

Pipeline Research Council International, Inc.

A Collaborative R&D Roadmap for the Energy Pipeline Industry

**PRCI's Vision and Efforts to Establish a
Global Consensus on Energy Pipeline R&D**

**US DOT PHMSA R&D Forum
Arlington, VA
July 18, 2012**

**Mark Piazza
Director, Pipeline Technical Committees**



Pipeline Industry R&D Puzzle

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Awareness & understanding of the R&D universe

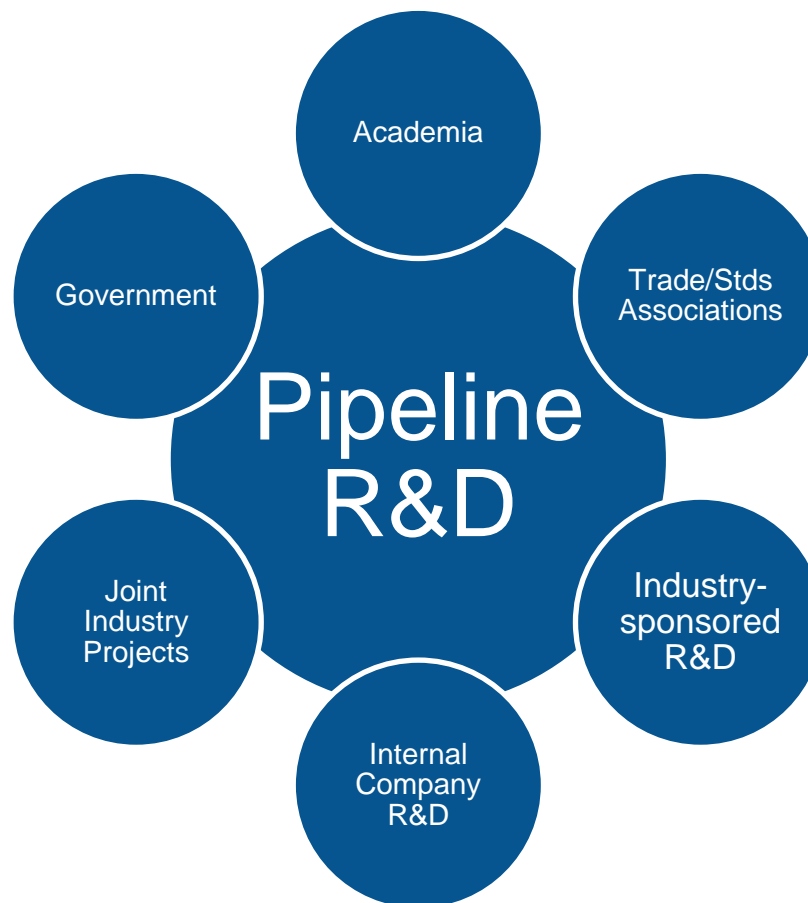
Multiple parties and interests

R&D funding constantly challenged

Instant gratification society

Staying the course and managing emerging issues

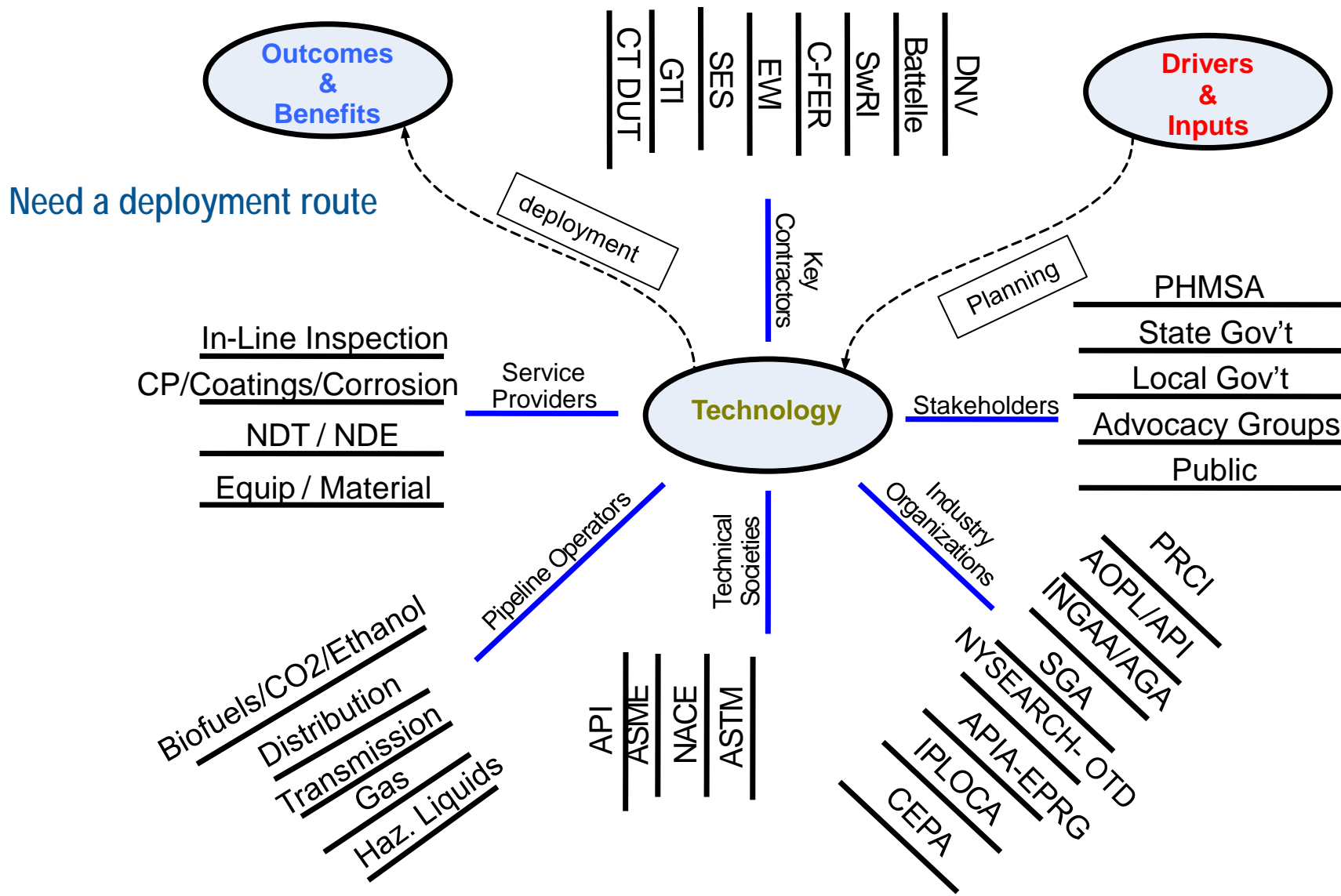
Changing role of industry-government relations



Collaborative model is key to achieving success – identify and manage barriers

INPUTS & outcomes of the Current Process

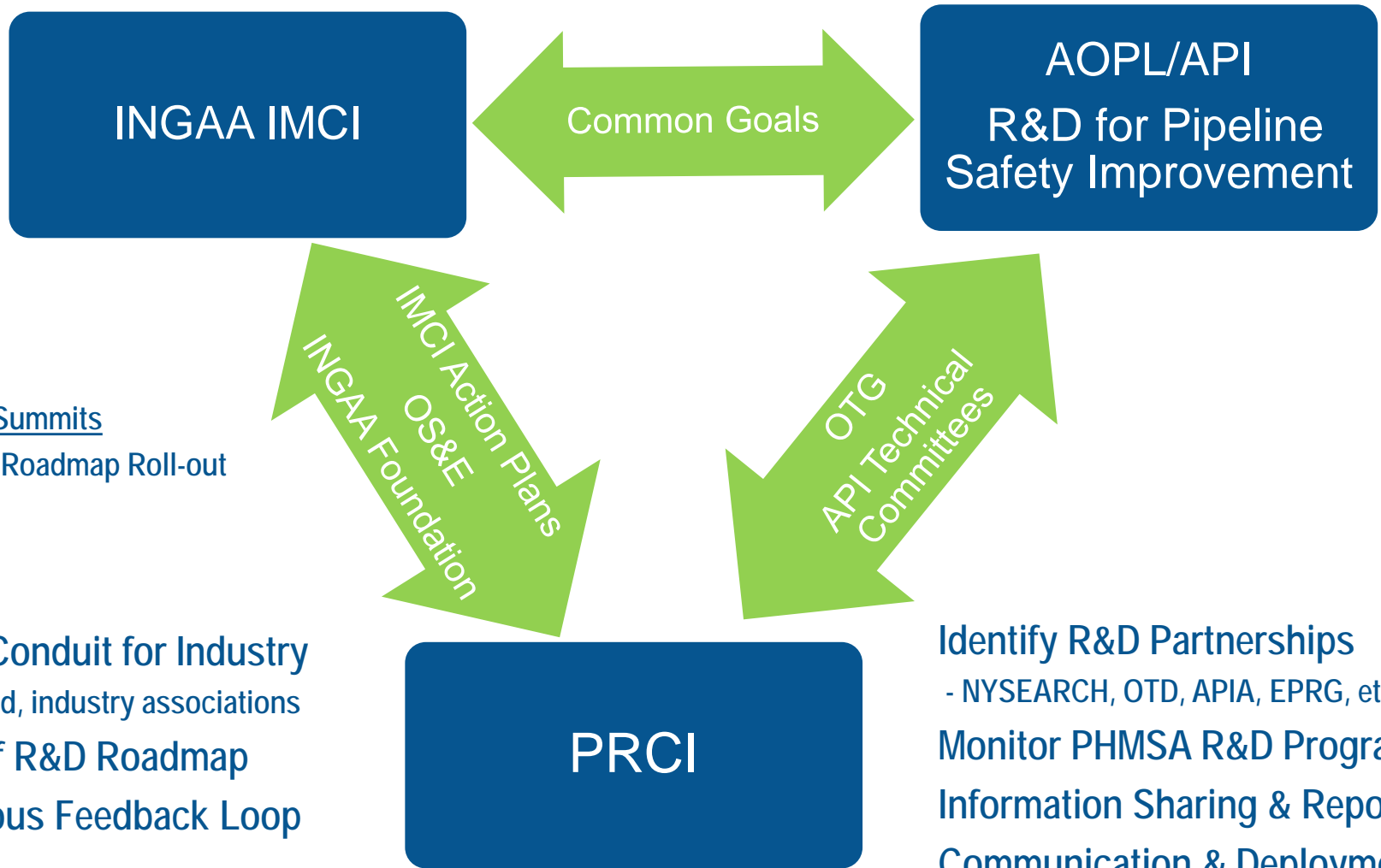
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Need a deployment route

Developing the Industry R&D Roadmap

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INGAA IMCI

Common Goals

AOPL/API
R&D for Pipeline
Safety Improvement

IMCI Action Plans
OS&E
INGAA Foundation

OTG
API Technical
Committees

PRCI

Identify R&D Partnerships
- NYSEARCH, OTD, APIA, EPRG, etc.
Monitor PHMSA R&D Program
Information Sharing & Repository
Communication & Deployment

Large Programs with Substantial Funding Commitments

Four R&D Summits
IPC 2012 – Roadmap Roll-out

PRCI is Conduit for Industry
- Gas, liquid, industry associations
Owner of R&D Roadmap
Continuous Feedback Loop

Synergy between IMCI and PSIA

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■ Top R&D Needs

- Improvements in ILI capabilities
- Unpiggable/Difficult to Inspect Pipelines
- ERW/Longitudinal Seam Welds
- Leak Detection
- Data Integration & Decision-making Processes/Tools
- SCC & Cracking – welds and pipe body
- Anomaly Assessment
- Mechanical Damage & Damage Prevention
- Facility Integrity
- Risk Assessment

Consistent with PRCI
Programs and Roadmaps

R&D Summits – Laying the Foundation

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Four Separate Sessions to Provide a Foundation for the Roadmap

- **Session 1 – December 2011 - Transforming the Model & Road Mapping the Journey; North American Industry Stakeholders**
- **Session 2 – February 2012 - Technical Committee Perspective**
- **Session 3 – May 2012 – Global Stakeholder Perspective and beyond Inspection Focus**
- **Session 4 – Report out (IPC 2012 Panel Session)**

Basis for the R&D Summits

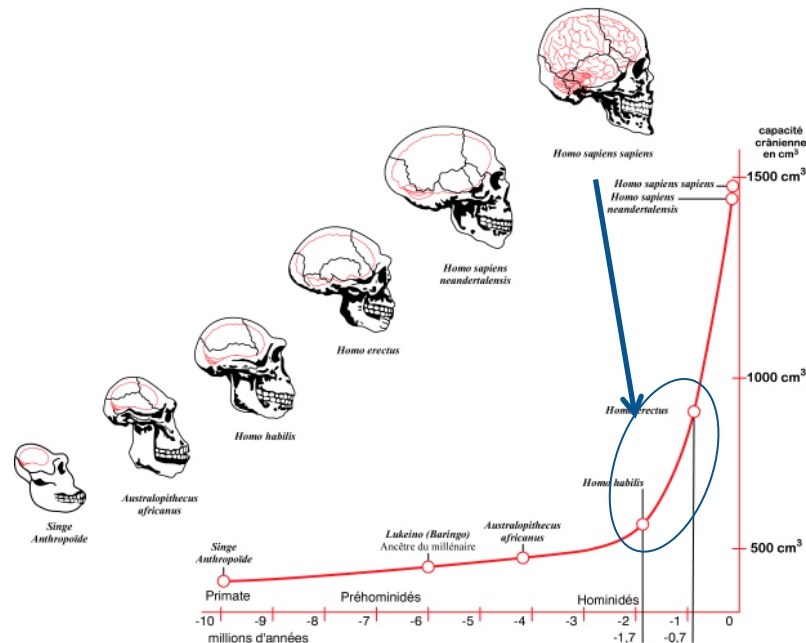
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- Solicit input from a group of industry experts with diverse needs and interests
- Develop a framework to achieve better collaboration to meet the needs of the industry
- Focus energy and resources on activities that have the greatest impact and benefit
- Align various pipeline safety R&D initiatives
- Develop a forward-looking vision for pipeline industry R&D and build consensus in support of that vision
 - Step change in process and approach
 - Step change in industry outcomes

Takeaways from Summit Sessions

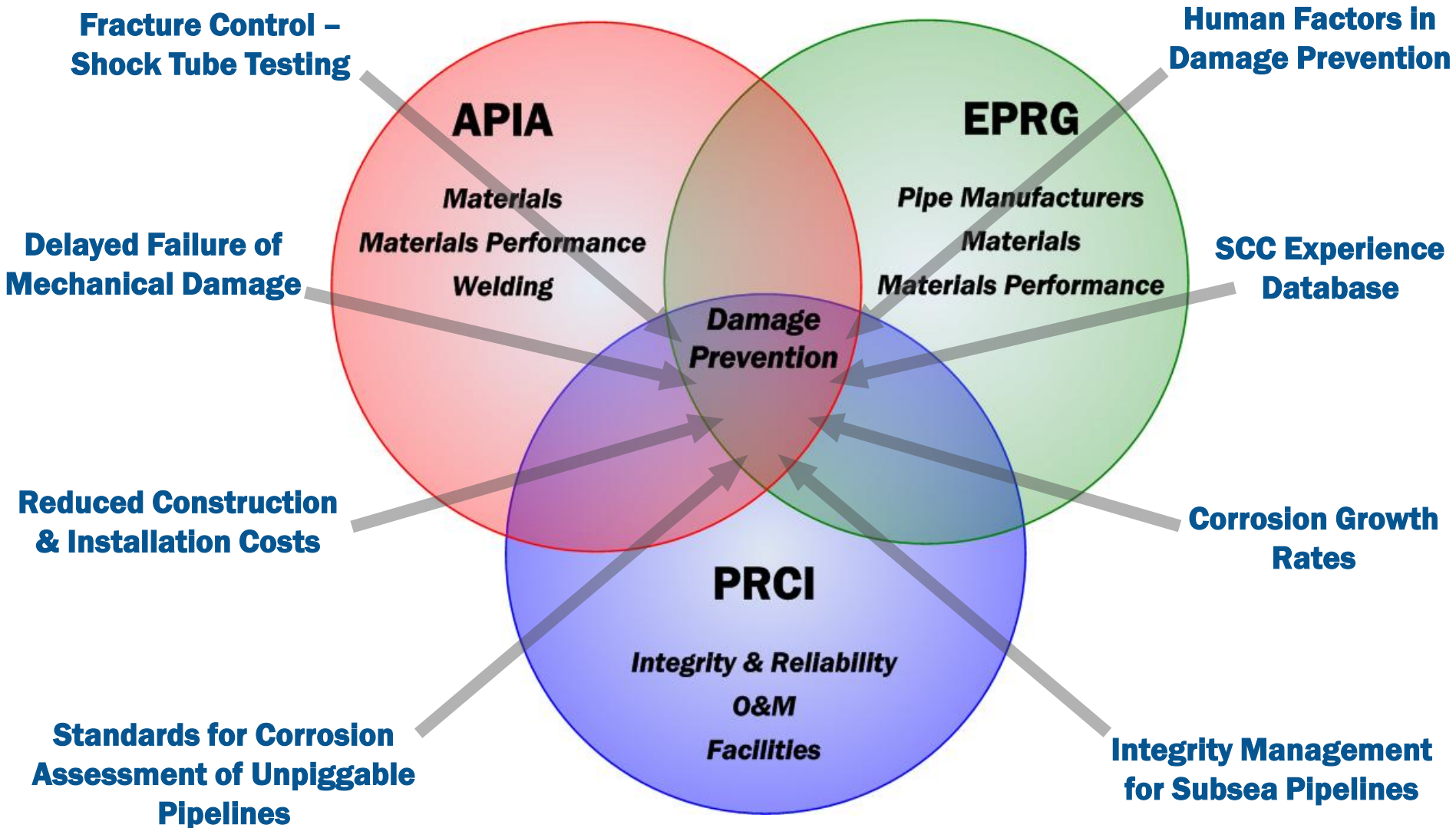
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- You say potato...
- “Step Change” & “move the needle quickly” –
- Industry is slow to adapt/change - challenges to technology development and application
- Balancing the R (or r) with the D&D
- Less is more (AD/HD) - Timely execution and R&D deployment
- Funding and Human Capital
- Evolution – where will the Pipeline Industry find protein in its diet
- Not a once and done effort

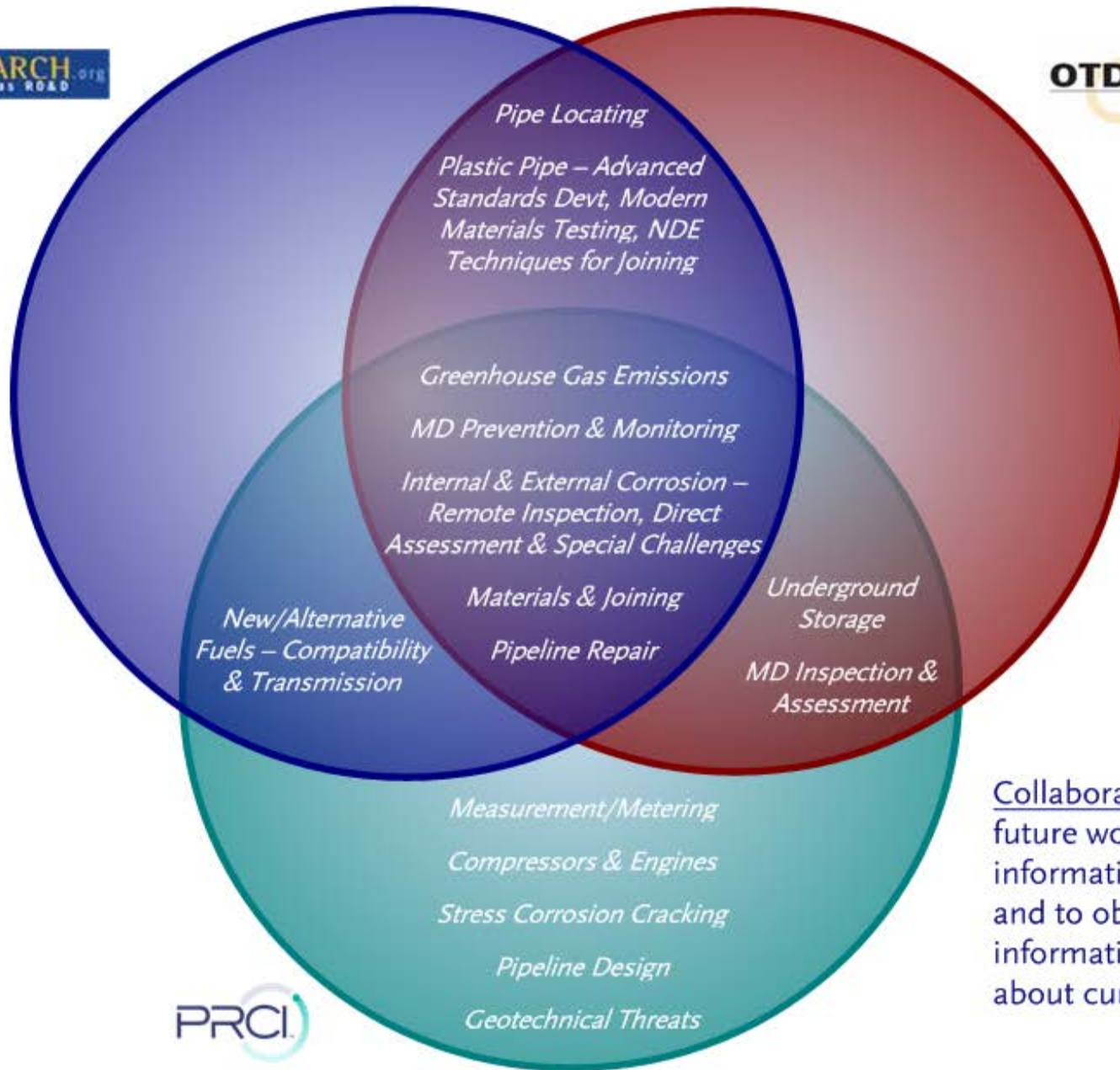


The Tripartite Collaboration

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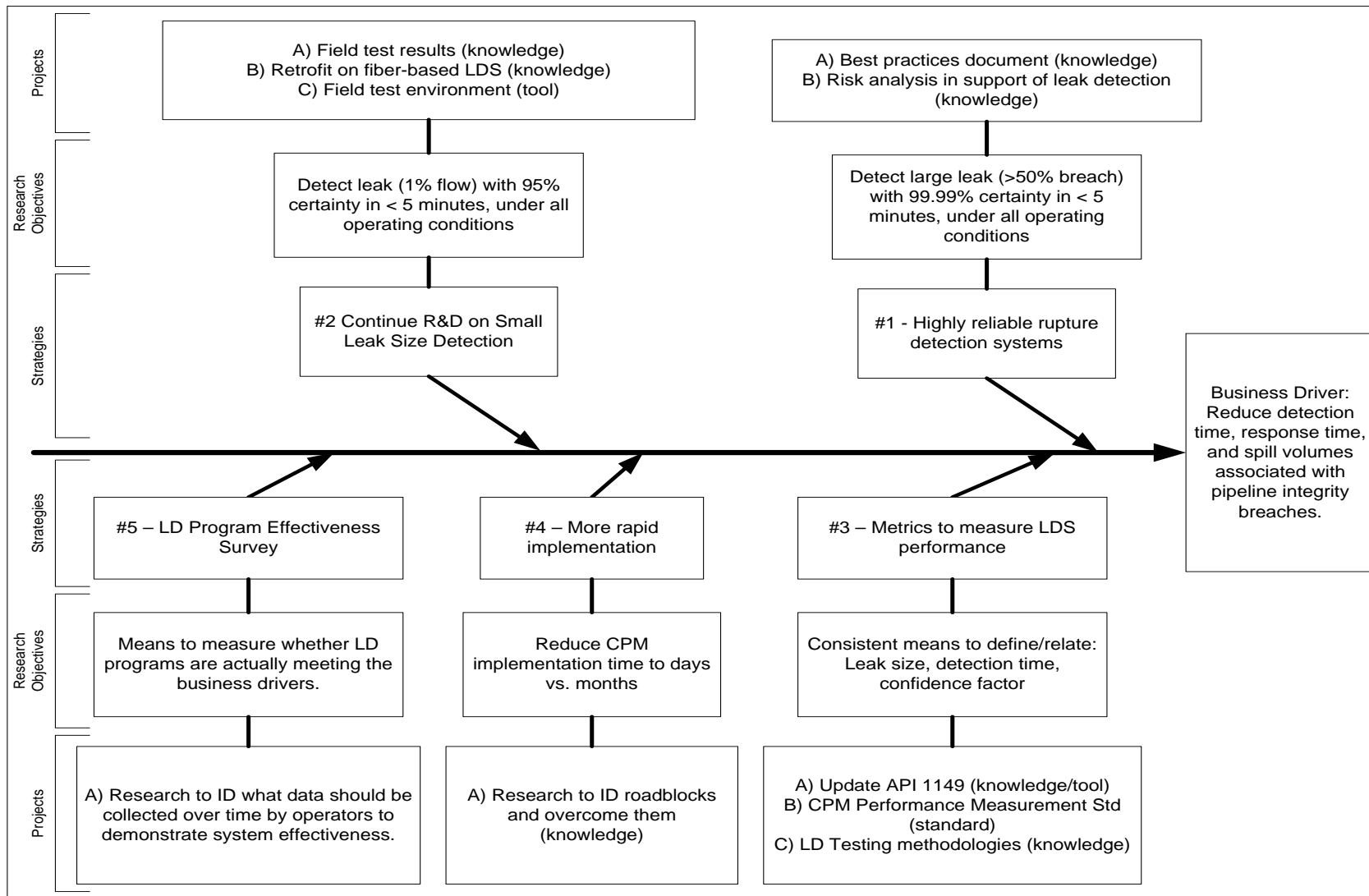
NYSEARCH – OTD – PRCI COLLABORATION AREAS OF MUTUAL INTEREST



Collaboration: to obtain future work, to access information from prior work, and to obtain relevant information and knowledge about current work

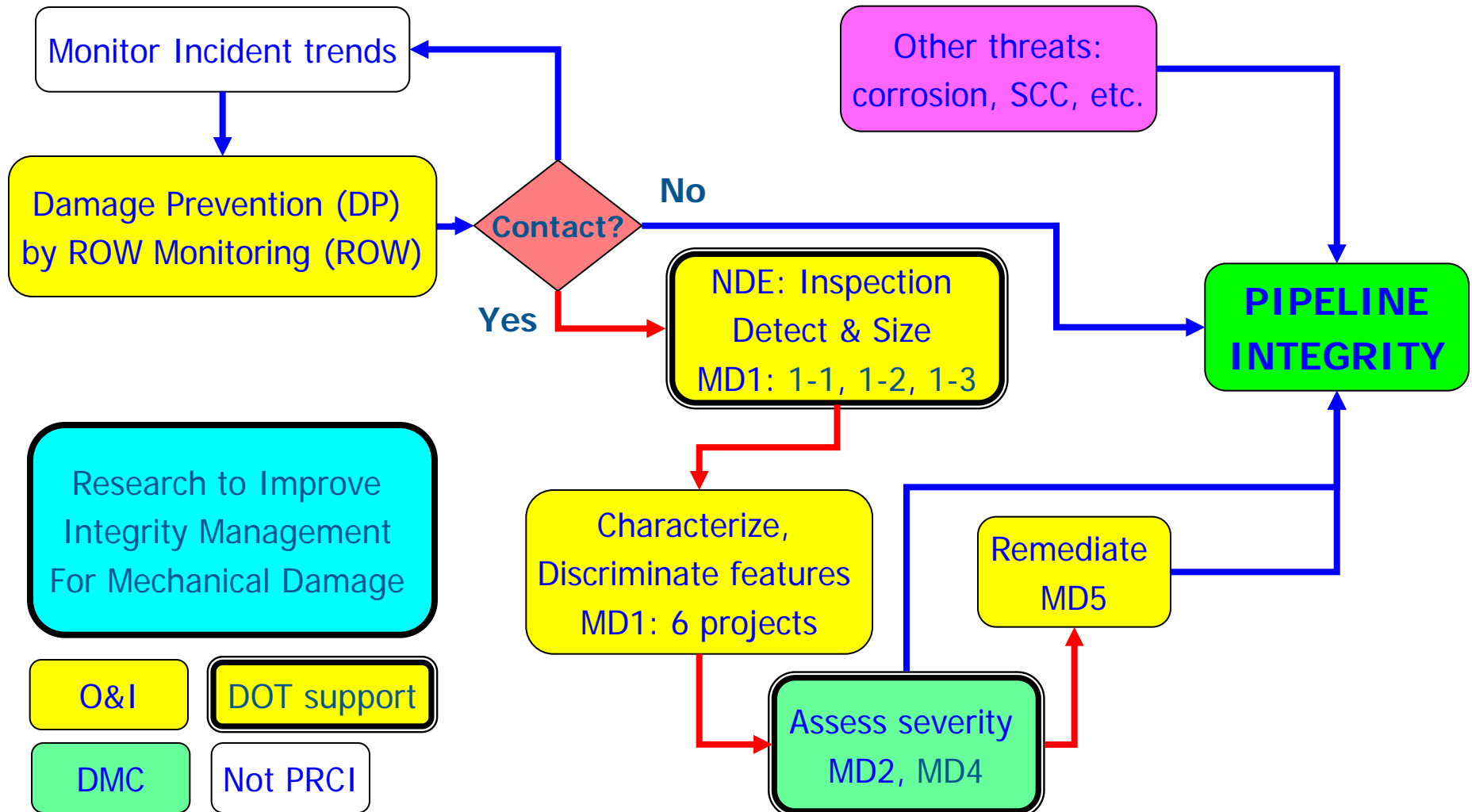
Leak Detection Roadmap Overview

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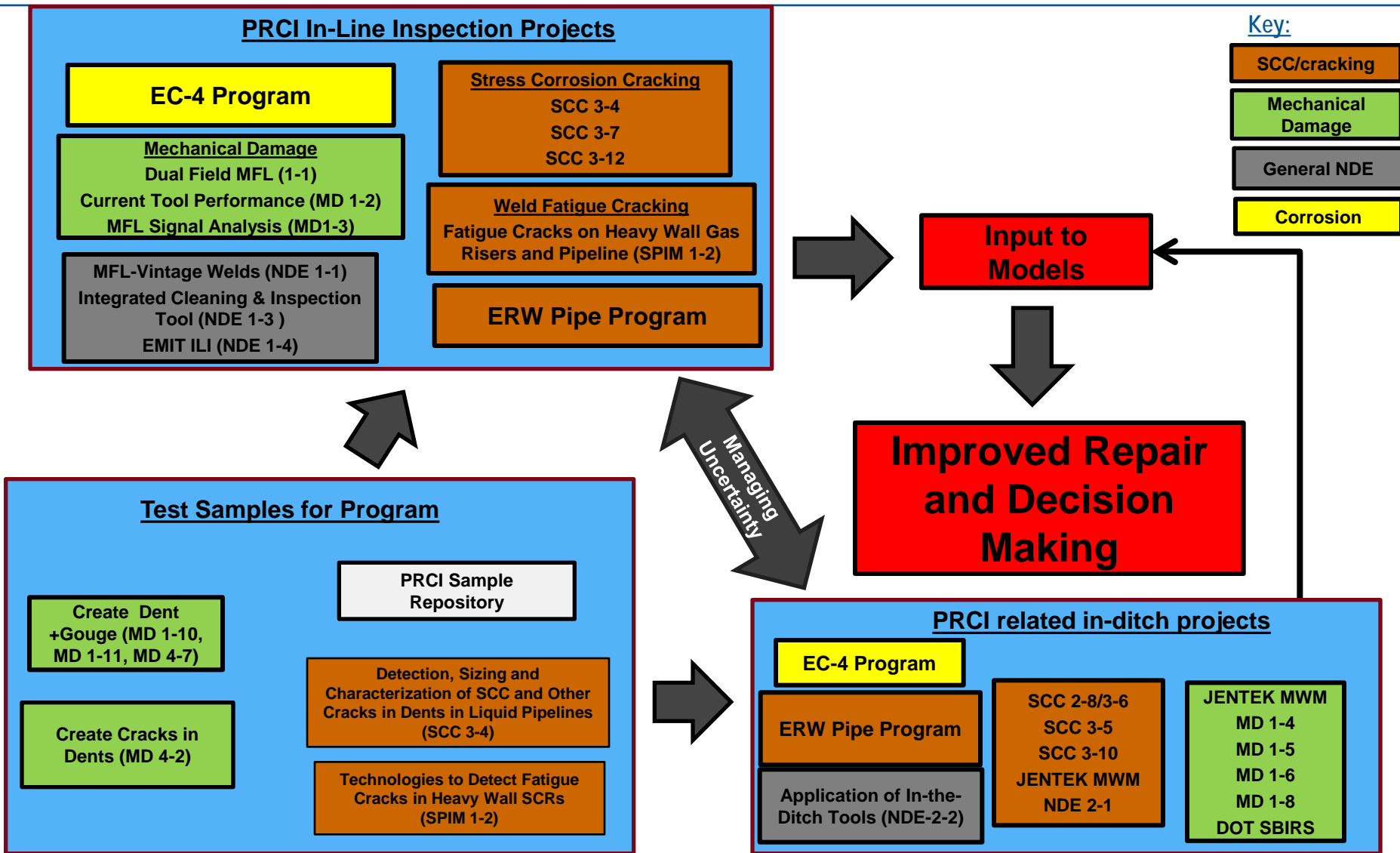
Mechanical Damage Threat Management Research in PRCI - simplified roadmap

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PRCI Integrated Program for Technology Development

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The Future of Pipeline R&D

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Requires an Improved Collaborative Process To:

- Leverage Funding and Provide the Funding Required to Achieve the Outcomes Needed for all Roadmap Focus Areas
- Gain Consensus on Priorities – Topically, Sector-based, Regionally
- Assure Rigorous Process; Industry Peer Review
- Manage Deployment and Transfer of Technology and Information – Products, Standards, Best Practices, Rules
- Achieve Transparency with Better & Wider Communication
- Provide Faster Returns with Successful Research Plans
- Develop and Maintain Partnerships with Key Industry Groups & Government

Changing Role of Government for R&D

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- **Impacts of PHMSA Policy Decision on Industry R&D Funding and Partnerships**
- **Outcomes from this PHMSA-sponsored R&D Forum**
 - Assess Government vs Industry Roadmaps
 - Define Path Forward for Industry-Government Coordination and Joint funding and partnerships on R&D programs
- **PRCI Leveraging Other Government Partnerships**
 - US DOI Bureau of Safety and Environmental Enforcement (BSEE) – offshore and subsea pipeline programs
 - NIST
 - Potential work with Brazilian R&D Community and ANP
 - US DOT RITA

What's Next for R&D Roadmap

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- **Writer's cramp**
- **IPC 2012 – Roll-out of Roadmap & Execution**
- **Coordination with all Stakeholders**
- **Walking the Walk**
- **Developing an Effective Method for Monitoring R&D**

"We need a SmartMap!"



Closing Slide

Thank you for your attention

Questions?

Follow-up questions or information needed:

Mark Piazza

mpiazza@prci.org

678 339 3645