WHOLE HOUSE GASSING SYSTEM
DEVELOPED BY CORTEX AGRITECHNOLOGY

DATAPRO

The custom Whole House Gassing system is built off of the powerful and flexible Cortex DataPro framework.

Cortex was able to leverage the DataPro system to create a powerful WHG system that provides real-time sensor readings (Temperature, O2, CO2, Building Overpressure, etc.) to a centralized monitoring dashboard. *(Figure 2)*

Figure 1. DataPro Case and Sensor Pods

EASY TO USE

The WHG Dashboard is designed to provide real-time visibility of the environmental variables you're monitoring during a depopulation.

DATA LOGGING & REPORTS

WHG datasets are automatically logged for later review and regulatory requirements.

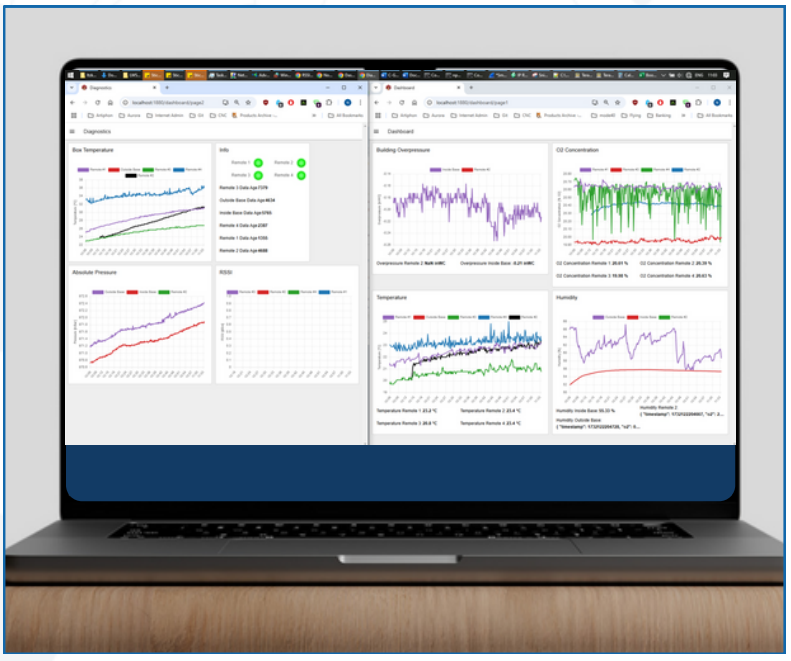
WIRELESS & CONVENIENT

Save time & money compared to traditional wired WHG solutions with Cortex's robust wireless mesh system.

SAFE & QUICK

WHG units can be removed from a barn and disinfected within approximately 10 minutes after reentry is allowed.

Figure 2. Centralized Monitoring Dashboard



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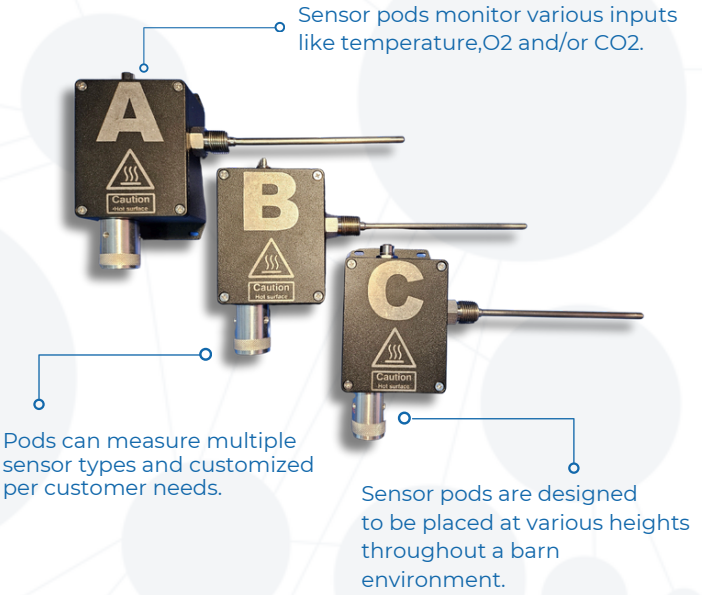
Hardware Components and Measured Data

Wireless Hardware Solution

Cortex and LWS developed a wireless and battery-powered DataPro controller to measure various inputs for these studies.

Tailored Sensor Inputs

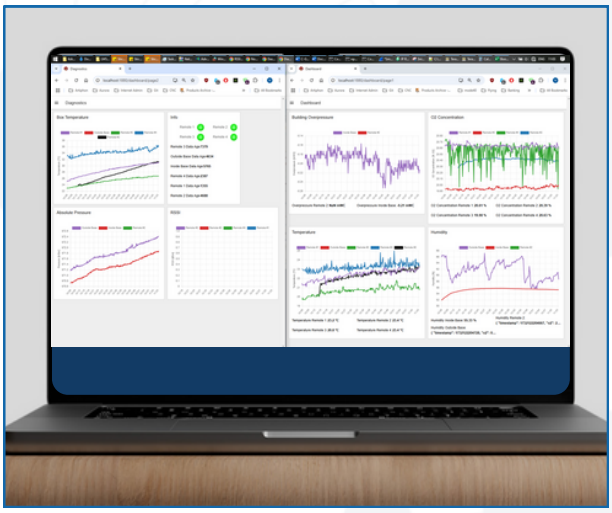
Cortex used remote pods built to measure Temp, RH, O2 and/or C02.



Currently evaluating the addition of visible and thermal camera capabilities

Real-Time Sensor Monitoring

WHG Dashboard with real-time, easy to read graphs of your critical environmental factors.



Wireless WHG System can measure...

- **Temperature**
- **Oxygen**
- **Humidity**
- **Carbon Dioxide CO_2**
- **Building Overpressure**
- ***and more!***

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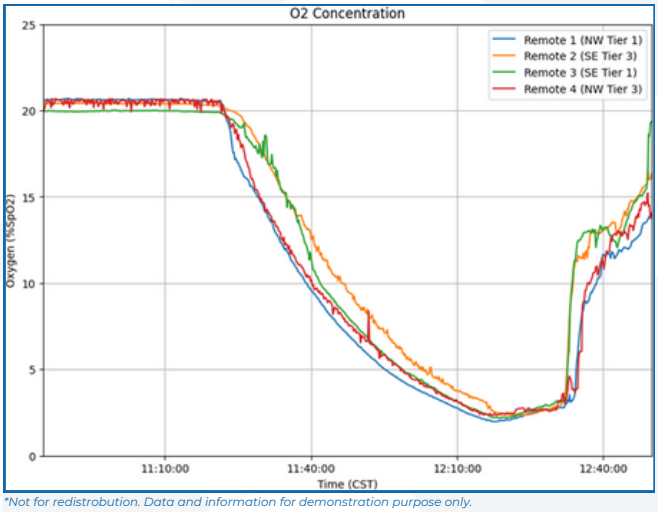
LWS Wireless System Case Study

Livestock Welfare Strategies (LWS) contracted Cortex Agritechnology Inc. to design and deploy a custom Phase 1 proof of concept system to monitor various data inside a free-range egg barn during a nitrogen whole house gas depopulation.

Depopulation Metrics Measured with DataPro

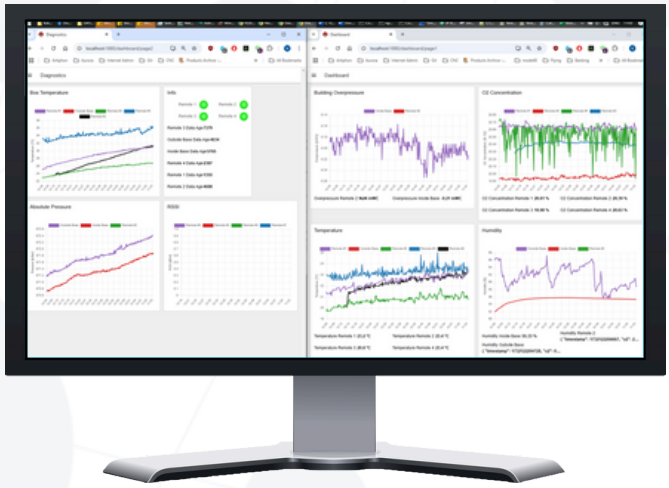
- ✓ **Temperature**
- ✓ **Oxygen**
- ✓ **Humidity**
- ✓ **Real-Time Sensor Monitoring**
- ✓ **Building Overpressure**
- ✓ **Carbon Dioxide**

Oxygen Concentration



**Not for redistrobution. Data and information for demonstration purpose only.*

Live Dashboard View



Study #1 Conclusion

The wireless remote sensor system successfully recorded data in the barn during theB depopulations on June 29, 2024 and performed with enough confidence to removeB the wired proxy units in a second depopulation on November 6th, 2024.

Units were removed from the barn and disinfected within approximately 10 minutesB after reentry was allowed. The sensors on each unit performed as specified andB collected data matched closely with the parallel monitored wired system.

CORTEX AGRITECHNOLOGY

LWS Wireless System Case Study

Depopulation metrics measured with DataPro:

Wireless Mesh System

Our customized wireless mesh system can be installed and removed quickly, and self-adjusts to each barn.

Real-Time Sensor Monitoring

Validated accuracy and reliability of the wireless system compared to a traditional wired setup.

Building Overpressure

Identify air leaks or ventilation anomalies.

Wireless WHG System also measures...

- **Temperature**
- **Oxygen**
- **Humidity**
- **Carbon Dioxide**