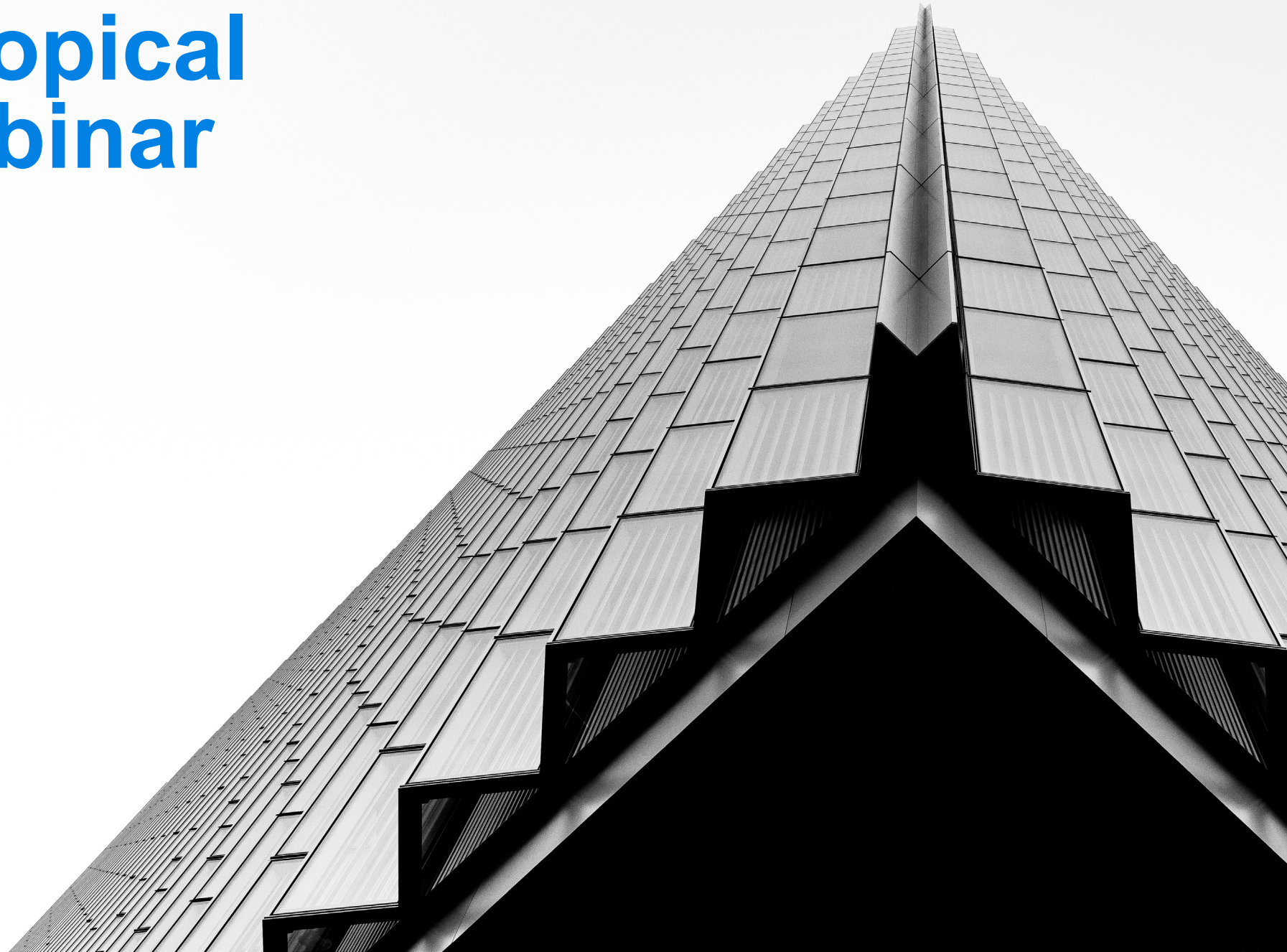


Milliman Topical Issues Webinar

Andrew Kay
Gillian Tucker
Eamon Comerford
Patrick Meghen

30 March 2022



Agenda

1

Welcome &
Introduction
Andrew Kay

2

IFRS 17 Update
/ Q&A
Gillian Tucker

3

Climate Risk
/ Q&A
Eamon
Comerford

4

Outsourcing
/ Q&A
Patrick Meghen

5

Q&A
All speakers

6

Wrap up &
Close
Andrew Kay



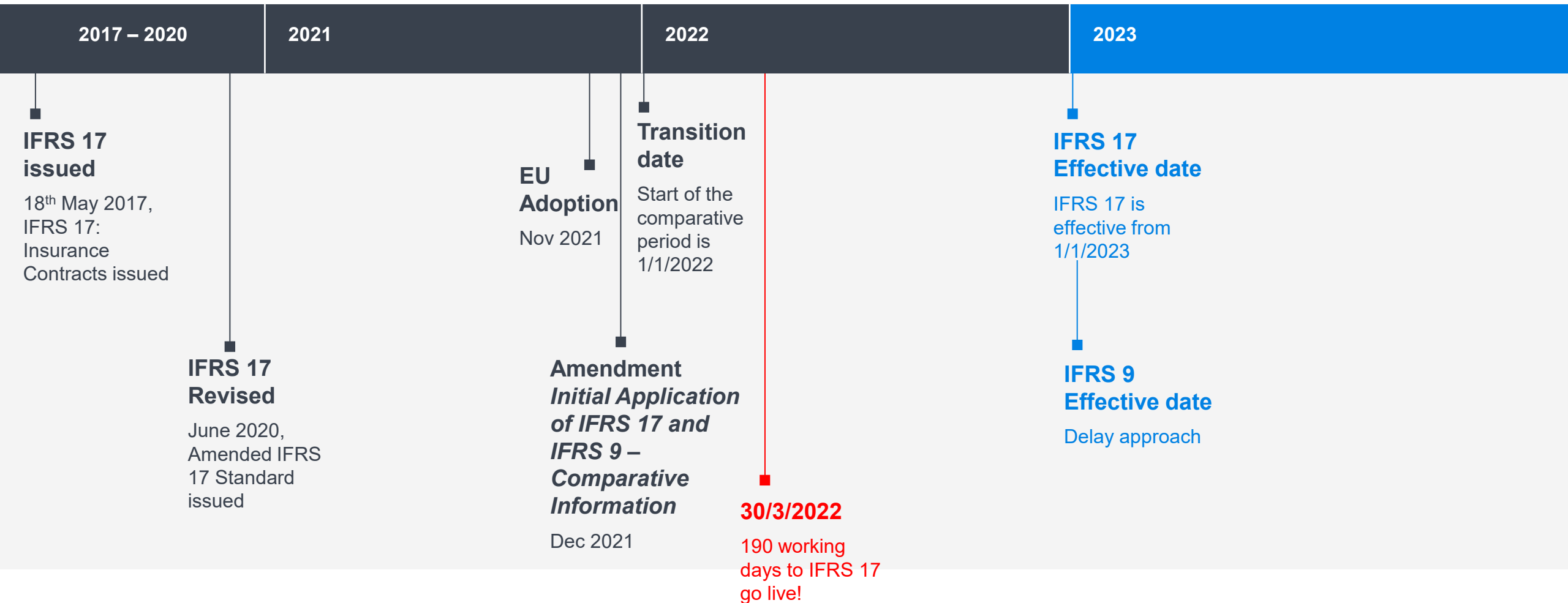
IFRS 17: Latest Developments and Model Validation

Gillian Tucker

30 March 2022



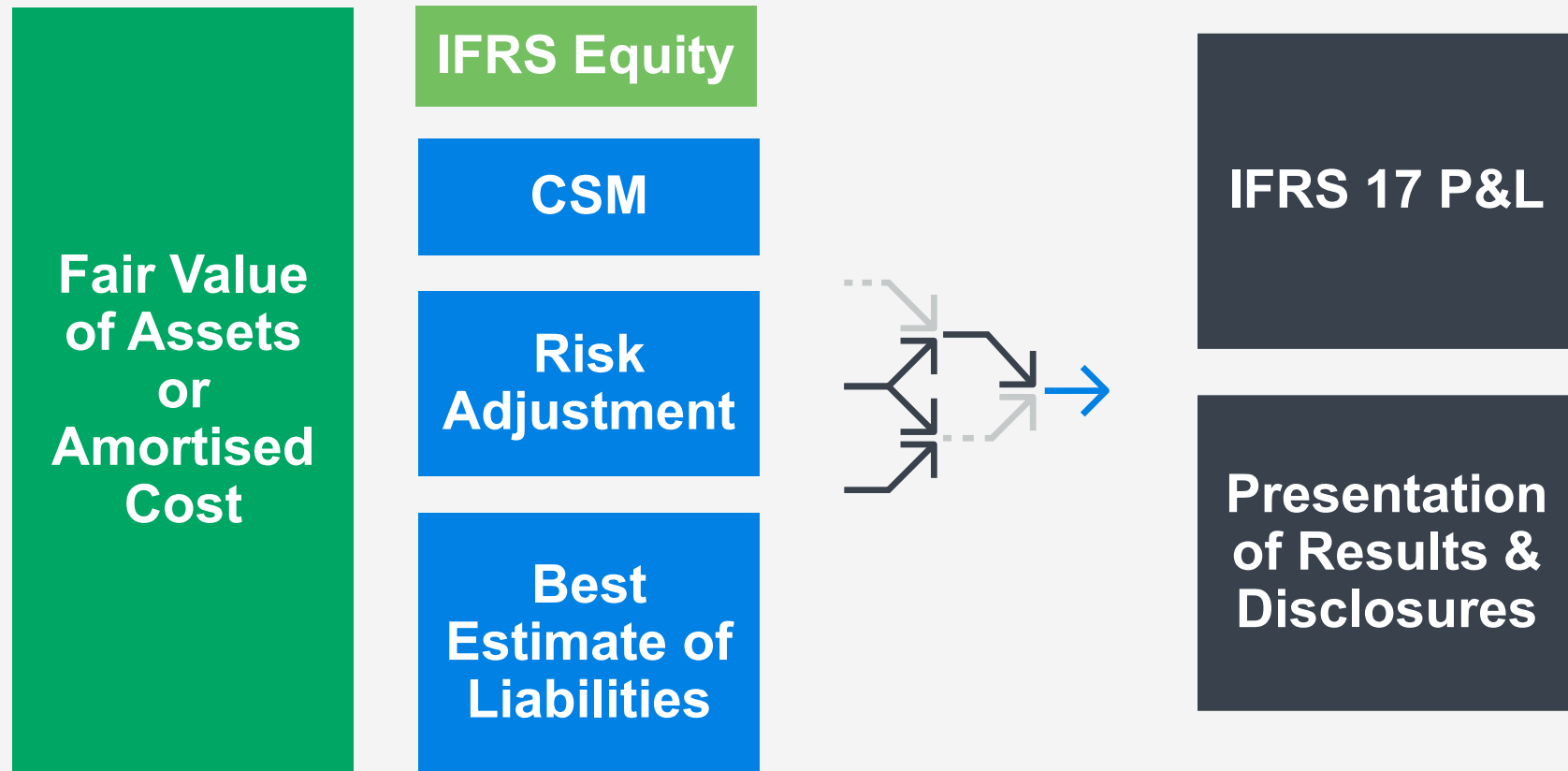
IFRS 17 Timeline



IFRS 17 – Importance of Model Validation

What's New?

IFRS 17 Balance Sheet



IFRS 17 – Importance of Model Validation

Where does Model Validation fit in?



Model Development

- Testing functionality of calculations



Model Validation

- Comprehensive testing – covering inputs, calculations, outputs, model governance, documentation



Results Production

- Model validation should occur before results are produced and sent to external audit



Audit Sign-off

- Occurs later in the process
- Model validation can be a useful input

IFRS 17 – Who Should Carry Out Model Validation?

Internally

- Risk Function
- Actuarial Function
- Finance Function

Externally

- External Provider

IFRS 17 – Sample Validation Approach

Review data quality

- E.g. assigning data correct unit of account?



Review assumptions and methodology

- Including expert judgements and simplifications
- Against IFRS 17 requirements and market practice



Test model implementation

- Sample policy testing
- Reconciliations against independent calculations
- Reconciliation to other financial metrics
- Cover all aspects of calculations

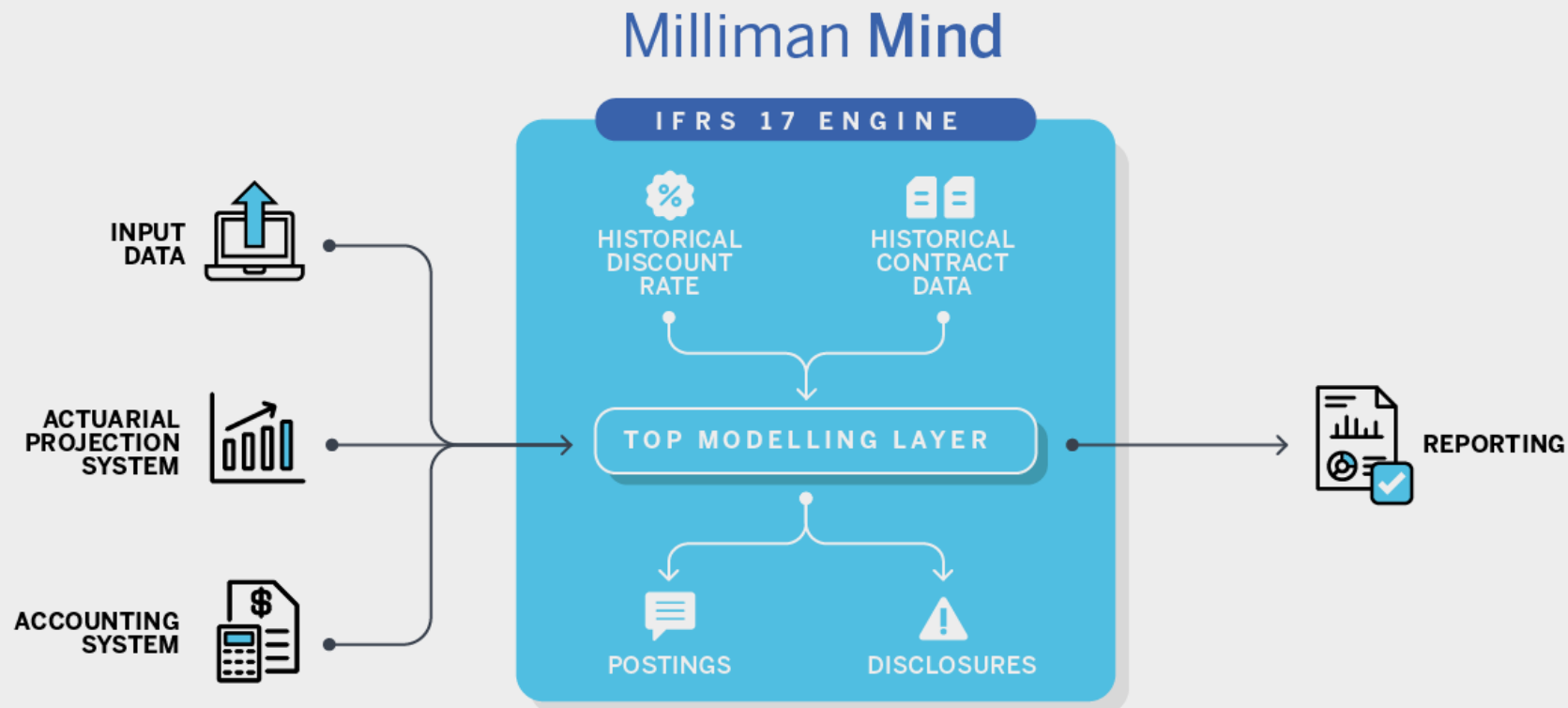


Review presentation of results and disclosures

- Against IFRS 17 requirements



Milliman Mind IFRS 17



Q&A



Climate Risk: What are the expectations for Irish Insurers?

Eamon Comerford

30 March 2022

IPCC Sixth Assessment – European Fact Sheet

Climate change impacts and risks

- The world is now 1.1°C warmer, affecting natural and human systems in Europe.
- Impacts of heatwaves and droughts have become more frequent.
- Largely negative impacts are projected for the southern areas of Europe.



Key Risk 1

Increased mortality and changes in ecosystems due to heat

- Number of deaths and people at risk of heat stress will increase two to three-fold at 3°C global warming level (GWL).
- Suitable habitats for current ecosystems will decline with increased severity above 2°C GWL.



Key Risk 2

Heat and drought stress on crops

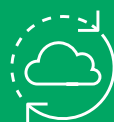
- Agricultural production losses are projected for most of Europe across the 21st century, and these will not be offset by potential gains in northern Europe.
- Irrigation is an effective adaptation but will be very limited due to water supply shortages above 3°C GWL.



Key Risk 3

Water scarcity

- More than a third of the population of southern Europe will be exposed to water scarcity at 2°C GWL.
- For western central Europe, and cities, the risk of water scarcity increases strongly just under 3°C



Key Risk 4

Flooding and sea level rise

- Above 3°C GWL the damage costs and number of people affected by flooding, both river and precipitation, may double.
- Coastal flood damage is projected to increase ten-fold by the end of the 21st century.
- Sea level rise presents a threat to coastal communities particularly after the year 2100.



Adaptation Options

1. Risk 1: Building interventions and urban planning to manage heat risks, restoration of ecosystems.
2. Risk 2: Irrigation, changes in farming practices.
3. Risk 3: Water efficiency improvements, water reuse and land use change.
4. Risk 4: Early warning systems, land use change, managed retreat.

































Climate-related risks for insurers

RISK	DEFINITION
Physical risk	<p>Physical risks are risks associated with the direct impact of climate change. Physical risks can be divided into two further categories, acute and chronic.</p> <ul style="list-style-type: none">■ Acute physical risks are event-driven, including increased severity of extreme weather events such as cyclones, hurricanes, or floods.■ Chronic physical risks arise from longer-term shifts in climate patterns, e.g. sustained higher temperatures that may cause rising sea levels or heatwaves.
Transition risk	<p>Transition risks arise from the transition to a low-carbon, greener economy. This transition could result in large changes in value of certain assets or higher costs of doing business. Regulation and reputation risks can also arise as a result of this transition.</p>

Reputational risk - example

- Insure Our Future campaign
- Includes various participating action groups
- Currently monitoring and ranking insurance companies based on how well they are addressing climate change
- [2021 Scorecard on Insurance, Fossil Fuels and Climate Change](#)

INSURER	COUNTRY	Fossil Fuel Insurance		Fossil Fuel Investment		Other Climate Leadership	
		RANK	SCORE (0-10)	RANK	SCORE (0-10)	RANK	SCORE (0-10)
Allianz		1	4.7	3	4.4	2	4.5
AXA		2	4.6	1	5.4	3	4.0
AXIS Capital		3	3.9	4	3.5	11	0.0
Swiss Re		4	3.6	4	3.5	4	3.8
Zurich		5	3.2	6	3.3	5	3.5
Hannover Re		6	3.2	12	1.1	11	0.0
Mapfre		7	2.8	8	1.7	10	0.7
Generali		8	2.6	7	2.9	7	3.3
SCOR Re		9	2.1	1	5.4	8	3.1
QBE		10	2.1	13	1.0	9	2.2
Aviva		11	1.8	23	0.1	1	5.0
Munich Re		12	1.8	9	1.6	6	3.5
HDI Global		13	1.3	9	1.6	11	0.0
The Hartford		13	1.3	11	1.5	11	0.0
Tokio Marine		15	1.2	16	0.4	11	0.0
Lloyd's		16	0.9	16	0.4	11	0.0
MS&AD		17	0.8	16	0.4	11	0.0
Samsung FM		17	0.8	16	0.4	11	0.0
Chubb		19	0.7	15	0.6	11	0.0
Liberty Mutual		20	0.4	14	0.8	11	0.0
Ping An		21	0.2	16	0.4	11	0.0
Sompo		21	0.2	16	0.4	11	0.0
W.R. Berkley		23	0.0	16	0.4	11	0.0
AIG		23	0.0	24	0.0	11	0.0
Berkshire Hathaway		23	0.0	24	0.0	11	0.0
Convex		23	0.0	24	0.0	11	0.0
Everest Re		23	0.0	24	0.0	11	0.0
PICC		23	0.0	24	0.0	11	0.0
Sinosure		23	0.0	24	0.0	11	0.0
Travelers		23	0.0	24	0.0	11	0.0

Timeline of EIOPA's main climate related activity



Mar 2019
EIOPA joins the Sustainable Insurance Forum

Dec 2019
EIOPA publishes thematic article on climate risk assessment of the sovereign bond portfolio of European insurers

April 2021
EIOPA publishes opinion on the supervision of the use of climate change risk scenarios in ORSA

July 2021
EIOPA publishes methodological paper on the potential inclusion of climate change in the standard formula

Sept 2019
EIOPA issues opinion on sustainability within Solvency II

Dec 2020
EIOPA publishes first assessment of sensitivity analysis of climate-related transition risks.

July 2021
EIOPA publishes report on non-life underwriting and pricing in light of climate change

December 2021
EIOPA consults on the application guidance on climate change risk scenarios in the ORSA

CBI's Expectations

- On the [3 November 2021](#), the CBI wrote to all regulated financial services providers, including (re)insurers, setting out its expectations regarding climate and other ESG issues.
- The expectations are to be applied in a proportionate manner, aligned to the nature, scale and complexity of the individual firm.
- Expectations are not prescriptive in nature and are not legally binding, but they are based on international best practice.
- Five key areas:



Poll question:

Which of the CBI's five identified areas of focus do you expect to be most challenging for your firm to address?

Poll results

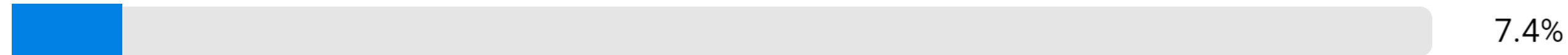
Which of the CBI's five identified areas of focus do you expect to be most challenging for your firm to address?

Governance



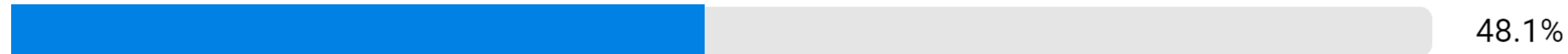
3.7%

Risk Management Framework



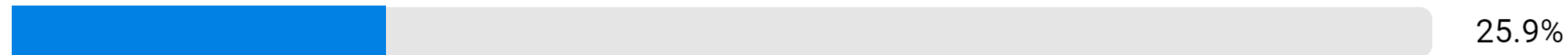
7.4%

Scenario analysis



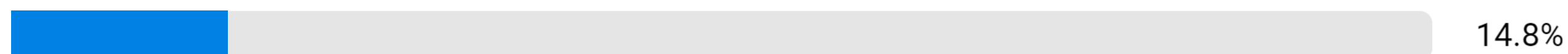
48.1%

Strategy and business model risk



25.9%

Disclosures



14.8%

How should the CBI's expectations be met?

Governance

- Firms need to demonstrate clear ownership by the board of climate risks affecting the firm.
- Specialist expertise is encouraged by the CBI where climate risk exposures are material, or where gaps in understanding are present.
- The CBI noted that the board should promote a culture that places emphasis on climate issues.



Risk Management

- Firms need to understand the impact of climate change on risk profiles and enhance risk management frameworks to include climate risks.
- Firms should begin by identifying their most material risk exposures and developing metrics and key risk indicators in order to monitor these risks as appropriate.
- A firm's control functions should then assess the effectiveness of climate risk management including alignment with the board's climate risk strategy.



CBI's Expectations

Scenario Analysis

- Scenario analysis and stress testing are “critical”
- Developing appropriate climate related scenarios is considered a very challenging aspect of climate risk management.
- When developing scenarios, companies should consider differing transition paths to a carbon-neutral future, as well as a path where no transition occurs.



Strategy and Business Model Risk

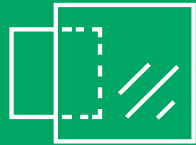
- Business model analysis should be carried out to determine the impacts of climate risks and opportunities on the firm's risk profile and business strategy.
- Insights gained from scenario analysis should feed directly into the strategy setting process.



CBI's Expectations

Disclosures

- The CBI wants firms to adhere to transparency and disclosure principles and requirements which are focused on consumer protection.
- The CBI has specifically said that firms must not engage in greenwashing.



What are the potential impacts on insurers' balance sheets?

The IAIS published its first quantitative study on the impact of climate change on insurers' investments in September 2021.

- Report covered 75% of the global insurance sector.

Investment exposure

- Showed that more than 35% of insurers' investment assets could be considered "climate-relevant" i.e. exposed to climate risks.
 - Within the equities, corporate bonds and property asset classes, most of the climate-relevant exposures relate to counterparties in the housing and energy-intensive sectors.
- Report highlights significant regional differences in terms of balance sheet asset composition and exposure to climate-related risks.

Capital impact

- Under an orderly transition scenario, results estimate a **drop in insurers' available capital of around 7-8% of their required capital.**
- This drop increases to over 14% under a disorderly transition scenario.
- And increases even further to almost 50% under a "too little, too late" scenario.

Source: Global Insurance Market Report (September 2021): The impact of climate change on the financial stability of the insurance sector



What's next?

- Over 2022, we expect that the CBI will begin to engage with (re)insurers to understand their climate-related risk exposures and to understand what (re)insurers are doing to meet the CBI's expectations in this area.
- *“All [financial service providers] can now expect the [CBI] to become increasingly active and intrusive in its approach to the supervision of climate change risks.”* – CBI Insurance Newsletter, December 2021.
- Many (re)insurers have already added climate risk management to their risk management priorities for 2022, with a focus on climate risk workshops, ORSA deep dives, and board and senior management training.
- Irish companies that are part of larger European groups, or have relationships with UK companies, may already be further down the track in understanding their risk exposures.

Q&A





Outsourcing Guidance Update

Patrick Meghen

30 March 2022

Agenda

Increased Focus on Outsourcing



Irish Legislative Journey



Key Areas & Themes



Increased Focus on Outsourcing

Why the increased focus on outsourcing?

Previously, outsourcing was considered as part of the wider risks associated with entities and supervised as part of the general processes and interaction



Now, outsourcing is a theme in itself and is being supervised at a holistic level

Why?

- Systemic Risk
- Natural next area for improvement / an existing area of weakness
- Widespread and increasing use of outsourcing



Widespread usage of outsourcing

Range

- Median number of OSPs in insurance industry was 15
- Some respondents had >1,000 OSPs



Increasing

- 40% expected to undertake additional outsourcing in next 12-18 months



IT

- 80% of insurance firms outsource information systems management and maintenance



Other popular areas

- Investment & Asset Mgt services – 76%
- Claims admin – 58%
- Application processing – 22%



Chart 1: Median number of outsourcing arrangements per regulated firm



Source: Central Bank of Ireland: Discussion Paper –Outsourcing Findings and Issues for Discussion

Irish Legislative Journey

Outsourcing Requirements

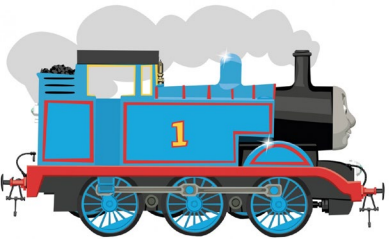
... it's complicated!

- **Solvency II**
 - Directive
 - Delegated Regulations
 - EIOPA Guidelines on System of Governance
- **CBI Notification Process** for (Re)Insurance Undertakings when **Outsourcing Critical or Important Functions or Activities** under Solvency II
- Cross Industry Guidance in respect of **Information Technology and Cybersecurity Risks**
- Central Bank of Ireland Guidance on **Fitness and Probity Standards** 2018
- Central Bank of Ireland Guidance for (Re) Insurance Undertakings on the Fitness and Probity Amendments 2015

Source: Central Bank of Ireland: Discussion Paper –Outsourcing Findings and Issues for Discussion

Relevant Regulation, Guidance and Reports
Legislation
Central Bank of Ireland AIF Rulebook
Central Bank (Supervision and Enforcement) Act 2013 (Section 48(1))(Investment Firms) Regulations 2017 – S.I. No 604/2017.
Central Bank (Supervision and Enforcement) Act 2013 (Section 48(1)) (Undertakings for Collective Investment in Transferable Securities) Regulations - S.I. No. 420 of 2015, S.I. No 307 of 2016, S.I. No. 344 of 2017
Commission Delegated Regulation (EU) 2017/565 of 25 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive
European Communities (Undertakings for Collective Investment in Transferable Securities) Regulations 2011 – S.I. No 352/2011.
European Union (Alternative Investment Fund Managers) Regulations – S.I. No. 257/2013, S.I. No. 379/2014
European Union (Markets in Financial Instruments) Regulations 2017 – S.I. No. 375/2017.
European Union (Undertakings for Collective Investment in Transferable Securities) (Amendment) Regulations 2016
European Union (Insurance and Reinsurance) Regulations 2015 (Solvency II Regulations)
Central Bank of Ireland Consumer Protection Code 2012
European Union (Payment Services) Regulations 2018
Companies Act 2014
Central Bank of Ireland Fitness and Probity Standards 2014
Regulatory Requirements, Guidance and Reports
Basel Committee on Banking Supervision Principles for the Sound Management of Operational Risk 2011
Central Bank of Ireland Fund Administrators Guidance 2017
Central Bank of Ireland Fund Management Companies - Guidance 2016
Central Bank of Ireland Investment Firms Questions and Answers 5 th Edition 2018
Committee of European Banking Supervisors (CEBS) ¹¹ Guidelines on Outsourcing 2006
European Banking Authority Guidelines on Internal Governance under Directive 2013/36/EU 2017
European Banking Authority Recommendations on Outsourcing to Cloud Service Providers 2017
Financial Stability Board Principles for an Effective Risk Appetite Framework 2013
European Insurance and Occupational Pensions Authority Guidelines on Systems of Governance 2016
Central Bank of Ireland Credit Union Handbook 2018
Central Bank of Ireland Cross Industry Guidance in respect of Information Technology and Cybersecurity Risks 2016
Central Bank of Ireland Guidance on Fitness and Probity Standards 2018
Central Bank of Ireland Report on Anti-Money Laundering/Countering the Financing of Terrorism and Financial Sanctions Compliance - Life Insurance Sector 2016, Irish Funds Sector 2015, Banking Sector 2015

Activity on outsourcing



1.

On site inspections & cross sector survey



2.

Discussion Paper –
19th November 2018



3.

Industry Event on
Outsourcing on
30 April 2019

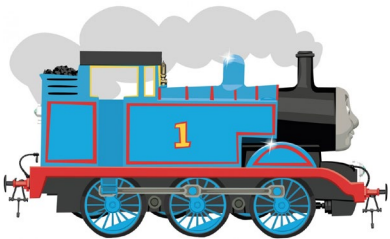


4.

EIOPA Consultation
– Cloud Outsourcing
01 July 2019



Activity on outsourcing



5.

EBA Guidelines on Outsourcing
September 2019



6.

EIOPA Guidelines
- Cloud Outsourcing
- 06 Feb 2020



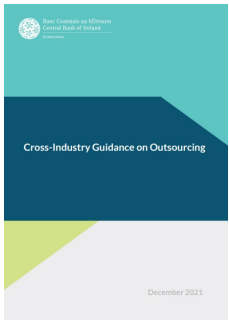
7.

Draft Cross-Industry Guidance
February 2021



8.

Cross-Industry Guidance on Outsourcing
December 2021



Outsourcing Requirements

... it's even more complicated!

- All the previous requirements remain
- But the guidelines give a good overall view of what should do. If you comply with the guidelines, you are doing most things right
- Except for notifications, and cloud outsourcing, and...

Source: Central Bank of Ireland: Discussion Paper –Outsourcing Findings and Issues for Discussion

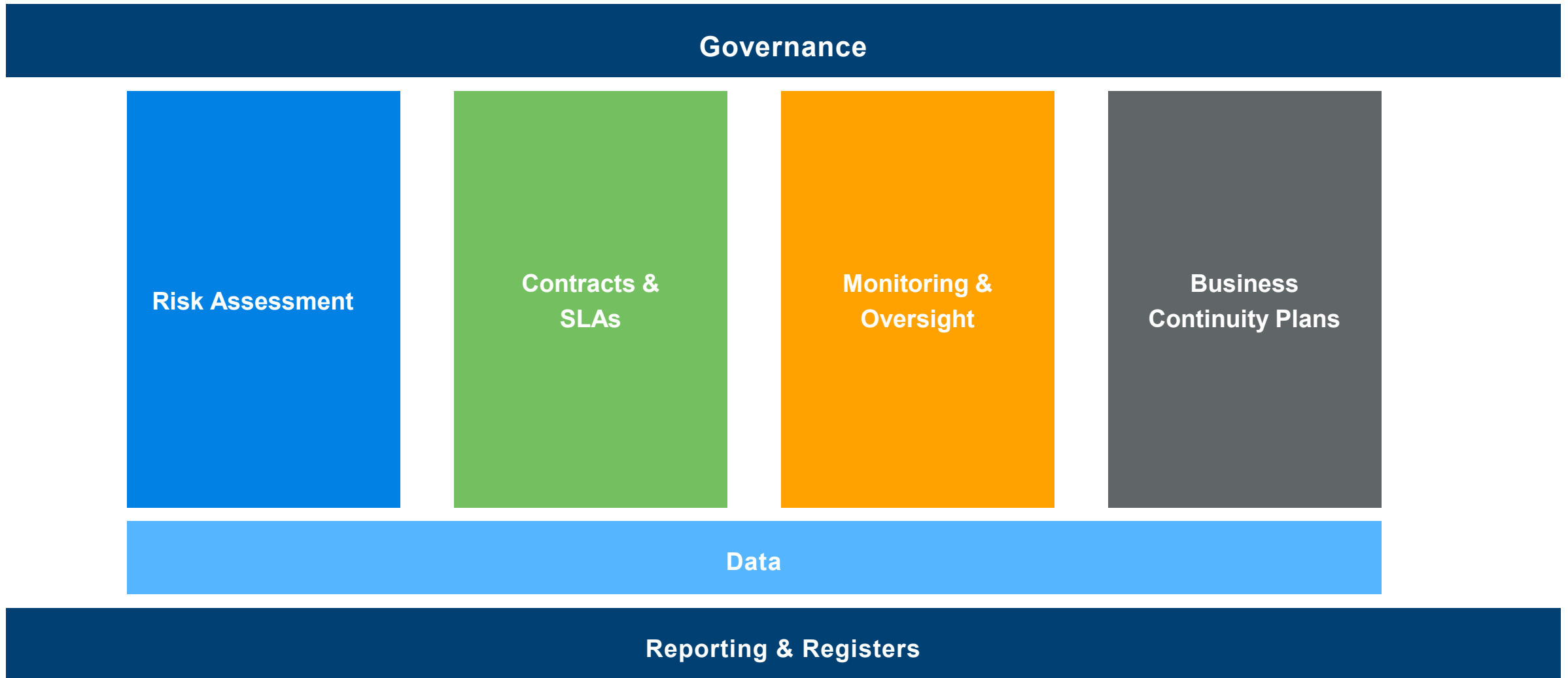
Relevant Regulation, Guidance and Reports
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Central Bank of Ireland Credit Union Handbook 2018
Central Bank of Ireland Cross Industry Guidance in respect of Information Technology and Cybersecurity Risks 2016
Central Bank of Ireland Guidance on Fitness and Probity Standards 2018
Central Bank of Ireland Report on Anti-Money Laundering/Countering the Financing of Terrorism and Financial Sanctions Compliance - Life Insurance Sector 2016, Irish Funds Sector 2015, Banking Sector 2015
EIOPA Guidelines on Outsourcing to Cloud Service Providers
Central Bank of Ireland - Cross-Industry Guidance on Outsourcing

Key Themes & Areas

Common themes

	Existing Requirements	CBI Guidance	EBA Guidance
Governance	General Requirements	Governance	Governance, Policy
Risk Assessment	Risk Assessment	Outsourcing Risk Assessment & Management	Risk assessment
Risk Assessment on-boarding	On-Boarding	Due Diligence	Pre-outsourcing analysis Due Diligence
Contracts & SLAs	Contracts	Contractual Arrangements and SLAs	Contractual phase
Monitoring & Oversight	On-going Monitoring & Oversight	Ongoing Monitoring and Challenge	Oversight
Business Continuity Plans	Business Continuity Plans	Disaster Recovery and Business Continuity Management	Business Continuity Plans Exit strategies
Data	Data Protection	Ongoing Monitoring and Challenge	Security of Data & Systems

Components of Outsourcing Management Framework



Components of Outsourcing Management Framework



Components of Outsourcing Management Framework

Risk Assessment

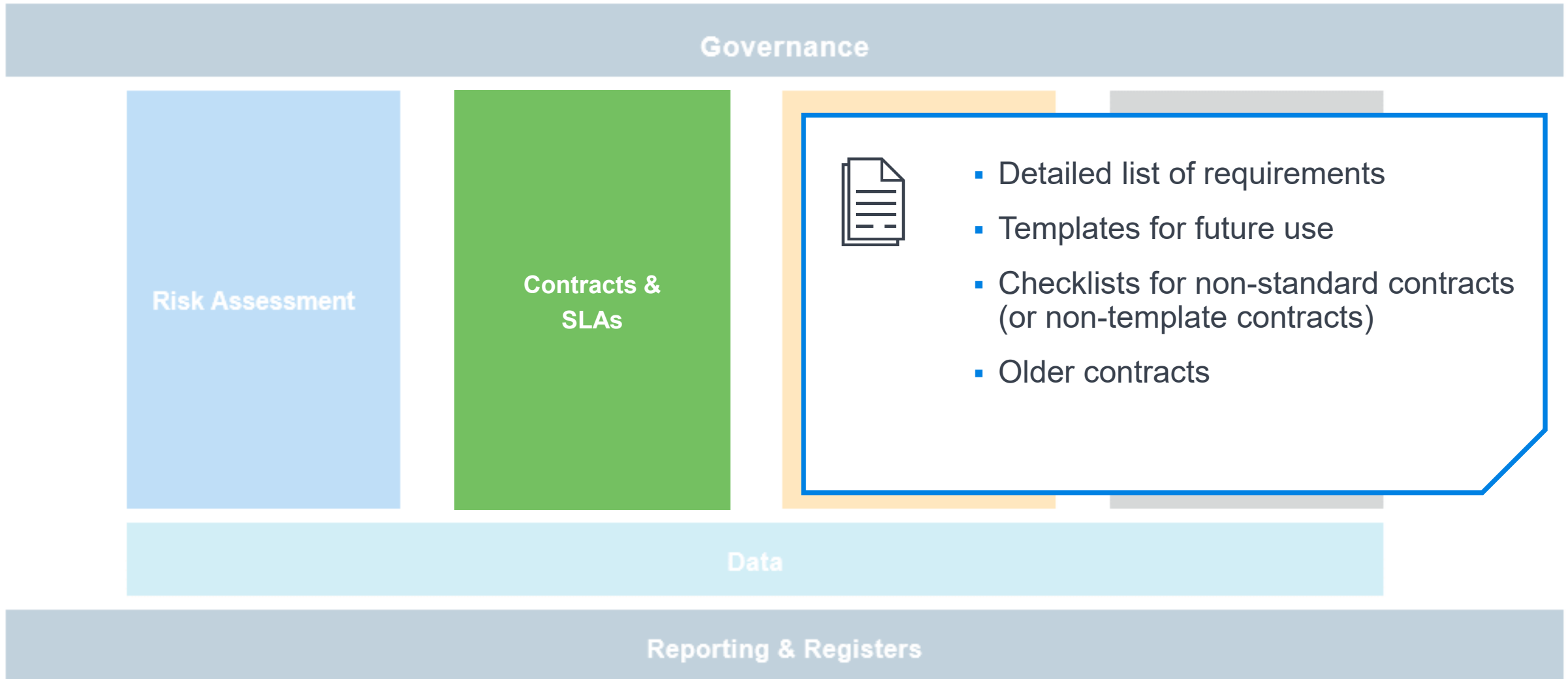


- On-boarding
- Regular Risk Assessments
- Due Diligence
- IT
- Notification Processes
- Sub-Outsourcing
- Retaining Skills & Knowledge
- Concentration Risk
- Offshoring

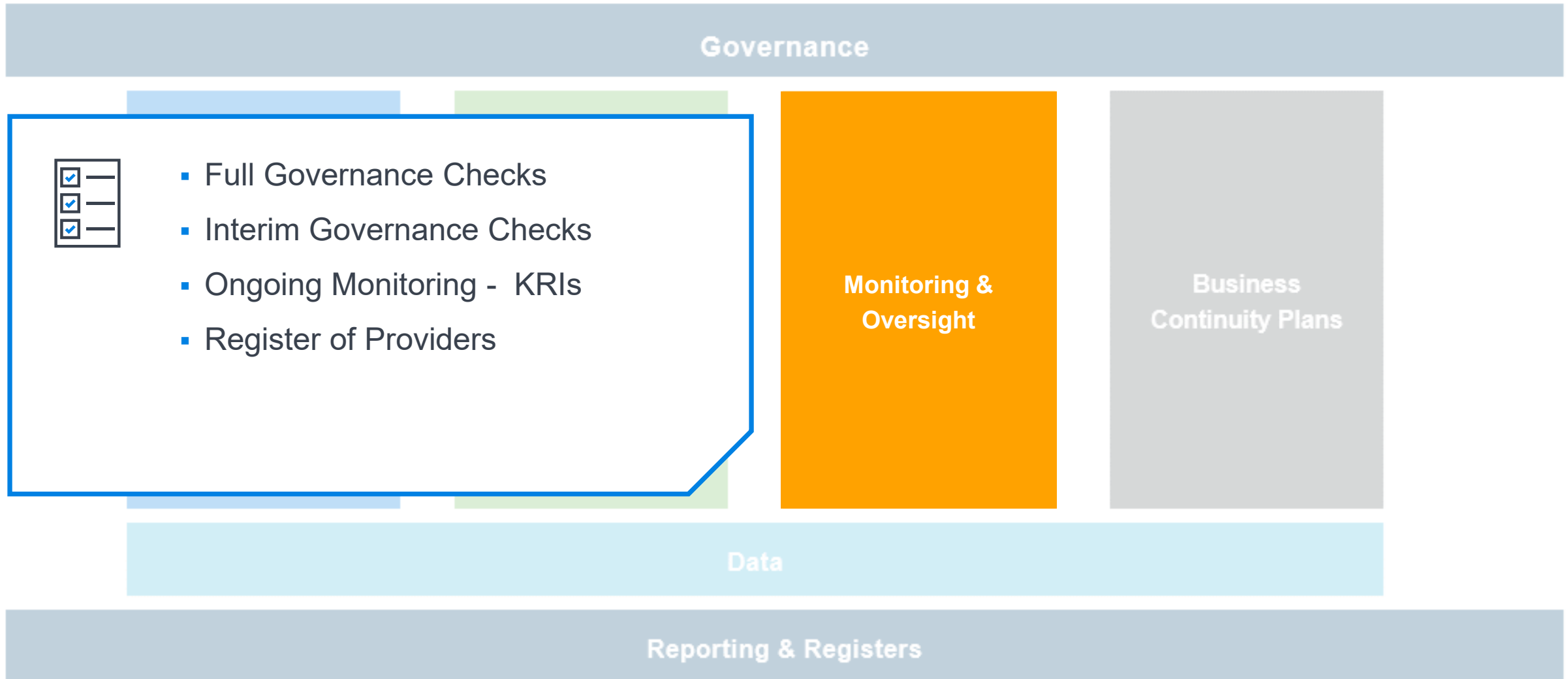
Business Plans

Reporting & Registers

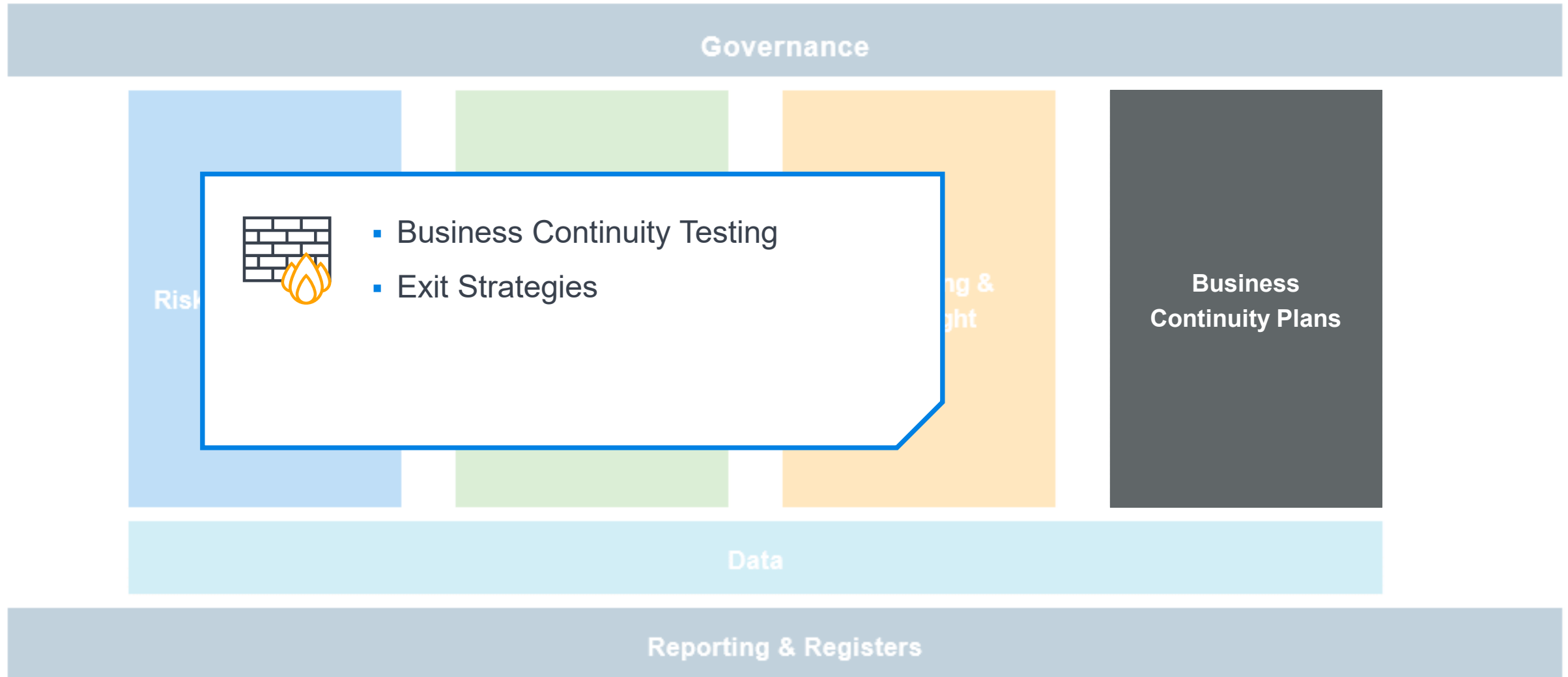
Components of Outsourcing Management Framework



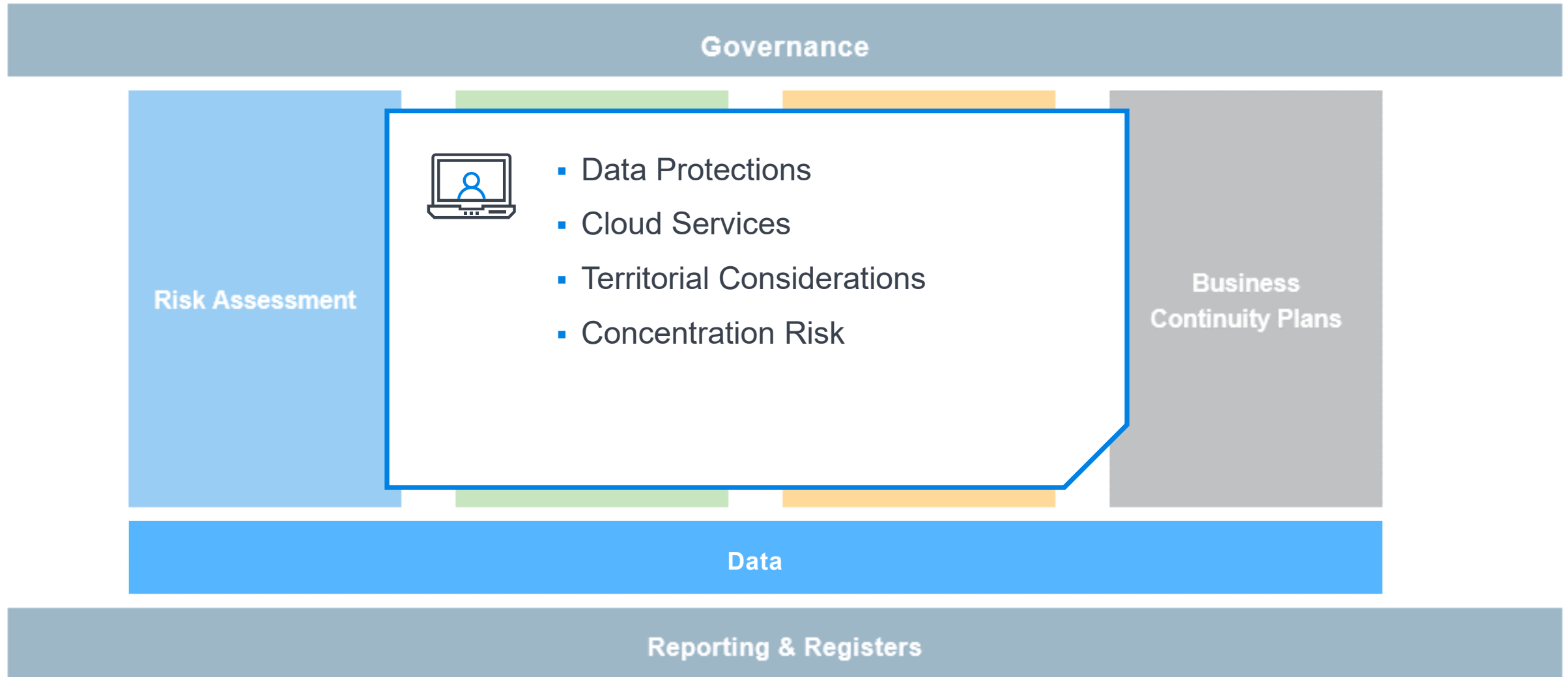
Components of Outsourcing Management Framework



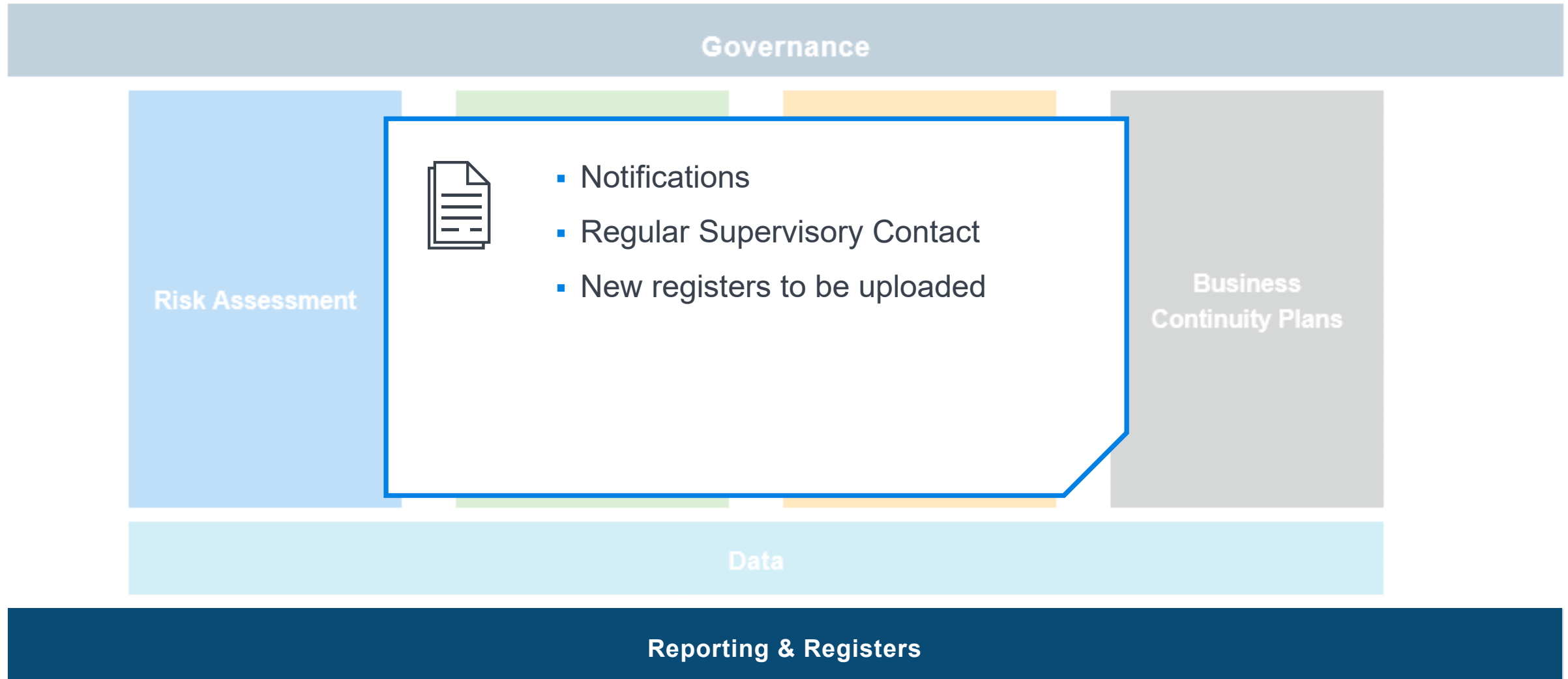
Components of Outsourcing Management Framework



Components of Outsourcing Management Framework



Components of Outsourcing Management Framework



Reporting & Registers

Register

- Circa 50 fields per entity and summary statistics
- Some rows are figures, dates, names etc.
- Some are freeform text answers (short narrative required)

Key Elements	EBA Guidelines Reference	Guidance for Firms
All Outsourcing Agreements		
	Para 54(a) A reference number for each outsourcing arrangement.	Suggest form of unique identifier
	Para 54(b) - the start date and, as applicable, - the next contract renewal date, - the end date - and/or notice periods for the service provider and for the institution. For Fund Administrators the date when permission granted and the "Go Live" date	Report dates in a YYYYMMDD format Start Date End Date Notice Period (In months) Contract Renewal Date (Blank Fields will be interpreted as Not Applicable)
	Para 54(c) A brief description of the outsourced function (See EBA Spreadsheet for sample list of functions and activities), including the data that are outsourced and whether or not personal data (e.g. by providing a Yes or No in a separate data field) have been transferred or if their processing is outsourced to a service provider. The Guidance on Outsourcing for Fund Administrators requires: Details of Final NAV Model and the Funds which utilise the arrangement	Firms to describe the function in 250 characters. Personal Data - Y/N

Source: Central Bank of Ireland: Cross-Industry Guidance on Outsourcing

Q&A





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