STEM_Risk_Pipeline™

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- ▶ Is the "Digital Twin" of your pipelines.

- ▶ Is the one-stop solution to effectively and economically reduce the risk in pipelines.

- ▶ Analyzes the risk in pipelines; deduces strategies to reduce risk; and monitors implementation of risk reduction strategies.

- ▶ Ensures uninterrupted operations, cost savings, safe environment, and enhanced corporate reputation.

- ▶ Incorporates best practices which have progressively reduced the number of incidents in Canada from 4 per 1,000 km to 1 per 1,000 km of pipelines per year.

- ▶ Enables implementation of best practices in corrosion management based on NACE SP21430, "Standard Framework for Establishing Corrosion Management Systems".
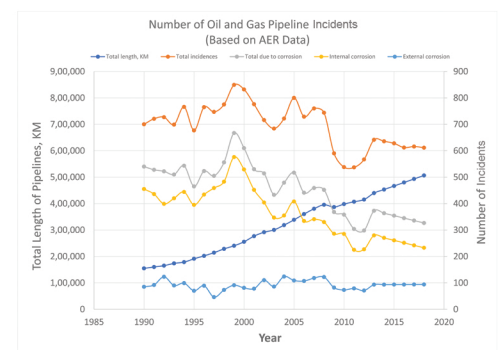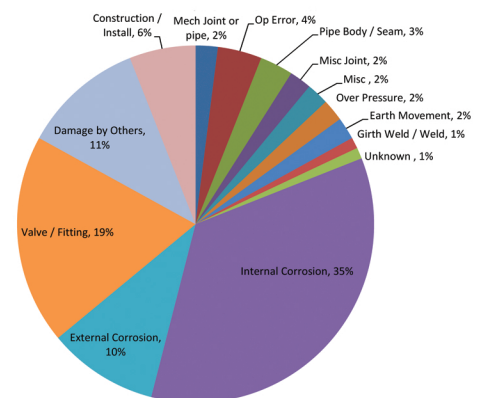
STEM_Risk_Pipeline™ Uniqueness

- ▶ Integrates Science, Technology, Engineering and Management aspects of risk and risk control.

- ▶ Enables risk analysis of one pipeline at a time or whole pipeline network altogether.

- ▶ Includes industry benchmark scores for various Key Performance Indicators (KPI).

- ▶ Develops corrosion management as a stand alone system or integrates corrosion management system into the organization's other management systems.

- ▶ Evaluates separately managerial aspects and scientific aspects of risk and risk control.

STEM_Risk_Pipeline™ validation is based on

- ▶ Analysis of 100+ field data/experience.

- ▶ Evaluation of KPI used in the Oil and Gas pipelines in Argentina, Bahrain, Canada, Colombia, Ecuador, India, Saudi Arabia, USA, and Venezuela.

- ▶ Interaction with field personnel through courses, seminars, workshops, tutorials, and specific projects.

Pipeline Failure Causes
Based on Alberta Energy Regulator (AER) data

Pie chart data: Construction / Install, 6%; Mech Joint or pipe, 2%; Op Error, 4%; Pipe Body / Seam, 3%; Misc Joint, 2%; Misc, 2%; Over Pressure, 2%; Earth Movement, 2%; Girth Weld / Weld, 1%; Unknown, 1%; Internal Corrosion, 35%; External Corrosion, 10%; Valve / Fitting, 19%; Damage by Others, 11%

Number of Oil and Gas Pipeline Incidents (Based on AER Data)

SCIENCE

▶ STEM_Risk_Pipeline™ investigates scientific aspects of internal corrosion (along with iFILMS™), external corrosion and stress corrosion cracking (along with Expedition™) and other risks.
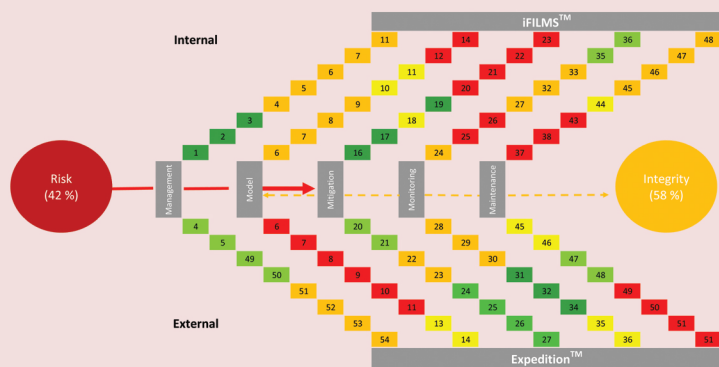

TECHNOLOGY

▶ STEM_Risk_Pipeline™ and it's team enable digitization of data from any form (paper, CD, PDF, word processing etc) to electronic form thereby empowering the oil and gas pipeline owners/operators to make economical and efficient decision using all available data.

ENGINEERING

▶ STEM_Risk_Pipeline™ is used in the conceptual, design, construction, operation, maintenance, decommission and abandonment stages.

▶ STEM_Risk_Pipeline™ is used to balance capital expenditure (Capex) and operational expenditure (Opex).

Risk Quantification (5 x 5 Matrix)
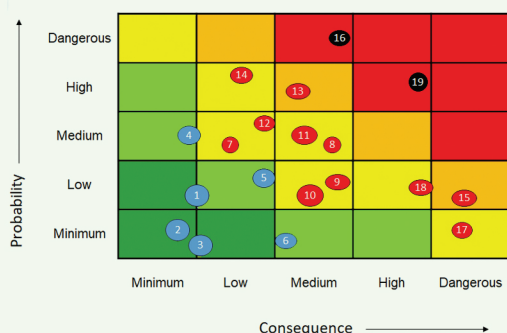
MANAGEMENT

STEM_Risk_Pipeline™

▶ Investigates the status of risk and risk reduction activities in an individual pipeline or a group of pipelines in a field.

▶ Identifies areas / pipelines / flowlines with higher risk.

▶ Optimizes budget allocation.

▶ Enables seamless communication with regulators, stake holders, and general public.