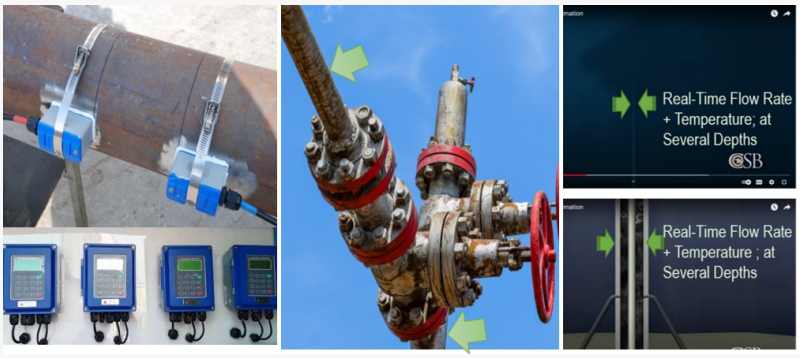
Pipeline Integrity Monitoring System for 24/7/365 Oil and Gas Transmission Visibility

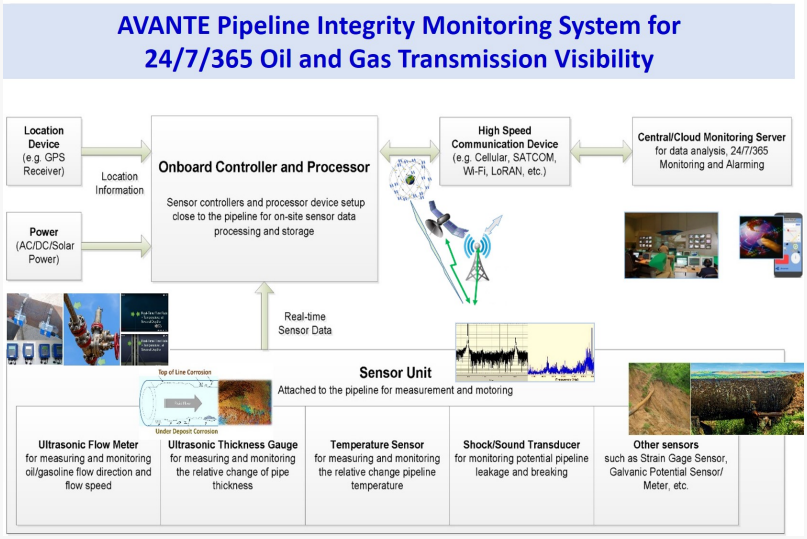
Multiple modules of sensors are installed externally and non-intrusively for quantitative monitoring of pipeline parameters affecting transmission safety

PRINCETON, NJ, UNITED STATES, March 20, 2023 /EINPresswire.com/ -- AVANTE International Technology, Inc. located in Princeton, NJ is proud to introduced its integrated sensors-based Pipeline Integrity Monitoring System (PIMS) at the 2023 AAMP national conference. The patent-pending AVANTE PIMS is designed to provide the pipeline operators 24/7/365 oil and gas transmission visibility for preventive maintenance and remediation ahead of leakages and damages.

Oil and gas and other commodities moving via pipelines, even with the best internal-based integrity monitoring system with computational pipeline monitoring (CMP) are still at risk of leakage releases. The loss and damage over the years have not been meaningfully changed over the year with annual losses of over US$300 million in United States alone.



Non-intrusive ultrasonic oil and gas flow data are monitored externally along the pipeline, branching and control choke points



Sensor-based Autonomous Pipeline Integrity Monitoring System for Predictive maintenance analysis and Timely Alerts of Exceptions for Remedial Actions

Pipeline operators have been deploying both the internal-based and external-based detecting system for integrity monitoring for their supervisory control and data acquisition (SCADA) system. External-based pipeline primarily designed for looking at the external surroundings and detecting the leakage outside of the pipeline line. When customized and effectively engineered

for specific pipeline fluid transmission, they can detect small spills and locate commodity leakage with a high degree of accuracy. However, most of the systems and solutions are not capability to provide more quantifiable pipeline integrity data for predictive maintenance and remedial actions before actual leakage and losses.

AVANTE Pipeline Integrity Monitoring System is engineered for external and non-intrusive installation on the surface of the pipeline at choke points of branching and multiple inputs, and at some repetition along the long expand of the pipeline for cost effective pipeline integrity with high granularity.

AVANTE Integrated Pipeline Integrity Monitoring System when deployed in the oil and gas up, mid and down stream pipeline choke points can provide end-to-end supply chain safety and Security management

AVANTE PIMS incorporates multiple modules of sensors that are installed externally and non-intrusively for quantitative and/or relative measurements of factors along the pipelines that affects transmission safety and efficiency. The data are gathered in suitable period and duration, they are collected in a separate controller and processor that are powered by AC, battery and preferably backed with recharging from solar when other power sources are not available. The locations besides pre-assignment that are logged along with the data are also tagged with GPS location and date-time for communication. The data are communicated in high speed with one of cellular, Satcom, Wi-Fi, LoRAN, wireless mesh network, etc. to central monitoring center server for 24/7/365 monitoring and in case of exceptions, to provide real-time alerts.

The patent-pending autonomous quantitative data-based AVANTE Pipeline Integrity Monitoring System for oil and gas transmission is engineered to address most of the challenges encountered in the older and newly installed pipelines. Besides resolving some of the false alarms with the multiple and integrated sensors, the intelligence inherent in this solution helps to mitigate human factors such as overload, fatigue, staff turnover and changing resources availability.

For more details and possible collaboration, please visit AVANTE at annual AMPP Annual Conference + Expo 2023 in Denver, CO.

About AVANTE International Technology, Inc.:
AVANTE has 30 years of experience in developing complex system and IoT solutions in addressing some of the most complex logistics and transportation problems.

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