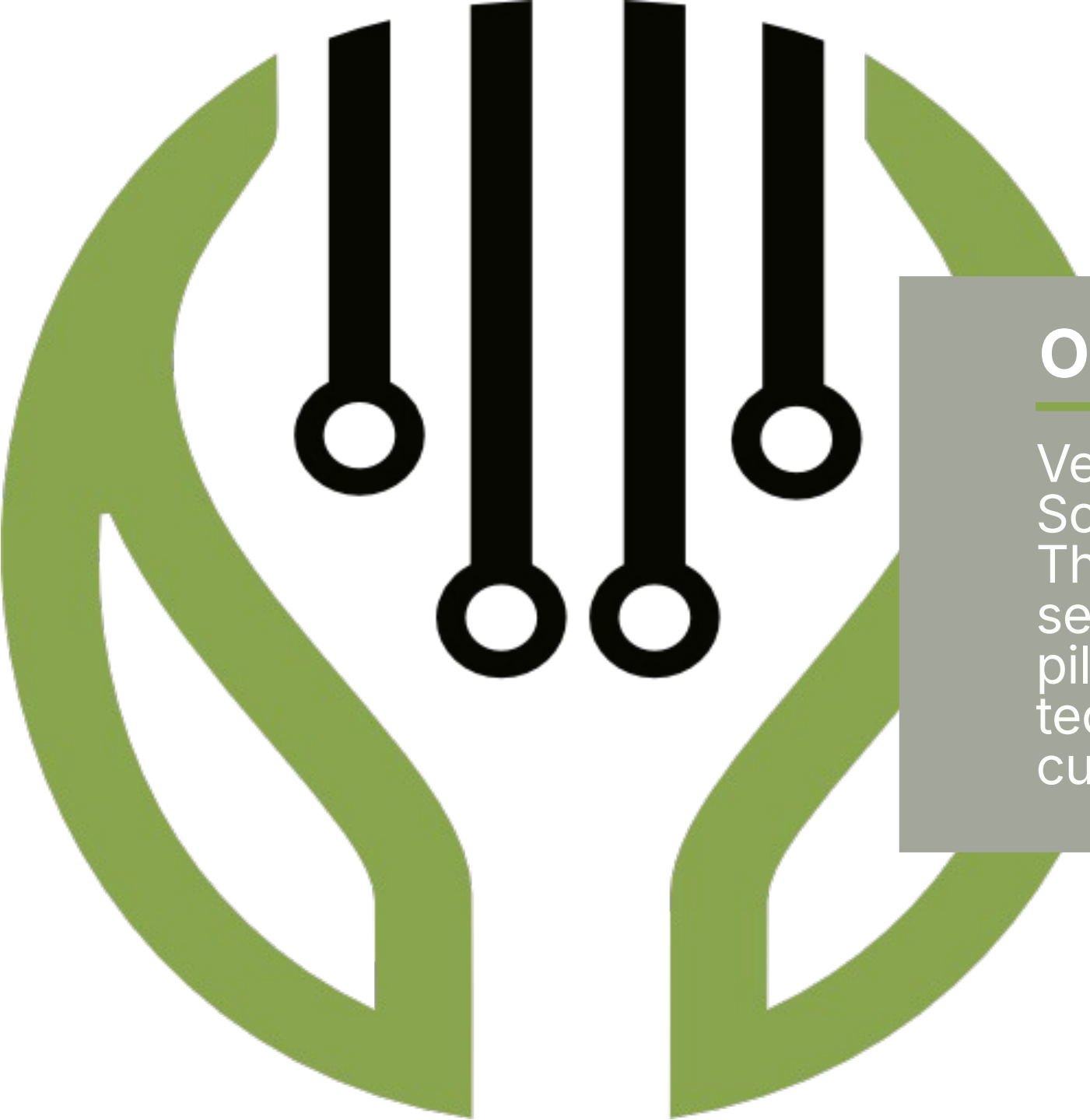


VesCo
SOLUTIONS

PRECISION AGRICULTURE

APPLICATIONS



OUR BIG IDEA

VesCo Solutions is a Complete Solution Authorized Internet of Things (IoT) Distributor. We have services to support the four main pillars required to bring technological innovation to our customers.

SERVICES WE OFFER

- Authorized Distribution
- Complete BOM Sourcing
- Contract Manufacturing & Engineering
- Freight Forwarding & Logistics



WHAT IS PRECISION AGRICULTURE?

Precision Agriculture (PA) is a farming management technique utilized for targeted (or site-specific) efficiencies, particularly related to crop output. Precision Agriculture incorporates technological tools and strategies to optimize production.

It has been characterized by varying technologies, including:

- Satellite Guidance Systems
- Variable-Rate Technologies (VRT)
- Remote Sensing
- Yield Monitoring
- Automatic Section Control

PRECISION AGRICULTURE (PA): INDUSTRY OUTLOOK

12M	$11,000	70%	4.36%	2
Projected Number of Agr. Sensors Installed Globally by 2023 (1)	*Gross Annual Benefit from Small Farm (800 Acres) PA Investment (2)*	*World's Withdrawn Freshwater Dedicated to Irrigation (3)*	*Brazil's Agr. Sector Contribution to Country's 2018 GDP (Approx. $81.5B USD) (4)*	*Years for Tech to Pay for Itself for Large Farm (2,400 Acres) PA Investment (5)*

SUCCESS

Sources on final slide



AUTHORIZED DISTRIBUTION

- Our Value Add Agreements with Manufacturers ensure essential technical support and resources and device warranties.
- Our Authorized Distribution Partners are leaders in the Industrial IoT space and have proven solutions for Precision Agriculture (PA).
- Our support is unique and directed to the differentials of your PA solution to ensure you keep your edge.

OUR PRECISION AGRICULTURE SOLUTIONS



Aplex Technology
Industrial embedded boards and computer products

Digi International
Wireless communication devices and software management

Ignition
Industrial app platform for SCADA and IoT solutions

APLEX TECHNOLOGY



Profile

“Based on system hardware platforms, APLEX offers a variety of competitive solutions for system integration clients or applications, including embedded computer platforms, human-machine interfaces (HMI), industrial displays, and other related products.”

Appeal

Every facet of APLEX’s models are designed for rugged environments. For example, their 10 layer PCB offers better thermal and EMI performance and solid capacitors increase their device reliability and lifetime.

Get Started

Because Aplex offers highly customizable products, we suggest starting with a single unit for testing purposes.

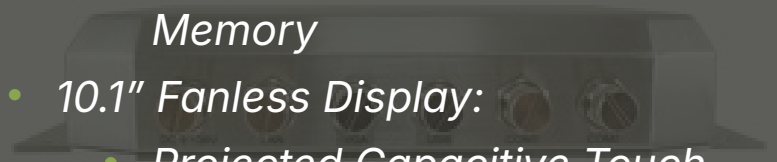
APLEX PRODUCT SPOTLIGHT: IN-VEHICLE RUGGED 10.1" SYSTEM

In-Vehicle Rugged System

- *Design allows for two single Cables to connect an Embedded PC to Dual Displays – Alt Mode USB Type-C*
- *System offers optional ACC Control with Ignition On/Off Delay Function*
- *High Display brightness ensures easy readability with 1,000 nits*

System Features

- *Embedded PC*
  - *Onboard IntelAtom E3845 Processor (2M Cache, 1.91GHz)*
  - *Onboard 4GB DDR3L SDRAM Memory*
- *10.1" Fanless Display:*
  - *Projected Capacitive Touch Screen*
  - *Wide Range DC 9~36V Power Input*
  - *IP67 Rating, Waterproof*



Precision Agriculture Benefits

- *This system is great for any vehicle automation due to its emphasis on video, data, and power all in a single cable.*
- *Integrating this system into farm machinery (tractors) allows for management of crop logistics and optimization of planting and harvesting routes, decreasing operational costs.*

APLEX APPLICATION

Objective: Offer rugged, industrial computing for farm machinery to support data gathering and analytics



Embedded Computer

Acquire information to optimize vehicle tasks and facilitate proactive maintenance, diminishing production downtime

Cables

Serves as conduit for data, power, and video capabilities - 1 connects to each Industrial Display

Industrial Displays

View real-time data to support decision-making

DIGI INTERNATIONAL



Profile

"Since 1985, Digi International Inc. (Digi) has been a pioneer in wireless communication, forging the future for connected devices and responding to the needs of the people and enterprises that use them."

Appeal

Digi's offerings in the IoT realm are extremely comprehensive. Digi specializes in embedded systems such as RF modules and single board computers, networking devices such as gateways and cellular routers, and integrateable IoT software. In addition, their SmartSense partnership adds an IoT bonus: environmental sensors.

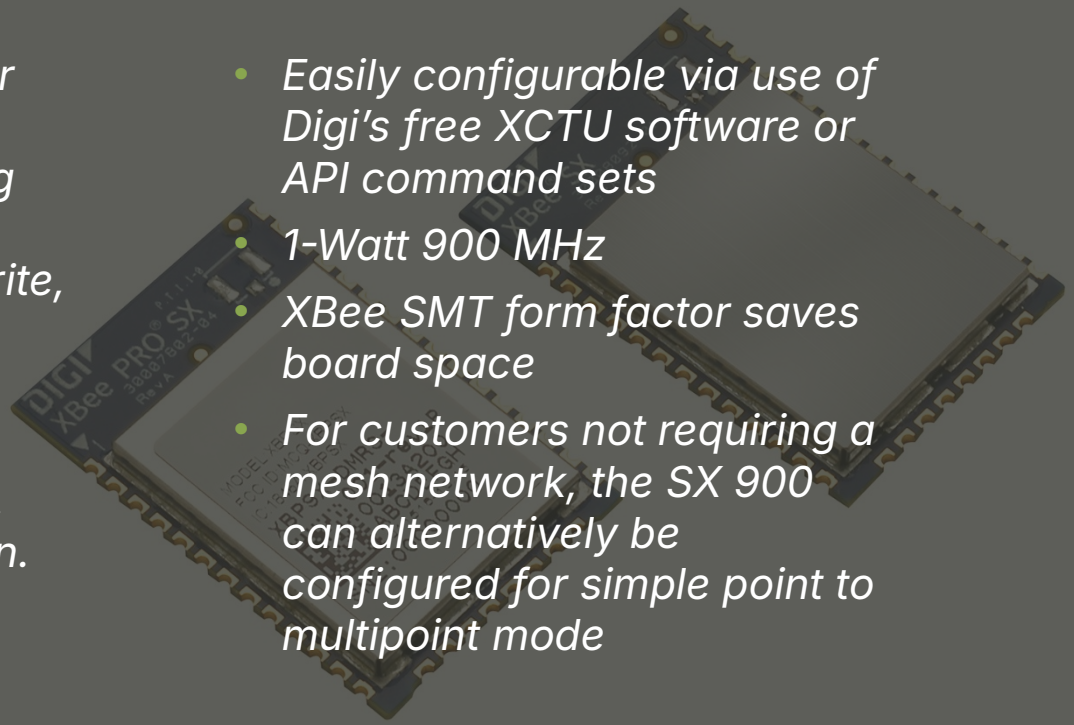
Get Started

As a Platinum Channel Partner, we will assist in building a framework with Digi devices and providing product evaluation units.

DIGI PRODUCT SPOTLIGHT: XBEE SX 900 MODULE

XBee Modules

- *Digi's XBee modules offer several protocols of communication, including Cellular and RF. The SX 900, an application favorite, falls within their RF line.*
- *Module selection comes down to customer needs respective to form factor, protocol, and certification.*



XBee SX 900 Product Features

- *Easily configurable via use of Digi's free XCTU software or API command sets*
- *1-Watt 900 MHz*
- *XBee SMT form factor saves board space*
- *For customers not requiring a mesh network, the SX 900 can alternatively be configured for simple point to multipoint mode*

Precision Agriculture Benefits

- *With line-of-sight ranges up to 65 miles and strong interference blocking capabilities, the XBee SX 900 is optimal for Agriculture applications.*
- *The combination of redundancy and reliability makes it great for mission-critical, low-power devices.*
- *256-bit AES encryption keeps data integrity and safeguarding at the forefront.*

DIGI APPLICATION

Objective: Activate and control irrigation system remotely via real-time soil condition monitoring

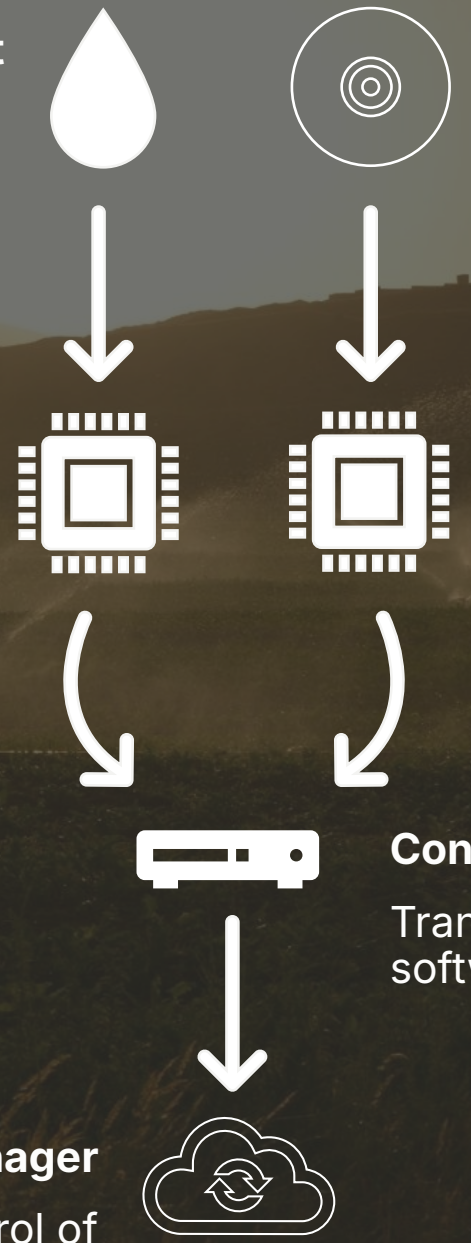
User Irrigation Unit

Soil Sensor

Collects data on soil moisture

XBee Modules

Integrate connectivity into devices – 1 installed with soil sensor and 1 installed with irrigation pivot head



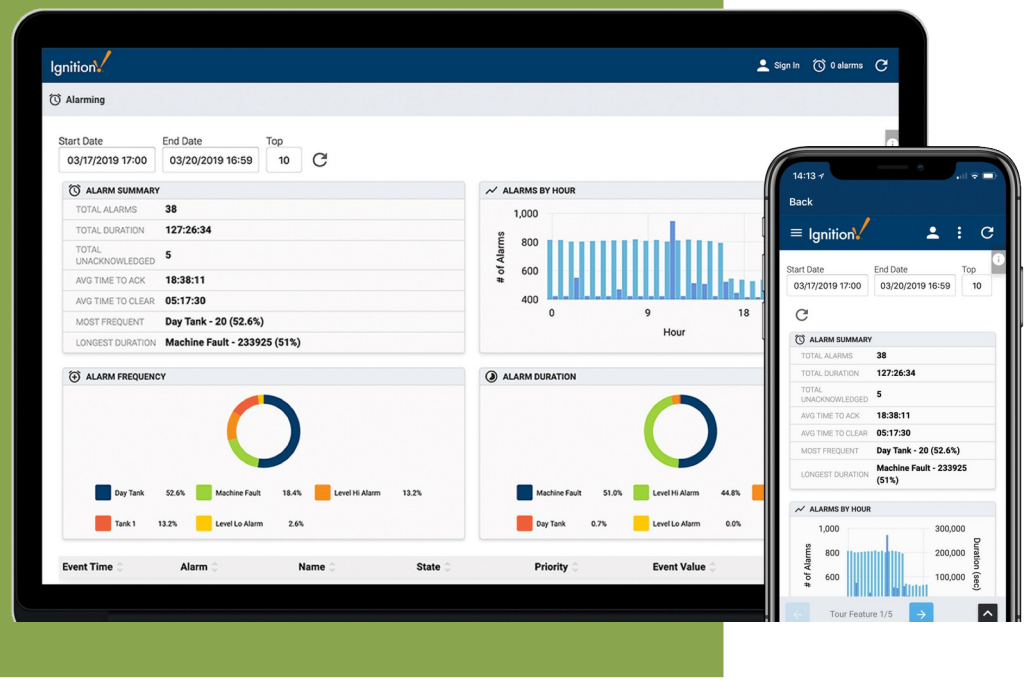
ConnectPort X4 Gateway

Transmits data to irrigation software

Digi Remote Manager

Allows for monitoring and control of Digi-connected devices via secure application

IGNITION BY INDUCTIVE AUTOMATION



Profile

"Ignition SCADA by Inductive Automation® combines an unlimited licensing model, with instant web-based deployment, and the industry-leading toolset for supervisory control and data acquisition (SCADA) — all on one open and scalable universal platform."

Appeal

Ignition offers unlimited devices, tags, clients, and screens – so one license connects all your data. Ignition's performance on any major operating system (incl. mobile) has proven beneficial in the Agriculture industry.

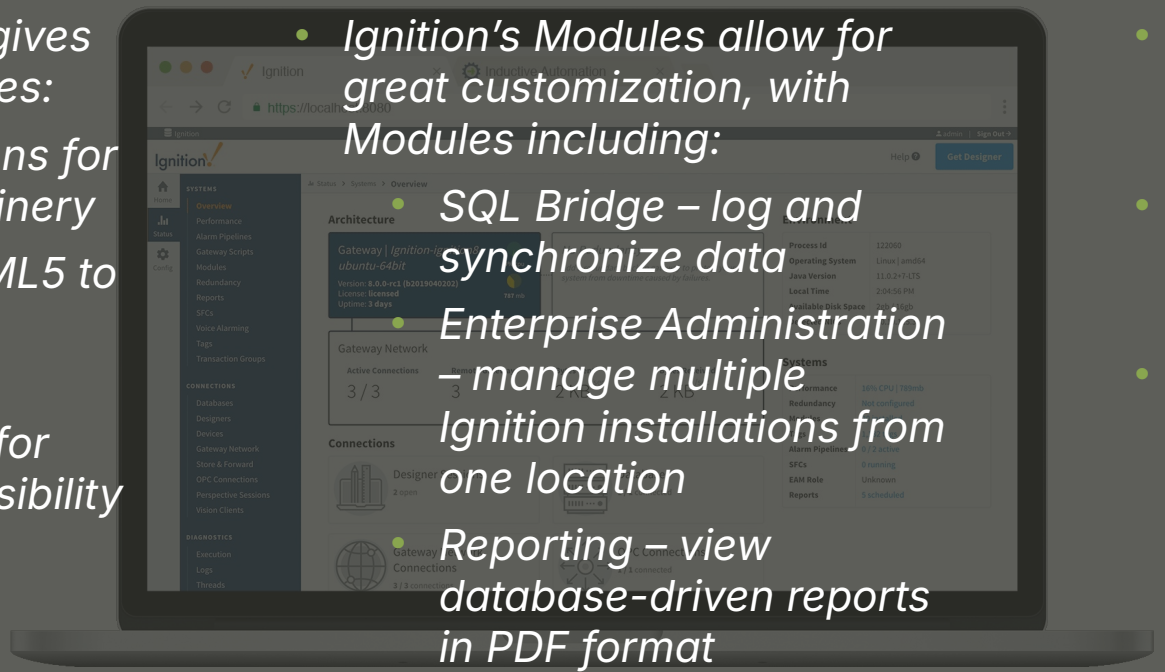
Get Started

For additional overviews and to sign up for a free trial, click here.

IGNITION LICENSE SPOTLIGHT

Ignition Platform

- *Ignition's application gives various industrial edges:*
  - *HMI – build screens for monitoring machinery*
  - *Mobile – use HTML5 to build mobile-responsive apps*
  - *IIoT – use MQTT for more data accessibility*



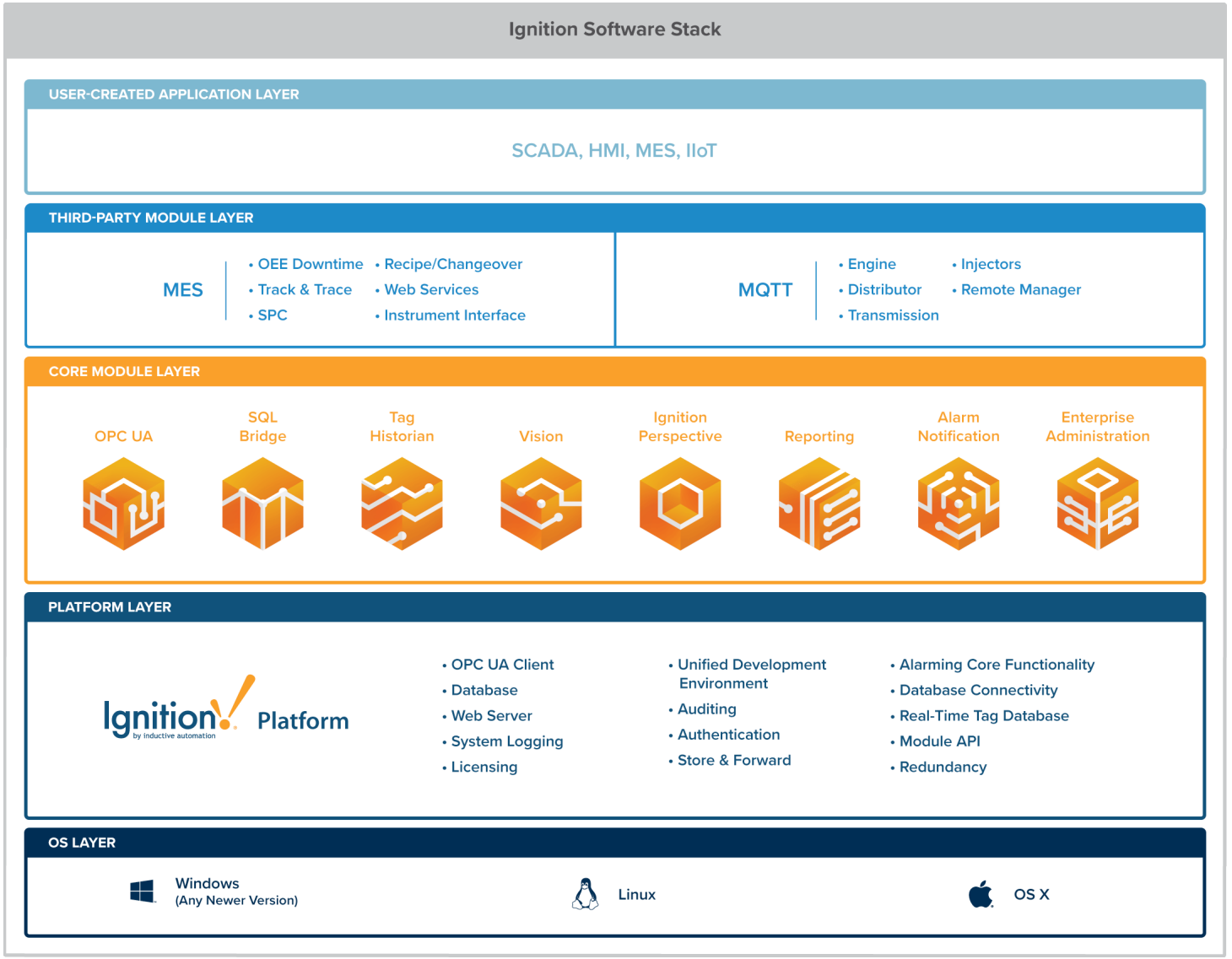
License Features

- *Ignition's Modules allow for great customization, with Modules including:*
  - *SQL Bridge – log and synchronize data*
  - *Enterprise Administration – manage multiple Ignition installations from one location*
  - *Reporting – view database-driven reports in PDF format*

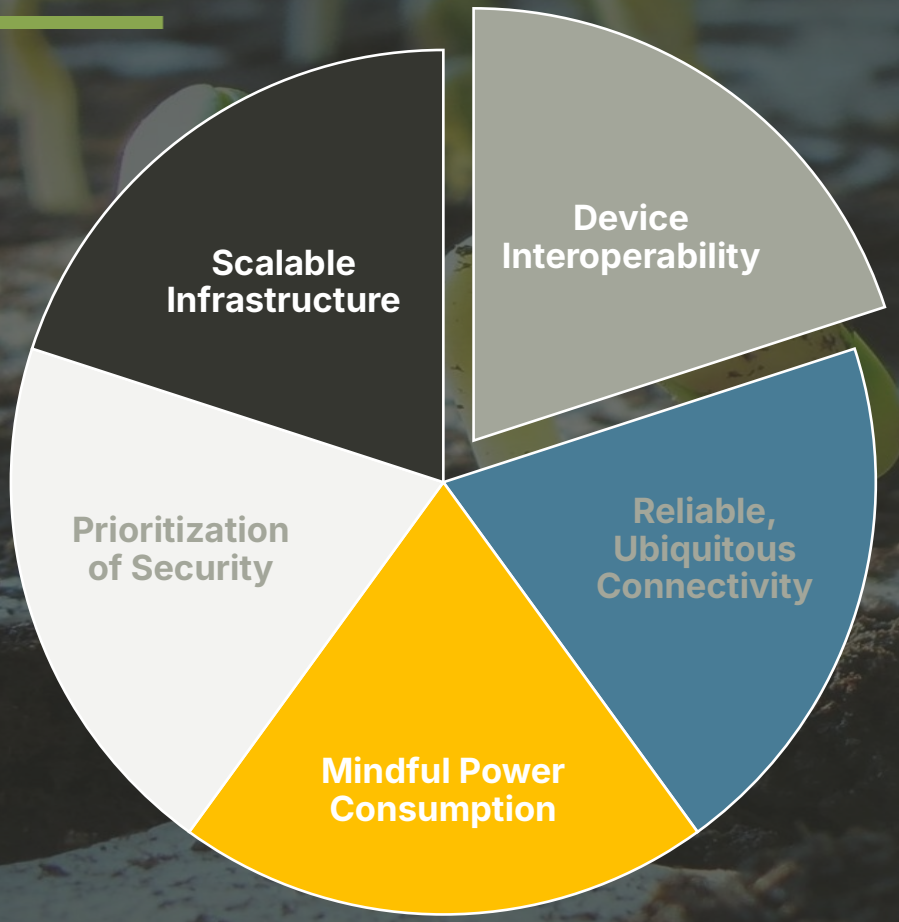
Precision Agriculture Benefits

- *Utilize Ignition for grain bin level synchronization and inventory tracking*
- *Manage and schedule irrigation frequency based on season*
- *View and manage farm KPI's, such as harvest yields and worker shift productivity, and set best practice alarms*

IGNITION'S PLATFORM



FUTURE OFFERINGS – OUR FRAMEWORK



THANK YOU!

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VesCo SOLUTIONS

REFERENCES, PA INDUSTRY OUTLOOK

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