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Management Paradigms - Effective
and Visionary Strategy to Protect
Physical and Human Assets

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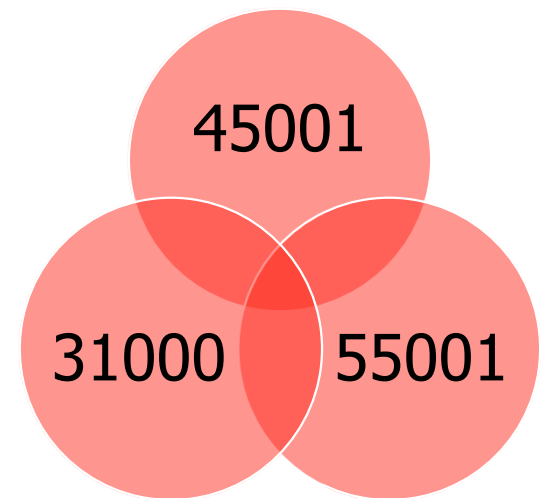
TODAYS AGENDA

This presentation will present:

- a brief overview of three International Standards Organization (ISO) programs (ISO 31000, 55001, and 45001) that deal with safety, risk and asset management
- how the three management systems may be used in tandem within an organization that values its property, processes and people.
- how a potential convergence of these three systems may address an organization's needs to minimize risk while protecting assets and workers within an effective, visionary strategy.
- **So how do ISO standards for reduced risk of processes, for asset protection and for worker safety, converge into an integrated company strategy?**

Tying the Standards Together- Finding the “Sweet Spot”

- ISO 31000 describes managing risk within an organization
- ISO 45001 is designed to manage personal safety with workers in a structured systematic way
- ISO 55001 gives the framework and tools to optimize hard equipment value by ensuring that assets meet necessary safety and performance requirements and to pro-actively managing the lifecycle of an organization’s assets, from acquisition to decommission.





ISO 45001

Occupational Health & Safety
(OH&S)

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Why ISO 45001

**1 worker
dies every
15
seconds**

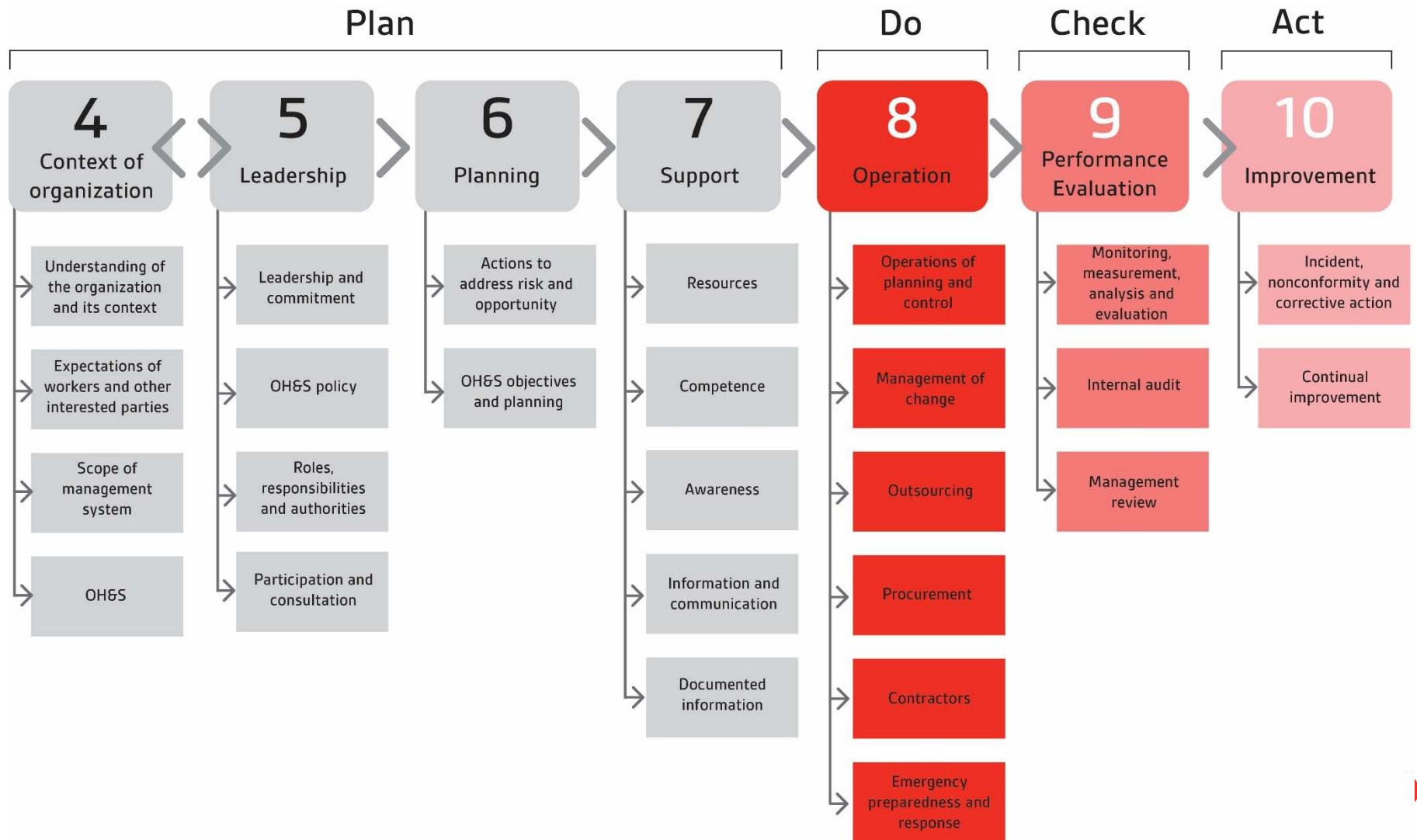
**153 workers
have an
accident
every 15
seconds**

**2.3 million
deaths per
annum**

**317
million
accidents
per annum**

Why ISO 45001?

- No globally recognized standard for OH&S
- Worldwide need to harmonize health & safety management systems
- The need to 'provide safe and healthy working conditions'
- Reflect increasingly complex organizational environments
- Allow integration with other ISO management system standards



Emphasis on:

Leadership & OHS Culture

- Greater emphasis for senior managers to be involved in the management system

Risk and Opportunities

- Broader approach to risks and the introduction of opportunities

Context of Organization

- Needs of Workers and other interested parties emphasized

Participation & Consultation

- Enhanced emphasis on Worker participation and consultation

Documented Information

- More flexible approach

Key theme

Leadership & OHS culture

- Ensures the management system and objectives are compatible with the strategic direction of the organization
- Ensures the management system is integrated into business processes
- Ensures active participation of workers in the management system
- Take overall accountability for the protection of workers OH&S
- The importance of an effective management system is communicated across the organization
- Develop, lead and promote a culture that supports OH&S Management



Key theme

Risk and Opportunities

- Ensures risk is considered throughout
- Requires a broader approach to risk and opportunity management
- New focus on identifying opportunities
- Can help prevent or reduce undesired effects
- Leads to an enterprise wide approach to risk management



Key theme

Context of the organization

- Ensures internal and external issues are considered
- Identifies workers and other 'interested parties' and ensures their needs are taken into account
- Focuses on ensuring that the OH&S MS is established and relevant for the organization
- Provides understanding on what an organization does
- Makes the management system more robust and effective

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Key theme

Participation and consultation

- More explicit requirements than in previous standard under OHSAS 18001
- Required throughout the management system cycle, (plan-do-check-act)
- Requires identification and removal of obstacles or barriers to participation
- Additional emphasis given to non-managerial workers
- Requires mechanisms, time, training and resources
- Referenced in a number of other areas in 45001

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Key theme

Documented information

- Ensures alignment with other management system standards
- “Documented information” is used to include both “documents” and “records”
- Recognizes developments in technology and that differing media now used to record and monitor information.
- Requirements are detailed throughout the standard

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ISO 31000:2018

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What is Risk?

- Risk is present in everything we do.
- ISO 31000:2018 (revised from 2009 version), the international standard on risk management, defines it this way: **Risk = the affect of uncertainty on your objectives.**
- Risk can be a threat or an opportunity
 - Anything that could harm, prevent, delay or enhance your ability to achieve your objectives = risk
- Risk is something that we all face every day in business and individually



Classical Definition of Risk

- The classical definition of risk
- Risk: a combination of the probability and scope of the consequences.
 - ISO risk management vocabulary, 2002
- More precisely, after Kaplan and Garrick, we ask:
 - ▷ What can go wrong?
 - ▷ How likely is it to go wrong?
 - ▷ If it does go wrong, what are the consequences?
- Further reading: Kaplan & Garrick (1984), *On the quantitative definition of risk*, Risk Analysis 1:1



Classic Job Hazard Analysis Risk Matrix

- Place each scenario in your organization’s risk matrix, according to its probability and level of consequences.
- Examine whether the sum of possible outcomes is acceptable.

		<i>Frequency</i>				
		very infrequent	infrequent	fairly frequent	frequent	very frequent
<i>Consequence</i>	catastrophic	Yellow	Yellow	Red	Red	Red
	very large	Green	Yellow	Yellow	Red	Red
	large	Green	Green	Yellow	Yellow	Red
	medium	Green	Green	Green	Yellow	Yellow
	small	Green	Green	Green	Green	Yellow

- Unacceptable
- Reduce risks as low as reasonably practicable
- Acceptable

ISO 31000 Scope

Includes:

- **definitions** and terms relevant to risk management
- a set of **principles** that inform effective risk management
- recommendations for establishing a **risk management framework**
- recommendations for establishing a **risk management process**

Does not include:

- detailed instructions/guidance on how to manage specific risks
- advice relevant to any specific domain
- any elements related to certification



New Themes in ISO 31000

- A new definition of risk
- The notion of *risk appetite*
- The *risk management framework*
- A management philosophy where risk management is an inseparable aspect of managing change and other forms of decision-making



A New Definition of Risk

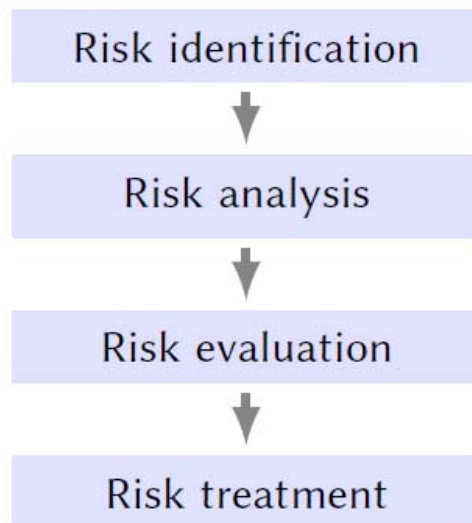
- **Risk: the effect of uncertainty on an organization's ability to meet its objectives**
- The framework within ISO 31000 begins with a common-sense approach to dealing with risk and the activities and processes within that entire organization. This includes:
 - Avoiding the risk by deciding not to start or continue with the activity that gives rise to the risk
 - Accepting or increasing the risk to pursue an opportunity as long it is well documented as to the return on investment and discussed mitigation strategies
 - Removing the risk source
 - Changing the likelihood of the risk by reducing frequency of the activity or process
 - Changing the consequences of the risk by adopting best management mitigation practices
 - Sharing the risk with another party or parties (including contracts and risk financing)
 - Retaining the risk by informed decision

Risk Appetite

Risk appetite: the amount and type of risk that an organization is prepared to pursue, retain or take in pursuit of its objectives

- Represents a balance between the potential benefits of innovation (and risk) and the threats that change inevitably brings
- Helps to guide people within the organization on the level of risk permitted and encourage consistency of approach across an organization
- Generally expressed (for a company) by a broad statement of approach, which is written by a corporate board or top management

ISO 31000 Risk Management Process



Risk identification: what could prevent us from achieving our objectives?

Risk analysis: understanding the sources & causes of the identified risks; studying probabilities and consequences given the existing controls, to identify the level of residual risk.

Risk evaluation: comparing risk analysis results with risk criteria to determine whether the residual risk is tolerable.

Risk treatment: changing the magnitude and likelihood of consequences, both positive and negative, to achieve a net increase in benefit.

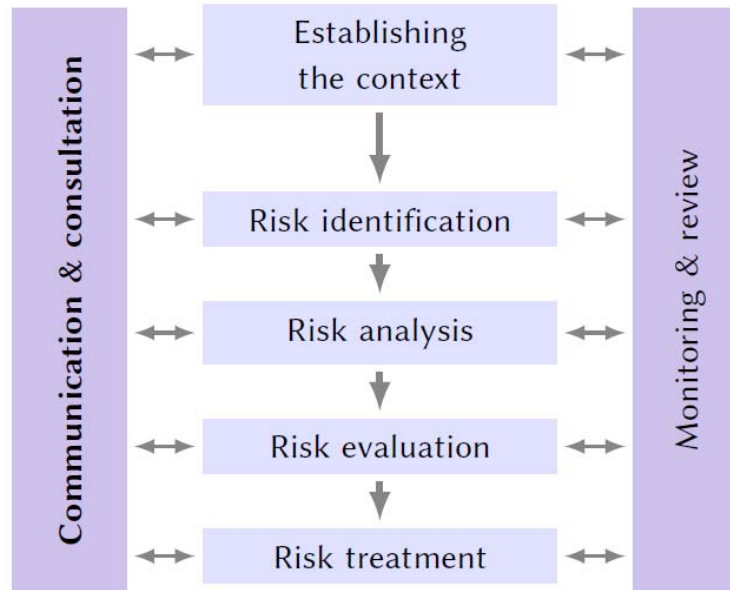
ISO 31000 Risk Management Process

Establishing the Context

Communication and Consultation

Monitoring & Review

“A process whereby organizations methodologically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities.”

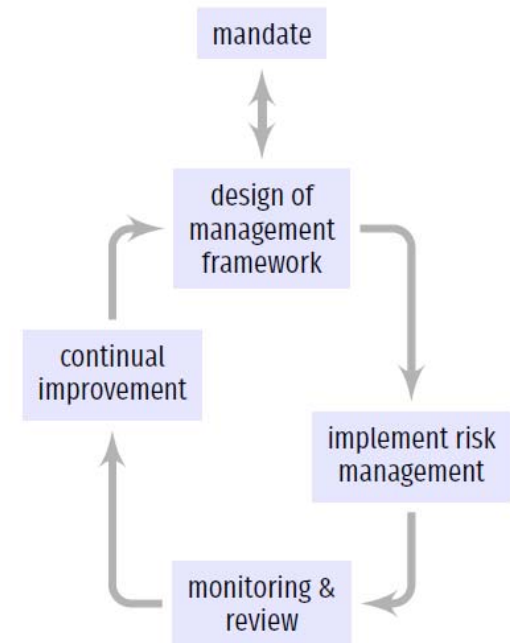


Risk Management Framework

- Determines how risk management is integrated with the organization's management system. Should include:
 - **risk architecture:** roles and responsibilities of individuals and committees that support the risk management process (who "owns" different risks?)
 - **strategy:** objectives of the risk management activity in the organization
 - **protocols:** how the strategy will be implemented and risks managed (procedures, indicators, risk reporting and escalation procedures)

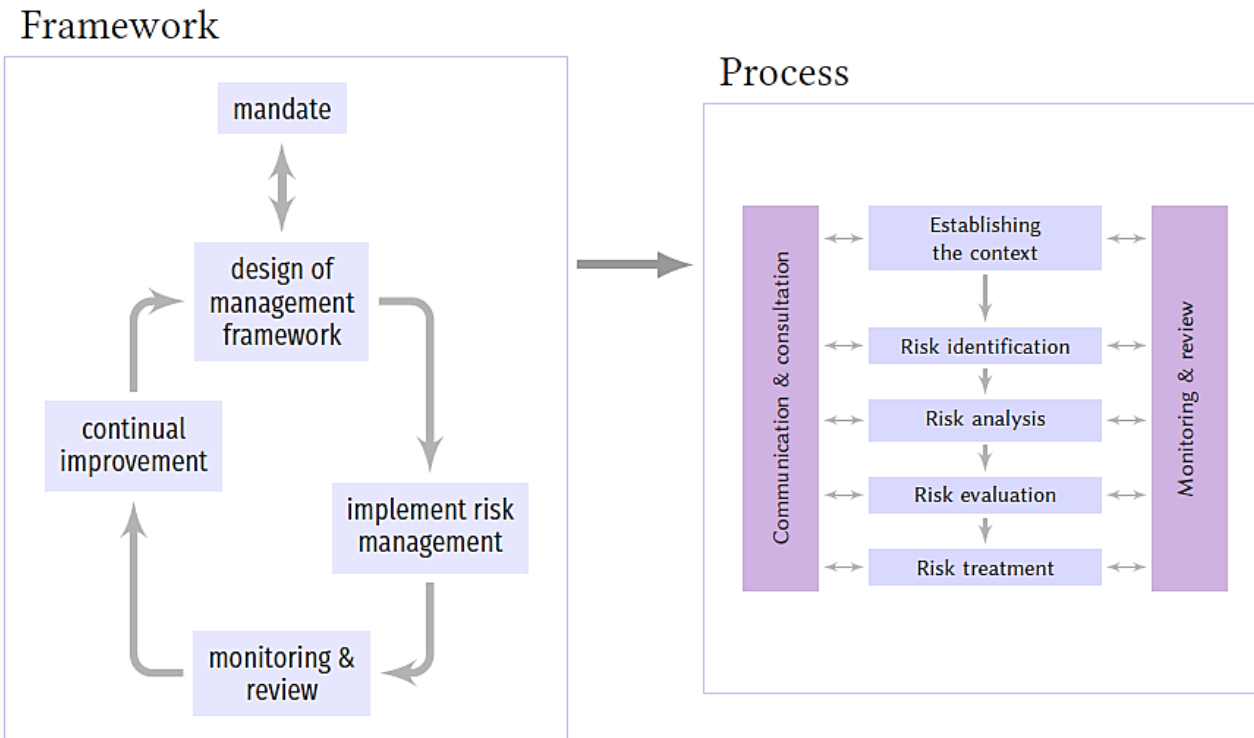
Organizations must develop a statement or policy that confirms a commitment to risk management, assigning authority, responsibility and accountability at the appropriate levels within the organization and ensuring that the necessary resources are allocated to managing

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Fitting the Pieces Together

The framework defines the risk management process





ISO 55001

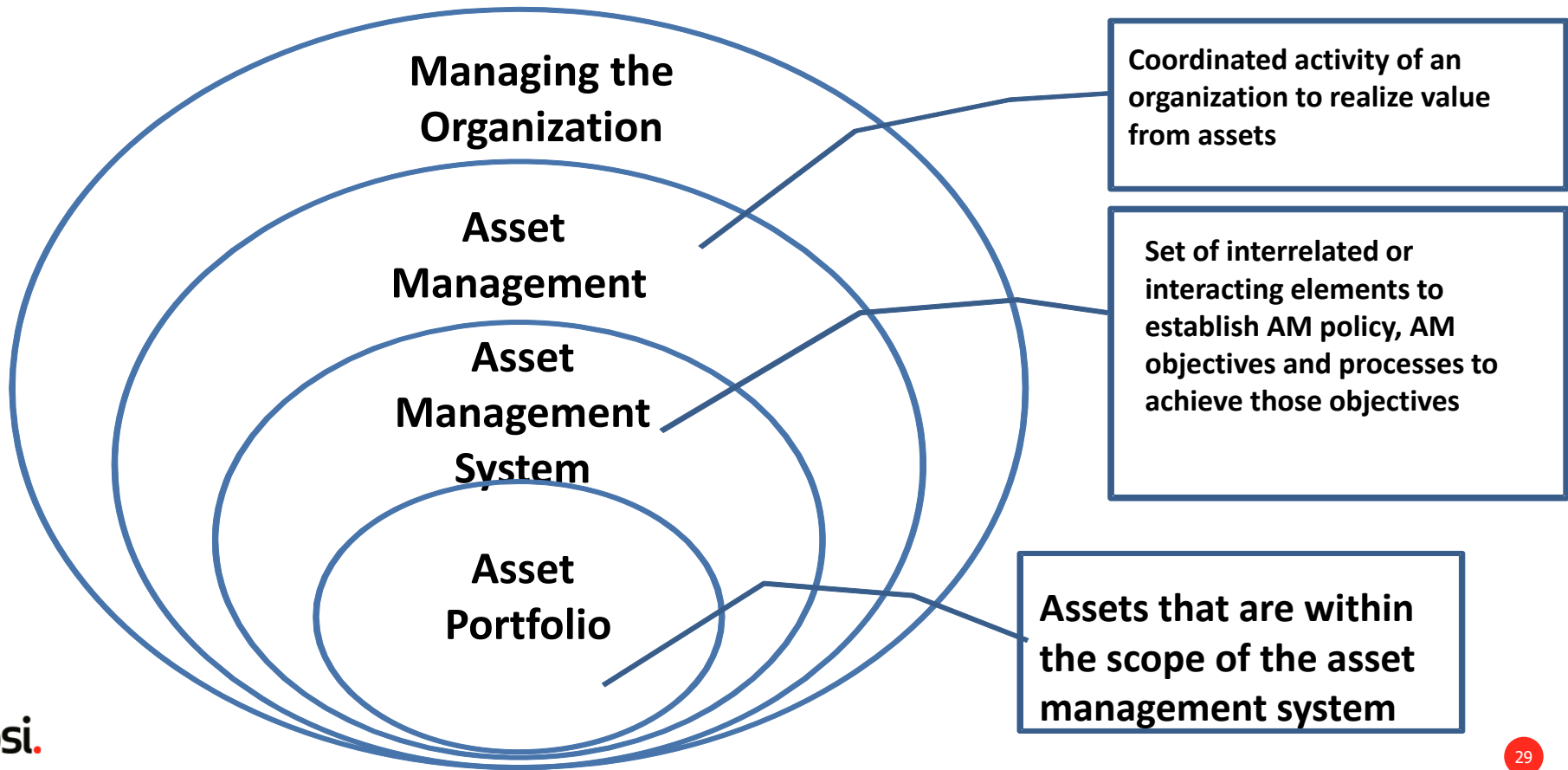
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ISO 55000

- What is ISO 55000?
 - International Standard for development of an Asset Management System
 - This means a System of Management and NOT an IT application
- General Principles:
 - *a) Assets exist to provide value to the organization and its stakeholders.....*
 - *b) Asset management turns the organizational strategic intent into decisions and actions on assets to realize their value.....*
 - *c) Strong leadership and an engaged workforce are a key determinant of value realization... (&)*
 - *d) Asset management requires a focus on continual improvement”*

Core Concepts

- **Asset** is an item, thing or entity that has potential or actual value to an organization
- **Management system** – Set of interrelated or interacting elements of an organization to establish policies and objectives, and processes to achieve those objectives
- **Assets** and **asset management** are linked to the organizational strategic plan and support the mission and objectives of the organization



Scope of ISO 55001

Organisational Context (Cl 4)

- Requirements/expectations of stakeholders (**what do they WANT us to do?**)
- Issues that affect the businesses ability to achieve intended outcomes (**What do we have the Capability to do?**)

Leadership (Cl 5)

- Leadership and Commitment to AM
- AM Policy (intent)
- Responsibilities/authorities assigned & communicated
- Alignment w corporate and strategic goals

Planning (Cl 6)

- Setting the Corporate/Strategic goals
- Plans and objectives that convert strategic outcomes to business and tactical action at all levels
- Identifies and addresses risk
- Communication and engagement

Operations (Cl 8)

- Control the process to deliver targeted outcomes across all functions (Service delivery, Maintenance, Capital delivery)
- Consider how outsources activities are controlled and integrated.

Support (Cl 7)

- Provide resources (skills, IT, \$)
- Maintain or capability (competence)

Performance (Cl 9)

- Monitoring, measurement, analysis and evaluation

Improvement (Cl 10)

- Suitability, adequacy and effectiveness of AMS

Benefits of Asset Management framework

- The framework provides:
 - **Reduced risks** associated with ownership of assets – anything from unnecessary maintenance costs and inefficiency- to accident prevention
 - Improved **quality assurance** for customers/regulators
 - **Strategy for new business acquisitions** – a gained confidence that a strategy is in place to ensure assets meet the necessary safety and performance requirements
 - Support for **international business growth** – demonstrating that the requirements of an internationally recognized asset management system are being met

ISO 55001 as a Business Plan ?

Organisational Context:

- What is the organisation trying to achieve?
- Needs and expectations of stakeholders?
- What are our capabilities?

Strategy and Planning:

- Leadership and Commitment
- Roles/responsibilities across the organisation
- Performance Framework; and
- Risk Management

Operations

- HOW do we deliver outcomes
 - Asset Lifecycle, operational strategies, etc.

Support:

- Maintaining Capability (Skills, IT, Financial)

Governance Frameworks:

- AM Framework:
- Performance Management and continuous improvement

Opportunity for Integrated Management Systems

- Implementation of three ISO standards in an organization would ordinarily be engaged separately rather than simultaneously.
 - **Safety** is managed within an established department with procedures and practices. Driver=internal culture or mandated by commercial and regulatory concerns.
 - **Risk** is typically managed within the loss control departments. Driver= light or heavy influence from the applicable insurance company/stakeholders.
 - **Asset management** is usually handled by facility maintenance or engineering departments as a stand-alone endeavor (buildings, equipment and large value supplies may not overlap with safety department or the loss control activities).
- Risk impact due to the “siloiing” of various management functions
 - does not maximize the potential losses of staff, time, productivity or assets
- A convergence of these three systems = unique opportunity to develop a fully integration of management system (IMS) to manage or leverage risk.

Overcoming barriers

The potential convergence of these three Management System paradigms can be accomplished in three ways:

- by earning the absolute commitment by senior management;
- by establishing the three ISO standards within the company; and
- by implementing a convergence strategy of the three systems to work in harmony and synergy with each other.

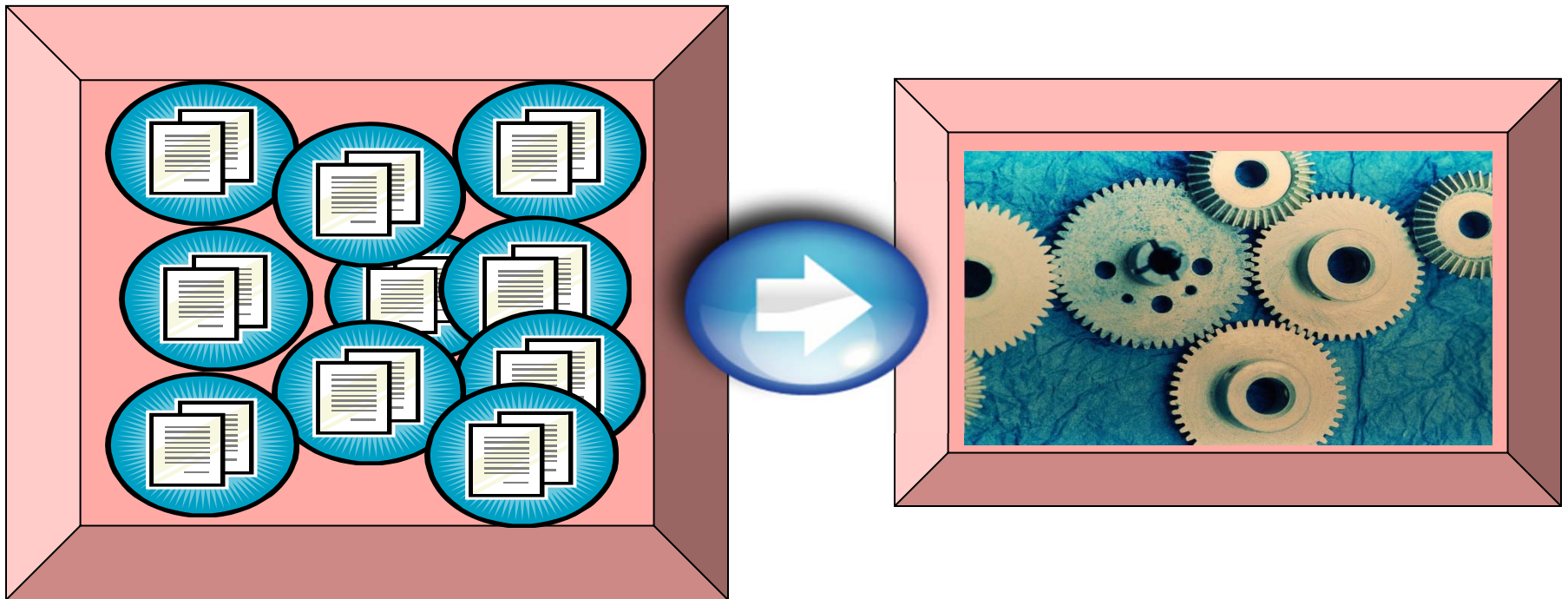


Where is the Value of Integrated Management Systems

- The biggest value in each of these frameworks lay in their promotion of continuous improvement, diligent management practices and ongoing monitoring.
- Organizations are increasingly looking to expand their risk management functions to help reduce potential future losses through:
 - Improved monitoring and reporting
 - Better risk identification and response
 - More risk-based decision making



Out of Chaos Comes Order



THANK YOU!

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