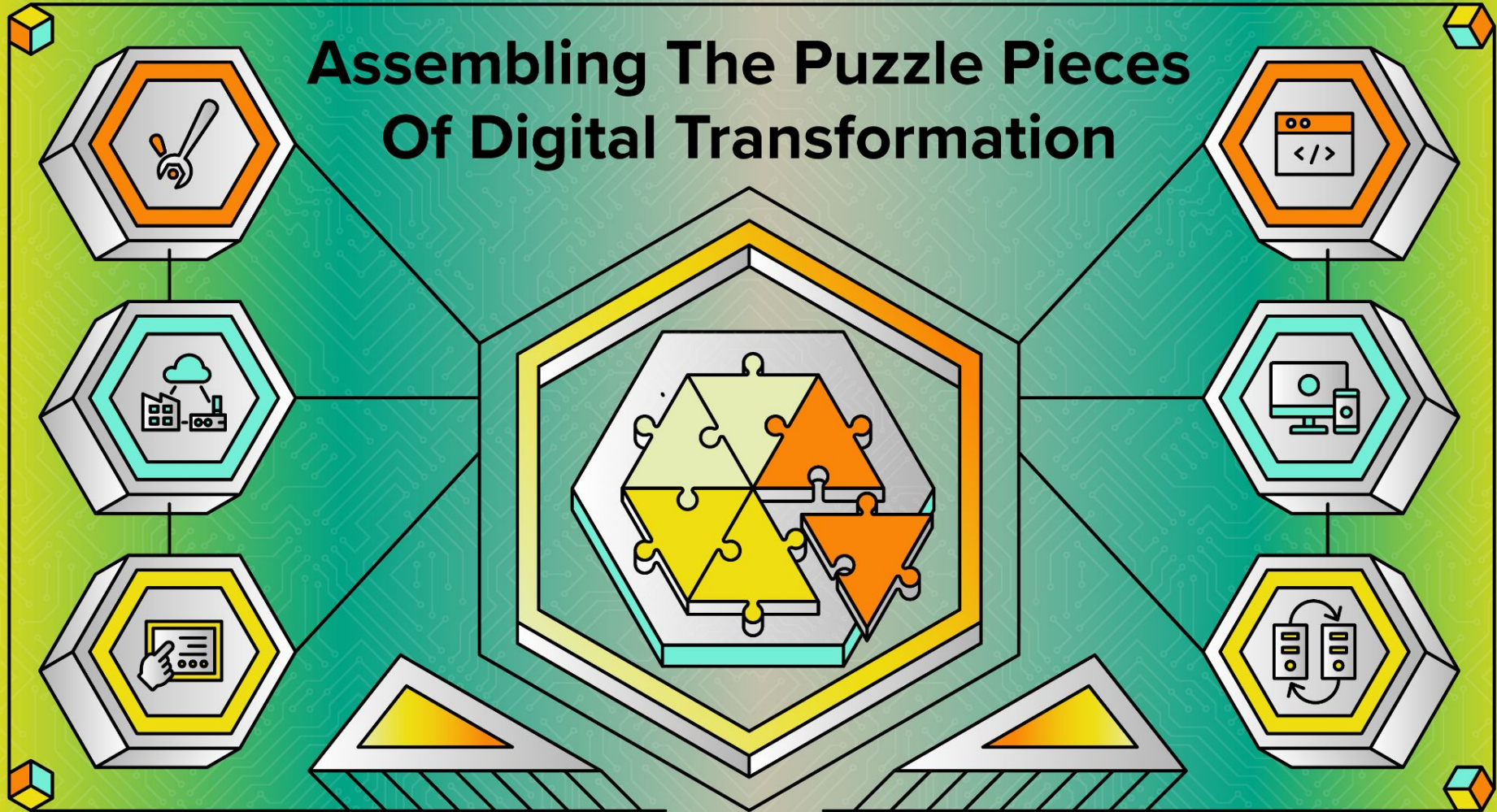


# Assembling The Puzzle Pieces Of Digital Transformation



# Today's Speakers



**Travis Cox**

Chief Technology  
Evangelist

*Inductive Automation*



**Kurt Hochenadel**

Director of Sales  
and Marketing

*Cirrus Link Solutions*



**James Burnand**

Chief Executive  
Officer

*4IR Solutions*



**Benson Hougland**

Vice President  
*Opto 22*

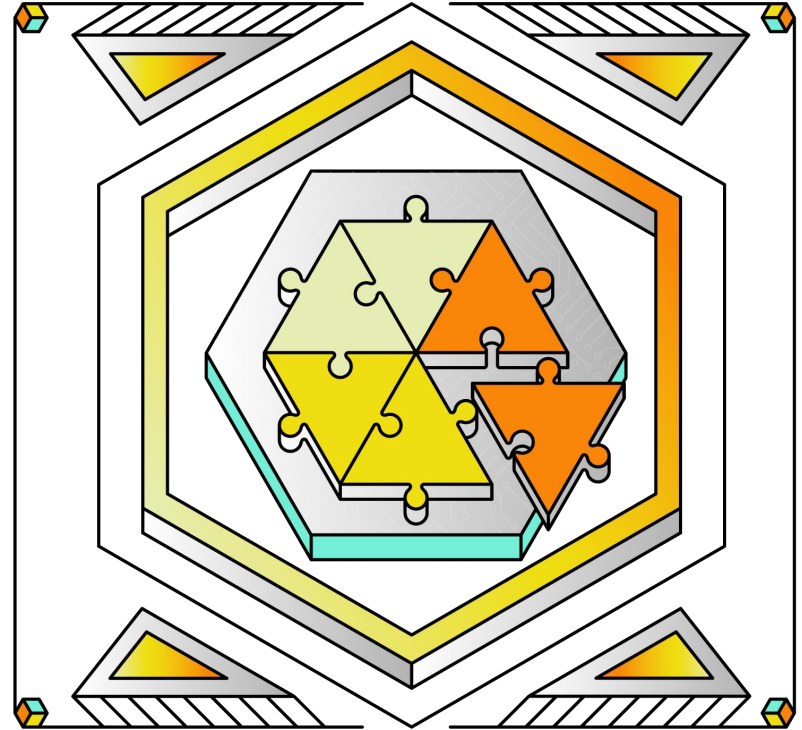


**Mark French**

Director of Design  
Consultation  
*Sepasoft*

# Agenda

- What Is Digital Transformation?
- Digital Transformation Puzzle Pieces
- Opto 22 Edge Devices
- Cirrus Link Solutions and MQTT
- Sepasoft MES
- 4IR Solutions Cloud Service
- Discussion
- Q&A



# About Inductive Automation

- We make software for problem solvers
- In business for 21 years
- 61% of the Fortune 100 and 44% of the Fortune 500 use Ignition
- Highly diversified customer base across many industries
- Ignition installations in 100+ countries
- 4,000+ integrators worldwide
- Profitable and independent with no outside investors





## The Unlimited Platform for SCADA and So Much More

- **Connect, Design, Deploy Without Limits:**
  - One central hub for everything on the plant floor
  - Create any kind of industrial application
  - Web-deploy clients to desktops, industrial displays & mobile devices
- **Unlimited licensing**
- **Industrial-strength security and stability**
- **Trusted by thousands of companies worldwide**

# Digital Transformation

- Involves process improvement through digital technology
- Every organization's Digital Transformation is unique
- More of a journey than a destination
- “Data Is King”
- Digitalization/Digital Transformation requires data and connectivity

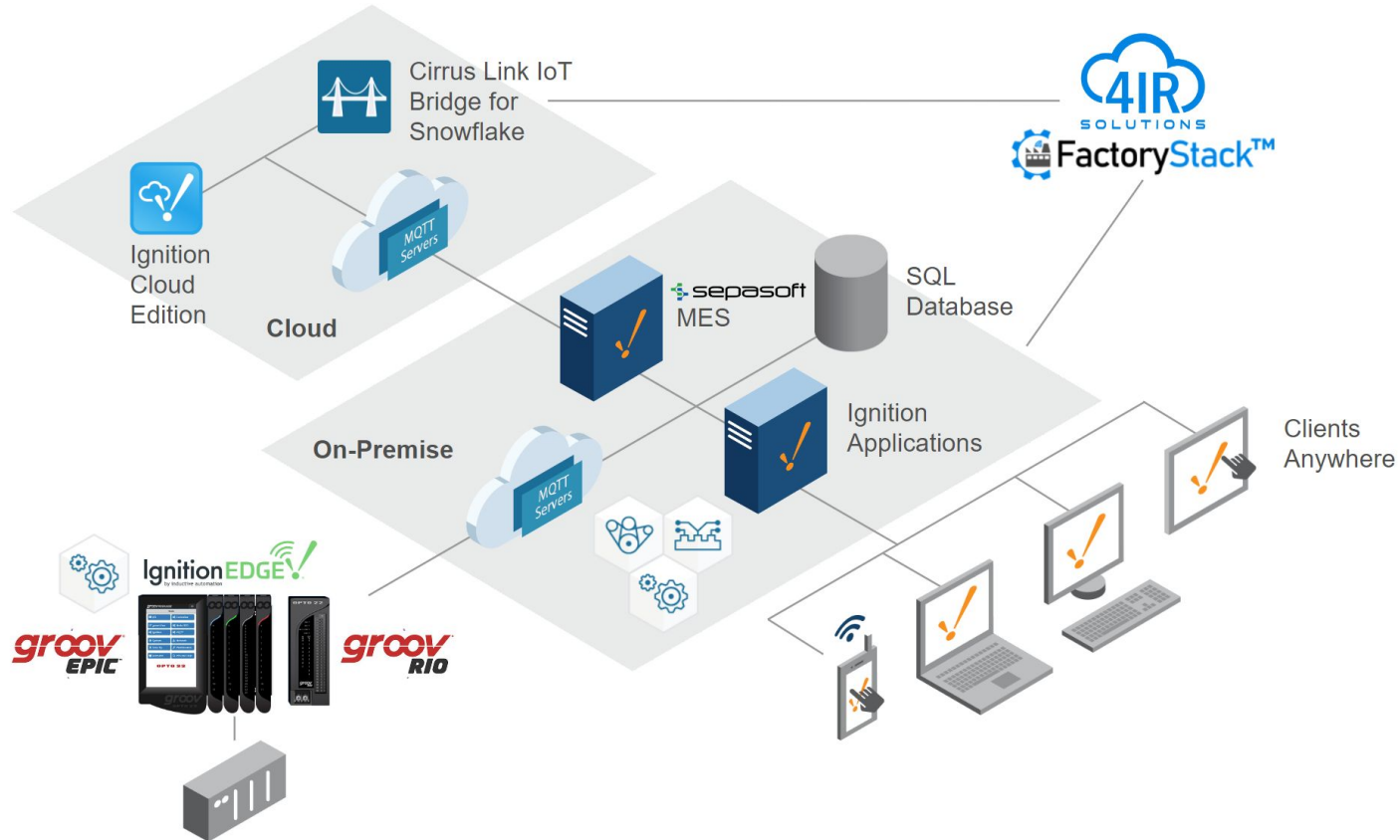


# Digital Transformation through Open Standards

- Enable interoperability & data exchange
- Encourage innovation
- Open access to data
- Avoid vendor lock-in
- Easier to select and deploy systems & technologies
- Key to a UNS



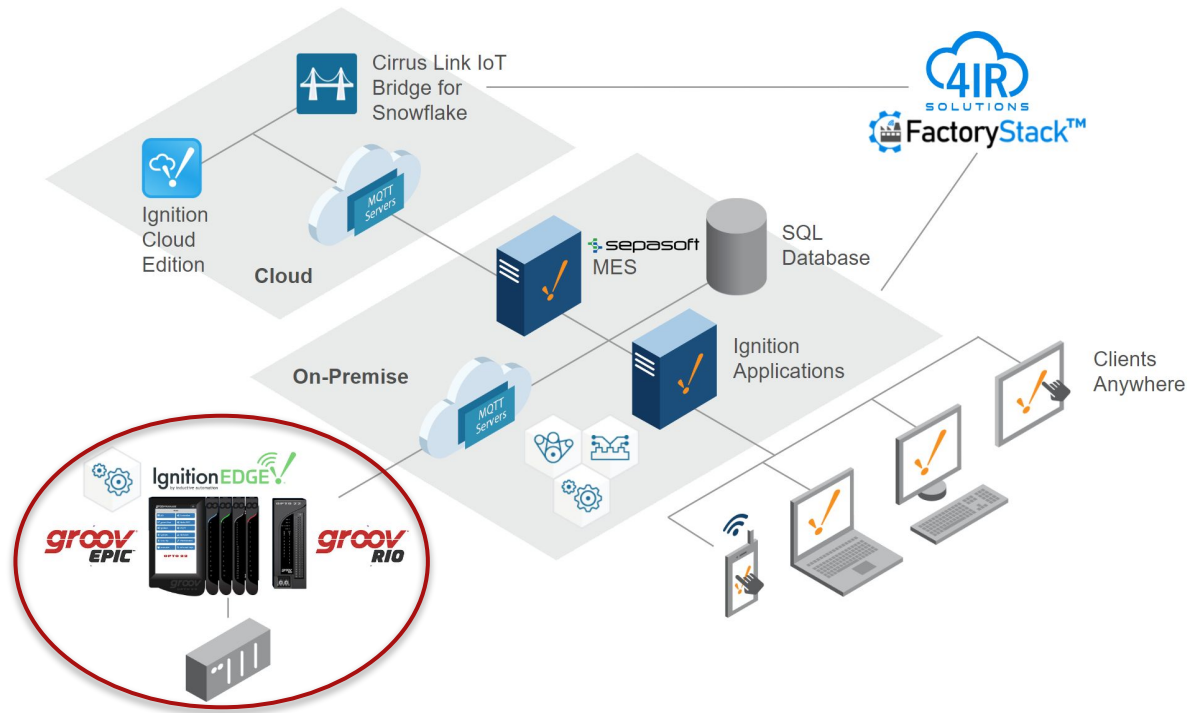
# Puzzle Pieces



# The Edge Puzzle Piece

At the edge of the network, we:

- Connect and protect brownfield PLCs/RTUs
- Connect to field I/O devices
- Run real-time control
- Run Ignition/Ignition Edge
- Secure, model, and transmit data
- Store & forward



# About Opto 22

- 50-year USA manufacturer of I/O, controls, and edge gateway devices
- Engineering philosophy of combining the ruggedness of OT with open IT technologies
- Pioneer in innovation: SSRs, I/O, OPC, Ethernet, PACs
- *groov* EPIC and *groov* RIO product lines

**OPTO 22**  
Your Edge in Automation.™

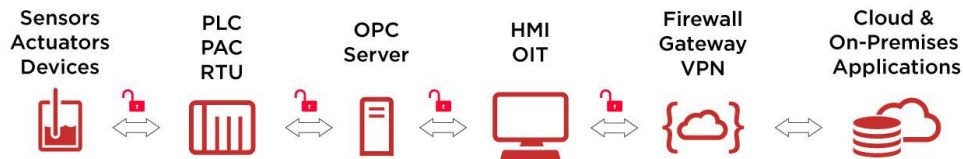


 **MADE IN THE USA**

# The Edge Puzzle Problem

What problems are we trying to solve?

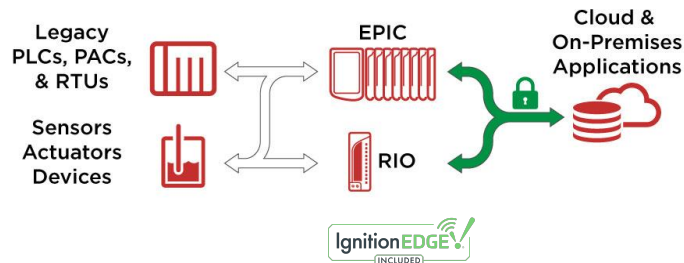
- Reducing control system complexity
- Securing devices and data transport
- Contextualizing and democratizing OT data
- Scaling systems across the enterprise
- Keeping OT involved in DX initiatives



# The Edge Puzzle Solution

How do we solve them?

- Start at the edge
- Simplify the OT toolset
- Define the single source of truth
- Employ cybersecurity at the edge
- Connect and protect brownfield systems
- Publish OT data models efficiently to applications



# Edge Programmable Industrial Controller (EPIC)

## *groov* EPIC

- All-in-one industrial-grade PLC, edge gateway, IPC, HMI, and I/O system
- Quad-core, Linux-based hardware architecture
- Secure using accounts, certificates, and firewalls
- Segment trusted and untrusted networks
- Web-based and simple to configure & manage
- MQTT, Sparkplug B, OPC UA, Modbus, REST
- Ignition Edge included
- OT-managed, IT-approved

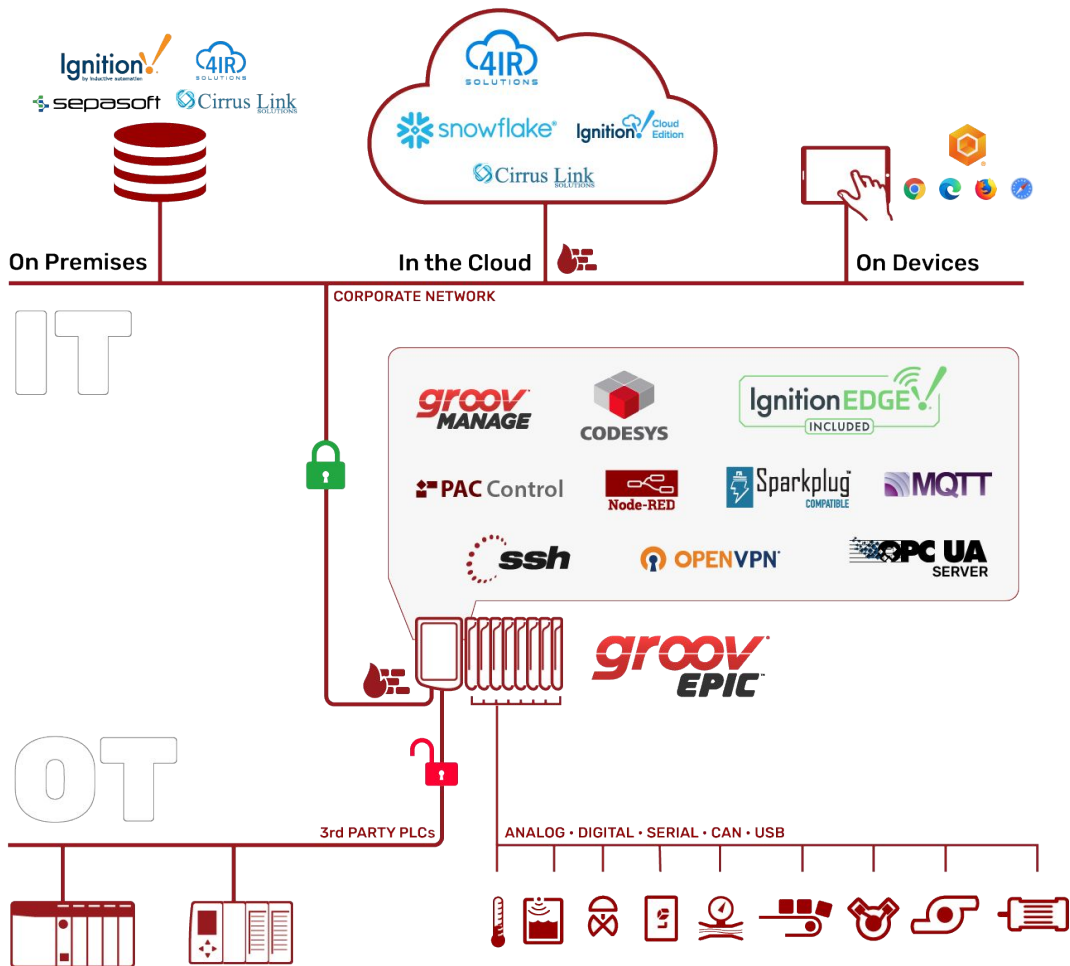
**groov**  
**EPIC**

Ignition**EDGE**!  
INCLUDED



# groov EPIC

## System Architecture



# Remote Intelligent I/O (RIO)

## *groov* RIO

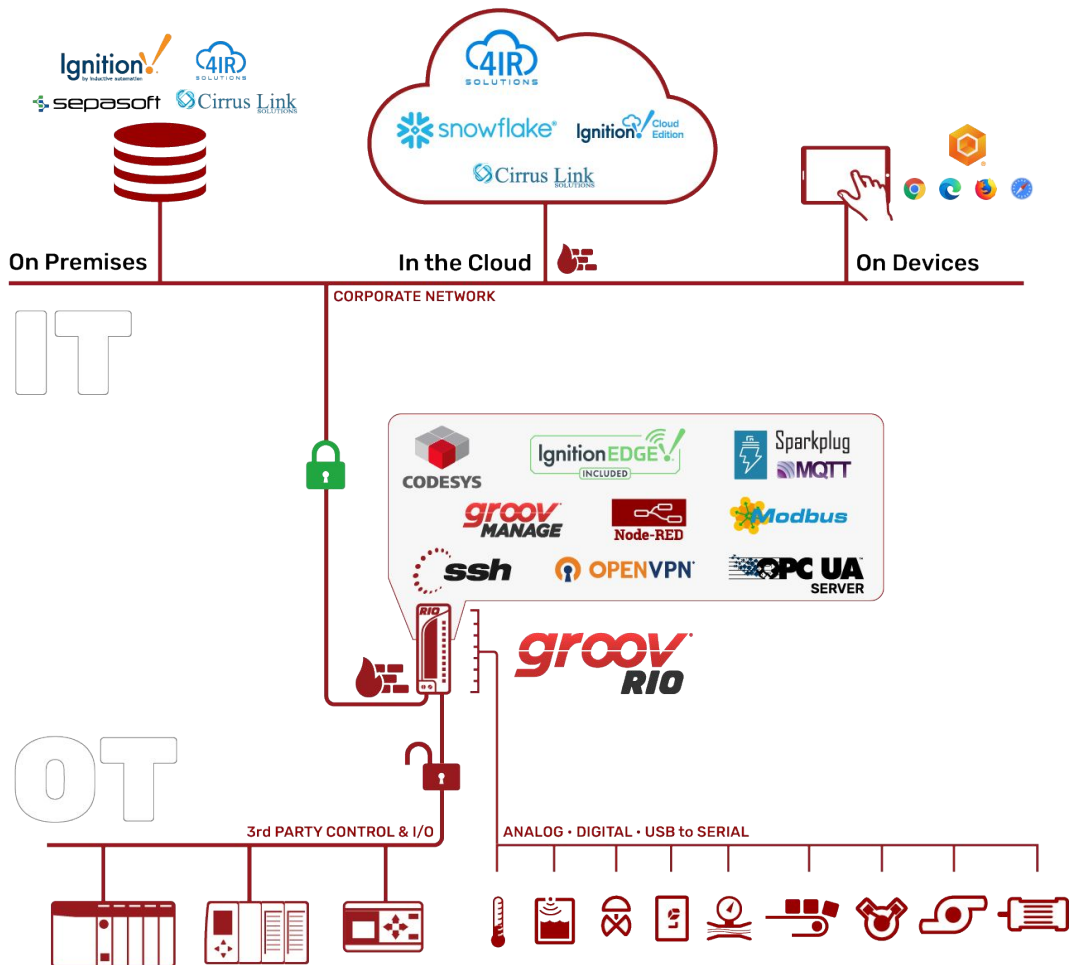
- All-in-one software-configurable I/O system, industrial-grade PLC, edge gateway, and IPC
- Single-core, Linux-based hardware architecture
- Secure using accounts, certificates, and firewalls
- Web-based and simple to configure & manage
- MQTT, Sparkplug B, OPC UA, Modbus, REST
- Ignition Edge included
- OT-managed, IT-approved



**groov**  
**RIO**



# groov RIO System Architecture



# More information about *groov* EPIC & RIO

SOLUTIONS BY OPTO 22

Democratize, Secure, & Simplify Your Data with Opto 22 Devices and Ignition

Bridge the gap between IT and OT with Opto 22's *groov* EPIC (Edge Programmable Industrial Controller) and *groov* RIO® (Remote Input/Output). Ideal for both greenfield and brownfield applications, these revolutionary devices come with Ignition Edge® included to help you build secure automation and IIoT projects, while reducing cost and complexity.



<https://inductiveautomation.com/partners/solution-partners/>

# Cirrus Link MQTT Core Modules



*MQTT Transmission runs on Ignition or Ignition Edge and transforms Tags into MQTT Sparkplug data*

MQTT Transmission



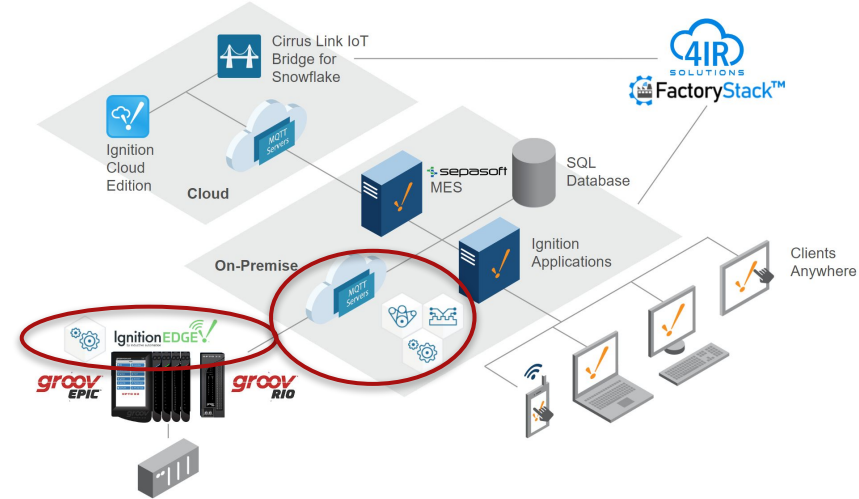
*MQTT Distributor runs on Ignition and provides a MQTT Server*

MQTT Distributor

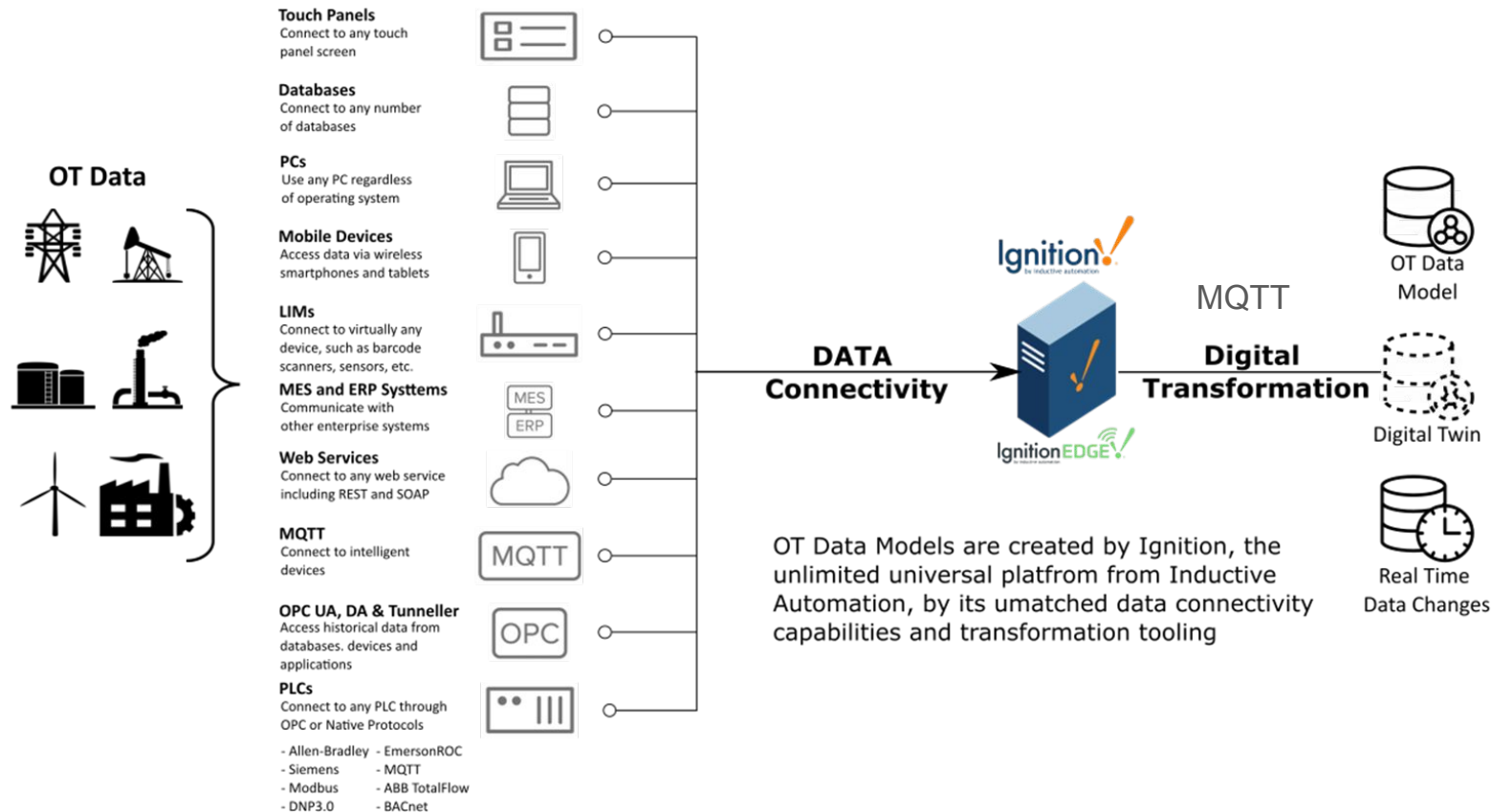


*MQTT Engine runs on Ignition as an MQTT Client and transforms MQTT Sparkplug data into tags*

MQTT Engine

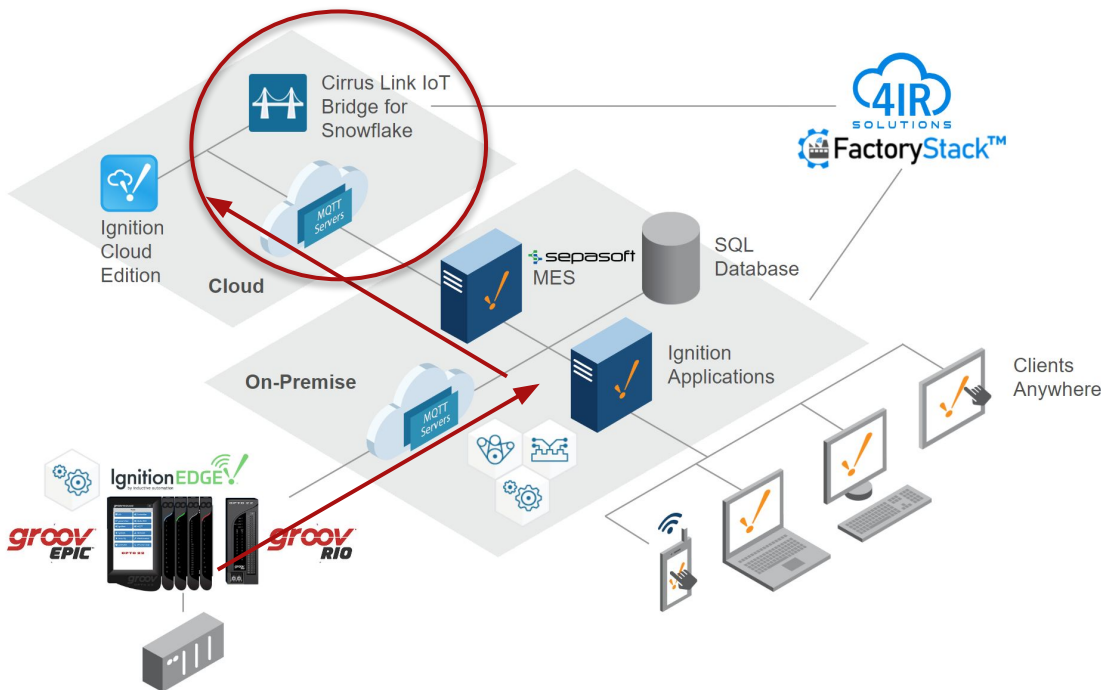


# For Digital Transformation - Data Connectivity is Critical

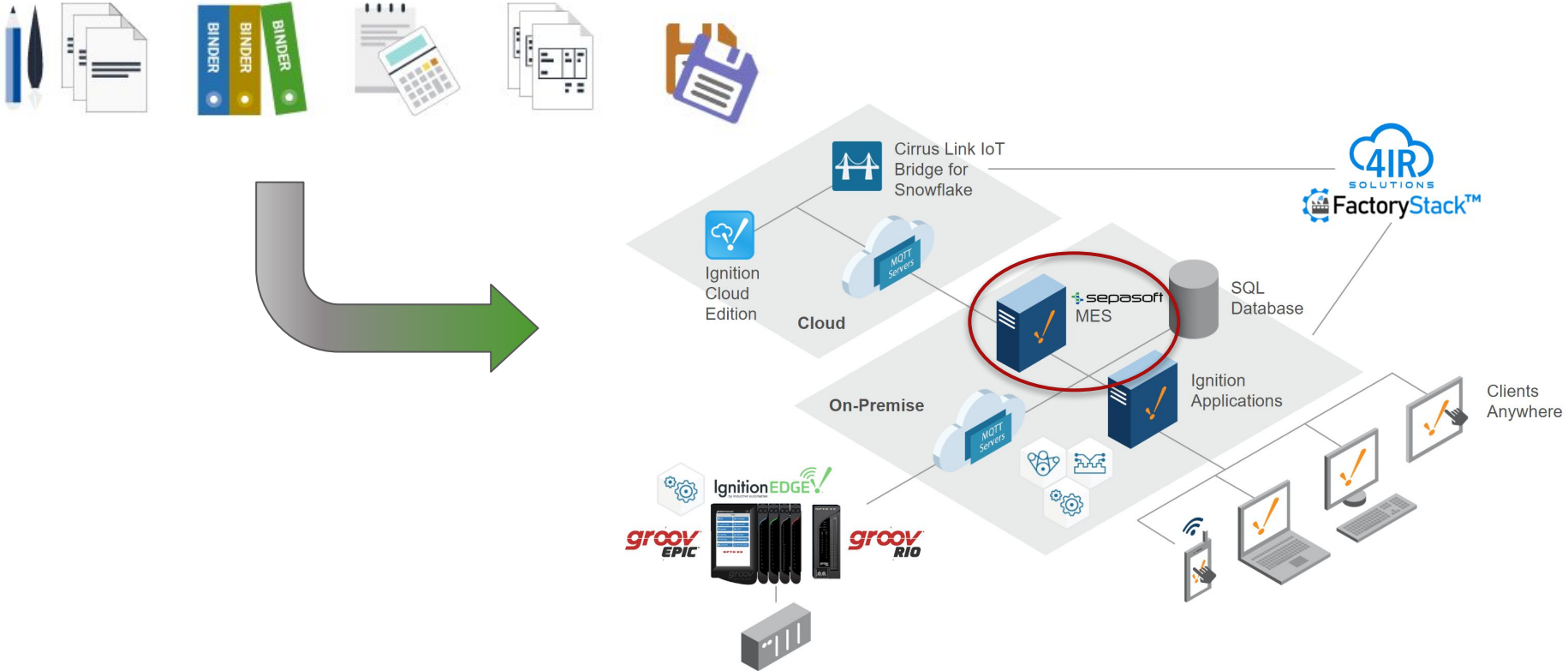


# MQTT Connectivity with Cirrus Link - The Data Pipeline

- Cirrus Link MQTT modules - Enables MQTT
- MQTT Provides
  - Decoupling
  - Secure Connectivity
  - Efficient Communication
- Data Delivery - Sparkplug
  - Data Standardization
  - Open Standard
  - Self-Learning / Auto Discovery
  - UNS Enablement

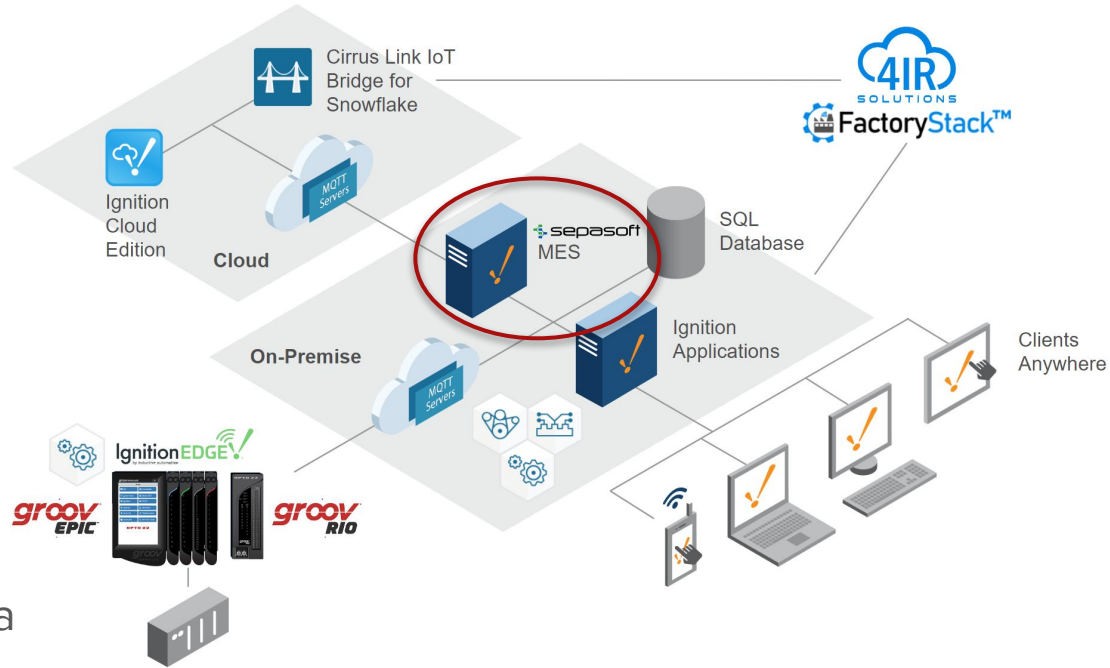


# Sepasoft MES

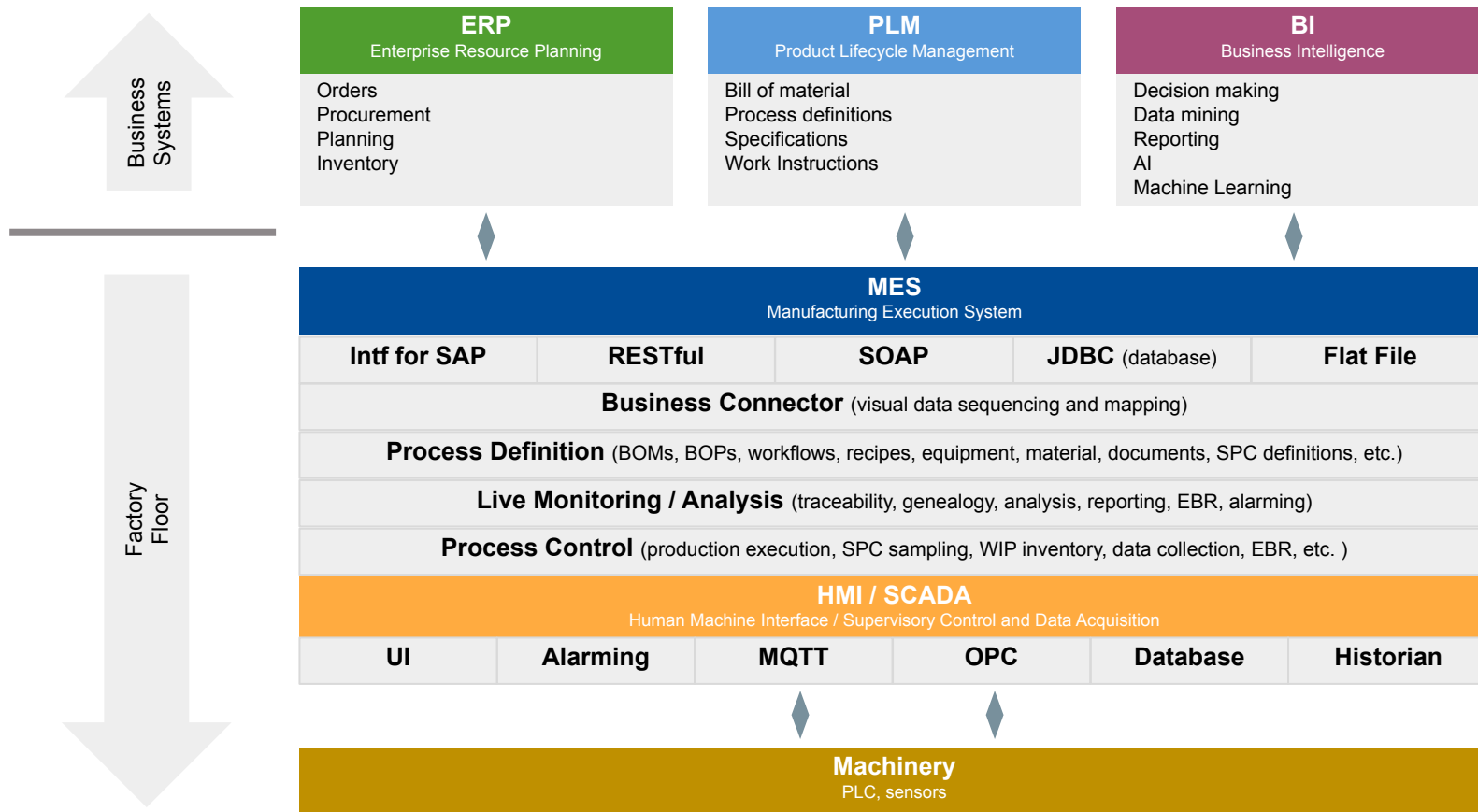


# Sepasoft MES

- Workflow Management
- Batch Control
- Material Traceability and Genealogy
- OEE and Performance Tracking
- Real Time SPC
- Set-point Management
- Work Instruction Integration
- Reporting Clean Contextual Data



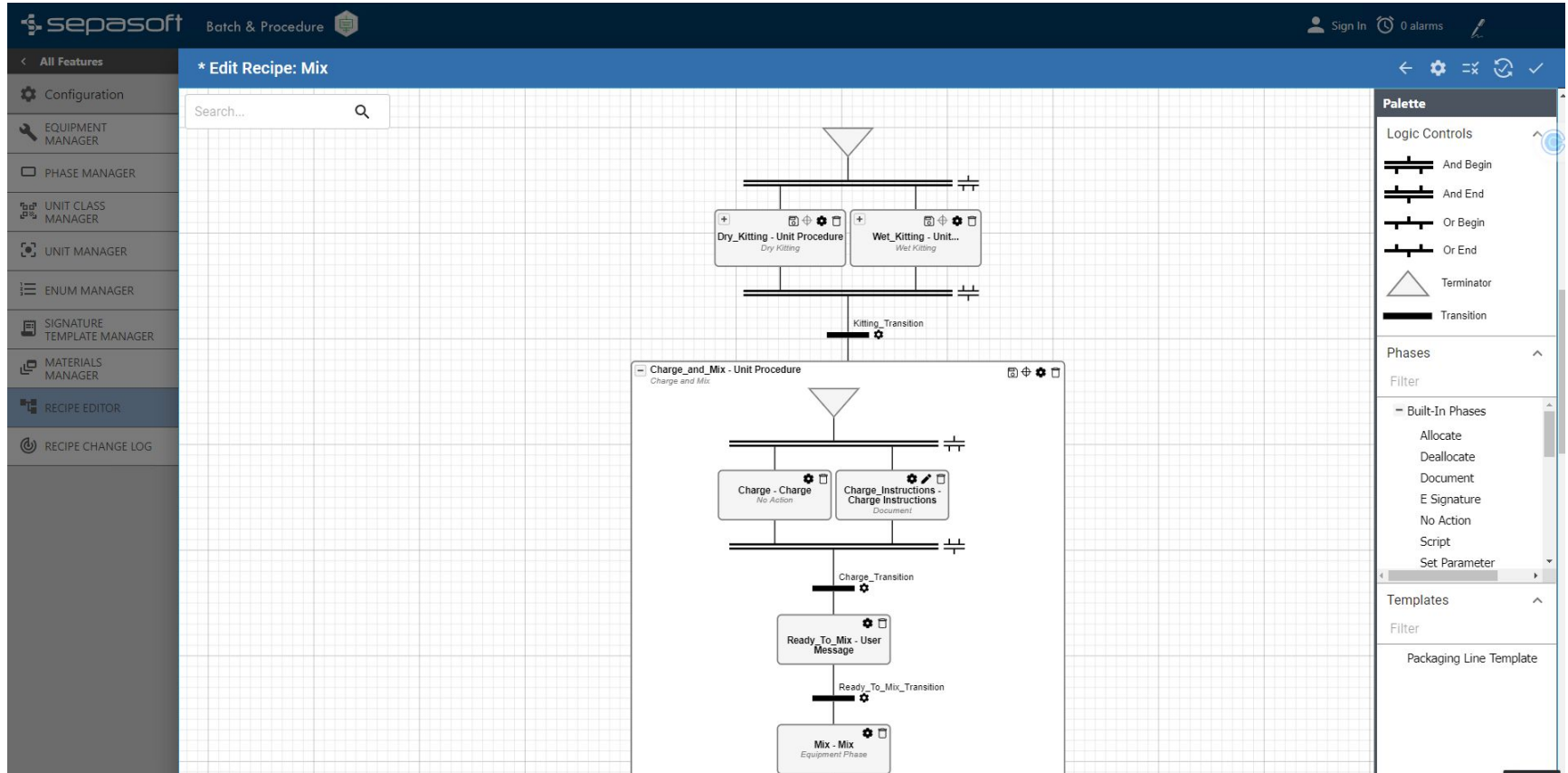
# Sepasoft MES



# Sepasoft MES



# Sepasoft MES



# Sepasoft MES

HOME

MATERIALS RECEIPT

ORDER PROCESSING

WET & DRY KITTING

CHARGE & MIX

PACKAGING LINE 01

REPORTING

DASHBOARDS

MONITOR & CONTROL

CONFIGURATION

Select Lot

CS-AG-30-DK-1

Processing Equipment

Type: Unit

Name: Dry Kitting 1

Material - In

Material1\_In-1:

Lot No:	SAL-20231027-142335
Material	Salt
Location	Dry Storage
Quantity	1.0
Begin Date Time	2024-05-23 10:47:02.821
End Date Time	2024-05-23 10:47:16.752
ExpirationDate	175153200000

Material2\_In-1:

Lot No:	PAR-20231104-094631
Material	Parsley
Location	Dry Storage
Quantity	2.0
Begin Date Time	2024-05-23 10:47:09.844
End Date Time	2024-05-23 10:47:16.745
ExpirationDate	1701331200000

Dry Storage

SAL-20231027-142335

Available

Salt

1

22

Dry Storage

PAR-20231104-094631

Available

Parsley

1

27

Dry Storage

SUG-20231027-134249

Available

Sugar

1

15

Wet Kitting

CS-AG-30-WK-1

Hold

Wet Kitted Bin

1

Dry Kitting 1

Dry\_Kitting (CS-AG-30)

Dry Kitting

CS-AG-30-DK-1

Hold

Dry Kitted Bin

Charge Mix 1

Charge\_and\_Mix (CS-AG-30)

FG Storage

CS-AG-30-FG-1

Available

Cheese Stuffed Mix

FG Storage

CS-AG-30-FG-2

Available

Cheese Stuffed Mix

FG Storage

CS-AG-30-FG-3

Available

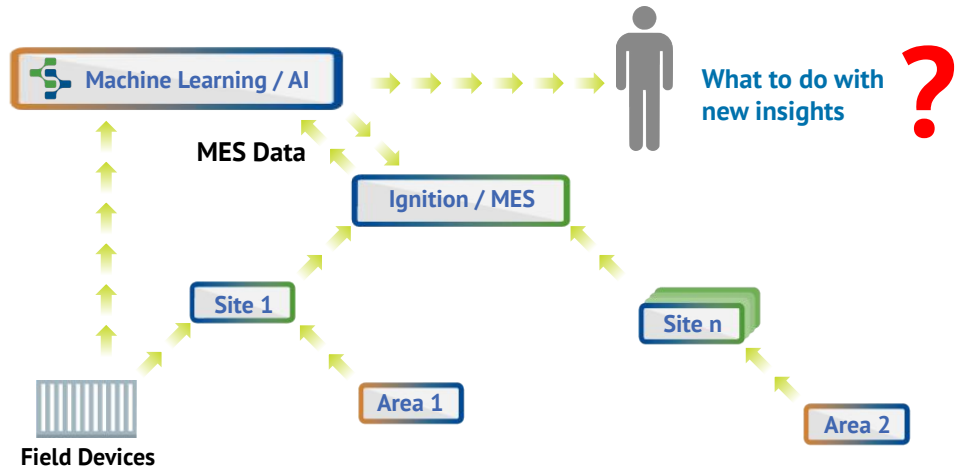
Cheese Stuffed Mix

Line Unit

Packaging\_Line\_UP (CS-AG-30-PA)

# Sepasoft MES

- MES is part of a smart manufacturing solution
  - Execute learnings / optimizations
  - Clean production data
  - Valuable context



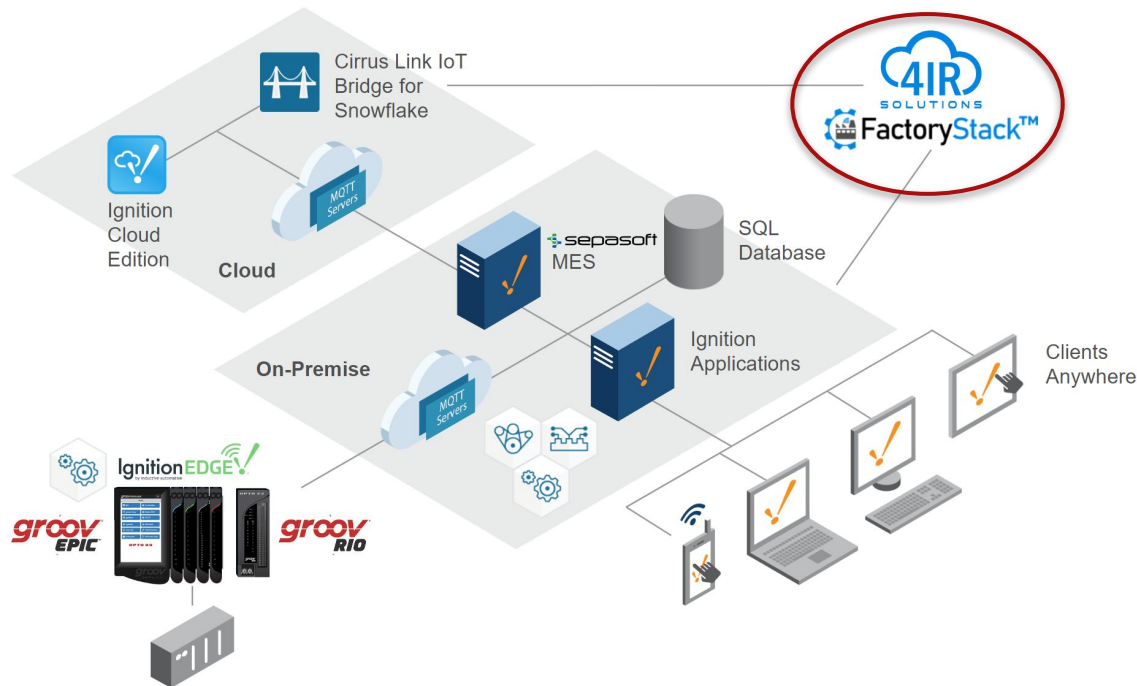
# 4IR Solutions' Cloud Service / Managed Infrastructure



- OT-As-A-Service
- Delivered as:
  - SaaS Solution (Our Tenant)
  - PaaS Solution (Your Tenant)

## Benefits

- Faster Deployment
- Secured Architectures
- Automation
  - Backups
  - Certificates
  - Monitoring
- Fully Supported by 4IR



# 4IR in The Ignition Software Ecosystem

Managed  
Service  
PaaS/SaaS



## Applications



## Module



sepasoft

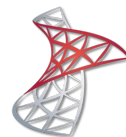


Cirrus Link  
SOLUTIONS

## Platform



## Other Services

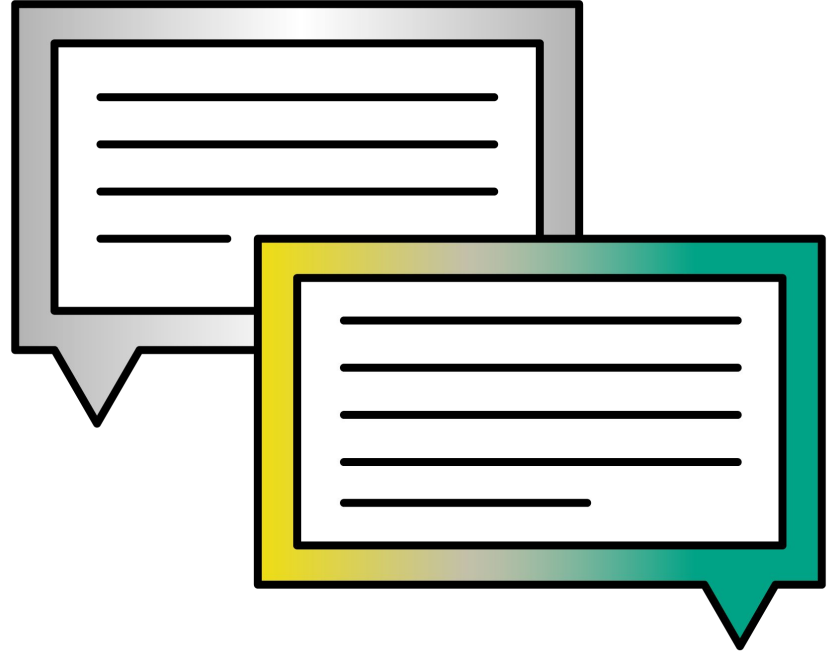


# How Does FactoryStack Work?



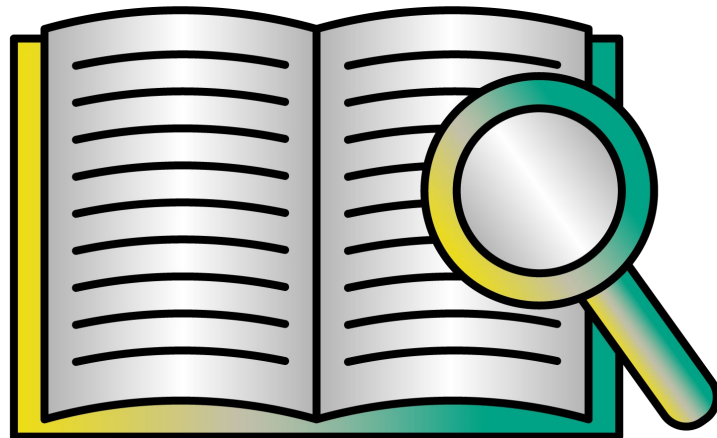
# Discussion

- How do I get started?
- Besides technology, what else does my organization need to succeed at Digital Transformation?



# Learn More

- Start connecting the puzzle pieces of Digital Transformation and learn more about Inductive Automation's Strategic Partner Cirrus Link Solutions and Solution Partners Opto 22, Sepasoft, and 4IR Solutions.
  - <https://inductiveautomation.com/partners/solution-partners/>
  - <https://inductiveautomation.com/ignition/modules#cirrus-link-solutions>





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**[inductiveuniversity.com](https://inductiveuniversity.com)**

*Ignition User Manual also available at:  
**[docs.inductiveautomation.com](https://docs.inductiveautomation.com)***

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