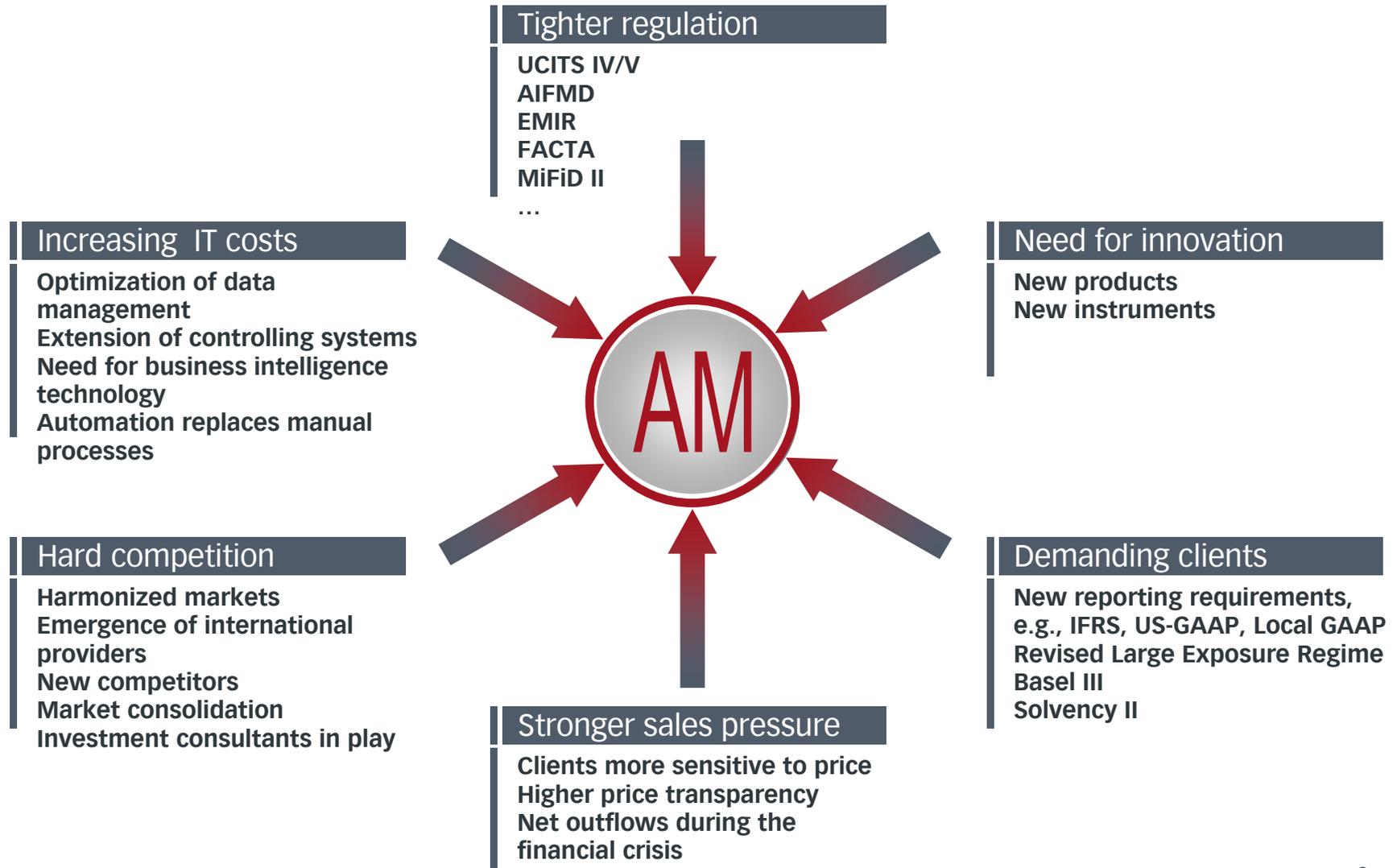


# Key Success Factors in the Age of Regulation

November 6, 2012

# The financial crisis has accelerated the need for change in the asset management industry



# Tighter regulation is a major source of pressure for asset managers

Operating model continuously challenged by constant inflow of new regulatory requirements:

- **direct** regulation of asset managers → new systems, processes
- **indirect** regulation of investors → appropriate products, services



➤ Beneficial aspects in a target operating model shown using the example of Solvency II.

# Content

- 1 Impact of Solvency II on Asset Management
- 2 Mastering the Challenges: IDS Platform Insights
- 3 Conclusion

1

Impact of Solvency II on Asset Management

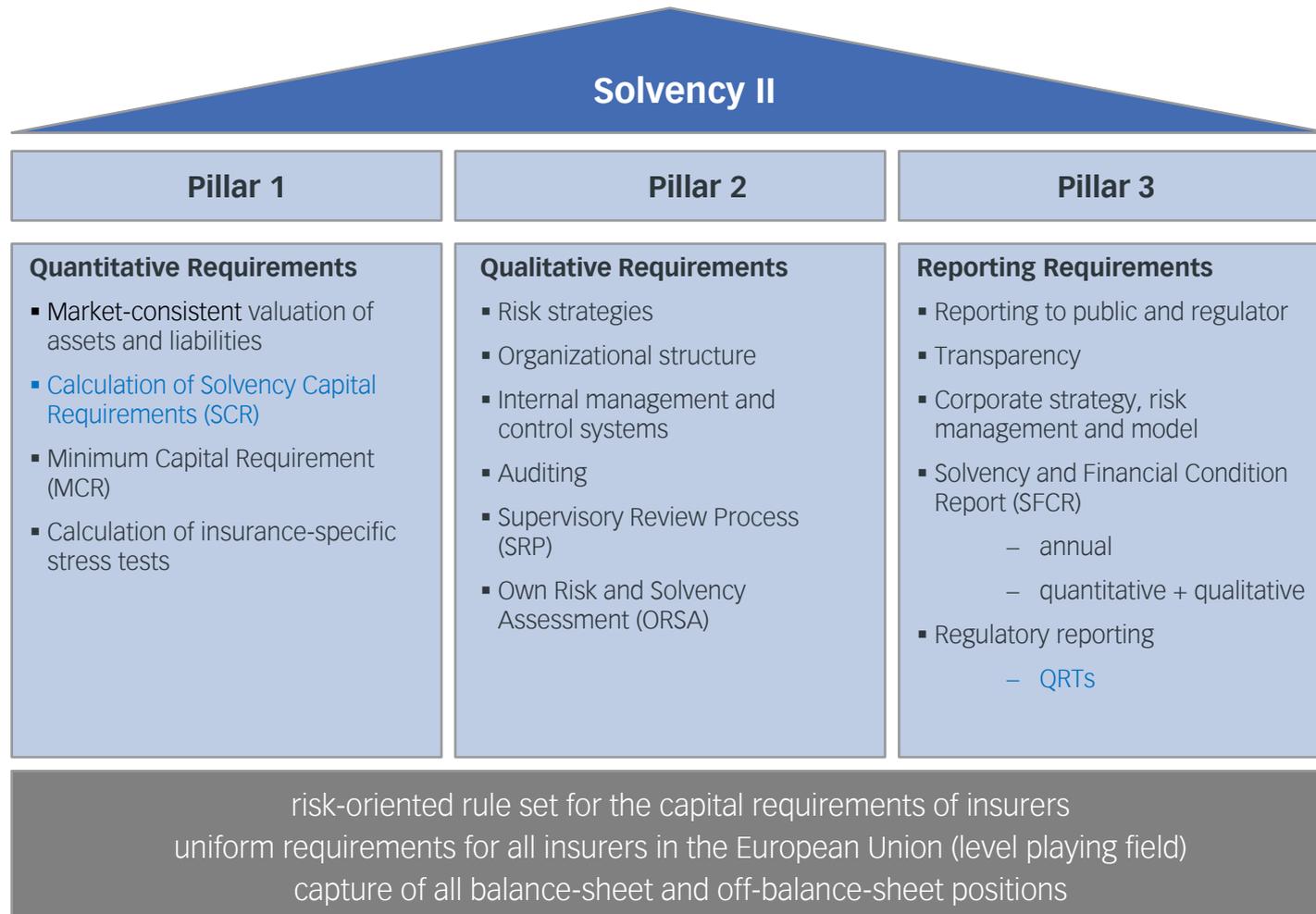
2

Mastering the Challenges: IDS Platform Insights

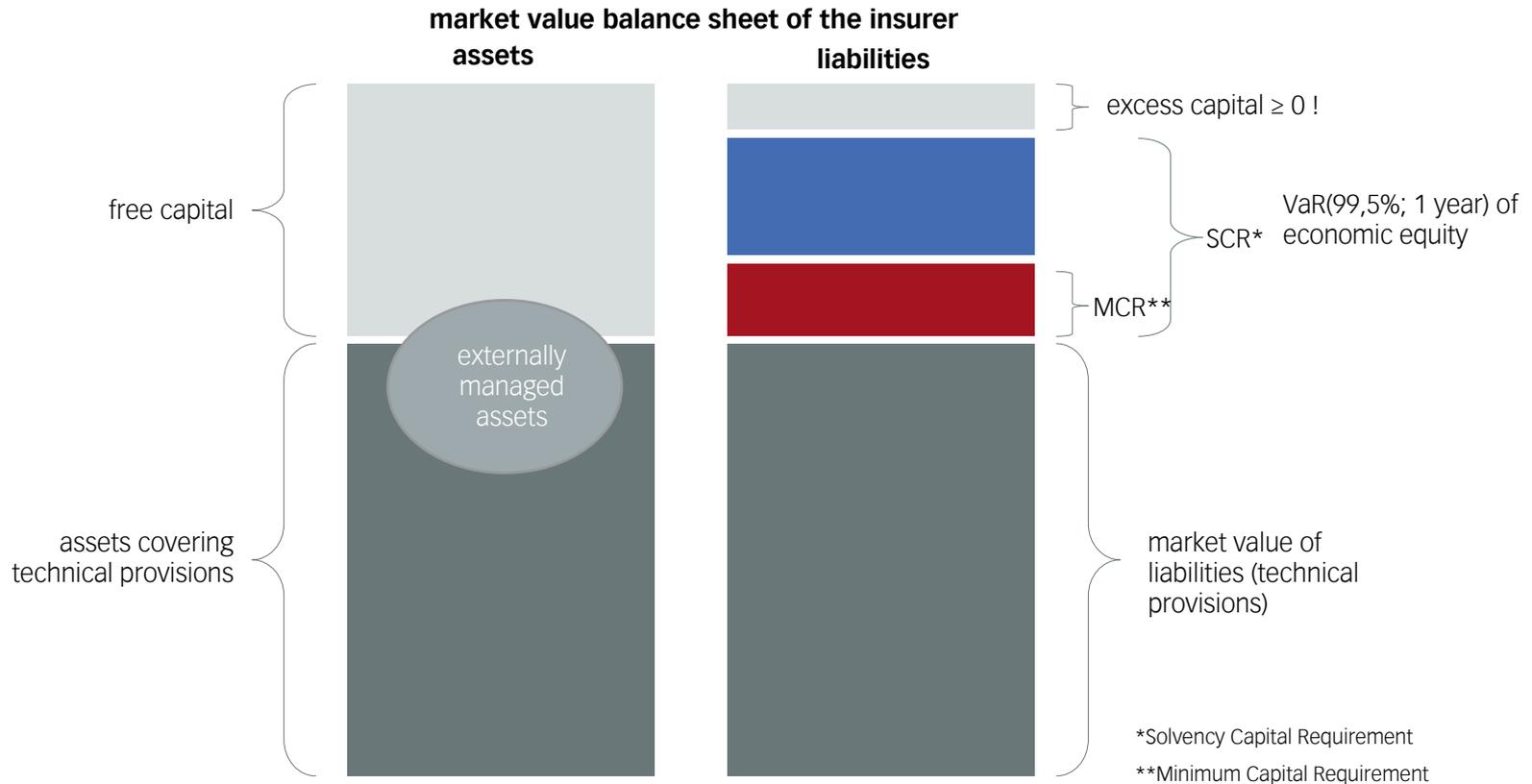
3

Conclusion

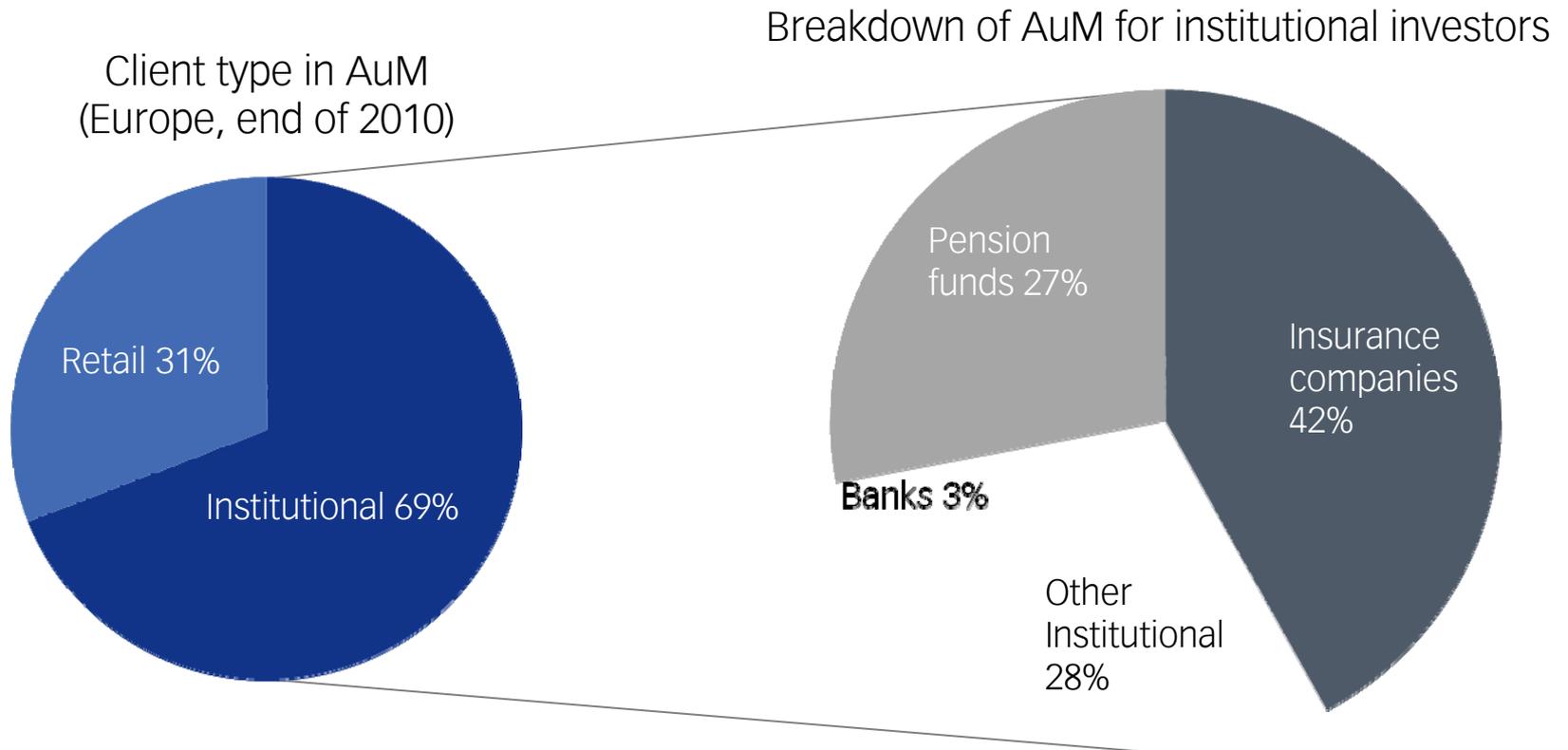
# Solvency II is a supervisory framework to ensure the solvency of insurance companies



# Solvency II also captures risk from capital investments in investment funds and discretionary mandates



# The size of insurance asset management makes Solvency II a major issue for asset managers



Source: EFAMA, Asset Management in Europe, Facts and Figures, 5th Annual Review (May 2012)

# There are numerous points along the value chain where services could be offered



# Creating efficient products for investors under the Solvency II regime is a complex task

boundary conditions for investments under Solvency II

SCR = key metric for capital investments of insurance companies  
expected return from investment funds to be seen in the light of capital charges  
need for efficient products  
benchmarking?

efficiency criteria for investment funds

complex question due to interdependency with total balance sheet of insurer  
investment guidelines prescribed by insurer:

- mere asset-class based restrictions may be stopped short in terms of efficiency
- limited SCR contributions from single risk factors
- target return optimization (Return on Solvency Capital Requirement)

trends in investment management

contributions to market risk SCR are the control quantities on investment fund level:

- equity
- credit spread
- currency
- property (target funds, REITs, ...)

overall duration management restricts interest rate SCR (cf. LDI)

call for modular concepts\*:

- investment funds are building blocks in insurer's overall investment management
- segments mandated to external asset managers
- less discretion within managed portfolios

# Product development can be handled with appropriate know-how and analytics



## products

- creation of equity exposure through convertibles is advantageous\*
- preference of short terms for credit exposure\*\*
- avoidance of fx exposure
- hedging effects of derivatives are considered in the SCR calculation; identification of hedges and strategies (rolling, non-rolling with p.r.t. allowance) hardly feasible
- soft provisions/ rule-based products: not permitted as risk mitigation technique; hard provisions: minimum of SCR contribution and distance to guaranteed value can be used\*\*\*
- ...

## services

- supporting the insurer's reporting requirements: delivery of resultant data that can be readily integrated into the investor's data household

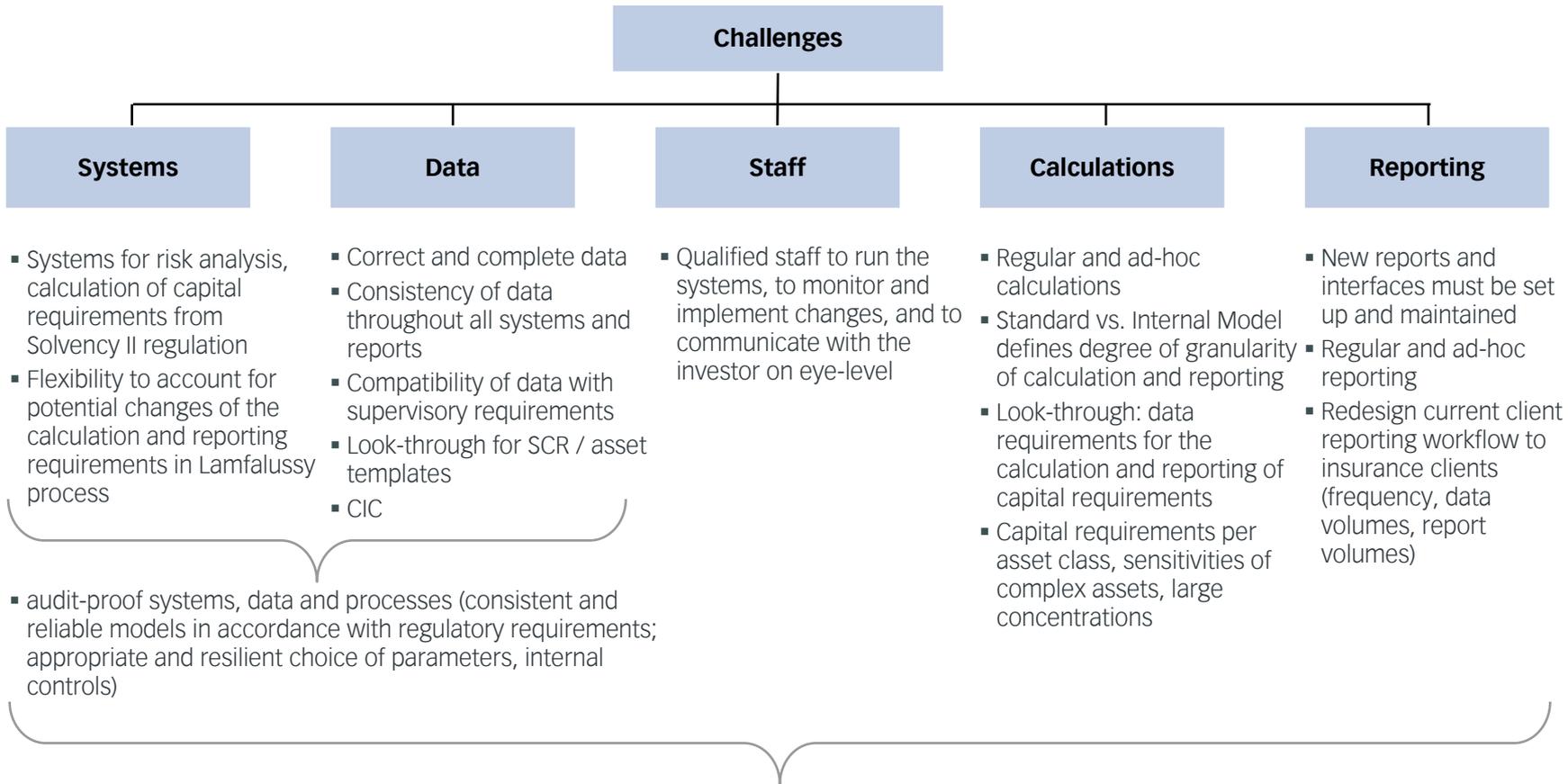
 Any solution must support product development, portfolio management and reporting!

\* Portfolio institutionell, Wandler profitieren von Solvency II, March 2012

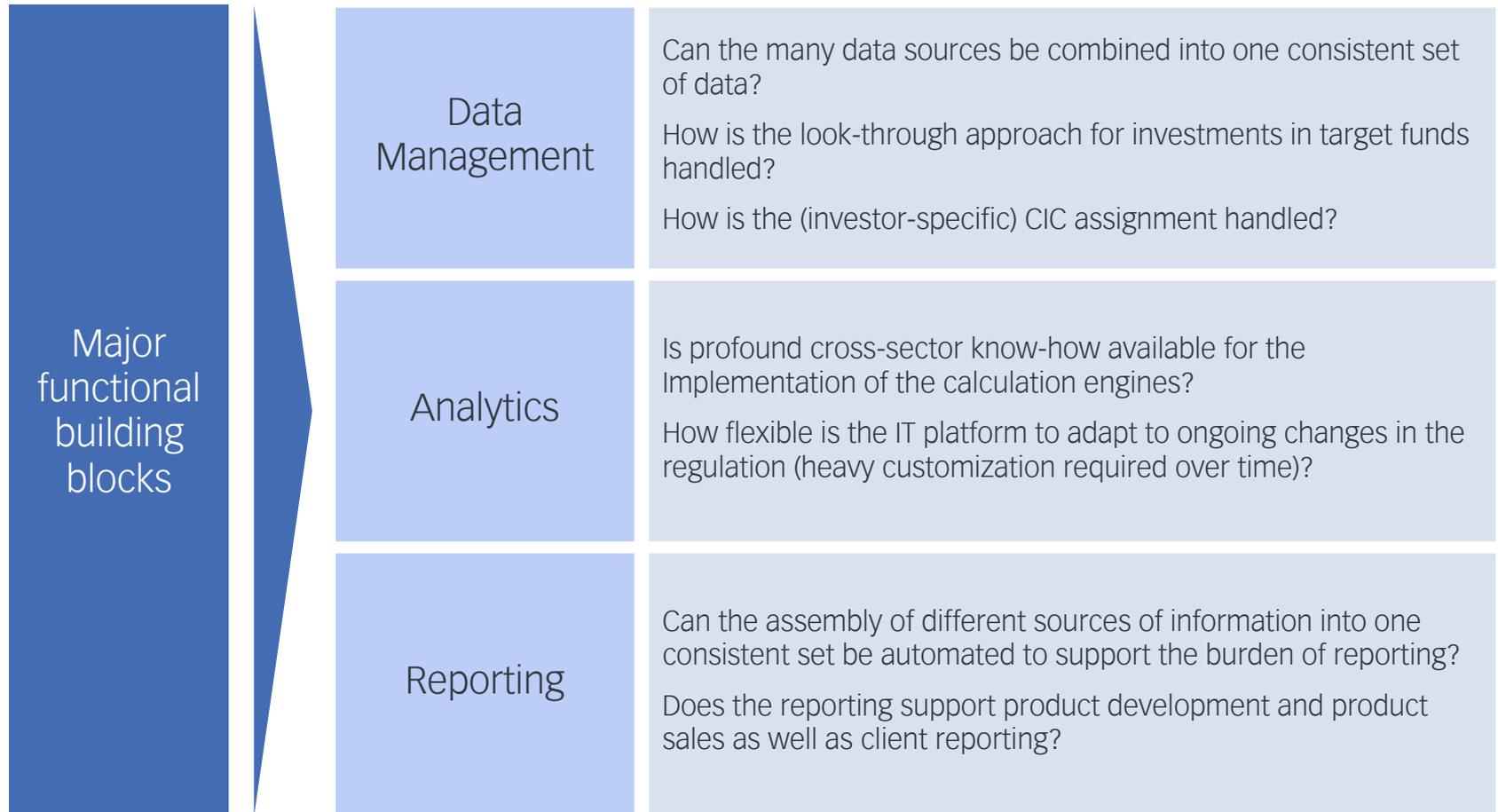
\*\* Matthieu Louanges, The New Normal in European Insurance Asset Management, PIMCO European Perspectives, May 2011

\*\*\* according to QIS 5 Technical Specifications, SCR 12.5

# Significant challenges are presented by proper delivery of Solvency II services



# The main challenges are in the provision of the major functional building blocks

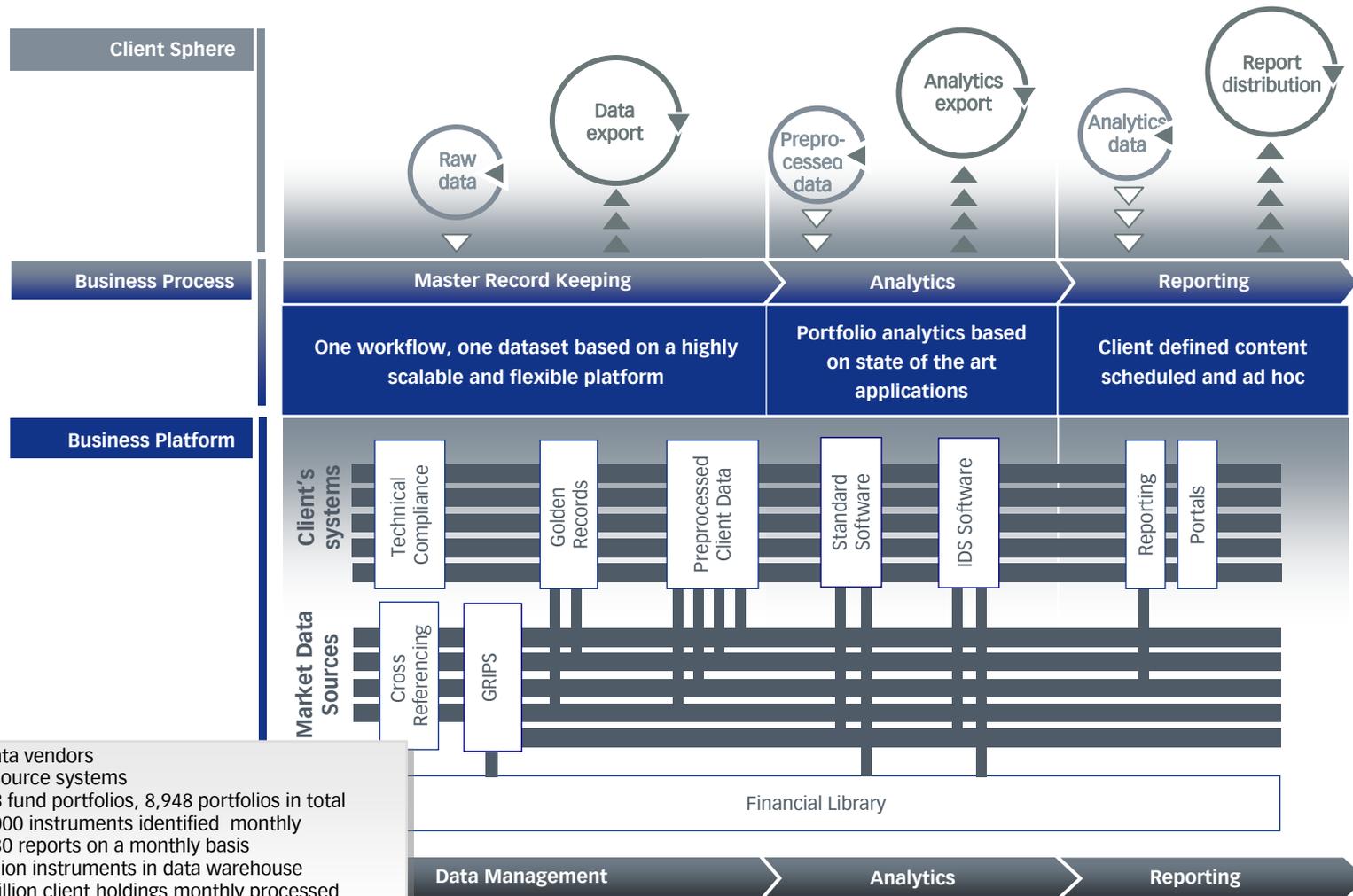


1 Impact of Solvency II on Asset Management

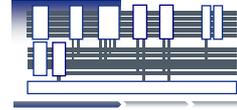
2 Mastering the Challenges: IDS Platform Insights

3 Conclusion

## IDS offers a sustainable and scaleable production platform



50 data vendors  
 320 source systems  
 1,073 fund portfolios, 8,948 portfolios in total  
 229,000 instruments identified monthly  
 21,280 reports on a monthly basis  
 3 million instruments in data warehouse  
 50 million client holdings monthly processed  
 approx. 1,000 bn EUR assets under reporting  
 (as at September 30, 2012)



## The IDS standardization procedure ensures a unified view on fund and direct investments

### Data Management Team

- Automated and manual standardization of portfolios, investments and companies
- 8 team members
- 229,000 new instruments to be identified monthly...
- that yield over 50,000 newly standardized instruments
- 65,000 instruments manually identified monthly

### Quality Checks

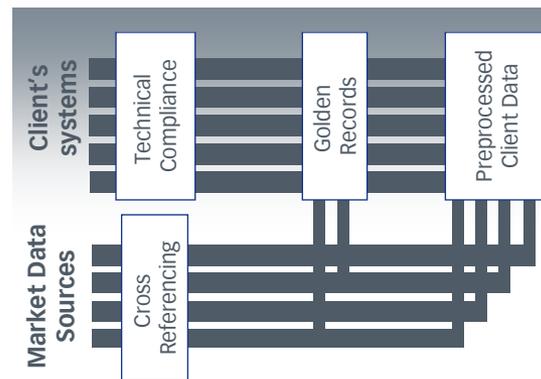
- Corrected deliveries
- Frontend checks
- Regular quality meetings

### Data Pool

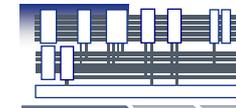
- 50 data vendors
- 320 source systems
- 3 million current and historic instruments in data warehouse
- Cross-referencing tables

### Data Enrichment

- Classification of assets (approx. 340 active IDS asset classes out of 481)
- Sectorization
- Seniority
- Assignment of companies (approx. 300,000) and hierarchies
- Identification of underlyings
- Reevaluation (optional)



## IDS standardization example



One single investment and its heterogenous representations in the backoffice systems:

backoffice ID	backoffice asset ID	backoffice asset name	asset class	asset class description	quoted on	identifier
1111	A0GN3W_00000_GBP_0	Großbritannien Treasury Stock 06/16	111	Schuldverschreibungen, Anleihen, Obligationen	ISIN	GB00B0V3WX43
2084	LCGBP02494	UNITED KINGDOM	BOND	?	ISIN	GB00B0V3WX43
2083	JCXUK0067	UK 4.0000% Gilt Sep 2016	BOND	?	ISIN	GB00B0V3WX43
2086	MLCEF296277	TREASURY	BOND	?	ISIN	GB00B0V3WX43
2319	GB00B0V3WX43	Großbritannien LS-Treasury Stock 2006(16)	WPF_040_2001_	Festverzinsliche Wertpapiere , festverzinsten Anleihen , Anleihen (Obligationen, Sc	ISIN	GB00B0V3WX43
2251	008816B25	UK GILT 4 9/07/16	TSY	Treasury	ISIN	GB00B0V3WX43
2253	008816B25	UK GILT 4 9/07/16	TSY	TREASURY	ISIN	GB00B0V3WX43
2239	771838_NOR	GILT 4% 07/09/16	BONDS (FIXED RATE)	?	ISIN	GB00B0V3WX43
2350	A0GN3W_00000_GBP_0	Großbritannien Treasury Stock 06/16	111	SCHULDVERSCHR, ANLEIHEN, OBLIGATIONEN	ISIN	GB00B0V3WX43
2318	GB00B0V3WX43	Großbritannien LS-Treasury Stock 2006(16)	WPF_040_2001_	Festverzinsliche Wertpapiere , festverzinsten Anleihen , Anleihen (Obligationen, Sc	ISIN	GB00B0V3WX43
2356	B0V3WXI13	UK TSY 4 2016 BONDS 09/16 4.	10	GOVERNMENT ISSUES	ISIN	GB00B0V3WX43
2365	B0V3WXI13	UK TSY 4 2016 BONDS 09/16 4.	10	GOVERNMENT ISSUES	ISIN	GB00B0V3WX43
2351	A0GN3W_00000_GBP_0	Großbritannien Treasury Stock 06/16	111	SCHULDVERSCHR, ANLEIHEN, OBLIGATIONEN	ISIN	GB00B0V3WX43
2512	771838	GILT 4% 07/09/16	BONDS (FIXED RATE)	?	ISIN	GB00B0V3WX43
2587	GB00B0V3WX43	UK TSY 4% 2016 UKT 4 09/07/16	111	Debentures, bonds, and German public sector mortg	ISIN	GB00B0V3WX43
2609	019038W	UK(GOVT OF) 4% STK 07/09/2016 GBP100	UKGILT	UK GILT	SEDOL	B0V3WX4
2607	019038W	UK(GOVT OF) 4% STK 07/09/2016 GBP100	UKGILT	UK GILT	SEDOL	B0V3WX4
2584	45103-0_GBP	UKT 4 09/07/16	GOV BOND	?	ISIN	GB00B0V3WX43
2599	019038W	UK(GOVT OF) 4% STK 07/09/2016 GBP100	UKGILT	UK GILT	SEDOL	B0V3WX4
2619	COEF2962779	United Kingdom Gilt 4.000% Due 2016-Sep-07	FI55	GOVERNMENT, TREASURY	SEDOL	B0V3WX4
2593	LPCGBP02494	UNITED KINGDOM	N/A	?	ISIN	GB00B0V3WX43
2690	LCGBP02494	UNITED KINGDOM	0	?	ISIN	GB00B0V3WX43



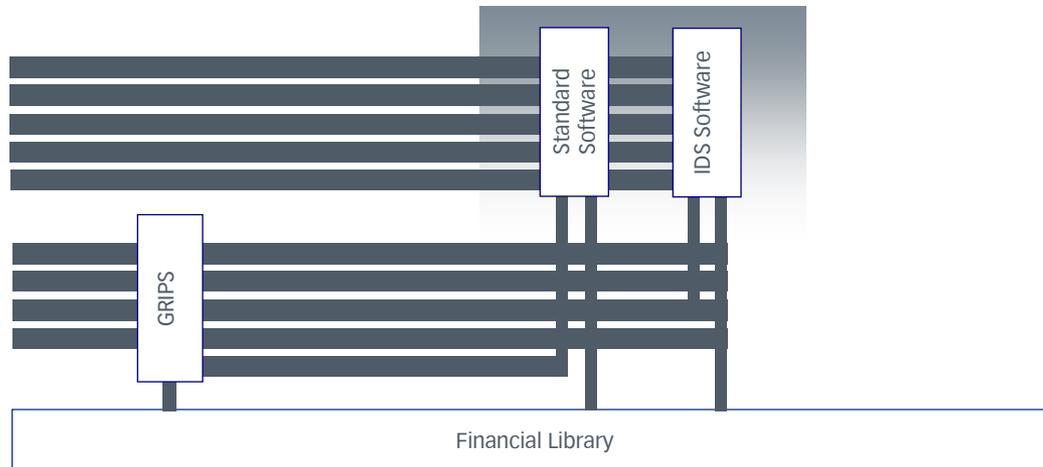
One single investment and its unique representation in the IDS platform:

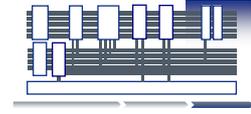
IDS ID	IDS asset name	IDS asset class	IDS asset class description
502379	UK TSY 4% 2016 4.000% 07.09.2016	BB99	FIXED INCOME, BOND, -, -

## IDS has a tool set for calculations of regulatory metrics



GRIPS	IDS Key Figures	SAS Risk Dimensions	IDS Solvency II Engine
<ul style="list-style-type: none"> <li>Calculated market data</li> <li>Swap Zero Curves                             <ul style="list-style-type: none"> <li>Government Bonds</li> <li>Covered Bonds</li> <li>ABS/MBS Curves</li> <li>Inflation Curves</li> </ul> </li> <li>Use of broad range of methods (Bootstrap, Nelson-Siegel, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Duration</li> <li>Yield</li> <li>Maturity</li> <li>Breakdown of derivatives</li> <li>Structured investments</li> <li>Market risk concentrations</li> <li>Counterparty exposure</li> </ul>	<ul style="list-style-type: none"> <li>Variety of scenario analyses and stress tests</li> <li>Interest rate risk</li> <li>Equity risk</li> <li>Currency risk</li> <li>Property risk</li> </ul>	<ul style="list-style-type: none"> <li>SCR calculation</li> <li>SCR contribution</li> <li>Asset information</li> <li>Look-through approach</li> <li>Fund data hub</li> </ul>





# The resultant data enter investment management view and regulatory reporting view

		Fixed Income	Equity	Property	Spreads	Currency	Concentration	
AM 1	Investment Fund 1	CSCR	CSCR	CSCR	CSCR	CSCR	CSCR	Investment Management View SCR drivers on portfolio level <b>IDS Solvency II Factsheet</b>
	Investment Fund 2	CSCR	CSCR	CSCR	CSCR	CSCR	CSCR	
	Investment Fund 3	CSCR	CSCR	CSCR	CSCR	CSCR	CSCR	
AM 2	Investment Fund 4	CSCR	CSCR	CSCR	CSCR	CSCR	CSCR	
	Investment Fund 5	CSCR	CSCR	CSCR	CSCR	CSCR	CSCR	
	Direct Investments	CSCR	CSCR	CSCR	CSCR	CSCR	CSCR	
	Liabilities	CSCR	CSCR	CSCR	CSCR	CSCR	CSCR	
<b>Total</b>		CSCR	CSCR	CSCR	CSCR	CSCR	CSCR	

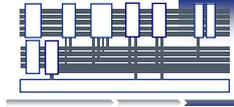
Regulatory Reporting View

SCR not additive → a set of contributions per portfolio is required

**IDS reporting templates for SCR-B3A**

- CSCR Contribution to SCR
- SCR Solvency Capital Requirement (Market Risk)

## Investment management view supports product development, sales and portfolio management



InvestmentDataServices

### Solvency II factsheet

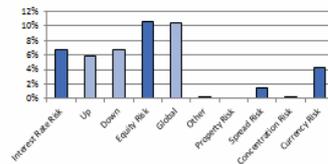
Fund ABC  
as of August 2012

#### Key Information

Fund: Fund ABC  
Benchmark: 70% JPM EMU INVESTMENT GRADE RETURN, 30% MSCI EUROPE T.R. (NET)  
NAV: 388,162,743.451    SCR (abs): 56,244,782.401  
SCR (in %): 14,43%

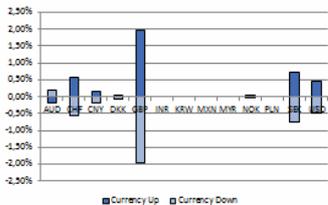
#### SCR Breakdown by Risk Category

Risk Category	Contribution
Interest Rate Risk	6,74%
Up	5,80%
Down	6,74%
Equity Risk	10,57%
Glak-d	19,46%
Other	0,23%
Property Risk	0,00%
Spread Risk	1,44%
Concentration Risk	0,03%
Currency Risk	4,35%



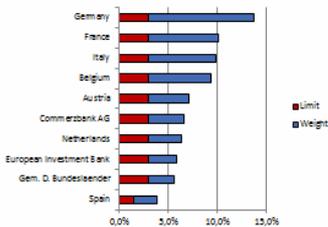
#### Currency Risk (Breakdown)

Currency Up	Currency Down
AUD	-0,18%
CHF	0,56%
CNY	-0,17%
DKK	0,06%
GBP	-1,36%
INR	0,00%
KRW	0,00%
MXN	0,00%
MYR	0,00%
NOK	0,02%
PLN	0,00%
SEK	0,74%
USD	0,47%



#### Concentration Risk (Tabelle und Chart)

Issuer	Weight	Rating
Fed Rep of Germany	10,8%	AAA
French Republic	7,1%	AAA
Republic of Italy	6,3%	A-
Kingd. Of Belgium	6,4%	AA
Rep. Of Austria	4,2%	AAA
Commerzbank AG	3,6%	A
Kingd. of the Netherlands	3,5%	AAA
European Investment Bank	2,3%	AAA
Gen. Deutsche Bundesländer	2,6%	AAA
Spain	2,4%	BBB+



Concentration threshold  
A-AAA: 3,0%  
BBB or lower: 1,5%

No Capital requirement for EEA Government

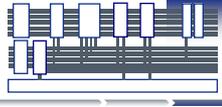
- Portfolio Key Information
- Assess impact of investment fund on insurer's SCR
- Breakdown of CSCR per risk factors
- Breakdown of CSCR currency risk
- Concentration risk (single issuer base)

#### Return on Solvency Capital Requirement

Risk Category	SCR	Performance p.a.*				RoSCR			
		3M	1Y	3Y	5Y	3M	1Y	3Y	5Y
Total	7,95%	16,9%	9,2%	7,6%	5,3%	212%	117%	95%	69%
Interest Rate Risk	5,44%	4,4%	n/a	n/a	n/a	81%	n/a	n/a	n/a
Equity Risk	0,00%	0,0%	0,0%	0,0%	0,0%				
Property Risk	0,00%	0,0%	0,0%	0,0%	0,0%				
Spread Risk	5,52%	7,8%	n/a	n/a	n/a	142%	n/a	n/a	n/a
Concentration Risk	0,84%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Currency Risk	0,72%	-0,9%	n/a	n/a	n/a	neg.	n/a	n/a	n/a
Other		5,3%	n/a	n/a	n/a				

- Return on Solvency Capital Requirement (RoSCR) =  
Return per risk factor from performance contribution analysis /  
(uncorrelated) capital charge imposed by investing in risk factor

## Regulatory reporting view provides information to satisfy investors' regulatory reporting requirements



Currency	Initial NAV before shock per currency	NAV after the "down" shock per currency	NAV after the "up" shock per currency
AUD	-76.890,16	-57.667,62	-96.112,70
CAD	514,94	611,21	1.018,68
CHF			
CNY			
DKK			
GBP			
JPY			
NOK			
SEK			
USD			

Issuer	Market Value per issuer (in EUR)	Rating category according to QIS 5 *	Credit Quality Step according to QIS 5 **)
Issuer 1	2.538.097,13	AA-AAA	1A
Issuer 2	9.595.001,50	AA-AAA	1B
Issuer 3	2.938.610,21	A	2
Issuer	21.331.598,84		

Capital requirement for interest rate risk for the "down" shock	Capital requirement for interest rate risk for the "up" shock	Net liquidity Capital requirement
28.931.283,01	28.148.279,21	-8.218.044,20
28.931.283,01	28.148.279,21	2.782.857,96

ID Code	ID code type	Fund number	Underlying asset category	Geographical zone of issue	Currency Local or foreign	Total amount	Remark
DE0009999999	ISIN	9999	1	EEA	L	12.649.685,15	Government bonds
DE0009999999	ISIN	9999	1	EEA	F	519.470,91	
DE0009999999	ISIN	9999	1	OECD	L	102.914,40	
DE0009999999	ISIN	9999	2	EEA	L	2.184.573,70	Corporate bonds
DE0009999999	ISIN	9999	2	EEA	F	358.826,40	
DE0009999999	ISIN	9999	2	OECD	L	1.203.241,74	
DE0009999999	ISIN	9999	3	EEA	L	58.863.159,48	Equity
DE0009999999	ISIN	9999	6	EEA	L	10.521.820,30	Collateralised
DE0009999999	ISIN	9999	6	EEA	F	239.771,97	
DE0009999999	ISIN	9999	6	OECD	L	1.246.286,15	
DE0009999999	ISIN	9999	7	EEA	L	81.479,82	Cash and equivalents
DE0009999999	ISIN	9999	7	EEA	F	43.178,56	
DE0009999999	ISIN	9999	7	L	L	27.150,63	
DE0009999999	ISIN	9999	7	F	F	5.931,09	
DE0009999999	ISIN	9999	A	EEA	L	322.900,00	Futures
DE0009999999	ISIN	9999	A	OECD	F	6.774,65	
DE0009999999	ISIN	9999	B	EEA	L	-7.083,30	Cells
DE0009999999	ISIN	9999	B	EEA	F	22.511,04	
DE0009999999	ISIN	9999	B	OECD	F	18.665,63	
DE0009999999	ISIN	9999	C	EEA	L	14.862,17	puts
DE0009999999	ISIN	9999	C	OECD	F	-15.074,38	
DE0009999999	ISIN	9999	D	EEA	L	-27.559,58	Swaps
DE0009999999	ISIN	9999	E	EEA	L	185.730,60	Forwards
DE0009999999	ISIN	9999	E	EEA	F	-206.422,89	
DE0009999999	ISIN	9999	F	EEA	L	13.284,00	credit derivatives
DE0009999999	ISIN	9999	F	EEA	F	-185.109,71	
DE0009999999	ISIN	9999	F	OECD	L	-748,00	
DE0009999999	ISIN	9999	F	OECD	F	1.877,55	
DE0009999999	ISIN	9999	3	EEA	L	18.657.825,00	Fund Multi-Strategy
DE0009999999	ISIN	9999	L			-121.658,20	Liabilities

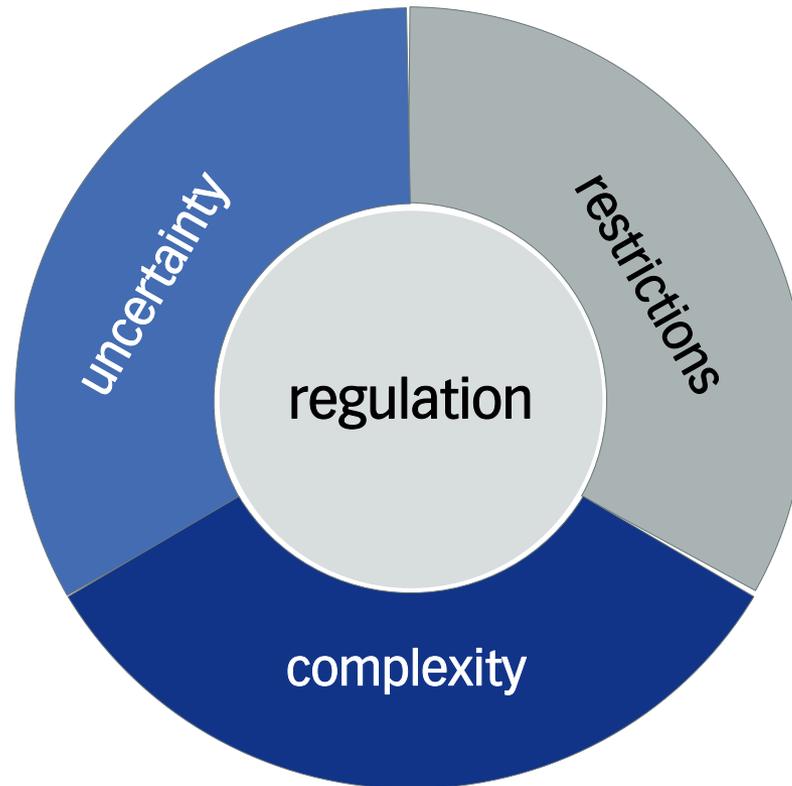
- raw data delivery of CSCR for easy integration into investor's data household
- one table set per portfolio
- insurer sums single values per portfolio
- fine granularity:
  - Single CSCR per risk factor
  - Currency breakdown per single currency
  - Concentration risk per single issuer
- QRT Assets-D4

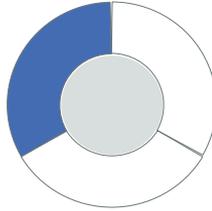
1 Impact of Solvency II on Asset Management

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3 Conclusion

The line of thought can be continued to come to a general conclusion on the success factors in the age of regulation





# Uncertainty about future regulation is best handled by adaptive platforms

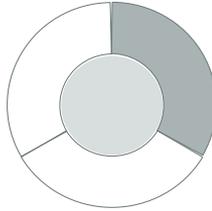
- Regulatory requirements are a **multi-layered** and **dynamic** issue
  - norms and their interpretations changing over time
  - unclear what future will bring
  - lead times for implementation colliding with late clarification of fuzzy issues
  - national implementations
- Solutions often related to sourcing and calculating **additional data items**

## Recommendations

- avoid growth of information silos
- use an adaptive platform that can be easily extended
- flexibility is essential since the design of future requirements is uncertain

## Benefit

- **speedy implementation** at **low cost**



## Restrictions on investment strategies call for optimization efforts

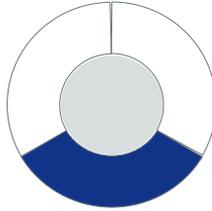
- Regulation **restricts** the universe of **investment strategies** and **vehicles** for investors
  - tendency to deteriorating returns
- Increasing relevance of **value-added services** („second alpha“)
  - optimal investment strategies consider investor’s capital requirements
  - fund reporting services help the investor to fulfill his reporting obligations
- Product development, sales department, portfolio management, investment controlling, reporting department need **access to the same regulation-driven data**.

### Recommendations

- target operating model serves information needs all along the value chain
- provide consistent data, avoid growth of information silos

### Benefit

- synergies in the value chain to offer **optimized products and services**



# Complexity requires experienced people

- Asset management regulation and investor **regulation** are **combined**
  - asset management / insurance / banking different worlds
  - incompatible sector-specific regulation
  - exegesis of the regulatory norms
- **Functional** and **IT people** need **close interaction**

## Recommendations

- think out of the box
- prefer diversity

## Benefit

- expertise embedded in the solution **makes a difference** for the investor

## Takeaways

1

Regulation has become a main driver for change in asset management.

2

A flexible integrated production platform, consistent data management and cross-sector cross-functional expertise are key success factors.

3

Access to these factors is a competitive advantage thanks to cost savings and enhanced product quality.



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