ProCon

real-time production monitoring system

Digital assistance to maximize enterprise productivity

Crystal presents **ProCon**, a real-time production monitoring system. It is a robust, state-of-the-art,revolutionary technology that promises to take the pain out of production management.

ProCon system collects production information in real-time and disseminate quickly and accurately to production management team to identify and react to the problems in the production line instantaneously.

The system is designed and built around i-Tag and i-Tag reader.

The speed and availability of real-time, global information has begun to impact all aspects of day-to-day life and business. To keep an edge and thrive in these dynamic times a new approach to business is required to take advantage of the speed of information.

Technology at its ecstasy

Crystal Consultancy Services Private Limited

ProCon System

ProCon system comprises of i-Tag reader and i-Tag. An i-Tag is used to identify Operators, Supervisors , Mechanics, Qas and Bundles with unique color holders. This i-Tag will have a polythene pouch attached to it. This pouch will carry the printed information of the bundle/employee details.

- **ProCon** System can be Implemented for Cutting, Sewing, Checking, Washing, Finishing and Packing.
- A **ProCon** reader is attached to every workstation in the production line.
- All readers in the line are networked and connected to a Data Capturing PC which captures the Data for Log-In, Log-out, Bundle Start and Bundle End made by the operators and updates the information in central repository in real time.

ProCon Reader

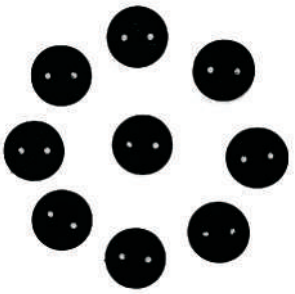
How **ProCon** works?

- Operator should Log-in in their workstations with the Operator tag.
- An i-Tag is programmed and tied to every bundle at cutting section and issued to sewing line for production.
- This i-Tag travels along with the bundle in the sewing line from start operation to final operation.
- Operators prior to start the operation for the bundle, will Log-in the bundle's i-Tag in the reader to record the operation Start time.
- Operators on completion of all the pieces in the bundle, will Log-out the same bundle's i-Tag in the reader to record the operation End time and the bundle is moved along with i-Tag to the next operator.
- All the subsequent operators will Log-in and Log-out the bundle's i-Tag for their respective operation to record the production
- Operator should Log-out from their workstations during break-times, moving to other workstations or leaving End of the day.


i - Tag

Identification Technologies

- i-Tag (Contact)
- i-Tag (RFID) - Low Frequency
- i-Tag (RFID) - High Frequency
- i-Tag (RFID) - High Frequency Washable Laundry Tag
- Input through Keypad


RFID - Tag

Punching Tag

Reader in Table

Readers in Line

Readers in Line

ProCon Reader (QC)

A **ProCon** Reader is attached to every checker table in the sewing line. This reader can be configured as **Loading** / **InLine** / **EndLine** / **AQL** / **Finishing** Check Points.

The Reader displays the operators' name, checked pieces, passed pieces, rework pieces and rejection pieces.

- **0-9** - Enter defect code and pieces.
- **AL** - Sends an alert as SMS to the concerned supervisor.
- **Esc** - Clears the current state.
- **Entr** - Accepts the input.
- ← - Backward delete input characters.
- **RW** - Enter Rework pieces.
- **RJ** - Enter Rejection pieces.
- **PS** - Enter Passed pieces.

The checker inspects the bundle and records the status of the bundle viz, Passed / Rework / Rejection pieces with appropriate defect codes .

- **Rework** - The i-Tag goes back to the concerned operator along with rework pieces. The operator need to do start and end punch for the rework. This time is accounted as Rework time.
- **Rejection** - Pieces entered as rejection are removed from the bundle.
- **Passed** - Pieces entered as passed are accounted as final checking output for the line.

ProCon QC Reader

ProCon Line Display Board (LED TV)

An LED TV can be installed for every line / section.

The Following information with Graphs can be shown on the LED TV of the respective line / section.

- Consolidated information as shown in the picture.
- Supervisor Dashboard with hourly production.
- Line / Operator Performance.
- Line production with W.I.P
- Quality information (Rework / Rejection Defects)
- Lost Time information (Operator / Line)
- Bottleneck Operations in a Line
- Style / Order status

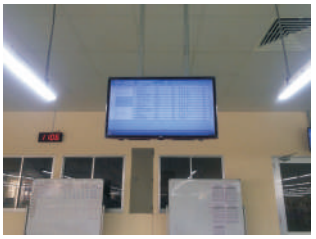
In Addition to the above, any other information to be shown can be Customized according to the requirements.

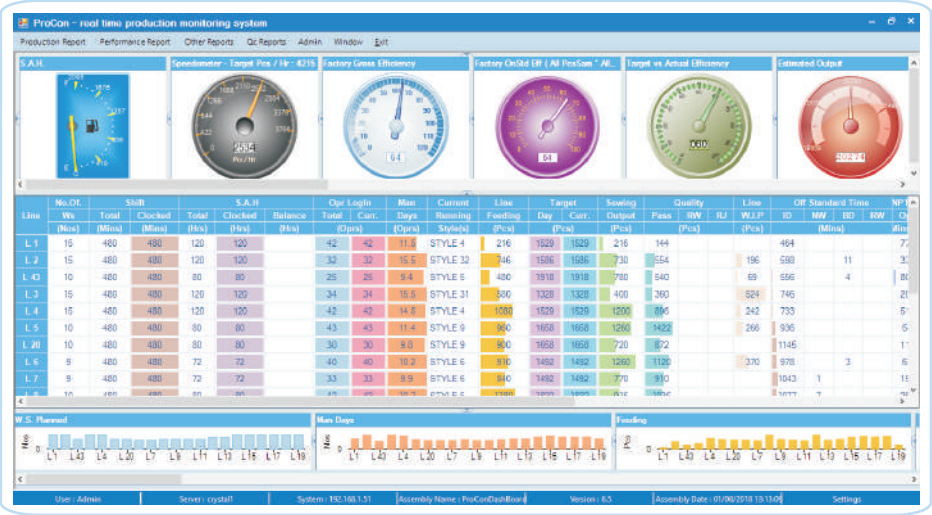
Bundles with Tag

Network Hub

Tag Assigning Reader

Line Display





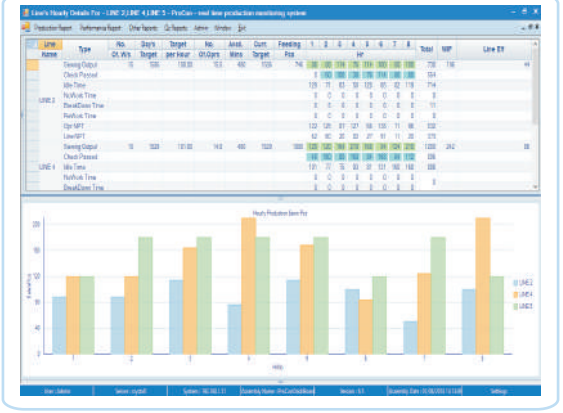
ProCon DashBoard

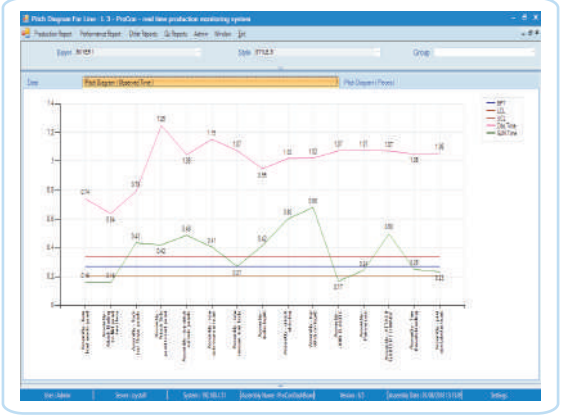
ProCon DashBoard is a Business Intelligence (BI) tool that displays the Macro level information in real time of all the Production lines graphically. Micro level information can be viewed by drilling down the respective cells.

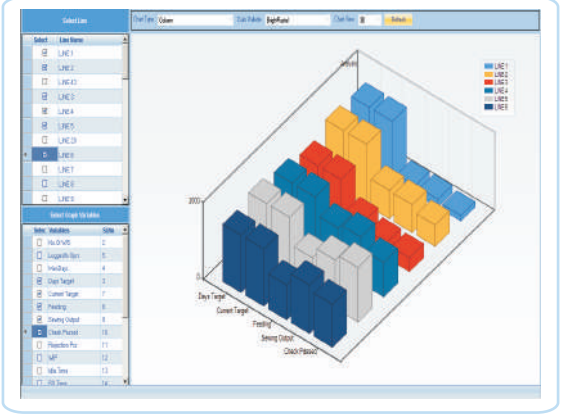
Provides various types of graphs at all levels for analysis and comparison for better decision making.

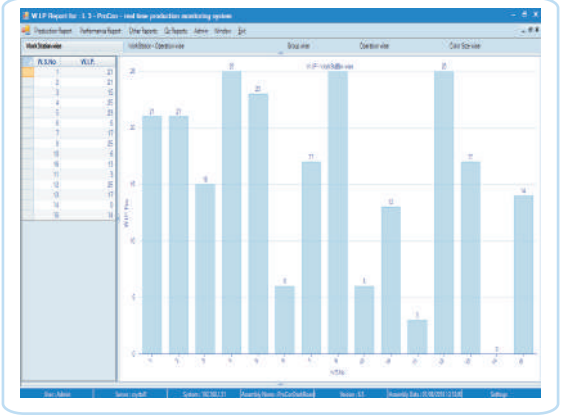
Key Features

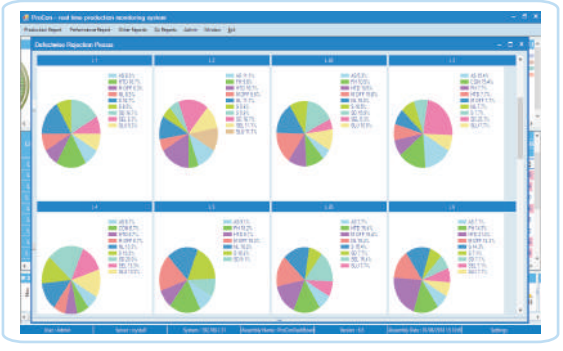
- Centralized real time production monitoring tool
- State-of-art networking technology ensures 100% data reliability
- Seamless integration to other application systems
- Operation time (SAM) validation
- Maintains Sequential integrity of the operations
- Supports Progressive Bundle movement, Piece movement, Unit Production System and Bundle Sharing
- Flexible Line Layout (Split / Merge Lines)
- Accountability of On-standard time viz, Worked Minutes, Produced Minutes and Cycle time
- Accountability of Off-standard time viz, Idle time, Nowork time, Breakdown time, Rework time and Non Productive time
- Line balancing - Pitch Diagram to identify bottleneck operations
- Work In Process monitoring at all levels
- Total Quality Management at In-Line & End-Line Check points
- Supports Piece Rate / Group / Individual Incentive methods
- Maintains the Skill data of all operators
- Alerts for exceptional situations via SMS / email
- Features and validations of this system are user configurable











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