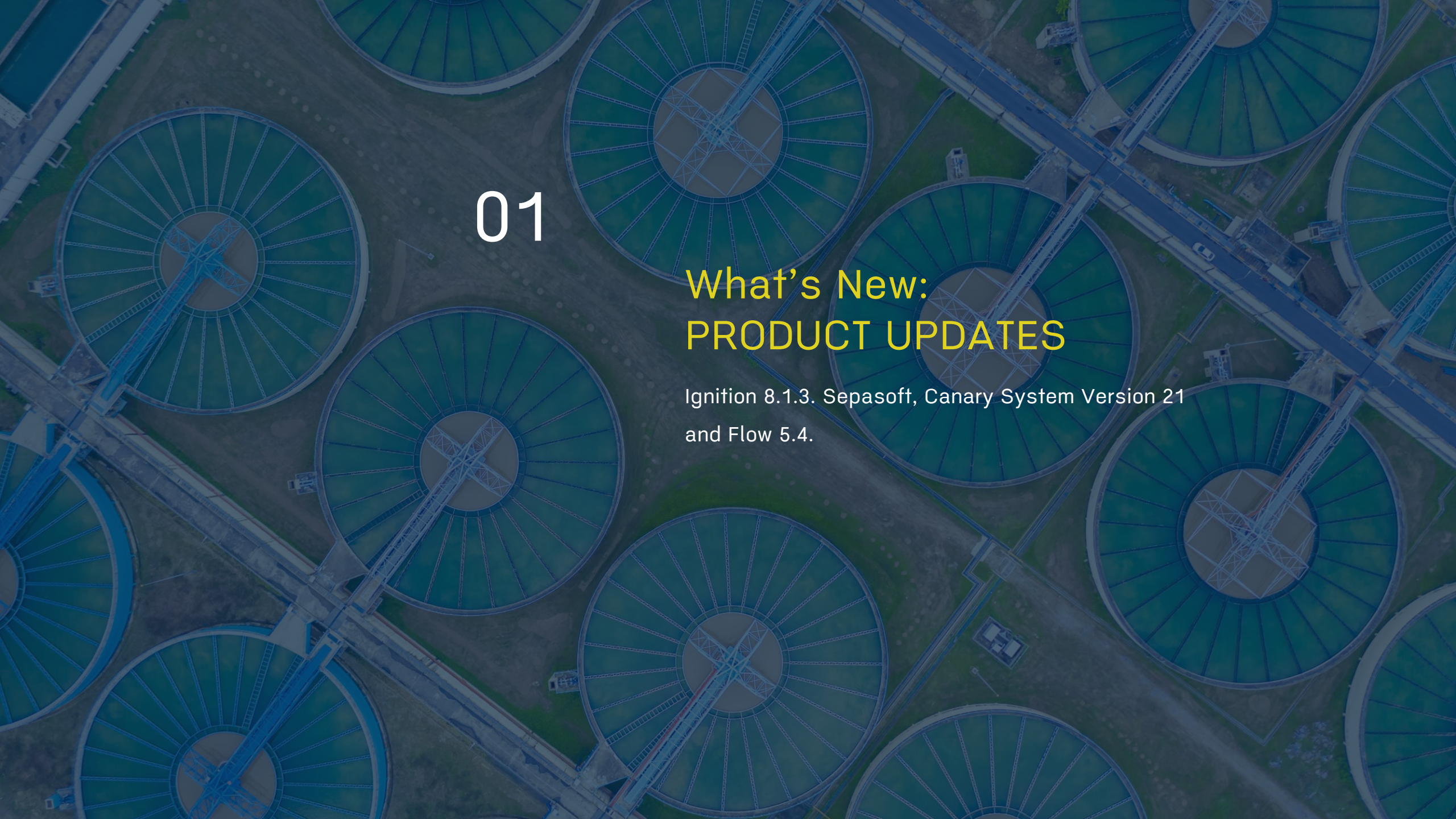

CHANGEMAKER
COMMUNITY
LIVE

AGENDA – THU 25 MAR 2021

1. PRODUCT UPDATES
2. TRAINING
3. ENABLEMENT
4. SUPPORT
5. FOR THE WIN
6. 10 STEPS FOR A SUSTAINABLE SCADA
7. Q&A

KNOW YOUR LIMITLESS



01

What's New: PRODUCT UPDATES

Ignition 8.1.3. Sepasoft, Canary System Version 21 and Flow 5.4.

Ignition 8.1.3 and Sepasoft

Features	Usability	Fixes
Docker Support	Perspective	Gateway Network Improvements
Designer Improvements	IdP Support	On-screen Keyboard Fix
Quick Start Guide	Gateway Auditing	Perspective Expression Structure Fix
Ignition 8.1.x – LTS Support		

Upgrade Guide from 7.9

Monthly release Cycle

Version 8.1.0
November 2, 2020

Version 8.1.1
December 8, 2020

Version 8.1.2
February 3, 2021

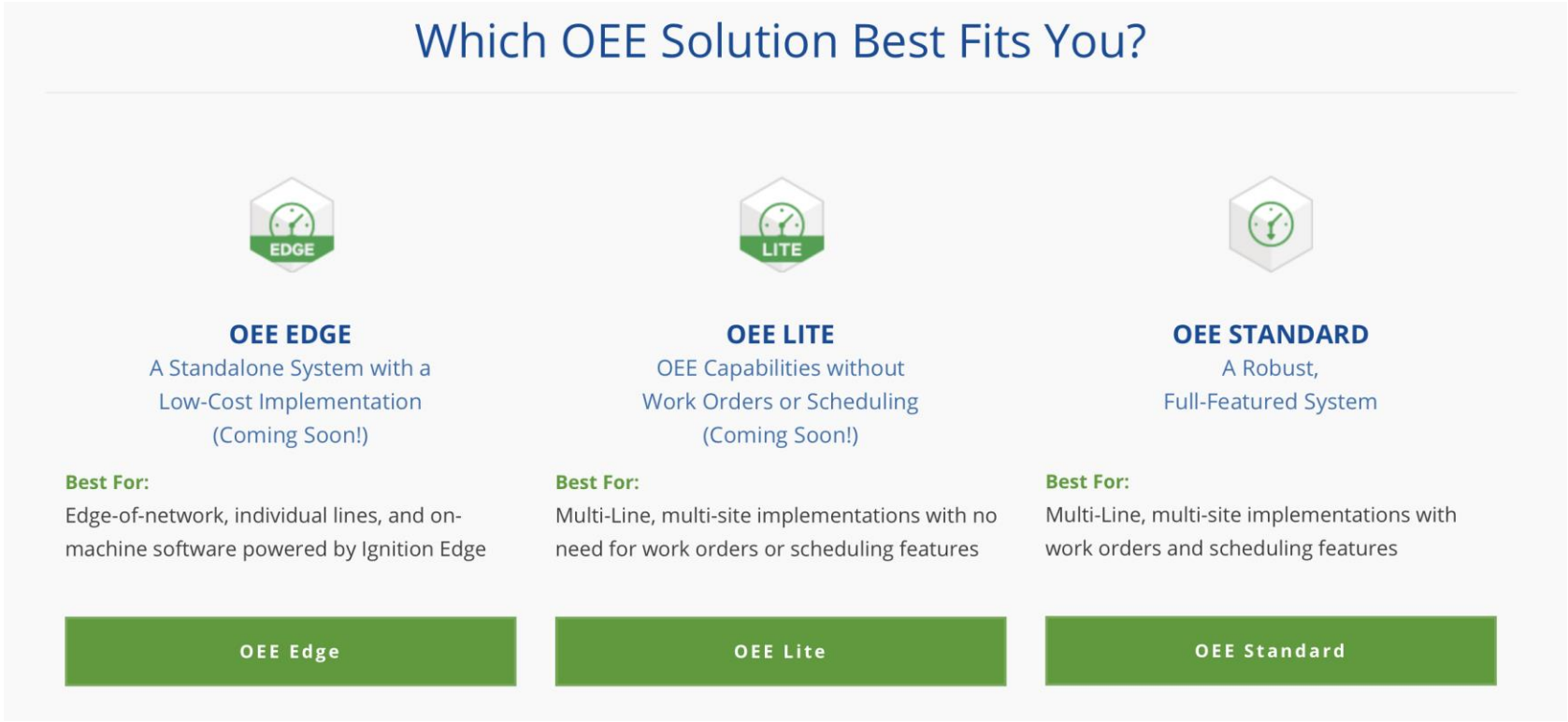
Version 8.1.3
March 3, 2021

Version 8.1.4 RC1
March 18, 2021

Where To Find Updates

- Documentation https://docs.inductiveautomation.com/display/DOC81/New+in+this+Version
- Release Notes https://inductiveautomation.com/downloads/releasenotes
- Recommend to check after every minor update – monthly

Ignition 8.1.3 and Sepasoft



Where to find comparisons

- Product Comparison https://www.sepasoft.com/products/oee-downtime-module-suite/

Canary System Version 21.x

Features	Usability	Fixes
Asset methods - API	Views service Installation	Copying calculation expressions
PreviousValue Calculation	Intellisense-like functionality	Anonymous MQTT connection failure
Axiom line tool	MQTT UI	Install crashes Checking Excel version
Canary 21 – 2021 release Cycle		

Monthly release Cycle

Version 20.3.4
October 1, 2020

Version 20.3.5
November 24, 2020

Version 20.3.6
December 15, 2021

Version 21.0.1
February 9, 2021

Version 21.1.0
TBC

Where To Find Updates

- Documentation https://help.canarylabs.com/hc/en-us
- Release Notes https://www.canarylabs.com/support/current-version
- Recommend to check after every minor update – monthly

Flow 5.4

Features	Usability	Fixes / Updates
Event Trigger Enhancements	Copy / Paste Import export functionality	Additional Minutely Retrieval types
InfluxDB Data source	Template Consumers / Events	.Net Core 3.1 and 4.8 Framework Support
Model Security	Template Chart and Dashboards	Namespace Rendering – SQL Consumer
Flow 5.4.x		

Monthly release Cycle

Version 5.3.2
June 22, 2020

Version 5.3.3
July 10, 2020

Version 5.3.4
August 20, 2020

Version 5.3.5
October 8, 2020

Version 5.4
April 2021

FLOW

SYSTEM VIEW WINDOW HELP

5.4.488.675

Model

- Juice Factory
- Utilities
  - Electricity
    - Filler 1
    - Filler 2
  - Boiler

Daily Manual ## 0 2021/02/01 00:00

Reporting

- Juice Factory
- Element8

Model

Reporting

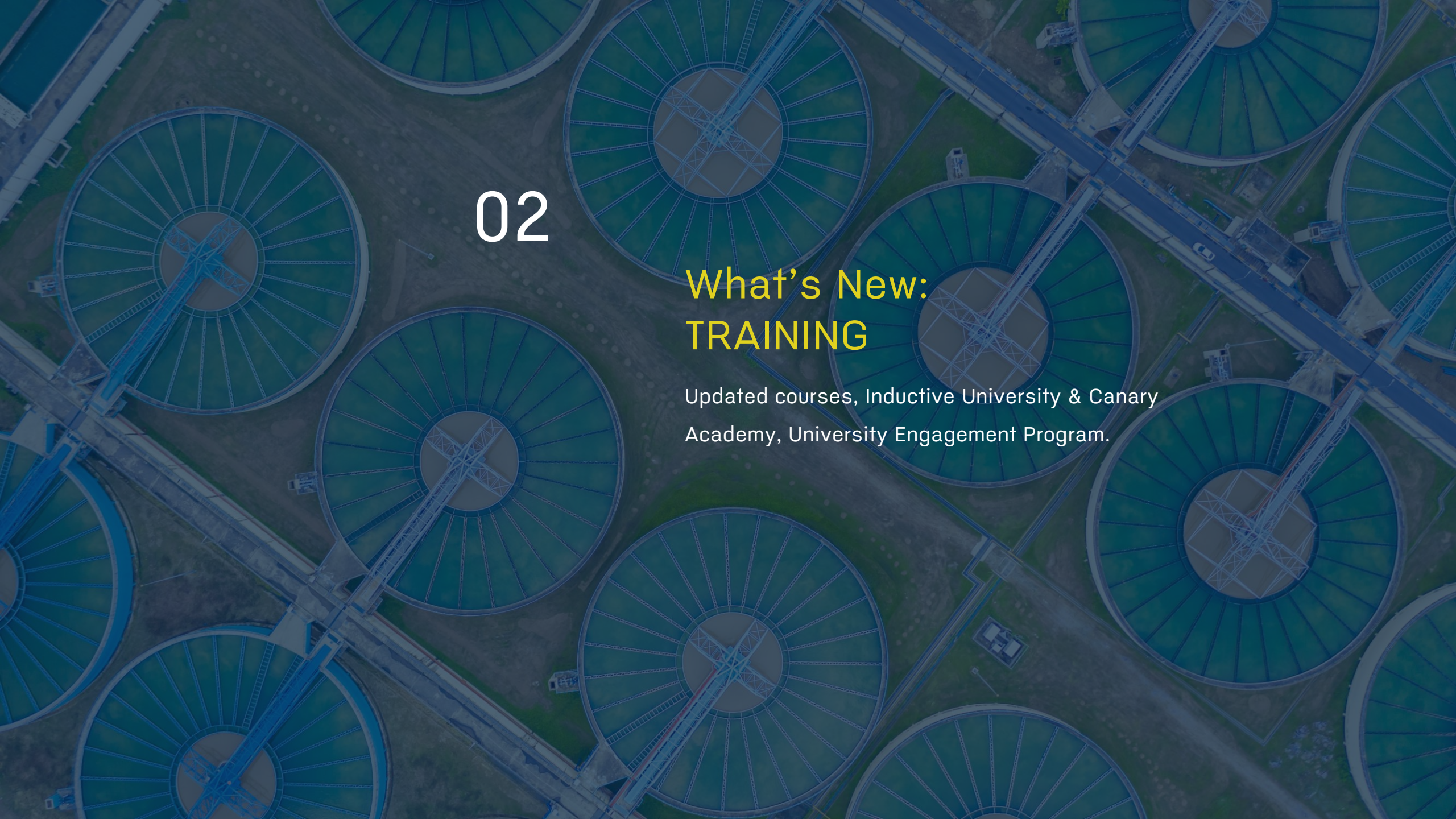
Ready

ADVN23 JuiceFactory 5.4.0 Rikus van Rensburg

14:41
2021/03/24

Where To Find Updates

- Documentation https://support.flow-software.com
- Release Notes https://support.flow-software.com/hc/en-us/articles/360013570820-Flow-5-3
- Recommend to check after every minor update – bi-monthly



02

What's New: TRAINING

Updated courses, Inductive University & Canary Academy, University Engagement Program.

LEARN FROM EXPERT INSTRUCTORS

Our Instructor-Led Training

FLOW INFORMATION PLATFORM: CORE 3 DAYS

Delegate Cost: End-Users R15 000
Registered Partners: Free

IGNITION SCADA: CORE 5 DAYS

Delegate Cost: End-Users R25 000
Registered Partners: Free

FLOW INFORMATION PLATFORM: ADVANCED 2 DAYS

Delegate Cost: End-Users R10 000
Registered Partners: Free

IGNITION SCADA: ADVANCED 5 DAYS

Delegate Cost: End-Users R25 000
Registered Partners: Free

IGNITION SCADA: PERSPECTIVE 3 DAYS

Delegate Cost: End-Users R15 000
Registered Partners: Free

CANARY SYSTEM: 2 DAYS

Delegate Cost: End-Users R25 000
Registered Partners: Free

inductiveuniversity.com

Ignition User Manual also available at:

docs.inductiveautomation.com

Welcome to the Canary Academy

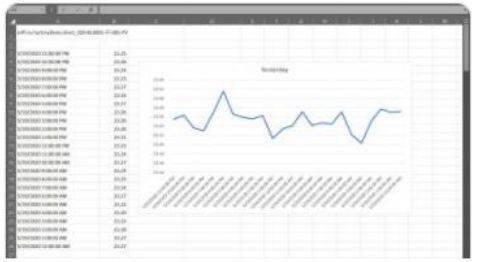
Where you can learn the Canary System at your own pace, one step at a time... for FREE!

SIGN UP NOW

Featured courses

Axiom Trend Graphs

Creating Basic Axiom Applications



The Canary Excel Add-in

University Engagement Program

Goal

+ To get Ignition into the hands of as many students as possible.

Ignition in curriculum

+ 32 Academic Institutions using Ignition
+ 7 Countries with Ignition in Academics
+ 13 different academic programs

UNIVERSIDAD DE GRANADA

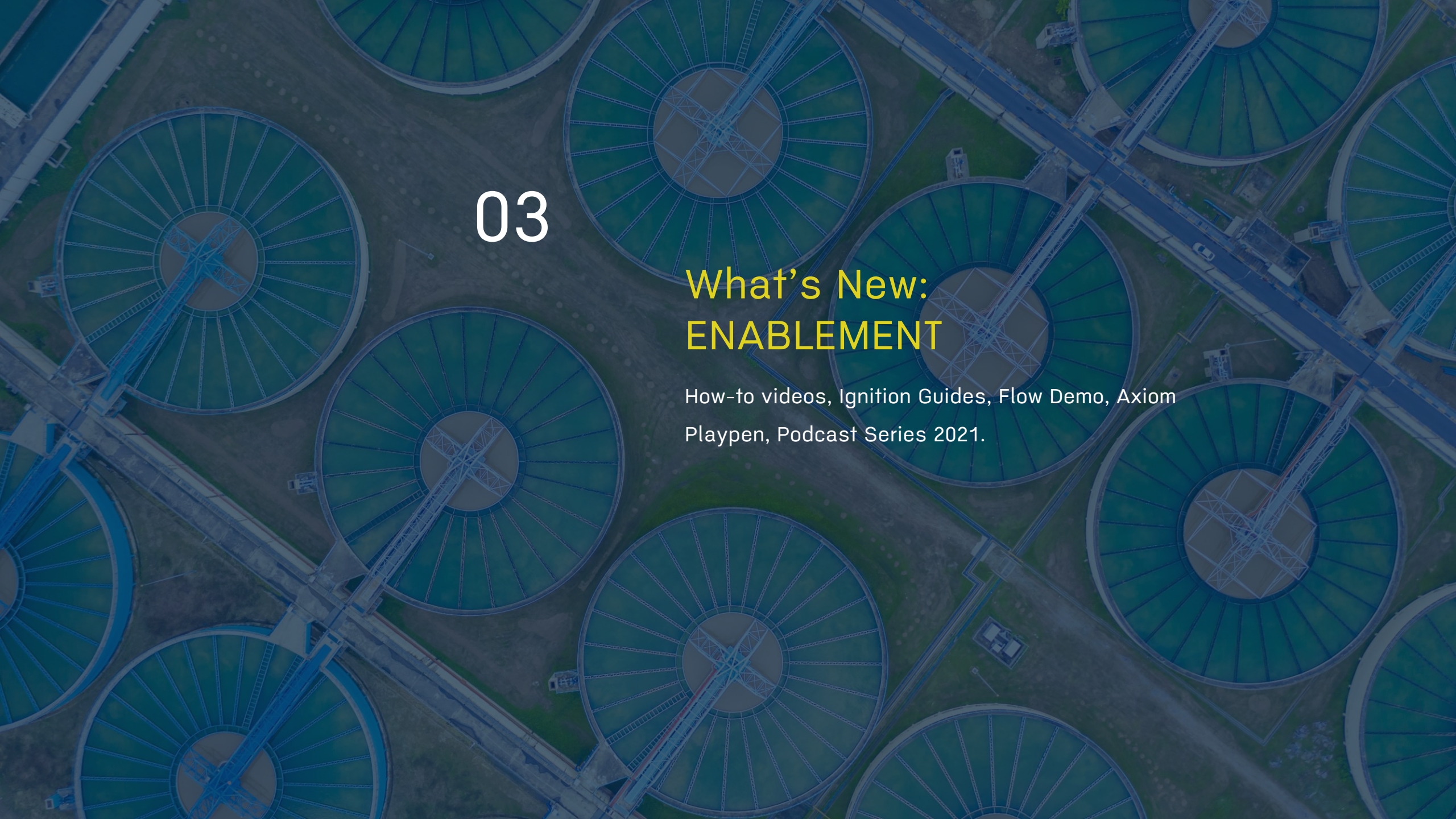
Lörrach

LETOURNEAU UNIVERSITY

University Engagement Program

Inductive Automation will provide:

- Licensing for professors, students and laboratory settings
- Resource materials on Ignition functionality
- Active communication regarding all matters
- Active communication with industry partners



03

What's New: ENABLEMENT

How-to videos, Ignition Guides, Flow Demo, Axiom Playpen, Podcast Series 2021.

Wastewater Dashboard →

Oil & Gas Dashboard →

OEE Dashboard →

ARTICLE
Industry Article

Perspective Planning Checklist

ARTICLE
Guide

Ignition 8 Deployment Best Practices

Thanks for trying Axiom, Canary's dashboarding and reporting tool.

In this sandbox, you will find pre-built applications you can explore, as well as opportunities to give Axiom a try on your own.

Just click one of the examples below to get started.

Prefer to have a Canary team member give you a personal walk-thru? Schedule a demo online.

BOOK A DEMO

Diagnostics Use Case

Focused more on monitoring a process in real-time? This application highlights data presented for control operators. Using Canary System diagnostic tags, you can move quickly from overviews to trending.

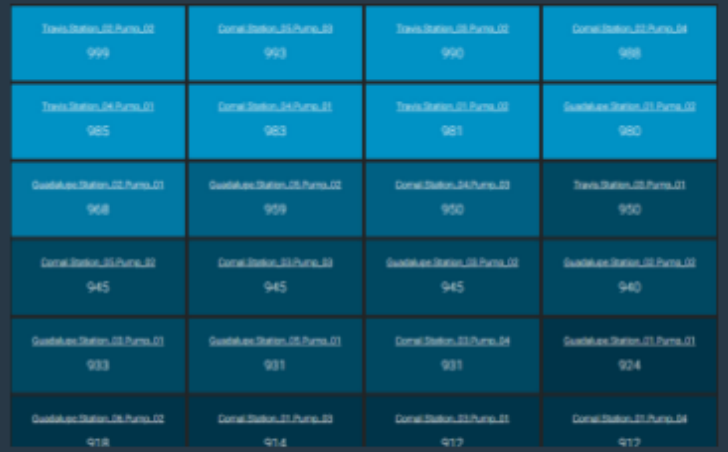
Canary Academy

Want to really learn to use Axiom? Free training is available in the 'learn-as-you-go' Canary Academy. In less than an hour, you can master the skills you need to build your own reports and trend charts.

Design Gallery

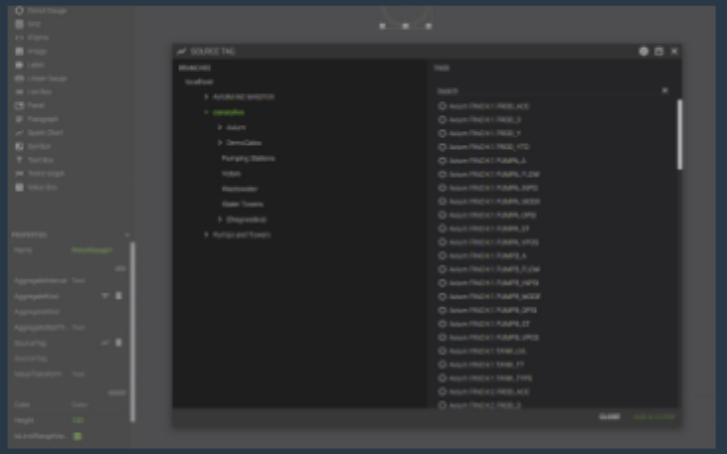
A great application to explore the possibilities of Axiom. Browse through and interact several pages of Axiom Controls (like widgets), and see the many options you have when creating dashboards.

Enterprise Asset Monitoring



Want to demo visualizing multiple assets across your enterprise? This is a great example of dispersed operations with reporting screens, diagnostic capabilities, and a fully functioning parent-child asset model.

Start From Scratch



Ready to try your hand at designing your own dashboards? Use several series of generated data streams and asset models to build your own applications.

Where to find resources:

- Technical How-to Guides
- Human & Machine Podcast: Podbean and Apple Podcasts
- Flow Industry Dashboards & Demo's
- Perspective Planning Checklist
- Ignition 8 Deployment Best Practices
- Axiom Playpen Demo

04

What’s New: SUPPORT

Flow Support now at Element8. Ways to get support.

New Ways to Log Flow Support Tickets!

01	02	03
ONLINE	EMAIL	TELEPHONE
Submit a support request using our online form:	Send us your support request by email:	Call our support number: Weekdays, 08:00 - 17:00 CAT
element8.co.za/support	support@element8.co.za	+27 11 595 8458

05

What's New: FOR THE WIN

Recent Success Stories, Projects and Certifications

NEW PARTNERS, CERTIFICATIONS AND CUSTOMERS

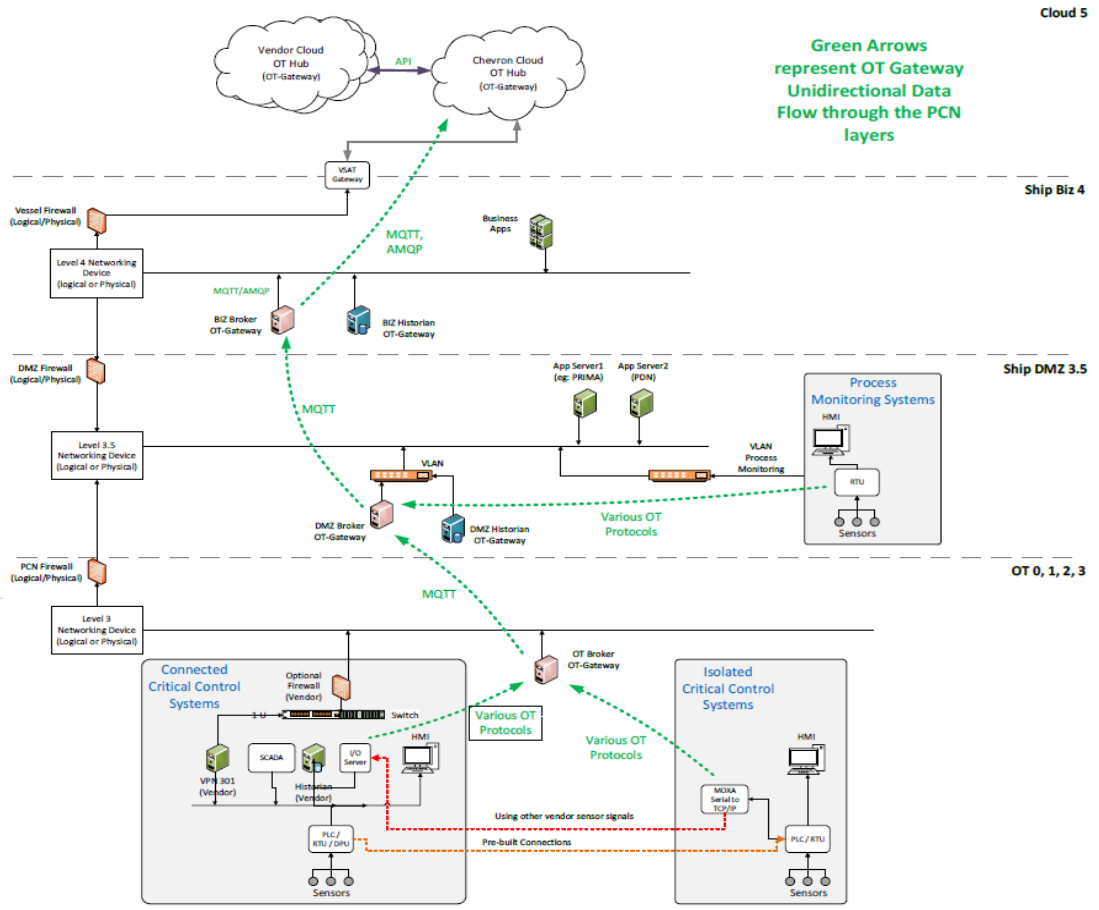
iritron
Ignition Certified Integrator
SPC CERTIFIED
RECIPE/CHANGEOVER CERTIFIED
EOH Process Automation Solutions
canary Certified Partner
DEM CONTROLS
CATALYST PARTNER
NEXT integration
Ignition Gold Certified Integrator

TECHNOSERVE ELECTRICAL & ELECTRONIC ENGINEERING
DRDGOLD LIMITED
BIMBO QSR
ingrain
HBIS GROUP
pmc PALABORA MINING COMPANY
Coca-Cola Beverages Africa

inductive automation. Authorized Distributor

KNOW YOUR LIMITLESS

VESSEL PROJECT – OVERVIEW



PROJECT OVERVIEW

- New Vessel Software for Fleet of 30 vessels over 3 years
- Competing Against entrenched vessel software competitors
- Cloud Connectivity
- Satellite Communication

inductive automation. Authorized Distributor

KNOW YOUR LIMITLESS

VESSEL PROJECT – WHY WE WON

- Not on Price
- Ignition Modular Solution
  - Ignition Capabilities
  - Perspective Module
  - Other Modules
- MQTT Sparkplug
  - Data Modelling
  - Comms Efficiency
  - New File Transfer
- Azure Cloud Connectivity & Future Sparkplug TSI Bridge
- Flexibility & Data Ownership

10 STEPS TO ARCHITECTING A SUSTAINABLE SCADA SYSTEM

How Water Utilities Can Build for Tomorrow on Today's Budget

PANELISTS

BRIAN COOPER

Director

Integ

JACO MARKWAT

Managing Director

Element8

LENNY SMIT

Customer Success Manager

Element8

KNOW YOUR LIMITLESS

Water Utilities Face Many Challenges Today

Water Utility Challenges:

- Economic issues
- Aging systems
- Tighter regulation
- Technology obsolescence and changes
- Better reporting tools are needed
- Younger staff
- Yesterday's tools aren't getting the job done

Water System Challenges:

- Insufficient resources (funding, skills)
- Public pressure for free access
- Technology obsolescence
- Need for active continuous improvement
- Phasing in newer technology
- Strategic planning
- SCADA choices matter

The Usual, Non-Sustainable SCADA Approach

Applying a band-aid:

- SCADA systems tend to lag behind other technology
- Usually approached as a closed system with a specific lifespan
- When requirements change, vendors apply “band-aids” until the whole system can be replaced

The Sustainable Approach to SCADA

There’s a better way:

- Through open standards and a sustainable architecture, SCADA can adapt and grow with requirements and improve uptime & reliability
- This methodology can improve technology adoption, and save time & money

Where to Start?

Conventional thinking:

+ “Obviously if I want to move to a new sustainable SCADA architecture, I need to rip everything out and start over again from the top down.”

Wrong:

+ Instead, start small and think about little changes that will go a long way.

Step 1: Hardware (PLCs)

Set a standard protocol for your system:

- Your system can easily get to the point where it includes hardware from many manufacturers and with many different protocols.
- Maintaining support and connectivity to a wide variety of devices and protocols is not sustainable.

You don’t necessarily need to replace all your old equipment.

- However, you need enforce the standard for new equipment.
- This is easier if you choose an open protocol such as Modbus, OPC, or MQTT.

Step 2: Edge Devices

What about remote sites?

- Even with a standard protocol, data collection from remote sites can still be an issue:
  - Polling is limited by bandwidth & latency.
  - Losing a connection to a device means losing data.

Install a device at the remote site to poll locally and report by exception:

- Data only sent to the central location on change.
- If the network goes down, the edge device can buffer data and forward it up when the connection is restored
- Some edge devices even provide a local HMI for visualization & control
- Can be installed on a small industrial PC to turn it into an edge device
- Contains multiple drivers, store-and-forward data buffer and email alarming

Step 3: Server-Centric Architecture (Redundancy)

What should that central SCADA system look like?

- The central SCADA system should have a server-centric architecture which only requires software installation on the central server.
- Because all data collection & visualization goes through that server, implementing redundancy is key to maintaining uptime in the event of server failure.

Server-centric architectures present new licensing possibilities.

- Rather than charging per device, tag, or workstation, a true server-centric system would be licensed by the server and be unlimited for everything else.
- Inductive Automation's licensing includes unlimited tags, devices & clients.

Step 4: Cross-Platform

- Traditionally, SCADA systems have been tied to specific versions of Windows.
- This forces users to upgrade their SCADA with their OS – which gets costly.

A fully cross-platform SCADA system can run on Linux or any version of Windows.

- Both the OS and the SCADA should be independently upgradable.
- Clients should be able to run on any OS.

Step 5: Web-Launched Clients

- Historically, client screens had to be exported and installed on each client machine.
- The same process had to be completed each time a change was made.

By having clients web-launched from the server:

- No install is required at the client level
- Changes are pushed out automatically
- Increased scalability
- Rapid rollout of necessary project updates

Step 6: Templates/UDTs

- Now we have unlimited devices, unlimited tags, and an unlimited number of people wanting to see that data onscreen – but a finite number of people to configure devices and create screens.

Sustainability

- Not sustainable: Having to define each data point, one at a time.
- Sustainable: Implementing an object-oriented approach so data points can be grouped into types, defined once, and used throughout the project:
  - Once the UDT instances are created, you can build out how they'll be displayed on screen.
  - Visualization templates are reusable graphics populated by UDT values.
  - Once the UDT and Template are both defined, adding additional motors is simple.

Step 7: Remote Alarm Notifications

- It's not realistic to have someone monitoring your new screens and templates 24x7 – which is where remote alarm notifications come into play.
- Part of a sustainable approach is taking care of what you have. When something goes wrong, you must be able to respond quickly.

Best

- Good: A flashing light on a screen
- Better: an email
- Best: a text or phone call

Step 8: Automatic Reporting

- Another part of sustainability is efficiency of digital resources and manual labour.
- Reporting is often the lowest-hanging fruit for reducing manual effort.
- A server-centric unlimited architecture with standard protocols allows you to connect all these devices and automatically create reports.
- Many people don't trust machines to provide accurate data. Reality and possible (Mixed scenario) However, the process of manual data collection & entry is ripe with opportunities for human error.
- Accuracy increases dramatically when you automate the process.
- If manual checks are truly required, forms can be developed as client screens and rendered on a tablet.
- Then, data can be entered once and automatically entered into the system.

Step 9: Own your Data

Now let's expand beyond SCADA and talk about the Industrial Internet of Things (IIoT) and DataOps:

- Contrary to popular belief, the IIoT can play a big role in water/wastewater.
- IIoT is all about how you get your data.
- Getting large amounts of data from remote sites connected over radio, satellite, or cellular requires a lightweight protocol. Enter MQTT:
  - Edge devices use standard protocols (Modbus, Ethernet/IP, etc.) to poll the devices.
  - With the right type of edge device, that data can then be published using MQTT.

MQTT Broker

- Where data is published and then line-of-business applications (including SCADA and local Historians) can subscribe to it.
- Can also be pushed securely into Microsoft Azure or Amazon AWS

Step 10: Capital Expenditure vs. Operational Expenditure

So how does all of this affect my bottom line?

+ Add devices & tags without getting knocked into the next tier of pricing.
+ Develop new screens and easily push them out to all clients.
+ Upgrade software anytime, not tied to a specific OS, redundancy allows upgrades without downtime.
+ All of those capabilities keep the software humming along for no additional cost.
+ Getting new devices will normally fit into the Operational budget.
+ You can train the people who used to work in Excel all day into SCADA screen developers, which will limit your reliance on contractors when little changes need to be made.

Now you can use your cap-ex to:

+ Upgrade your hardware and your network
+ Get water monitoring software
+ Get any other items on your “nice to have” list

A sustainable architecture enables you to focus elsewhere

1. Hardware (PLCs)
2. Edge devices
3. Server-centric architecture (redundancy)
4. Cross-platform
5. Web-launched clients
6. Templates/UDTs
7. Remote alarm notifications
8. Automatic reporting
9. Own your Data: IIoT and MQTT
10. Cap-ex vs. op-ex


Q&A