Integrating Safety, Health, Environmental & Quality Management Systems

October 30, 2002

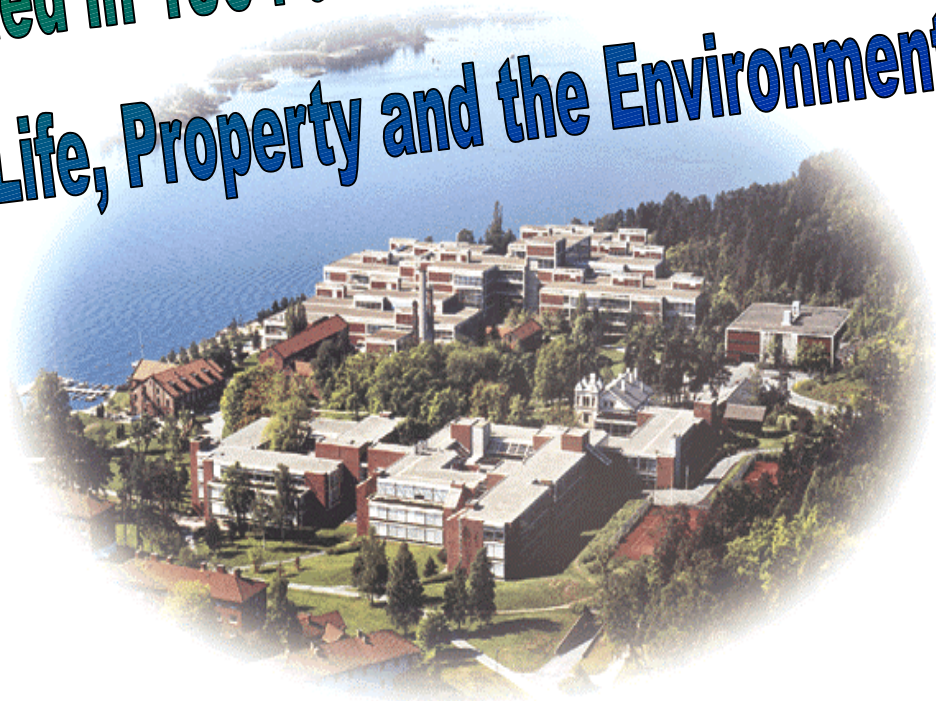
MANAGING RISK DNV

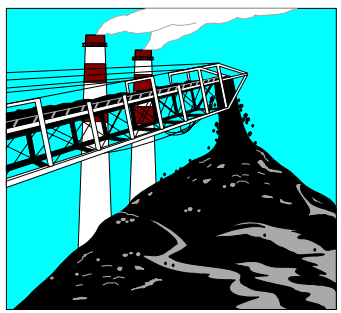
Objectives

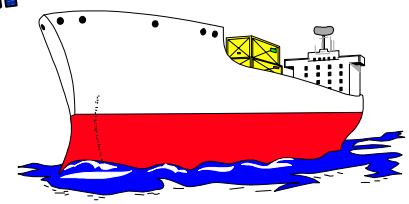
- Discuss benefits and risks of integrating safety and health, environmental and/or quality systems.
- Highlight similarities and differences among safety and health, environmental, and quality management systems.
- Present a systems integration process using a PDCA (plan, do, check, act) model.

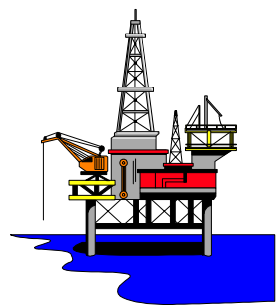
DNV

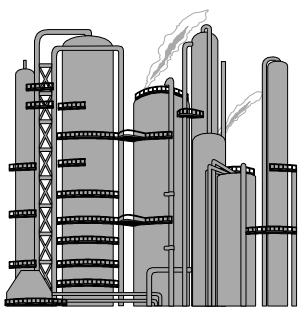
Established in 1864 and dedicated to Safeguarding Life, Property and the Environment.

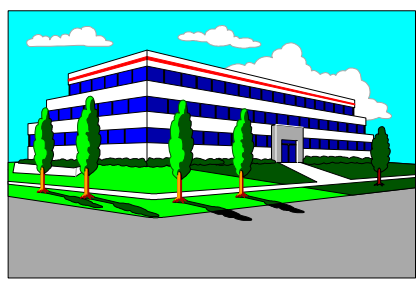












MANAGING RISK

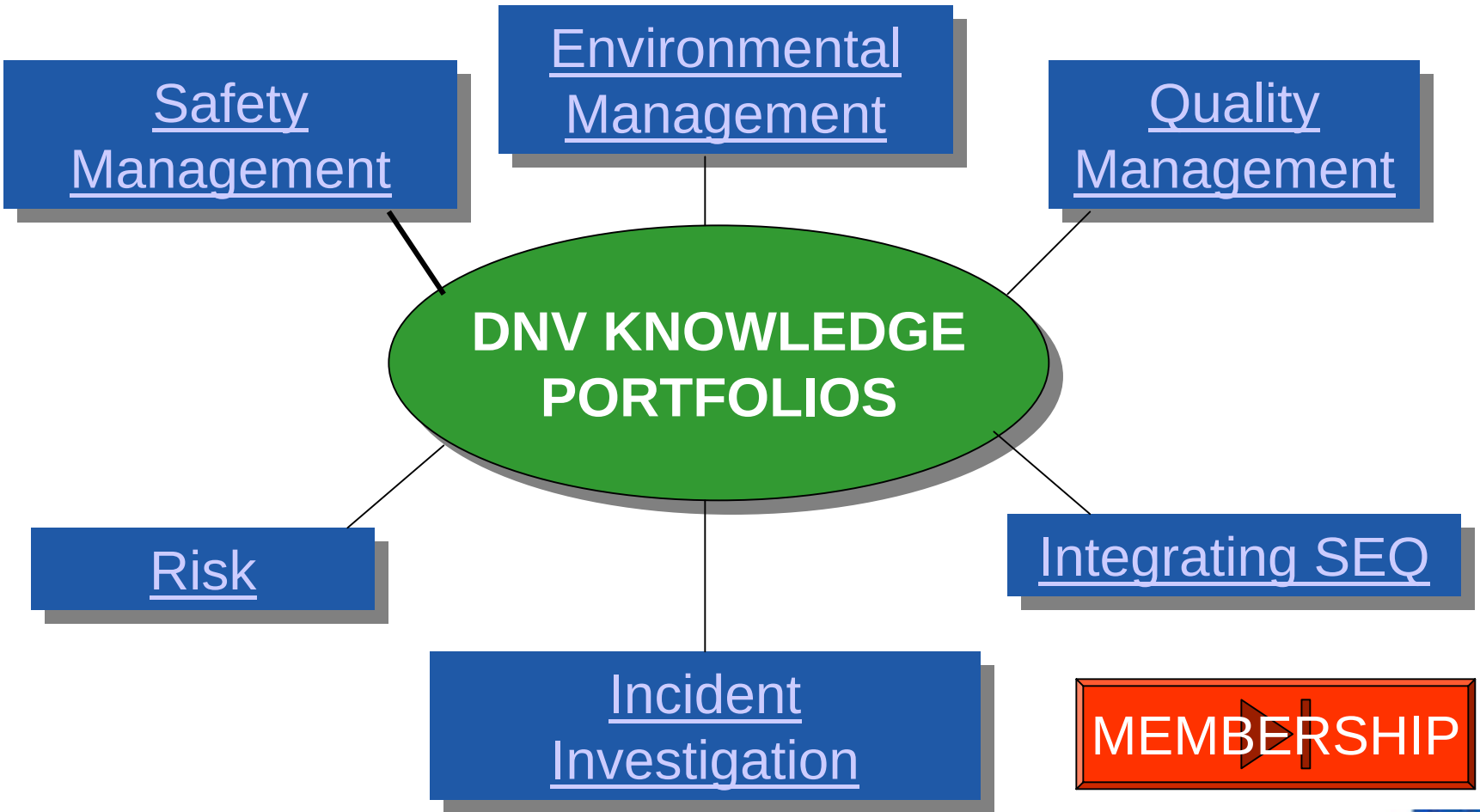
- Maritime - Ship Classification
- Petroleum/Oil & Gas
- Offshore
- Process
- Transportation
- Power Generation & Distribution
- General Industry
- *Risk Analysis and Management*
- *Product and Management System Certification*
- *Consulting & Training*

MANAGING RISK DNV

ABOUT DNVs EXPERIENCE INTEGRATING SYSTEMS

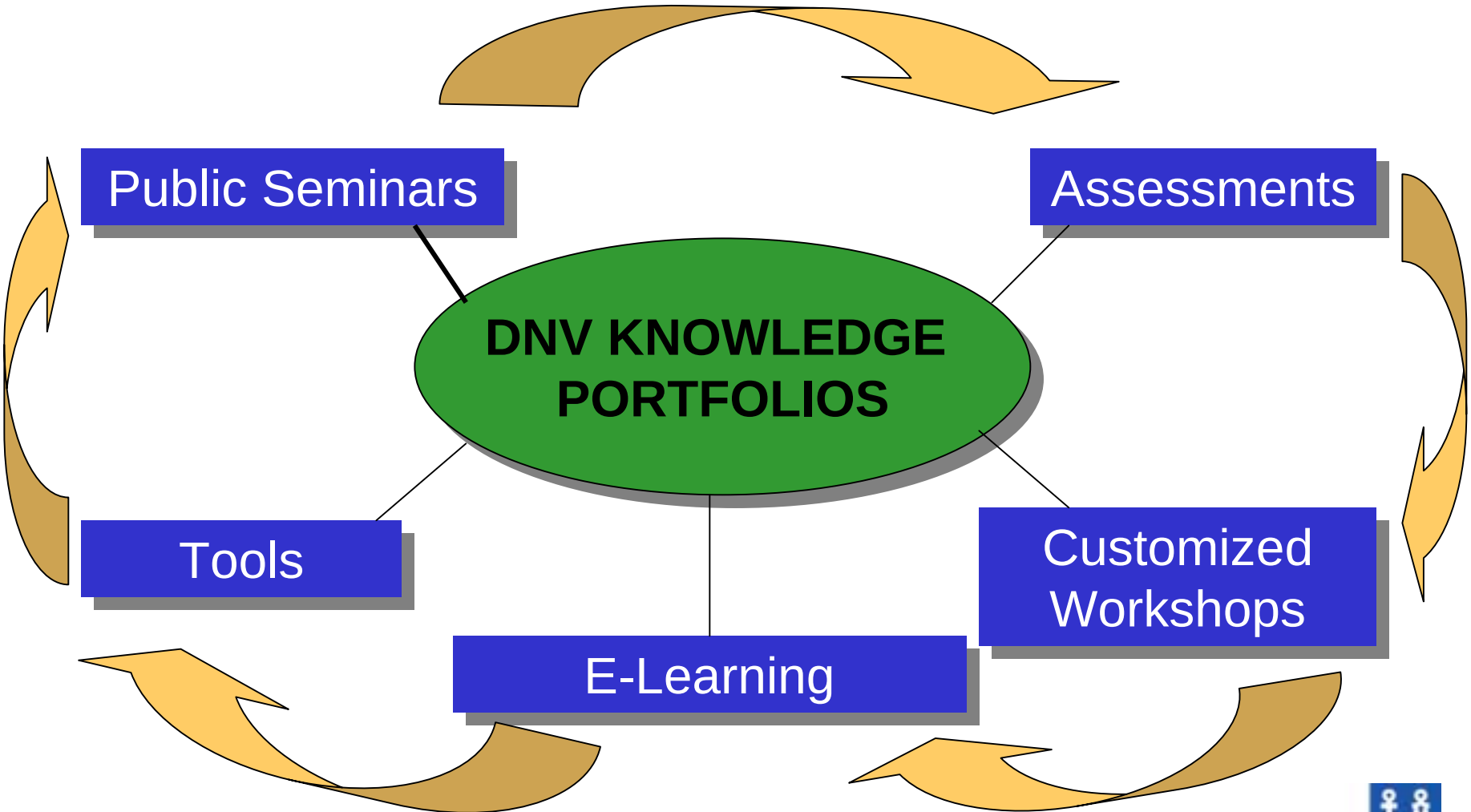
- A World Leader in Management System Certification
  - ISO 9001 and industry specific derivatives
  - ISO 14001
  - BSI/OHSAS 18001
- Rating Systems
  - IQRS
  - IERS
  - ISRS
  - PROSPER
- Customized Protocols
- Provider of Risk, Safety, Environmental and Quality Management Training

DNV Knowledge Portfolios: S-E-Q-R



MANAGING RISK

How We Transfer Knowledge To You:



MANAGING RISK

Training Services

DNV seminars are conducted publicly, and can be readily customized to meet your organization's unique needs.

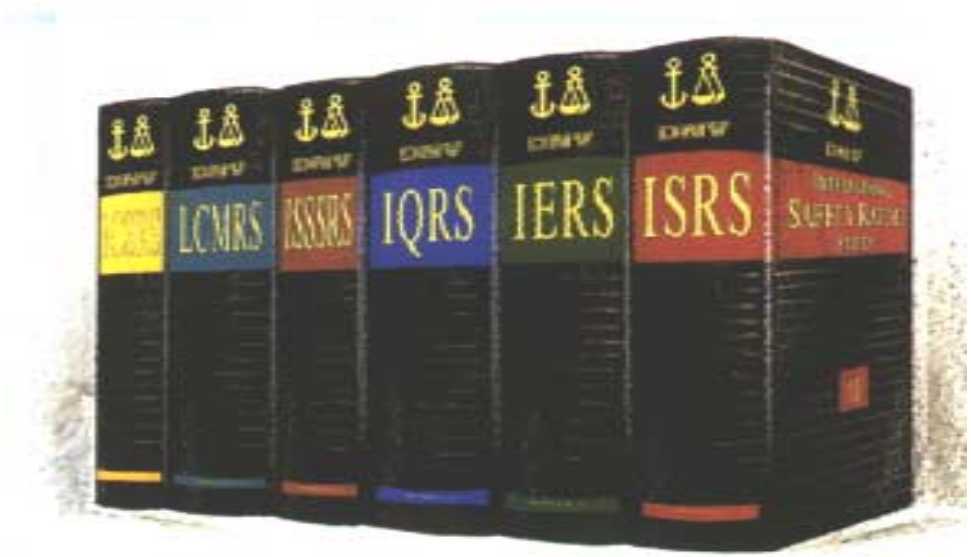
Skills that help you to immediately put "it" together!

MANAGING RISK

Assessment Services

How does your business measure-up?

DNV compares your business to our proprietary Safety, Environment, Quality and Risk management systems.



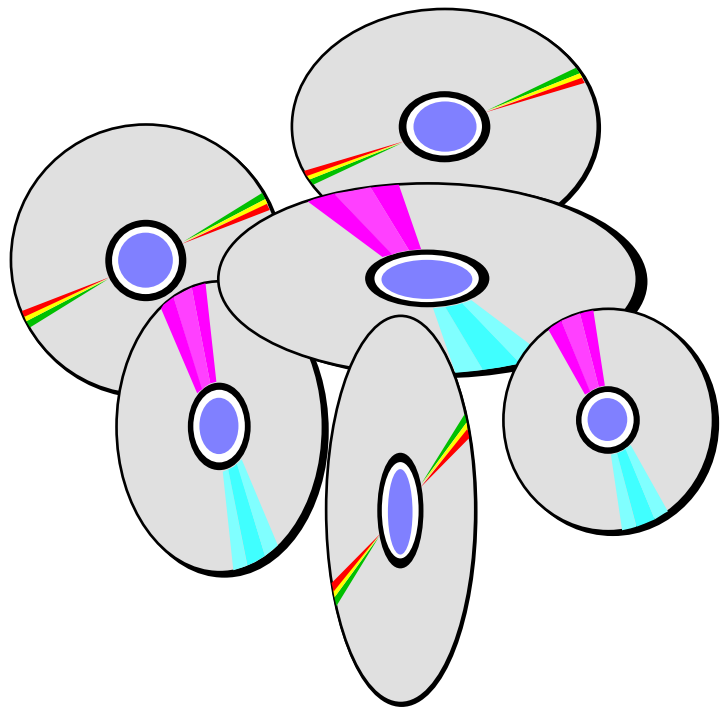
Our approach is to assess how your systems, culture, experience and the overall business environment shapes your risks, thereby providing the basis for goal setting and performance improvement.

MANAGING RISK

E-Learning

E-learning is a valuable means to ensure that everyone in your organization receives the knowledge they need in a timely, cost-effective way.

Our systems provide you real-time status reports of your personnel's training progress.

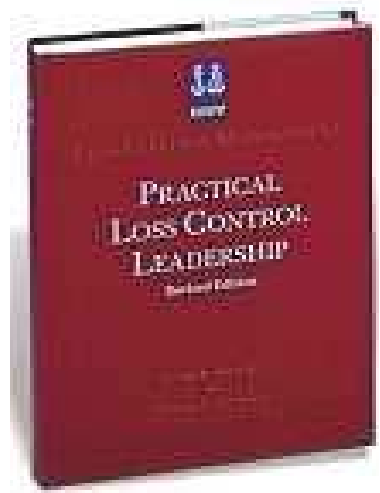


MANAGING RISK

Tools

Practical aids for organizations to use for independent implementation of critical SEQ-R activities, including:

- Videos
- Self-Study Programs
- Leadership Skills Series
- Compliance programs
- E-Tools/Software



MANAGING RISK

Why Integrate?

Business perspective

- Improve efficiency and effectiveness
- Reduce costs
- Reduce audit time
- Maximize resource utilization
- Develop a systems approach
- Demonstrate linkage to business strategy

Integration Pitfalls

- Loss of identity and focus on separate SHEQ activities
- Cultural resistance to change
- Fear/Loss of jobs
- Turf battles
- Focus on integrating standards

What's Paramount (at *risk*)?

Determine the Objective

Fully Understand ALL the significant Threats and Opportunities

Is the Organization Ready?

- Assess Status

MANAGING RISK DNV

DNV R Model

Enviornment

Culture

Experience

Systems

MANAGING RISK

Experience Dimension

Organization

- Past losses
- Results
- Citations
- Litigation

Individual / Group

- Personal relationships
- Training
- Successes/Failures
- Accumulated Experience

Environment Dimension

External

- Political
- Client
- Regulations/Standards
- Market Demands
- Economy
- Competition
- Seasonal Issues

Internal

- Infrastructure
- Facilities
- Workforce
- Knowledge
- Technology
- Work Ethic
- Processes
- Material

Culture Dimension

Individual

- Experience
- Values
- Attitudes
- Reward System
- Norms, Assumptions
- Ethics

Organization

- Liability/fear
- Appetite for Improvement
- Competition
- Management Style
- Risk Attitude, Tolerance
- Ethics

MANAGING RISK

System Dimension

Systems (& Processes)

- Knowledge/Information
- Change Management
- HR/Personnel
- Communications
- Training
- Control Systems
- ISO Compliant Systems

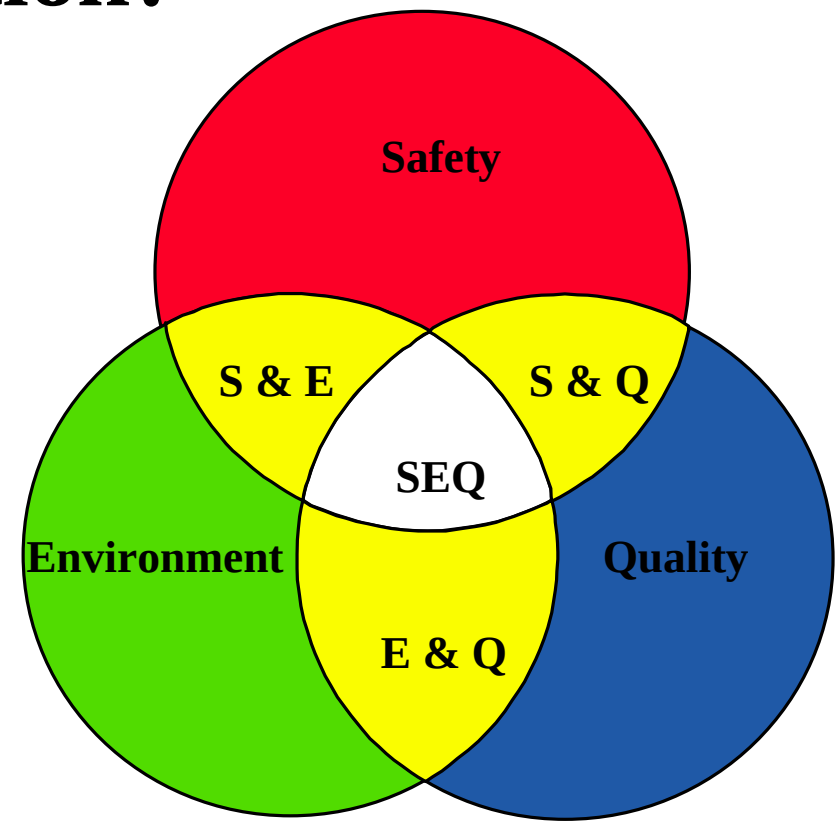
What you should be asking ..

"How can I integrate SHEQ systems to optimize opportunities, improve my processes, cut my costs, and **reduce my risks?"**

What Degree of Integration?

- Safety & Environment
- Quality & Environment
- Quality & Safety
- Safety, Environment and Quality

What combinations make sense for your organization?



Integration

Where to start - common activities

- Policy
- Management Review and Communication
- Contract Review
- Document and Records Control
- Planning
- Supplier Management
- Training
- Internal Auditing
- Corrective/Preventive Action

Is there a strong system to serve as an Anchor?

Alignment of OHSAS 18001, ISO 14001:1996 and ISO 9001:2000

OHSAS 18000	Clause	ISO 14000	ISO 9001
Scope	1	Scope	Scope
Reference Publications	2	Normative References	Normative References
Terms and Definitions	3	Definitions	Terms and Definitions
OH&S Management System Elements	3	Environmental Management System Requirements	Quality Management System
General Requirements	4.1	General Requirements	4.1 General requirements
OH&S Policy	4.2	Environmental Policy	5.1 Management commitment 5.3 Quality policy
Planning	4.3	Planning	Planning
Planning for Hazard Identification, Risk Assessment, & Risk Control	4.3.1	Environmental Aspects	5.2 Customer focus 7.2.1 Determination of requirements related to the product 7.2.2 Review of requirements related to the product
Legal and Other Requirements	4.3.2	Legal and Other Requirements	5.2 Customer focus 7.2.1 Determination of requirements related to the product
Objectives	4.3.3	Objectives and Targets	5.4.1 Quality objectives

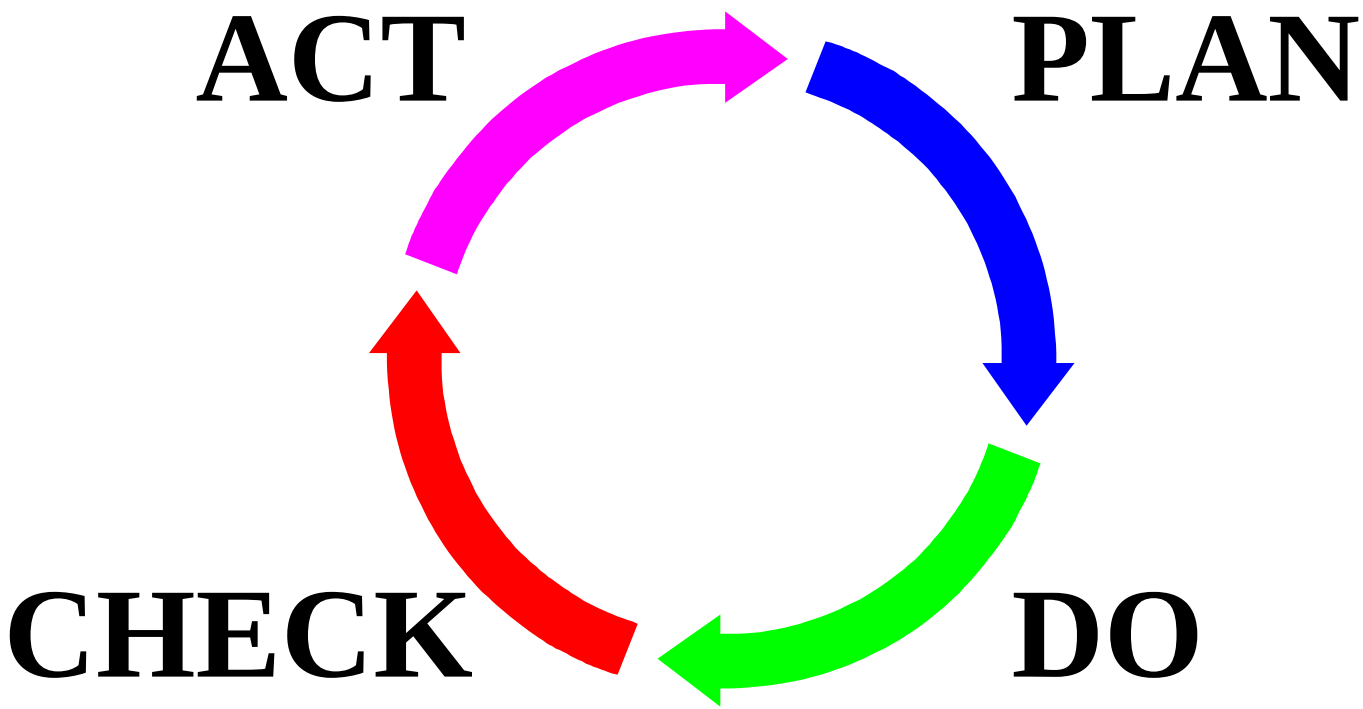
Alignment of OHSAS 18001, ISO 14001:1996 and ISO 9001:2000

OHSAS 18000	Clause	ISO 14000	ISO 9001
Implementation and Operation	4.4	Implementation and Operation	7 Product realization
Structure and Responsibility	4.4.1	Structure and Responsibility	5 Management responsibility 6 Resource management
Training, Awareness and Competence	4.4.2	Training, Awareness and Competence	6.2.2 Competence, awareness and training
Consultation and Communication	4.4.3	Communication	5.5.3 Internal communication 7.2.3 Customer communication
Documentation	4.4.4	Environmental Management System Documentation	4.2 Documentation requirements 4.2.2 Quality manual
Document and Data Control	4.4.5	Document Control	4.2.3 Control of documents
Operational Control	4.4.6	Operational Control	7 Product realization
Emergency Preparedness and Response	4.4.7	Emergency Preparedness and Response	8.3 Control of nonconforming product

Alignment of OHSAS 18001, ISO 14001:1996 and ISO 9001:2000

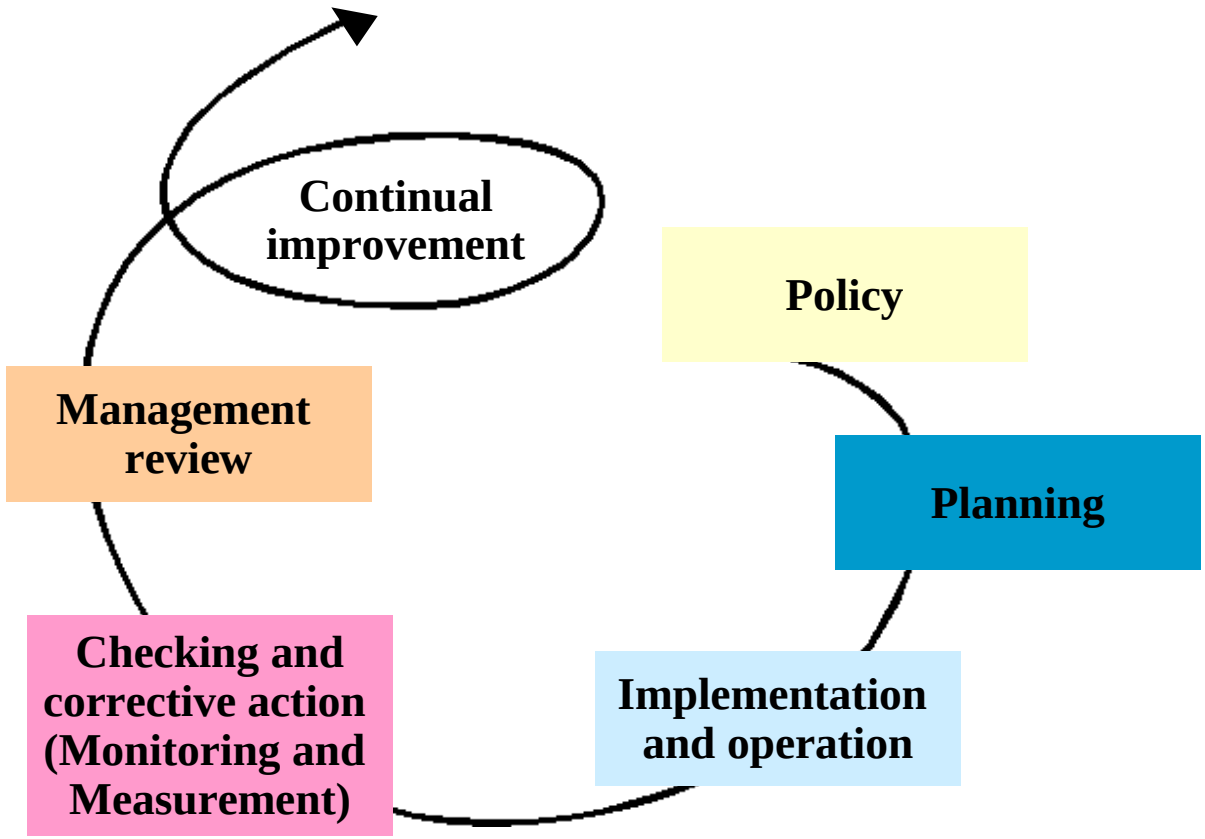
OHSAS 18000	Clause	ISO 14000	ISO 9001
Checking and Corrective Action	4.5	Checking and Corrective Action	8 Measurement, analysis and improvement
Performance Measurement and Monitoring	4.5.1	Monitoring and Measuring	7.6 Control of monitoring and measuring devices 8.1 General 8.2 Monitoring and measurement 8.2.1 Customer satisfaction 8.2.3 Monitoring and measurement of processes 8.2.4 Monitoring and measurement of product 8.4 Analysis of data
Accidents, Incidents, Non-conformances, & Corrective & Preventive Action	4.5.2	Non-conformances, and Corrective and Preventive Action	8.3 Control of nonconforming product 8.5.2 Corrective action 8.5.3 Preventive action
Records and Record Management	4.5.3	Records	4.2.4 Control of records
Audit	4.5.4	Environmental Mgt System Audit	8.2.2 Internal audit
Management Review	4.6	Management Review	5.6 Management review

Management Control Process



MANAGING RISK

COMMON MANAGEMENT PROCESS FOR SYSTEM INTEGRATION



CONTROL ACTIVITIES

Overview

1. General Policy
2. Loss Control Planning
3. Loss Exposure Identification and Evaluation
4. Regulations and Permits to Operate
5. Design of Products and Services
6. Organizational Structure and Responsibility
7. Training
8. Communications and Promotion
9. Documentation and Records
10. Operations Control
11. Inspection and Testing
12. Rules and Work Permits
13. Logistics and Contractor Management
14. Emergency Preparedness
15. Monitoring and Assessment
16. Incident Investigation
17. Management Review

MANAGING RISK

Policy Considerations

- Continual improvement of SHEQ performance
- Personal Injury, Property Damage & Process Loss
- Occupational Health/Industrial Hygiene.
- Prevention and Pollution to the Environment.
- Customer requirements
- Commitment to comply with regulatory and other applicable requirements

Policy Considerations

- Contractor/supplier relationships
- Liability
- Reduction of losses and risks
- Product/Service description
- Fire, Security
- HSQE Indicators

CONTROL ACTIVITIES- Planning

1. General Policy

2. Loss Control Planning

3. Loss Exposure Identification and Evaluation

4. Regulations and Permits to Operate

5. Design of Products and Services

9. Documentation and Records
10. Operations Control
11. Inspection and Testing
12. Rules and Work Permits
13. Logistics and Contractor Management
14. Emergency Preparedness

15. Monitoring and Assessment
16. Incident Investigation

17. Management Review

MANAGING RISK

CONTROL ACTIVITIES-Implementation

1. General Policy
2. Loss Control Planning
3. Loss Exposure Identification and Evaluation
4. Regulations and Permits to Operate
5. Design of Products and Services
6. Organizational Structure and Responsibility
7. Training
8. Communications and Promotion
9. Documentation and Records
10. Operations Control
11. Inspection and Testing
12. Rules and Work Permits
13. Logistics and Contractor Management
14. Emergency Preparedness

MANAGING RISK DNV

CONTROL ACTIVITIES-Monitoring and Measurement

1. General Policy
2. Loss Control Planning
3. Loss Exposure Identification and Evaluation
4. Regulations and Permits to Operate
5. Design of Products and Services
6. Organizational Structure and Responsibility
7. Training
8. Communications and Promotion
9. Documentation and Records
10. Operations Control
11. Inspection and Testing
12. Rules and Work Permits
13. Logistics and Contractor Management
14. Emergency Preparedness
15. **Monitoring and Assessment**
16. **Incident Investigation**

MANAGING RISK DNV

Issue to Consider	Separate Audits	Concurrent Audits	Integrated Audits
Ease of scheduling of auditors	+	-	-
Disruption to the company by having external auditor	-	+	+
Viewed and audited as a single system	-	-	+
Streamlined audit process	-	-	+
Possible reduction in audit time	-	-	+
Possible reduction in costs	-	+	+
Reduction in audit reporting time	-	-	+
More stringent requirements of the standards apply	+	+	-
Company expends more time on internal coordination efforts	+	+	-
Reduced number of invoices	-	+	+
Improved system performance	-	-	+
Integration of safety system	-	-	+

CONTROL ACTIVITIES-Management Review

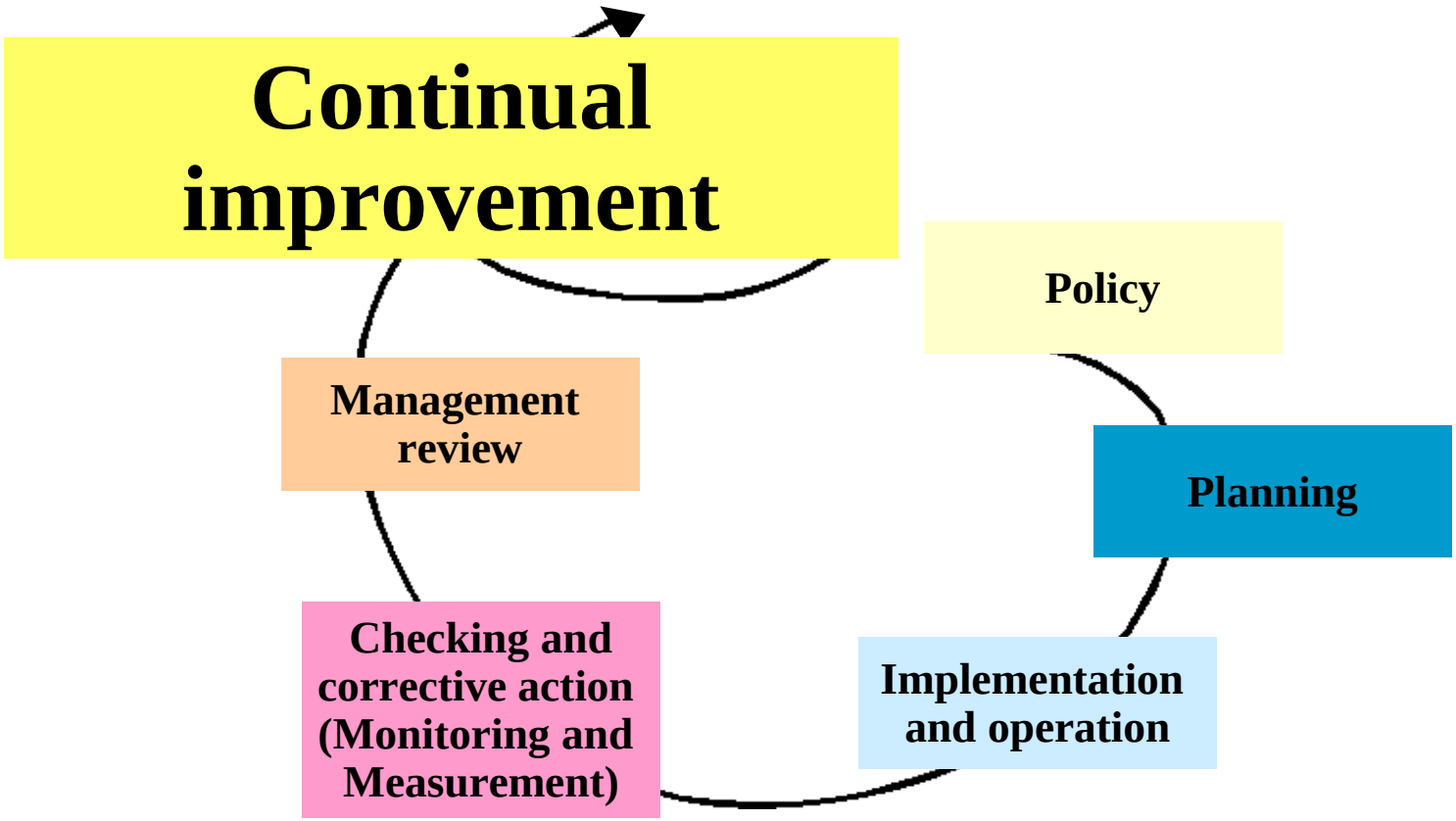
1. General Policy
2. Loss Control Planning
3. Loss Exposure Identification and Evaluation
4. Regulations and Permits to Operate
5. Design of Products and Services
6. Organizational Structure and Responsibility
7. Training
8. Communications and Promotion
9. Documentation and Records
10. Operations Control
11. Inspection and Testing
12. Rules and Work Permits
13. Logistics and Contractor Management
14. Emergency Preparedness
15. Monitoring and Assessment
16. Incident Investigation

17. Management Review

MANAGEMENT REVIEWS

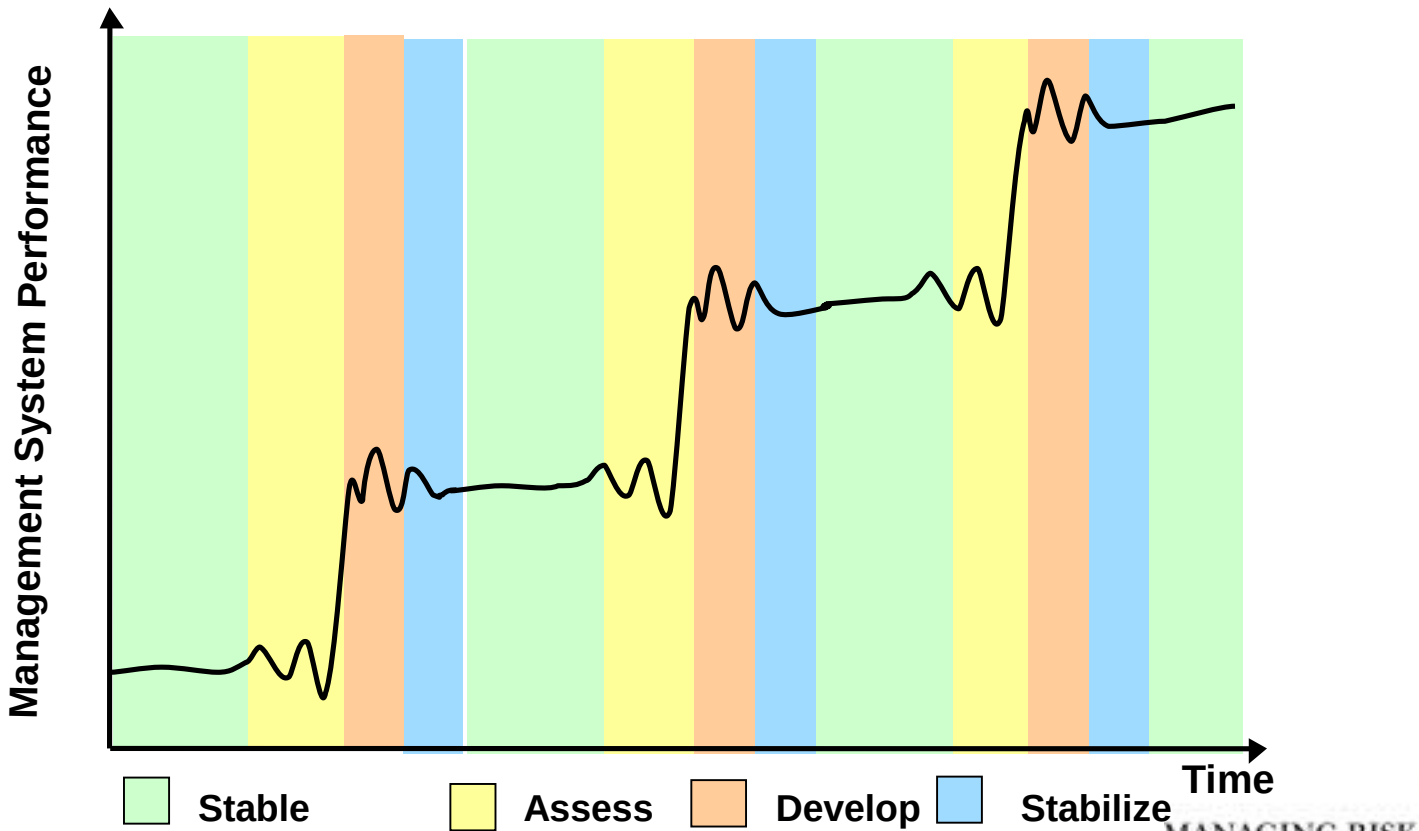
- SHORT TERM OBJECTIVES
- CONTROL ACTIVITIES IMPROVEMENT
- SYSTEM IMPLEMENTATION
- LONG TERM OBJECTIVES

COMMON MANAGEMENT PROCESS FOR SYSTEM INTEGRATION



MANAGING RISK

Management System Performance Improvement



MANAGING RISK

What's Paramount for Success ?

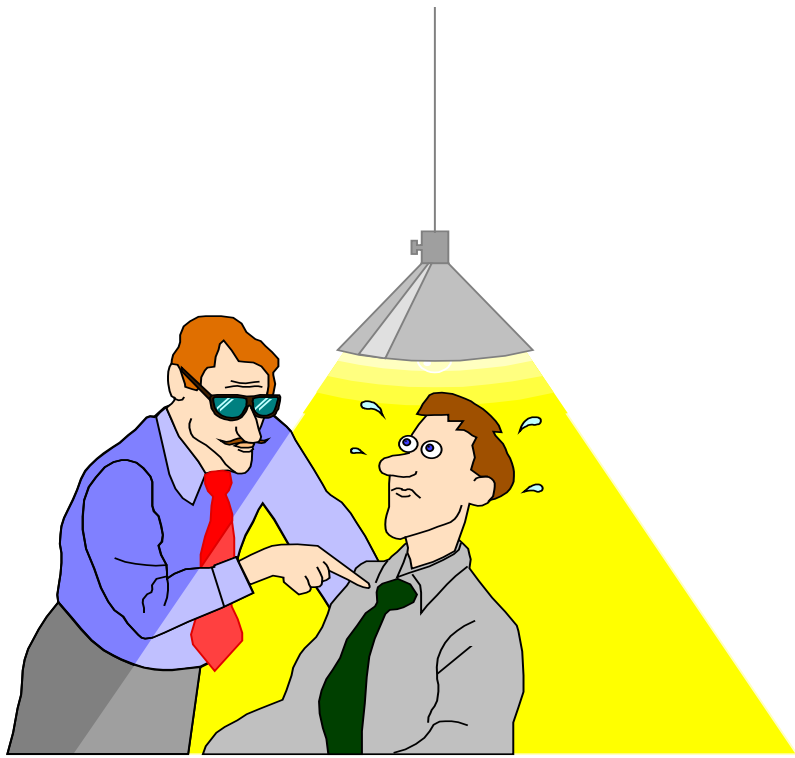
Stay Focused on the Objective

Fully Understand ALL the significant Threats and Opportunities and Continually Re-Evaluate.

Conclusion

Whether or not "Integrated Systems" will be the trend in years to come will depend on how companies perceive integration as one of the means to continually improve Safety & Health (and E & Q), be more efficient and effective, and
maintain a competitive edge.

Questions?



MANAGING RISK