

FERNBACH

Session: Change has never been as present as it is today

Dubai, 05 September 2018



FERNBACH
simply better financial technology

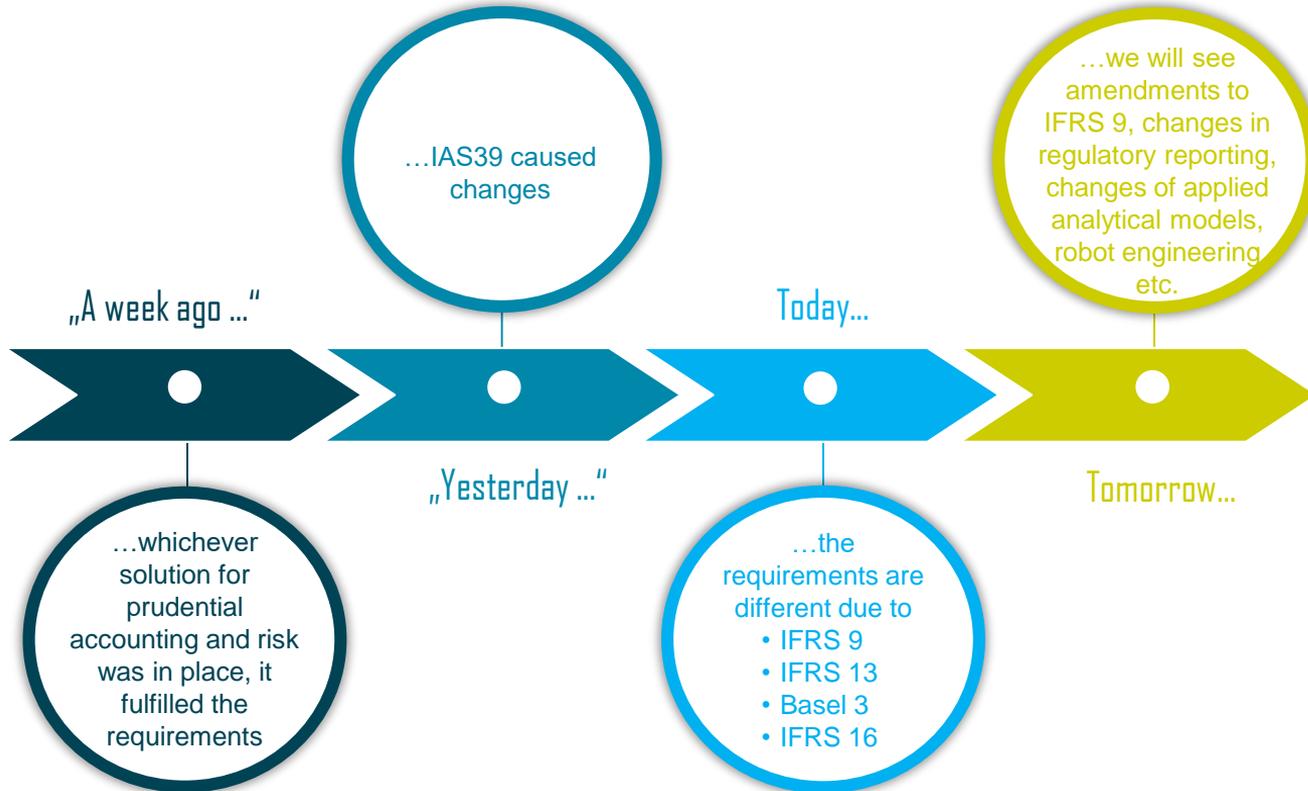
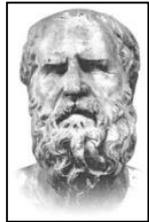
Agenda

1. **Every change is a chance**
2. Automation of IFRS process chain
3. Cross resorts communication
4. Seamless traceability and audit trails
5. Simplified access to results
6. Agility
7. Reutilisation of regulatory achievements for economic purposes



Pantha rei (Heraclitus)

= Everything changes and nothing remains still



Some episodes from daily work

1

Distributed responsibilities: EIR for retail is calculated in core banking, EIR for corporate monthly in a spreadsheet



Auditor requires insights into IFRS 9 calculations for his approval

2

EIR for all assets is available month end +4



CFO requires a fast closing

3

Risk Management receives at month end +3 a list of overdue assets via mail



Board expects to receive information on the expected level of risk provisioning before the end of the fiscal period and sets an amount for the risk provision

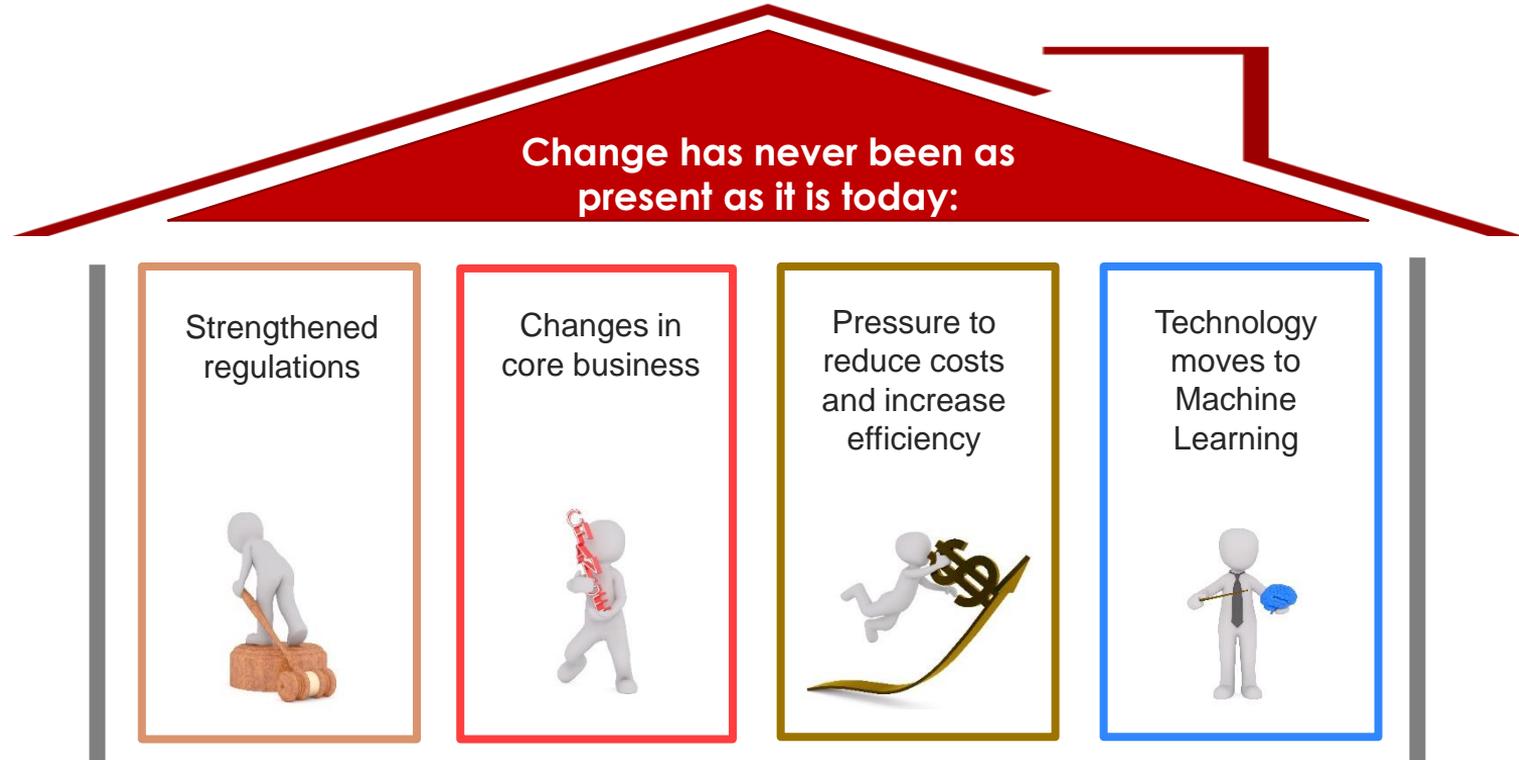
4

Review of impaired customers is done at month end

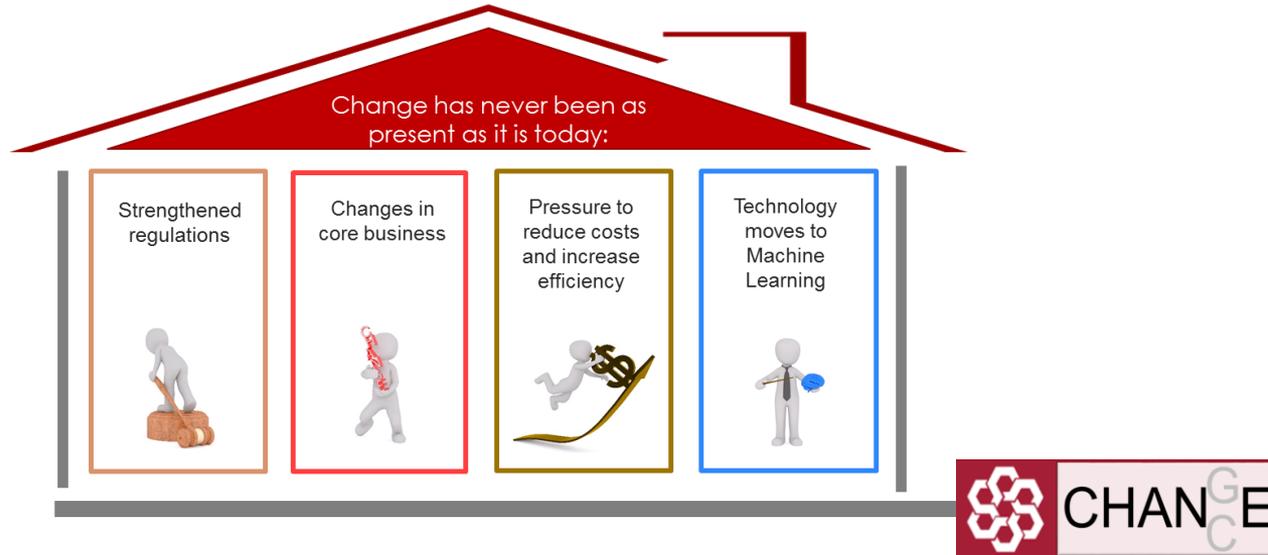


Workload of accounting department at month end

Significant changes in framework conditions of financial institutes

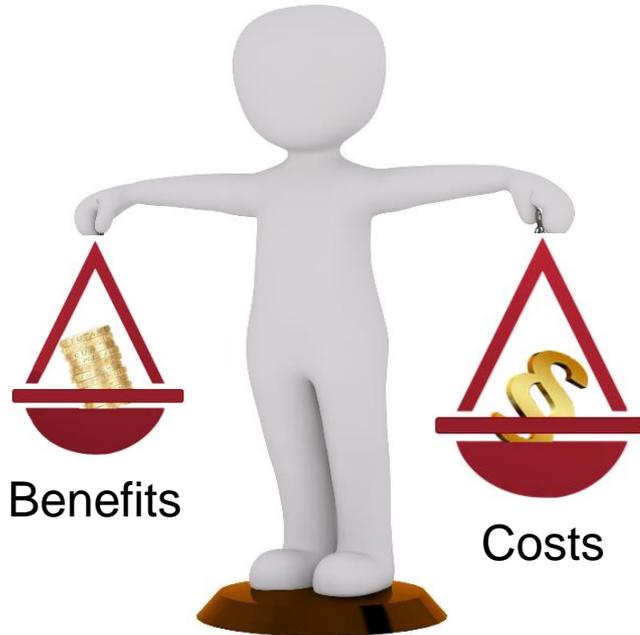


Every Change is also a Chance



 **Use the change process to realize economic added values !**

The big question





How to achieve
economical benefits out
of implementing IFRS 9

FlexFinance IFRS 9

Use regulatory obligations to professionalize business and achieve economical benefits while increasing IFRS compliance !



Take care of the dependencies between the different process steps and reduce the time to result

Drive communication between loan, risk and accounting department to achieve clear responsibilities in streamlined processes

Fulfill auditors and legal authorities requirement for seamless drilldown from any disclosed measure to the underlying to improve reliability of results

Speed up the access to detailed business information for faster and better founded decisions

Support What-if analysis in form of simulations to create and evaluate alternatives

Design IFRS solutions in such a way that they also support economical analysis such as management of risk (Credit Application, Early Warning)

Automation of process chain

Cross resort Communication & Control

Seamless traceability & audit-trails

Simplified access to results

Agility through ad hoc simulation

Reutilisation of regulatory achievements for economic purposes

Agenda for the following presentation

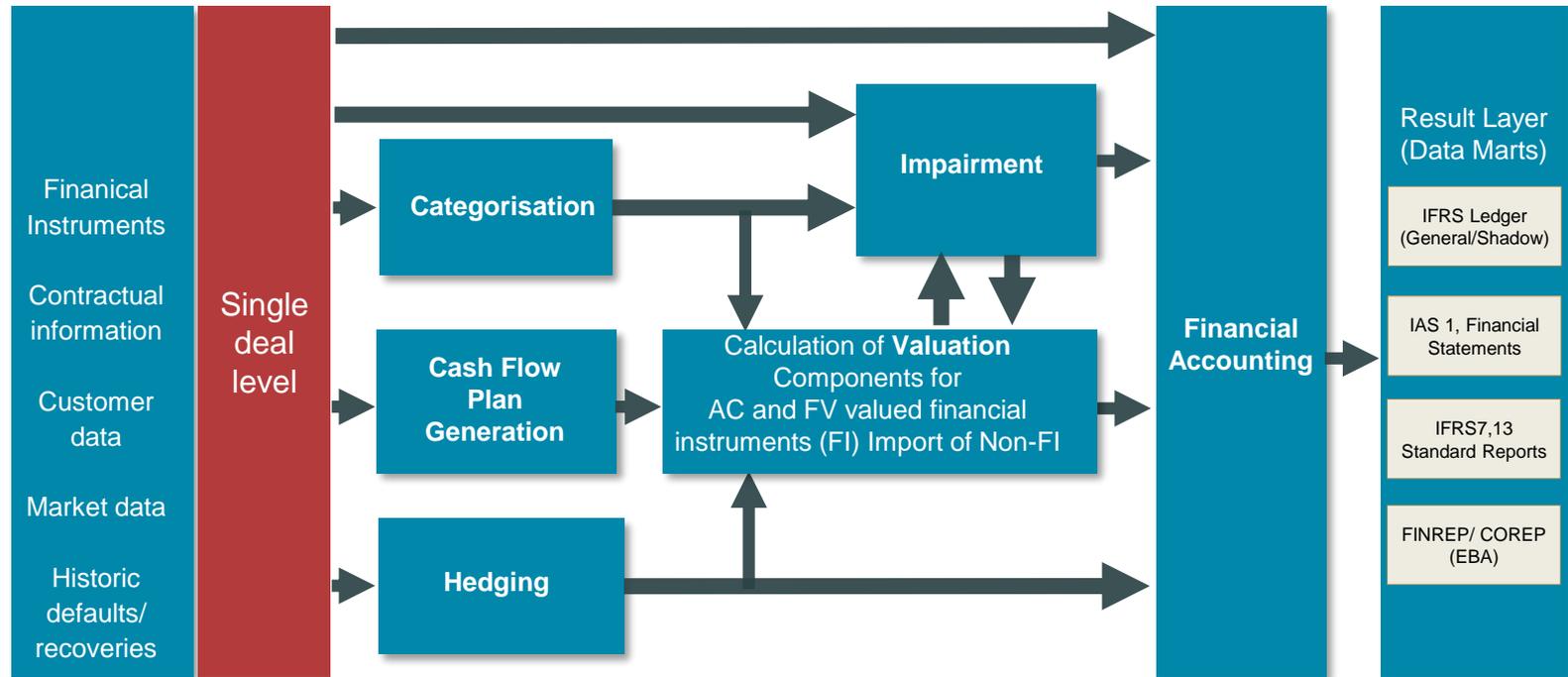
Agenda

1. Every change is a chance
- 2. Automation of IFRS process chain**
3. Cross resorts communication
4. Seamless traceability and audit trails
5. Simplified access to results
6. Agility
7. Reutilisation of regulatory achievements for economic purposes



Automation of process chain

Foundation of all requirements: IFRS 9 process chain



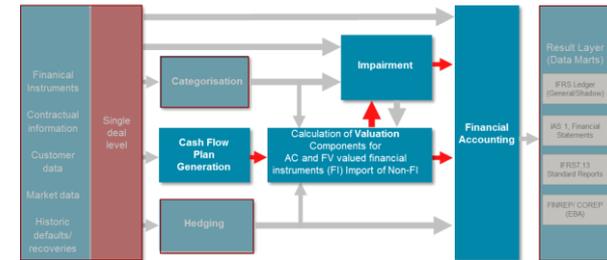
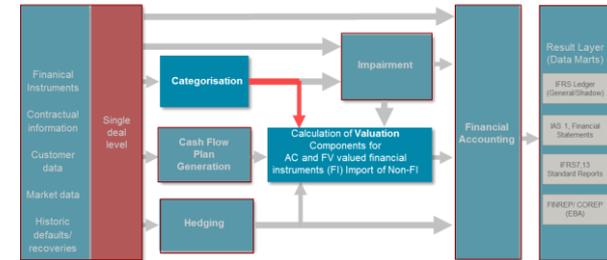
Automation of process chain

To be observed during automation: IFRS 9 process steps are not independent from each other

Categorisation impacts valuation

Cash Flow-Generation impacts

- **Valuation** as it forms the underlying for calculation of EIR, AC, FV.
- **Impairment**, as for recovery cash flows are required and as the estimated cash flow plan is underlying for the Exposure at Default
- **Financial Accounting** as at maturity of
 - ▶ Interest the accrual becomes p&l-effective and needs to be booked against daily payable.
 - ▶ Capital the contractual capital change causes a booking against asset/liability and daily payable.
 - ▶ The daily payable interest and capital will be counterbalanced with the real payment.



Automation of process chain

To be observed during automation: IFRS 9 process steps are not independent from each other

EIR impacts

- Valuation as it steers the amortisation schedule
- Impairment
 - ▶ In stage 3 the recoverable amount is calculated based on recoveries discounted with the EIR.
 - ▶ In stage 2 lifetime ECL considers future AC as input for the EAD calculation

Hedging impacts

- Valuation as it requires additional ratios and valuation approaches
- Impairment
- Financial Accounting as it requires a specific consideration of hedged items and hedging instrument

Impairment impacts ..

Valuation impacts ..



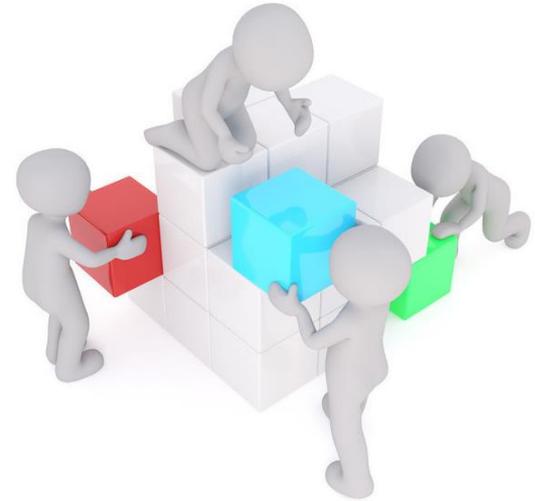
Automation of process chain

Standard components vs. individual solutions

Writing individual solutions spread over different applications leads to **complex frameworks**

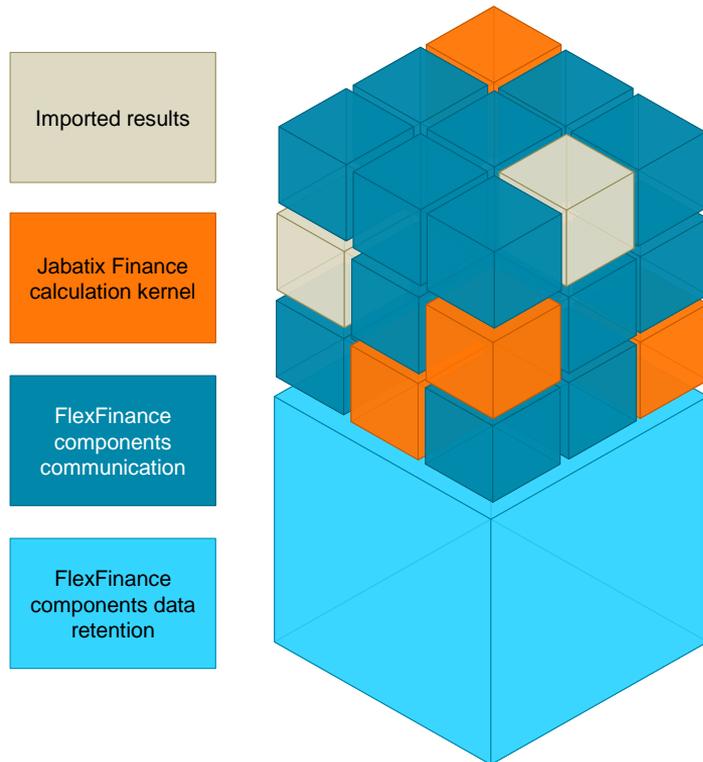
Mapping standard components with **clear and transparent** defined input/output interfaces to individual needs, helps to

- ✓ Reduce project risk
- ✓ Reduce time, effort, costs
- ✓ Ease replacement in case of changes in the future
- ✓ Benefit from experiences made in other projects
- ✓ Lower the demands on your own knowledge



Automation of process chain

FlexFinance offers a modular approach



FlexFinance provides specific modules for specific process steps. Each module offers alternative components for individual tailor-fit process designs

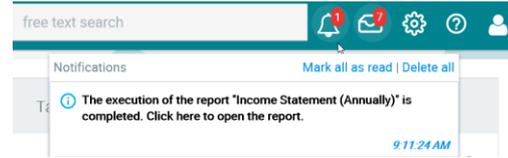
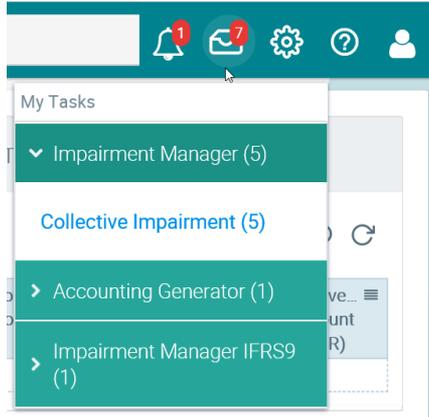
- FlexFinance is a product family, offering solutions for
 - Selected process steps and functions (e.g. EIR, ECL)
 - Fully integrated „End-to-End“-solutions for IFRS 9, Finance, Risk and Compliance
- FlexFinance IFRS solution covers:
 - Jabatix Finance Calculation Kernel
 - Components for communication between the Jabatix Finance Calculation Kernels
 - Components for job control
 - Components for data retention (master data, contract data, market data, result values)
 - Browser-based user interface

Agenda

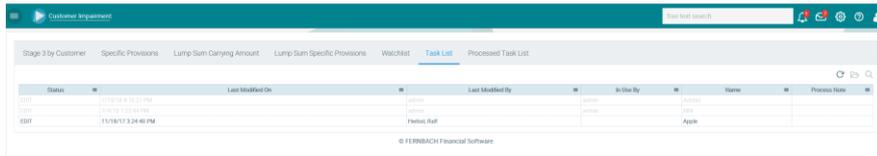
1. Every change is a chance
2. Automation of IFRS process chain
- 3. Cross resorts communication**
4. Seamless traceability and audit trails
5. Simplified access to results
6. Agility
7. Reutilisation of regulatory achievements for economic purposes



Cross resort Communication



✓ Support of notifications, task lists, Multi-entity access, online support, individual language settings etc.



Example for cross resort process

Customer Impairment Workbench

Live Demo

Story of the live demo about a cross resort process after objective evidence of impair

1. Loan officer is sitting in the functional loan department (USER LNDEP)

He identifies objective evidence of impairment for a specific customer based on a press release. He captures the trigger for stage 3 impairment, documents the case, captures collateral specific data and expectations about scenarios for different recovery types. Afterwards he releases his work and logs out.

2. Another user sitting in the Accounting department receives a task (USER FINDEP)

He simulates the risk provision based on the already captured recovery information. Afterwards he approves the recoveries and risk provision which will be booked.

Other workflow settings are possible. For example involvement of risk department:

Another user sitting in the Risk department receives a task after the loan department (USER RISKDEP)

He captures/controls collateral specific data and performs simulation.



Example for cross resort process

Customer Impairment Workbench

FlexFinance workflows

- Support paperless communication even without sharing excel spreadsheets
- Ensure clear responsibilities
- Offer 100% control



Agenda

1. Every change is a chance
2. Automation of IFRS process chain
3. Cross resorts communication
- 4. Seamless traceability and audit trails**
5. Simplified access to results
6. Agility
7. Reutilisation of regulatory achievements for economic purposes



Seamless traceability



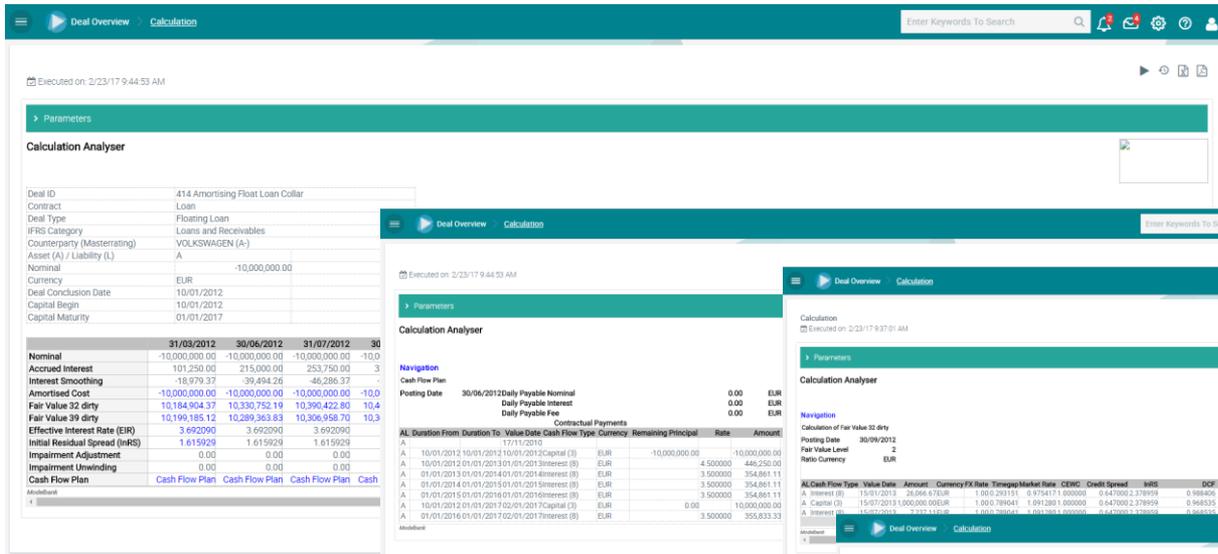
Targets of seamless traceability

- To satisfy **auditors and legal authorities requirement** for seamless drilldown, any disclosed measure must be **traceable** to the underlying to improve reliability of results.
- Each **calculated figure** must be **traceable** to the parameters considered during calculation. **Parameters** must include the cash flow plan with contractually defined business events and expected business events like it was valid at processing date of calculation.
- Each **D/C** must be **traceable** to the underlying business event, related contractual information, customer data and market data like it was valid at the booking date.
- Also the underlying **accounting rule** set must be **traceable**.



Seamless traceability

Calculations

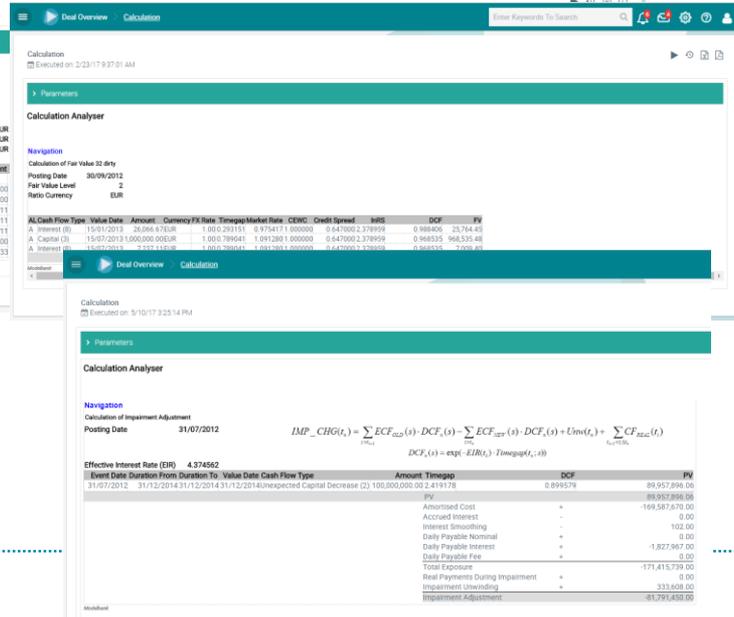


Deal ID: 414 Amortising Float Loan Collar
 Contract: Loan
 Deal Type: Floating Loan
 IFRS Category: Loans and Receivables
 Counterparty (Masterstring): VOLKSWAGEN (A-)
 Asset (A) / Liability (L): A
 Nominal: -10,000,000.00
 Currency: EUR
 Deal Conclusion Date: 10/01/2012
 Capital Begin: 10/01/2012
 Capital Maturity: 01/01/2017

	31/03/2012	30/06/2012	31/07/2012	30
Nominal	-10,000,000.00	-10,000,000.00	-10,000,000.00	-10.0
Accrued Interest	101,250.00	215,000.00	253,750.00	3
Interest Smoothing	-18,979.37	-39,494.26	-46,286.37	-
Amortised Cost	-10,000,000.00	-10,000,000.00	-10,000,000.00	-10.0
Fair Value 32 dirty	10,184,904.37	10,330,752.19	10,390,422.80	10.4
Fair Value 39 dirty	10,190,185.12	10,289,363.83	10,306,958.70	10.3
Effective Interest Rate (EIR)	3.692090	3.692090	3.692090	
Initial Residual Spread (IRS)	1.615929	1.615929	1.615929	
Impairment Adjustment	0.00	0.00	0.00	
Impairment Unwinding	0.00	0.00	0.00	

1. The Calculation Analyster shows a selection of measures for selected booking dates. For each measure, a drilldown to the underlying data and formulas is linked.

2. The estimated cash flow plan at date of calculation



Calculation of Fair Value 32 dirty

$$IMP_CHG(t_s) = \sum_{t=1}^{t_s} ECF_{acc}(t_s) - DCF(t_s) - \sum_{t=1}^{t_s} ECF_{cap}(t_s) - DCF(t_s) + Un(t_s) + \sum_{t=1}^{t_s} CF_{acc}(t_s)$$

$$DCF(t_s) = exp(-EUR(t_s) \cdot Timegap(t_s, t))$$

Event Date	Duration From	Duration To	Value Date	Cash Flow Type	Amount	Timegap	DCF	IV
31/07/2012	31/12/2014	31/12/2014	31/12/2014	Respected Capital Decrease (2)	100,000,000.00	2.419178	0.899578	89,957,896.06
				IV				89,957,896.06
				Amortised Cost				-169,587,870.00
				Accrued Interest				0.00
				Interest Smoothing				102.00
				Daily Payable Nominal				0.00
				Daily Payable Interest				-1,827,967.00
				Daily Payable Fee				0.00
				Total Exposure				-171,415,779.00
				Real Payments During Impairment				0.00
				Impairment Unwinding				333,608.00
				Impairment Adjustment				81,791,480.00

3. Calculation details for any measure

Seamless traceability

Financial Accounting

Live Demo

The Accounting Explorer shows for the entire life cycle since deal conclusion date how business and accounting events have been reflected in debit/credit entries

Would you like to know the impact of amortisation during the life cycle on the interest result account?

Adjust the view on the fly to specific accounts and events and accounting events!

Access the Accounting Explorer via several menus

Check the debit/credit entries at general ledger account level

The Accounting Explorer shows all accounts of the balance sheet and income statement for the selected deal.

Check the journal entries for the entire life cycle, including occurrence of impairment, unwinding etc.

The screenshot displays the Accounting Explorer interface with a detailed journal entry table. The table has columns for Posting Date, Valuta, Deal ID, Accounting Event, Accounting Event Type, and several account columns (10300017000, 10300017002, 10300017012, 10300017013). The entries show various financial events such as 'LN Annuity Fees-CFR: LN A Incoming Transaction Costs (Amortisable)', 'LN Annuity Fees-CFR: LN A Outgoing Transaction Costs to be Amortised', and 'LN Annuity Fees-CFR: LN A Capital Payment'.

Posting Date	Valuta	Deal ID	Accounting Event	Accounting Event Type	10300017000	10300017002	10300017012	10300017013
					Debit	Credit	Debit	Credit
30/09/2011		LN Annuity Fees-CFR:	LN A Incoming Transaction Costs (Amortisable)	Payment		500,00eur		
30/09/2011		LN Annuity Fees-CFR:	LN A Outgoing Transaction Costs to be Amortised	Payment		100,00eur		
01/10/2011		LN Annuity Fees-CFR:	LN A Capital Payment	Payment	30,000,00eur			
01/10/2011		LN Annuity Fees-CFR:	LN A Payment Transaction Cost Not Received	Payment		100,00eur		
01/10/2011		LN Annuity Fees-CFR:	LN A Amortisation Transaction Costs Received	Distribution of Payment in Advance		1,20eur		100,00eur
01/10/2011		LN Annuity Fees-CFR:	LN A Accrual Incoming Interest in Amears	Distribution of Payment in Advance		850,00eur		100,00eur
02/10/2011		LN Annuity Fees-CFR:	LN A Accrual Incoming Interest in Amears	Distribution of Payment in Advance	3000,00eur			100,00eur
02/10/2011		LN Annuity Fees-CFR:	LN A Late Payment Transaction Costs	Payment	3000,00eur	100,00eur		
30/09/2011		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Contractual	Payment				120,00eur
30/09/2011		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Contractual	Payment		575,00eur		
30/11/2011		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Real Payments	Payment				120,00eur
30/11/2011		LN Annuity Fees-CFR:	LN A Capital Repayment	Payment	573,31eur			120,00eur
30/11/2011		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Contractual	Payment				120,00eur
30/11/2011		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Real Payments	Payment		579,78eur		120,00eur
30/11/2011		LN Annuity Fees-CFR:	LN A Capital Repayment	Payment				120,00eur
31/12/2011		LN Annuity Fees-CFR:	LN A Amortisation Transaction Costs Received	Distribution of Payment in Advance		313,12eur		120,00eur
31/12/2011		LN Annuity Fees-CFR:	LN A Amortisation Transaction Costs Paid	Distribution of Payment in Advance		19,26eur		
31/12/2011		LN Annuity Fees-CFR:	LN A Accrual Incoming Interest in Amears	Distribution of Payment in Advance		3,98eur		
31/12/2011		LN Annuity Fees-CFR:	LN A Accrual Incoming Interest in Amears	CHO Distribution of Payment in Advance	3000,00eur	7,23eur	8,12eur	100,00eur
01/01/2012		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Real Payments	Payment				100,00eur
30/01/2012		LN Annuity Fees-CFR:	LN A Capital Reayment	Payment				121,73eur
28/02/2012		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Contractual	Payment				111,54eur
28/02/2012		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Real Payments	Payment				112,84eur
30/03/2012		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Contractual	Payment				112,84eur
30/03/2012		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Real Payments	Payment				112,84eur
30/03/2012		LN Annuity Fees-CFR:	LN A Capital Payment	Payment	3,86eur			
31/03/2012		LN Annuity Fees-CFR:	LN A Incoming Interest in Amears Contractual	Payment				112,84eur
31/03/2012		LN Annuity Fees-CFR:	LN A Late Capital Payment	Payment				112,84eur
31/03/2012		LN Annuity Fees-CFR:	LN A Amortisation Transaction Costs Received	Distribution of Payment in Advance				112,84eur
31/03/2012		LN Annuity Fees-CFR:	LN A Amortisation Transaction Costs Paid	Distribution of Payment in Advance				112,84eur



Seamless traceability

Balance Sheet

1. The Online Balance Sheet supports overviews on different levels of balance sheet items.

3. ... related general ledger accounts are shown with their account balances in balance sheet currency as well as transactional currency

4. For the selected currency an account statement can be accessed with further drilldown to individual deal level.

2. For a selected balance sheet item ...

The screenshot displays the SAP Balance Sheet interface. At the top, the 'Balance Sheet' header is visible. Below it, a navigation pane on the left shows the hierarchy: '01 ASSET' > 'CASH, CASH BALANCES AT CENTRAL BANKS AND OTHER DEMAND DEPOSITS' > 'FINANCIAL ASSETS HELD FOR TRADING (HFT-FVTPL)' > 'NON-TRADING FINANCIAL ASSETS MANDATORY AT FAIR VALUE THROUGH PROFIT OR LOSS (FVTPL)' > 'FINANCIAL ASSETS DESIGNATED AT FAIR VALUE THROUGH PROFIT OR LOSS (FVOCI)' > 'FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME (FVOCI)' > 'FINANCIAL ASSETS AT AMORTISED COST (AC)'. The main area shows an overview of '01 ASSET / FINANCIAL ASSETS AT AMORTISED COST (AC) / Loans and advances / Claims on customers / no Hedge / Loans' with a total value of 1,311,435,983.77 EUR. Below this, a table lists various account numbers and descriptions, such as '10602010114 Loan Sub-Acc: Non-Bnk Principal Amount'. A callout points to this table, indicating that related general ledger accounts are shown with their account balances in both balance sheet and transactional currencies. Another callout points to a detailed ledger view for a specific account, showing columns for 'Date', 'Debit', 'Credit', 'Currency', and 'Entry Description', with a callout indicating that an account statement can be accessed with further drilldown to individual deal level. A third callout points to the 'Structure Item' column, indicating that the online balance sheet supports overviews on different levels of balance sheet items. A fourth callout points to a selected item, indicating that for a selected balance sheet item, further details are available.



Seamless traceability

Audit Trail for Collective Impairment

1. For a selected master scenario this dialogue shows ..

2. related economic scenarios. One can check the macroeconomic parameters for each economic scenario and ...

3. .. receives insights for which combination of segment and stage which model is applied.

4. For a selected model the underlying information about PD, LGD and ECL can be accessed for further details and analysis

5. For the selected model parameters of the model are shown and even further drilldown is supported but not shown on this slide

The screenshot displays the 'Collective Impairment' software interface. At the top, there's a navigation bar with 'Master Scenario Overview', 'Master Scenario', 'Task List', and 'Processed Task List'. Below this, a 'Configuration of Economic Scenarios' dialog is open, showing a table of economic scenarios. The table has columns for Segment, Stage, Period of Exposure, and Model. A 'Process Note' button is visible at the bottom of this dialog.

Segment	Stage	Period of Exposure	Model
IFRSOCI BONDS	DEFAULT	LIFETIME	IMPORTED ECL
IFRSOCI BONDS	SENSITIVE	LIFETIME	IMPORTED ECL
IFRSOCI BONDS	HEALTHY	LIFETIME	IMPORTED ECL
IFRSOCI COMMITMENT CORP REV	SENSITIVE	1 YEAR	ECL CCF 75% PMR 4% PD MGR SCR LGD WO
IFRSOCI COMMITMENT CORP REV	HEALTHY	1 YEAR	ECL CCF 75% PMR 4% PD MGR SCR LGD WO
IFRSOCI COMMITMENT CORP	SENSITIVE	LIFETIME	ECL CCF 75% PMR 4% PD MGR SCR LGD WO
IFRSOCI COMMITMENT CORP	HEALTHY	LIFETIME	ECL CCF 75% PMR 4% PD MGR SCR LGD WO
IFRSOCI COMMITMENT REV	SENSITIVE	1 YEAR	ECL CCF 75% PD RR DPD CUST LGD WO
IFRSOCI COMMITMENT REV	HEALTHY	1 YEAR	ECL CCF 75% PD RR DPD CUST LGD WO

Below the table, a 'Model Configuration' dialog is open, showing a 'Navigation Tree' and 'Model' details. The 'Model' section shows 'ECL CCF 75% PMR 4% PD RR CUST DPD LGD WO'. The 'Method' is 'ECL STD' and the 'Method Description' is 'ECL Standard Calculation'. A 'Parameters' section is also visible, showing a table of parameters and their inputs.

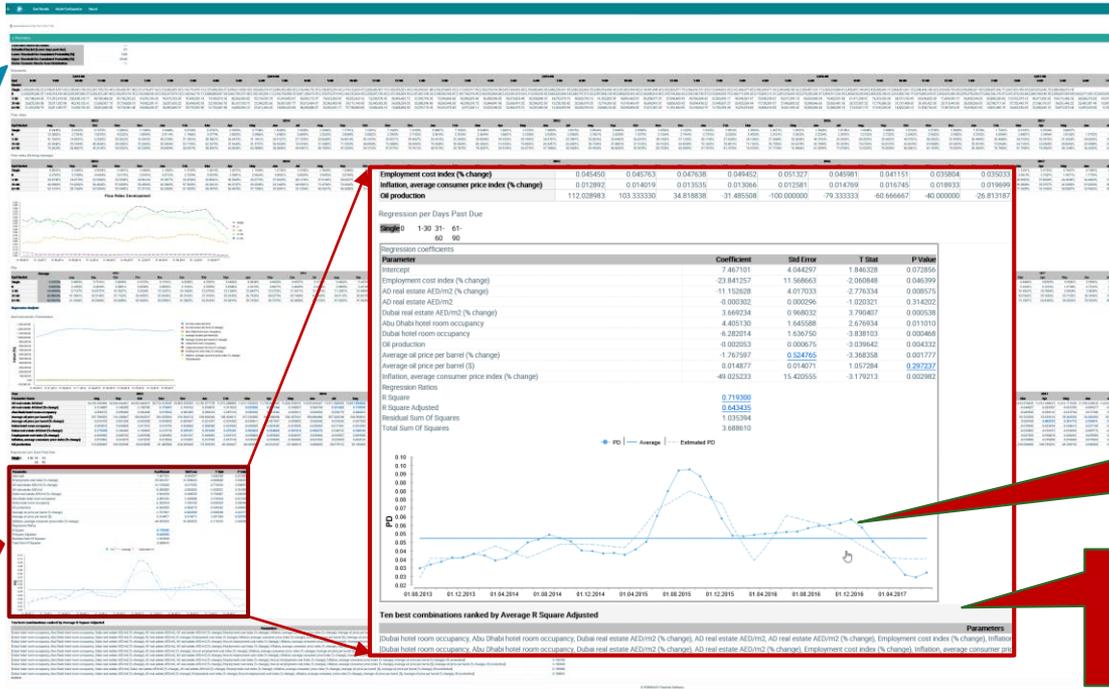
Parameter	Input
PD PIT	PD PIT RR CUST
LGD	WORKOUT LGD RETAIL
EAD DC	EAD CCF 75% PMR 4%

Seamless traceability

Audit Trail for Collective Impairment

Calibration report provides nearly endless details

Several graphs provide additional insides by visualisation of numbers



Real Probability of Default

Predicted Probability of Default

Seamless traceability

Summary

FlexFinance drilldown

- Supports seamless 360 degree traceability of results including calculated measures, journal entries, general ledger positions, expected credit losses
- Includes the link between results and business rules
- Improves the reliability of results**



Agenda

1. Every change is a chance
2. Automation of IFRS process chain
3. Cross resorts communication
4. Seamless traceability and audit trails
- 5. Simplified access to results**
6. Agility
7. Reutilisation of regulatory achievements for economic purposes



Simplified access to results

Data Mart Manager

2. For each Data Mart specific **Customer Data Marts** can be defined.

1. Data Mart Manager links to different **Data Marts**

Customer Data Mart Overview

Customer Data Mart	Data Mart
Risk Provision (IBNR & DEFERRED) LN, CC, COM	IR_NOTES_DM_V
Default deals (S & REC) LN, CC, COM	IR_NOTES_DM_V
Amortisation per facility and charge type	IR_NOTES_AMORT_DETAIL_DM_V
Account Balances without Accounting Generator	ACCOUNT_BALANCE_BAL_169_V
Output file local booking	LOCAL_BOOKING_169_V

Its purpose, the customer clicks on a basic layer in the upper area, after which a default view and all the customer layers that have already been defined are displayed in the lower block.

Posting Date: Aug 31, 2015 | Process Date: Dec 7, 2016 4:22:46 PM

Custom Views

Name	Description
Default view	This is the default view which contains all columns
Risk provision	for impaired and for unimpaired deals (collective IBNR)
IBNR Overview	
Risk provision with frozen amounts	Risk provision with frozen amounts as impairment date per deal

3. For each Customer Data Mart specific **Custom Views** can be defined

4. By drag&drop add descriptive columns ...

Hedge Reports | Balance Sheet Statement: assets | 01/20/20

Deal Values

Fields: Deal Number, Carrying Amount, Full Fair Value, Deal Type, Accounting Scope, Consolidation Company, Contract, Organisation, Business Branch, Hedge flag, Accounting Event Type, Hedge Type, Own/Third Party Issue, Rank, Account Balance, Account Balance (Balance Sheet Currency), FX Profit and Loss (Financial Product), Bala

Data: Account Balance (num)

Product Name: A | Asset/Liability: FVOCI | Accounting Category: CORPCLUST | Customer Type: EUR | Currency: EUR

Product Name	Asset/Liability	Accounting Category	Customer Type	Currency	Maturity Band			Grand Total
					IR < 11+5Y	IR > 30a+11Y	IR > 5Y	
BOND	A	FVOCI	CORPCLUST	EUR	793,458.97	-1,842.51	2,349,242.78	3,140,859.24
			EUR		-6,888.65	-9,747.51	0	-16,636.16
			JPY		-1,006,237.97	-9,590.9	0	-1,015,828.87
			USD		-37,052,529	0	-114,031,893.43	-151,084,422.43
			CORPCLUST Total		-37,272,196.65	-21,180.02	-111,682,650.65	-148,976,028.22
			CENTROGV	EUR	0	-999,097.22	0	-999,097.22
			CENTROGV Total		0	-999,097.22	0	-999,097.22
			FVOCI Total		-37,272,196.65	-1,020,278.14	-111,682,650.65	-149,975,125.44
			A Total		-37,272,196.65	-1,020,278.14	-111,682,650.65	-149,975,125.44
			BOND Total		-37,272,196.65	-1,020,278.14	-111,682,650.65	-149,975,125.44
			FVOCI	OWNBANK	EUR	-50,040.98	0	-50,040.98
			OWNBANK Total		-50,040.98	0	0	-50,040.98

5. ... and measures to your report for 360° seamless analysis

Simplified access to results

Summary

FlexFinance breakdown

- Offers user-friendly drag & drop analysis
- Uses Data Marts with custom views for easy access as underlying
- Speeds up the access to detailed business information for faster and better founded decisions



Agenda

1. Every change is a chance
2. Automation of IFRS process chain
3. Cross resorts communication
4. Seamless traceability and audit trails
5. Simplified access to results
- 6. Agility**
7. Reutilisation of regulatory achievements for economic purposes



Agility

- The idea of agility is to cover IFRS 9 requirements in a way that users are enabled to **test and evaluate action alternative settings**. Taking action alternatives into account economic advantages can be raised.
- The ideal way to support agility is the **introduction of a scenario workbench** which offers an ideal playground for management analysis. It supports what-if simulations and puts business intelligence at the finger tips of managers.



Agility

Simulation and What-if analysis in Collective Impairment Workbench (Stages 1 and 2)



FERNBACH

2. Execute the alternative master scenario

1. Define various Master Scenarios and adjust the configuration of models, segments, economic parameters etc.

3. Compare results of different master scenarios and analyse impacts of settings on level of stage, segment, individual deal

The screenshot displays the 'Collective Impairment' software interface. At the top, there's a navigation bar with 'Master Scenario Overview', 'Master Scenario', 'Task List', and 'Processed Task List'. Below this is a table of Master Scenarios:

Master Scenario	Master Scenario Description	ECL Calculation Setup	State	Posting Mode	Calc. Period	Task Type	Last Modified	Str.	Created By	Last Modified By
New Master Scenario		New ECL Calculation Setup(2)	Unreleased	No Posting	Monthly	Master Scenario Configuration	8/14/18 5:50:14 PM		Jung, Andreas	Jung, Andreas
MSTR PRESENTATION	Master Scenario for presentation	Presentation May 2018	Unreleased	No Posting	Monthly	Master Scenario Configuration	8/9/18 3:25:18 PM		Jung, Andreas	Jung, Andreas
SIMULATION MASTER SCENARIO	Simulation presentation	Simulation May 2018	Unreleased	No Posting	Monthly	Master Scenario Configuration	8/9/18 10:58:01 AM		admin	admin

The middle section shows the 'Configuration of Economic Scenarios' with a table of Economic Scenarios:

Economic Scenario	Weight	Index
ADVERSE STD MV	0.4	
BASELINE STD MV		

Below this is the 'Configuration of ECL Calculation' table:

Segment	Stage	Period of Exposure	ECL Model
IFRSOCI BONDS	SENSITIVE	LIFETIME	ECL WITH EAD FOR BONDS(1)
IFRSOCI BONDS	HEALTHY	LIFETIME	ECL WITH EAD FOR BONDS(1)
IFRSOCI CONSUMER LN	SENSITIVE	LIFETIME	ECL CONSUMER LN
IFRSOCI CONSUMER LN	HEALTHY	LIFETIME	ECL CONSUMER LN
IFRSOCI CORPORATE LN	SENSITIVE	LIFETIME	ECL CORPORATE LN
IFRSOCI CORPORATE LN	HEALTHY	LIFETIME	ECL CORPORATE LN
IFRSOCI MONEY MARKET	SENSITIVE	LIFETIME	ECL MONEY MARKET
IFRSOCI MONEY MARKET	HEALTHY	LIFETIME	ECL MONEY MARKET

The bottom section shows 'Master Scenario Results' with a comparison table:

Master Scenario	Posting Date	Run End	Status	Master Scenario	Posting Date	Run End	Status
MSTR PRESENTATION	Dec 31, 2012	Aug 9, 2018 3:27:48 PM	Ready	SIMULATION MASTER SCENARIO	Dec 31, 2012	Aug 9, 2018 10:59:10 AM	Ready

Below the comparison table is a detailed table of ECL Values (EUR):

Master Scenario	ECL Calculation Setup	ECL Value (EUR)
MSTR PRESENTATION	Presentation May 2018	-193,198,267.54
SIMULATION MASTER SCENARIO	Simulation May 2018	-72,895,111.33

The bottom-most part of the screenshot shows a detailed breakdown of ECL values by macroeconomic scenario, weight, stage, and segment:

Macroeconomic Scenario	Weight	Stage	Segment	Model	ECL Value (EUR)
ADVERSE STD MV	0.4				-226,820,366.98
ADVERSE STD MV	0.4	HEALTHY			-37,295,988.03
ADVERSE STD MV	0.4	SENSITIVE			-183,523,298.95
ADVERSE STD MV	0.4		IFRSOCI CONSUMER LN	ECL CONSUMER LN	-183,491,700.05
ADVERSE STD MV	0.4		IFRSOCI CORPORATE LN	ECL CORPORATE LN	-33,508.90
ADVERSE STD MV	0.4		IFRSOCI MONEY MARKET	ECL MONEY MARKET(1)	-174,783,521.25
BASELINE STD MV	0.6				-46,888,177.80
BASELINE STD MV	0.6	HEALTHY			-83,734,690.84
BASELINE STD MV	0.6	SENSITIVE			-1,263,686.96
BASELINE STD MV	0.6		IFRSOCI CONSUMER LN	ECL CONSUMER LN(1)	-1,225,531.66
BASELINE STD MV	0.6		IFRSOCI CORPORATE LN	ECL CORPORATE LN(1)	-38,020.31
BASELINE STD MV	0.6		IFRSOCI MONEY MARKET	ECL MONEY MARKET(1)	-134.95
BASELINE STD MV	0.6				-46,833,067.02

Agility

Summary

FlexFinance

- Apps for Impairment provide simulation functions
- Supports consideration of alternative economic scenarios, segmentations, stage assignment rules and models for PD, LGD, EAD and ECL calculation



FlexFinance

- Helps to create and evaluate alternatives to improve business and - results such as PD and ECL are included in the regulatory and booked loan loss provisions
- Helps to determine the available equity capital for further business

Agenda

1. Every change is a chance
2. Automation of IFRS process chain
3. Cross resorts communication
4. Seamless traceability and audit trails
5. Simplified access to results
6. Agility
- 7. Reutilisation of regulatory achievements for economic purposes**



Reutilisation of regulatory achievements for economic purposes

With a few simple steps,
interesting solutions for daily business can be created,
re-utilising functions
which originally have been defined to solve regulatory IFRS 9 requirements.



Reutilisation of regulatory achievements for economic purposes

Examples

IFRS 9 requires the calculation of AC and FV

Additional analysis functions can be supported by differentiating between specific valuation elements

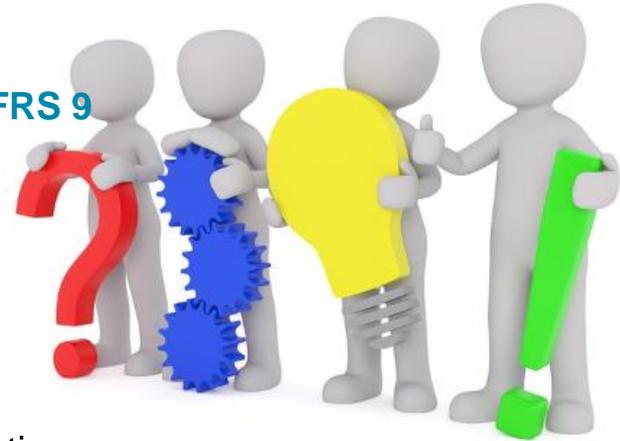
→ **Agenda topic: De-composed measurement approaches of IFRS 9**

Calculation of PD and ECL

Can be extended and integrated into apps which can be integrated into the processing of a loan life cycle.

These apps help to manage default risk (regardless of regulatory rating based on creditworthiness).

→ **Agenda topic: Using PD and LGD during loan life cycle**



Further use of regulatory results/parameters to achieve economic targets

De-composed measurement approaches of IFRS 9 ..

	IFRS9 Valuation Approaches			Valuation Elements	\$\$		
	AC	FVconstCS	FFV				
Remaining Debt + Interest Accrual	X	X	X	Principal/Remaining Debt			
				Interest Accrual linear			
Premium /Discount Amortisation EIR				IFRS9 5.4.1			
Transaction Cost Amortisation EIR				IFRS9 5.4.1			
Impairment Adjustment/Unwinding				IFRS9 B5.4.1/B5.4.2			
Forward Adjustment Amortisation EIR				IFRS9 5.5.1 and 5.4.1 (b)			
Basis Adjustment Amortisation EIR				IFRS9 B 3.1.4			
Hedge Adjustment Amortisation EIR				IFRS9 B 6.5.4			
FVconstCS – AC =				X		Fair Value Changes, Δ Market Price related	IFRS9 6.5.10
FFV – FVconstCS =					X	Fair Value Changes, Δ Credit Spread related	IFRS9 6.5.2

Further use of regulatory results/parameters to achieve economic targets

.. and how their consideration in the solution impacts your analysing and reporting capabilities

Through the provision of valuation elements combined with the fine granular booking of each element, the solution ensures compliance and offers new perspectives:

- **Solid basis for future reporting requirements**
 - *Example:* CB: Introduction of the separate disclosure of credit-spread related to fair value changes
- **Usefull basis for the comparison of different GAAPs**
(„GAAP-unique valuation elements“)

Further use of regulatory results/parameters to achieve economic targets

.. and how their consideration in the solution impacts your analysing and reporting capabilities

▪ Fine granular analysis of balance sheet and income statement

IFRS9 EMEA/SET/Dec 31, 2012/Empty Accounts

01. ASSET / FINANCIAL ASSETS AT AMORTISED COST (AC) / Loans and advances / Claims on customers / no Hedge / Loans [-3,242,469,923.39 EUR]

Account Number	Account Description	EUR
10602010114	Loan Sub-Acc: Non-Bnk Principal Amount	-3,212,195,738.11 >
10602010115	Loan Sub-Acc: Non-Bnk Premium/Discount	320,861.23 >
10602010116	Loan Sub-Acc: Non-Bnk Transaction Costs	13,525,873.41 >
10602010117	Loan Sub-Acc: Non-Bnk Interest Accrual/Deferral	-6,363,127.34 >
10602010118	Loan Sub-Acc: Non-Bnk Charge Accrual/Deferral	1,732.73 >
10602010119	Loan Sub-Acc: Non-Bnk from Value Change MP	-1,185.30 >
10602010120	Loan Sub-Acc: Non-Bnk from Value Change CS	-4,307.97 >
10602010121	Loan Sub-Acc: Non-Bnk BMR Discount	3,524.16 >
10602010124	Loan Sub-Acc: Non-Bnk Interest Portions to be amortised	1,234,901.80 >
10602010126	LN Sub-Account Value Changes Foreign Exchange	-38,992,458.00 >

© FERNBACH Financial Software

○ *Example Liquidity:*

The differentiation within the AC valuation approach between paid interest, linear accrued interest in arrears and the amortisation of transaction costs enables a differentiation regarding the impact on liquidity:

„Which volumes in P&L impacted liquidity already in the past, but will impact the income only in the future?“

or „Which volumes impact the income, but will have a liquidity impact only in the future?“

○ *Example impact of changes in rating/credit-spread to the income statement:*

„How does the increasing credit-spread of a specific group of customers impact the income statement?“

In between summary

How FlexFinance offers economical benefits

Professionalize business to achieve economical benefits while increasing IFRS compliance

Take care of the dependencies between the different process steps and reduce the time to result

Drive communication between loan, risk and accounting department to achieve clear responsibilities in streamlined processes

Fulfill auditors and legal authorities requirement for seamless drilldown from any disclosed measure to the underlying to improve reliability of results

Speed up the access to detailed business information for faster and better founded decisions

Support What-if analysis in form of simulations to create and evaluate alternatives

Design IFRS solutions in such a way that they also support economical analysis such as management of risk (Credit Application, Early Warning)

Automation of process chain

Cross resort Communication & Control

Seamless traceability & audit-trails

Simplified access to results

Agility through ad hoc simulation

Reutilisation of regulatory achievements for economic purposes

Streamlined, tailor-fit processing

Work flow management, Notifications, Automated alerts

Seamless overall drilldown for calculations, bookings, expected credit losses

User-friendly dashboards

Scenario planning, Management information at your finger tip

Valuation elements, Consideration of ECL in the product life cycle

Fernbach's FlexFinance IFRS

Between conclusion

FlexFinance **professionalises** business and enables the entity to achieve economical benefits while increasing IFRS compliance

- ✓ Automation of process chain
- ✓ Cross resort Communication & Control
- ✓ Seamless traceability & audit-trails
- ✓ Simplified access to results
- ✓ Agility through ad hoc simulation
- ✓ Reutilisation of regulatory achievements for economic purposes
- ✓ De-composition of measurement approaches
- ~~✓~~ Integration of PD and ECL into loan life cycle **in separate session**



Austria
Croatia
Estonia
Egypt
Finland
Germany
Indonesia
Japan
Latvia
Lithuania
Luxembourg
Nigeria
Singapore
South Korea
UAE
UK

www.fernbach.com