Preparing for a digital future

Guaranteeing Product Traceability & Ensuring Plant Reliability

Colin Gudgeon, Software Business Development Manger – Schneider Electric

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Agenda

1	**Business Drivers and ‘Smart Food’**
2	**Technology Drivers**
3	**Solutions Overview**
4	**Traceability and Serialization**
5	**Getting Data Flowing – practical IIoT/I4.0**
6	**Asset Performance Management**

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Business Drivers

Key Trends in the Food and Beverage Market

Demographic Changes

Population growth and aging, rise of middle class, urbanisation in emerging markets

Sustainability

Environmental protection and management of energy and water resources

Health and Safety

Growing food safety and healthfulness concerns. Consumer confidence

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Key Trends in the Food and Beverage Market

Demographic Changes

Sustainability

Health and Safety

1. Pressure on Margins:

Volatile commodity prices, labor costs and supply chain shift impacting already thin margins

2. Need for Variety:

“Free From”, organic, senior nutrition and other preferences along with promotional packaging multiply varieties and drive frequent recipe and packaging changes

3. Increasing Regulatory Obligations:

Food safety, environmental, ingredient and labelling regulations becoming increasing pervasive

4. Capital Expenditure Constraints:

Low profit growth, plus shifts in regional demand drive M&A and limits capital expenditure .

5. Rapid Response to Consumer Issues

Connected consumers react immediately to safety and quality incidents eroding Brand equity

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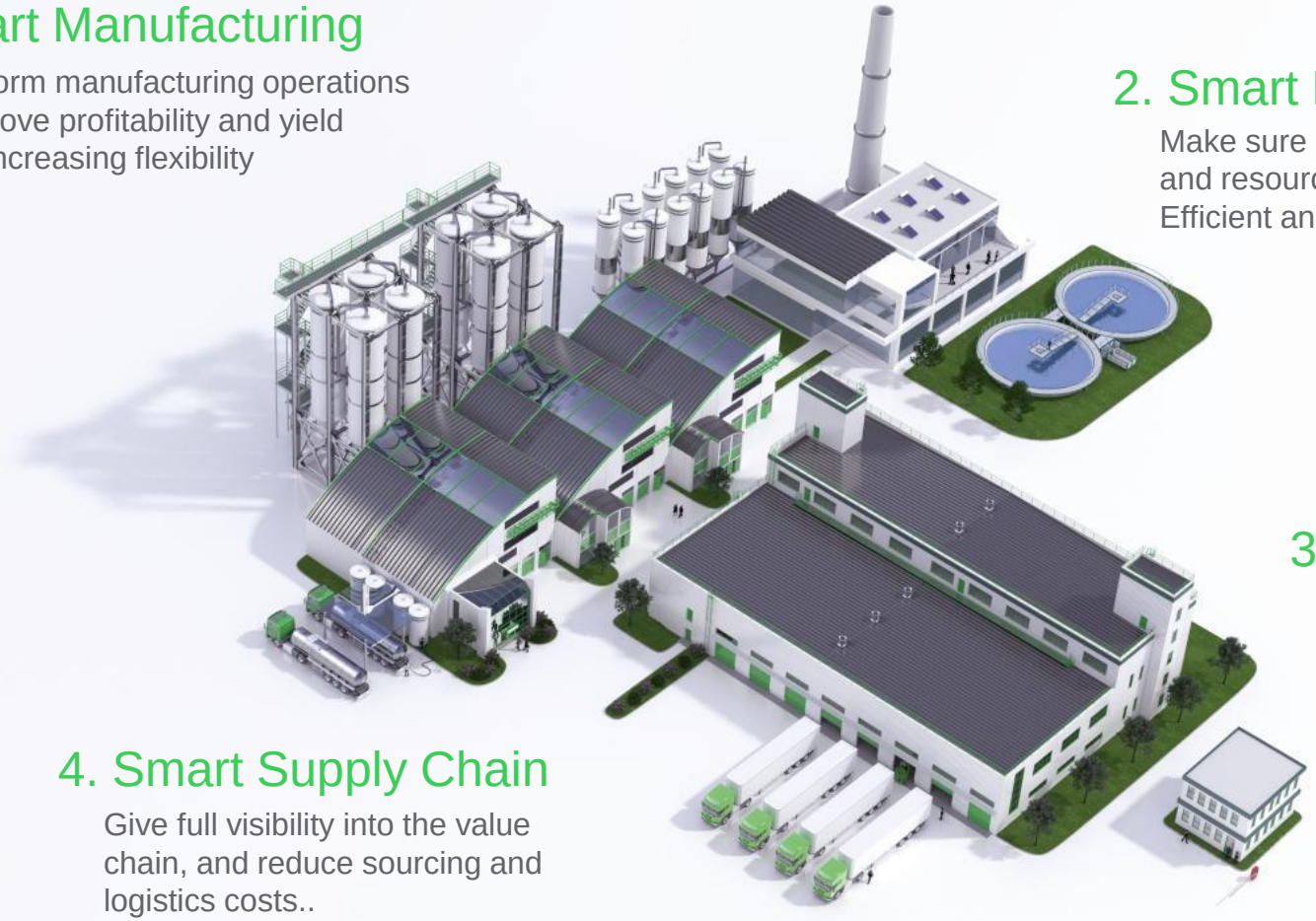
Life is On with Schneider Electric Food and Beverage Solutions:

From **farm to fork**, we **improve sustainability, efficiency and traceability** of your operations.

1. Smart Manufacturing

Transform manufacturing operations to improve profitability and yield while increasing flexibility



2. Smart Facilities

Make sure production facilities and resources are Safe, Available, Efficient and Green.

3. Smart Food Safety

Help food safety compliance and traceability to preserve brand equity and shareholder value.

4. Smart Supply Chain

Give full visibility into the value chain, and reduce sourcing and logistics costs..

KEY SUB-SEGMENTS

DAIRY

BEVERAGES AND BREWING

BAKED GOODS & CONFECTIONERY

GRAIN, CEREALS

SUGAR, OIL &BIOFUELS

Software & Analytics
Energy
Automation
EcoStruxure

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Technology Drivers

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What's driving digitization in industries?

CONNECTIVITY

- Smart connected devices (products)
- Standards-driven connectivity
- Lower cost of measurement

MOBILITY

- Pervasive and affordable communication
- Remote access
- User-driven interfaces

CLOUD

- Massive aggregation of data
- Data access by specialists
- Industrial application developer ecosystem

ANALYTICS

- Cognitive applications
- Artificial intelligence optimizing performance at all levels

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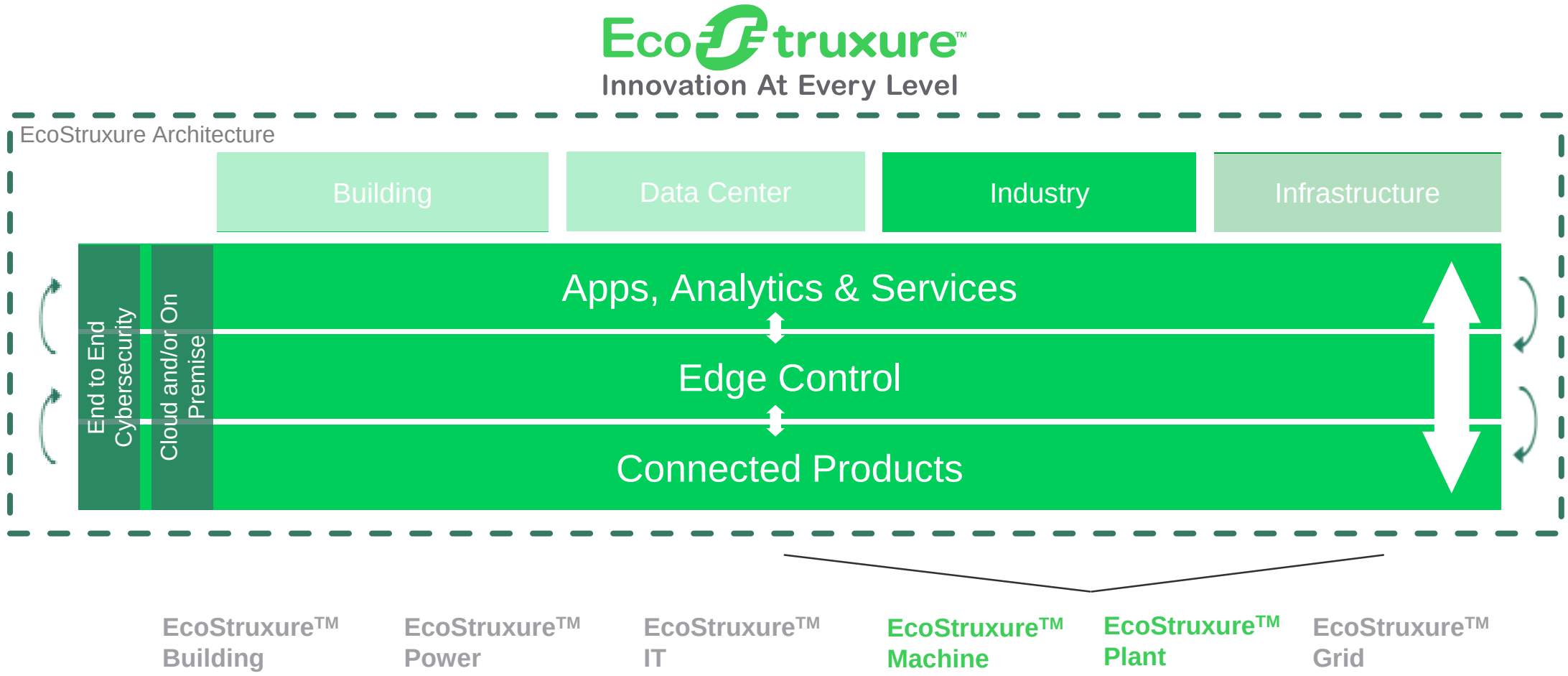
One EcoStruxure architecture, serving 4 End Markets with 6 Domains of Expertise



Life is On with Schneider Electric Food and Beverage Solutions:

From **farm to fork**, we **improve sustainability, efficiency and traceability** of your operations.

EcoStruxure™ Innovation At Every Level

	Farms	Sourcing	Manufacturing	Facilities	Distribution
Apps, Analytics & Services	Farmer info. services	Commodity trading	Process Simulation	Planning & Scheduling	Operations Control	Information Management	Operations Management	Asset Management	Microgrid Management	Supply, Demand, Sustainability	End-to-End traceability
Edge Control	Machine Automation: MachineStruxure PacDrive 3	Process Automation: Modicon, Foxboro	Supervisory Control: Vijeo Citect Wonderware Intouch	Power Monitoring: PowerStruxure	Building Management: SmartStruxure
Connected Products	Operator Panels	Industrial Sensors	Valve Positioners	Motor Starters	Variable Speed Drives	MCC/PCC Panels	Smart Panels	Gateways	Meters	Breakers	Relays	UPS	IT Racks	Building Controllers

End-to-end Cybersecurity

Cloud and/or On Premise

The digital Industrial Future

Tap into the potential of IIoT

Optimized Assets

Leveraging wireless sensors, hybrid architectures & cloud connectivity

Smart Control

Seamless integration of automation systems with enterprise systems

Empowered People

Using mobility & data analytics to make operators more productive

Mobile operators see critical information triggered by tagged machines and shape recognition

Overview of some solution possibilities….

Traceability and Serialization, Asset Performance and Reliability

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Asset Performance & Reliability Offers

Overview of the Offerings…

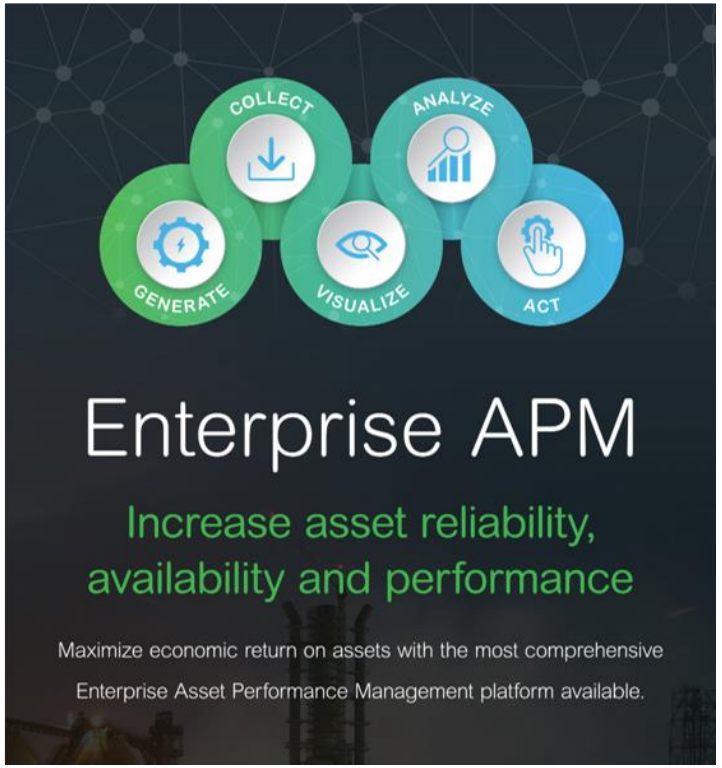
Line Performance and MES

Wonderware
MES Software

Getting data flowing – managed asset performance

Wonderware
Online

Enterprise Asset Performance Mgt. (EAPM)



What is happening right now? What do I need to do?

How do I keep my plant reliable and available at optimum cost?

Traceability, Serialization

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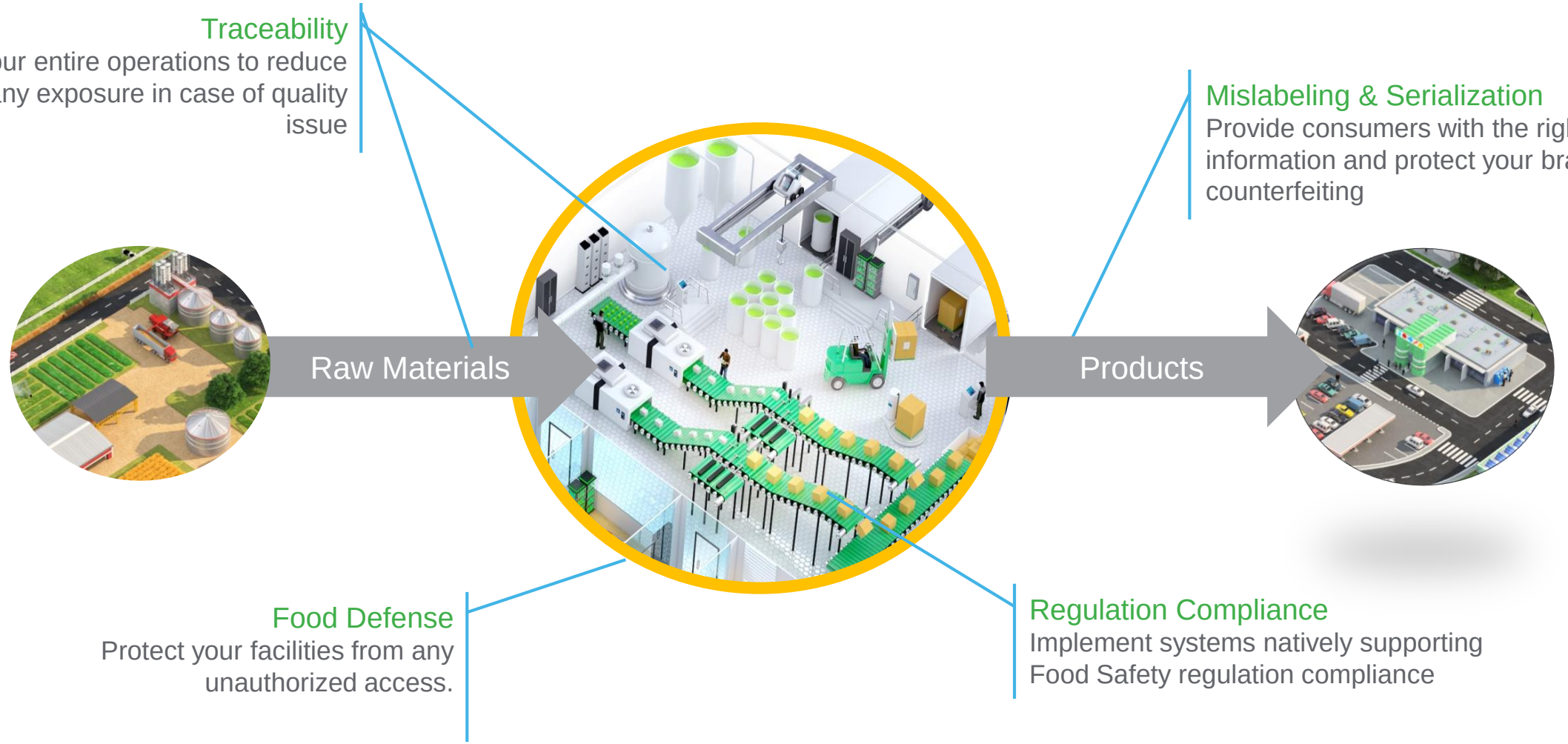
Traceability and Serialisation

Help food safety compliance and traceability to preserve brand equity and shareholder value.



What is Serialization?

Packaging / Serialization Line

MONO CARTON
GTIN A

OUTER BOX
GTIN B

SHIPPER BOX
SSCC A

Pallet
SSCC B

- Packaging / Serialization line prints labels according to mandate, scan if the printing is correct, and reject if printing is wrong or not done properly.
- Serialization goes through different levels of aggregation / package
- Higher aggregation / bigger package label will contain the information of the package that is contained by it – it is the parent of the lower aggregation / small package.
- Print in both GTIN and SSCC
  - ***GTIN*** – for consumable unit
  - ***SSCC*** – for transportation / logistic unit

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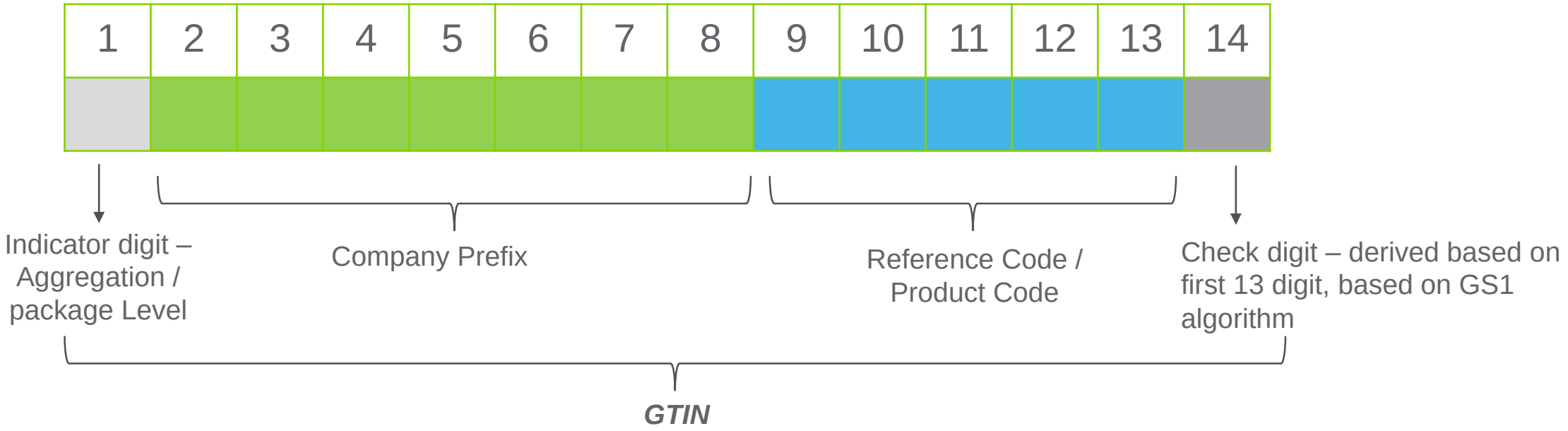
What is Serialization?

Global Trade Item number (GTIN) – to be printed on consumable units



GTIN is not unique – same product in same company under same package level will have same GTIN
Company prefix is not always 7 digits, same as Product code is not always 5 digits.
Yet Company Prefix + Product code will be 12 digits.

Unique ID (SGTIN) is form when it is merged with serial number:
E.g.: 01GTIN21SERIAL NUMBER ➔ 0108901171232121210L6NTALM17B7

Each package will have its ***own and unique*** SGTIN number.

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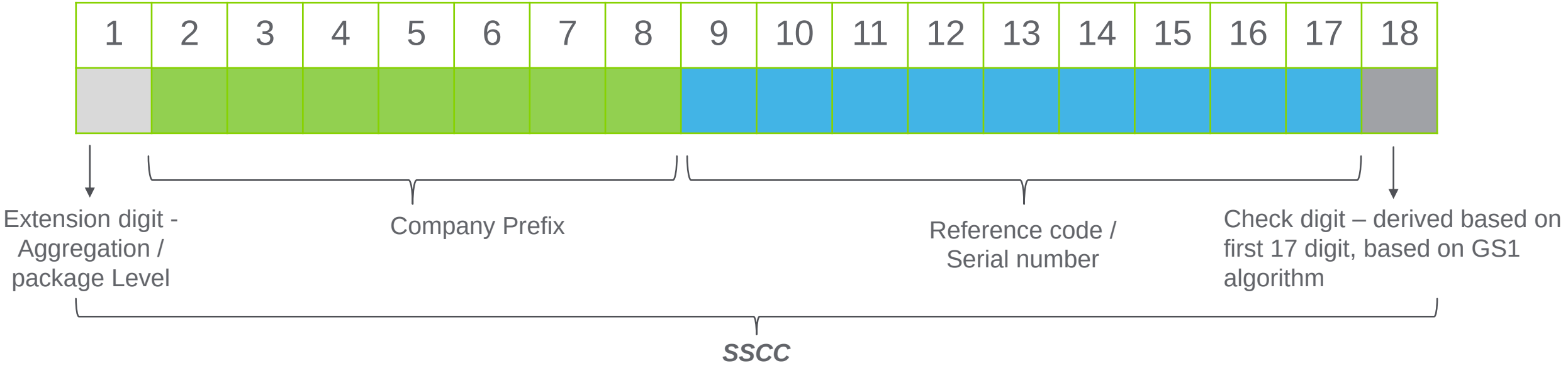
What is Serialization?

Serial Shipping Container Code (SSCC) – to be printed on transportation / logistic units



Company prefix is not always 7 digits, same as Serial number is not always 9 digits.
Yet Company Prefix + Serial number will be 16 digits.

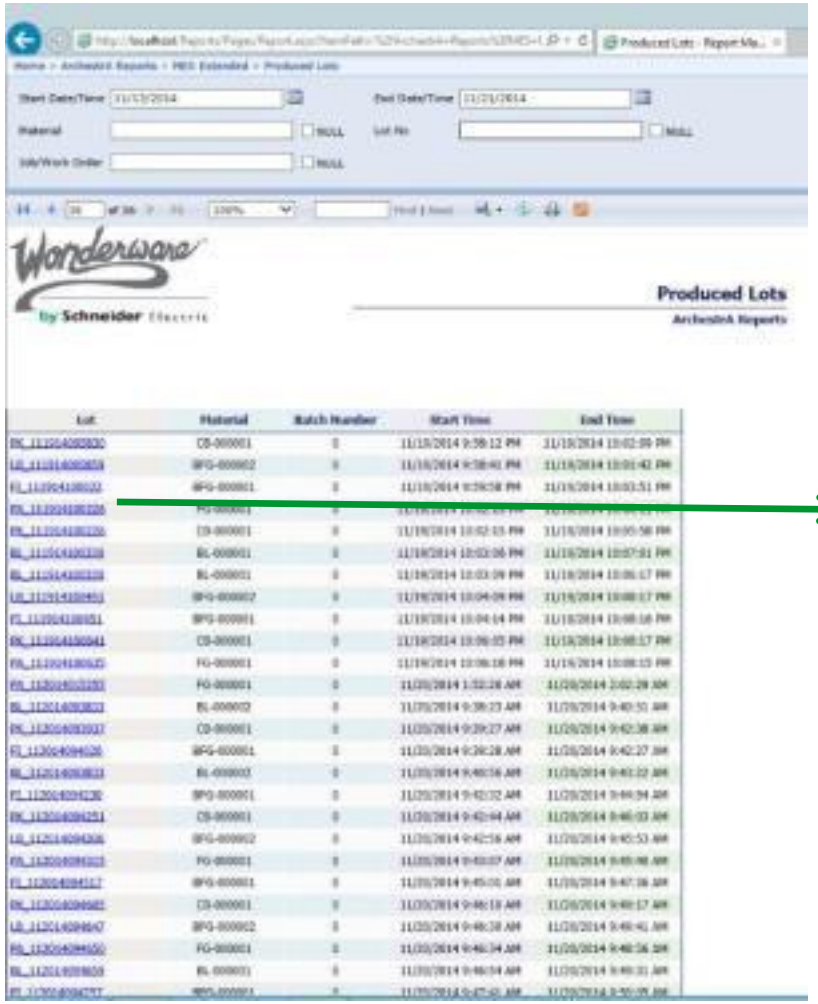
SSCC is an Unique ID: 00SSCC; E.g.: 000632991490123648 72

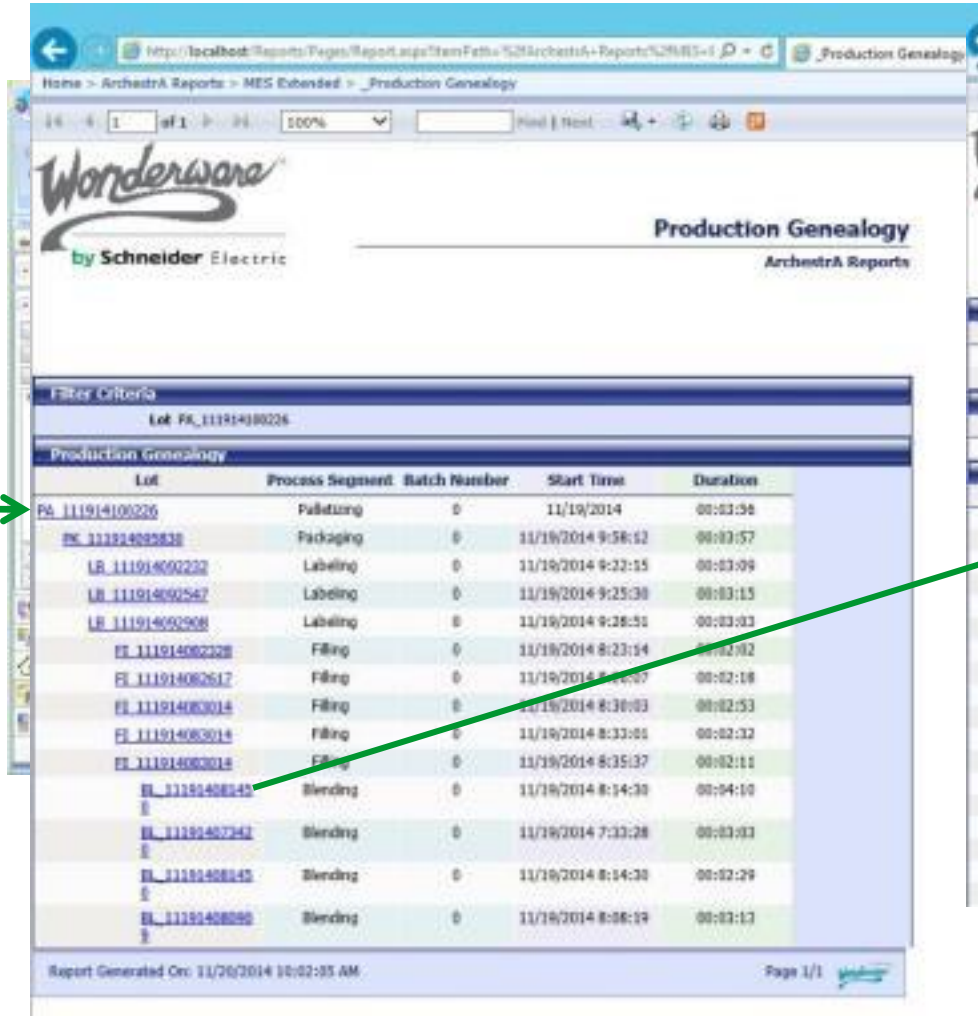
GS1 128 Bar Code

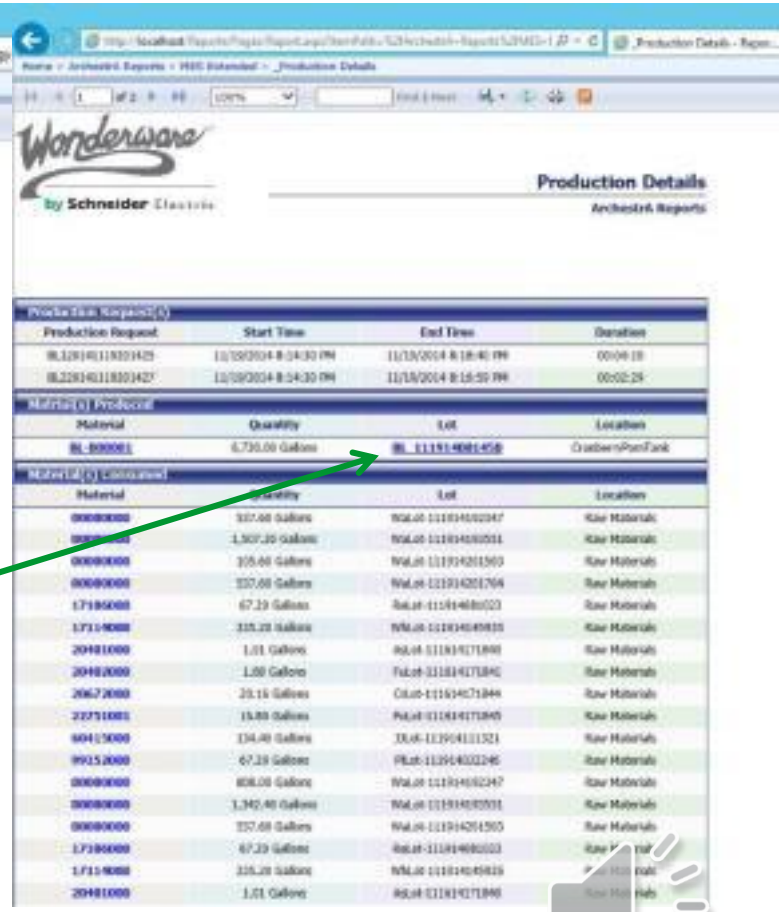
When barcode is scanned, human readable number is shown:
(00)06329914901236 4872

Traceability

> MES Software collects all execution events and related data
  - which allows for drill down reporting into the product genealogy







Getting Data Flowing; Practical IIoT/I4.0

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Wonderware Online is a global New Zealand success story

[Link to Video]

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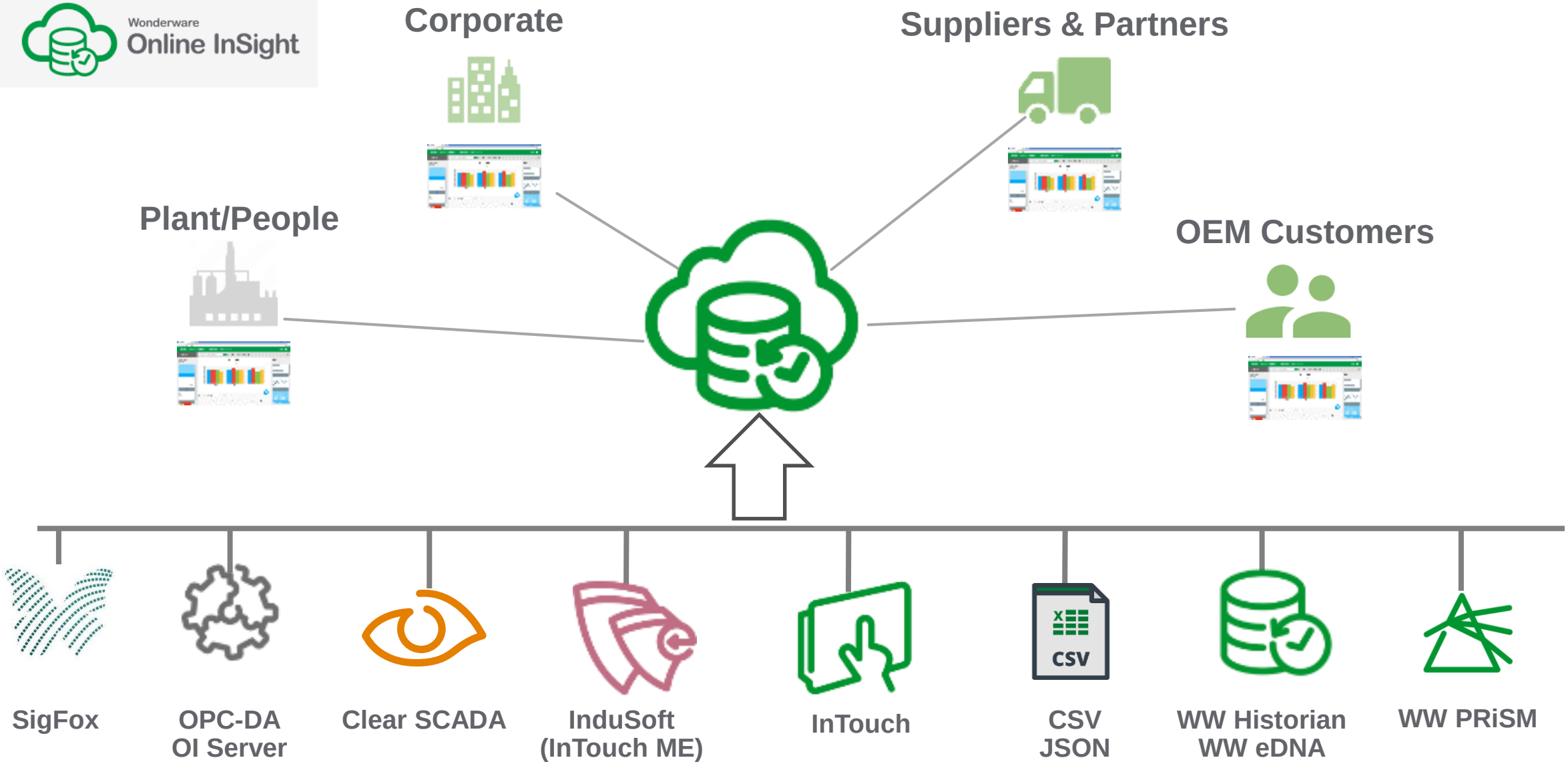
Wonderware
Online InSight



WW Online is our practical Industry 4.0

PowerBI | SSRS | DreamReports

InSight (Data exploration)

SmartGlance (Mobile assistant)

InStudio (SP Virtualization)

True industrial data storage

- 2 million tags per solution
- Time series storage
- Alarm & Event storage

SigFox

OPC-DA
OI Server

Clear SCADA

InduSoft
(InTouch ME)

InTouch

CSV
JSON

WW Historian
WW eDNA

WW PRiSM

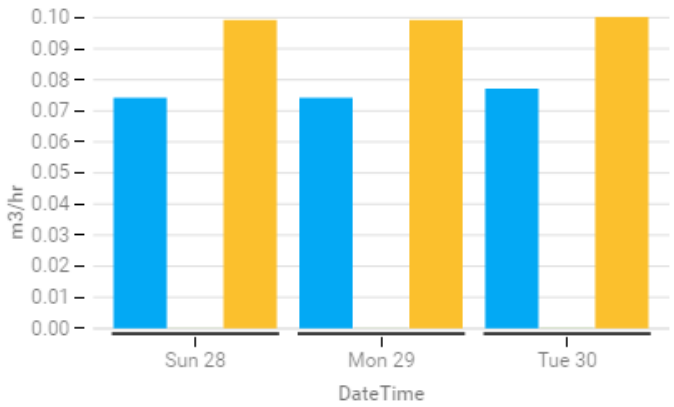
SUGGESTED CONTENT (4)

DASHBOARD (3)

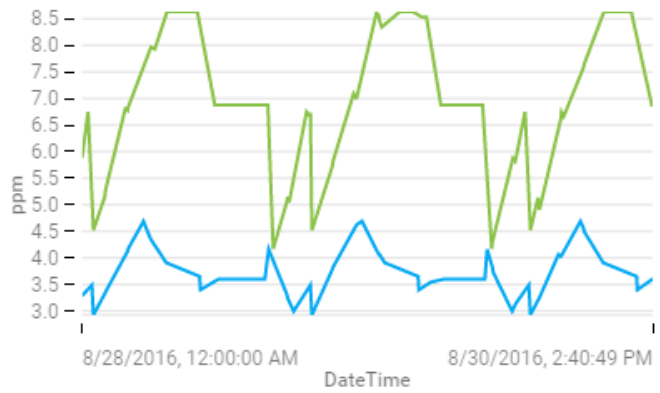
Mountain Water - Current Flows

CartridgeFilterOutlet.FlowRate	0.114
ClearwellInlet.FlowRate	0.092
ClearwellOutlet.FlowRate	0.09
ReservoirInlet.FlowRate	0.001
ReservoirOutlet.FlowRate	-0.002
ROInlet.FlowRate	0.112
ROOutlet.FlowRate	0.091
WellInlet.FlowRate	0.098
WellOutlet.FlowRate	0.102

Mountain Water - Storage Outflows



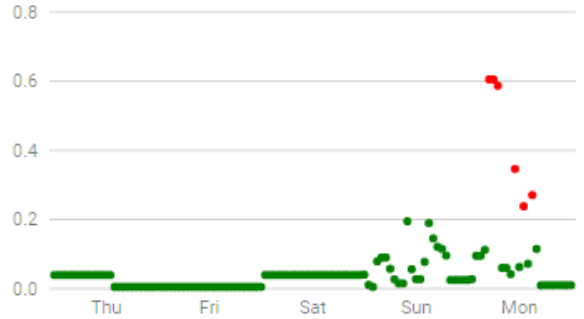
Mountain Water - Clearwell Quality



Valley Water - Clearwell Quality

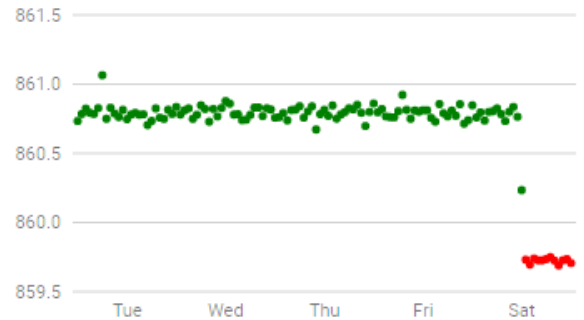
NEWS

Seattle.Rain 3 Hour Volume was higher than usual



posted 1 day ago MORE

Well2Outlet.PressureKPA was lower than usual

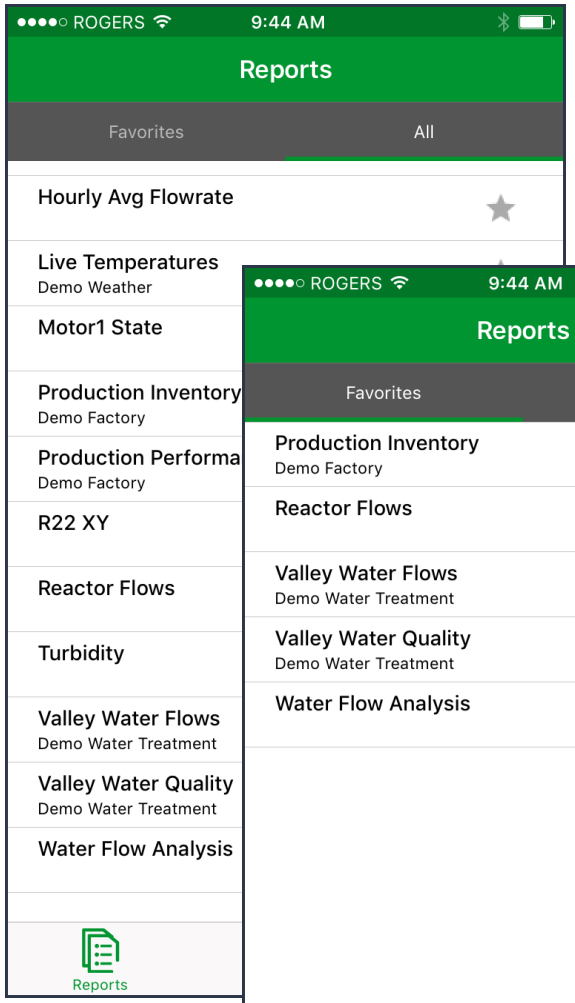


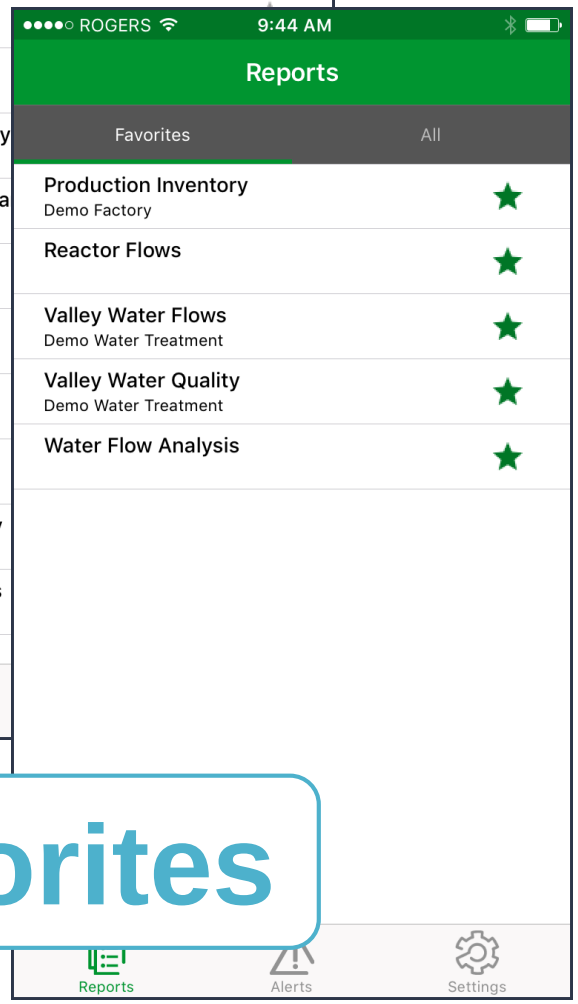
posted 1 day ago MORE

Victoria.Wind Direction was lower than usual

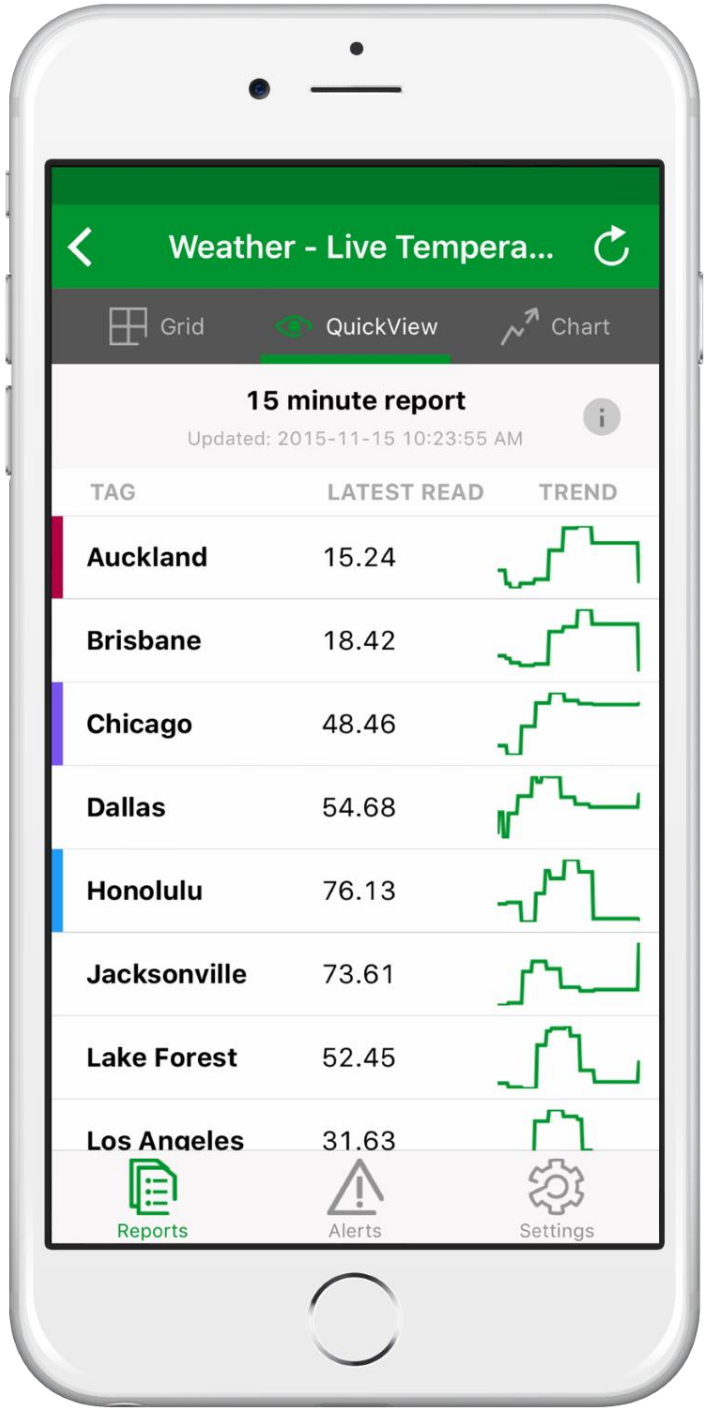
Show Me How

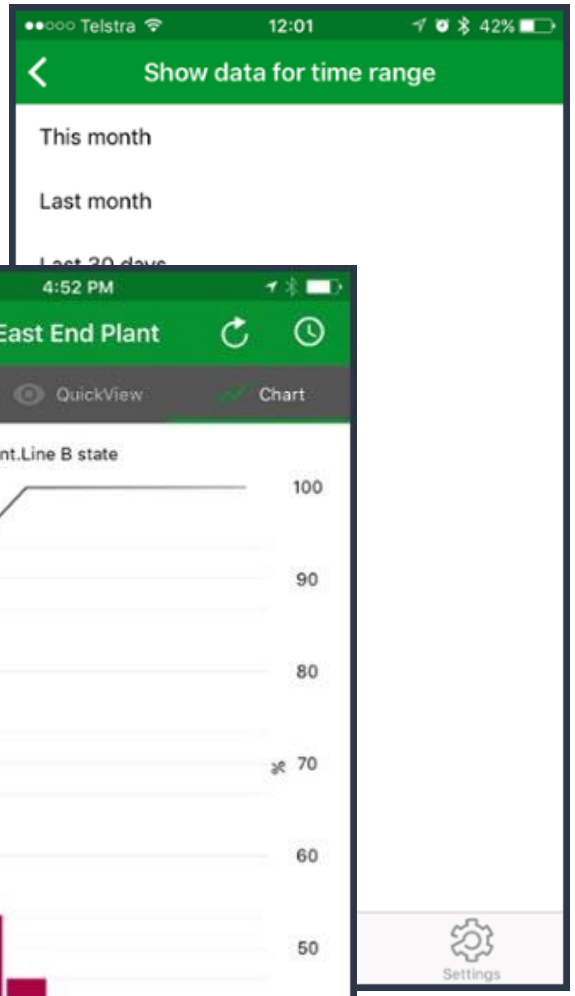
Wonderware Online
Live Chat - Ask us anything.

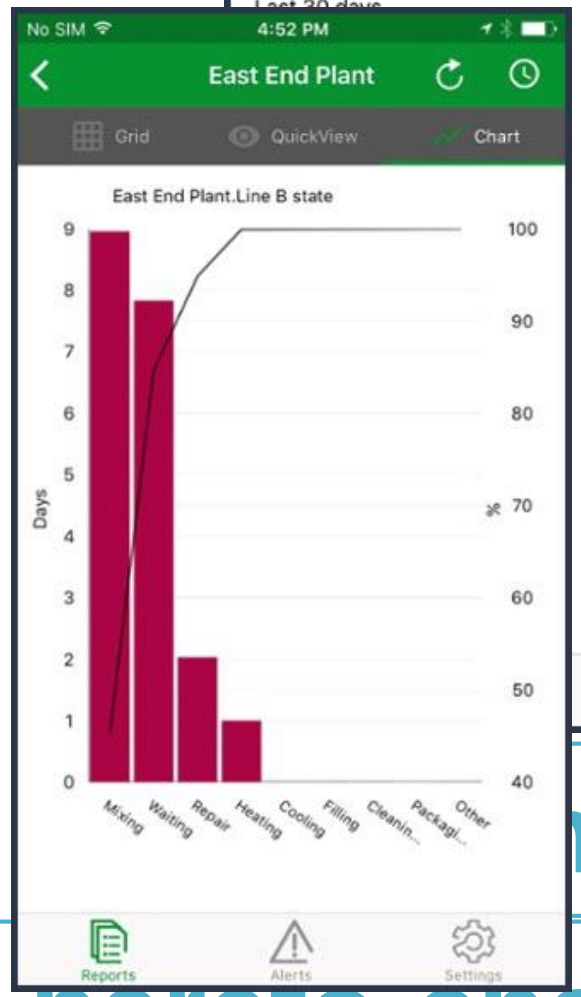




favorites







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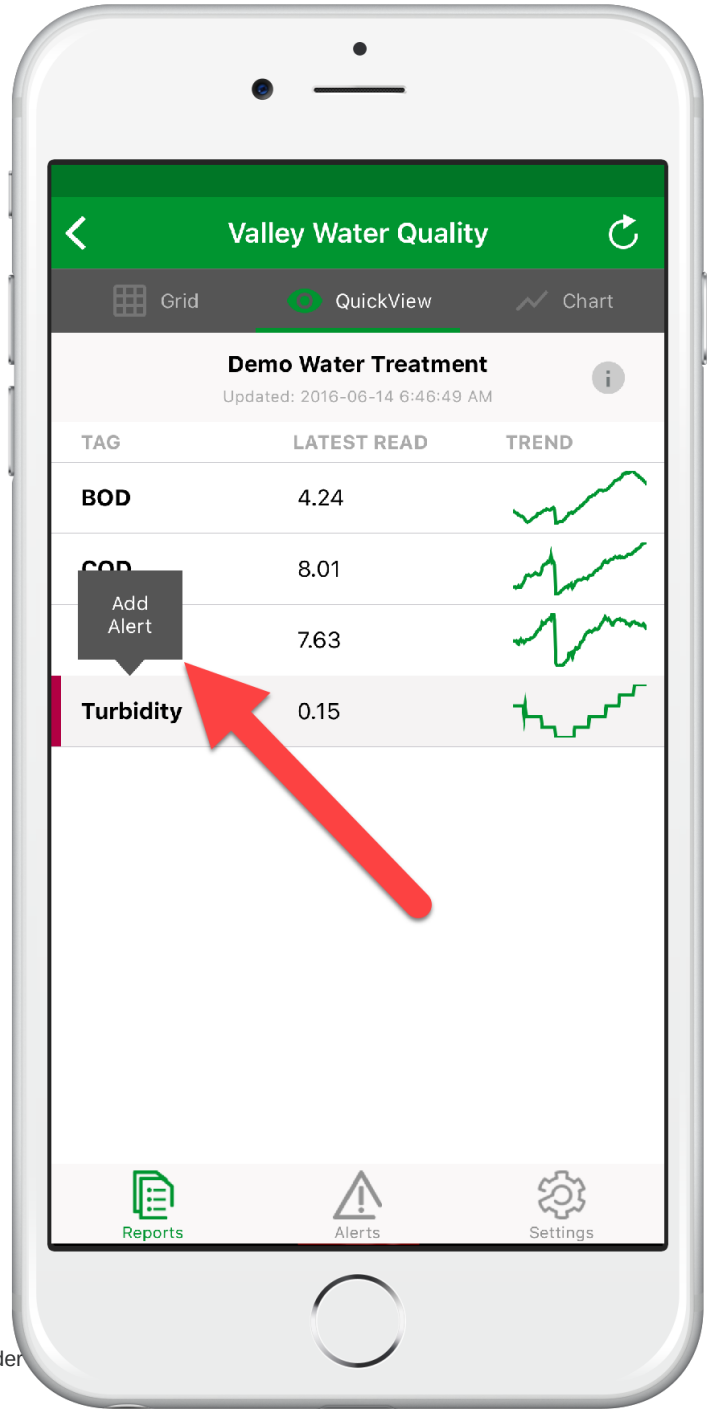
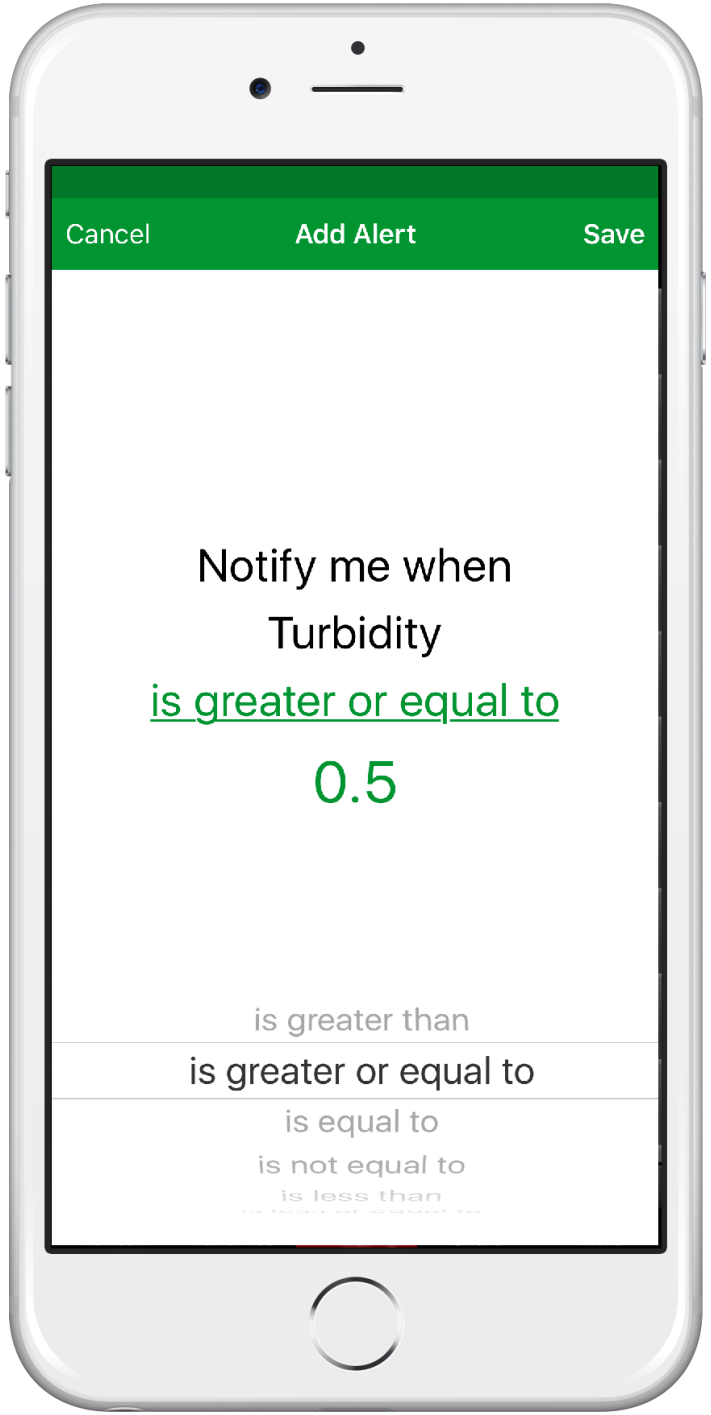
pareto-charts





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LEARN MORE

SIGN UP

Wonderware Online

Turn your data into Insights.

It is that simple.

TRY IT NOW

Looking for InStudio?

EMAIL

PASSWORD

LOG IN

RESET MY PASSWORD

Wonderware Online
Send us a quick note!

Asset Performance Management

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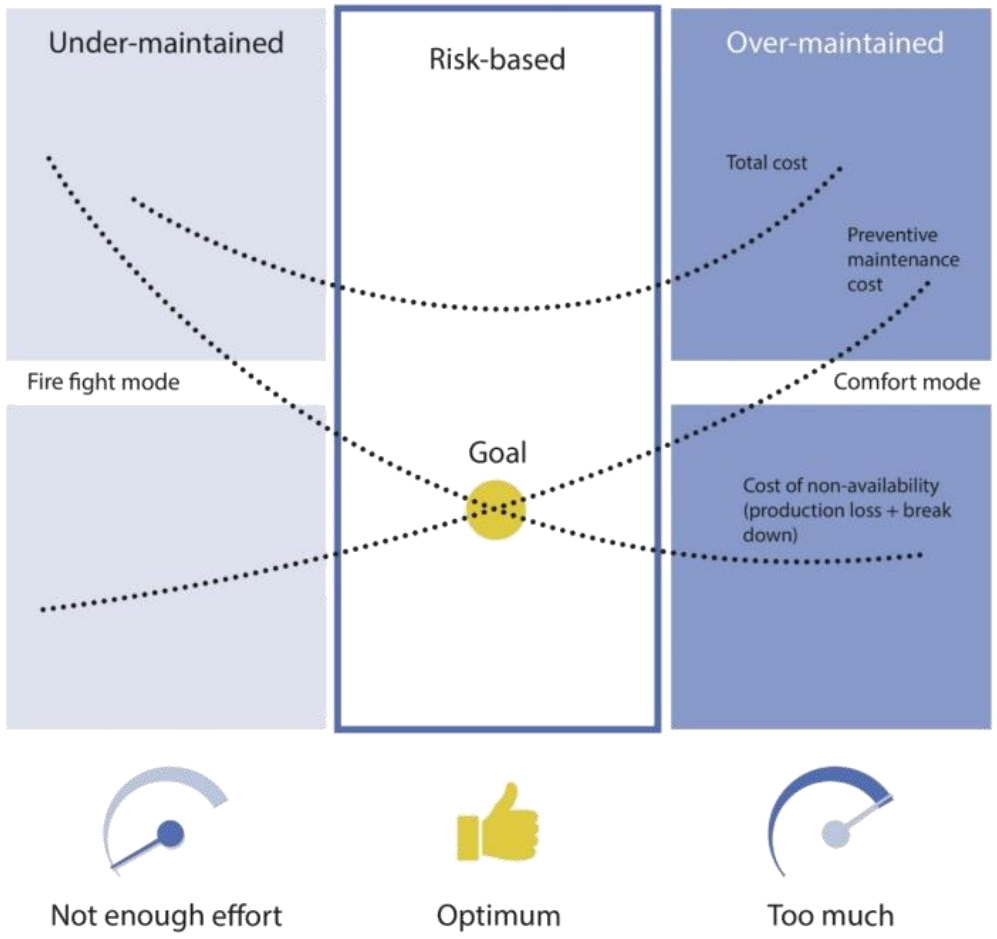
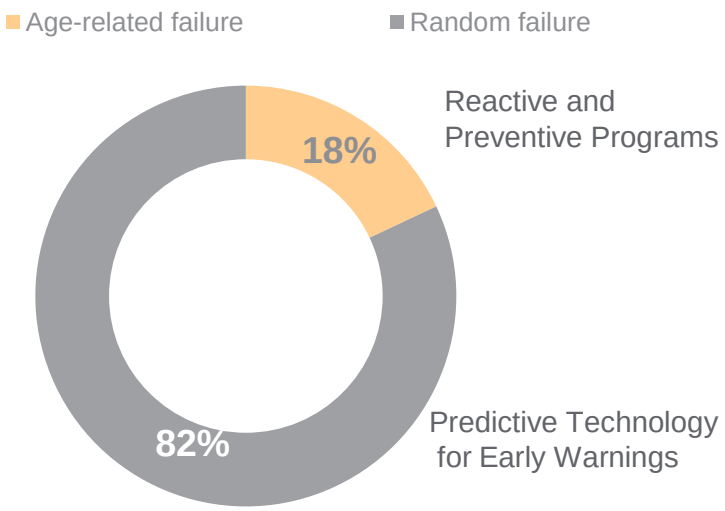
Asset Performance Management



- Do I over maintain?
- How do I decide WHEN and WHAT to maintain?
- Does my plant still fail, despite preventative maintenance?
- Insight into risks - Balance between financial results, operational results risk
- Continuous improvement – to drive maximum return on assets

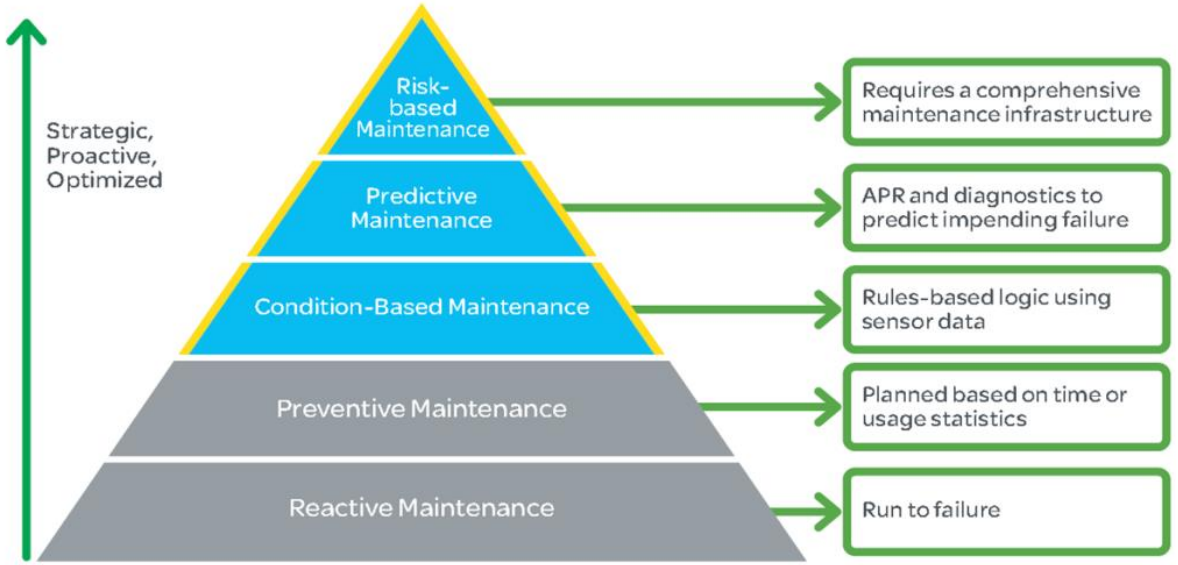
Evolving beyond traditional maintenance practices to become predictive

Failure Patterns



> ARC studies show only 18% of asset failure is age-related. Based on these data, preventive maintenance provides a benefit for just 18 percent of assets, and monitoring for predictive maintenance is a recommended option for the rest. www.arcweb.com/Lists/Posts/Post.aspx?ID=260

It's a Journey



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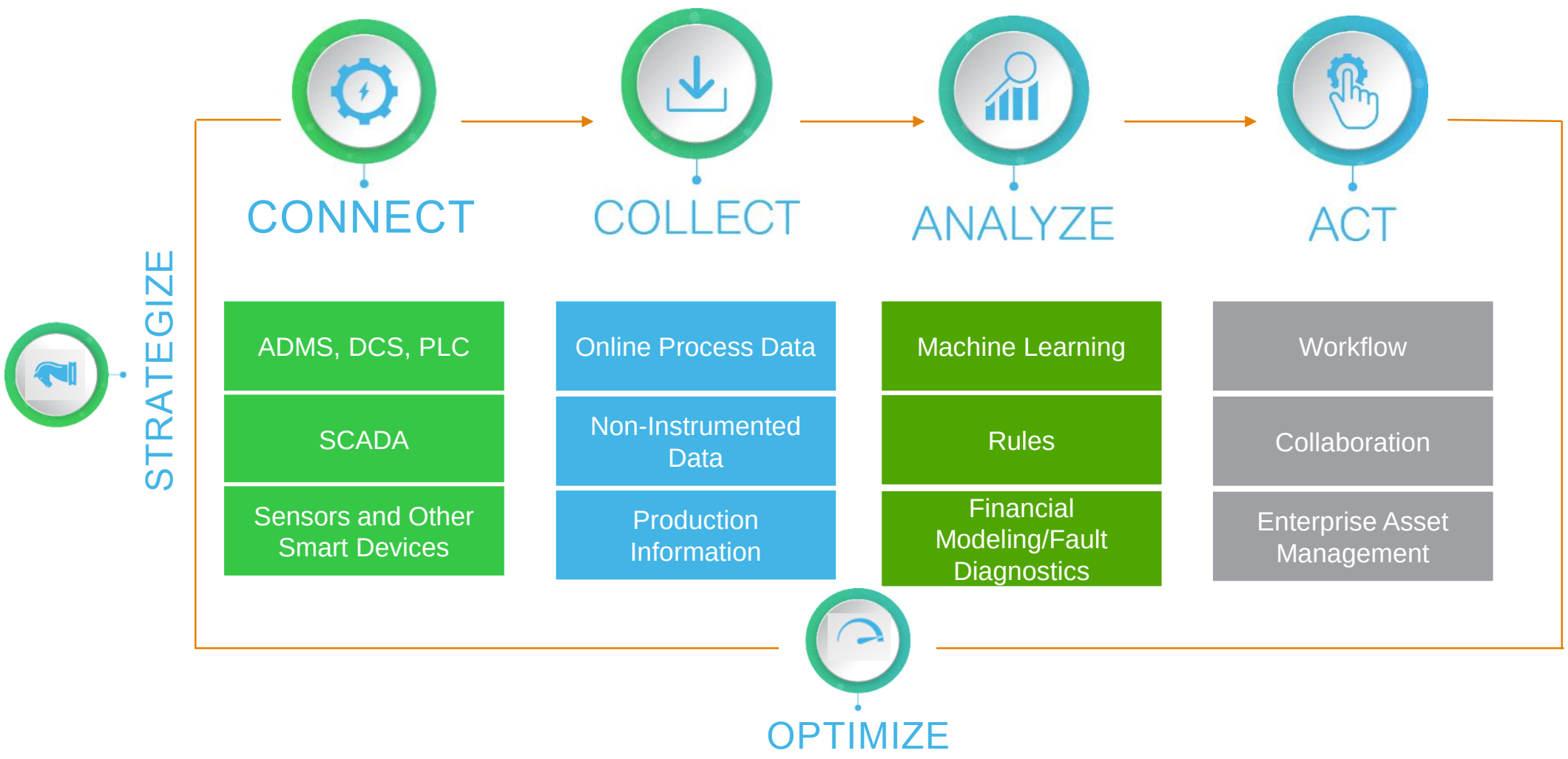
Enterprise Asset Performance Management



Comprehensive Asset Lifecycle Management

The asset can be our customers' supply chain network, workforce, plants, equipment or even individual devices.

Accomplished with market leading expertise, technology and partnerships.

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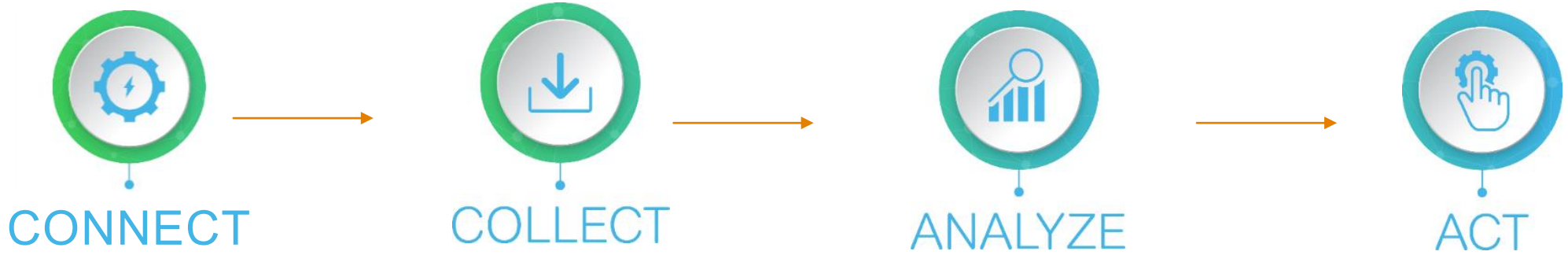
Open Integration Approach



DCS, PLC

HMI/SCADA

Wonderware System Platform

Wonderware InTouch

Wonderware InduSoft

Wonderware InTouch Machine Edition

Online Process Data

Wonderware eDNA

Wonderware Historian

Wonderware Online

aspentech

OSIsoft.

Non-Instrumented Data

Wonderware IntelaTrac

SAP

Sydo

Honeywell

Machine Learning

Avantis PRiSM

Rules

Avantis Condition Manager

EAM Integration

SAP

IBM maximo

Avantis .PRO

VENTYX AN ABB COMPANY

Workflow

Wonderware Skelta BPM

Wonderware SmartGlance

Wonderware Intelligence

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Questions?

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