



Industrial Andons, LLC

Efficient Manufacturing Solutions

**Wireless Andon System
&
Shop Floor View
Control System**

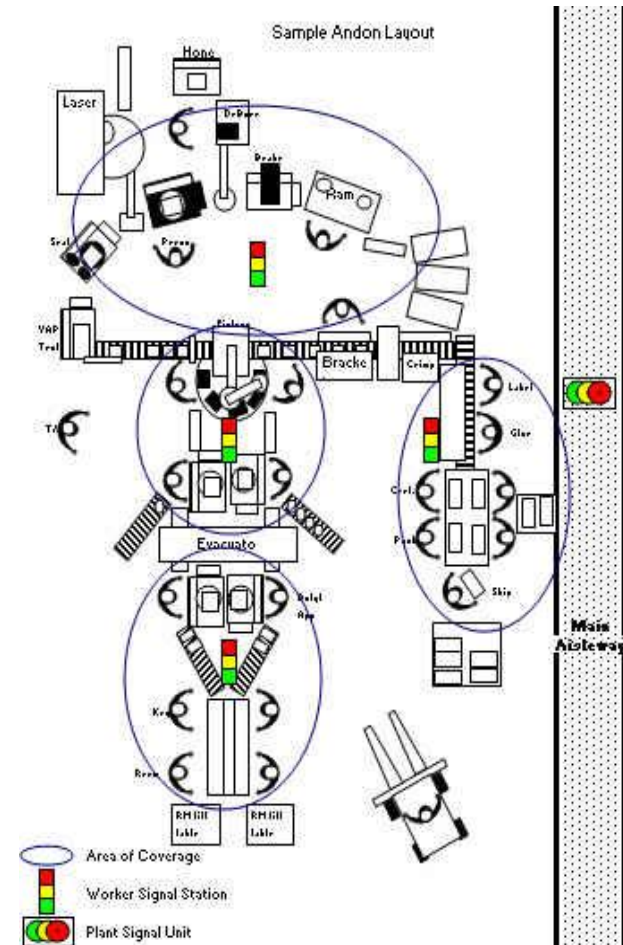


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➤ Productivity

- Team Members can communicate needs without leaving their cells
- Automation can be integrated to report its status as well as keep count and timing of its activities
- Team Leads can focus on improvement activities and still be readily available to address out of standard issues on the floor





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Line Signal Unit (LSU)

➤ Wireless Communication

- Uses proprietary wireless, does not connect to your Wifi network
- Easy to install
 - Plugs into a standard 120vac outlet (220 international)
 - Cost less than hardwired basic andon systems
- Easy to reconfigure as needs change
 - Can be scaled up or down
 - Flexible design can be moved around without added cost



Floor Signal Station (FSS)



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Specifications

- You can have up to 15 LSU's per wireless environment
- 15 Floor Signal Stations can be tied to each Line Signal Unit (total of 225)
- Each Floor Signal Station has 16 inputs (total of 3,840)
- 4 Inputs tied to lights for manual operation (turned on via switch box by team members)
- 4 Inputs tied to lights for additional switch boxes or integration with automation (dry contact closure)
- 8 Additional inputs that pass a signal to the database. Can be used for counting, timing, sending out other alerts etc...
- FCC certified, operates at 433mhz



Floor Signal Station with Keyfob



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Example Operation

1. Red light is turned on by switch box
2. Red light on FSS is turned on
3. Signal is sent to LSU and database
4. LSU turns on red light and begins playing melody (one melody per LSU no matter which light is on)
5. Database sends out email to designated recipient or distribution list with a custom message tied to the specific input
6. Respondent hears melody looks to LSU for urgency or person responsible
7. Or recipient receives email alert if not in the vicinity to hear the LSU
8. Respondent heads towards the workstation with the red FSS
9. Respondent can press button on switch box to turn off melody and leave light on or they can turn off the light which also turns off the melody till the next signal is received

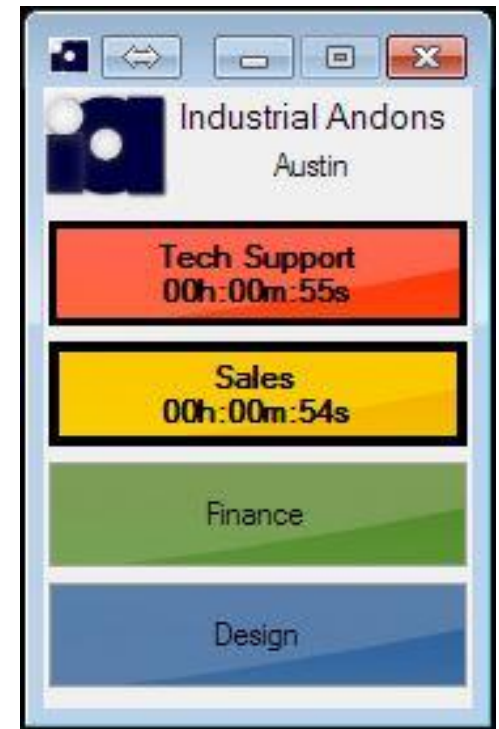




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Virtual Andon



1. Virtual Andon is a software based andon which runs on customer's computer (Window's based PC)
2. Up to 16 specific buttons can be configured
3. Data is fed to the Shop Floor View system the same as from a physical andon light
4. 5 Additional meta data fields can be configured (sends additional data like operator, specific need or problem with every andon call). Additional data is fed into the raw data for later analysis
5. Wifi based andon light can be added if a physical light is needed
6. New Android based stand alone mini tablet is offered if a PC is not available



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Site Logging

View data hitting your site.

Refresh

Address	Switch	Changed To	Event Started	Event Stopped	Duration /s
Final Assembly-Assembly 4	Maintenance[DEVICE#]	Light being ON	9/12/2022 8:26:42 AM	9/12/2022 8:26:53 AM	11s
Final Assembly-Assembly 2	Maintenance[DEVICE#]	Light being ON	9/12/2022 8:27:01 AM	9/12/2022 8:27:07 AM	6s
Final Assembly-Assembly 2	Maintenance[DEVICE#]	Light being ON	9/12/2022 8:38:47 AM	9/12/2022 8:41:29 AM	2m 42s
Final Assembly-Assembly 4	Change Over[DEVICE#]	Light being ON	9/12/2022 8:52:10 AM	9/12/2022 8:52:44 AM	34s

9/13/2022 12:50:27 PM {"ClientName": "V", "Data": {"__type": "PhysicalDeviceInfo:#", "DeviceNumber": "02", "LineNumber": "01", "TagId": "e2f6ea50-ec7b-458d-a378-7a24f1f90860"}, "OccurredAt": "VDate(1663091428936)V", "LocalSystemTime": "VDate(1663091429396)V", "Type": 1}

9/13/2022 12:50:23 PM {"ClientName": "DESKTOP-BU5CUCD", "Created": "VDate(1663091425104)V", "Data": {"__type": "PhysicalDeviceInfo:#", "DeviceNumber": "01101111 1111 f3fd-4e75-9ff5-bb518035", "LineNumber": "01", "TagId": "e2f6ea50-ec7b-458d-a378-7a24f1f90860"}, "OccurredAt": "VDate(1663091425642)V", "LocalSystemTime": "VDate(1663091425642)V", "Type": 1}

Incident Matrix

Define incident types to help organize issues when they occur.

- Create Root
- Create
- Rename
- Delete

- Maintenance
 - CNC
 - Fixture
 - Program
 - Tooling
 - Other
 - Mill

Decision Making

- All transmissions are logged into the Resource Control System Database down to the switch resolution
- Transmissions are time and date stamped
- Tiered Problem reports can be assigned to any switches for deep dive analysis



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Daily Reporting

➤ Shift report can be run that shows the occurrences, duration and issues seen during the period

Shift Summary Report

Shift Times: 9/12/2022 12:01:00 AM-9/14/2022 3:00:00 PM

Line:

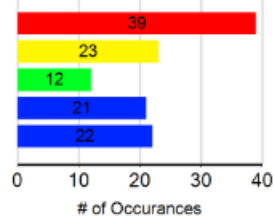
Final Assembly

Every Shift

Date:

9/13/2022

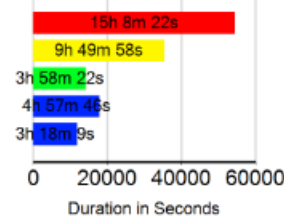
Total Occurrences



Top Occurrences

Category	Occurrences
Switch	39
Maintenance2	22
Change Over	18
Quality2	16
Mat'l Handling2	12
Maintenance1	9

Total Duration



Top Duration

Name	Duration
Maintenance2	5h 25m 57s
Maintenance1	5h 20m 3s
Maintenance3	4h 21m 54s
Quality2	3h 45m 56s
Mat'l Handling2	2h 53m 40s

Total Analysis

- Raw data can be exported
- Various pivot tables already in place to analyze the data
- Custom report creation available



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Remote Visual Control

- See the status of your operation remotely on any computer or large screen TV via the Web Monitor which comes standard with the Shop Floor View system.
- Create different views by whole plant or department etc...

Assembly 1 Mat'l Handling1 2h 5m 13s	Assembly 2 Team Lead 46m 54s
Assembly 3 Team Lead 1h 10m 59s	Assembly 4 EST: 20 / ACT: 16



Remote Visual Control

- Multiple views can be set up. Plant Wide, Department Level, Line Level and even Station Level vs the Target
- Three distinct levels of conditional formatting can be configured to see at a glance if the area is in range or not.

Assembly 1 Target vs. Actual		Assembly 1 vs. Actual	
Shift Target	1200		
Present Target	718		1440
Present Actual	618		710
Present Percent	87%		701
Downtime (mins)	20m 34s		99%
	Downtime (mins)		0



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Auto Email/TXT Messaging

➤ Emails and messages can be automatically sent when switches:

- Turn On/Off
- At designated multiples of activity counts
- If input is on for a designated period of time an escalation message can be sent out to a wider variety of respondents

Notification Settings



On State Change

Enable this notification if you'd like to receive an email when a switch state is changed.

Notify State:

On

Email Subject:

Press|is DOWN!!!

Add Email Address



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Our systems are used by many companies in many industries



TIMKEN

Where You Turn



Honeywell

PHILIPS



1-866-290-7551



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Industrial Andons, LLC provides cost effective, flexible, easy to install and use manufacturing systems to enhance your successful lean operations

Bob Wilson

Principal

Industrial Andons, LLC