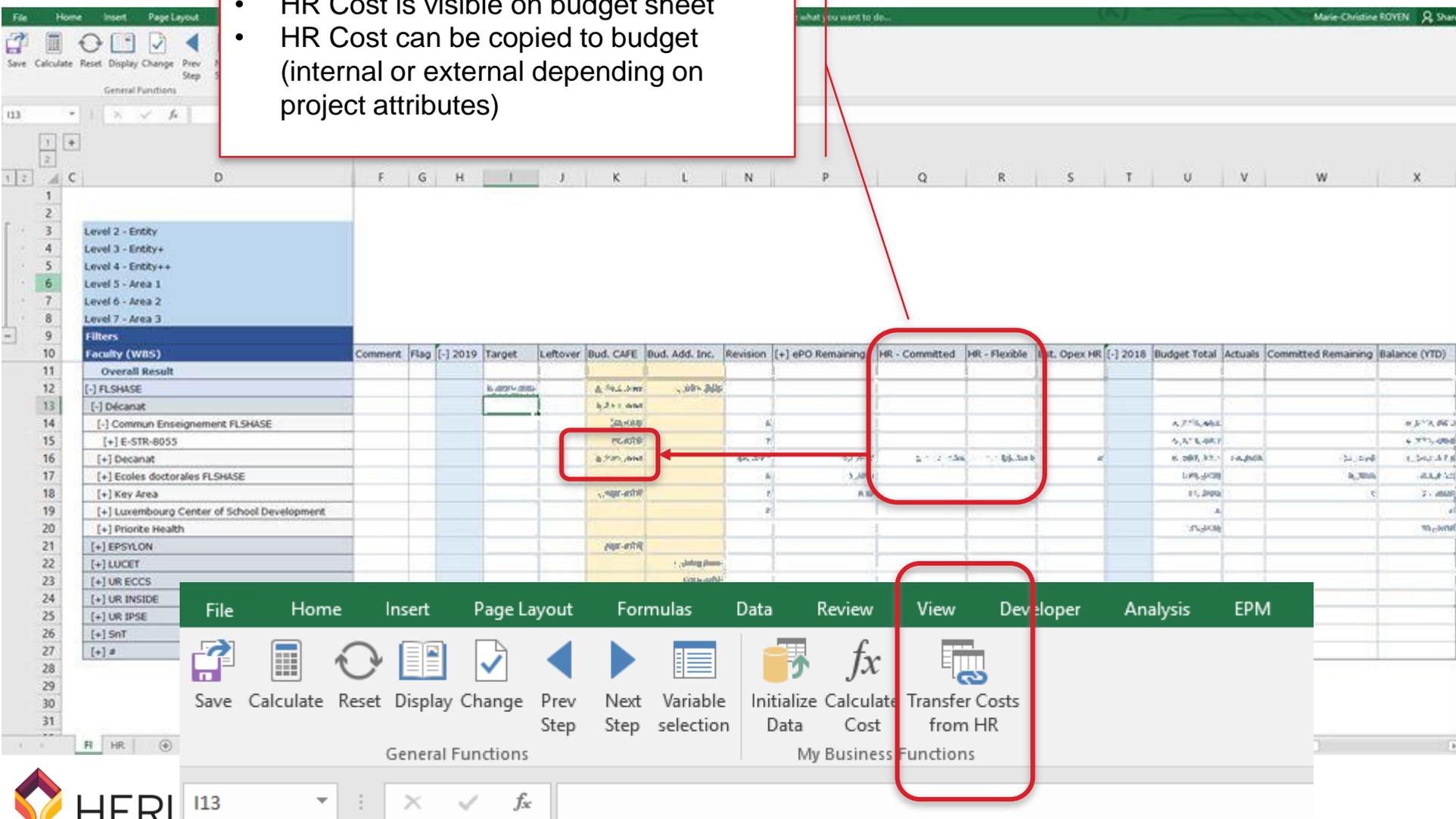
Position ID	Job	Employee	Ctr. Type	Obj. Type	Start Date	End Date	WBS	FTE	OTP %	HR Cost	
50003696 - Etudiant CDD	ECDD -Etudiant CDD	#	N/A	S	01.01.2019	31.12.2019	R-STR-3058-00-B	B-Inst TPPE	100	100	7,845
50003700 - Etudiant CDD	ECDD -Etudiant CDD	#	N/A	S	01.01.2019	31.12.2019	E-STR-3013-00-B	B-BA cultures EUs -Cours commun	100	100	7,845
50003704 - Chercheur en formation doctorale	Phd -Chercheur en formation doctorale	#	N/A	S	01.01.2019	31.12.2019	R-AGR-3127-11-C	R-AGR-3127-11-C	100	100	41,850
50008528 - Etudiant CDD	ECDD -Etudiant CDD	#	N/A	S	01.01.2019	31.12.2019	E-STR-3020-00-B	B-BP Sciences Sociales et Educatives	100	100	7,845
50008530									100	100	7,845
50008534									100	100	7,845
50008536									100	100	7,845
50008561									100	100	67,470
50008570					01.01.2019	31.12.2019			100	100	41,850
50008610					01.01.2019	31.12.2019			100	100	13,758

Position ID	New Start	New End	New FTE	New OTP %	Est. Yearly Cost	Est. Cost	Est. Cost (FC)	Est. Opex	Flag	Comment	Pos. Start	Pos. End
50003696 - Etudiant CDD	01.01.2019	31.12.2019	100	100	7,845	7,845	7,845	0.00	0		15.02.2015	31.12.9999
50003700 - Etudiant CDD	01.01.2019	31.12.2019	100	100	7,845	7,845	7,845	0.00	0		01.02.2015	31.12.9999
50003704 - Chercheur en formation doctorale	01.01.2019	31.12.2019	100	100	41,850	41,850	41,850	0.00	0		01.02.2015	31.03.2021
50008528 - Etudiant CDD	01.01.2019	31.12.2019	100	100	7,845	7,845	7,845	0.00	0		01.01.1900	31.12.9999
50008530 - Etudiant CDD	01.01.2019	31.12.2019	100	100	7,845	7,845	7,845	0.00	0		01.02.2015	31.12.9999
50008534 - Etudiant CDD	01.05.2019	31.12.2019	100	100	7,845	7,845	7,845	0.00	0		15.01.2015	31.12.9999
50008536 - Etudiant CDD	01.01.2019	31.12.2019	100	100	7,845	7,845	7,845	0.00	0		01.02.2015	31.12.9999
50008561 - Etudiant CDD	01.01.2019	31.12.2019	100	100	67,470	67,470	67,470	0.00	0		01.05.2019	31.12.9999
50008570 - Chercheur en formation doctorale	01.01.2019	31.12.2019	100	100	41,850	41,850	41,850	0.00	0		15.02.2015	31.03.2021
50008610 - Etudiant CDD	01.01.2019	28.02.2019	100	100	13,758	13,758	13,758	0.00	0		01.03.2015	28.02.2019

# Budget Integration

- HR Cost is visible on budget sheet
- HR Cost can be copied to budget (internal or external depending on project attributes)



The screenshot shows an SAP HR budget sheet with a hierarchical tree on the left and a data table on the right. The tree includes levels from Entity to Area 3 and various filters like Faculty (WBS) and Overall Result. The data table has columns for 2019 and 2018 budgets, actuals, and remaining amounts. Two red boxes highlight the 'HR - Committed' and 'HR - Flexible' columns in the 2018 section. A red arrow points from the 'E-STR-8055' entry in the tree to the 'HR - Committed' column. The ribbon at the bottom shows the 'View' tab with the 'Transfer Costs from HR' button highlighted.

	Comment	Flag	[-] 2019	Target	Leftover	Bud. CAFE	Bud. Add. Inc.	Revision	[+] ePO Remaining	HR - Committed	HR - Flexible	Int. Opex HR	[-] 2018	Budget Total	Actuals	Committed Remaining	Balance (YTD)
[+] E-STR-8055																	

HERE'S HOW:

- Forecast Tool
- HR data cost plan updates automation
- Budget tool V2 including external budgets, revenues, cost elements...
- Migration to BW4 with BPC embedded
- ...