

The background of the entire image is a dark blue-grey gradient with a white wireframe pattern of jagged mountain peaks and valleys.

RFID

JOURNAL

DIGITAL SUMMIT

MAY 10 - 13, 2021

IIoT Technology for the Future of Manufacturing

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IIoT Solutions-Logiscend

The Panasonic logo is displayed in white text on a solid blue rectangular background.

Smart Material Flow. Brilliant Results.

Manufacturing is Changing

4th Industrial Revolution

- Mass Production moving to Mass Customization
 - Batch of One! Just-in-Time moving to Just-in-Sequence
- Consumers demanding Real-Time Transparency
- Faster product cycles, more variations (complexity)
- Digital Thread – Process of Design through to Consumer Digitized
- Increased Regulatory Compliance

However in Today's Factories ~90% of all Material Flows are still driven by Paper Labeling/Barcode



How We Make Material Smart



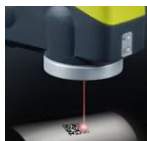
View Tags – Using a unique combination of e-paper and RFID, these trackable, visual tags travel with your container to eliminate paper and provide traceability



RFID Tags – Inlays, Hard Tags and Active transponders attached to identify and locate containers wirelessly (sensor options)



Printing – Traditional labels, cards and sheets printed on industrial printers. May include barcodes and/or RFID



Laser Marking – Device that etches or mark barcodes, part numbers, container IDs or sequence numbers on metal or plastic containers or the parts inside

Software

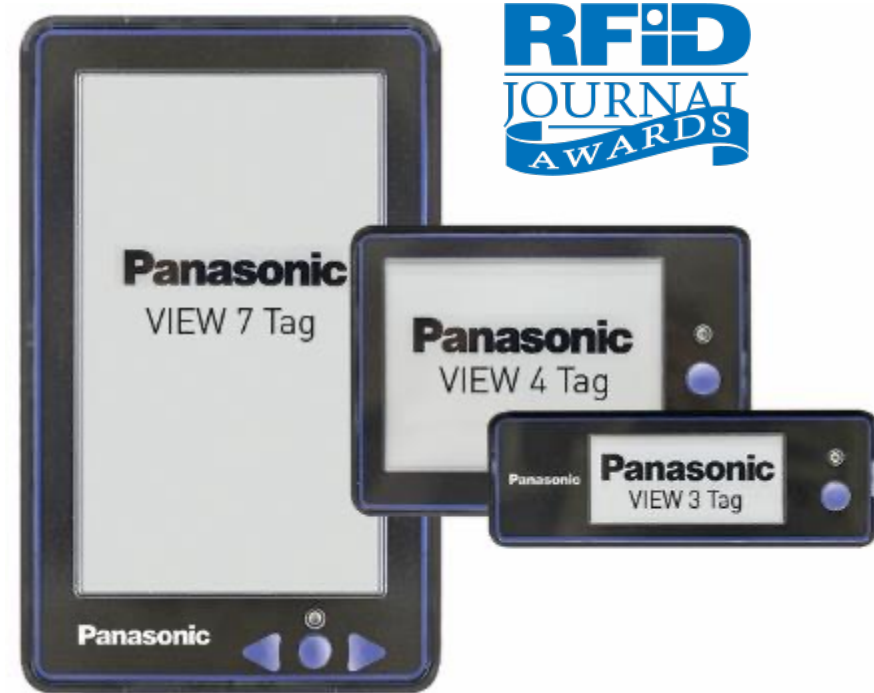


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Visual Tagging from Panasonic



- Visual e-paper display
 - High visibility
 - Long battery life
- Wireless system communication
 - Easy to reconfigure, place on moving shelves
 - Buttons for operator signaling
- Sensor accessories
 - Lighted button
 - Sensors to call for replenishment



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Asset Tracking



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Asset Tracking



Track assets across the enterprise

- Search filter in Grid view
- Export to excel
- Map view (calibrate to floor plan)



Full audit and traceability logging

name	warehouse	location	order no	order date	order status	order location	order amount	order type	order action	order status	order
Protein 1.0	Warehouse 1.0	Location 1.0	123456789	2023-10-27	In Progress	Location 1.0	10.000000	Order	Order	Order	Order
Ready to Ship 1.0	Ready to Ship 1.0	Location 1.0	123456789	2023-10-27	Ready to Ship	Location 1.0	10.000000	Order	Order	Order	Order
Order Status 1.0	Order Status 1.0	Location 1.0	123456789	2023-10-27	Ready to Ship	Location 1.0	10.000000	Order	Order	Order	Order

Asset Tracking Mobility Apps



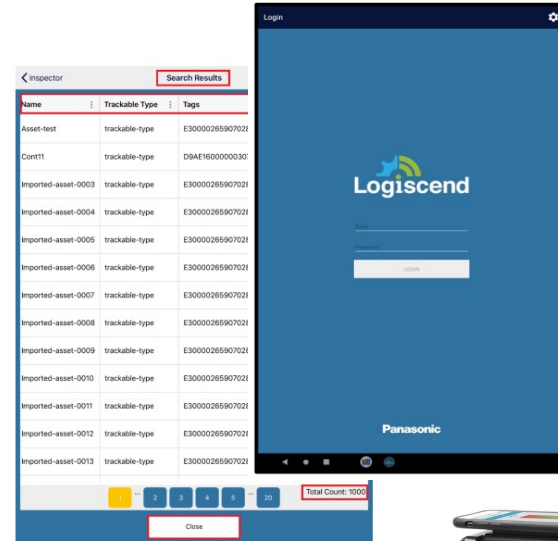
Mobility Devices widely used

- Scan assets on location
- Take/Correct inventory

Logins and Roles

- Capture records by operator
- Intelligent data views

Easy to deploy and use!



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Pick Application



How Pick to Tag Works



Watch one example
from our lab at:

<https://www.youtube.com/watch?v=nPFJMwmE5ek>

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Accessories and Integration



Visual tags have an accessory port

- Lighted buttons for more visible pick
- + Enables replenishment sensors/switches

Replenishment calls can be automated

- Sensor triggers a call

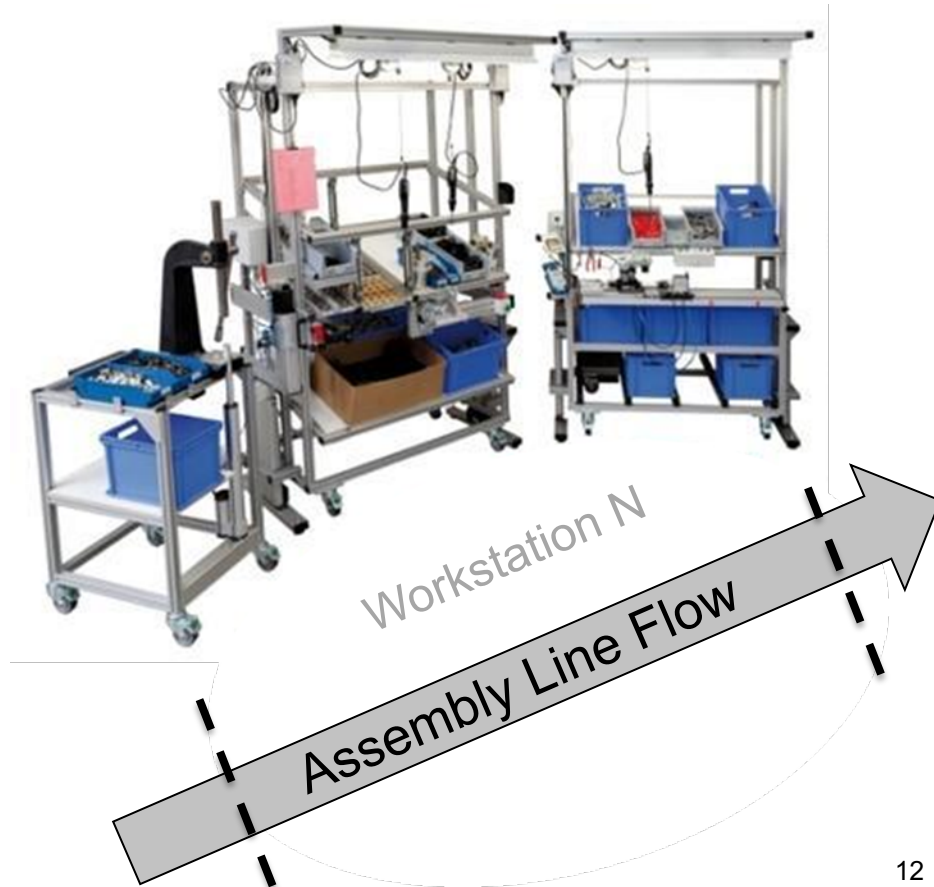
Other applications also integrate with Pick

- Smart Container, Asset Track etc



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Lineside Picking



- Visual tags are placed on lineside bins or shelf edges
- IoT system recognizes assembly arriving in station
- Tags guide the worker to pick the correct parts
- IoT technology confirms and records parts used

Replenishment Application



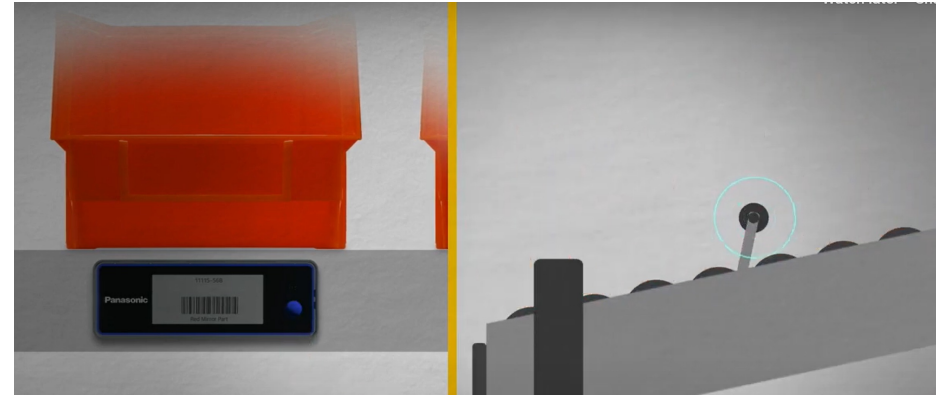
Sensor Flag, Push Button or Tablet



Use one of three easy methods to signal demand

Demand flag shows up directly on replenishment screen

Automates the call process

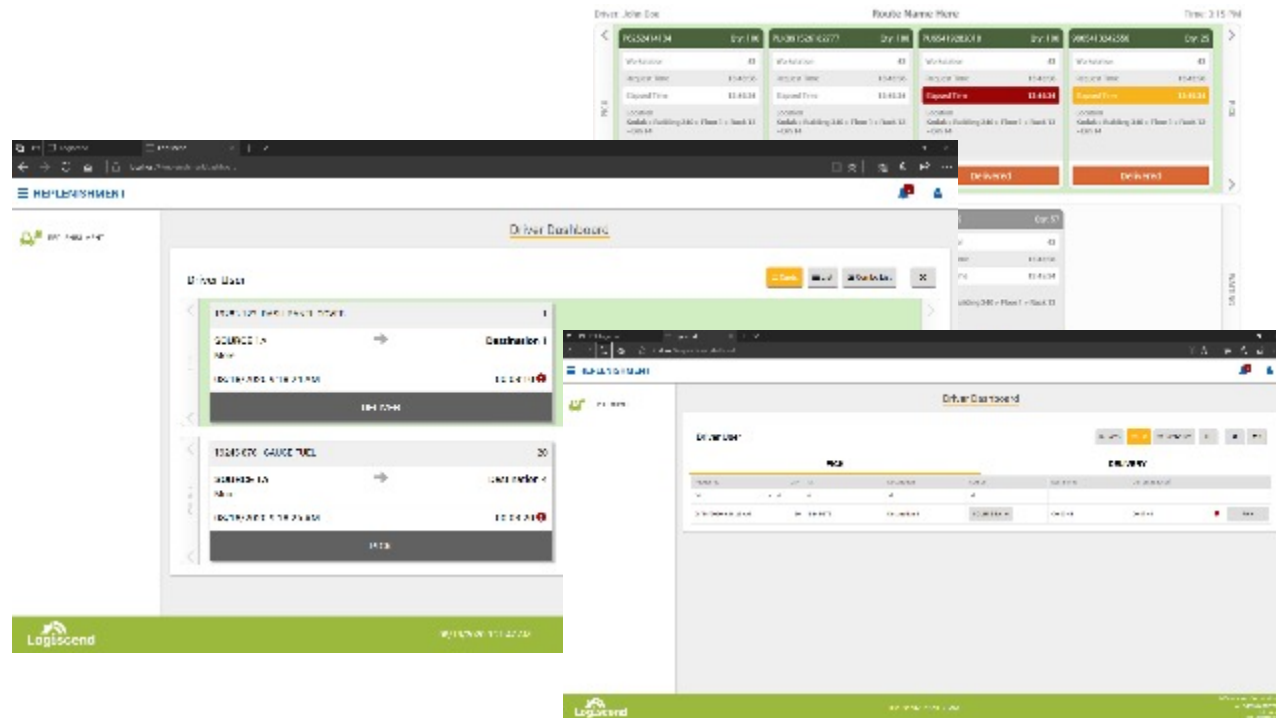


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Driver Dashboard



- Simple view showing all jobs assigned
- Key elements can be configured
- Colors show issues to act on



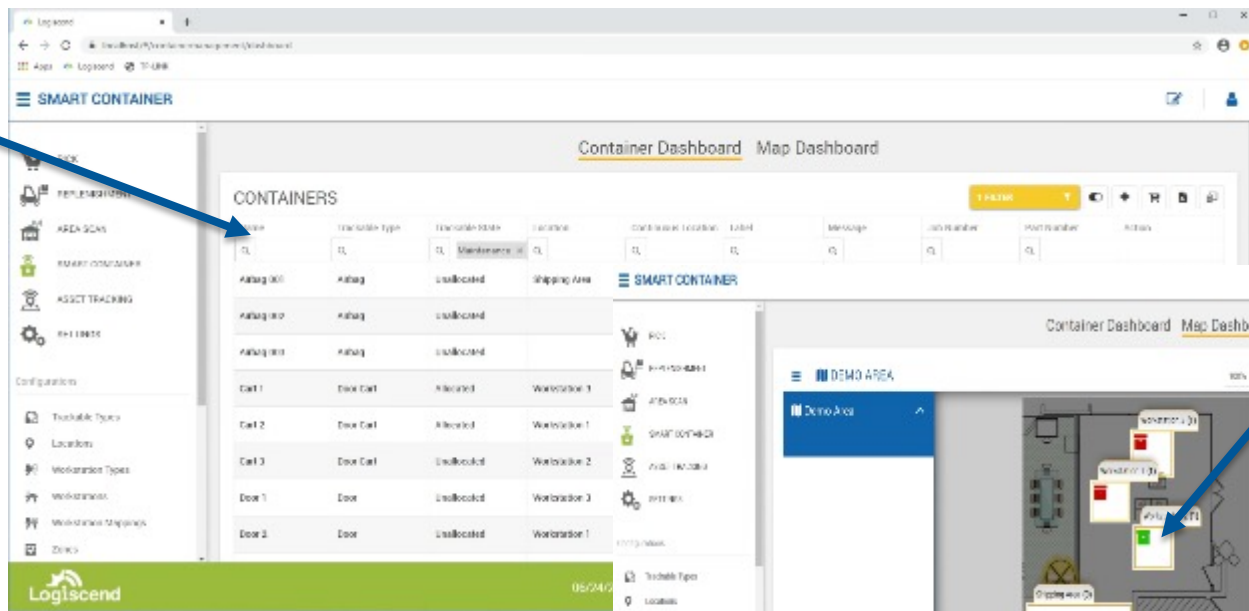
Smart Container



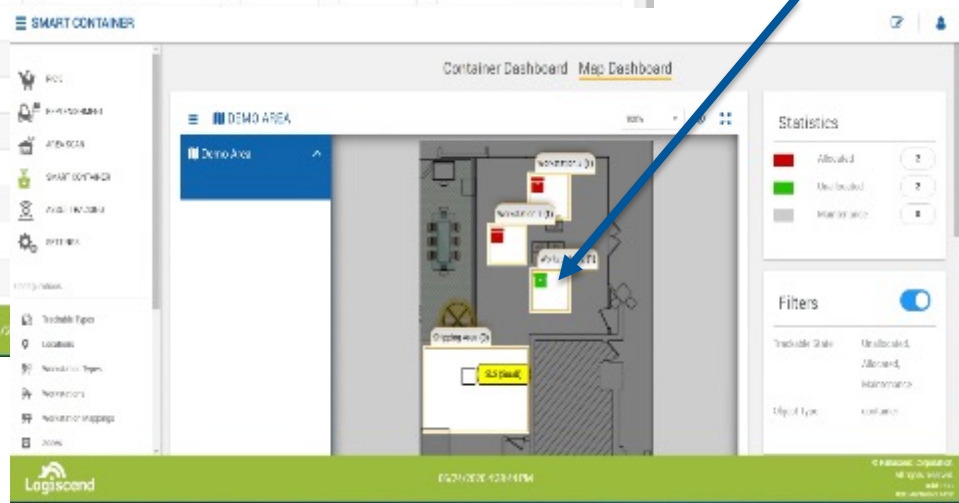
Smart Container – Find Material



Searchable
Grid View



Searchable
Map View



Find Material you need in real time!

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Smart Container – Configurable Logic



Use a logic engine to create rules for the container

If arriving at a location, changing state or other trigger:

- Flag operator
- Trigger machine
- Alarm supplier
- Create a job

The screenshot displays the 'SMART CONTAINER' interface with a sidebar on the left containing navigation options: SMART CONTAINER, APPLY FILTERS, SETTINGS, and a list of configurations including Location Types, Locations, Workstation Types, Workstations, Workstation Groupings, ZONES, Trackable Type Operations, Trackable Type Alarms, Trackable Type Rules (selected), PARTS, and CONTAINERS. The main area is titled 'TRACKABLE TYPE RULES' and features a table with columns: Rule, Description, Trackable Type, Door Behavior, Trackable State, Trackable Operation, Order Information, Flexible Attributes, General Flags, Discrete Location, Door Discrete L, and Action. The table lists three rules for 'Workstation 1 Door Cart'. A modal window titled 'Trackable Type Rules' is open, showing the configuration for 'Workstation 1 Door Cart'. It includes fields for Name and Description, a dropdown for Trackable Type (set to 'Door Cart'), and a Rule Expression section with three conditions: 'Discrete Location Equals Portal', 'Trackable State Equals Unallocated', and 'Job Number Is blank'. Below these are dropdowns for Trackable State (set to 'Allocated') and Trackable Operation (set to 'In Progress'). There is a checkbox for 'Clear Order Info/Flexible Attributes' and 'Update'/'Cancel' buttons at the bottom right.

Rule	Description	Trackable Type	Door Behavior	Trackable State	Trackable Operation	Order Information	Flexible Attributes	General Flags	Discrete Location	Door Discrete L	Action
Workstation 1 Door Cart	Workstation 1 Door Cart	Door Cart	Auto	Allocated	In Progress	Attributes	No Attributes		Workstation 1	Auto	[Edit] [Delete]
Ready to Ship 1	Ready to Ship 1	Door Cart	Auto	Unallocated	Ready to Ship	Attributes	No Attributes		Shipping Area	Auto	[Edit] [Delete]
Clear Station 1	Clear Station 1	Door Cart	Auto	Unallocated		No Attributes	No Attributes			Auto	[Edit] [Delete]

Trackable Type Rules

Name *
Workstation 1 Door Cart

Description
Workstation 1 Door Cart

Trackable Type *
Door Cart

Rule Expression *

- Discrete Location Equals Portal
- Trackable State Equals Unallocated
- Job Number Is blank

Trackable State *
Allocated

Trackable Operation *
In Progress

☐ Clear Order Info/Flexible Attributes *

Update Cancel

**Tune the process with a
configure not code toolkit!**

Smart Container – Track & Trace History



Keep full part histories
Create reports
Design process improvements
Respond to CAR/SCAR
Provide portals to information

- VMI
- Customers

Satisfy compliance

Cart 3

Details Audit Log Simple Audit Log

Trackable Type
Trackable State
Job Number
Usage Count
Order Sequence
Location Updated
State Updated
Continuous Location Updated
Created Date

No Image Uploaded
Trackable Type Description
Door Cart

Created Date Name State

Created Date	Name	State
06/23/2020 2:11	Cart 3	
06/23/2020 2:11	Cart 2	
06/16/2020 3:08	Cart 3	
06/16/2020 2:08	Cart 1	
06/12/2020 1:08	Cart 3	
06/12/2020 1:08	Cart 3	
06/04/2020 10:00	Cart 2	
06/04/2020 10:00	Cart 2	
06/04/2020 10:00	Cart 3	Unlocated

Cart 3

Details Audit Log Simple Audit Log

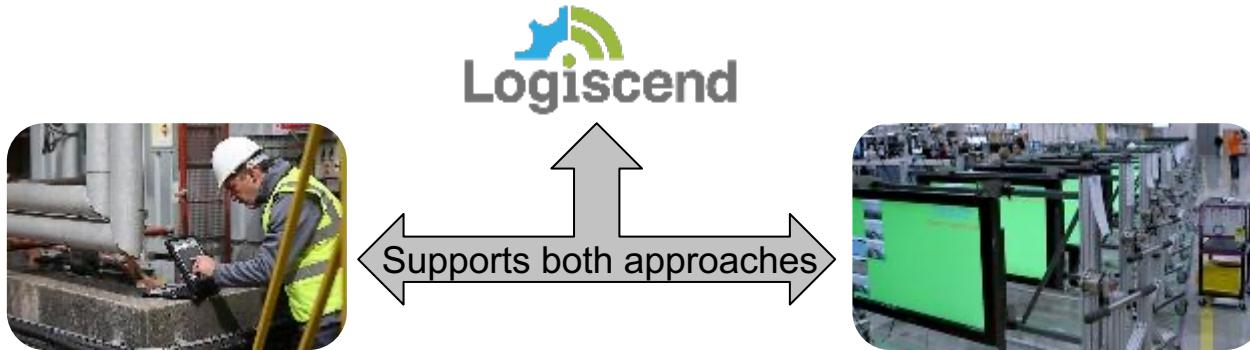
Created Date	Modified By	Audit Changes
06/23/2020 2:13:03 PM	System: ProcessLocation	DiscreteLocation="Workstation 2"
06/23/2020 2:13:02 PM	System: ProcessLocation	DiscreteLocation="removed"
06/16/2020 3:06:53 PM	System: ProcessLocation	DiscreteLocation="Workstation 2"
06/16/2020 3:06:52 PM	System: ProcessLocation	DiscreteLocation="removed"
06/12/2020 1:09:18 PM	System: ProcessLocation	DiscreteLocation="Workstation 2"
06/12/2020 1:09:17 PM	System: ProcessLocation	DiscreteLocation="removed"
06/04/2020 10:40:35 AM	Rule: Clear Station Door Cart	Message="removed"; OperationName="removed"
06/04/2020 10:40:34 AM	System: ProcessLocation	DiscreteLocation="Info Clear Station"; DiscreteLocationSource="Rule"
06/04/2020 10:39:29 AM	Rule: Ready to Ship Door Cart	DiscreteLocation="Shipping Area"; DiscreteLocationSource="Rule"; Start... to ship"; OperationName="Ready to Ship"

Close

Work Instructions



Fixed & Mobile Computer Use Case



Devices with Operators

- Constant upgrades and costs
- Battery Management
- Theft Issues
- Tremendous flexibility
- Very contextual, used directly at the point of interest

Monitors at Workstations

- One-time cost
- No battery management issues
- No theft problems
- Limits flexibility
- Can lack specific context

Traveler Use Case



A common instruction is a paper “traveler”

- Goes with WIP through its journey
- Instructs operators what to do
- Is often annotated to confirm actions
 - scanned to trigger actions

E-Paper Travelers

- Have 5-year battery life
- Are tracked wirelessly in real-time
- Can update data based on location
- Have a button to confirm actions



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Visualization & Analytics



- Visualization and Analytics are essential
 - graphs, charts and reports
 - visualizations of the data
- Allows users to see the data in comparative and intuitive ways
 - Highlights issues, measures progress, suggests optimization
- In-process and Post-Process variants
 - Unlike many general packages, Logiscend is built to do both



Elements of a Logiscend System



SOFTWARE + HARDWARE + PROFESSIONAL SERVICES



**A complete system from a trusted
global leader in IIoT technology**

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THANK YOU

www.logiscend.panasonic.com



See our videos at:

[Logiscend YouTube Channel](#)