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Quality and
Environment, Health and Safety
Management Systems
Development & Integration

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Training, Consulting, Auditing

09/05

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Career Highlights:

- Top 100 Women in Canada Award 2004
- Award of Merit, Outstanding Business, Brampton Economic Development 2002
- Trainer/Auditor/Consultant/Speaker/Writer in ISO 14001, ISO 9001:2000 OHSAS 18001, ISO/TS 16949 & Auditing ISO 19011.
- Certified Environmental Auditor: CEAA, IEMA, BEAC
- Developed first on-line ISO E-learning in North America for assisting organizations in implementing a cost effective management system
- Author " ISO 9001:2000" Pilot Guide to Implementing a Quality Management System - published by Specialty Technical Publishers
- Developed auditing protocols 1995 – Canada – CEAA and member of training committee - BEAC – US
- Assisted Registrars & Companies in internal and lead auditor training and organizations in implementing ISO management systems since 1995
- 17+ years Management Systems Work Experience, 28 years in business development.

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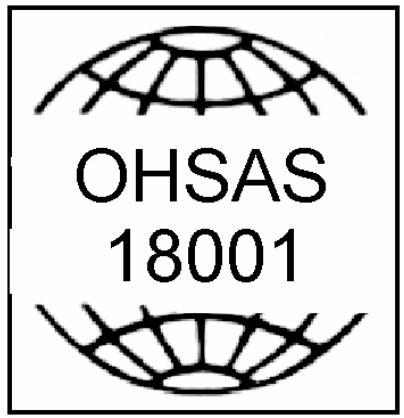
Presentation

- ISO Management System Standards?
- Background on ISO Survey
  - ISO 9001 Quality
  - ISO 14001 Environment
  - OHSAS 18001 Occupational Health & Safety
- Registrar's input – Integration stats
- Why Integrate?
- Approaches
- Pilot's Three Step Process for Integration
- Benefits of Integration

Main Management System Standards

Quality

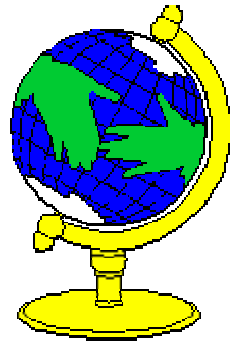
Environment



Health & Safety

Auditing

Benefits of ISO MS



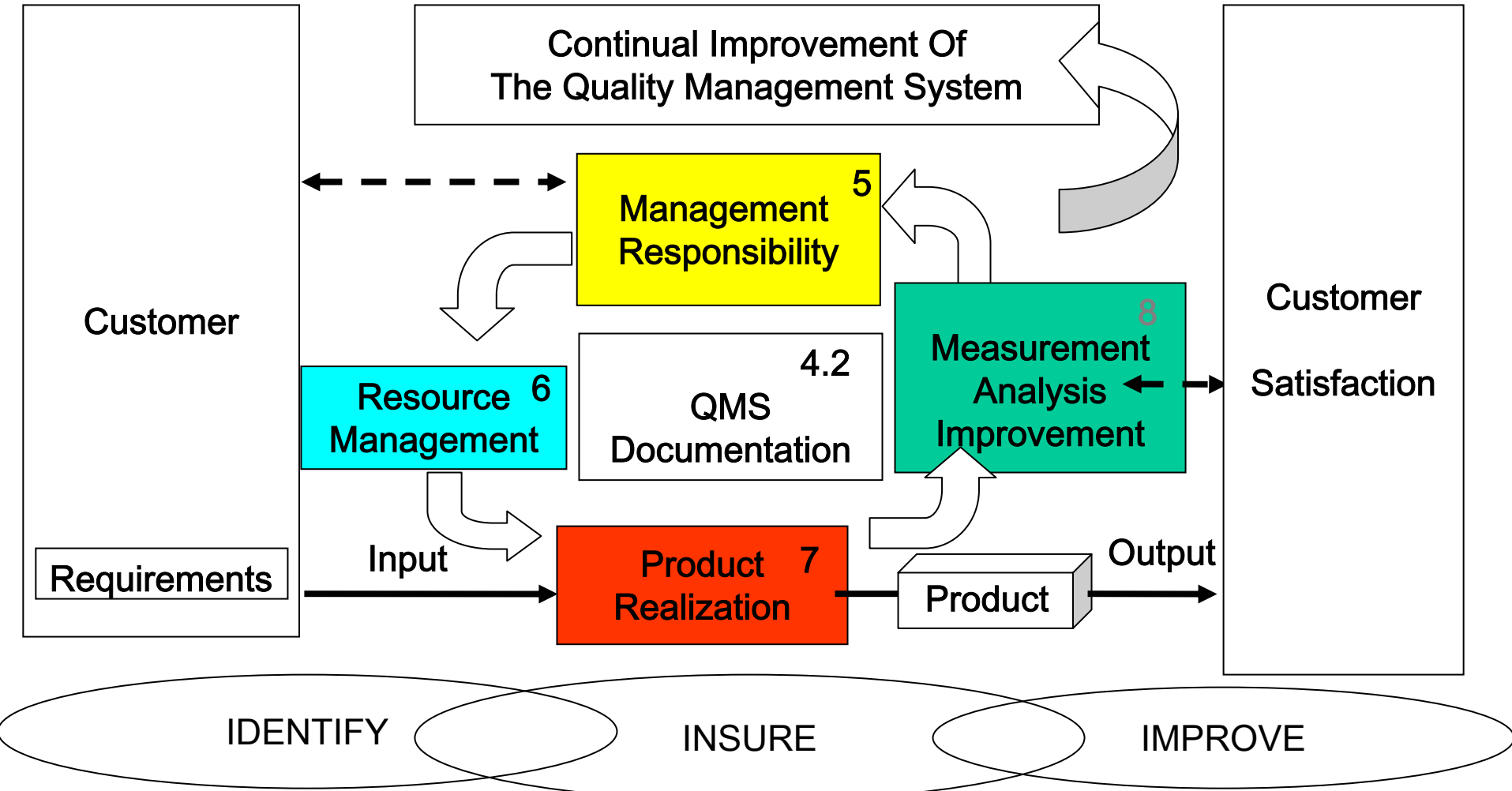
- All interested parties around the world understand the foundation or framework to which the management system was implemented when it is to ISO.

We can make the assumptions and conclusions that the company has:

- **Identified** its processes, activities, risks, legal and other requirements and associated tasks. Identified its plans
- **Insured implementation** - Insured plans are documented, implemented, and maintained, providing resources, communications, training, emergency preparedness, and systems to monitor and measure performance, accident/incidents.
- **Improved** its management system through its objectives, targets and programs, data analysis, its monitoring of operations and tracking of non-conformances, corrective/preventive actions. Internal and third party audits with management reviews.

= Performance, Productivity and Profits ©

Quality Management System Model
ISO 9001:2000 – Pilot's 3 I's



Plan-Do-Study-Act (PDSA) Cycle now known as Plan-Do-Check-Act

- W. Edward Deming – key quality practitioner developed his own quality philosophy with tools to assist organizations in implementation of quality in their business. 1940's
- Worked for the US government – Dept of Agriculture and Bureau of Census.
- He assisted in rebuilding the Japanese industry after World War II. - statistical control of processes.

ISO 2004 Survey – ISO 9001

- Up to the end of December 2004, 670,399 ISO 9001:2000 certificates had been issued in 154 countries
- This represents an increase of 35% over 2003 and 64% over 2000 (yr. before the transition.
- The standard was updated December 15, 2000.
  - ISO 2004 Survey results were out-sourced to ACNielsen, Vienna, Austria

ISO 2003 Survey - 9001

- Up to the end of December 2003, at least 500,125 ISO 9001:2000 certificates had been issued in 149 countries. This was an increase of +200% over 2002, when the total was 167,210 in 134 countries. December 2001 there was a total of 44,388.

- Tremendous growth in quality management system implementation around the world since the year 2002. This is an indication for business how important the ISO 9001standard has become.

- It is also the base for the automotive industry ISO/TS 16949:2002 and the medical devices sector ISO 13485:2003.

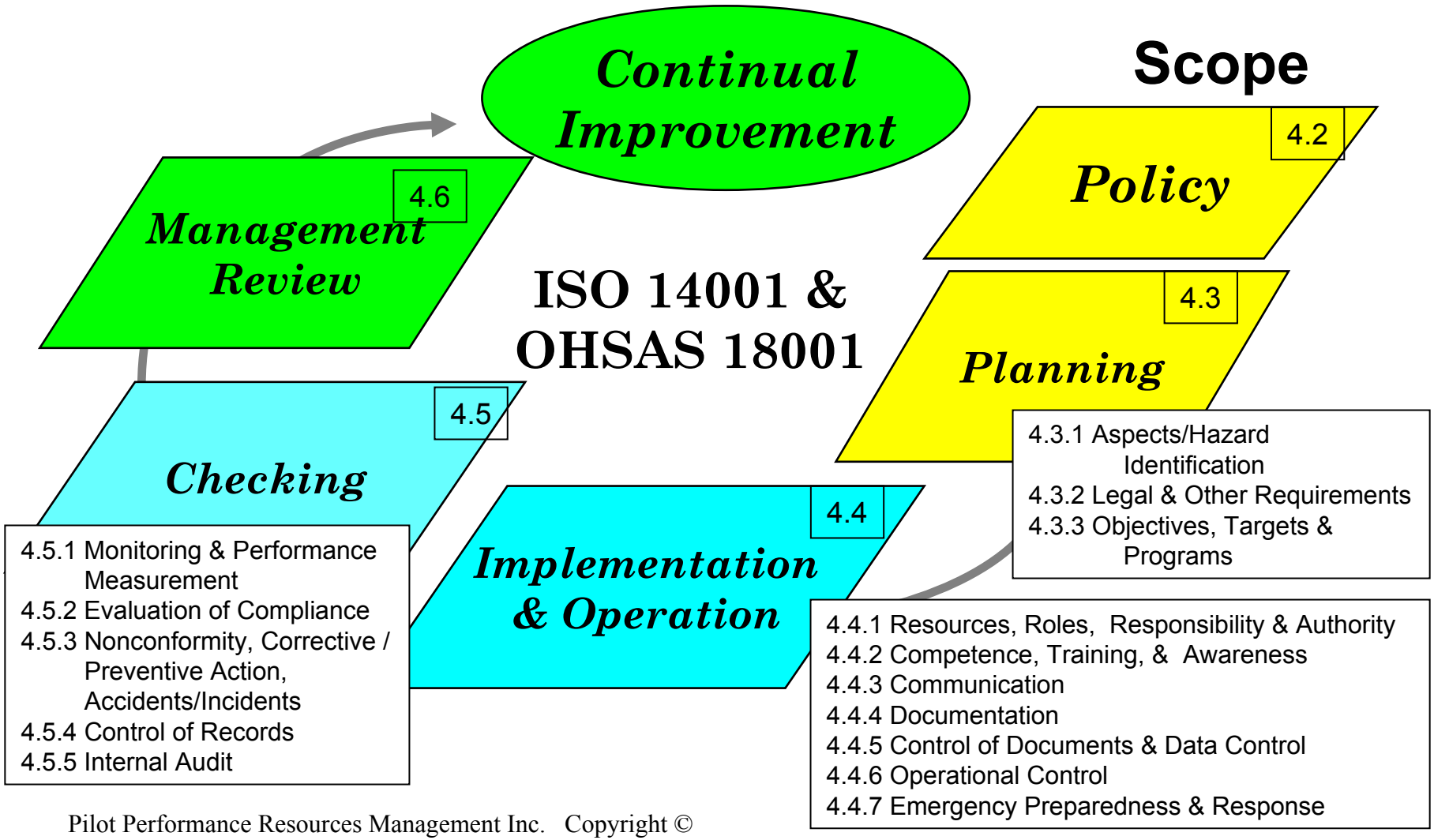
ISO Survey 2004
Top Ten countries for ISO 9001:2000 certificates

	2003		2004
China	96,715	China	132,926
Italy	64,120	Italy	84,485
UK	45,465	UK	50,884
Japan	38,751	Japan	48,989
Spain	31,836	Spain	40,972
USA	30,294	USA	37,285
Germany	23,598	France	27,101
Australia	19,975	Germany	26,654
France	15,073	Australia	17,365
Korea, Rep	12,846	India	12,558

ISO Survey 2004
9001 Certificates in North America

	2001	2002	2003	2004
USA	1,104	4,587	30,294	37,285
Canada	704	2,125	8,454	9,286
Mexico	79	265	1,437	3,391

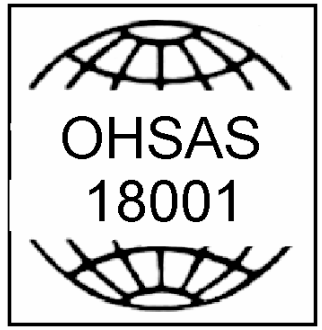
Environment, Health & Safety - EHS Management System Model



ISO Survey 2004
ISO 14001

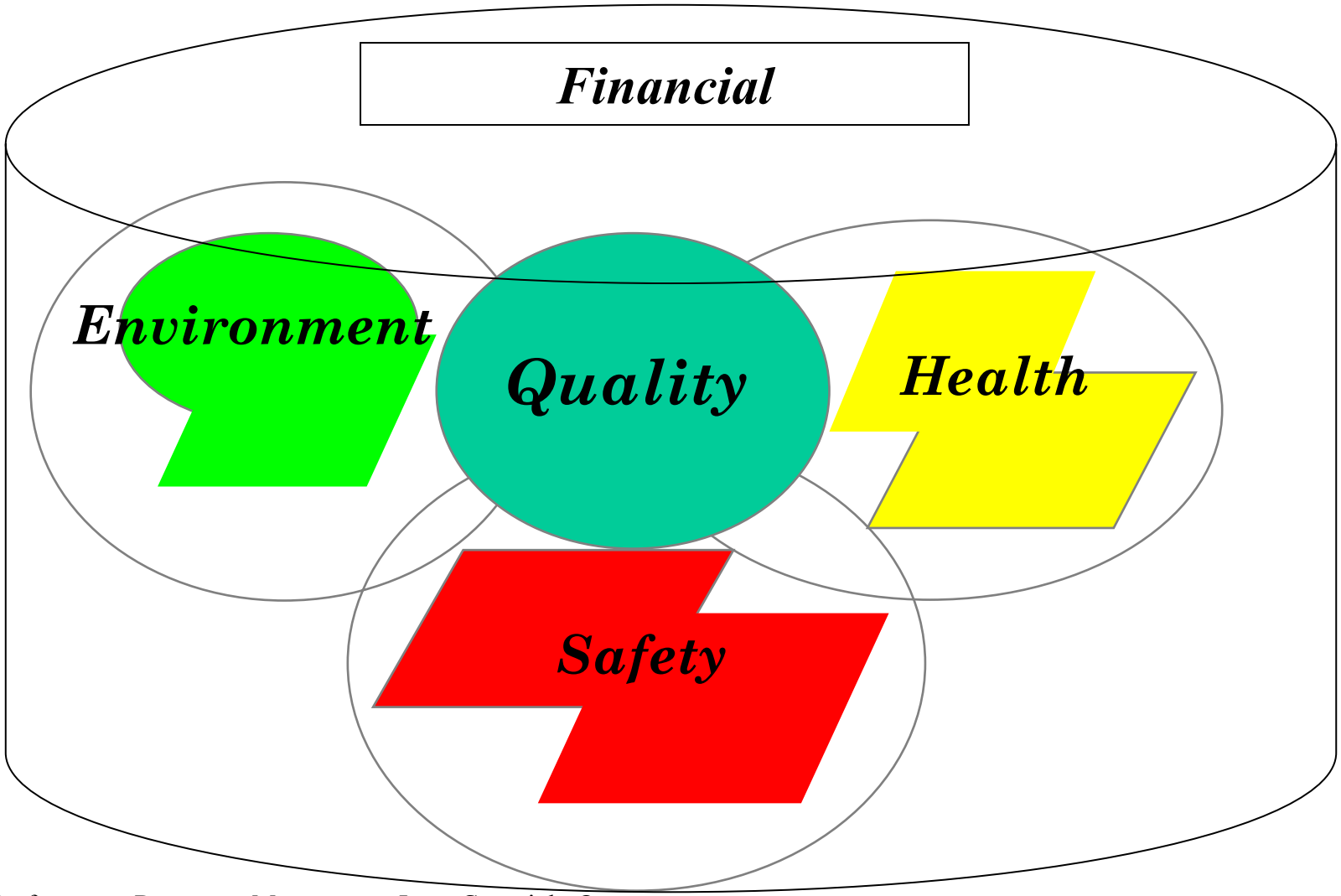
- Number of certificates in 2004 was 90,569 in 127 countries, up from the 113 countries the year before.
- Increase was 37% over the previous year, 2003, which had 66,070 certificates.
- Largest number of certificates so far recorded in the ten surveys which ISO 14001 was included in.

OHSAS 18001



- OHSAS 18001 is not a International Standard, it is a specification developed by the British Standards Institute (BSI)
  - Intended to guide organizations in managing effective occupational health & safety management systems and improve performance, insuring regulatory and management system requirements are met.

Integrating QEHSF or SHEQF



QMI - Registrar's Input on Stats for Integration

- QMI currently has over a dozen integrated audits mostly 14001 and Occupational Health and Safety.
- The numbers of integrated audits are growing.

QMI September 2005

BSI – Registrar's Input on Stats for Integration

- In Canada we have 6 clients with all Three certificates. Of these 6 clients, only 4 have fully integrated management systems – the other 2 have partial integration.

- The 4 noted above with fully integrated systems (one policy, one set objectives, ..., one management review, etc.) have long-time buy-in to having one business management system to meet their business needs and mitigate risk. They've customized and are thankfully past the development stage of referring to anything or one particular component as their "ISO system". Our audit approach looks to encourage this kind of integration in line with the revisions to each of the standards and for performance improvement to the extent possible given BSI's 3rd party status.

BSI – Registrar's Input on Stats for Integration

- We have numerous clients with 9/14, TS16949/14 and 14/18 registration combinations, but registration numbers are still relatively modest for full integration 9/14/18.

- That said, some clients with 9/14 or 14/18 also have integrated systems, but have not registered to all three standards.

» BSI September 2005

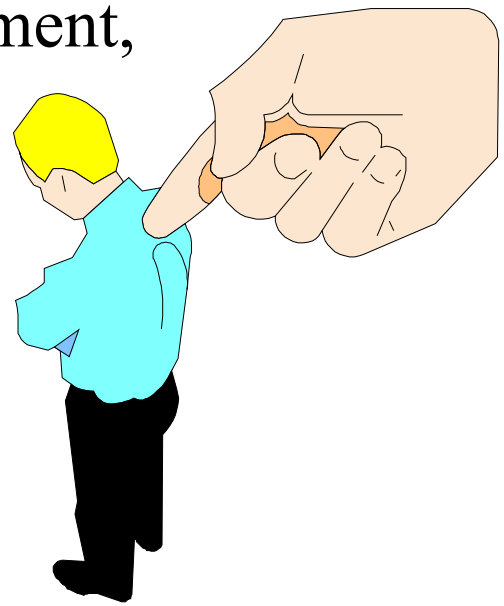
Why Integrate?

- **Identify your Whole Management System**
  - Formalize your systems
  - Reduce duplication and improve costs - profits
  - Reduce risks and impacts
  - Focus on business goals, improve and measure and balance conflicting objectives
- **Insure that you.**
  - Eliminate conflicting procedures, responsibilities and relationships
  - Create consistency
  - Harmonize and optimize practices
  - Improve communication
  - facilitate training and development
- **Improve what you do**
  - Financial Returns
  - Customer Satisfaction
  - Monitoring what you Measure

Management Systems to ISO – Identification/Management of Risks Due Diligence

An integrated management system provides to an organization a review of all risks tied to the organization's operations.

Insuring that it manages and monitors all areas of risk from financial to quality, environment, health & safety and security.



Corporate directors can no longer play passive roles in compliance.

Integration Approaches

- Adding to Present Management Systems

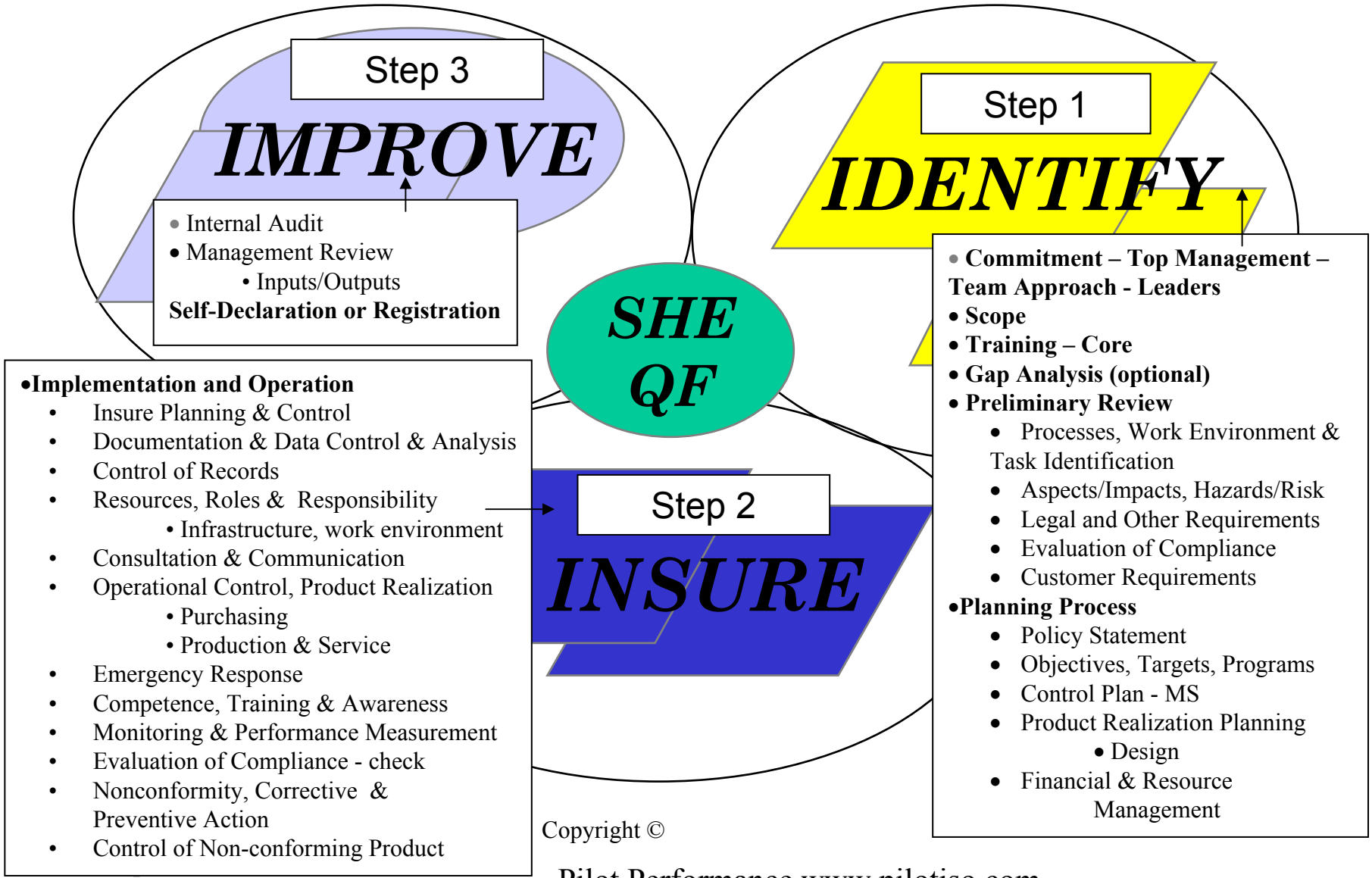
- Merging Systems
  - Merging documentation where it supports the same requirements. Systems can remain separate and reference applicable areas.

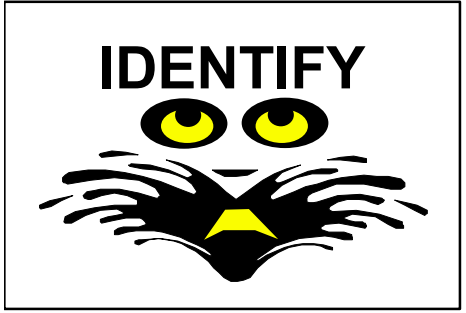
- Process Approach
  - Looking at the business as a whole – establishing core processes to establish its mission. Review of Financial, Quality, Environment, Health & Safety for all Processes.

Pilot's Three I's Approach For Integrated Management Systems

Safety, Health, Environment, Quality, Financial - SHEQF

Pilot's Three Step Process for Implementing An Integrated Management System





Step One - Identify

- Identify commitment - need for Integrated Management System
  - If yes, Are you going to self-declare or register
- Define Scope of Management System
- Identify person(s) responsible for system - MS Representative (s), Team Leaders
- Identify Training Requirements – How accomplished – ISO on-line E-learning
  - Train key personnel – Standard requirements (Core Training)
  - Internal or Lead Auditor training, skills training identified
- Gap Analysis – (if required)
- Preliminary Review: Processes
  - Identify Corporate and ISO Requirements
  - Identify Risks: Quality, Environment, Health & safety, Financial.
  - Identify Legal & Other Requirements:
- Planning: Policy, Objectives, Targets & Program
- Control Plan: Control of operations for customer quality satisfaction, continuous improvement, prevention of pollution, reduction of accidents/incidents tied to the bottom line.

Tools

- Diagrams: Site, Process, Risk Areas
- Control Plan
- Software programs or data bases - tracking
  - Objectives - programs
  - Training
  - Monitoring & measurement, data analysis
  - Non-conformances/Non-compliances
  - Auditing

Identify – Risks
Environmental Example

AIR EMISSIONS
- Boilers, Stack, Vehicles, Indoor Air Quality, Filtration Systems, Air Pollutants, Confined Space

HAZARDOUS MATERIALS MANAGEMENT
- AST/UST – Gasoline, Chemical, Waste
- Chemical Storage, Collection, Process

RESOURCE CONSUMPTION
- Utilities/Water
- Raw Materials

TRANSPORTATION
- Waste

Waste Industry

LAND MANAGEMENT
- Spills, Soil Sampling
- Acid Generation/Drainage
- Contaminated Site
- Property Acquisitions

EMERGENCIES
- Explosions, Fires
- Natural Disaster
- Spills, Clean-Ups

WASTE MANAGEMENT
- Treatment - Landfill
- Conventional Waste
- Recycling Materials
- By-products
- Special Waste – Medical Waste/Radioactive
- Liquid Chemical

WATER
- Condenser Cooling Water
- Neutralization Sump

<u>Wastewater Discharge</u>
- Sewage Treatment
- Sanitary Sewer
- Oil/water Separator

NOISE/ DUST/ ODOUR EMISSIONS

Identify – Risks
Occupational Health & Safety Example

Chemical
Mists/aerosols, gas, vapors, fumes, smokes, dust/fibers
Toxic, corrosive, explosive, reactive, unstable, carcinogenic, reproductive hazard, irritant, sensitizing, nerve or tissue damage

EMERGENCIES - Safety
- Explosions, Fires
- Natural Disaster, weather, spills, Clean-Ups

Ergonomics Repetitive Motion Injury
- Poor posture, lifting – back ache/strain – heavy loads, improper manual material handling: fatigue, incorrect seating or work equipment. Perceptual confusion or overload. Eyestrain/headaches, poor lighting, glare/flicker on computer screen

Waste Industry

Mechanical
- Machine parts – unguarded, moving parts, falling objects or products, moving objects – forklifts, equipment parts, motor vehicles, etc.

Biological
- Bacteria, viruses, fungi, moulds, mites, insects, parasites, plant, animal, blood

Physical
- Noise, temperature, heat/cold, illumination, vibration, pressure, radiation

NOISE/ DUST/ ODOUR EMISSIONS

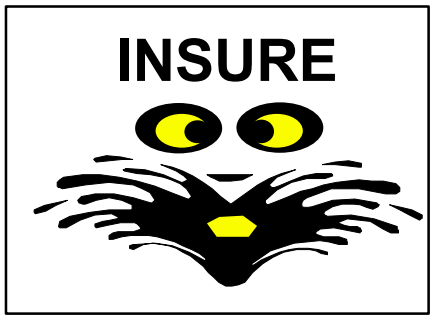
Special
- Confined spaces, air supply, unfamiliar worksites, etc.

Control Plan

Process Area of Activity	Risk E, H&S, Q, S	Control Method	Monitoring Measurement Frequency	Verification Documents	Dept Authority	Obj	Program Leader
Furnaces	E Air Emissions	Prev. Mtce.	PM	Work order data base	Mtce.		
		Furnace Control sht Calibration	Furnace – temperature Controls	Form ……. Form……			

Plan # _____ Issued Date: _____ Prepared By:_____ Revision: _____

Approvals: _____



Step Two - Insure

Implementation and operations of plans

- Documentation, Data Control & Analysis
  - Manual (4.4.4)
  - Procedures Manual (4.2 – 4.6)
  - Records (4.5.4)
  - do not duplicate written documentation, make reference to other systems where applicable. i.e. ISO 9000 – Quality
- **Resources Roles, Responsibility & Authority defined, documented, Communications and Consultation – internal, external**
- **Operational Control – Use of Control Plan or Matrix, Purchasing, Production**
- **Plan for Emergency Response**
- **Competence , Training & Awareness** – Orientation, operations – SOP's, emergency response, contractor/supplier, internal auditing

Step Two - Insure

- Monitoring & Performance Measurement
  - Performance (accidents, incidents, pollution prevention)
  - Operations
    - Work place inspections – pre-starts
  - Objectives & Targets
- Evaluation of Compliance
- Nonconformity, Corrective/Preventive Action, Accidents, Incidents
- Control of Non-conforming Product

Step Three - Improve

- Internal Audits (4.5.5) to established MS and Standard
  - Audit Program – types of audits, schedules
  - Auditor Selection, training (Core & ISO 19011), competence, evaluation
  - Audit Procedure
- Conducting Audits
  - Integrated audits shall be based on importance of activity concerned and previous audits. Findings, Reports
- Management Review – assessing opportunities for improvement and need for changes (continuing suitability, adequacy, effectiveness)
  - Inputs & Outputs
  - MS Representative(s) report to top management on performance and recommendations for improvement.

Benefits of Integrated Approach

Identify:

- "Identify, Insure, Improve" process approach. Strategic consistency, completeness and impartiality of management system implementation. Management system is designed to insure that decisions made at strategic levels are translated into actions.

- Integration of tools that can be used within the management system such as assessment matrix, control plan, statistics, training matrix, monitoring – inspections done at the same time, one corrective/preventive action (CAR)tracking system, etc.

Benefits of Integrated Approach

Insure:

- Co-ordination and avoidance of double and contradicting documentations, records or systems for implementation. MS can be harmonious, connected.
- Insuring stakeholder participation in decision making process of the MS
- Communication, training, monitoring, measurement.

Improve:

- Continual improvement process in performance through managing risks (financial, EHS, Quality) through assessments and reviews, presented at the Management meetings.

Integrated Approach

- The Team Players can make the difference.
- Knowledge and Understanding of all requirements is essential to the success of the program.
  - Training – key
  - Audits – Competent Individuals

Thank you

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