



PROVE IT!

OPTO 22

Your Edge in Automation.™



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Who is Opto 22?

Opto 22 Snapshot

- ◆ 50-year technology innovator, from **SSRs** to **I/O, control systems, mobile, & IIoT**
- ◆ All products **designed, built, and supported** in Temecula, California, USA
- ◆ Unique in industry to **combine capabilities in OT** – ruggedness & reliability – **with IT** – networking, protocols, edge processing
- ◆ Flagship tools include **groov EPIC**, **groov RIO**, and **groov RIO EMU**

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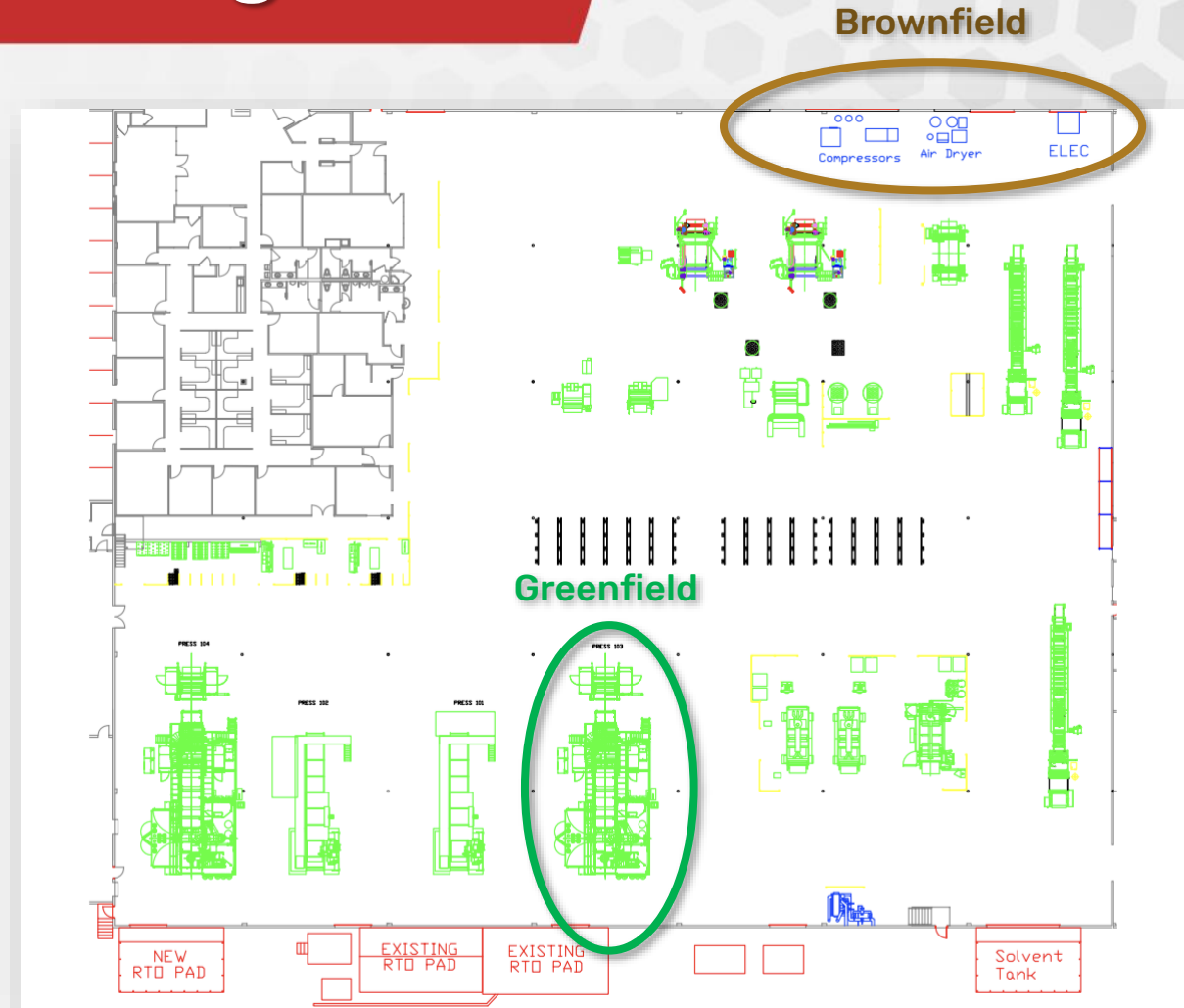
What problem are we solving?

Brownfield

- ◆ Critical manufacturing support systems are not connected to the UNS: Compressors, Air Dryer, and Electrical systems
- ◆ Need to turn utilities from silent liabilities and cost centers into proactive partners & data-driven assets

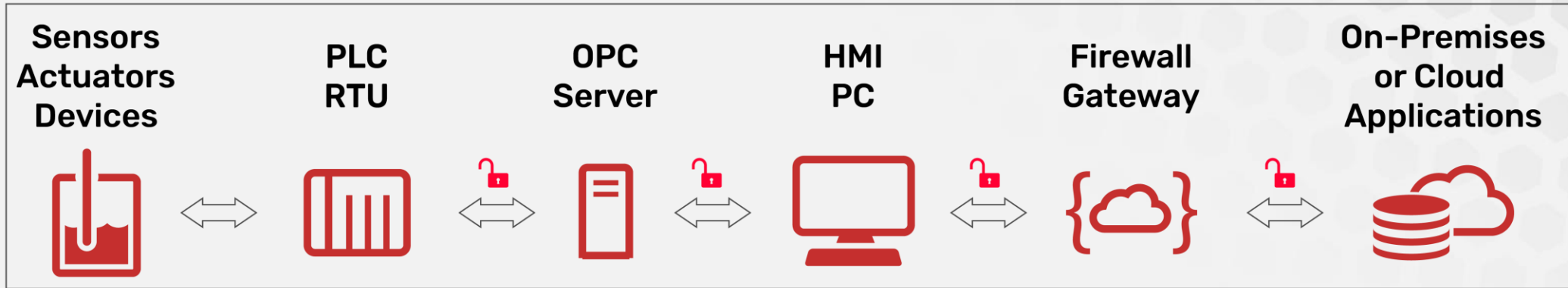
Greenfield

- ◆ New machines are needed, but they're too complex to install, secure, & maintain
- ◆ UNS integration requires costly and complicated add-ons and middleware
- ◆ Need simpler, reliable, cybersecure, and manageable systems that are UNS-native & scale quickly

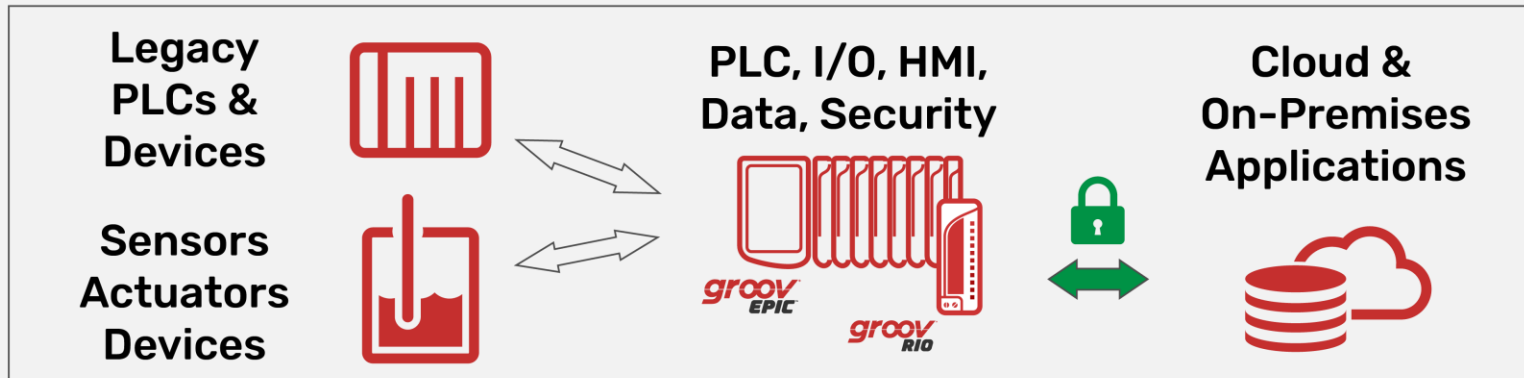


Issues with old way

The Problem: Complex, brittle, unsecure ICS tech stacks



The Solution: Simpler, manageable, cybersecure edge tech stack



Functional Requirements Wishlist

Simpler, all-inclusive systems to provide:

- ◆ **Real-time control:** develop control strategies with standard IEC 61131-3 tools
- ◆ **I/O & device connectivity:** connect, collect, and transform raw I/O and device data
- ◆ **MQTT publishing:** send UDT-modeled data to the UNS broker
- ◆ **OPC UA:** expose tags to OPC UA clients
- ◆ **Data modeling:** standardize raw data into UDTs for data structuring
- ◆ **Visualization:** provide real-time, mobile-friendly local HMI dashboards
- ◆ **Predictive alerts:** trigger notifications for anomalies or threshold breaches
- ◆ **Energy monitoring:** track usage to optimize costs and diagnose machine health
- ◆ **Scalable integration:** support expansion to additional systems at record speed.
- ◆ **Cybersecurity:** protect and segment critical OT systems with standard IT methodologies

How are we going to do it?



groov
EPIC™



groov
RIO

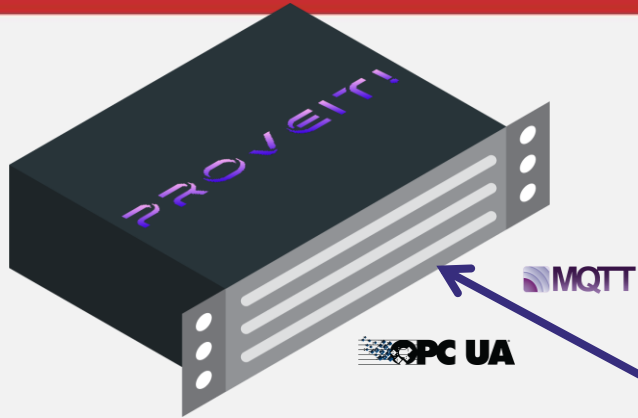
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Rugged, industrial edge devices

- ◆ -20 to 70°C UL, ATEX approvals
- ◆ OT-ready, yet IT-friendly
- ◆ ARM-based, Linux OS
- ◆ Web-managed
- ◆ Cybersecure
- ◆ Power-fail-safe disks
- ◆ MQTT, OPC UA, REST, and more
- ◆ Embedded, integrated software
 - ◆ Control, I/O, HMI, data modeling & storage, segmented networks, remote management

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Provelt Demo (on stage)



Brownfield – Machine Monitoring

groov RIO as:

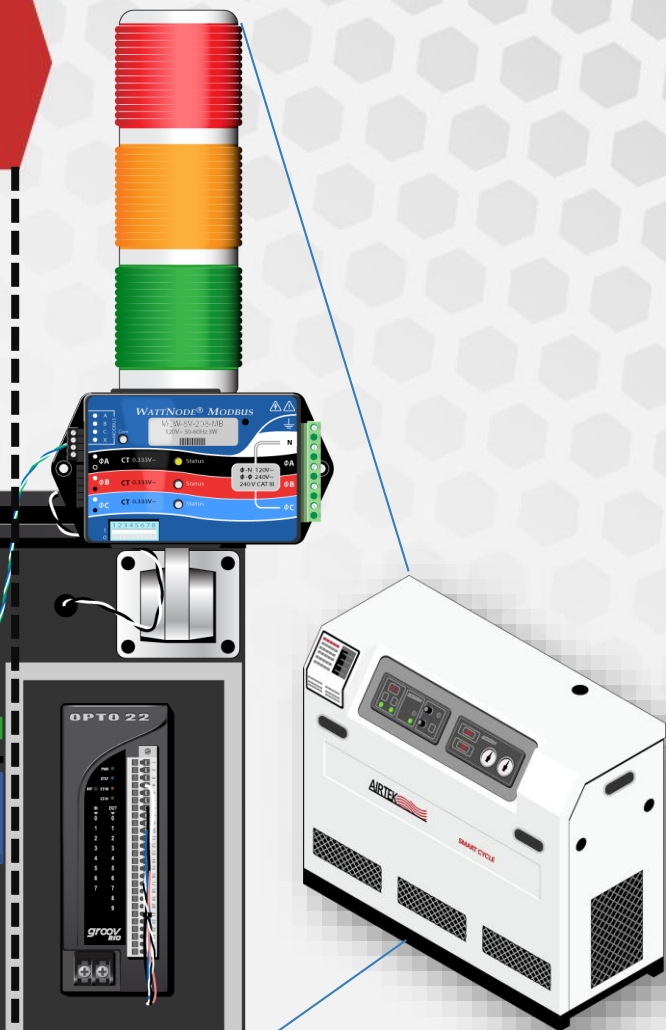
- Monitoring device
- Data gateway
- Simple UI



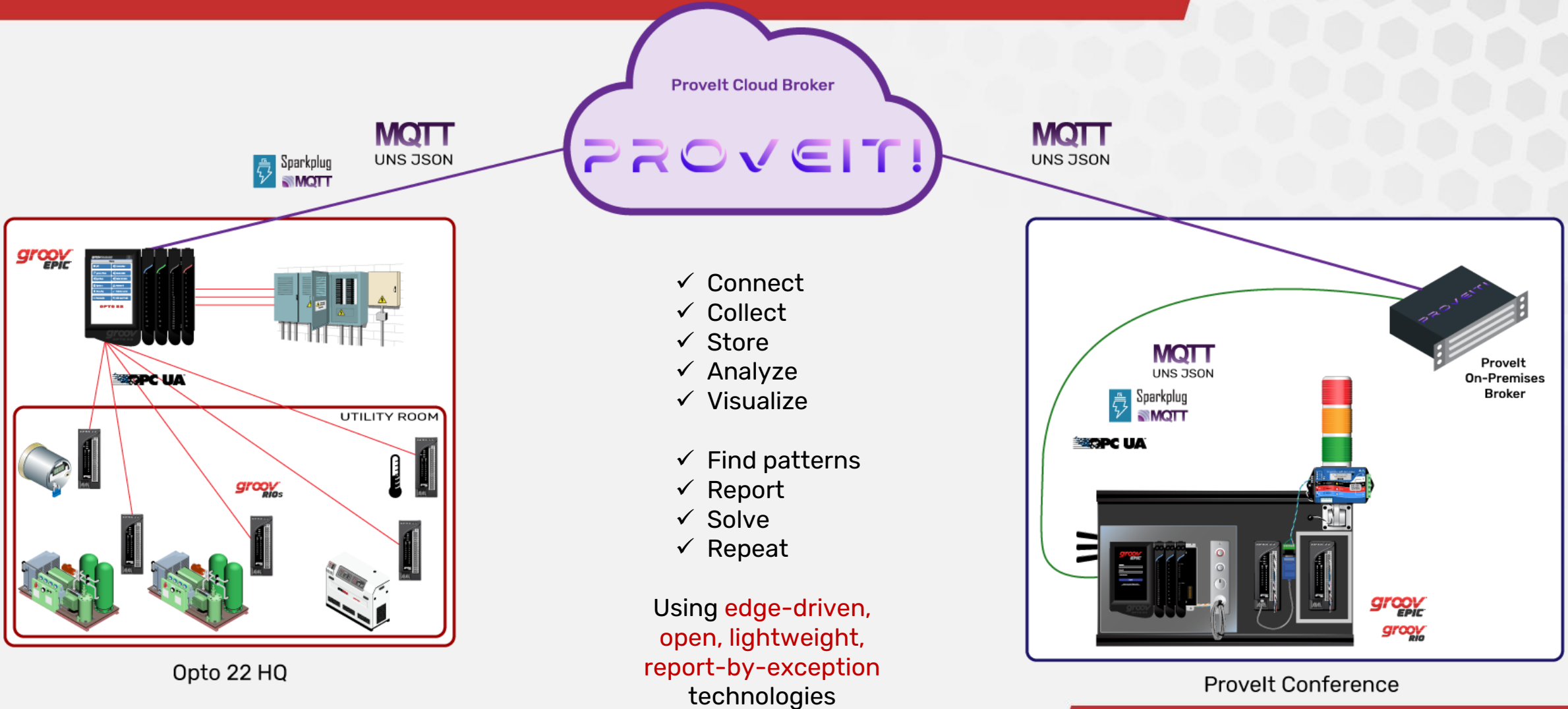
Greenfield – OEM/new project

groov EPIC as:

- Realtime PLC
- HMI + HDMI
- Secure gateway
- Data modeler
- VPN client



Provelt Demo Architecture



- ✓ Connect
- ✓ Collect
- ✓ Store
- ✓ Analyze
- ✓ Visualize

- ✓ Find patterns
- ✓ Report
- ✓ Solve
- ✓ Repeat

Using **edge-driven, open, lightweight, report-by-exception** technologies



Prove it, Opto!

Live Demonstrations



One more thing...

New Product Feature Announcement – Container Support!



Let's wrap it up

Cost, next steps, customer successes

Cost Analysis

Greenfield – OEM & new controls

- ◆ *groov* EPIC PR2 processor - \$2325
- ◆ *groov* chassis + power supply - \$505
- ◆ *groov* I/O modules
 - ◆ Software configurable, 10-channel I/O - \$895
 - ◆ Discrete input, 24-channel - \$380
 - ◆ Discrete output, 12-channel isolated - \$325
- ◆ Software – included*
 - ◆ *groov* Manage, CODESYS, Node-RED, *groov* View, Shell, Containers
 - ◆ *Ignition Edge (pre-installed) - \$900 license

Brownfield – monitor & democratize

Opto 22 devices

- ◆ *groov* RIO - \$995
- ◆ *groov* RIO EMU - \$995
- ◆ Software – included
 - ◆ *groov* Manage, Node-RED, Dashboard UI, Shell

Configuration, commissioning, test

- ◆ Couple of hours for each
- ◆ Application & Technical Support – free

Next steps – get an edge in I4.0!

- ◆ Come see us at Booth #7 here at the conference!
 - ◆ Let's talk about your application
- ◆ Free Application Engineering Assistance
 - ◆ [Live chat, email, or just call us](#)
- ◆ Free Online Training - OptoU
 - ◆ training.opto22.com
- ◆ [Premium Factory Training](#) – Temecula, CA (\$995)
- ◆ Free Product Support
- ◆ Opto 22 web site
 - ◆ www.opto22.com – free documentation, transparent pricing, configurators, videos, Forums

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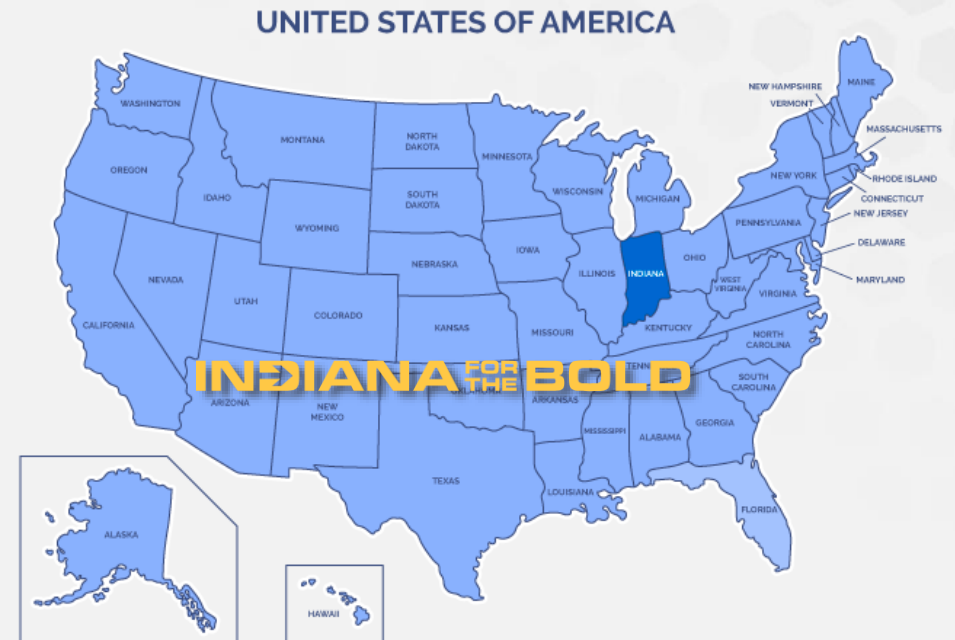
14.0 Customer Success

Confidential customer applications

- ◆ Metal processing plant – **150+**
- ◆ Corrugated manufacturing plants – **600+**
- ◆ Refrigeration OEM – **100's** of systems deployed
- ◆ Small manufacturer in a confidential industry – **300+**

Public Sector success

- ◆ State of Indiana - Energy INsights program
 - ◆ energyinsights.tech



Q&A Time!

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