Pipeline SMS Workshop
December 4-5, 2019
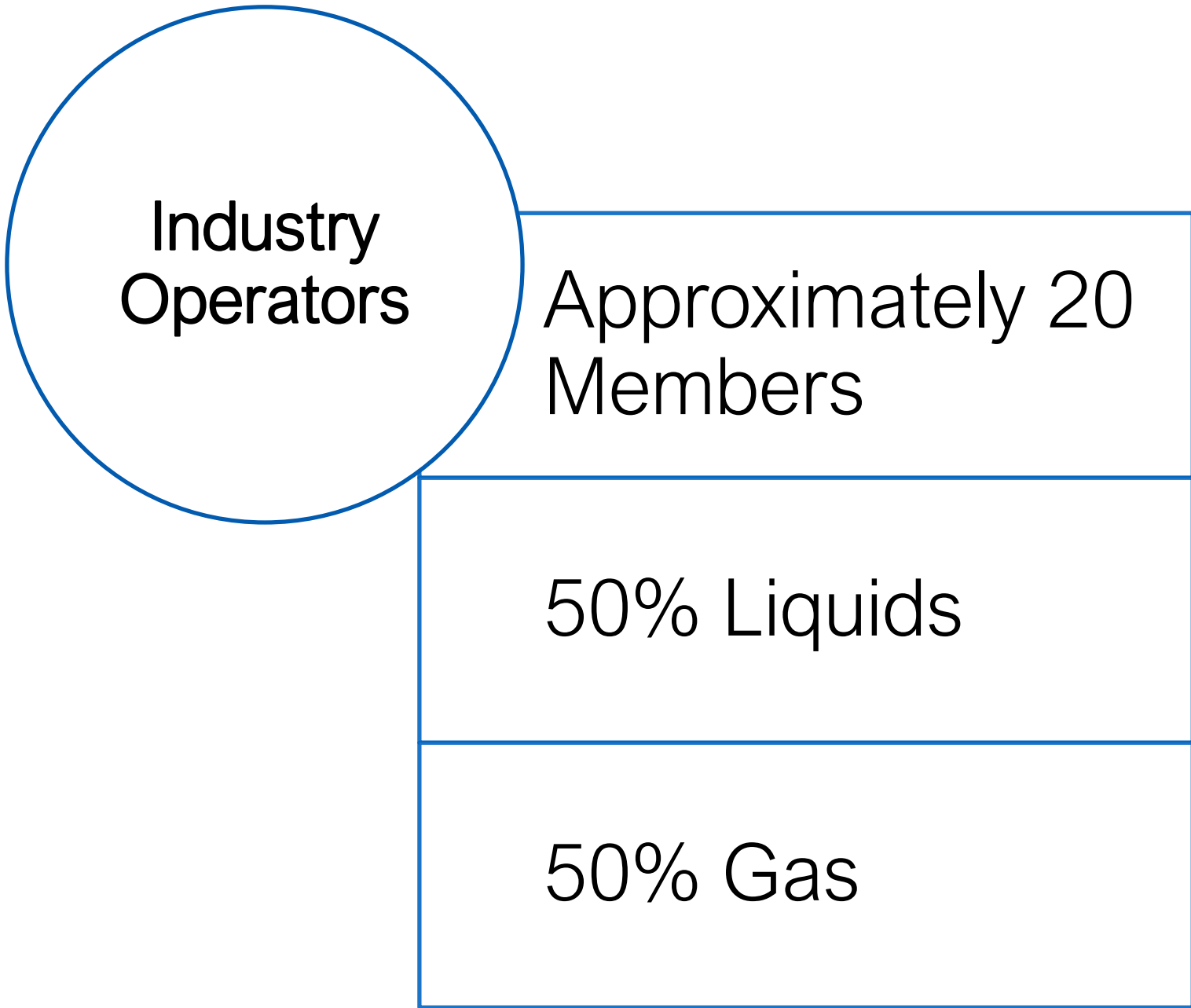

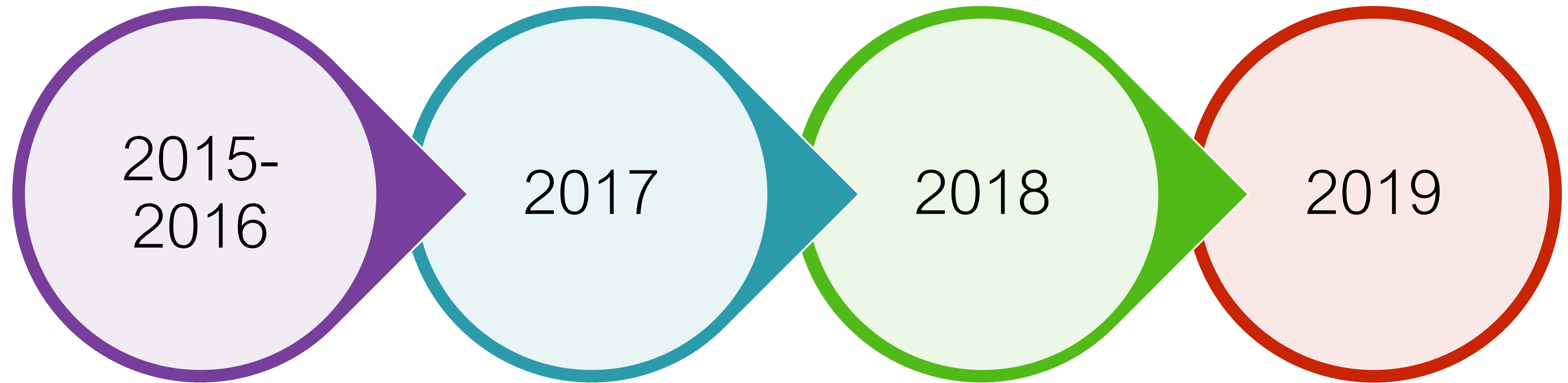Pipeline SMS

Pipeline SMS Background

July 10, 2012
NTSB recommendation on Marshall, MI
(Incident was on NTSB's Ten Most Wanted list)

Development involved gas transmission and hazard liquid pipeline companies, PHMSA, industry groups and the public

December 2012 — Initial team meeting

API facilitate the safety management system standard development specific to the pipeline industry (similar in scope to your RP 750, Management of Process Hazards)

July 2015 — Pipeline SMS published

May 2015 — Implementation Team began

| 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |

Pipeline SMS development

July 25
Marshall, MI

July 1
Yellowstone River, MT

September 9
San Bruno, CA

High-profile accidents drove development

Pipeline SMS

SMS Pipeline Industry Team

Industry Operators

Approximately 20 Members	
50% Liquids	
50% Gas	

Team History

2015-2016
- RP 1173 Published
- Implementation tools provided
- Individual implementation efforts began

2017
- Liquids and gas joined forces
- Formed SMS Cross-Industry Team

2018
- Transitioned focus to increase participation
- Developed Team Governance

2019
- Maintaining focus on strategy & tactics to ensure implementation across the industry

Improving Performance (more than just safety)

Pipeline SMS

PIPELINE SAFETY MANAGEMENT SYSTEM – API RP 1173

|	
10 ELEMENTS	Yields a cohesive system
SYSTEM	Flexible & scalable
JOURNEY	Plan-Do-Check-Act
CULTURE	A must!
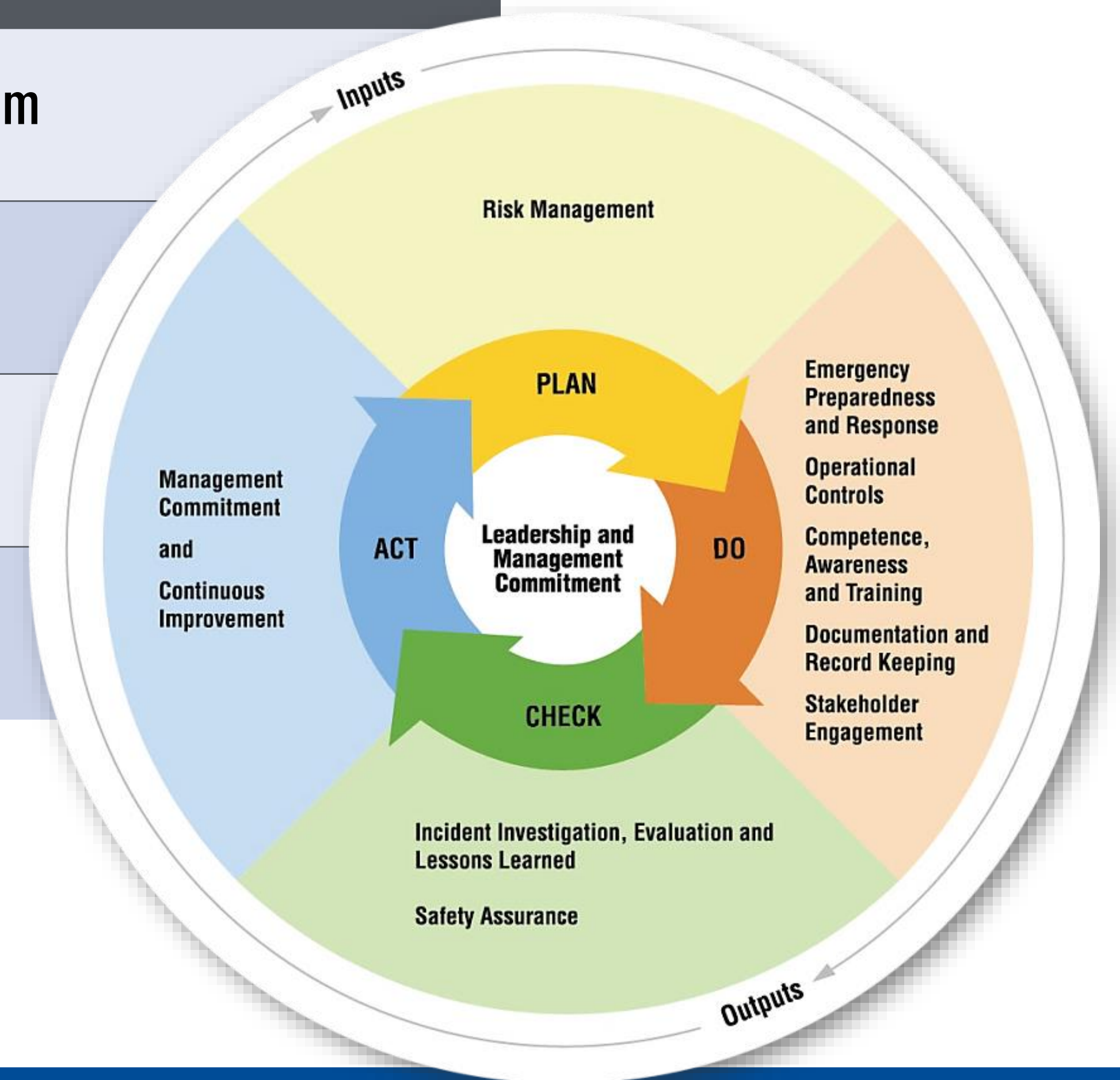
Guiding Principles

1. **One Industry, One Goal**
2. Improve overall performance
3. It's a journey, not a destination
4. Flexible and scalable
5. Stay true to RP 1173 (especially terminology)
6. Provide tools to assist all operators
7. First conformance, then effectiveness
8. Voluntary implementation equals unlimited results
9. Proactive vs. reactive

Pipeline Safety Management Systems

Conformance to API RP 1173

Company Culture

Key Performance Indicators

Zero Incidents
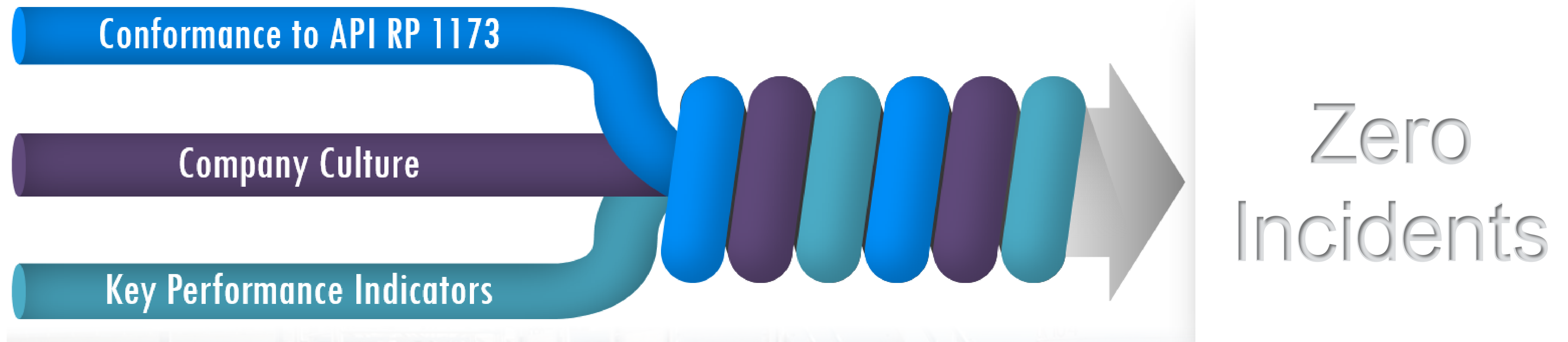
MEASURING EFFECTIVENESS
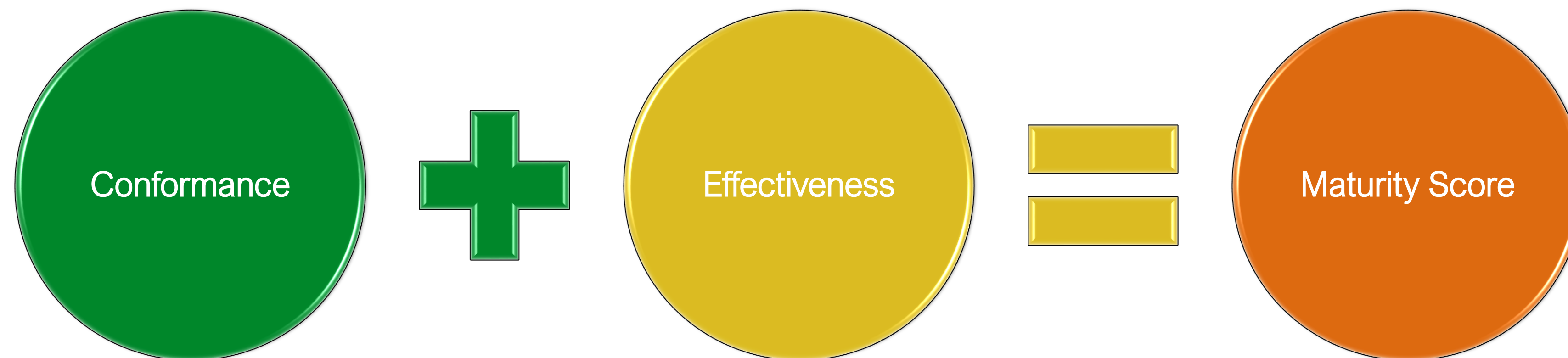
3-Year Averages

| ROW Incidents / Kmile | PHMSA IPE/Kmile | OSHA Injury Annual Rate |
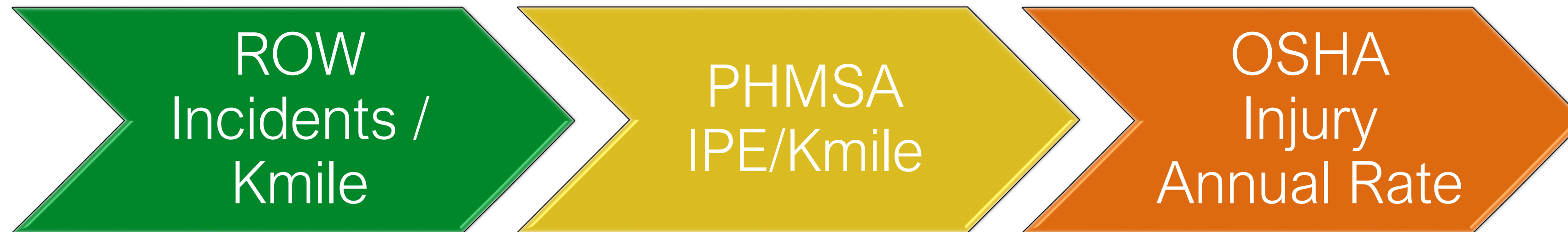
Key metrics used in comparison to industry averages provide the effectiveness score as an addition conformance.

Conformance **+** Effectiveness **=** Maturity Score

Industry Team Objectives

Increase Industry Participation

Increase External Engagement

Support Operator Journeys

Provide Oversight & Governance

Getting the Word Out

- AGA Workshop
- API Annual Conference
- NTSB Investigative Hearing (2018)
- International Pipeline Conference
- APGA Operations Conference
- Pipeline Leadership Conference
- PHMSA & NTSB Updates
- Annual Survey
- Annual Report
- Web-Site
- Industry-wide Webinars
- SMS Workshop

2018 and 2019 Communications

Making It Real

- **Continue** *One Industry, One Goal*

- **2018 Webinar series**

- **2018 Workshops**

- **API voluntary third-party assessment program development**

- **Metric development**

Demonstrating Progress

+50

LEADERSHIP COMMITMENTS

+26

SAFETY CULTURE SURVEYS

+43

GAP ASSESSMENTS

+47

CLOSURE PLANS

Demonstrating Progress
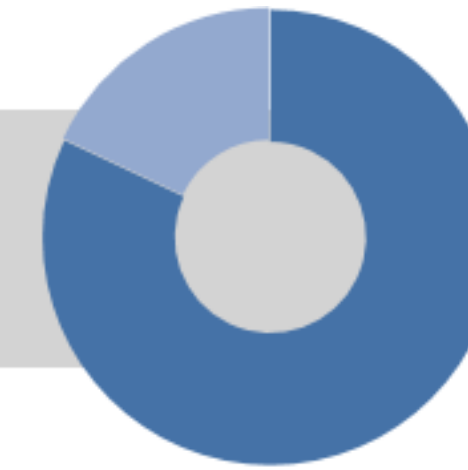
Pipeline SMS

48% Pipeline mileage surveyed

71% Gap assessment completion

88% Assessing safety culture

74% Operators who reported identified improvement opportunities from gap analyses

- 2018 data from liquid, gas transmission & gas distribution pipelines
- Survey responses represent 48% of the liquids and gas pipeline mileage
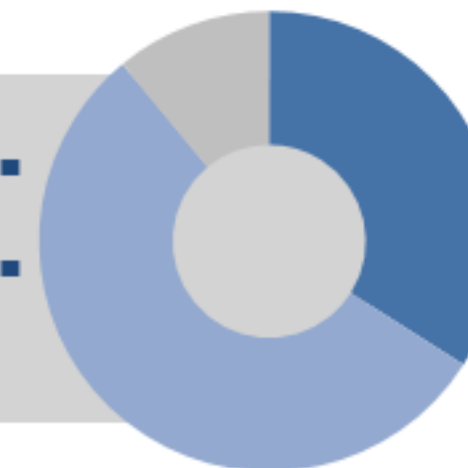
82% Yes
18% No

Has leadership demonstrated a tangible commitment to the implementation of their SMS?

71% Yes
29% No
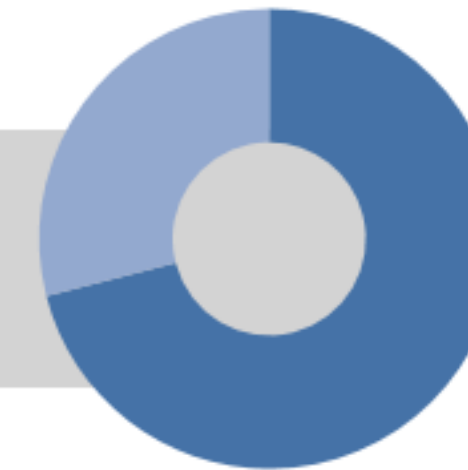
Has the company performed a gap assessment or evaluation of level of maturity of their SMS?

34% 1-2 yrs.
55% 2-5 yrs.
11% >5 yrs.

What is the time frame for closing initially identified gaps or addressing improvement opportunities?

88% Yes

Has your company taken any steps to assess your safety culture post 2014?

2019 Accomplishments

Continuing to Make It Real

- **Continue** *One Industry, One Goal*
- **2019 Webinar series (114 & 171 participants)**
- **2019 Workshop (87 attendees + presenters and facilitators)**
- **API and APGA conference sessions targeting SMS (200+ attendees)**
- **Standardizing approach to the API voluntary third-party assessment; conducted two pilots to achieve this goal**
- **Metric implementation**
- **Annual Survey going on now**

2020 Strategic Objectives

Increase Industry Participation	Ensure Proactive External Engagement	Provide Ongoing Support for Operator Journeys	Provide Governance & Oversight

• Industry Annual Survey
• Industry SMS Annual Awards Development
• "Barrier to Entry" Determination
	• Ongoing PHMSA Engagement
	• PST Engagement
	• Newsletter
	• Annual Report
	• Web-site
	• PHMSA Reauthorization
		• Culture Survey for Operator Use
		• 3rd Party Voluntary Assessment
		• Education
		  • Workshops
		  • Webinars
			• Industry Team Strategy
			• Reaffirmation / Reauthorization of 1173
			• Team Structure & Membership
			• Metrics

API RP 1173 PSMS Assessments: Program

Pipeline SMS

PROCESS

- Third party assessments *NOT* Audits
- Use of industry RP 1173 tool & **protocols**
- Evaluation against industry maturity model
- Assessors with 20 years SMS & pipeline experience

OBJECTIVES

- Share best practices
- Inform future activities
- Drive Operator improvement
- Aggregated data demonstrates industry progress
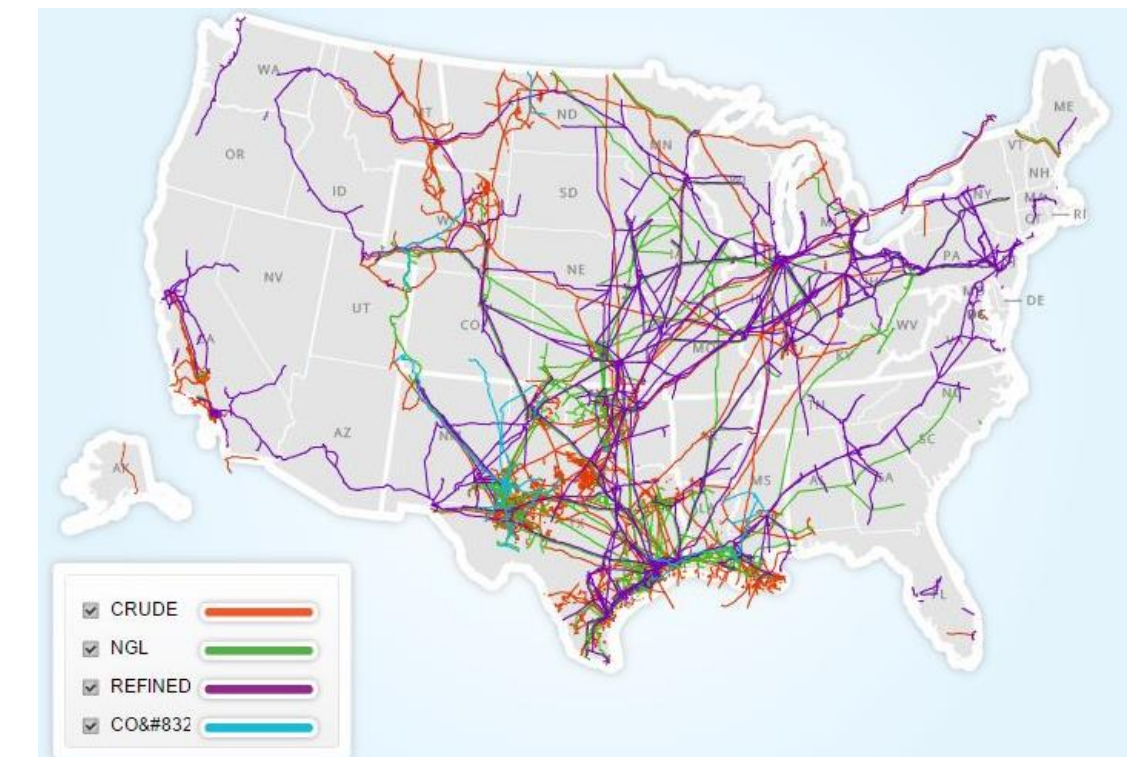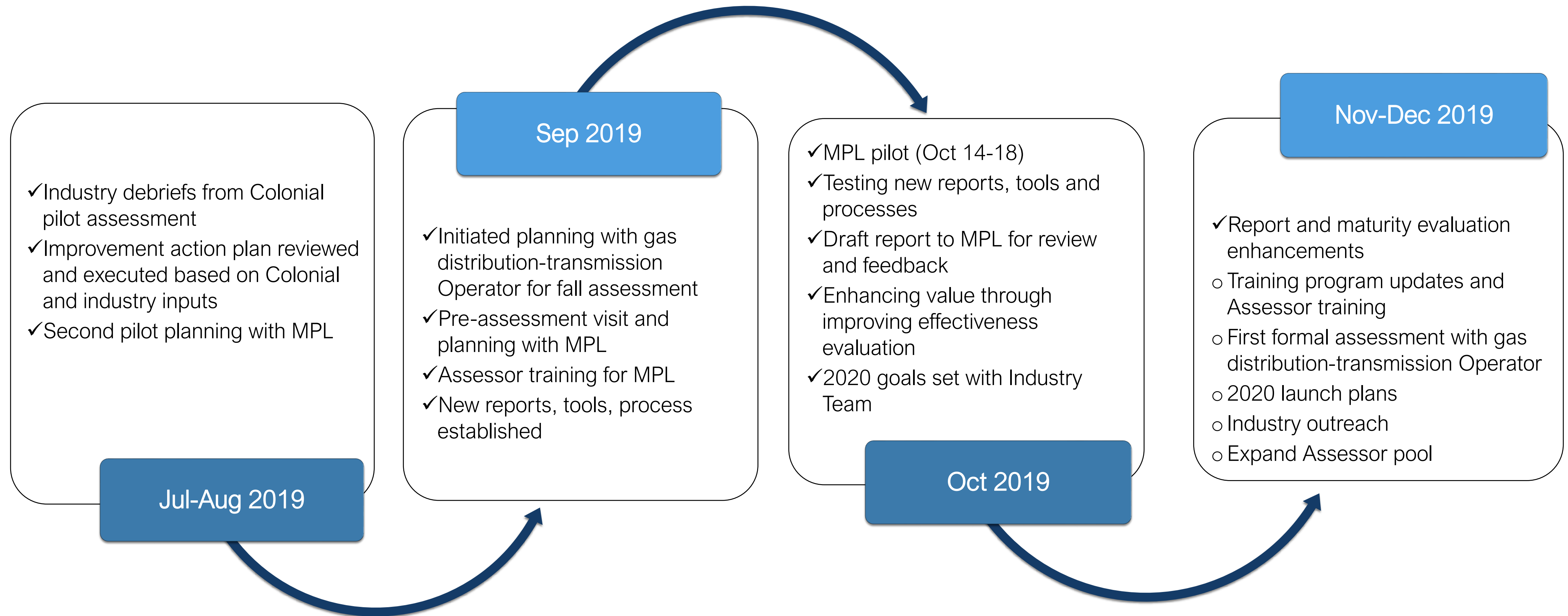
VALUE ADD

- API coordination and experienced Assessor pool
- Standardized, industry driven approach
- Aggregation of data across pipeline industry
- Direct industry feedback mechanisms
- Members designing and improving program

OPERATORS

- Domestic pipeline operators
- Liquids & gas distribution & transmission

CRUDE
NGL
REFINED
CO&#832

- API, AOPL, AGA, APGA & INGAA members

API RP 1173 PSMS Assessments: Development Status

Pipeline SMS

Jul-Aug 2019
- ✓Industry debriefs from Colonial pilot assessment
- ✓Improvement action plan reviewed and executed based on Colonial and industry inputs
- ✓Second pilot planning with MPL

Sep 2019
- ✓Initiated planning with gas distribution-transmission Operator for fall assessment
- ✓Pre-assessment visit and planning with MPL
- ✓Assessor training for MPL
- ✓New reports, tools, process established

Oct 2019
- ✓MPL pilot (Oct 14-18)
- ✓Testing new reports, tools and processes
- ✓Draft report to MPL for review and feedback
- ✓Enhancing value through improving effectiveness evaluation
- ✓2020 goals set with Industry Team

Nov-Dec 2019
- ✓Report and maturity evaluation enhancements
- o Training program updates and Assessor training
- o First formal assessment with gas distribution-transmission Operator
- o 2020 launch plans
- o Industry outreach
- o Expand Assessor pool

Governance – Path for RP 1173 Update

Pipeline SMS

Extension Request
2019

Ad-hoc Group
2020

Task Group
2021-2022

Voting Group
2021-2022

- Submit request to COPS in October
- Request to extend to July 2022

- Reports to SMS Steering Committee
- Include PHMSA and Pipeline Safety Trust
- Collect proposed revisions

- Draft revisions based on ad-hoc group recommendations

- Develop and implement voting group (as needed)

Current Landscape

- NTSB and PHMSA supported voluntary nature of Pipeline SMS
- Importance of industry demonstrating growing commitment and progress critical
- Pipeline SMS Industry Team proactively advancing tools and resources to support industry
- Industry needs to continue to champion and mentor to build upon commitment
- Pipeline SMS as a voluntary program under scrutiny by Congress
  - Mandatory provision in Senator Markey bill
  - Provision for PHMSA to report on progress of industry in Senate Commerce discussion draft

Pipeline SMS in the News

Senators Ed Markey and Elizabeth Warren from a Boston Globe article, October 4, 2018 regarding the September 16, 2018 natural gas explosion Merrimack Valley, NJ

"The omission of these sorts of safety measures from Columbia Gas' operating procedures prior to this disaster is alarming and unacceptable," the senators wrote, according to a copy of the letter they provided to the Globe. "It raises serious questions as to why these policies were not in place for Columbia Gas' systems and whether that failure was the result of negligence, cost considerations or incompetence."

Columbia Gas has not finalized a Pipeline Safety Management System that the American Petroleum Institute recommended in 2015, with input from federal regulators...

October 2018: API provides Pipeline SMS brief to newly confirmed NTSB Board Member Jennifer Homendy

THANK YOU!

Visit us at: pipelinesms.org

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AKolar@colpipe.com