GMI Expo 2103

A Novel Remote GHG Emission Monitoring System

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Canada

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Need for Remote Monitoring Systems

- Compilation of multi-parameter time-series data to:
  - Fully evaluate potential GHG emission reduction opportunities.
  - Allow proper engineering of control measures.
  - Baseline GHG emissions prior to implementation of a control measure.
  - Provide ongoing monitoring of emission reductions achieved and system performance.

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Monitoring Panel Features

- Remote Terminal Unit
  - Onsite data processing capabilities.
- Terminal blocks for up to 40 direct-wired sensors.
- Radio transmitter/receiver for communications with sensor clusters.
- Wireless gateway for communications with wireless sensors.

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Monitoring Panel

- Cellular Modem
- Satellite Modem
- Data Storage
- Solar or supplied power.
- Hazardous area certification.

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Novel Features

- Cellular communications.
  - Current practice is to use telephone lines, radio towers or satellite service.
    - Limiting or costly to implement.
  - **First successful use of cellular networks for SCADA applications.**
- Secure Internet accessibility.
- Ultra-high polling frequencies.
  - Automatically controlled by the RTU to suit to capture upsets or peak events.

EMERSON. Process Management

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Novel Features

- 3-D interface via secure Internet connection.
- Real-time trend analysis of both measured and calculated parameters:
  - Gas Composition: based on measured molecular weight.
  - Losses: CH4, LPG, NGL, H2, and $.
  - Emissions: GHGs, CACs (CO, VOCs, SO_2, NO_x, PM)
  - Emission Reductions: GHGs, CACs

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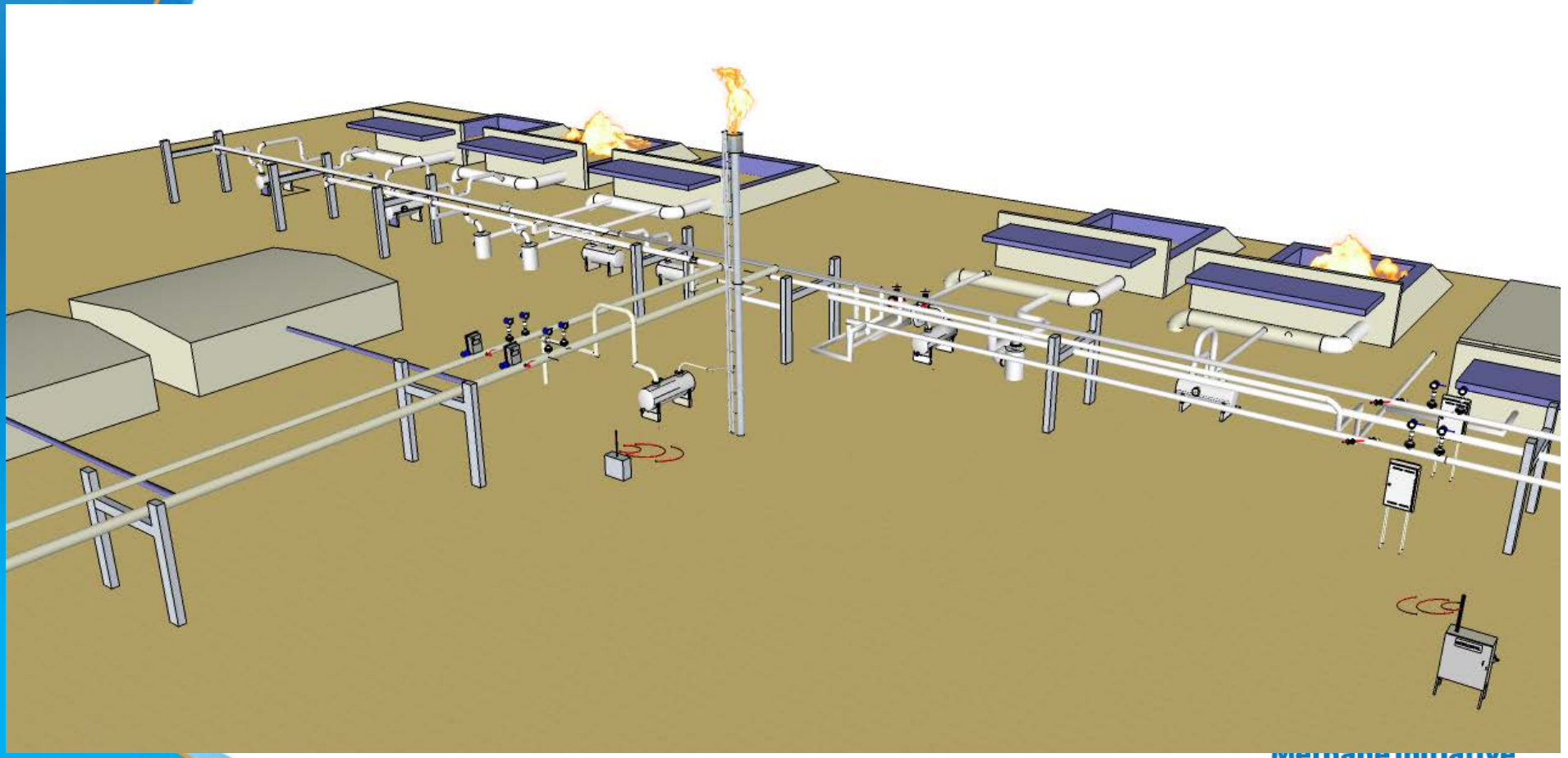
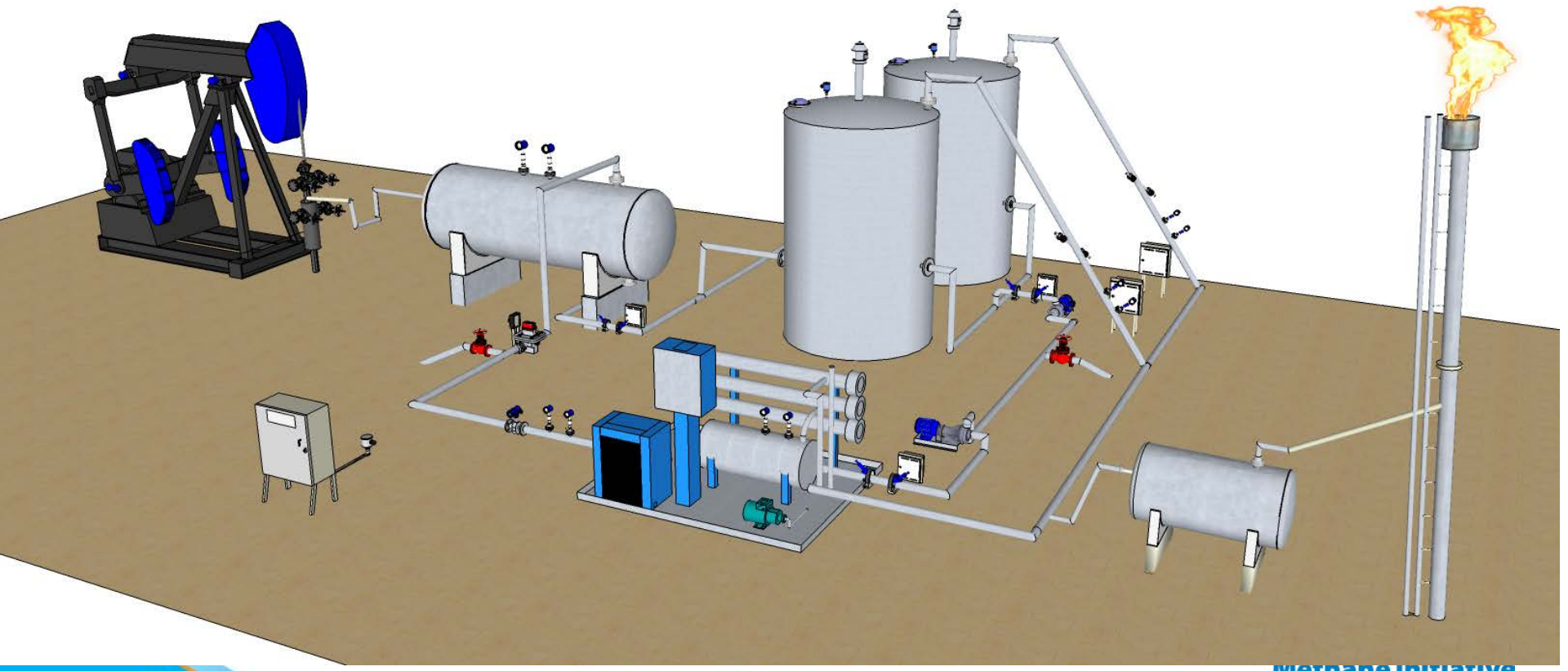
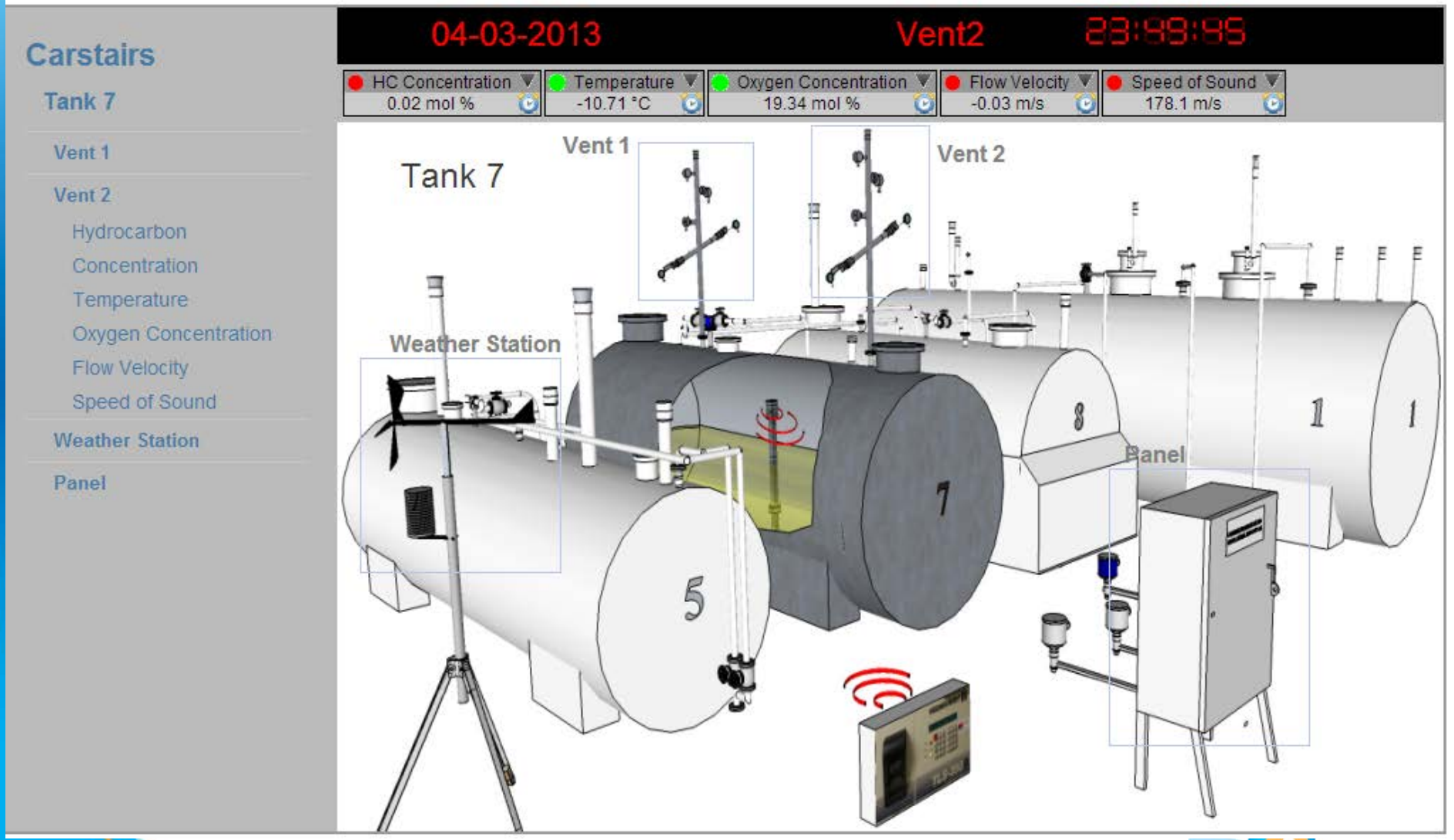
Flare Monitoring System



Micro-condenser Monitoring Application



Tank Monitoring System



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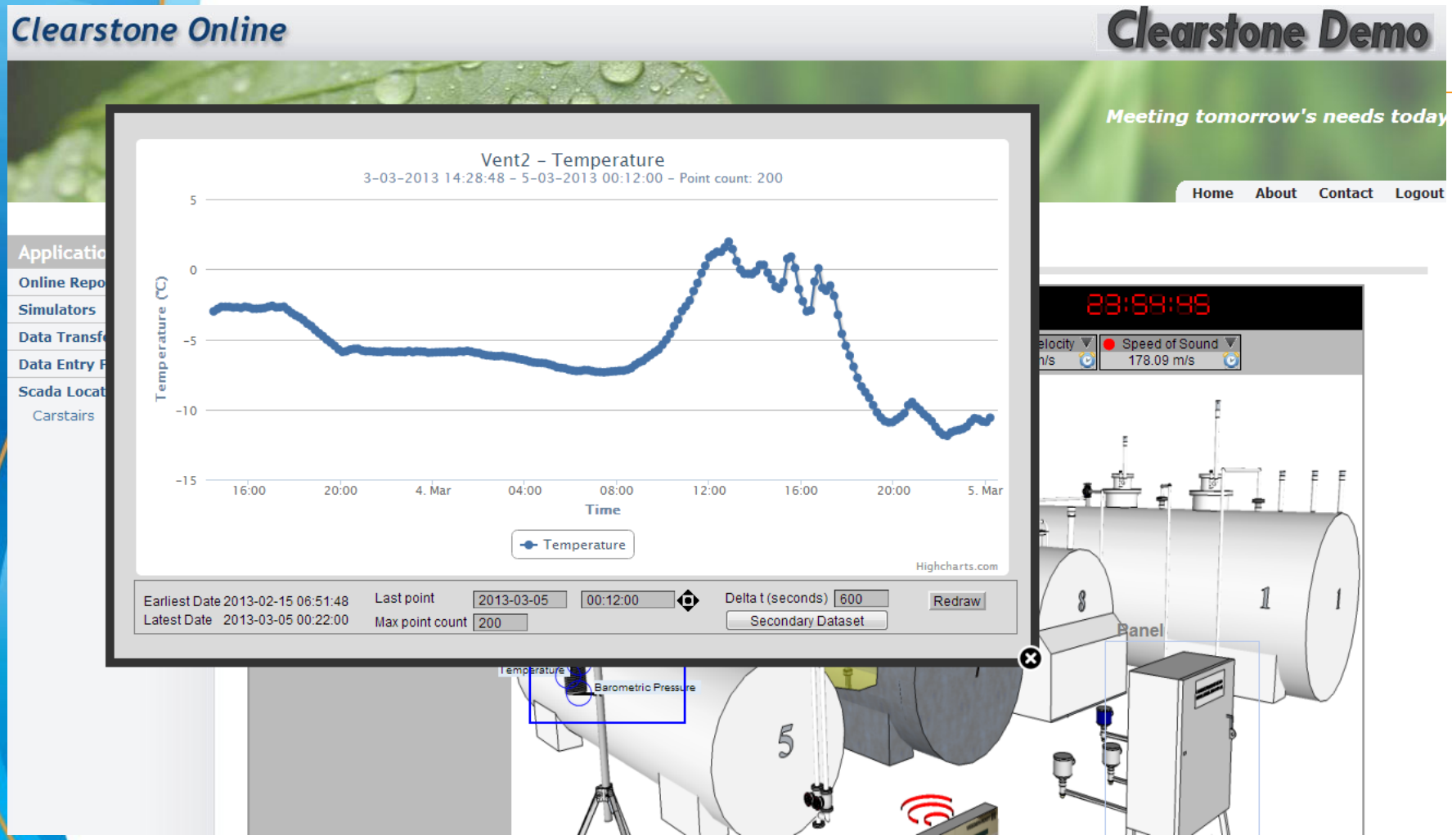
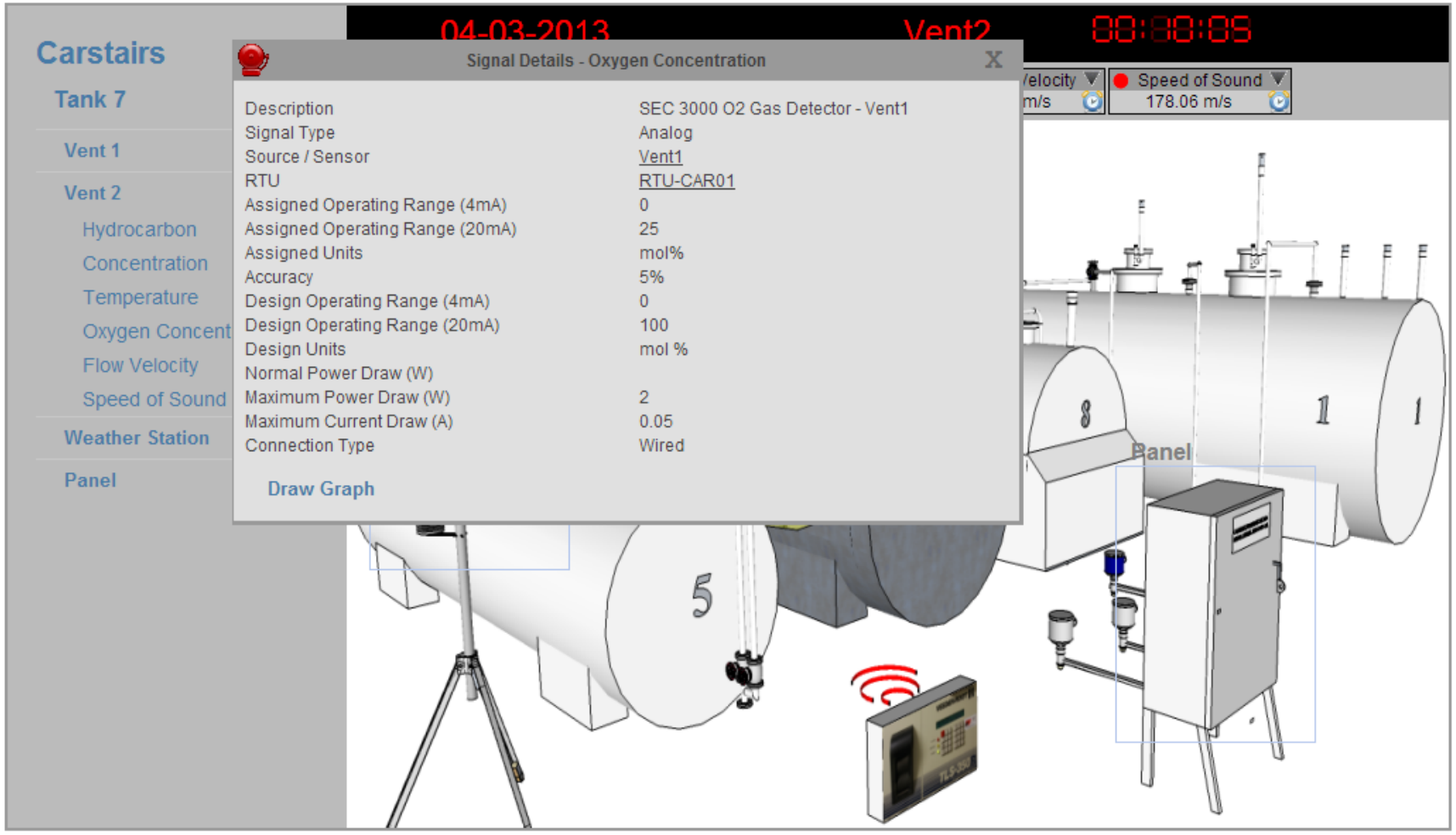

Clearstone Online
Clearstone Demo
Meeting tomorrow's needs today
Home
About
Contact
Logout
Vent2 – Temperature
3-03-2013 14:28:48 – 5-03-2013 00:12:00 – Point count: 200
Temperature (°C)
5
0
-5
-10
-15
16:00
20:00
4. Mar
04:00
08:00
12:00
16:00
20:00
5. Mar
Time
Temperature
Highcharts.com
Earliest Date 2013-02-15 06:51:48
Latest Date 2013-03-05 00:22:00
Last point
2013-03-05
00:12:00
Max point count
200
Delta t (seconds)
600
Secondary Dataset
Redraw
23:59:59
Speed of Sound
178.09 m/s
Barometric Pressure
Panel

Scada Site - Carstairs



Key Benefits

- Ready deployment using cellular communications.
- Minimal or no process disruption to install:
  - Clamp-on sensors
  - Hot tap techniques.
- Rigorous process and source monitoring.
- Real-time monitoring of critical project outputs.
- Verifiable GHG emission reductions.

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Thank you!

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