

# REPAIR Workshop

Rapid Encapsulation of Pipelines Avoiding  
Intensive Replacement  
(REPAIR)

**October 11<sup>th</sup>, 2019**  
**Washington, D.C.**

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# Breakout Session Takeaways

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## Defining Success:

- Important to define “50 year lifespan” – is preventative maintenance an option?
- We need to redefine what “new pipe” is and what regulators will allow to be classified as a “new pipe”
- If the ideal technology is developed for more than \$1MM, still competitive – comparable costs superior performance
- Mapping is an essential component of the technology
- Inspection post coating important to serve as a baseline for future characterization of pipes condition
- Will adhesion of composites to the “old pipe” matter if the purpose of the “old pipe” is to serve as a mold only to cast the new pipe?
- Standards for success
  - standards for polyethylene known and need to match that at minimum. Start with ex-situ tests and end with live pilot.

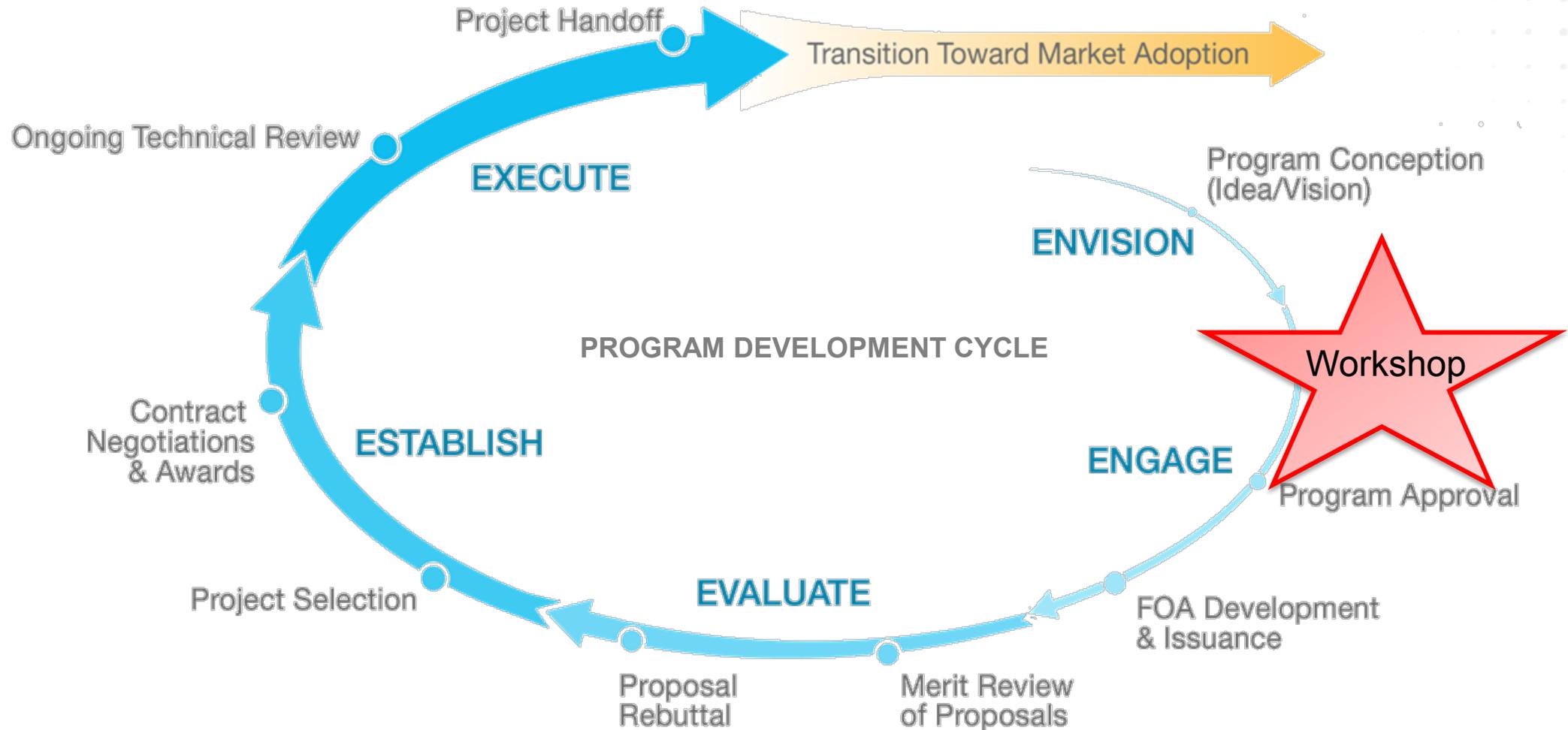
# Breakout Session Takeaways

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## Challenges

- Live pipes!!
  - Would be nice but perhaps not necessary
  - High speed technology that decreases down time still of high value
- Different solutions for different pipes more likely than a “one size fits all” solution
  - Different diameter, failure mode, etc may require different tools
- Regulatory concerns trump technology concerns
- Lack of defined testing → needs to be defined at the forefront of the project
  - Quantitative tests are going to be required for rate-based
- Composite/smart pipe has to have the ability to be cut or allow for insertion of valves once installed
- Data management a larger challenge than it appears to be
- Materials added in gas stream must not reach burner tips
- Defined technology targets should be given in FOA (at least the minimums)
  - ex: Pipe diameter

# Technology Acceleration Model



# Post ARPA-E Workshop Logistics

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- ▶ All presentations and attendee information will be made available after workshop
  - only attendees who agreed will have their information shared
- ▶ Follow-up conversations can be scheduled
  - Reach out to Jack Lewnard ([jack.Lewnard@hq.doe.gov](mailto:jack.Lewnard@hq.doe.gov)) and/or Sade Ruffin ([sade.ruffin@hq.doe.gov](mailto:sade.ruffin@hq.doe.gov))
- ▶ Once FOA is released all communication outside of public forum must stop

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