Remote Monitoring Solutions for Noise, Vibration and others.

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Absolute Instrument Systems (Pte.) Ltd.
Introduction to AIS

• Absolute Instrument Systems (Pte.) Ltd.
  – Authorised Distributor and Authorised Service Centre
    • Vibration monitors,
    • Sound level monitors,
    • Water Quality and
    • Surveillance monitoring systems.
  – Manufacturer of ReDAC (Remote Data Acquisition Controller) utilising 3G/GPRS technology to transmit data from remote location to the Internet.
    • Quick and experienced solution provider for remote real-time monitoring systems.
ReDAC (Remote Data Acquisition Controller)

• 3G/GPRS wireless modem and Controller
• Need SIM card from local telephone company
• Simple to setup using PC
• Fast deployment – Quick solution.

Made in Singapore
Applications of remote real-time monitoring:

- Noise level
- Water Quality
- Vibrations
- Heatstress
- Dust
- IAQ, Temperature and humidity
- Water level
- Solar power
Remote Monitoring for Noise

• Concept discussed with Authorities in 2007
  – Before real-time remote monitoring was implemented, monitoring of Environmental Noise levels was a manual process.
Automatic Noise Monitoring System (ANMS)
Automatic Noise Monitoring System (ANMS)

• Tried and tested solution with over 500 installations in Singapore.
• Sending noise level readings to our Internet server.
• Providing SMS alert messages to users when limits are breached. Users can investigate the cause of such breaches.

*** “Work-in-progress” version can record and save real sound onto the internet server (users can download and listen to the noise).
Around 500 sound monitoring systems in operations in Singapore today.
Vibration monitor
Basics of a vibration monitor

• An instrument that is used for measuring and collecting vibration data by recording with sensors.
Why are Vibration monitors used?

- Document compliance with local regulations
- Protect structures by ensuring limits are not exceeded
- Optimize blast performance
- Minimize risk of damage or human annoyance
- Protect against claims and lawsuits with reports
Regulatory controls are different in each country and for different applications.

Acceptable limits in Regulations can range from 2 mm/s (.08 in.) to 50 mm/s (1.97 in.)
## Monitoring Applications

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Monitoring Applications

Specialty
Unit Calibration: November 19, 2008 by Instantel
Remote Monitoring

• Automatically download events from remote monitors
  – GSM
  – Land-line
  – Satellite

• Automatically forward event data as e-mail to GSM phones and PCs
Continuous Remote Vibration Monitoring in Mass Rapid Transit (MRT) tunnels

42 Monitoring Points!
Onsite with Absolute Instruments in Singapore

Photo courtesy of Absolute Instruments
Remote Monitoring

Vibration Monitoring Solutions

[Image of remote monitoring equipment]

- YAGI ANTENNA FOR CELLULAR MODEM
- MOUNTING POLE
- SOLAR PANEL
- INSTANTEL® MINIMATE PLUS™
- SECURE WEATHERPROOF ENCLOSURE
- CELLULAR MODEM
- MARINE BATTERY
- STRAIN RELIEF

[Company logo and tagline: Instantel, The World’s Most Trusted Vibration Monitors]
Vibration Monitoring Solutions

Auto Call Home™

• **Auto Call Home™** call-in feature
  – Automated call-in
  – After event is recorded
  – At scheduled times

• **Blastware® Mail** report distribution
  – Automated mail-out
  – Email or text messaging
Web Based Monitoring

Safe, secure, and reliable data management on an Internet accessible server, with a backup server, maintained by Instantel. Only you and your approved clients can access and view the data 24/7 on your assigned, customized website. No traveling to retrieve event data, copying, printing, faxing, or emailing.
Other Monitoring Systems

- Water quality – Total suspended solids
- Heat Stress
- Dust
- IAQ
- Surveillance
Water Quality Monitoring System

Image description:
- Camera
- Water Sensor
- Monitor

Company logos:
- Instantel

Tagline:
- Instantel: The World’s Most Trusted Vibration Monitors
Over 100 TSS (Total Suspended Solids) monitoring systems in operation in Singapore today.
Heat Stress Monitoring Systems

RF Wireless Data
acquisition controller

Internet

Users accessing noise data
over the internet

Copyright 2008 Absolute Instrument Systems (Pte.) Ltd.
Dust Monitoring Systems

RF Wireless Data Acquisition Controller

Internet

Users accessing noise data over the internet

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Wireless “Sky” Camera System
Thank You