

# pipe·insights

Technology to improve the speed and accuracy of sewer inspection programs

## Finding the most cost-effective rehabilitation strategy requires accurate condition information.

Reviewing and validating CCTV data is critical to selecting the right treatments, but it can be time-consuming and inefficient. PipeInsights processes CCTV inspection data efficiently providing engineers with the information needed to make decisions faster than ever before. Using the power of AI and the convenience of cloud-hosting, PipeInsights allows smart decision-making and rapid responses. This proven technology is founded on decades of sound engineering practices and has been validated on thousands of real-world inspections.

PipeInsights allows users to upload inspections to the cloud, perform QA/QC of the defect coding, diagnose problems, and visualize the health of your sewer system from anywhere.

The platform's superior AI capabilities employ advanced machine learning algorithms to flag potential coding errors and missed codes and automate the sewer defect coding process. The system is trained on hundreds of thousands of defects and continues to learn and improve as new inspections are added.

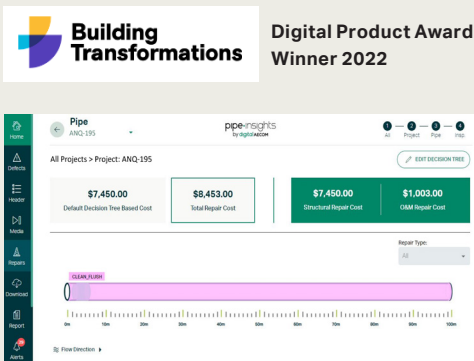
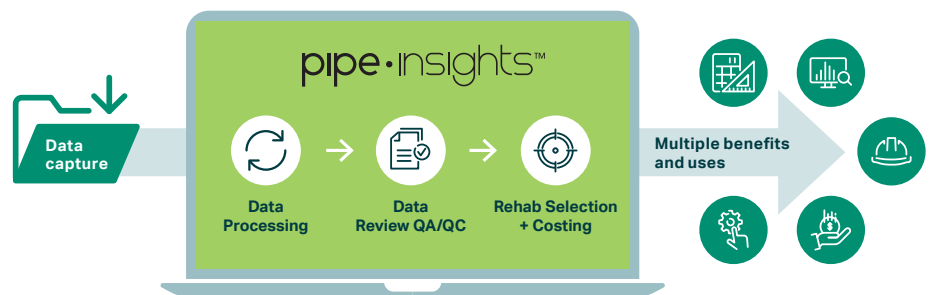
PipeInsights ensures CCTV inspections are of the highest quality, enabling you to develop accurate pipe maintenance or rehabilitation plans and strategies to manage your sewer system confidently.



We help our clients manage thousands of miles of sewer assets every year. We needed a tool to streamline that process and recommend cost-effective rehabilitation treatments. PipeInsights does just that."

Devan Thomas, Global Conveyance Market Sector Lead, AECOM

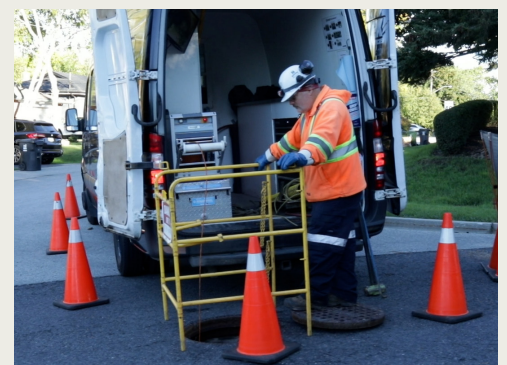
## Supports the full Capital Improvement Program (CIP) and asset management process



Cloud-based storage, retrieval and data processing for rehab selection



Mobile access to sewer inspections for rapid response



Integrates with field operations

## Benefits

- Less time spent inspecting videos allows for more time engineering solutions
- Efficient condition assessment and capital improvement program (CIP) development
- Insight into overall sewer system health
- Reliable analytics for defensible asset management
- Understanding of system defects and how they propagate over time
- Easy access to sewer inspections via GIS interface
- Expedited QA/QC inspections using video frame filters
- Insight into CCTV contractor and operator performance with opportunities for valuable feedback and training
- Enhanced communication across project teams
- Improved project and program management
- Consistency and accuracy without operator subjectivity
- Secure data storage and retrieval via the Azure Cloud
- Immediate access to inspections from the office or field
- Integration of inspections and pipeline scores with CMMS and Asset Management systems

## Features

### Critical Functionality

- Selects intervention needs based on defect severity
- Recommends structural and operational treatments through its unique built-in and engineered decision support system
- Interactive GIS interface
- Stream videos rapidly from the Azure cloud on any device
- Automatically relates pipes with reversal inspections to maintain consistency of data
- Easy filter, search and lookup functions for pipe and inspection attributes
- Filter video frames for detected defects for rapid review and analysis
- Modifications to defect data immediately update pipe ratings
- Adjustable video speed for quick reviews
- Upload inspections easily and have the AI perform QA/QC in the background

### Maximum Flexibility

- Applicable to any type of pipeline material
- Classify, detect and localize defects using either defect group or PACP modifier
- Faster video processing with fewer false negatives/positives via parallel computing
- Adaptable to multiple sewer protocols (PACP, WRc, etc.)
- Easy access to inspections from any mobile device

### Enhanced Communications and Project Management

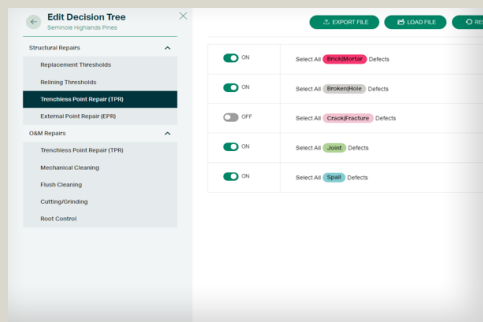
- Dashboards with business intelligence (BI) functionalities
- Manage multiple sewer projects or programs simultaneously
- Customize privileges for individual users
- Share information easily among stakeholders for faster decision-making
- Interactive interface allows for tagging and notifications
- Detailed reporting on the performance of the camera operators
- Visualize deterioration process by comparing defects and multiple pipe inspections over time

### Superior Artificial Intelligence (AI)

- Optimized defect detection using a combination of computer vision and machine-learning algorithms to create a robust AI
- Exceptional accuracy informed by hundreds of thousands of inspection images
- Detection of lining defects in rehabilitated pipelines
- Trained on images annotated by NASSCO certified staff and systematic QA/QC processes
- Continues to learn with you and from you — your engineers and NASSCO certified staff remain in full control



Improved automated defect detection with artificial intelligence (AI)



Decision support tool for recommended structural & operational treatments.



Simple to use platform for enhanced communication and collaboration

