

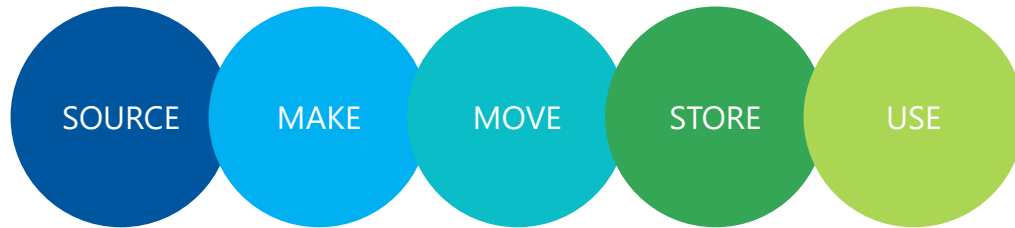


# Technology Transfer Panel

PHMSA Public Meeting  
December 14<sup>th</sup>, 2022

Sonal Patni  
Vice President of Operations, OTD

# We develop, scale and deploy solutions in the transition to low-carbon, low-cost energy systems



**490+**  
Employees
































We work collaboratively to address critical energy challenges impacting gases, liquids, efficiency and infrastructure



# Operations Technology Development (OTD)

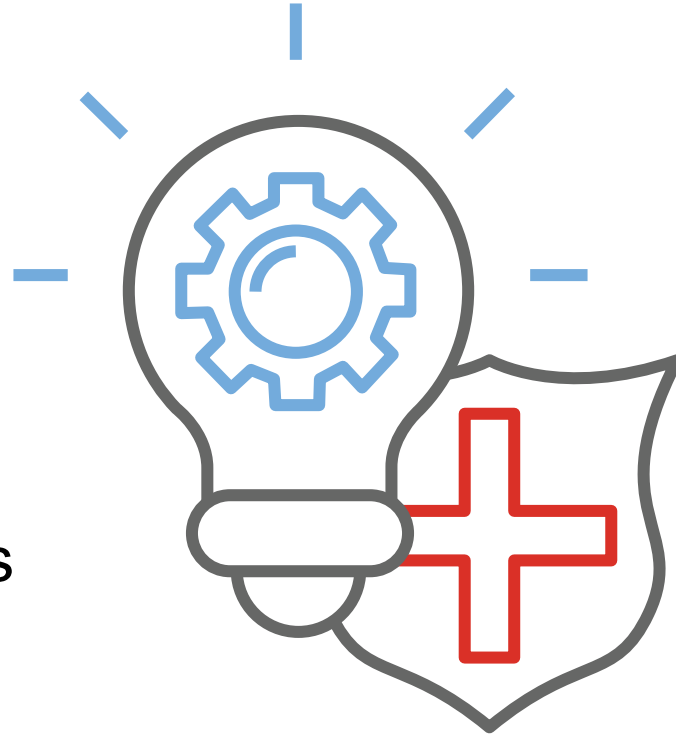
Stand-alone, not-for-profit, member-controlled company where gas utilities work together to develop technology solutions to common issues

# OTD Mission and Goals

## Mission

- Identify, select, fund, and oversee research projects resulting in innovative solutions and the improved safety, reliability, and operational efficiency of natural gas systems



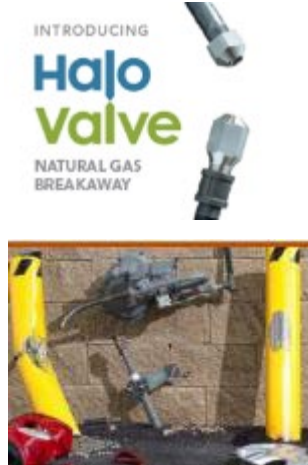
## Goals

- Enhance safety
- Enable operational excellence
- Minimize environmental impact
- Practice good science

# Recently Commercialized Innovations

## HaloValve – Natural Gas Breakaway Fitting

This breakaway fitting provides an engineered weak point in a meter set assembly with a valve that stops the flow of gas should damage from outside forces occur. Ideal protection for meter sets in high traffic areas, or areas prone to snow and ice build up. This device is available from Enerdine/OPW and is distributed by Groebner.



## Methane Monitoring for First Responders

Network of remote sensors connect wirelessly for full situational awareness via phone or tablet. Provides information about natural gas concentration at multiple points at a leak site. Technology licensed to Sensit Technologies.



## Kleiss MCS Flow Stopping System Mainline Control Systems

Marketed as the Kleiss MCS Flow Stopping System, this new system is used to stop the flow of gas in polyethylene, steel, cast-iron, and PVC pipes at diameters up to 18 inches and pressures up to 60 psig. The system, which is manufactured in Europe, was investigated through OTD to validate its operation and potential savings in the U.S. gas industry.



## Pixo, VR - Virtual Reality Training

Successfully developed a realistic, engaging, interactive computer-generated Virtual Reality (VR) training module focused on emergency response. Available through Pixo, VR. Additional modules currently under development.



# Recent License agreements as a result of joint OTD/PHMSA funding



U.S. Department of Transportation  
**Pipeline and Hazardous Materials Safety Administration**

## Small Diameter EMAT

Address need for inspection tool for smaller diameter (e.g., 8") pipes. Tool, electronics, software integration completed. Developed with Quest Integrated (recently acquired by Baker Hughes) License agreement with Baker Hughes to provide the platform.



## ORFEUS HDD Obstacle Avoidance

Ground-penetrating radar based system for horizontal drilling obstacle avoidance. In development with plans to bring to the U.S. market.



## 3M Locatable Plastic Pipe

Passive tags installed by the PE pipe manufacturer. Replaces tracer wire, no continuity required.



# Important Considerations

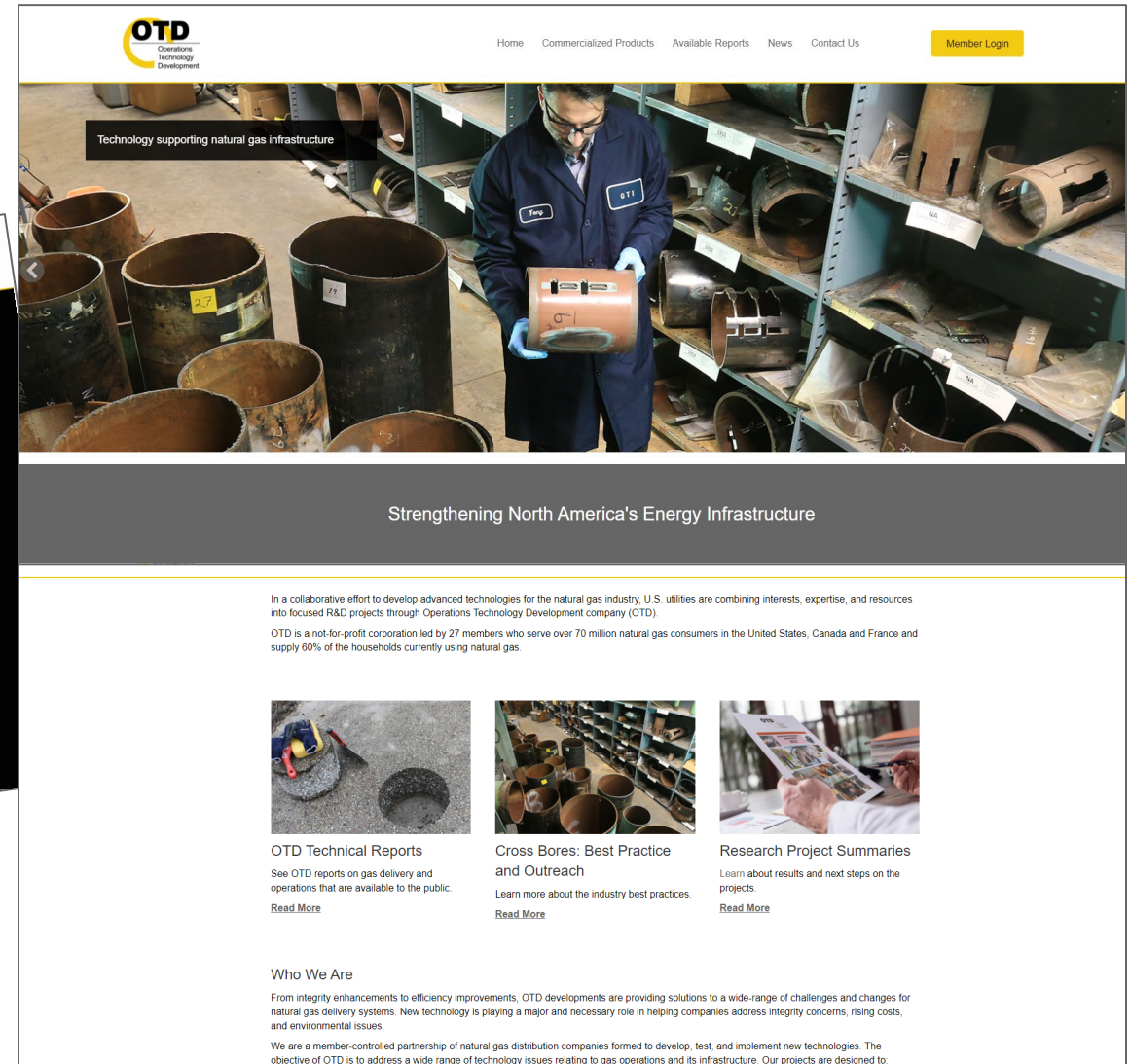
1. Technology development can take a long time
2. Understand your constraints and understand your variables.  
ie. Mobile methane leak detection
3. Work to identify commercial partners early in the process and get them involved in the development
  - Funding from PHMSA and industry helps build confidence market demand for technology developers
  - Solid business case (cost to bring to market)
4. Understand the impact of implementing new technologies
  - Implementation can have unknown challenges
  - Communicate with external stakeholders and regulators

# Important Considerations

- Regulations should allow for alternate or new technologies
  - Spurs innovation
  - New technologies may provide more system knowledge
  - New technologies may not be a one size fits all solution
  - Helps drive market deployment
  - Ultimately enhances safety to the public and environment
- The success of an R&D program cannot be represented solely on patents or technology in the market
  - White papers, codes and standards, even failures and lessons learned are incredibly valuable to the industry
  - How you measure success is key



# OTD Website: otd.org



# For More Information:

**Sonal Patni**

spatni@gti.energy

847-768-0772