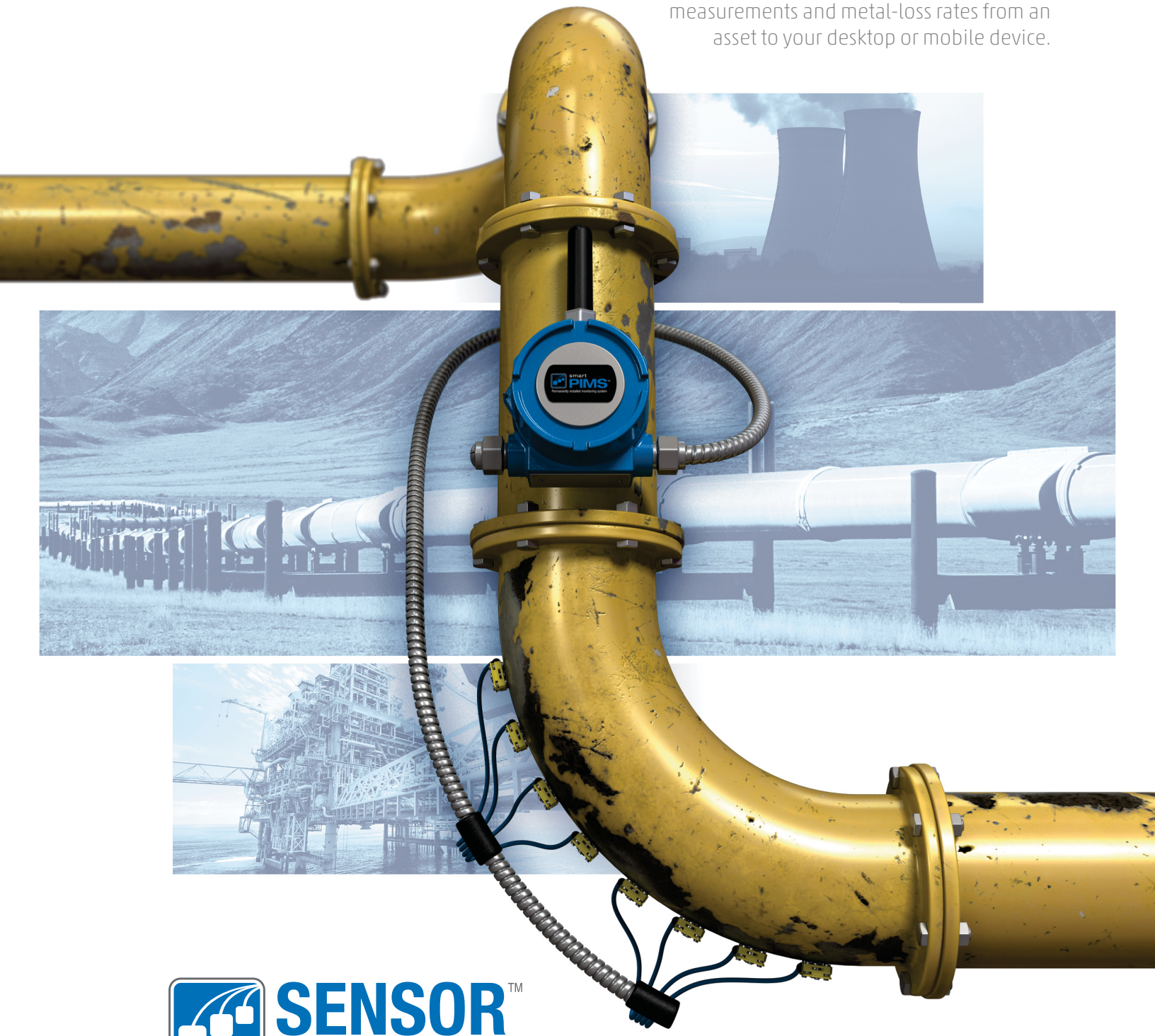
smart PIMS™
Permanently installed monitoring system

asset integrity meets the internet of things

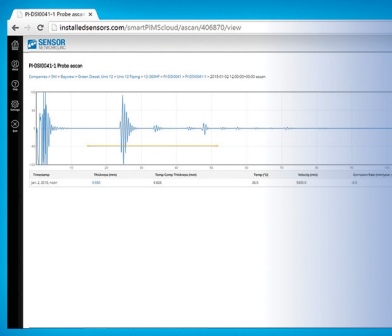
Seamlessly translate ultrasonic thickness measurements and metal-loss rates from an asset to your desktop or mobile device.



SENSOR NETWORKS, INC™
Installed ultrasonic sensors for asset-integrity monitoring

smart PIMS™

Permanently installed monitoring system



smartPIMS ultrasonic system digitizes, saves and transmits the RF waveform and the measured thickness value.

Monitor wall thickness with greater ...

- productivity
- cost savings
- data integrity
- safety

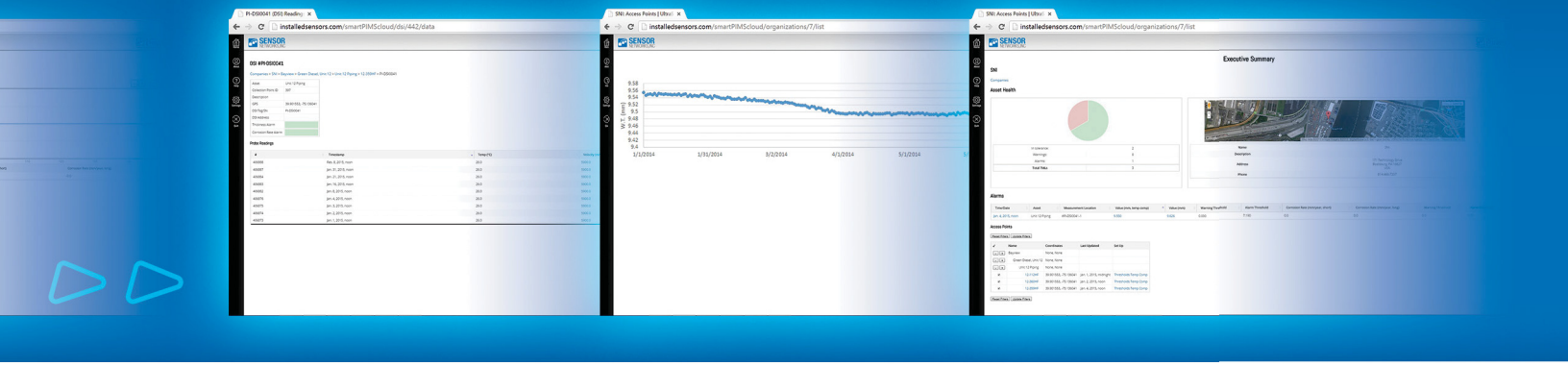
Transmitter includes long-life Li-ion battery, measurement module, data storage and cellular radio in a sealed housing. (Wired RS-485 version also available.)

Transducers come in several options to suit your application, and can be arranged into an area or linear array.

dual-element

high-temp delay line

cable lengths: standard 10′ (3.0m), custom to 25′ (7.6m)



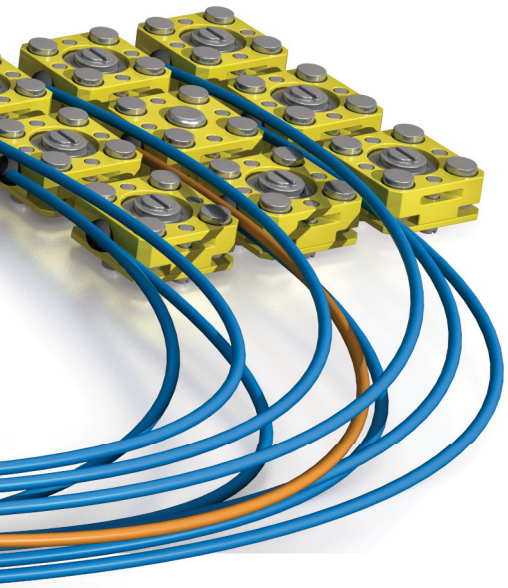
Our cloud-based data management system is configured to the user's needs.

Higher-fidelity and higher-integrity wall thickness data allows very accurate corrosion trending.

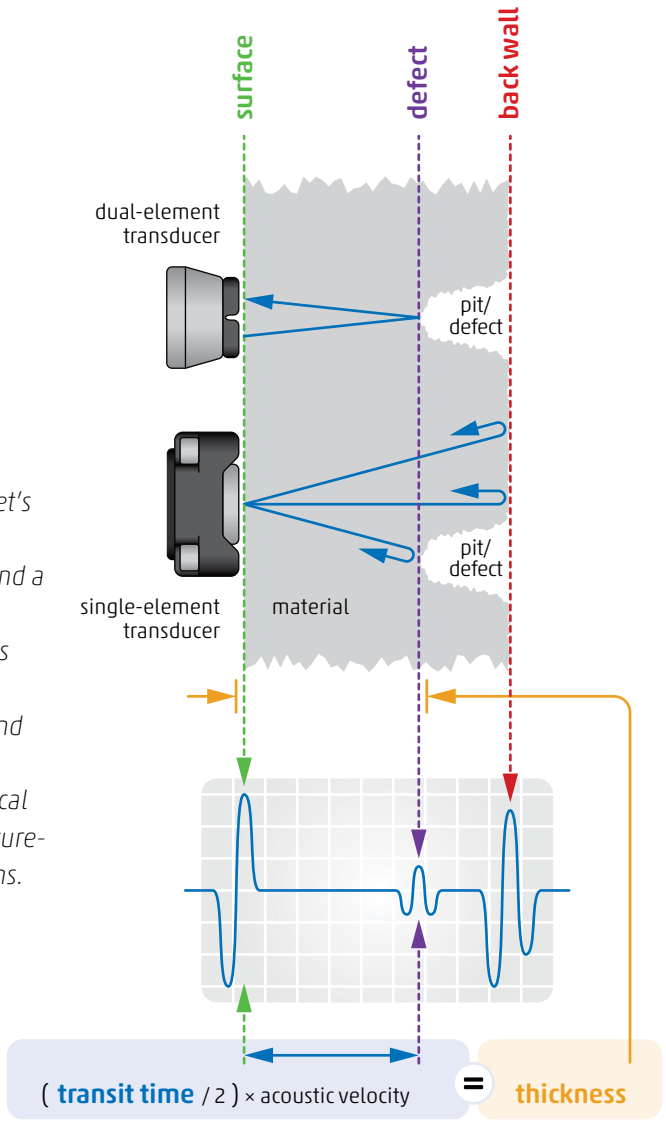
User-defined alarm states are available on a per-TML basis. Data is color-coded green, yellow and red to denote warning and alarm states.

- **Remote wall-thickness monitoring for corrosion, erosion or cracking.**
- **Only system to combine cellular data with dual-element transducers.**
- **Each transmitter supports up to 8 dual-element, 16 single-element or 16 delay-line transducers.**
- **Sealed housing with long-life battery.**
- **Collect and transmit data on any periodic schedule.**

area array of single- or dual-element transducers with temp sensor in center



Non-intrusive to the asset's pressure boundary, ultrasound is absolute and a direct measurement of remaining wall thickness and metal-loss rates. Resolution of 0.0001" and accuracies of 0.001" are achievable using statistical averaging and temperature-compensation algorithms.



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specifications

transmitter

type . . . . . cellular (3G) or hard-wired
model no. . . . . . C-PIMS 100
battery type . . . . . Li-Ion C-cell, 3.6 VDC, qty. 2
battery life . . . . . 5 years (typical, based on 1 reading/day)
ultrasonic system
- *channels* . . . . . 16 ultrasonic, 1 temperature
- *pulser voltage* . . . . . ±5V bipolar square wave
- *analog frequency* . . . . . 1–10 MHz (-3dB)
- *gain* . . . . . -10dB to +70dB
- *digitizer frequency* . . . . . 40 Msps
- *certification* . . . . . Class 1, Div. 1, ATEX Zone 1 (coming 2Q16)

enclosure
- *type* . . . . . instrumentation housing
- *material* . . . . . aluminum
- *rating* . . . . . Class 1, Div. 1, Group BCD, NEMA 4X, IP66
- *dimensions* . . . . . 5″ × 5¼″ × 4¼″
- *weight* . . . . . 4 lbs.

cable

type . . . . . armored, ¾″ dia.
maximum length to transducer . . . . . standard 10′ (3.0m), custom to 25′ (7.6m)

transducers

	single-element contact	delay-line contact	dual-element	angle-beam or shear-wave
model	XD-101	XD-201	XD-301	custom
application	general purpose	ultra-high temp	severe pitting	cracking
frequency	5 MHz	7 MHz	5 MHz	2.25–10 MHz
active area (dia.)	0.25″/6.35mm	0.375″/10mm	0.375″/10mm	custom
overall (dia. x h)	1.0 × 1.0″ 25.4 × 25.4 mm	0.8 × 2.25″ 20.3 × 57.2 mm	0.75 × 0.75″ 19 × 19 mm	custom
no. transducers	1–16	1–16	1–8	2–8 (TT), 1–16 (PE)
resolution	0.001″/0.025mm	0.001″/0.025mm	0.001″/0.025mm	custom
thickness range	application-dependent	0.125–1.0″ 3.0–25.0mm	0.040–6.0″ 1.0–150.0mm	custom
temp range	application-dependent	-5 to +932 °F -20 to +500 °C	-5 to +300 °F -20 to +150 °C	custom
attachment	magnet/adhesive	mechanical clamp	magnet/adhesive	custom

TT = through-transmission, PE = pulse-echo

smartPIMS systems are available for rent or purchase, or as a service.

SENSOR™ NETWORKS, INC
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