



IPOZ SM2® Inertial Module is a mapping module used in In-Line Pipeline Inspections (ILI) based on Inertial Navigation technology. It is the perfect mapping tool for all pipeline inspections (pigging) for pipe diameters of 6 inches upward to any size. SM2™ records raw linear and angular motions at 400Hz. Through post-processing via the IPOZ proprietary software, INSPIG, all features and attributes plus the precise 3D map of the pipe will be obtained. Standard reports include complete GIS and graphic reporting in all formats used in the industry.

The IPOZ SM2® Inertial Module™

Embedded in the SM2 is a tactical grade IMU that provides a direct measurement of linear and angular motions as the PIG travels down the line. A powerful embedded recorder stores the high rate data for post-mission downloading and processing. Odometer and marker information will be used to correct the inertial drifts with sophisticated algorithms implemented in the powerful data processing software.

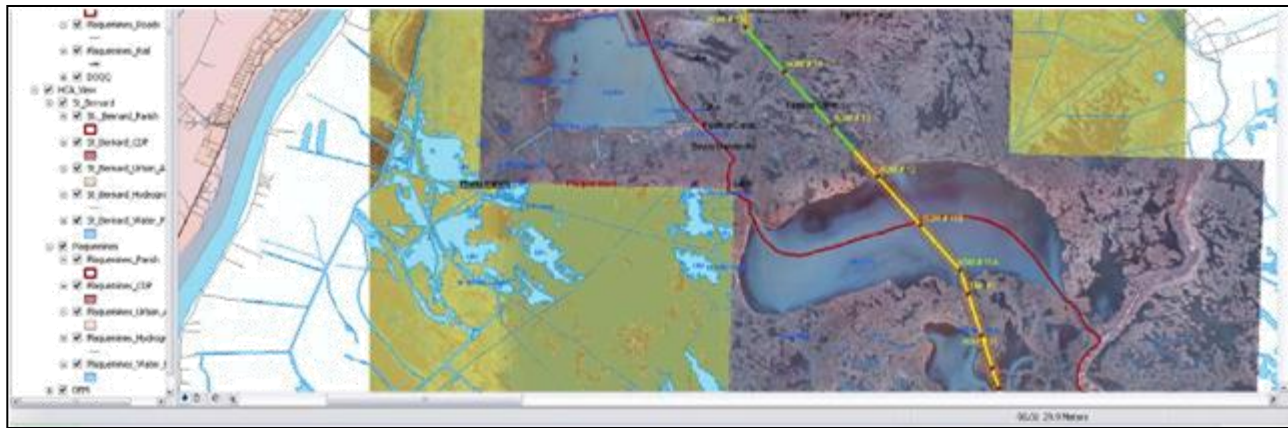
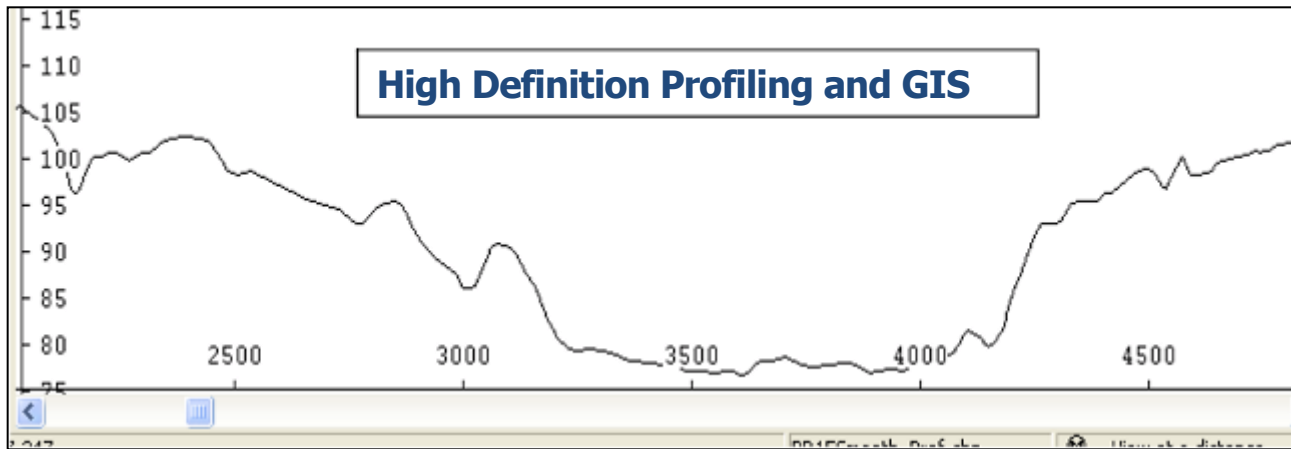


Advantages of integrated inertial over external surveys:

- Centerline, Full Feature Mapping**
- Out-of-straightness**
- Bend detection and characterization**
- Dent and buckle discrimination**
- Strain detection and analysis**
- Geotechnical, such as frost heave / thaw settlement surveys**
- River crossing / Marine span**
- Pipe joint misalignment**
- Orientation of Electric/Magnetic readings etc...**

Accuracy and Productivity The results of comparison surveys show that the accuracy of the 3D positions and orientations obtained with IPOZ SM2™ module are of the highest level in the industry. After post-processing, continuous 3D positions within 1m are the norm, and can be brought to decimetric level by request. Orientations are typically 0.1 degree or less.





SPECIFICATIONS:

An IMU is an Inertial Measurement Unit composed usually of 3 accelerometers and 3 gyroscopes, capable of measuring 6-degree-of-freedom, linear and angular motions without the need for any external information.

Post-Processed Positional Accuracy:
 Horizontal Position: <1m, better on request
 Vertical Position: <1m, better on request
 Recommended distance between AGM & Control Positions: <1 km, Marker Accuracy <0.1m

By design the IPOZ SM2™ ILI module can operate in the most extreme pigging situations including high pressure, velocity and temperatures, and is meant to flow inside the pig, with the pipeline product usually.

Post-Processed Orientational Accuracy:
 3D Orientation: <0.1 degree
Solutions delivered typically at 1" or user defined intervals

Inputs

Power: 9-36V, 12W
 Optional Odometer Pulses: TTL

Outputs

After the survey, the raw data is sent to IPOZ for post-processing and delivery of reports in Industry Standard formats (ILI reports, ASCII, SEGP1, DXF, DWG, SHAPE...).

KEY SPECS:

Vibration: Mil 15g rms, 20-20,000 Hz @ PSD
 Shock: Mil 90g, 6ms terminal sawtooth
 Power Mil-Std-1275A,
 Hours of operation: 240, or determined by batteries.
 Operation temp: -54C +71C continuous operation
 Angular range >1,000 deg/s.
 MTBF: >20,000h

Warning:

ITAR Controlled; Requires Export Licenses.