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# ERM: Beyond Theory, Practitioners' Perspectives


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# Agenda

- **Key takeaways from the ERM guide research**
- **The evolution of ERM**
- **Practitioner presentations:**
  - IAMGOLD
  - Zurich

  *[The guide includes five detailed case studies organized along their ERM continuum journey, from starting point to end point: A large equipment dealer, IAMGOLD, HCA, JCI and Zurich]*
- **Q&A**

# The ERM Inflection Point

**Why are more companies rethinking ERM?**

- **Post financial crisis awakening**
- **Board pressure**
- **Greater uncertainty**
- **New technologies (higher focus on analytics)**
- **S&P ratings (impact TBD)**

# SUCCESSFUL ERM PROGRAMS

- RISK Strategic Planning
- RISK as Downside and Upside
- Quantify RISK
- RISK Capacity

The companies in the guide each has a different approach to ERM. But each exhibits some or all of these factors:

- They connect risk and strategic planning
- They think about risk as downside and an upside
- They put numbers around risk
- They consider risk capacity

# SUCCESSFUL ERM PROGRAMS

RISK Strategic Planning

RISK as Downside and Upside

Quantify RISK

RISK Capacity

- The objective is to connect all the dots
- Risk becomes part of the strategic planning process
- Focus is on key risks to business performance (away from compliance and operational only)
- Identify what can prevent the company from achieving its strategic objectives

# SUCCESSFUL ERM PROGRAMS

RISK Strategic Planning

RISK as Downside and Upside

Quantify RISK

RISK Capacity

- Risk tolerance needs to be defined clearly
- Decide which areas are ripe for “more” risk in order to achieve strategic objectives
- Define no-risk tolerance areas
- See risk as an opportunity
- Risk management vs. risk minimization

# SUCCESSFUL ERM PROGRAMS

RISK Strategic Planning

RISK as Downside and Upside

Quantify RISK

RISK Capacity

- This is probably the toughest area
- There are new ways emerging for risk quantification
- Companies are putting numbers around risk to make decisions about tolerance
- It’s not about math and algorithms: Risk can be quantified using financial statements methods

# SUCCESSFUL ERM PROGRAMS


- Capital management relates to how much risk the business can absorb
- It’s a common insurance/bank concept
- There are ways for non-financials to follow
- Using credit rating as one of the risk tolerance measures is a starting point
- Risk-adjusted capital allocation can help

# Conclusion

- There's no single way to do ERM
- Get buy-in from the top
- Keep it fresh
- Get the right champion
- Select the right level of complexity for your organization
- Set up an ERM infrastructure
- Condense the information
- Be realistic about timing

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# Evolution of ERM

**Chris Mandel**
**SVP, Strategic Solutions**
**Sedgwick, Inc.**

# ERM - SIMPLY STATED

- **Is a discipline that establishes and governs an orchestrating framework for the management of risk, enterprise-wide *(coordinates siloed risk management efforts)***
- **Its purpose is to help company's deliver consistent company performance *("achievement of objectives")***
- **Improves decision-making by supplying current and relevant risk information and analysis *("informing and directing")***
- **Is effected by the Board, carried-out by Management and applied to planning, budgeting, business performance review and decision-making *(integrated into the business)***

***What it IS NOT is a "LIST OF RISKS"***

# Risk Management Capability Evolution

**Hazard Risk Management**

- Corporate Insurance Program
- Contractual Risk Transfer
- Active Claims Management
- Robust Prevention Culture

**Basic ERM Implementation**

Formal enterprise wide:
- Risk Identification
- Risk Assessment
- Risk Response
- Risk Control Activities
- Risk Monitoring
- BU Compliance Reporting

**Full ERM Implementation**

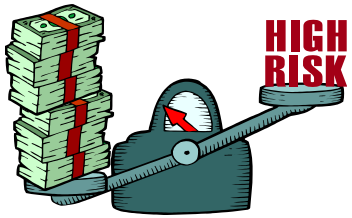
- Common terminology/standards
- **Fully integrated into strategic planning**
- Data quantified where possible
- Fully integrated across functions & BUs
- Fully understood accountabilities for risk
- Cost of all risk types tracked & managed
- Compliance & regulatory reqmts met

**Advanced Performance**

- **CEO has key risk info to manage performance**
- Fully integrated & "embedded" risk discipline in operations and corporate culture

**Improved Risk Awareness, Compliance, Decision-making**
**Corporate Performance and Increased Value Creation**

**Insurable Risks**




**Key Business, Financial & Operational Risks**


**All Risk Stakeholders Fully Enabled to Manage All Significant Risks To Mission Accomplishment**

*Adoption of ERM Practices*

*Ability to Align Strategies for Company Performance*

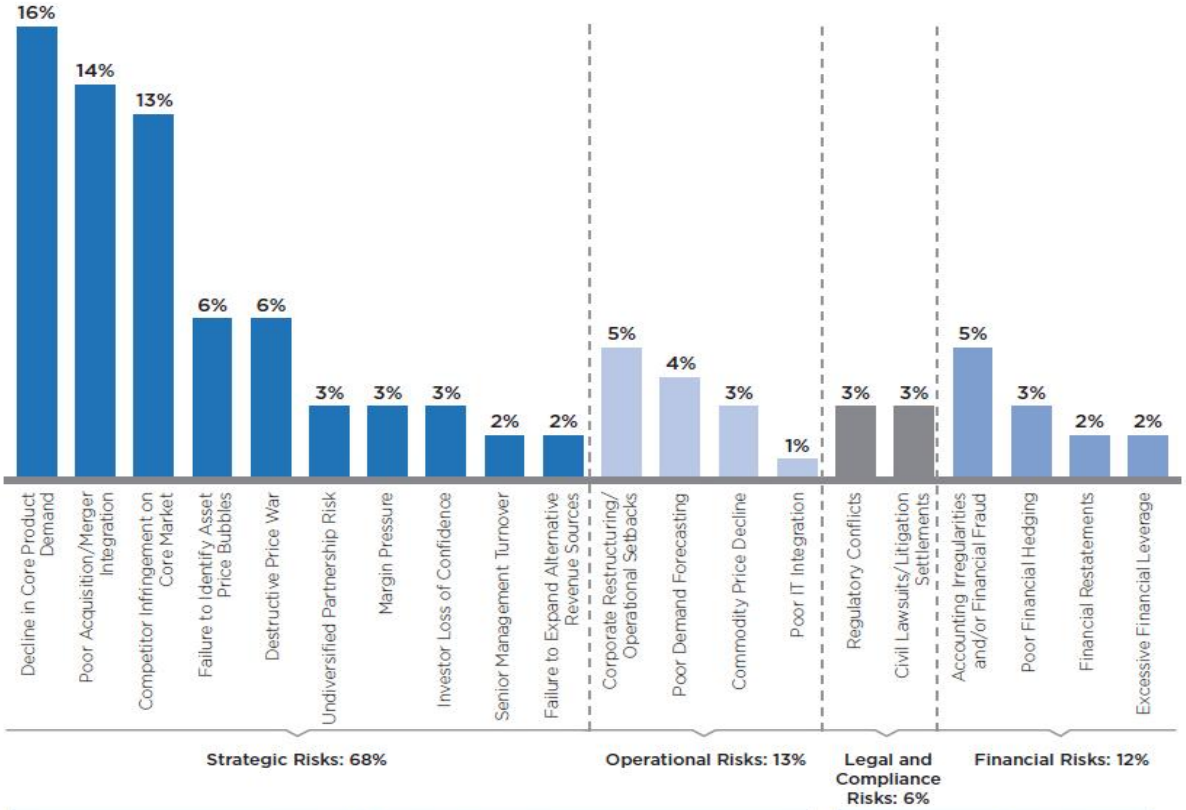
# Which Risk Matters Most?

**Strategic risks continue to have greater negative impact on stock price than more easily auditable risk areas.**

- This analysis looks at root causes underlying market capitalization declines of 50% or more in a single year.
- Percentages refer to frequency of occurrence of each factor in the sample population.

## ROOT CAUSES OF DECLINE

Market Capitalization Decline Drivers
*Top 20% of Fortune 1,000 (1998–2009)*

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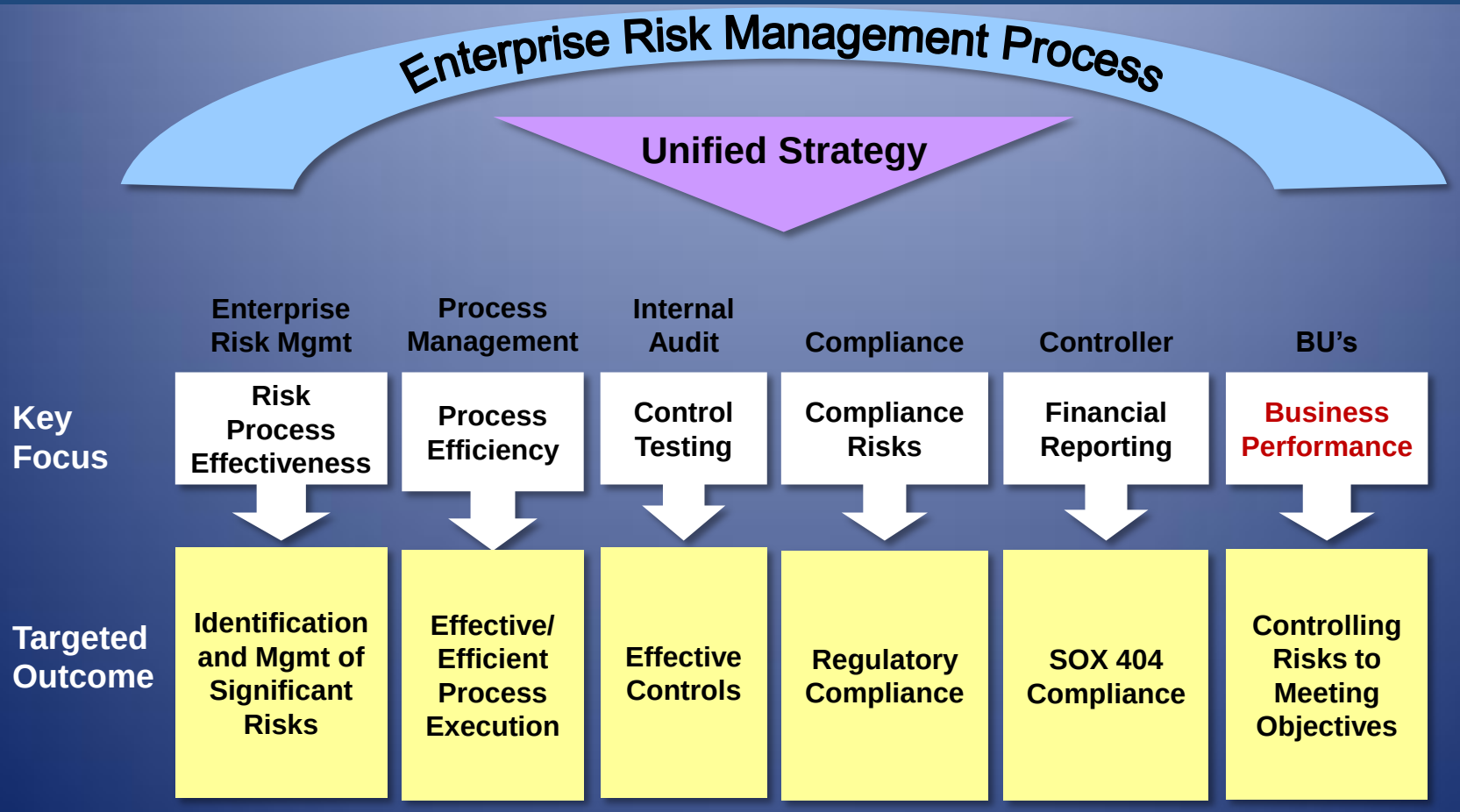
From the AUDIT DIRECTOR ROUNDTABLE* of the FINANCE AND STRATEGY PRACTICE
www.adr.executiveboard.com

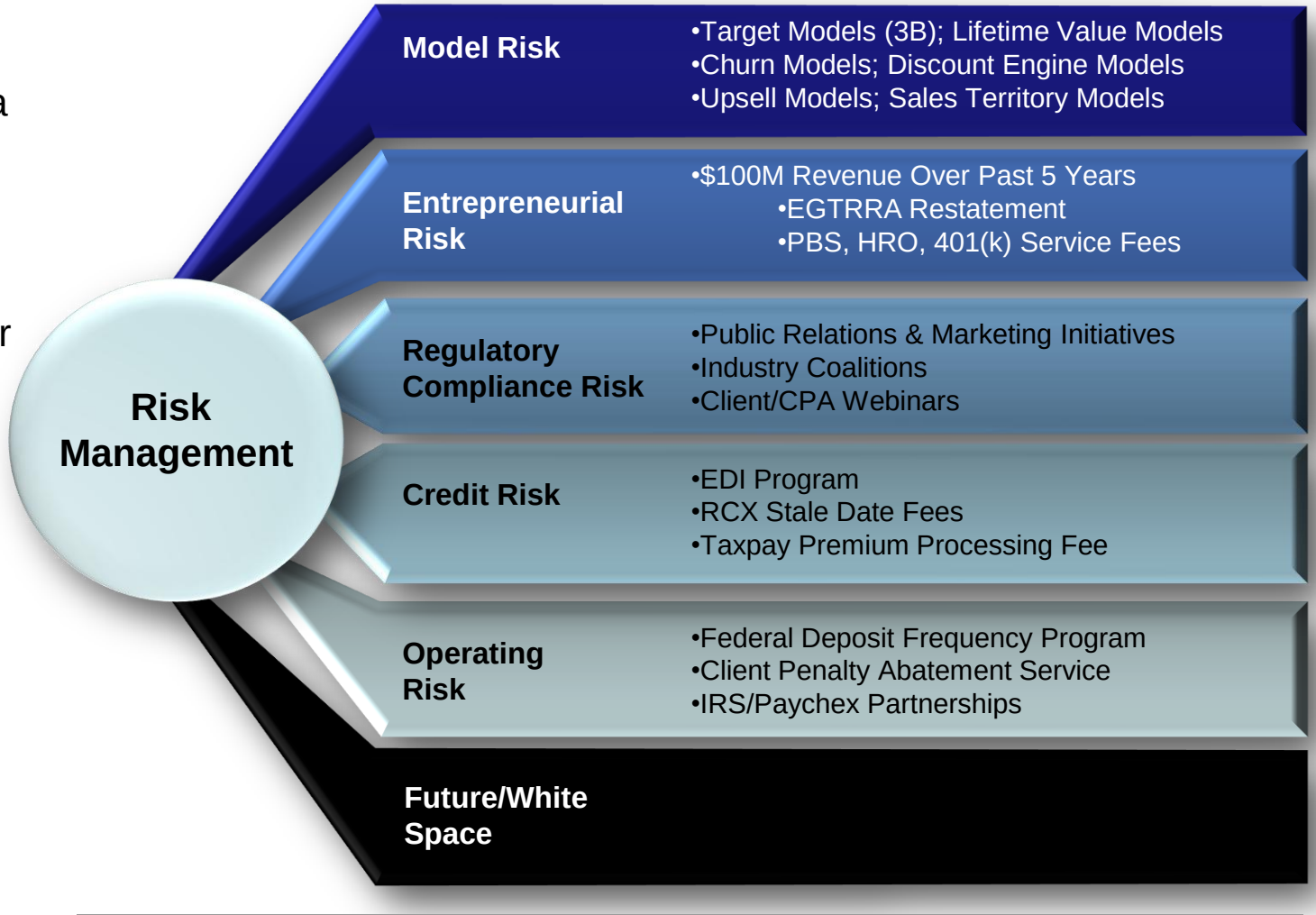
# Stakeholder Interests



# Value Preservation to Value Creation

The discipline of risk management has evolved from strictly a value preservation-based focus to a balanced focus between protecting assets and creating or enhancing value.

A flexible and dynamic risk management discipline is uniquely positioned to quickly adapt to change and identify opportunistic risk to create new streams of revenue and increase value




***STANDARDS FACILITATE THIS EVOLUTION***

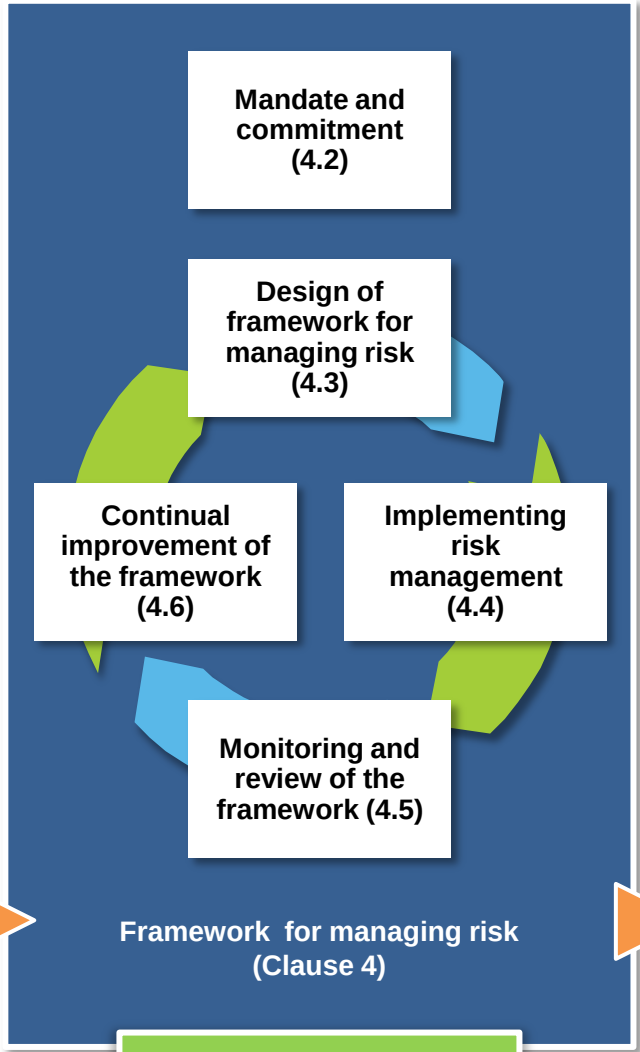
# ISO 31000 – Risk Management

sedgwick

a) Creates value
b) Integral part of organizational processes
c) Part of decision making
d) Explicitly addresses uncertainty
e) Systematic, structured and timely
f) Based on the best available information
g) Tailored
h) Takes human and cultural factors into account
i) Transparent and inclusive
j) Dynamic, iterative and responsive to change
k) Facilitates continual improvement and enhancement of the organization

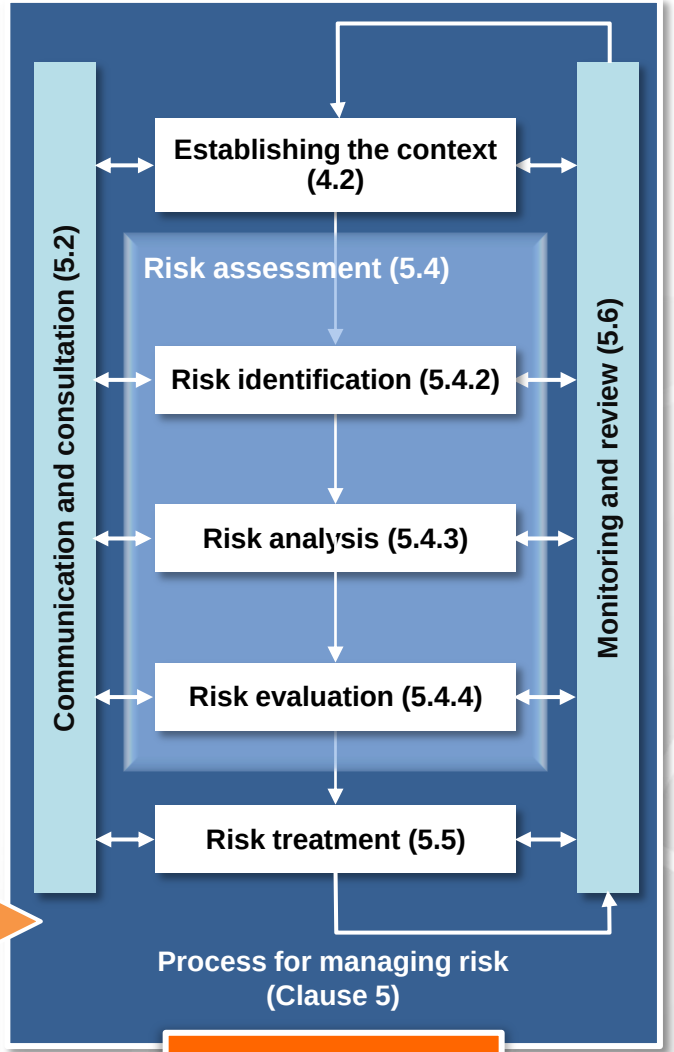
Principles for managing risk (Clause 3)

**Principles**




Framework for managing risk (Clause 4)

**Framework**




Process for managing risk (Clause 5)

**Process**

# Key Challenges for Risk Management

**Risk challenges are increasingly priorities for execs and boards, including:**

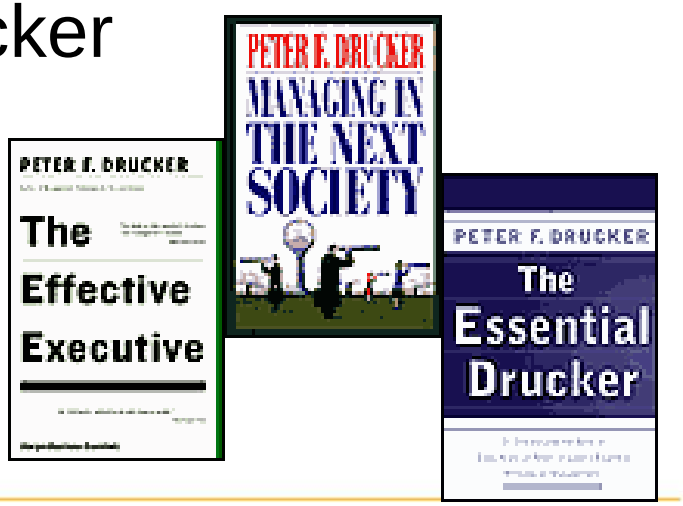
- **Understanding what risks are most threatening to mission accomplishment**
- **Connecting actionable risk information to goals & strategy**
- **Managing critical risk interdependencies**
- **Getting ahead of emerging risks**
- **Controlling risks brought to the firm by third parties**
- **Fostering a strong ethics and risk culture**
- **Addressing low-frequency, high-impact risks proactively**
- **Providing timely information on key risks not effectively mitigated**

**Developing your risk strategy with these concerns in mind will improve the chance of long term deployment and executional success**

# Final Thought

***"A decision that doesn't involve risk probably isn't a decision."***

Peter Drucker



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# ERM Case Study: IAMGOLD

Alberto S. Nunez CTP, CMA, MBA
Treasurer
IAMGOLD Corporation

October 29, 2013

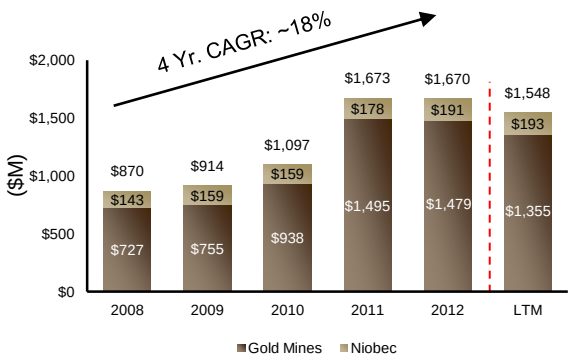
# IAMGOLD – who are we

- IAMGOLD is a mid-tier mining company with six operating gold mines on three continents and one of the world's top three niobium mines.
  - Originally founded in 1990; built through a series of acquisitions and organic growth
  - LTM revenues[1] and Adjusted EBITDA of $1,548M and $602, respectively
  - LTM gold production of 821 koz
  - LTM niobium production of 4.8 Mkg
  - Significant exploration and development portfolio with multiple projects at various stages of development

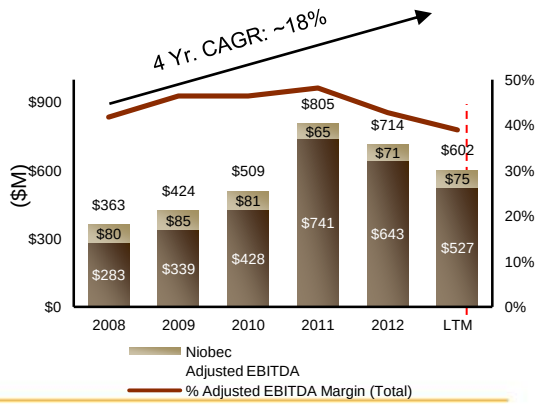
| | Mine | LTM Production (koz) | LTM Cash Costs ($/oz) | Proven & Probable (2P) Reserves (koz) | Measured & Indicated (M&I) Resources (koz) | Est. Mine Life (years) | Production Start Year |
|---|---|---|---|---|---|---|---|
| Operating Gold | **Rosebel (Suriname, 95%)** | 366 | $701 | 5,445 | 7,428 | 19+ | 2004 |
| Operating Gold | **Essakane (Burkina Faso, 90%)** | 281 | $676 | 3,293 | 4,156 | 13+ | 2010 |
| Operating Gold | **Sadiola (Mali, 41%)** | 96 | $1,011 | 2,138 | 3,193 | 4+ | 1996 |
| Operating Gold | **Yatela[2] (Mali, 40%)** | 32 | $1,144 | 32 | 60 | - | 2001 |
| Operating Gold | **Mouska[3] (Canada, 100%)** | 46 | $830 | 71 | 198 | 1 | 1991 |
| Dev. Gold | **Westwood[4] (Canada, 100%)** | 10* | - | 348 | 533 | 19 | 2013 |
| Dev. Gold | **Côté Gold (Canada, 92.5%)** | - | - | - | 7,035 | - | - |
| Non-Gold | **Niobec (Canada, 100%)** | 4.8 Mkg | $16 / kg | 1,768 Mkg | 2,563 Mkg | 16 | 1976 |
| Non-Gold | **Rare Earth Element (REE) (Canada, 100%)** | - | - | - | 8,730 Mkg | - | - |

*Pre-commercial production

Revenue[1]

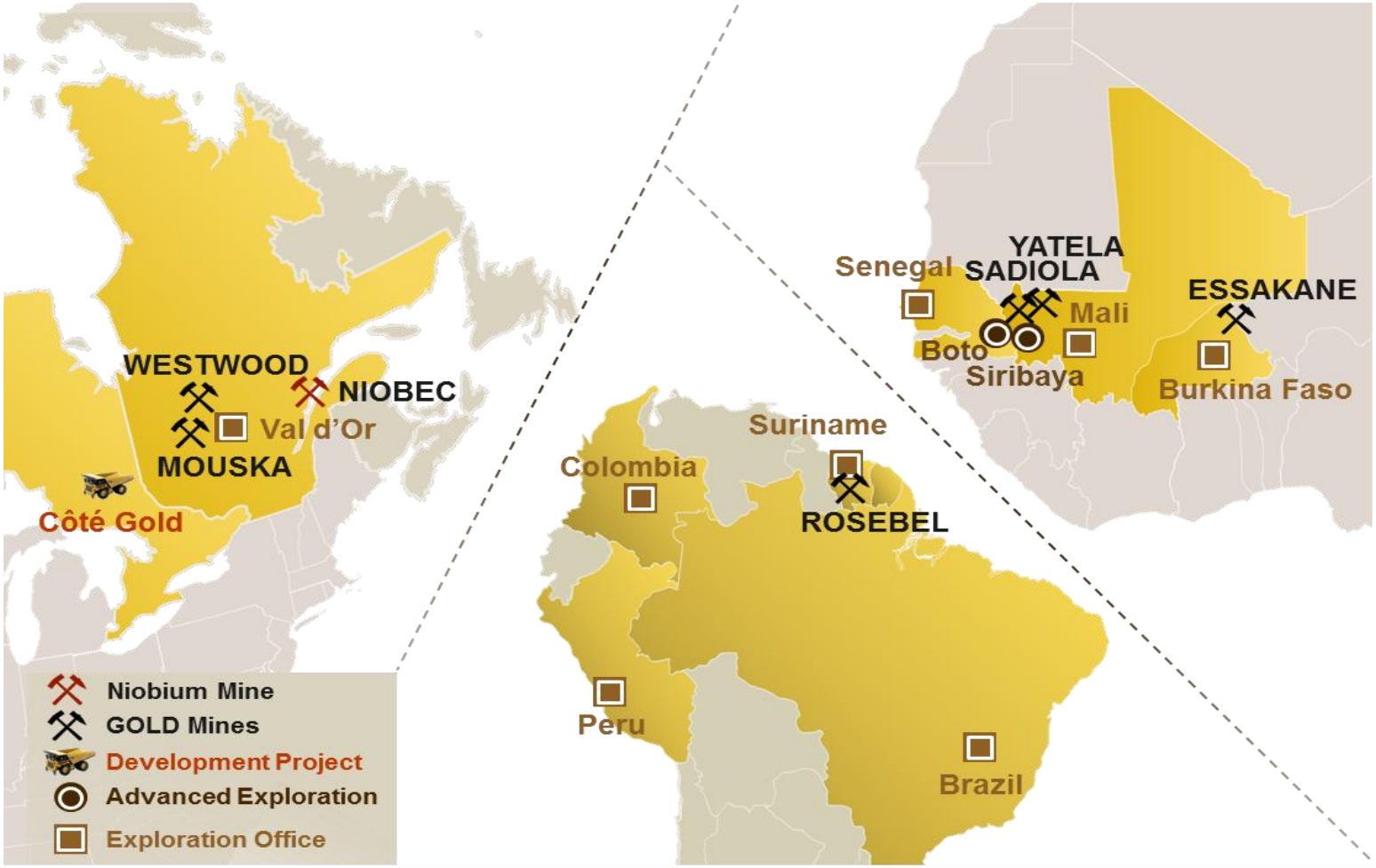



Adjusted EBITDA




Note: 2008, 2009 financial metrics in Canadian GAAP; 2010, 2011, 2012, and LTM financial metrics in IFRS. LTM for the period ended June 30, 2013.
Measured and indicated resources are inclusive of proven and probable reserves.
[1] Includes revenues from joint venture mines.
[2] Mining excavation activities at the Yatela Mine were suspended effective September 30, 2013. Processing of heap leach pads and ore already mined will continue until the end of 2016.
[3] Includes mineral reserves from the Mouska Gold Mine and resources from both the Doyon and Mouska Gold Mines.
[4] In 2013, the Westwood mill began processing Mouska ore. While the ore from Mouska is commercial production, the ore from Westwood is at precommercial levels. Until Westwood achieves commercial production, the Westwood contribution from ounces sold will be netted against capital expenditures.

# IAMGOLD – where are we



# ERM – Approach to process

**Phase 1**:

Risk Identification and assessment:

- Define the risk universe
- Use of two-dimensional model – impact and likelihood
- Four broad categories: strategic; operational; financial; compliance
- Align with corporate and site accountabilities

**Phase 2**:

Risk Mitigation and reporting:

- Define the rules, responsibilities and control activities
- Define mitigating processes
- Monitor and report the risks

**Phase 3**:

Risk Policy.

- Document the policy
- Include processes, reporting, communications
- Ensure integration into business planning process

**Phase 4**:

Risk Infrastructure:

- Document the risk appetite
- Implement appropriate tools and technology to track risks

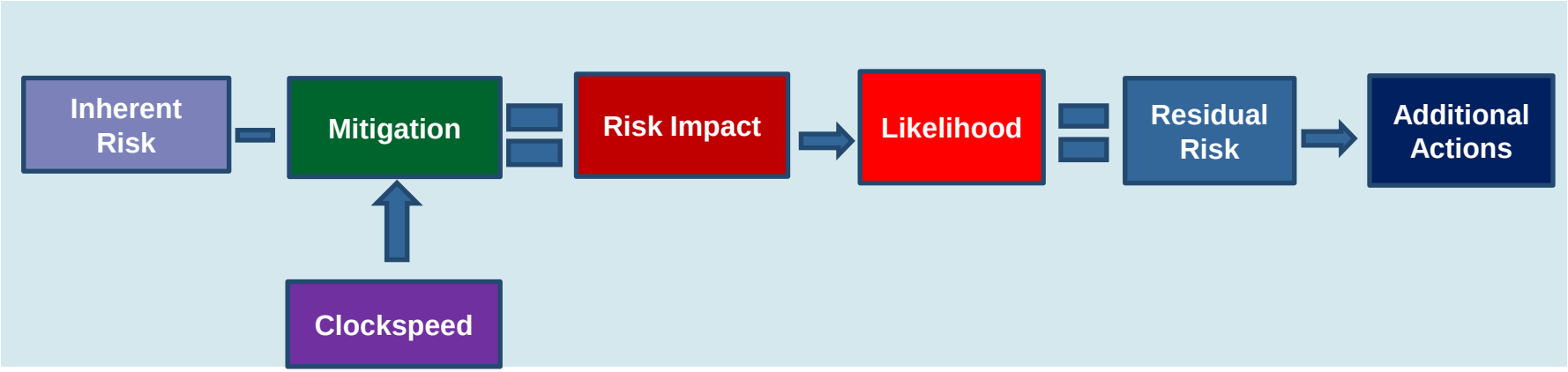
# ERM - Assessment

**Risks assessment Process**

**Step1**: For each risk, Executive Leadership Team uses impact and likelihood criteria to assess inherent risk

**Step 2**: Assess management controls and actions per the control assessment criteria and determine residual risk

**Step 3**: Establish risk owners, identify improvement opportunities and implementation action timeline




***Inherent risk*** *is the risk that could occur assuming no management controls are in place*

***Residual risk*** *is the risk that remains after considering management control activities*

# ERM – Risk Universe

## Organization
- **Leadership**
- **Talent management**
- **Succession planning**
- Compensation & benefits
- Labour relations

## Strategic
- **Merger / Acquisition / Dispositions**
- **Rising cost**
- Operations in foreign jurisdictions
- **Joint ventures**
- **Sales and pricing for niobium**
- Investor relations
- **Capacity constraints**
- **Pipe shrinkage / Exploration**

## Compliance
- Reserves and resources
- Legal
- Title
- **Fraud and corruption**
- Regulatory
- **Governance**

## Imbedded Vulnerabilities
- Gold price volatility
- High cash costs
- Labour unrest
- Declining production profile / finite resources
- Environmental disaster (tailing ponds, cyanide spillage)
- Market volatility & demands
- Safety disaster
- Widely held shareholder base (shareholder activism)
- Pipeline shrinkage
- Operations in higher risk jurisdictions
- Limitations on debt capacity
- Sustainability of earnings
- Hostile takeover

## Finance
- Financial reporting
- **Access to capital**
- **Debt level**
- Taxation
- **Liquidity and cash management**
- **Cost of capital**
- Capital structure
- **Dividend**

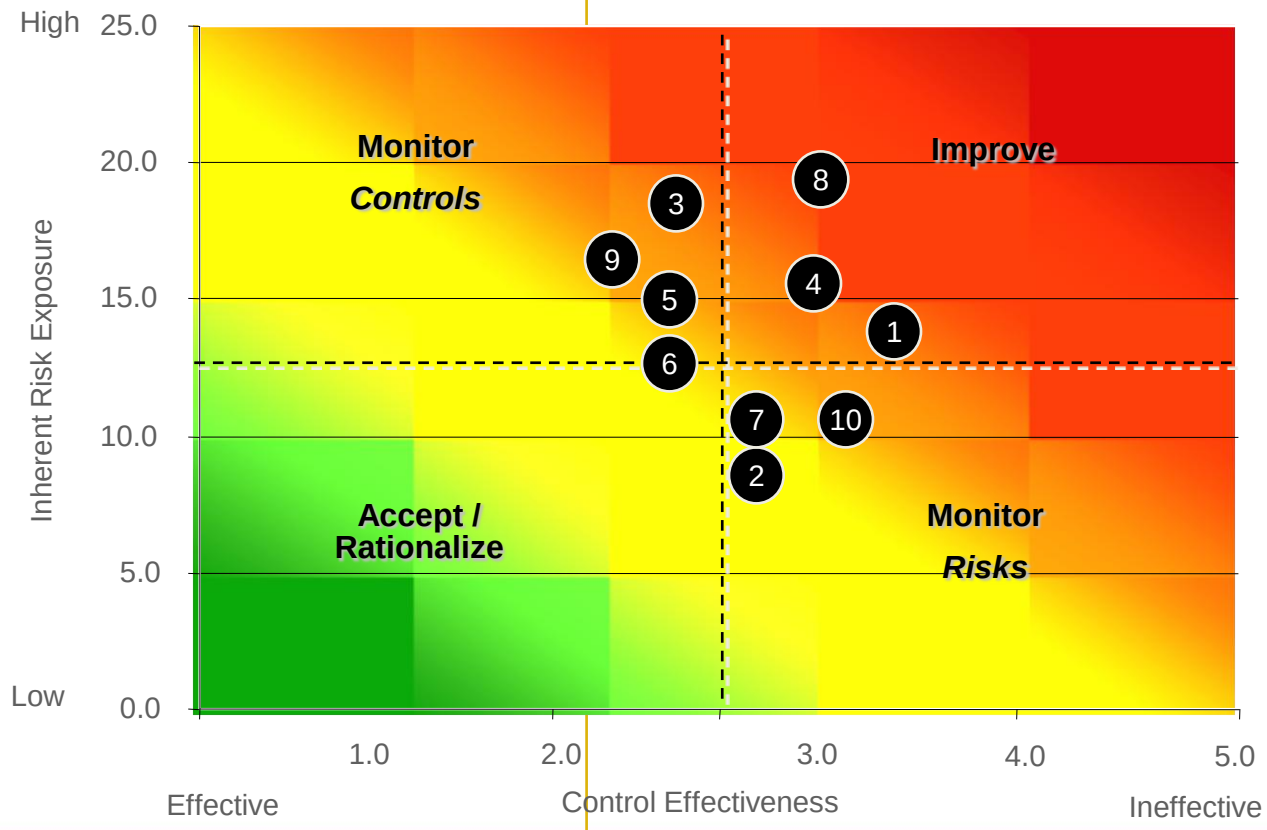
## Operations
- **Mine development**
- **Health & Safety**
- **Environmental & sustainability**
- **Security**
- IT/Network
- **Project**
- **Technical**
- **Life of Mine (LOM)**

## External
- **Gold price volatility**
- **Resource nationalism**
- **Social license to operate**
- Hostile takeover
- Competition for properties and talent
- Foreign exchange
- **Supply chain**
- **Political & security**

Note: Risks in **Blue** fonts represent key risks and **Bold** fonts represent secondary risks
Risks under "Imbedded Vulnerabilities" are included under respective risk category

# ERM – Residual Risks

- Inherent risk rating and the management control rating for each of the top 10 risks
- Each risk has a potential course of improvement action indicated and opportunities for improvement.




**Key Risks**

1. Commodity - Gold Price
2. Resource Nationalism
3. Acquisitions & Dispositions
4. Reserves & Resources
5. Social License to Operate
6. Environment & Sustainability
7. Political & Security
8. Pipeline Shrinkage
9. Mine Development
10. HR - Talent Management

# ERM – Advice and "take-away"

- ***Buy-in from the Top***
- ***Maintain a robust process***
- ***Keep it fresh and current***
- ***Get the right people in the room***
- ***Share the data with external stakeholders***

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# ERM Case Study - Zurich North America

**Barry Franklin, FCAS, CERA, MAAA**

**SVP & Chief Risk Officer**

**Zurich North America**

# Discussion outline

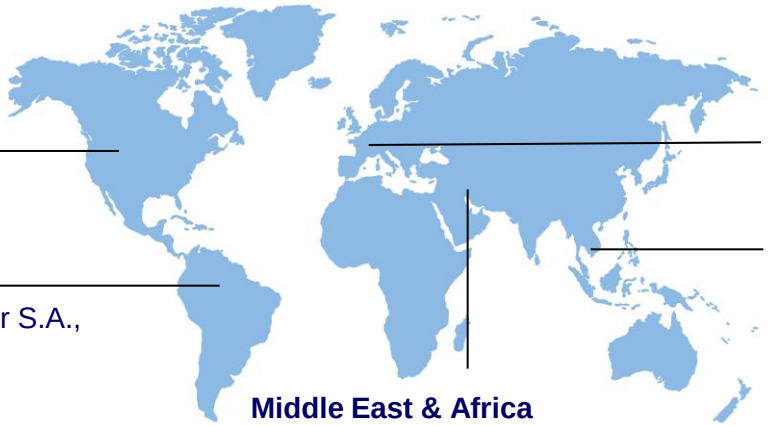
- About Zurich
- Zurich's ERM approach
- Challenges in ERM execution

# Zurich Insurance Group

| Segment | General insurance | Global Life | Farmers |
|---|---|---|---|
| Business | Property & casualty insurance and services | Life insurance, savings, investment and pension solutions | Management services related to property & casualty insurance |
| Market segments | Individual, commercial and corporate customers | Individual, commercial and corporate customers | Individual, commercial and corporate customers |
| Distribution channels | Agents, banks, brokers, direct | Agents, banks, brokers, employee benefit consultants, direct | Agents, direct |
| Geography | Global | Global | United States |

**North America**
In 2012, Zurich celebrated its 100 year anniversary of providing insurance in the U.S.

**Europe**
We have major operations in Germany, Italy, Spain, Switzerland and the UK and a significant presence in five other countries.



**Latin America**
Our joint venture with Banco Santander S.A., entered into in 2011, strengthened our presence in Latin America.

**Asia-Pacific**
Zurich has operations in Australia, China, Hong Kong, Indonesia, Japan, Malaysia, Singapore and Taiwan.

**Middle East & Africa**
Our business spans the region with key operations in the Middle East, South Africa, Morocco and Turkey

1 All references to “Farmers Exchanges” mean Farmers Insurance Exchange, Fire Insurance Exchange, Truck Insurance Exchange and their subsidiaries and affiliates. The three Exchanges are California domiciled interinsurance exchanges owned by their policyholders with governance oversight by their Boards of Governors.

# Zurich Group Risk Management

## Mission

The mission of risk management at Zurich is to promptly identify, measure, manage, report and monitor risks that affect the achievement of strategic, operational and financial objectives. This includes adjusting the risk profile in line with the Group's stated risk tolerance to respond to new threats and opportunities in order to optimize returns.

## Objectives

- Protect the **capital** base by monitoring that risks are not taken beyond the Group's risk tolerance
- Enhance value creation and contribute to an optimal risk-return profile by providing the basis for an efficient **capital** deployment
- Support the Group's **decision-making** processes by providing consistent, reliable and timely risk information
- Protect Zurich's reputation and brand by promoting a sound **culture of risk awareness** and disciplined and informed risk taking

# Fundamentals of economic capital

How much "capital" is required such that the company can meet all its policyholder obligations with 99.95% probability?

We need a consistent risk measure across all risk types, business lines, regions, products etc.

Zurich Economic Capital Model

- Credit Risk
  Investment and reinsurance
- Market/ALM Risk
- Life liability Risk
- Premium and Reserve Risk
  (including Nat Cat)
- Operational Risk
- Business Risk

# Economic capital is used for:

- **Establishing risk tolerance boundaries for the Group, segments, geographies, operating units**
- **Allocating risk capital by operating unit, line of business, etc.**
- **Deriving "capital intensity ratios" for various products**
- **Risk-Based Return Metrics (RBRM) for performance measurement**

$$\text{RBRM} = \frac{\text{Economic Profit After Tax}}{\textbf{PV (Economic Capital)}} = \frac{\text{PV (Cash Flows)}}{\textbf{PV (Capital Flows)}}$$

- **Technical pricing models– achieving target returns on economic capital**

# Technical modeling challenges

- **Risk aggregation and correlation**
  - Need to assimilate results from multiple models
  - Aggregate with diversification benefit
- **Capital allocation**
  - Legal entity structure vs. management structure
  - BU/LOB/Market Basket
- **Operational risk quantification**
  - Quality and quantity of loss event data
  - Narrow definition of operational risk
  - Reliance on SME opinions where data is lacking
- **Model validation, calibration**
  - Alignment with regulatory capital models – SST, SII, NAIC, etc.

# Risk taking and control is at the heart of Zurich's business

**"Three lines of defense"**

1

**Business management owns all risks**

1. Business takes risk decisions optimizing risk/return
2. Business manages risks every day
3. Business mitigates risks where necessary

2

**GRM ensures a consistent risk & control framework**

1. Develops and implements Enterprise Risk Management framework and Zurich Risk Policy (ZRP)
2. Establishes methodologies to measure and assess risk
3. Monitors Zurich risk exposure against the Group's risk tolerance and sets risk limits
4. Develops and operates appropriate risk & control infrastructure, incl. risk aggregation and risk reporting

3

**Audit provides independent oversight and assurance**

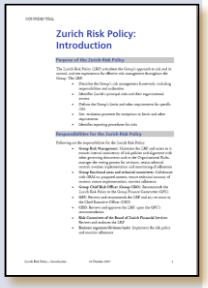
1. Audit assesses the effectiveness of the risk framework
2. Audit builds on risks identified by GRM for planning its activities
3. Audit independently monitors effectiveness of controls

# Zurich's ERM approach fosters an integrated view of risk

Risk Governance

## Zurich Risk Policy (ZRP)

- Risk ownership, roles and responsibilities
- Limits by risk type
- Mandatory
- Regularly updated and communicated

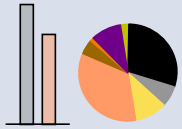



More quantitative

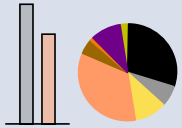
## Risk Tolerance

- Defines and informs risk limits
- Takes a shareholder view
- Capital-at-Risk, Earnings-at-Risk, financial flexibility and franchise value

Capital-at-Risk

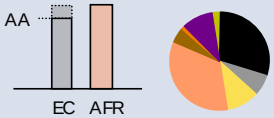


Earnings-at-Risk



## Economic Capital (EC)

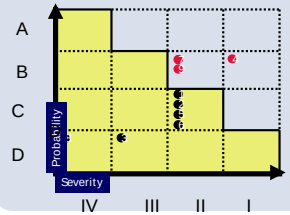
- Sets target capitalization at AA level
- Takes a policyholder view (1/2000 years)




More qualitative

## Total Risk Profiling (TRP)

- Management view of risks
- Proprietary tool for risk identification and assessment
- 3-5 year time horizon

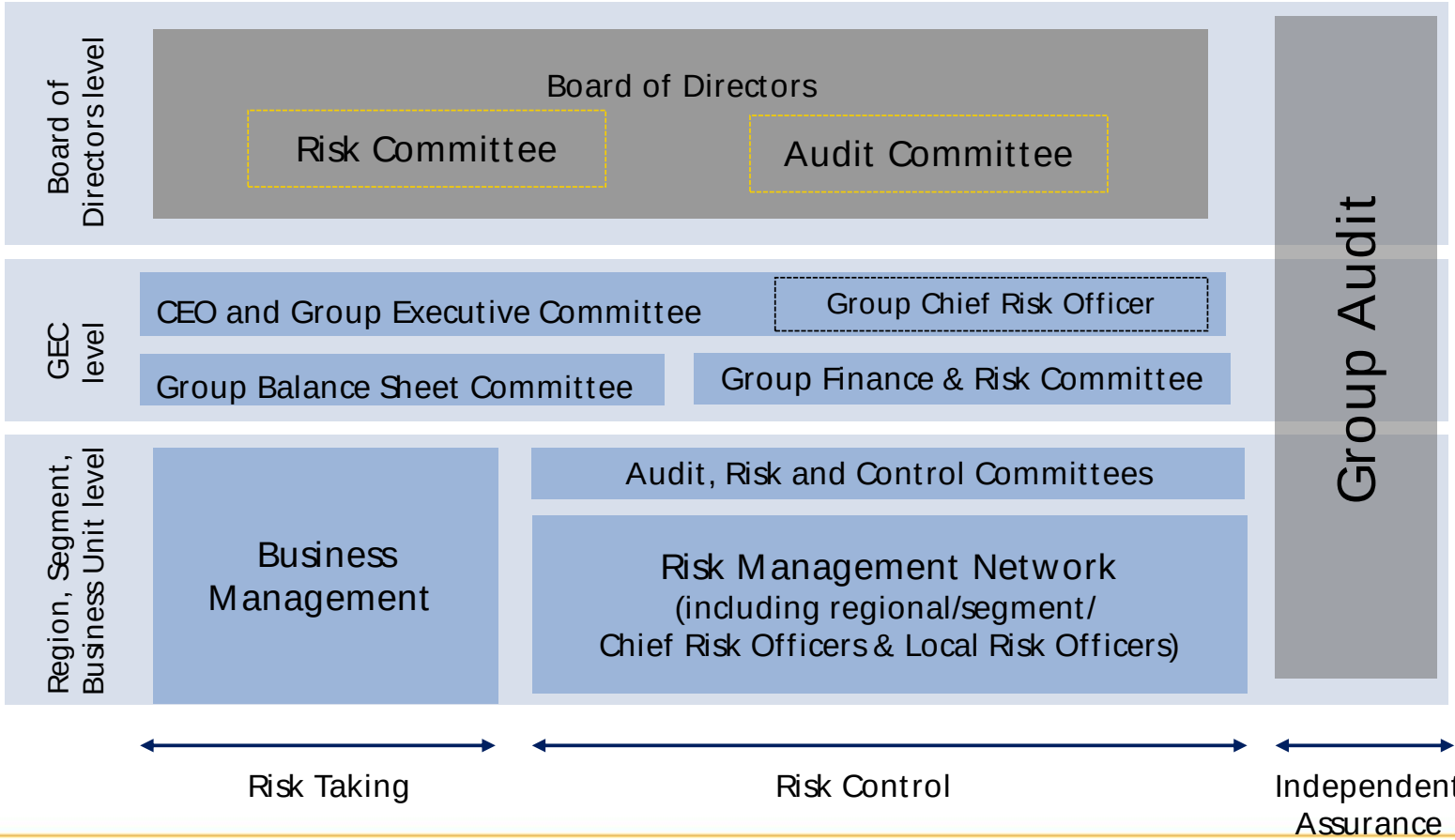



## Operational Risk & Control

- Integrated Risk & Control framework and methodology (Top Down Scenarios, Operational Risk Assessments, Issue Register, Loss Events, etc.)
- Operational risk management
- Int. Control Framework (ICF)

**Risk reporting**

# Zurich's risk & control framework



# Questions?