

# CASE STUDY

CS.SCADA.002

## Scalable SCADA Network Achieved with NUCLEUS and the Tyrion Cloud

LOCATION: TEXAS  
YEAR: 2019-PRESENT  
TECHNOLOGY: SCADA IN THE CLOUD

### CHALLENGE

Developing a SCADA network without the traditional costs for infrastructure and lead time.

### SOLUTION

NUCLEUS, Tyrion's secure industrial IoT device, is used as an edge device with the Tyrion Cloud to develop a SCADA network.

### RESULTS

A scalable SCADA network brings all measurements into the Cloud for simple and efficient alarming and trending.

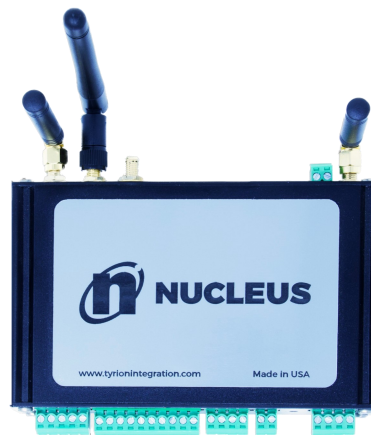
[www.TyrionIntegration.com](http://www.TyrionIntegration.com)



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## RAPIDLY SCALED OPERATIONS & REAL-TIME DATA PROVIDE AGILITY

Traditional SCADA systems require a significant amount of investment in labor and materials to build. With each infrastructure expansion in the field, the process of bringing production to sales can be slowed. Once everything is set up, a team is required to support the entire system and all data is hosted locally, which presents more challenges in accessing data for trending and optimization.



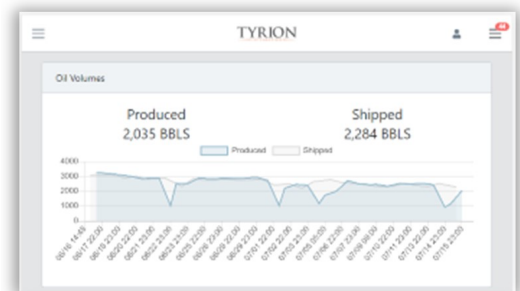
**NUCLEUS**  
Industrial IoT Device

An Oil and Gas Operator in the Permian Basin deployed NUCLEUS to connect all sensors at wellheads, production units, tank batteries, and more. NUCLEUS uses MQTT to communicate through a cellular connection to the Tyrion Cloud. The client accesses the Cloud via a mobile device or PC. Alarms are set up and automatically alert users on their phones or

via email when the measurements are outside of set tolerances. When new pads are brought online, the NUCLEUS will bring everything into the Tyrion Cloud simply by connecting the sensors. This significantly reduces the time and programming required for traditional systems, as much of the programming is done outside of the critical path. It also provides agility and flexibility in capital spending. The amount of cable and wiring is

reduced saving significant time and money increasing the Net Present Value (NVP) of the well.

Using NUCLEUS and the Tyrion Cloud has allowed the operator to reduce the time it takes to bring visibility of measurements from months to days. Additionally, Tyrion's approach provided them with the agility to make targeted decisions, without the long lead time and expense of traditional SCADA systems. The data is retained in the Tyrion Cloud for trending and download. Now they are able to pull down clean, real-time data for use in analytical models or for feeding to a machine learning algorithm.



Trends accessed from the Tyrion Cloud on mobile device