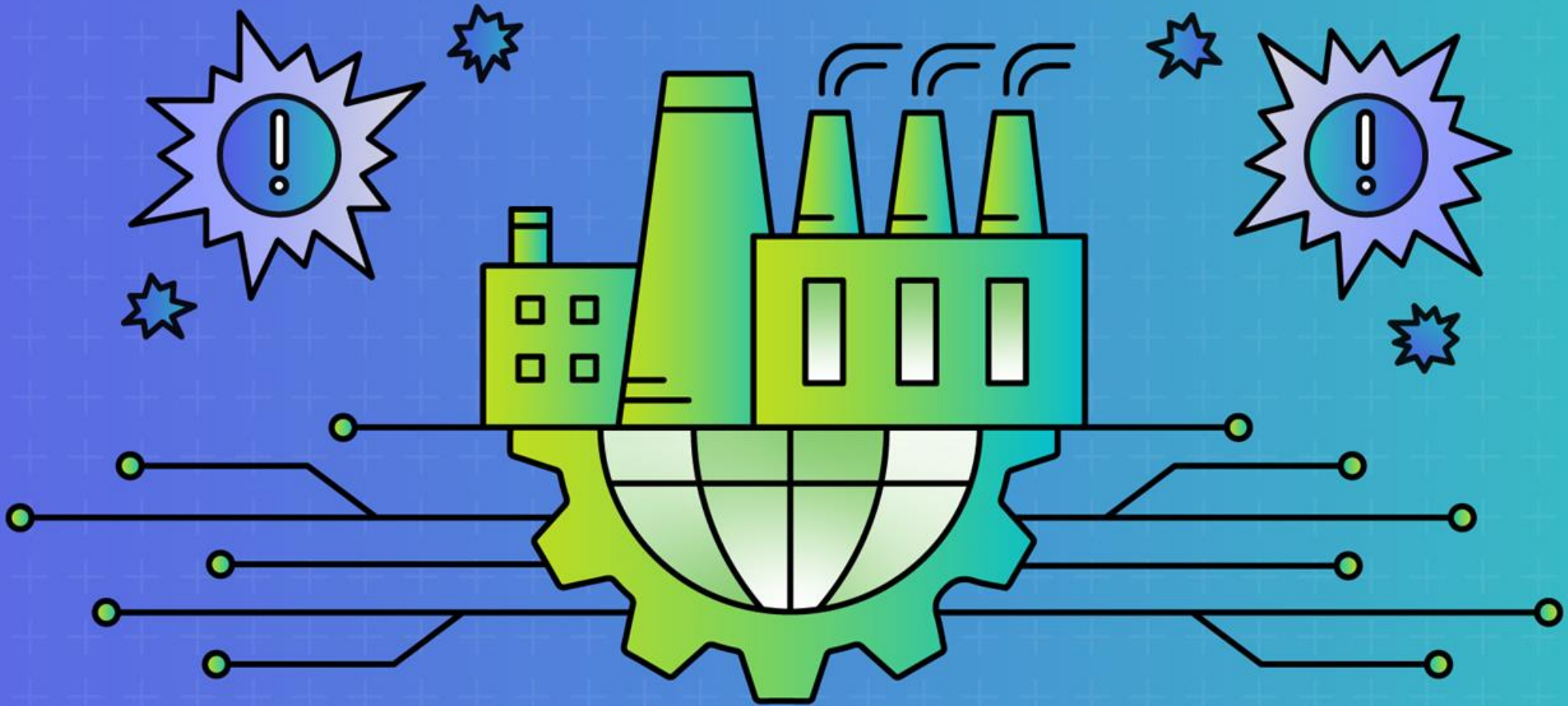


Overcoming Digital Transformation Pain Points

Changing Processes for the Better with Ignition



Presenters



Kent Melville

*Director of Sales Engineering
Inductive Automation*



Brad Fischer

*Sales Engineer
Inductive Automation*

Guest Presenters



Reese Tyson

*Ignition Team Lead
Flexware Innovation*

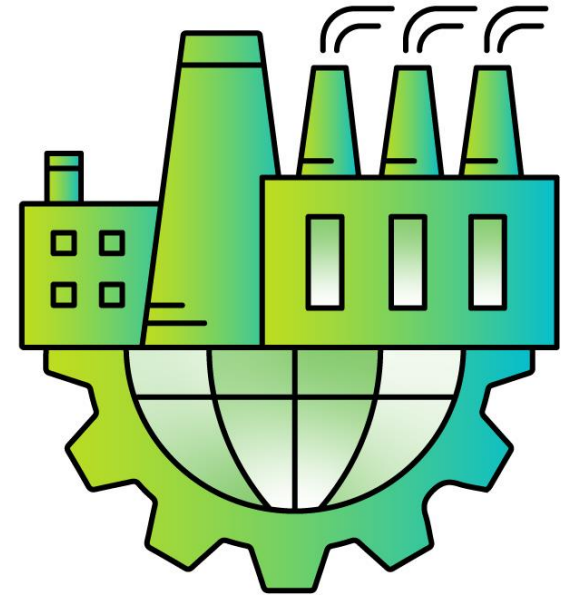


Steve Chapman

*Partner
Barry-Wehmiller Design Group*

Agenda

- **Introduction to Ignition**
- **Digital Transformation Projects**
- **Improving Processes With Digital Technologies**
- **Digital Transformation Pain Points & Solutions**
- **Audience Q&A**



Ignition!

by inductive automation

**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**

Process Improvement

Digital Transformation

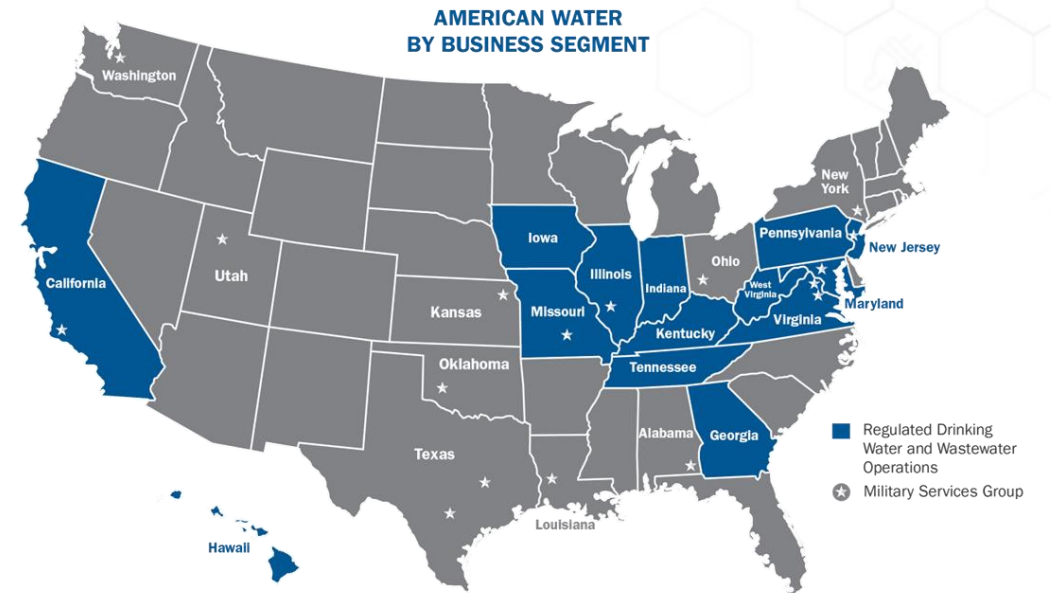
- Every organization's Digital Transformation will be unique
- One common thread of all successful Digital Transformation projects is process improvement through the use of digital technologies

American Water

About American Water

American Water is the largest and most geographically diverse publicly traded water and wastewater service provider in the United States.

- Approximately 14 million people
- 24 states across the US
- Over 600 surface water, groundwater, and wastewater treatment plants



American Water

Ignition Ecosystem

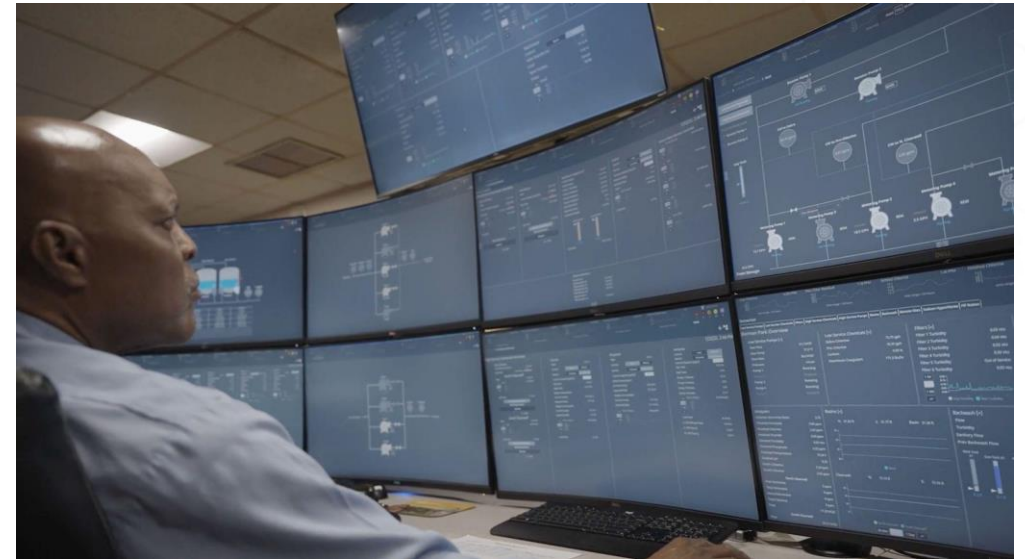
- Flexware Innovation teamed up with Automated Controls Concepts (ACC) to create an Ignition ecosystem for American Water that is comprised of three parts:
 - SCADA/HMI platform
 - Central data collection and analysis
 - Integration with other systems



American Water

HMI/SCADA Platform

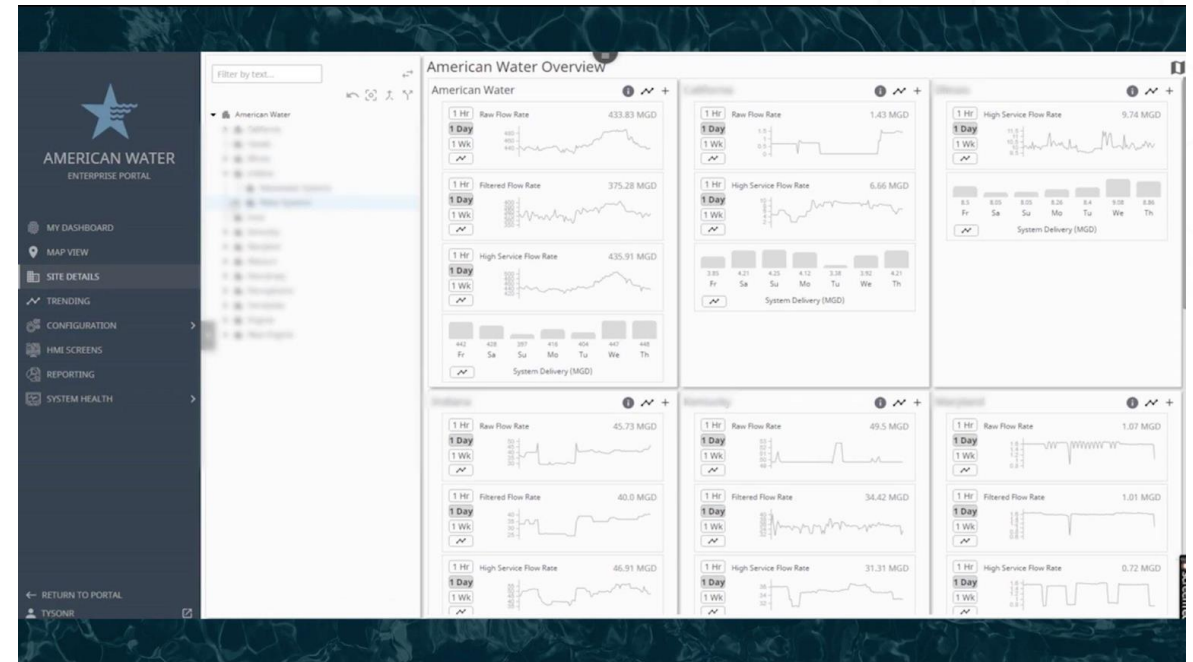
- Standardize on Ignition across the company
- It consisted of converting an outdated SCADA to a modern ISA 101-compliant system
- Ignition Perspective and Cirrus Link MQTT modules were key parts of this solution



American Water

Centralized Data

- Flexware developed an enterprise portal to view KPIs from all of the plants
- Comparative analysis at each level of the company
- One central location for data consumption to help drive informed decisions



American Water

System Integrations

- Waterly API integration
 - Water quality sampling
- MapCall API integration
 - Asset management
 - Geographical data
- Kafka
 - Kafka module for exposing operational data to the business

American Water

Project Scope

- Tags: 50,000+ and growing
- Screens: 100s and growing at the SCADA level
- Clients: (5) load-balanced front-end servers to serve up 100s of Perspective sessions
- Alarms: 10,000+ and growing at the SCADA level
- Devices used: 100s of PLCs of many different types
- Architectures used: Hub and Spoke/Scale Out Architecture
- Databases used: (2) Microsoft SQL Server at the enterprise and growing at the SCADA level
- Historical data logged: Millions of data points, and growing



Autolus Therapeutics

Barry-Wehmiller Design Group worked with Autolus Therapeutics to manage multiple communication protocols in one 21 CFR Part 11-compliant environment, using Ignition for:

- Data Acquisition
- Visualization
- Alarming
- Reporting
- Regulatory Compliance



Autolus

Autolus Therapeutics

- Multiple communication protocols in one environment
 - MQTT
 - OPC UA
 - Web Services
- Easy integration of a sitewide Active Directory
- Robust audit trail feature
- Regulatory compliance for electronic records

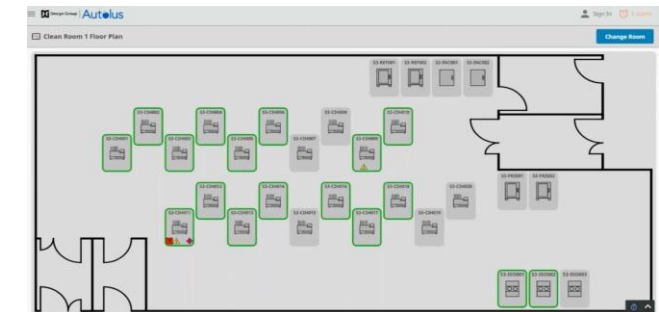
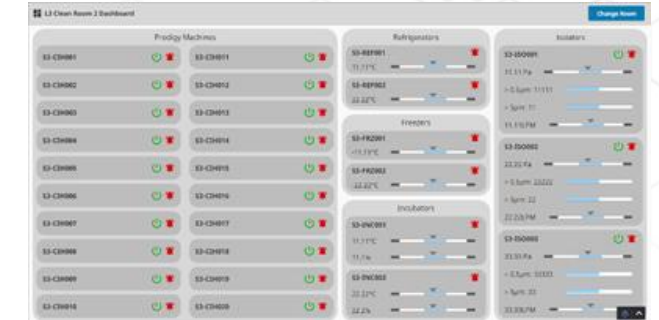


Autolus Therapeutics

- Custom dashboards for each room
- Floor-plan screens that mirror real-world layouts
- Alternatives to traditional HMIs
 - Portable devices like tablets and laptops
 - Embedded wall-mounted monitors

Item	Cell Counter C00001	Cell Counter C00002
Image	20200717-0018-c	20200715-0004-c
Operator	cm	cm
Viability (%)	0	0
Live Cells (cells/ml)	689	0
Dead Cells (cells/ml)	689	4,050
Total Cells (cells/ml)	1,380	4,050
Total Cells Out of Range	☐	☐
Concentration (cells/ml)	0	8,110
Concentrated Sample	☐	☐
Diluted Sample	☐	☐
Estimated Cell Diameter (um)	0	0
Estimated Cell Diameter >20 um	☐	☐
Estimated Cell Diameter <8 um	☐	☐
Estimated Cell Diameter Not Determined	☐	☐
Estimated Cell Diameter Uncertain	☐	☐
Cell Diameter Standard Deviation	0	0
Cell Diameter Standard Deviation Not Determined	☐	☐
Cell Diameter Standard Deviation Uncertain	☐	☐
% of Cells in Aggregates of Five or More	50	0
% of Cells in Aggregates of Five or More - Not Determined	☐	☐
Sample Volume (ul)	200	400
Dilution Volume (ul)	0	-200
Multiplication Factor	1	0.50
Checksum	/[58C0154C]	/[0B88E56D]

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8,701	01/22/2021 13:42:56	Unauthenticated	10.0.1.4	Web Auth Status Change	Autolus_AD_IDP	Username = 'Unauthenticated', Authorized = 'false', Security Levels = 'SecurityZones'	sys.DEV.Jgnition/project.STE_PCS
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8,703	01/22/2021 13:43:00	Unauthenticated	10.0.1.4	Login Response	http://10.0.0.36:8088/data/federate	Success: received from IdP code=YN2RZ_9wxQ4z8V9eIQ4M: 'Autolus_AD_IDP'	sys.DEV.Jgnition/project.STE_PCS
Username = 'DAUT_Kuroki', Authn 'true', Security Levels = 'Authenticat 'Authenticated'/B', 'Authenticated/I 'Authenticated/Roles/DEVPCS_Adm 'Authenticated/Roles/DL_Local_Adm AUTO-ENG01', 'Authenticated/Roles/DL_Local_Adm AUTO-PCS01', 'Authenticated/Roles/DEVPCS_Adm							
Is a member of: Autolus-Work-070, 1 per id, Auto							
25 rows							
First 1 2 3 4 5 Last							
Jump to: 1							



Autolus Therapeutics

PROJECT SCOPE:

- Tags: 1,322
- Screens: 12
- Clients: 2
- Alarms: 91
- Devices used: 10 Microsoft Tablets with Windows 10 Pro
- Architectures used: Redundant Cloud-Based
- Databases used: Microsoft SQL Express, Microsoft SQL Server Standard, OSI PI Historian
- Historical data logged: 44 tags OSI PI

ACCOMPLISHMENTS:

The project resulted in compliance with respect to:

- Being able to quickly generate and provide records to those that need them
- Ensuring that the data is protected and can be retained
- Ensuring that only authorized users have access to the data sources, and the PCS data
- Data transfers are now automated w/ store-n-forward
- Audit trails to record user interactions – solving “who, when, where and what actions or changes were made”

Digital Transformation Pain Points

Digital Transformation Pain Points

- Where there is a shared focus toward improvement, there are common pain points
- A Digital Transformation Pain Point is anything that makes transforming a company through integration of IIoT-enabled technologies more difficult to build, implement, or maintain
- Pain points can range from small issues to large, project-derailing problems
- Digital Transformation pain points can be solved with the right mix of technology, mindset, planning, and organizational support

Pain Point: Lack of Buy-in

Lack of Buy-in

- If key stakeholders won't buy into your Digital Transformation initiatives, you're either in for an uphill battle or the project is dead on arrival
- Keep in mind that buy-in comes not only from key stakeholders but also operators on the floor and anyone who will be using the application

Pain Point: Lack of Buy-in

Solutions

- Understand the needs of key stakeholders
- Look for solutions that OT and IT can both get behind
- Focus on big-picture goals
 - Benefits that stretch across the organization
- Look for 'quick wins' that will build support and momentum

Pain Point: Disruption of Usual Procedures

Disruption of Usual Procedures

- Redistribution of resources can be challenging
- Workflow/daily routines may be impacted
- Disruption from Digital Transformation can affect morale

Pain Point: Disruption of Usual Procedures

Solutions

- Explain the necessity of changes to team members
- Give team members a forum to voice their questions and concerns
- Resources may need to be allocated differently than in the past, so prioritize wisely
- Use the right technology solution to minimize disruption to your operations

Pain Point: Unclear or Unrealistic Goals

Unclear or Unrealistic Goals

- Digital Transformation can be a broad concept, but a successful project is predicated on tangible results
- It's not enough to simply say "I want to digitally transform my organization" – you need to decide how processes will be improved
- Unrealistic goals are not exclusive to Digital Transformation, but having goals that are specific makes achieving them possible

Pain Point: Unclear or Unrealistic Goals

Solutions

- Instead of chasing tech trends or buzzwords, go after real problems.
 - Results over concepts
- Analyze your process and identify areas in need of improvement
 - Speed
 - Efficiency
 - Downtime
- Define the goal, the method, and your measure of improvement
- “What does success look like for your project?”

Pain Point: Communication Barriers

Communication Barriers

- Execution of a project can be derailed by poor communication across devices
- Lack of access to real-time data makes it hard for people to do their jobs properly
- Current supply chain issues make interoperability a necessity
 - Organizations have been turning to technology that's more flexible in order to continue moving forward during delay of supplies

Pain Point: Communication Barriers

Solutions

- Open standards
 - Ignition ties into other systems (like ERP) and has open standards and drivers
- Integrate a dispersed network with the right architecture

Pain Point: Cost

The Cost Factor

- This is the oldest and most persistent pain point
- Whether it's a single process upgrade or enterprise-wide overhaul, every project has a budget, but it's always smaller than you want it to be

Pain Point: Cost

Solutions

- Pay by the server and add as many clients, screens, tags, devices, or connections as needed for no extra cost under Ignition's unlimited licensing
- Download Ignition for free and refresh the 2-hour trial as long as needed
- Ignition is modular – pay only for what you need

Pain Point: Time-Consuming Tasks

Time-Consuming Tasks

- Some tasks can be overly time-consuming, require too much effort, or be downright impossible to complete
- These kinds of tasks can disrupt a Digital Transformation project's timeline
- Having to provide information repeatedly takes up valuable time
- Some tasks can be overwhelming for an individual person

Pain Point: Time-Consuming Tasks

Solutions

- When things seem too time-consuming, difficult, or risky, you can try Ignition on a trial basis
- Ignition allows unlimited people to work on a project simultaneously without paying for extra designers
- Try rapid project development methodologies and tools
 - Scrum
 - Ignition Designer
 - Templates

Pain Point: Slow ROI

Slow ROI

- If ROI isn't fast enough to meet expectations, frustrations and impatience can result
- Higher cost = slower ROI
- Slow ROI can hinder additional funding/support of further Digital Transformation initiatives

Pain Point: Slow ROI

Solutions

- Use Ignition to maximize and speed up ROI with:
 - Unlimited licensing
 - Optimized deployment, maintenance, and uptime
 - Digitization
 - Visibility of data
 - Bandwidth savings
 - Leveraging the cloud
- Faster deployment = quicker ROI
- Create a proof of concept with quick wins
- Set realistic expectations for stakeholders

Pain Point: Difficulty Leveraging Information

Difficulty Finding, Understanding, or Leveraging Information

- There's no point in using IIoT-enabled technologies to collect all this data if you don't have any way to use it
 - Data access
 - Context
 - Actionable insights

Pain Point: Difficulty Leveraging Information

Solutions

- Ignition breaks down data silos and gathers information from the plant floor to the edge to the cloud, and lets you see it on desktop, mobile, or most any device.
- Recent features:
 - Tag Report Tool
 - Machine Learning Manager:

<https://inductiveautomation.com/exchange/2365/overview>

Pain Point: Support Issues

Support Issues

- We all need support sometimes, whether it's during development, deployment, or while a system is operational
- Needing support itself can seem like a pain point, but really it's not getting the right support or not being aware of available support

Pain Point: Support Issues

Solutions

- Inductive Automation has an excellent support division
 - You can choose the support level that is best for your organization
- Ignition Ecosystem of partnering companies
 - Onboard devices
 - Strategic partners
- Regional support available through international distributors
 - More aligned time zone and language
- Inductive University and Online User Manual available anytime

Every Pain Point Has a Solution

Pain Points

1. Lack of Buy-in
2. Disruption of Procedures
3. Unclear or Unrealistic Goals
4. Communication Barriers
5. Cost
6. Time-Consuming Tasks
7. Slow ROI
8. Leveraging Information
9. Support Issues



Solutions

1. Stakeholders/OT-IT Friendly
2. Open Comm/Right Tech
3. Results Over Concepts
4. Open Standards/Data Access
5. Unlimited Licensing
6. Rapid Dev Methodologies
7. Quick Deployment/Quick Wins
8. Break Down Data Silos
9. The Right Kind of Support



Ready to Try Ignition for Yourself?

Download the full version for free at:
[inductiveautomation.com](https://www.inductiveautomation.com)

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