

Mechanical Damage Technical Workshop



Prevention Technology Research

Pipeline & Hazardous Materials Safety Administration



Pipeline Safety R&D Objectives

- Fostering the development of new technologies
- Strengthening regulatory requirements and related national consensus standards
- Improving & disseminating knowledge to decision makers





Prevention Program Elements and Goals

	<u>Program Elements</u>	<u>Program Element Goals</u>
1.	Damage Prevention	Reducing the number of incidents and accidents resulting from excavation damage and outside force
2.	Pipeline Assessment and Leak Detection	Identifying and locating critical pipeline defects using inline inspection, direct assessment and leak detection
3.	Defect Characterization and Mitigation	Improving the capability to characterize the severity of defects in pipeline systems and to mitigate them before they lead to incidents or accidents
4.	Improved Design, Construction, and Materials	Improving the integrity of pipeline facilities through enhanced materials, and techniques for design and construction
5.	Systems for Pipeline Mapping and Information Management	Enhancing the ability to prevent and respond to incidents and accidents through management of information related to pipeline location (mapping) and threats definition
6.	Enhanced Operation Controls and Human Factors Management	Improving the safety of pipeline operations through enhanced controls and human factors management
7.	Risk Management & Communications	Reducing the probability of incidents and accidents, and mitigating the consequences of hazards to pipelines
8.	Safety Issues for Emerging Technologies	Identifying and assessing emerging pipeline system technologies for opportunities to enhancing their safety





Mechanical Damage Challenges Prevention R&D

- Coordinating various research efforts
- What's the development order?
- Developing the right technology
 - Technology
 - Knowledge
 - Standards
- Live demonstration test beds needed – field conditions





Mechanical Damage Challenges Prevention R&D

#	Project ID	Contractor	Project Title	PHMSA	Co-Share	%
1.	DTRS56-04-T-0006	C-FER Technologies	"Effectiveness of Prevention Methods for Excavation Damage"	\$70,000	\$80,000	100 Mod
2.	DTPH56-05-T-0004	Electricore, Inc.	"Use of Unmanned Underwater Vehicle (UUAV) for Pipeline Surveillance to Improve Safety and Lower Cost"	\$399,932	\$285,000	71
3.	DTPH56-05-T-0004	Electricore, Inc.	"Use of Unmanned Air Vehicle (UAV) for Pipeline Surveillance to Improve Safety and Lower Cost"	\$457,361	\$625,416	71
4.	DTRS56-04-T-0012	ITT Industries Space Systems, LLC	"Hazardous Liquids Airborne Lidar Observation Study (HALOS)"	\$452,266	\$455,267	67
5.	DTRS57-05-C-10110	Physical Sciences Inc.	Infrasonic Frequency Seismic Sensor System for Pipeline Integrity Management"	\$748,308		32
Totals:				\$2,127,867	\$1,445,683	



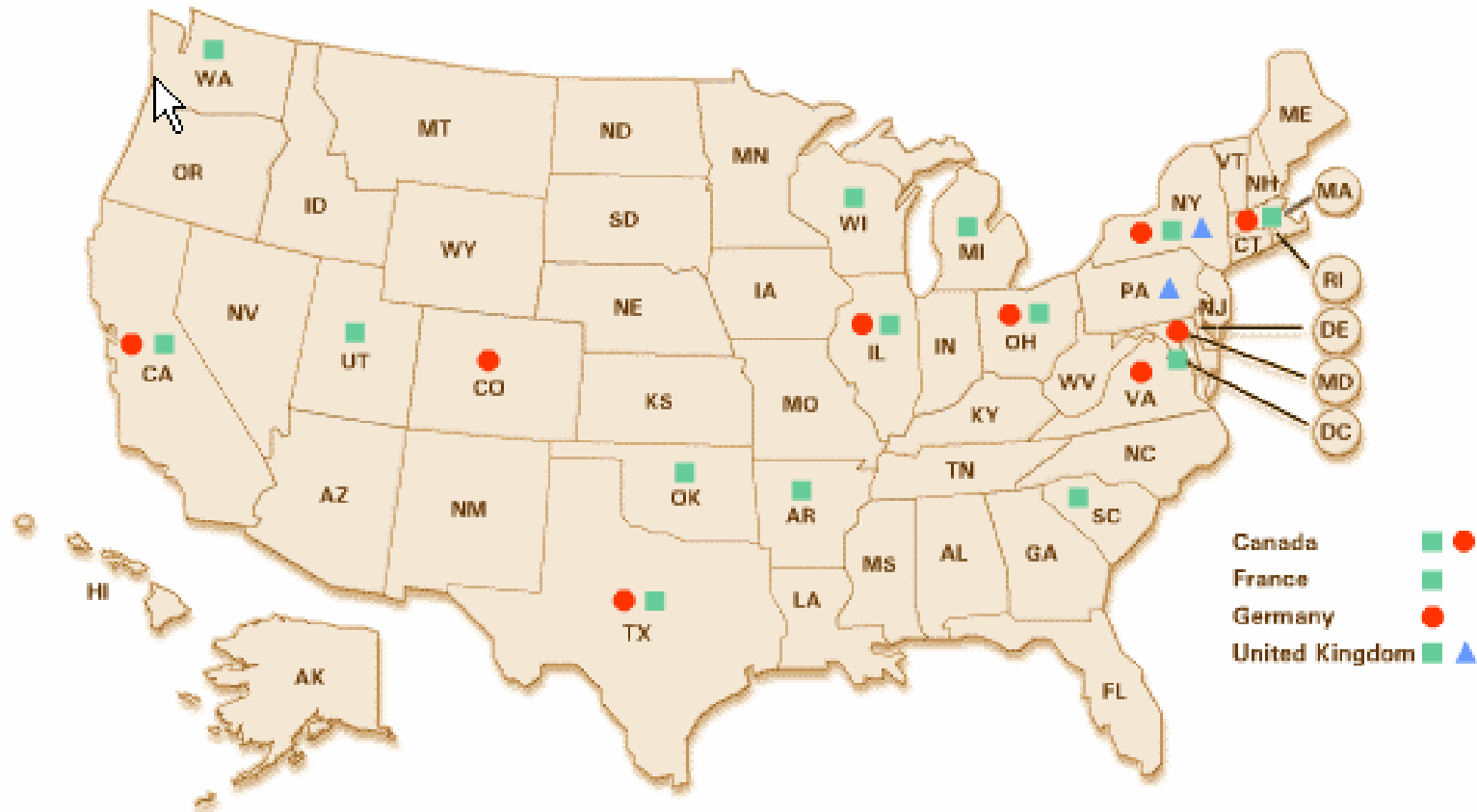


Research Projects funded by Pipeline Safety R&D Program

Lead Organizations ●

Partner Organizations ■

University Partners ▲



<http://primis.phmsa.dot.gov/rd/projectmap.htm>





Mechanical Damage Challenges Prevention R&D

What kind of technologies are expected?

1. Lesions Learned from past accidents & Failures
2. Low Cost, High Reliability, Automated Approach
3. Quicker Turn Around in Defect Notification
4. Not Invented Here
4. Remote Monitoring –M2M Technologies





Mechanical Damage Challenges Prevention R&D

What kind of results are expected?

1. Universal understanding of root cause failure analysis
2. Set goal to reduction or eliminate unnecessary digs
3. Demonstrate cost effective leak detection and encroachment monitoring technologies
4. Continued Support in hosting Deployment of Technologies





Pipeline Safety R&D Program

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