

Background (1/2)

 EU legislation requires that institutions adequately manage and mitigate operational risk, which is defined by the Basel Committee on Banking Supervision as:

"The risk of loss, or other adverse consequences to the business, resulting from inadequate or failed internal processes, people and systems or from external events."

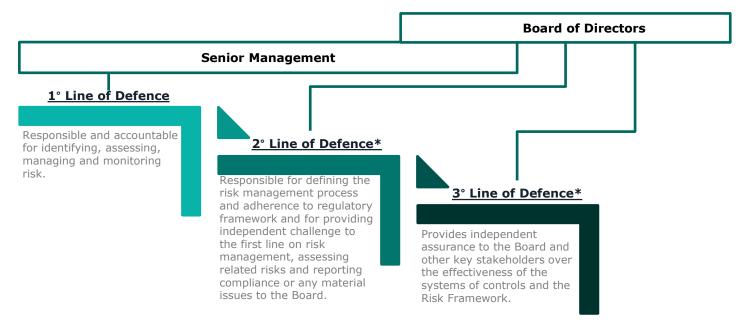
The Enterprise-wide Risk Management (ERM) is defined by Committee of Sponsoring Organisation of the Treadway Commission:

"Enterprise risk management is a process, affected by an entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within the risk appetite, to provide reasonable assurance regarding the achievement of entity objectives."



Background (2/2)

ERM sets out three lines of defences that ensure sound operational risk governance





Operational Risk Principles (1/2)

Fundamental principles

- The board of directors takes the lead in establishing a strong risk management culture
- The Framework is fully integrated into the overall risk management processes

Governance:

- **The board of directors** establishes, approves and periodically reviews the Framework; it also reviews the risk appetite statement for operational risk that it is willing to take.
- **Senior management** develops for approval by the board of directors a clear, effective and robust governance structure with well defined, transparent and consistent lines of responsibility; it implements and maintains throughout the organisation policies, processes and systems for managing operational risk in all material products, activities, processes and systems consistent with the risk appetite.



Operational Risk Principles (2/2)

Risk management environment

- **Identification and assessment**: senior management ensures the identification and assessment of the operational risk inherent in all material products, activities, processes and systems; it ensures that there is an approval process for all new products, activities, processes and systems that fully assesses operational risk.
- **Monitoring and reporting**: senior management implements a process to regularly monitor operational risk profiles and material exposures to losses. Appropriate reporting mechanisms are in place at the board, senior management, and business line levels that support proactive management of operational risk.
- **Control and mitigation**: a strong control environment is in place that utilises policies, processes and systems, internal controls, risk mitigation and/or transfer strategies.



Governance

Board of Directors:

- Has the final responsibility for managing risks
- Defines, determines and documents an appropriate level of Risk Appetite for Euronext Clearing

Board of Directors and Senior Management:

 Ensure that policies, procedures and controls are consistent with the Risk Appetite Framework and that policies, procedures and controls actually address how risks are identified, owned, measured, monitored, managed and reported

Senior Management and Staff:

 Are responsible for the day to day management of risk by designing, operating and maintaining an effective system of internal controls

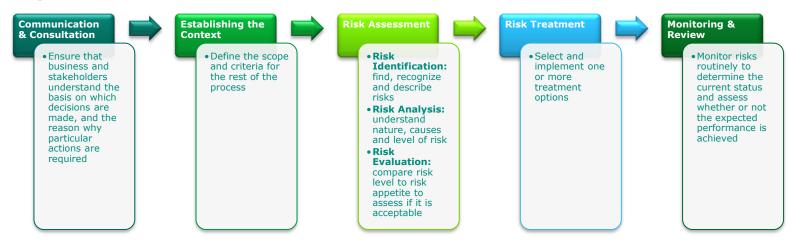
Chief Risk Officer and Risk Policy Dept.:

 Implement the Operational Risk Framework including the policies and procedures established by the board of directors



Operational Risk Management Process

Operational Risk Management is a structured set of **processes, functions and resources for identifying, assessing and controlling operational risks** with specific regard to ensuring the effective prevention and mitigation of such risks. It is documented and responsibilities are clearly assigned.





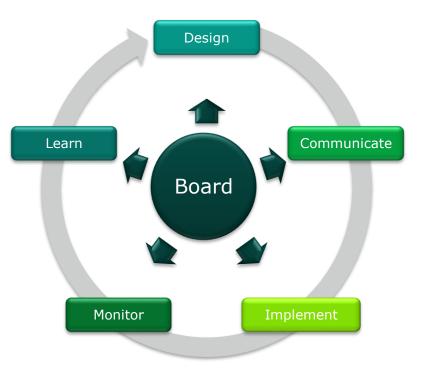
Risk Appetite Framework

The Risk Appetite Framework is a mechanism for articulating and monitoring the accepted risk levels: it sets out the maximum acceptable risk levels to be taken in achieving Euronext Clearing strategy.

It ensures that risks are adequately identified, owned, measured, monitored, managed and reported.

Risk Appetite governance is a circular process orbiting around the Board, which is required to have an active and aware role in setting the risk appetite

CPSS IOSCO (PFMI): "The board should regularly monitor the FMI's risk profile to ensure that it is consistent with the FMI's business strategy and risk-tolerance policy."





Drivers of Operational Risk Assessment

Audit actions monitoring

Tracking open actions due to audit findings

External Environment

External events that arise outside the entity control

- · New competitors;
- · Macroeconomic changes;
- New Regulations impacting Euronext Clearing core business;
- Natural disasters/pandemic/climate change.

Key project status

Key project risk assessment mapped to risk categories

- Evaluation of Euronext Clearing's exposures to risk due to key project
- Tracking of issues and deadlines

Operational Incidents

Control/process failure or external event that results in a material operational risk exposure

- Euronext Clearing Operational Incidents Database
- Incidents statistics

Recovery Plan Simulation of stressed sco

Euronext Clearing Operational Risk Committee

Internal Committee in charge of:

- Supporting/suggesting CEO in risk-related decision-making process;
- Monitoring/updating CEO in defining corrective actions.

Euronext Clearing Risk Questionnaire

BUs self-certification and selfidentified issues

Key Risk Indicators

Measurable metrics or indicators to track Euronext Clearing's exposure to risk

- KRI descriptions and owners
- · KRI thresholds and assessment

Simulation of stressed scenarios and impact/likelihood evaluation

- The drivers are the starting point for the risk assessment stage.
- In particular, issues
 associated with these
 drivers (i.e. KRIs breaches,
 external events,
 incidents/near miss) may
 trigger a re-assessment of
 an existing risk or
 identification of a new
 risk.
- Every issue reflects the requirement for some form of management action to resolve or manage it in such a way that impact to the associated risk remains within the appetite for the given risk.







Maria Somma Risk Policy Manager

CCP-rp.group@euronext.com

Via Tomacelli 146, 00186 Rome, Italy







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