A condition monitoring system with powerful escalation functionality

A typical Annunciator system is fairly basic, and will allow an operator to press a button that causes a lamp to flash on the production line, or display a message on an Andon board when there's a problem. This alert may then be responded to by the appropriate person …. or it may not.

At that point, the problem may continue, or get worse, and time and money are wasted.

OEE IMPACT Connect's Annunciator Module takes things to a whole new level…..

OEE IMPACT Connect software provides you with a wealth of tools and information to drive and support your lean manufacturing and OEE activities.

The addition of the Annunciator module provides you with a condition monitoring/ messaging system with powerful escalation functionality and a high level of configuration and flexibility.

What does it do?

Imagine how much more useful it would be if the message in the above example could also be triggered automatically by an aspect of your production process:

♦ *A maintenance engineer is required*

♦ *Material is required to restock your Kanban system*

♦ *Your OEE level has fallen below a given level*

♦ *Your defect level has risen above a given level*

♦ *A machine has broken down*

♦ *A temperature/pressure/torque reading is out-of-tolerance*

Alerts

Then consider how you would like to alert your staff to these issues. A flashing beacon on the production line is only useful if the right person sees it. OEE IMPACT Connect's Annunciator module provides a range of alert mechanisms, including *Graphic alert on PC, Email, SMS message, Pager, Klaxon sounder, Andon board* etc, and detailed alert information can be sent.

Sequencing and Escalation

Wouldn't it be useful if your production process could automatically alert your staff to issues that need their attention, and then escalate alerts to senior staff when necessary? With the Annunciator module you can create multi-step processes that allow your staff to react to situations as they occur and ensure they are dealt with quickly and appropriately.

Data Analysis

OEE IMPACT Connect records all the alerts and sequence steps and provides this information for review and analysis on a historical basis. This allows you to rapidly identify any weak spots in your process, repetitive problems etc, and take corrective action.

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How could I use it?

The Annunciator Module is so flexible, and totally user-configurable, that it has a huge variety of possible uses. Let's take a look at some common ones….

Predictive Maintenance

Use direct monitoring of your equipment condition (ie. vibration, oil, acoustic, infrared, etc) to automatically trigger alerts for maintenance. Including predictive maintenance as part of a comprehensive maintenance management program will allow you to optimise the availability of process machinery and greatly reduce the cost of maintenance, improving product quality, productivity and profitability.

Kanban Material Stocking

Implement an electronic Kanban system to prompt the restocking of your Kanban supermarket with materials from your stores area.

Low equipment OEE or Quality Levels

When your equipment efficiency level is falling or your reject level is increasing, you can automatically notify your key staff, allowing them to quickly analyse the reason for the problem using OEE IMPACT Connect, and take quick and appropriate action to resolve it.

Including acknowledgement and completion steps in your message sequences will ensure that you have a closed-loop process for managing your production process.

Maintenance Callout

Automatically alert your key staff to equipment downtime, - they can use OEE IMPACT Connect to analyse the reasons for the problem and act quickly to get things back up and running.

Out-of-tolerance Process Values

A process variable such as temperature, pressure, torque settings etc can often affect the quality of final goods. Using the Annunciator module to alert staff when these values go outside tolerance levels will provide you with much better control of your processes and prevent problems from happening before they start.

Multi-Stage Operations

Use the Annunciator Module to put extra controls in to your existing processes, for example to control build sequences in an assembly process. In this case, the operator can be prompted via interactive buttons and work instructions, and each stage can be acknowledged and recorded.

The time it takes to complete each step can be measured against the TAKT time for that operation, and alerts can be generated if these times are exceeded.

Interact with your Andon Board

The dictionary definition of annunciate is "to bring to public notice or make known publicly." What better way to do this than via your Andon board. Included within the OEE IMPACT Connect software, Gemba Solution's Andon Scoreboard provides a fully flexible and user-configurable display driven via a PC and viewed on an LCD or plasma screen. Apart from the usual visual indication, production targets and deviations are made visible to the production team.

The Annunciator Module will allow you display messages and alerts on your Andon Scoreboard, including details of machine, operator, reason for alert etc. This means that the Production Manager can be kept fully informed of how the current manufacturing process is performing.

The ability to monitor your manufacturing process in real-time, and alert staff to issues quickly will allow you to maximise production, increase profits and lower costs.

Message sequences

Let's look at a couple of examples of how you can sequence message alerts:

Basic message sequence

Step 1: Machine has low OEE level

Step 2: Recording of sequence steps & times starts

Step 3: Visual indication on PC screen

Step 4: Email alert sent

Step 5: Fault cleared, sequence resets

You can dramatically increase the benefits of this sequence by involving some more interactive steps:

Enhanced message sequence

Step 1: Machine has low OEE level

Step 2: Recording of sequence steps & times starts

Step 3: Visual indication of alert on PC screen

Step 4: Email alert sent to Supervisor

At this stage you would expect the Supervisor to acknowledge the alert and attend the machine, but let's see what would happen if he/she didn't...

Step 5: Initial alert times out

Step 6: Escalation email sent to production manager

Step 7: Production manager acknowledges alert

Step 8: Machine operator notified of acknowledgement

Step 9: Production manager attends machine

Step 10: Data analysis highlights increased reject levels

Step 11: Problem rectified, sequence resets

Step 12: Engage with workforce to prevent reoccurrence