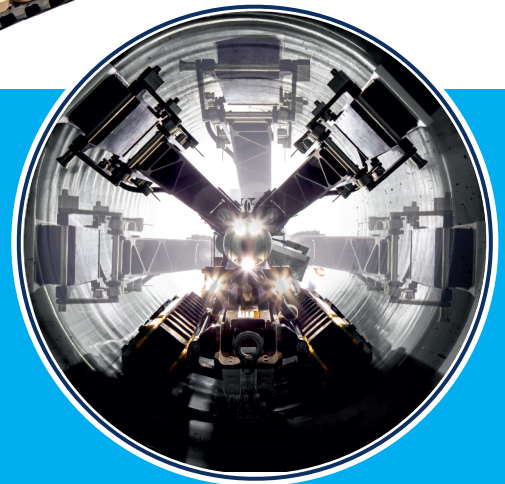


**PIPE PENETRATING RADAR**  
RANGE : 21-60 Inches (525-1500mm)



# SURVEYOR

## ABOUT SEWERVUE

SewerVUE's pipe penetrating radar (PPR) is a revolutionary patented technology for underground pipe inspection. The remotely operated Surveyor Robot fuses CCTV, PPR, LiDAR and other sensors, to accurately measure pipe wall thickness, composition defects, reinforcement cover, identify cracks, and find voids before they become sinkholes. The 5th Generation Surveyor is a long range tracked crawler designed for harsh environments and high flowing pipes. The PPR antennae can be remotely rotated between 9 and 3 O'clock. This crawler is capable of inspecting pipes ranging from 21 to 60 Inches (525-1500mm).

SewerVUE's proprietary software features advanced algorithms and AI to easily collect fuse, and analyze data from multiple sensors simultaneously. Data is reported in flexible and easy to understand formats, that empower owners and consultants to make economical and timely asset management decision.

## KEY BENEFITS

- Detects Voids Outside of Non-Ferrous Pipes
- Accurately Measures Pipe Wall Thickness and Reinforcement Cover
- Gain Confidence In The Structural Integrity Of The Pipe
- Prevent Catastrophic Failures and Sinkholes.

## PPR

- Frequency Options : 1.6 Ghz & 2.3 Ghz
- Maximum Signal Penetration : ~8" to 36"/ 200 mm to 920 mm
- Accuracy : 0.39"/ 10mm
- Horizontal Sampling Rate : 0.2"/ 5mm
- Antenna Position : 9 O'clock to 3 O'clock
- Data Collection : Continuous, both in and out directions.

## VEHICLE

- Speed : Up to 32ft/100m per hour
- Tether Cable : 3,380ft/1000m (12,000ft optional)
- Weight : ~240 lbs/ 140 kg
- Pipe Diameter : Min. 21"/ 525 mm, Max. 60"/ 1500 mm

## CAMERAS

- Front : Inuktun Spectrum 90 | 1080p with options up to 8K
- Active Controls : Pan, tilt, zoom, focus and light
- Rear : Inuktun Crystal Cam fixed focus camera
- Auxiliary Lightning : High Intensity LED

## OPERATING ENVIRONMENT

- Temp : 32° to 122° F (0° to 50° C)
- Depth Rating : Vehicle 100 ft/ 30m GPR splash proof

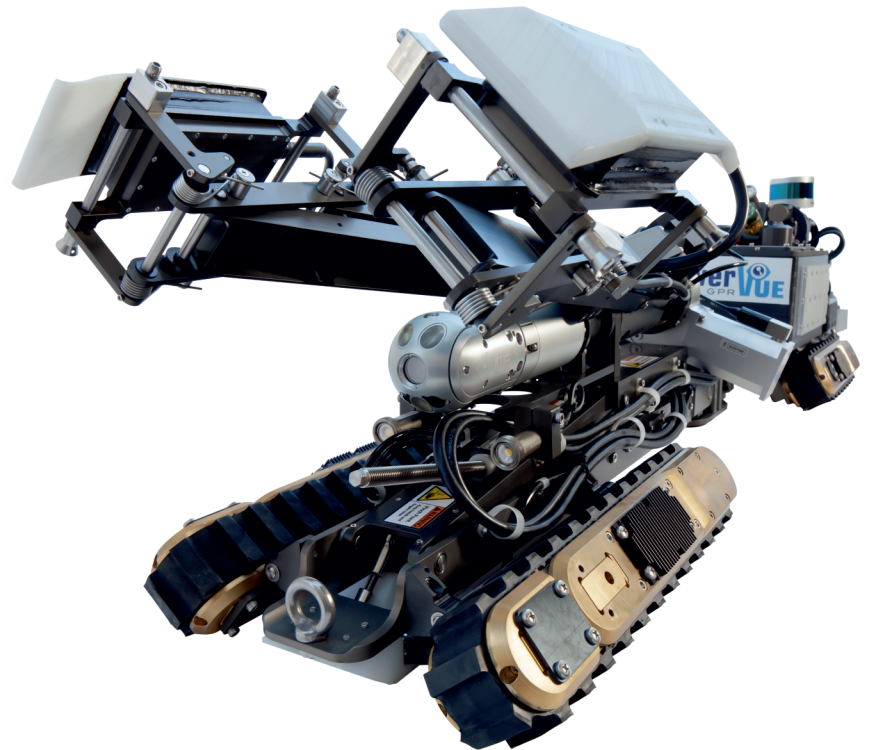
## CONTROL SYSTEM

- Power : 110/220 VAC
- Control : PC based graphical user interface (GUI)
- Tether Reel : Electric variable speed
- Options : Manual crank tether reel

## REPORT

- Continuous wall thickness and reinforcement measurements
- Color coded features including voids and joints
- CCTV reporting can be PACP/ Wrc compliant
- Fold our correlated CCTV and PPR visualization
- Geospatially accurate point clouds MSI Geometry deviation and intensity heatmap.

SPECIFICATIONS SUBJECT TO CHANGE



## HOW GPR and PPR WORKS

Ground penetrating radar (GPR) is a real time, non-destructive testing technique that uses electromagnetic (EM) waves to image pipes & man-made structures. A short pulse of EM waves are sent into the pipe where targets of different dielectric properties reflect some of the waves. A receiver antenna captures the reflected signals which are then displayed on a computer screen. Data collection is continuous, capturing several miles of data in a few hours.

Pipe Penetrating Radar (PPR) is the in-pipe application of GPR where the EM waves are sent into the pipe bedding envelope through the pipe wall (Concrete, HDPE, Vitriified Clay, Soil, etc.) High frequency PPR can detect cracks, exterior voids, exterior repair couplings, changes in material, water content or salinity to a distance of 36 inches (920 mm) and greater.

INTERPRETED PPR DATA IN REINFORCED CONCRETE PIPE

