Robotics for Pipelines Assessment & Repair

Rapid Encapsulation of Pipelines Avoiding Intensive Replacement (REPAIR) Workshop

ARPA-E, Washington, D.C. October 10-11, 2019



Dr. John C. Matthews, Director
Trenchless Technology Center (TTC)



Robots for Pipe Assessment

Advanced, multi-sensors crawlers are actively used for assessing high risk pressure pipes



Drones are now being used for gravity pipe assessments in addition to aerial surveys



Robotic crawlers have long been used for sewer pipe assessments



Robots for Pipe Repair

Robotic pipeline repair has been gaining traction for pressure mains. CISBOT is now being used for joint repair in gas mains



Spray-on polymeric & epoxy systems are being installed robotically. Advanced systems are now able to also apply reinforcement while spraying ->



* Advanced robotic installers are being developed in Europe & the US for fiber optic installations