



Quality Assurance of In-Line Inspection Programs

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<u>Miles of Pipe</u>	
AGT	1,100
ETNG	1,353
M&N (US)	340
MHP	61
TETLP	9,040
Total	11,894


Storage

DEGT Inspection History

- In-Line Inspections began in 1968
- 16,000+ miles inspected
- Thousands of anomaly digs in 1980's & 1990's
- Types of Inspections Performed
 - Caliper/Geometry/Slope Deformation
 - MFL – Standard/High Resolution
 - Hard Spot Detection
 - TFI/EMAT/Elastic Wave Tools – Crack Detection

ILI Program Objective

Foster well-educated decisions about integrity.

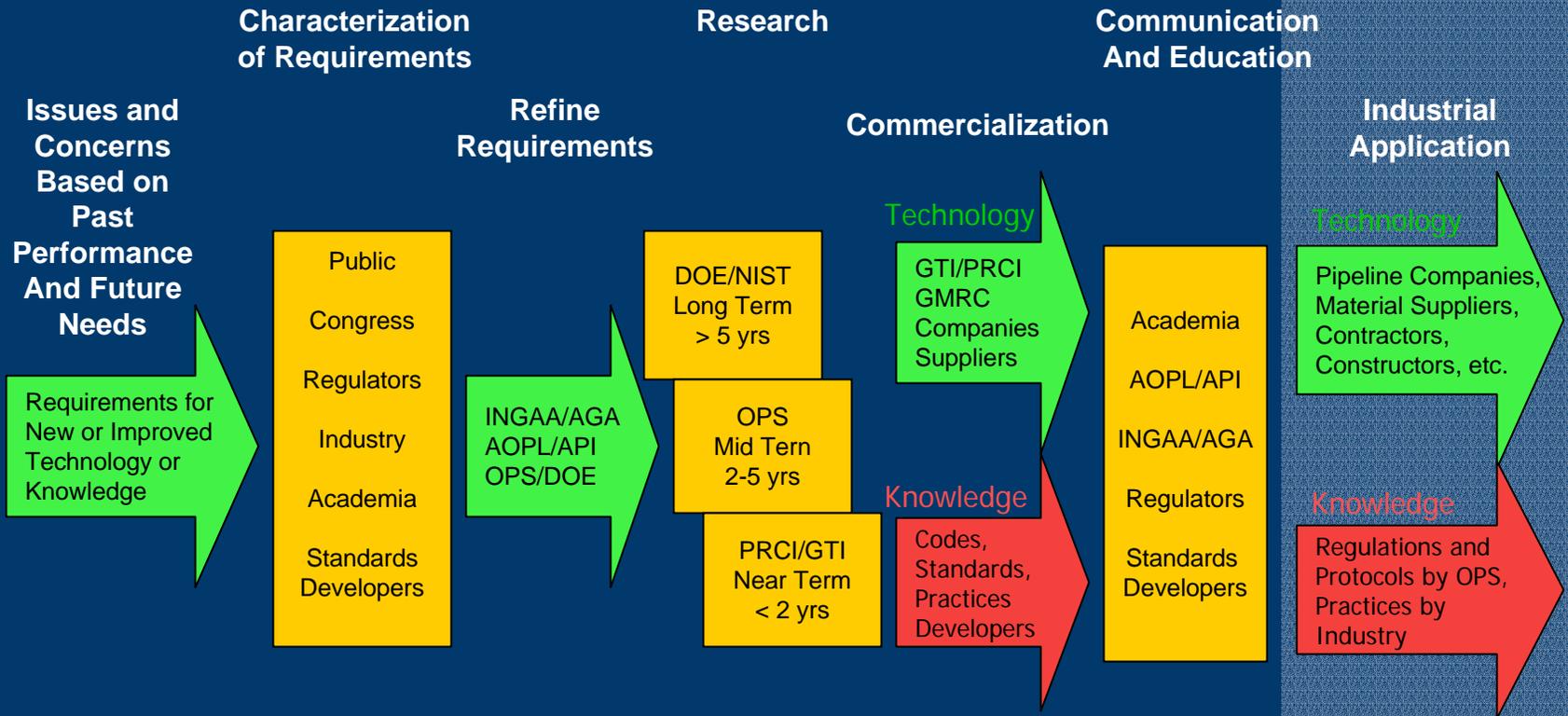
- Synchronize with all those involved (vendors, technicians, etc.)
- Use appropriate tool – appropriately – great tool – no silver bullet
- Get as much value from the effort – other data, technicians' insight, etc.

Comprehensive – Systematic – Integrated

DEGT ILI Program Quality Assurance

- Vendor Qualification Program
- Qualified vendor / personnel
- Established procedures
- Comprehensive Final Report
 - All indications of possible defects are included on final report
- Verification/calibration
 - First time runs receive calibration excavations
 - Subsequent runs often utilize previously measured defects to verify calibration
 - Data Integration (i.e. previous ILI, operational data, etc...)
- Feedback to vendors / performance-based partnerships
- Promote / monitor technological advances

Pipeline Industry Research Process



Research to develop new Design and Construction methods and material; new Operations and Maintenance practices and procedures; and for Facility Life Extension; all while maintaining Safety, Reliability, Availability, and Integrity

Industry Standards

- API 1163
Qualification Of In-line Inspection Systems
 - Provides requirements for qualification of in-line inspection systems
- NACE RP 0102-2002
Standard Recommended Practice, In-Line Inspections of Pipelines
 - Operator's guideline for performing the inspection
- ASNT ILI PQ 2003
In-Line Inspection Personnel Qualification & Certification
 - Provides requirements for qualification of in-line inspection personnel



Conclusions

- To maximize value of ILI efforts, Industry (including OPS and Vendors) has committed to standards development
- National Consensus Standards are just now released
- Foster dissemination
 - Advisory Bulletin
- Continual improvement process
 - Most big issues addressed
 - Expectations on judgment issues/gaps clarified in many vehicles
 - Work together to define improvement opportunities