Production Monitoring System

(Digital Display Systems)

PRODUCTION STATUS

Date :05/09/023
15:15:45

Hourly Production Report (Shift -A)

A Shift Time	CDU-1			CDU-2			CDU-3			LC/IDU		
	Plan	Actual	Ach %	Plan	Actual	Ach %	Plan	Actual	Ach %	Plan	Actual	Ach %
7:00 to 8:00	110	99	90%	90	90	100%	110	100	91%	50	40	80%
8:00 to 9:00	90	90	100%	80	80	100%						
9:00 to 10:00	120	100	83%	80		0%						
10:00 to 11:00	120	120	100%	80		0%						
11:00 to 12:00	115	115	100%	80		0%						
12:00 to 13:00	130	125	96%	80		0%						
13:00 to 14:00	120	120	100%	85		0%						
14:00 to 15:00	135	130	96%	90		0%						
15:00 to 15:30	50	45	90%	35		0%						
Line Total Qty	990	944	95%	700	170	24%	110	100	91%	50	40	80%
A Shift Total Qty	1254											

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Objective

A Production Display System, as part of a Manufacturing Execution System (MES), is a critical component that provides real-time visibility and control over the production processes on the shop floor. It serves as an interface between the manufacturing system and the operators, supervisors, and other stakeholders involved in the production environment. Here's a brief overview of the role and features of a Production Display System within an MES:

1. Real-time Data Acquisition:
- Barcode scanners \ sensors on each machine will collect real-time data on production cycle times, machine status, and other relevant metrics.

2. Production Planning and Target Setting:
- Software module for setting production plans and targets, allowing users to input daily, shift-wise, or product-specific production goals.

3. Live Production Status Display:
-User interface for displaying machine-wise production status on the production floor, providing a real-time overview of progress.

4. Calculation of Machine Ideal Time:
Algorithms to calculate the ideal cycle time for each machine based on historical data and predefined standards.

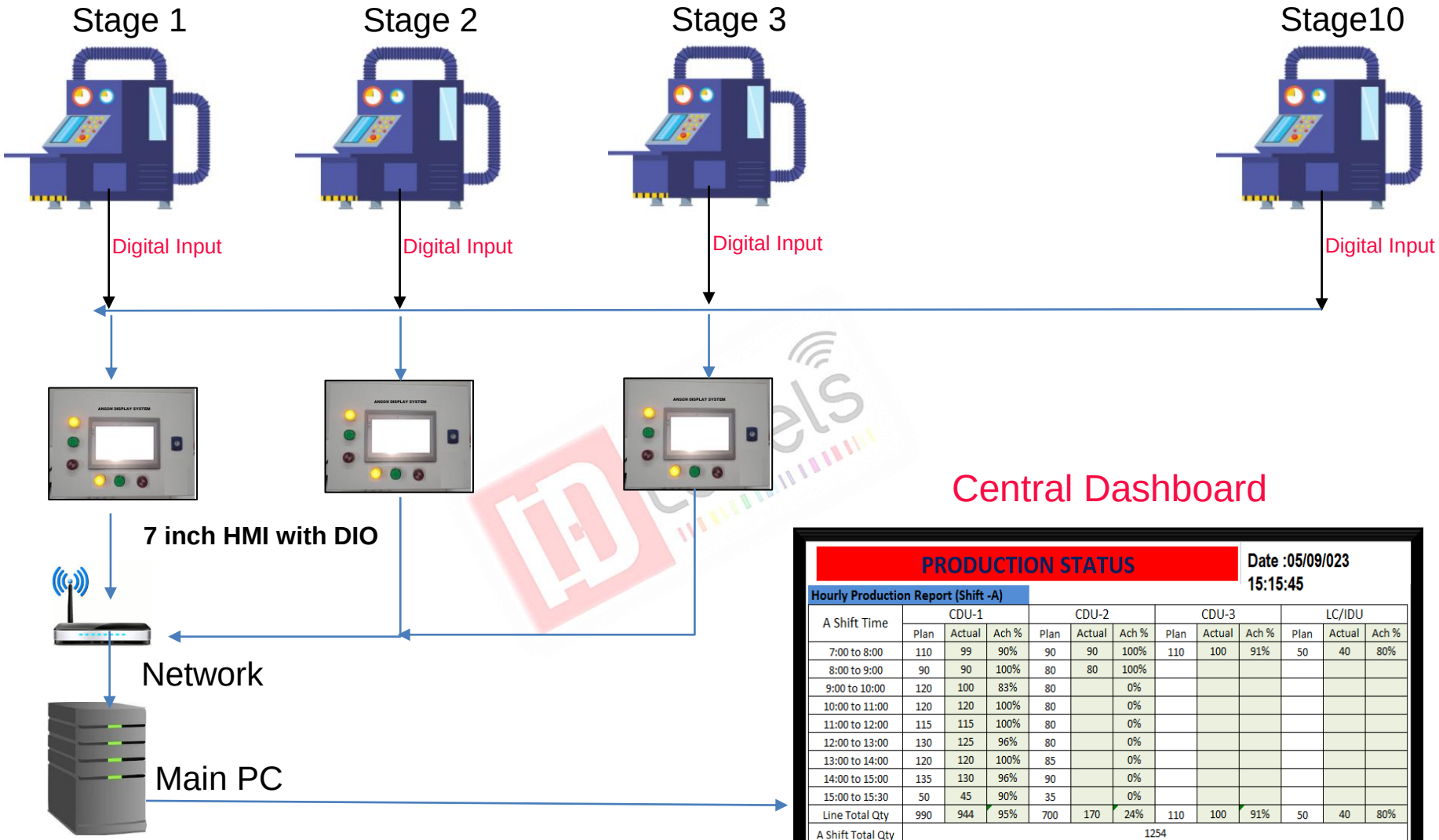
5. Centralized Data Storage:
Design a centralized database to store all production-related data, including cycle times, machine statuses, stoppage reasons, and other relevant information.

6. Reporting and Analysis:
Develop modules for generating various reports, such as line-wise reports, product variant-wise reports, date-time-wise reports, OK/Not OK reports, shift-wise reports, and stoppage reports (maintenance/material/quality, etc.).

7. Auto Email of Shift-wise Summary:
Set up an automated email system to send shift-wise summaries to designated recipients, providing a snapshot of production performance and highlighting key metrics.

Infra layout

Testing Machine



Central Dashboard

PRODUCTION STATUS

Date :05/09/023 15:15:45

Hourly Production Report (Shift -A)

A Shift Time	CDU-1			CDU-2			CDU-3			LC/IDU		
	Plan	Actual	Ach %	Plan	Actual	Ach %	Plan	Actual	Ach %	Plan	Actual	Ach %
7:00 to 8:00	110	99	90%	90	90	100%	110	100	91%	50	40	80%
8:00 to 9:00	90	90	100%	80	80	100%						
9:00 to 10:00	120	100	83%	80		0%						
10:00 to 11:00	120	120	100%	80		0%						
11:00 to 12:00	115	115	100%	80		0%						
12:00 to 13:00	130	125	96%	80		0%						
13:00 to 14:00	120	120	100%	85		0%						
14:00 to 15:00	135	130	96%	90		0%						
15:00 to 15:30	50	45	90%	35		0%						
Line Total Qty	990	944	95%	700	170	24%	110	100	91%	50	40	80%
A Shift Total Qty	1254											

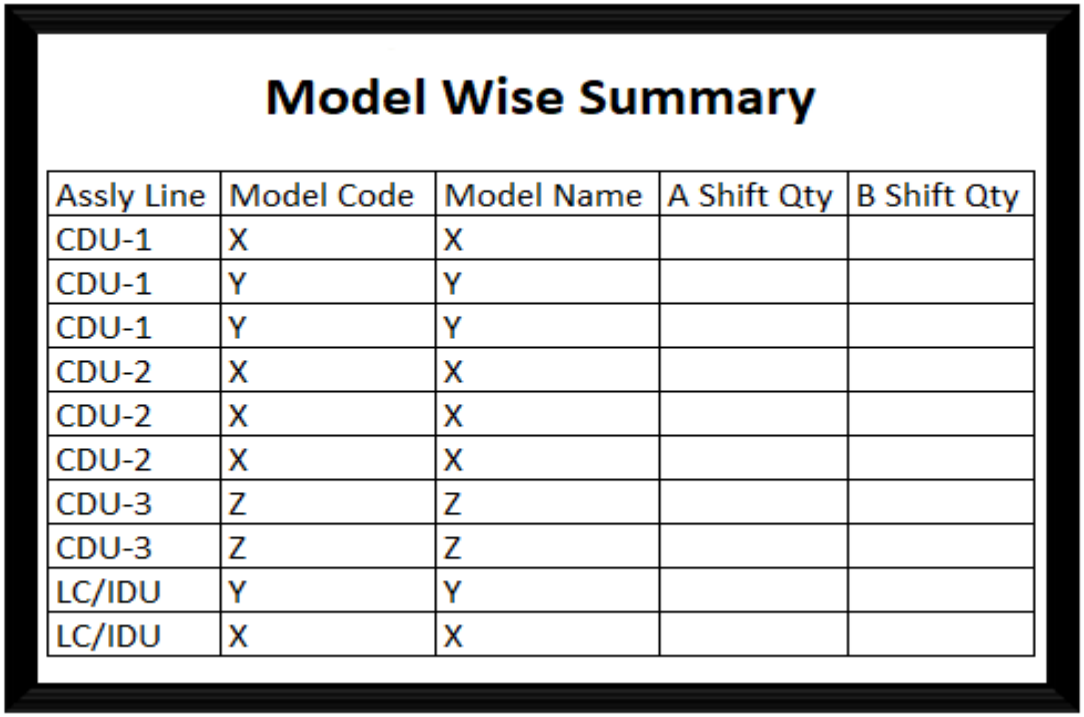
Screen Display

HOURLY PRODUCTION STATUS - SHIFT 'A'

Date: 15/09/2023 15:15:30

Date : 17-01-23	CDU-1			CDU-2			CDU-3			LC/IDU		
	Plan	Actual	Ach %	Plan	Actual	Ach %	Plan	Actual	Ach %	Plan	Actual	Ach %
7:00 to 8:00	130	110	85%									
8:00 to 9:00	140	130	93%									
9:00 to 10:00	115	115	100%									
10:00 to 11:00	140	138	99%									
11:00 to 12:00	65	60	92%									
12:00 to 13:00	140	150	107%									
13:00 to 14:00	140	160	114%									
14:00 to 15:00	115	90	78%									
15:00 to 15:30	65	80	123%									
Line Total Qty	1050	1033	98%	0	0		0	0		0	0	
A Shift Total Qty	1033											

Andon Screen Display



Model Wise Summary

Assly Line	Model Code	Model Name	A Shift Qty	B Shift Qty
CDU-1	X	X		
CDU-1	Y	Y		
CDU-1	Y	Y		
CDU-2	X	X		
CDU-2	X	X		
CDU-2	X	X		
CDU-3	Z	Z		
CDU-3	Z	Z		
LC/IDU	Y	Y		
LC/IDU	X	X		

Screen -3

System Benefits

- **Hands-off Data Capture and Analysis**: Timely capture and analysis of machine data improve overall productivity, efficiency, and quality. This proactive approach helps in identifying issues before they escalate.
- **Real-Time Production Monitoring**: Monitoring production performance statistics and efficiency in real-time allows for the prompt identification of inefficiencies, enabling proactive measures to address them.
- **Elimination of Unnecessary Downtime**: By identifying production and maintenance issues before they become problematic, unnecessary downtime is minimized, leading to smoother operations and increased productivity.
- **Real-time OEE Calculations**: Automatic calculation of Overall Equipment Effectiveness (OEE) in real-time provides insights into areas for cost reduction and efficiency improvement.
- **Data Management**: Comprehensive data management capabilities, including editing functionalities for rejects, uptime, and downtime, with associated Part codes, ensure accurate and detailed record-keeping.
- **Production and Downtime Reporting**: Ability to enter and track downtime for current jobs or select from a list of past production dates and shifts, along with reporting functionalities, facilitates comprehensive analysis and decision-making.
- **Task Clock**: Tracking labor and associated costs by work order or job running on the machine aids in labor management and cost control.
- **Easy Readability and Reporting**: Spreadsheet-like views of shift production activity and comprehensive production history reports by various parameters ensure easy readability and access to relevant information.
- **Variance Reporting**: Identification and reporting of variances help in pinpointing deviations from expected performance, allowing for timely corrective actions.
- **Tool Maintenance**: Inclusion of tool maintenance functionalities ensures that equipment remains in optimal condition, further contributing to operational efficiency.