

From Pipe Force CEO Mike Macedonia

A Day in the Field is Worth a Hundred in the Office

I recently spent a day in the field with a crew from a major pipe cleaning company during a municipal sewer inspection in Upper St. Clair Township, PA, about 11 miles south of Pittsburgh. Beginning with environmental conditions, it was briskly clear that this industry doesn't happen in conference rooms: the temperature was 20 degrees, snow and ice blanketed the ground, and pipeline access required complex navigation through wooded terrain into residential backyards.

The Pipe Wall is the Truth

As the inspection process began, I easily discerned a clear rhythm to it. The operator's eyes rarely left the video feed. His left hand drove the crawler; his right hand controlled pan and tilt. The movements were simultaneous, fluid, and driven by muscle memory. There was no visible "mode switching," no hunting through menus. The controls were tactile, labeled, and purpose-built. The operator crawled, paused, logged, and continued with consistent cadence. What struck me most was how secondary the interface was to the video. The pipe wall is the truth. Everything else is just support.

The pipe's interior environment was just as demanding as the external environment. The pipe's insides were visually chaotic and variable, with cobwebs, root fibers, and debris constantly passing through the near field. The operator manually adjusted focus when obstructions interfered. Continuous autofocus sounds elegant in theory, but in reality, the wall surface, debris, condensation, and lighting warmth are all competing variables. Cooler LED was useful in large pipe sections, but the operator preferred incandescent warmth in smaller sections to help manage fogging.

Compliance is Imperative

Meanwhile, the compliance layer of the job never paused. A standard system was running for structured inspection and reporting purposes. Every defect required distance, PACP code, observation text, media capture, and grading. On this job, all coding was done in real time because the customer expected printed reports the next morning.

Reliability is King

Outside the truck, the crawler functioned more than once as a battering ram to clear debris, fouling the lens each time. The crew dragged equipment across snow and brush. The tether ran through trees and down slopes, with jacket wear and strand clipping treated as routine. The crew's demeanor remained calm, steady, and focused.

I learned that the crew has no appetite for experimentation mid-inspection, and that they are thoughtfully skeptical about new technology. The skepticism isn't resistance;

it's based in hard-earned experience. To a pipe inspection crew, reliability is king, and trust is built on tools that behave predictably. In turn, reliability enables the operator to interpret defects with authority.

Complexity is Routine

What I took away from the ride-along is clear: the pipe industry is structured, standardized, and deeply physical. Environmental adversity is routine. Compliance logging is central to the workflow, and operator confidence is inseparable from control predictability.

The time I spent with the crew was invaluable, and I know I'd benefit from further field observations whenever I'm welcome. For anyone looking to connect breakthrough technology with the in-the-ground reality of pipe inspection, I highly recommend getting to know a crew. They won't steer you wrong.