





What is an EMIS?

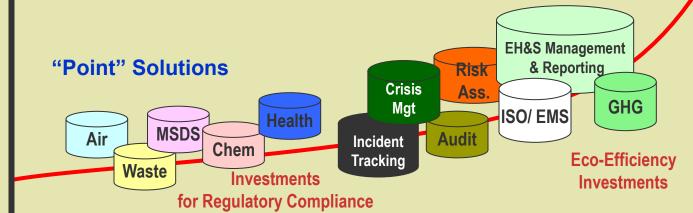
- EH&S Management Information System
- A tool that
 - Leverages information technology to manage EH&S activities efficiently and effectively
 - Integrates and manages a database of EH&S information to satisfy EH&S obligations, activities and issues in an efficient manner
 - Can be integrated with existing financial and process systems to leverage existing data and limit redundancy
 - May include compliance tracking, incident management, auditing, calculations, record-keeping, and reporting





EMIS Technology Trend

- 70's & 80's: Local-level EH&S "Point" Solutions for regulatory compliance...
- 1990's & 2000's: EH&S point solutions merge into Best-of-Breed EH&S Suites for eco-efficiency...
- 2000's Present: Environmental, Social, and Economic variables affecting bottom line; Sustainable Growth drives competitive advantage...risk and incident management a key element



Time

EH&S Suites



Sustainability

EH&S Social Economic

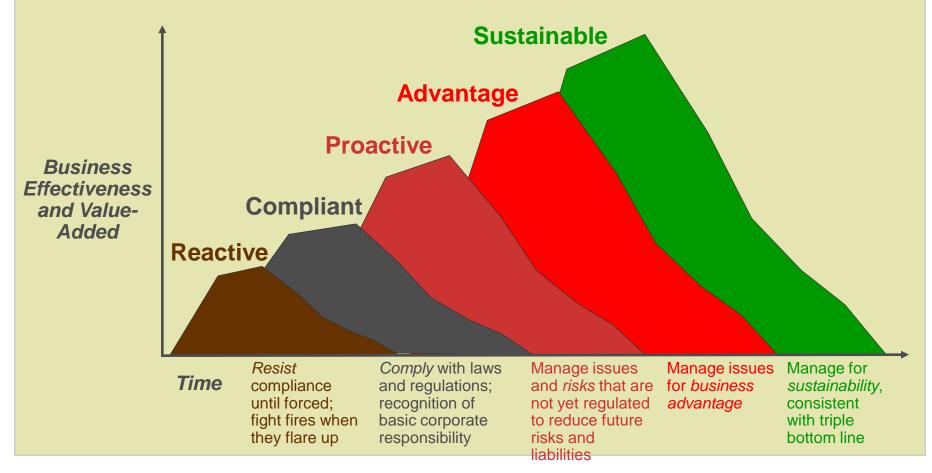
Investments in Competitive

Advantage

"Next Generation" EH&S



Evolution of EH&S Information Management Systems







Typical Challenges that Lead to EMIS Considerations

- Multiple IT systems (incl. spreadsheets) in place and have pain with collecting and rolling up data globally
- Setting Public EH&S Targets without Effective Systems to support achieving these goals
- Lack of Accurate, Consistent or Timely Availability of EH&S Data from across a Company makes the management, communication and reporting of KPIs difficult or impossible
- Not Achieving 100% Compliance Targets
- Not Enough People to manage EH&S
- Injury Costs above Industry Benchmarks
- Environmental Management System in place but facing Difficulties to Operationalize
- Facing Non-Compliance, Fines, NOVs, Shut-down, etc.
- Annual EH&S Budget above Benchmark





Why consider an EMIS?

Regulatory Drivers

- Highly complex legal & regulatory environment
- Increasing number of compliance tasks
- Many laws with many regulations

Business Drivers

- Global competition
- Greater public scrutiny
- Stiffer penalties for noncompliance
- Mergers and acquisitions
- Integration of EH&S into core business processes

Technology Drivers

- Technology for better, faster information
- Move from "Islands of Information" to shared data
- Move to client / server or web-based architectures

Management Challenges

- Changes at sites
- Staff reductions and turnover
- Changes to systems





Typical EMIS Application Areas

- Process Data Management
- Audit Questionnaires
- Audit Findings Tracking
- Audit Program Management
- Risk Assessments / Risk Analysis
- Integration Mgmt (M&A)
- Information Mgmt (Site Assessment)
- Stakeholder Analyses
- Grievances & Issues Tracking
- Sampling/Analysis Data Mgmt
- Remediation Project Mgmt
- Integration of GIS

- Permit Compliance Assurance
- Emissions Tracking (Air/Water)
- Emissions Reporting (TRI)
- Emissions Trading
- GHGs/Energy Data Mgmt
- NPDES Reporting
- Waste Tracking
- Materials Mgmt
- Incident Mgmt
- OSHA Document Mgmt
- IH & OH Mgmt
- Environmental Financial Accounting

EMIS

- -Document Management
- -EH&S Data Management
- -Dashboards and Balance Scorecards

- Enterprise Data Mgmt Systems
- KPIs/Corporate Reporting/CSR
- Decision Support Systems





Benefits of an EMIS

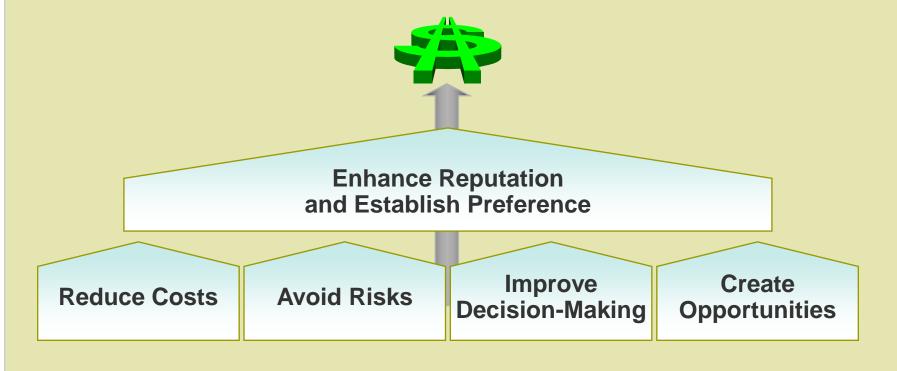
- Innovation and Process Improvements
- Increased employee productivity
- Reduced liability
- Enhanced data consistency & accuracy (Auditability of data)
- Increase defensibility of regulatory reports
- Streamlined recordkeeping & reporting
- Similar to benefits derived from financial/accounting and HR systems
- Facilitates the use and reliability of data for decision making, forecasting and analysis

- Confidentiality
- Integration with company systems
- Align EH&S with core business processes
- Platform for knowledge transfer
- Broader access
- Timing
- Simplicity
- Ease of modification
- In-house expertise





A Well-Designed EMIS Creates Business Value



EH&S data is essential for business to manage risks and liabilities, an EMIS helps business manage that data.

Adapted from Royal Dutch Shell





Questions



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Thank You



