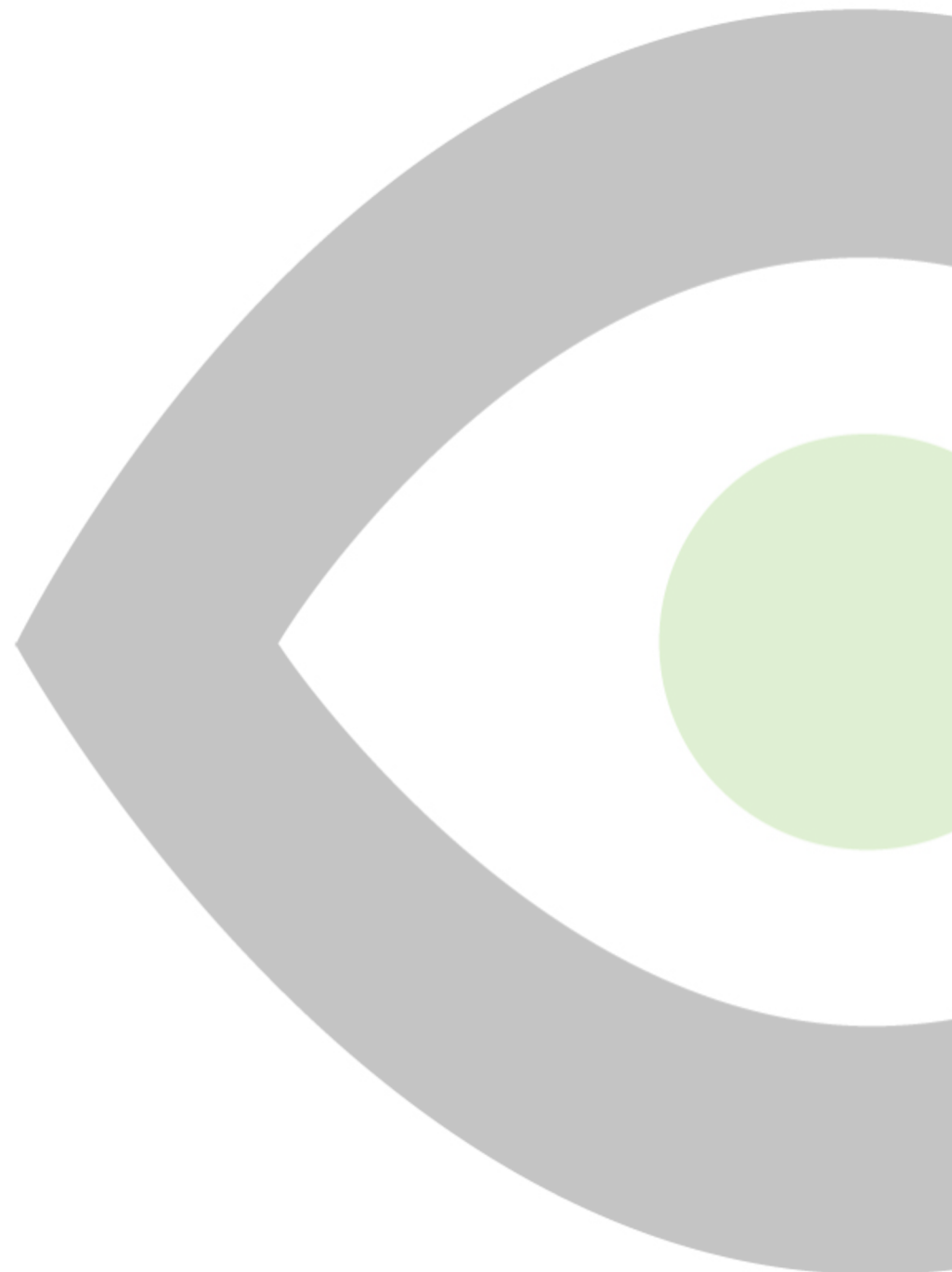


Prophecy

Use Cases

Leverage machine intelligence.



Without IIoT platform

No-integrated systems and data limiting process visibility

Manual data input and verification, many paper processes

Relationship not clearly understood when data is not in context

Incomplete data for end-to-end view leading to recurring problems

Prophecy platform

Use Cases

Summary: Use Cases

Use Case

Pain Points

Solution

1

Use Case: Machine Monitoring and alarm notification

- Machine Downtime
- Slow response time
- Paper driven data collection

- Report downtime reasoning
- Analyze downtime over time
- Real-time analytics

2

Use Case: Machine and Capacity Utilization

- Production inefficiencies
- Production bottlenecks
- Production output

- Asset Utilization mapping
- Live Production Line reporting
- Reduce time from order to shipment

3

Use Case: Improve operator and shopfloor performance

- Performance variation / cell
- Paper driven data collection
- No Operator / Shop Dashboard

- Improve data collection
- Show live KPI dashboard
- Identify low and high runners

4

Use Case: Automate shopfloor data collection into ERP system

- Manual tracking production data
- Paper driven data collection
- Inconsistent data quality

- Automate data collection workflow
- Digitize Operator interaction
- Improve KPI & Operational performance

Use Case: Machine Monitoring and alarm notification

The Industrial manufacturing process are designed to produce high-volume and high-quality products. However, we have experienced unplanned downtime frequently occurring during production time. The occurrence results in reduced machine utilization over the planned production time. We have seen manufacturing floors operate in the 30 - 50% downtime status. And they are mainly driven by the time delay between the machine stops and the execution of the resolution. Behind this is that companies depend on non-real-time information, and most of the time, documented on paper with slow response times. Companies will resolve these problems by digitizing manual processes using the Prophecy IIoT platform.

The Prophecy IIoT platform delivers value creation targeting the cost of operations value pools. Impact lost revenue/profit from downtime is often the highest value. Better throughput means more product revenue with no increase in relative cost. Cost of better tooling and improved engineering offset by lower overall cost per unit produced. As a result, customers can save \$1M in the first year using the Prophecy platform.

With implementing the Prophecy IIoT platform Industrial manufacturing companies will:

Maximize equipment uptime

- Eliminate repeating downtime reasons
- Schedule to reduce change-over time
- Remove upstream bottlenecks
- Ensure raw material availability

Reduce operations cost

- Ensure correct tooling
- Minimize rework and rejections
- Improve operator training, retention and satisfaction

Data visibility and analytics

- Provide a platform for evidence-based and data-driven decision making

Use Case: Machine and Capacity Utilization

All Industrial Manufacturing companies are looking to achieve higher manufacturing outputs with existing assets and resources. Process optimization must first understand the current bottlenecks over time to drive process improvements. This can only be successful if properly focused. The first area to focus on is Capacity utilization. It shows how much-used capacity is in live production. Capacity is the transformation of raw materials into quality sellable goods. The Godlan industrial consultants had seen Capacity Utilization running as low as 20% when Management perceived the metrics in the 60% range.

The value comes in increased efficiency, real-time data and actionable decision-making. It isn't about just finding the parts that are not performing to standard and understanding why it's happening. It's about finding which parts are performing to standard.

The Prophecy IIoT platform helps determine capacity utilization by collecting production data from machines and ERP systems to support process optimization on the factory floor. Companies will improve asset utilization by 20% to 40% using the Prophecy tool sets.

The Prophecy IIoT platform targets value creation in Industrial manufacturing plants by improving Asset and Capacity Utilization. The expected value pools are underutilized machines and production line capacity. Companies will save \$1M by improving asset utilization.

By implementing the Prophecy IIoT platform, Industrial manufacturing companies will:

Improve equipment and asset utilization

- Identify production bottlenecks
- Improve machine throughput
- Identify downtime reasons over time

Reduce time from order to shipment

- Consistent processes
- Absorb excess machine capacity
- Allocate maintenance resources

Use Case: Improve operator and shopfloor performance

Industrial Manufacturing companies rely on capital equipment and its people for performance. As a result, most successful operations run three shifts six times a week. The shopfloor has 50 to 100 machines running products for multiple customer orders. Each cell and machine operates under different conditions, and other operators handle the equipment and load. As a result, the Godlan Industrial consultants have seen significant equipment and operator performance variations on the same shop floor.

With live shopfloor visibility and analytics, companies can identify performance trends and bottlenecks that lead to operational excellence. Shop floor dashboards above the shop floor and tablets placed at machines give operators the information they need to make better, faster decisions.

The Prophecy platform allows managers to understand better and help improve the performance of their employees by identifying inefficiencies and enhancing training.

The Prophecy IIoT platform targets value creation in Industrial manufacturing plants with shopfloor analytics. The most common value pools are under-performing work cells and unplanned downtime. Using Prophecy across the shop floor will realize a 30-50% increase in OEE, representing millions in additional capacity without the addition of labor, equipment, or additional resources

By implementing the Prophecy IIoT platform, Industrial manufacturing companies will:

Create data-driven shopfloor

- Present live job data to the operator and on the shop floor
- Collect machine data and present KPI performance
- Standard metrics from the shop floor to the boardroom

Drive operational performance

- Identify low runners and high runners
- Act on real-time data
- Improve training and resource allocation

Use Case: Automate shopfloor data collection into ERP system

Today, most Industrial Manufacturing companies work in a paper-based process and reporting. The operators collect machine data like startup time, production runtime, and actual count vs. total count. All these data are written on paper and manually imported into the ERP system. Manually tracking data is inherently flawed. It is an incredibly time-consuming process that often results in delayed, error-prone data that is difficult to analyze. This results in unproductive staff members that spend time transferring historical job and machine data into the ERP system.

The Prophecy IIoT platform enables manufacturing companies to automate the ERP system's job and machine data collection. An operator can access dispatch and job information via the Prophecy HMI screen. All job information will automatically report transactions into the ERP system. Companies can track operator performance with the job, part number, and operator analytics that can be visualized by hour, day, month, week, year or machine. We have seen customers save \$100k per month from scrap process improvements.

The Prophecy IIoT platform targets value creation in Industrial manufacturing plants with process automation for the factory floor. The value pools are inefficient paper-based processes, and team members assigned to the administration of input data into systems

By implementing the Prophecy IIoT platform, Industrial manufacturing companies will:

Improve data collection process

- Present live job data to operators via HMI
- Automate data collection workflows
- Improve operator productivity

Improve KPI and operational performance

- Stock in hand
- Inventory turnover
- On-time Delivery



Equipment Automation

Use Cases

Living Network



HMI Use Case - Press

Entire Operator process flow in ONE screen

PP036 300 TON SSDC

Daniels, David I.

Log On
Log Off

Job Queue

Job	Item
CLA0000001	NewClamp
CLA0000001	800400
CLA0000001	201400-001
CLA0000001	202400-001

Load Job

Job Information

Job #

Item #

Qty./ Cycle

Production

Start Setup
Start Run
Stop Run

Qty. Complete

Scrap Entry

Production Speed

Shift Scrap Count

Submit

Machine Information

Machine State Machine Stopped

Cycle Count

Run Time

Operator

- Clock in / out
- Job Queue
- Job Setup & Run
- Submit Scrap for Approval
- Production & Machine Info
- Syteline Transactions plus Press Hits to Die / Fixture for predictive PM

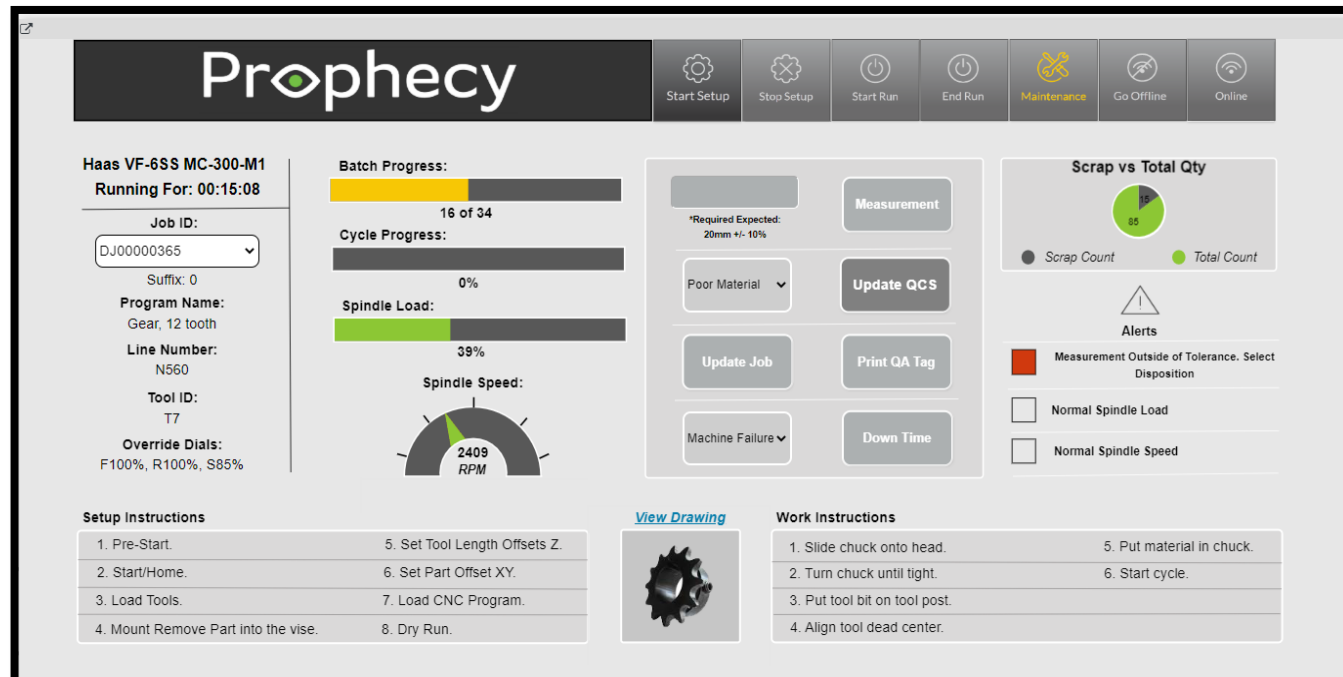


HMI Use Case - CNC

Entire Operator process flow in ONE screen

Operator

- Go Online
- Job Selection
 - Job details
 - Setup & Work Instructions
 - Work Instructions
 - Drawing
 - Label Print
- Submit Scrap for Approval
- Machine Info - Downtime





HMI Use Case - Nesting

Entire Operator process flow in ONE screen

- Multiple Jobs at Once
- Material Issuing
- Supervisor Interaction
- Quality Interface
- Downtime Tracking
- Syteline Transactions
- Machine Metrics

Prophecy PH-NEST-M2 Login Logout

Refresh

DerJob	DerSuffix	DerQtyReleased
J00000093	1	1,000,0000
J00000093	2	1,000,0000
J00000093	3	1,000,0000

JOB INFORMATION
NEW JOB ASSIGNED! PRESS "REFRESH" TO BEGIN

Job #: J00000093
Suffix: 1
Item: BASE TRIM-4X96-PSDG
Material: Plinth Panel Bracket, screw mount, black
Qty Released: 1

Populate

OPERATOR ACTION

Start Job

Pause Resume

0 Input Sheet

Claim Qty Finish Job

Finish All

PRODUCTION

Enter Qty Complete: 0 0 Submit

Enter Qty Rejected: 0 0 Reject

Qty Scrapped: 0

Daily Qty: 0 Daily Scrap: 0

Machine Status: OFF

DOWNTIME

Shift Downtime: 0 minutes

Declare Down Declare Up

SUPERVISOR

Supervisor Called:

Supervisor Message:

Call Supervisor Cancel Call



HMI Use Case – CNC Routers

Entire Operator process flow in ONE screen

Operator

- Clock in / out
- Job Queue
- Job Setup & Run
- Submit Scrap for Approval
- Production & Machine Info
- Supervisor Interaction
- Downtime Tracking

Prophecy
DR-ROUT-M1
Login Logout

SCAN JOB

J00000580-000q

Input Scan

J000000029, 8, 20, DR-LJ

Set Job

Populate

JOB INFORMATION

Job #:	J00000580
Suffix:	0
Op:	0
Item:	
Descrip:	

SUPERVISOR

Supervisor Called

Supervisor Message:

Call Supervisor

Cancel Call

OPERATOR ACTION

Start Job

Pause

Resume

Claim Qty

Finish Job

PRODUCTION

Qty Released: 0

Enter Qty Complete: 0

Submit

Enter Qty Rejected: 0

Reject

Qty Scrapped: 0

METRICS

Daily Count: 0

Daily Scrap: 0

Machine State: IDLE

DOWNTIME

Shift Downtime: 0 minutes

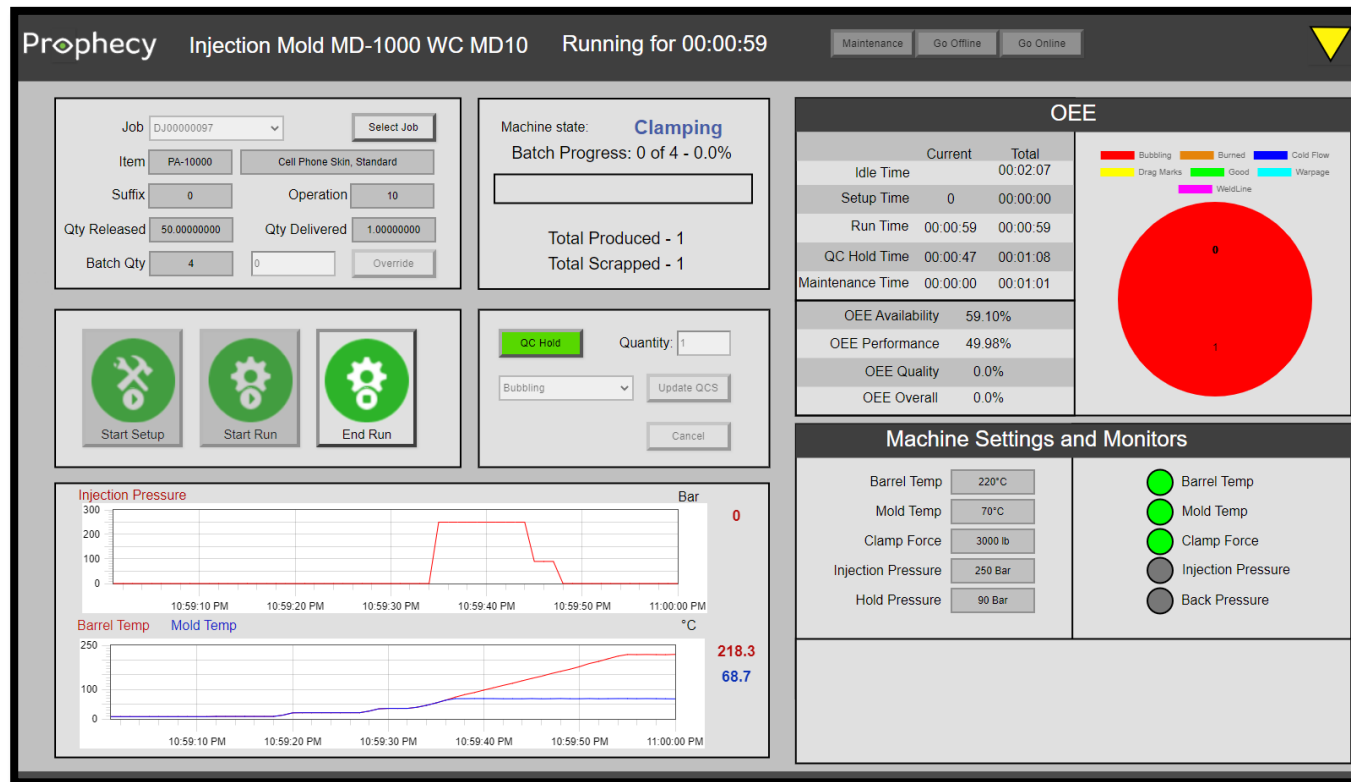
Declare Down

Declare Up



HMI Use Case – Injection Molding

Entire Operator process flow in ONE screen



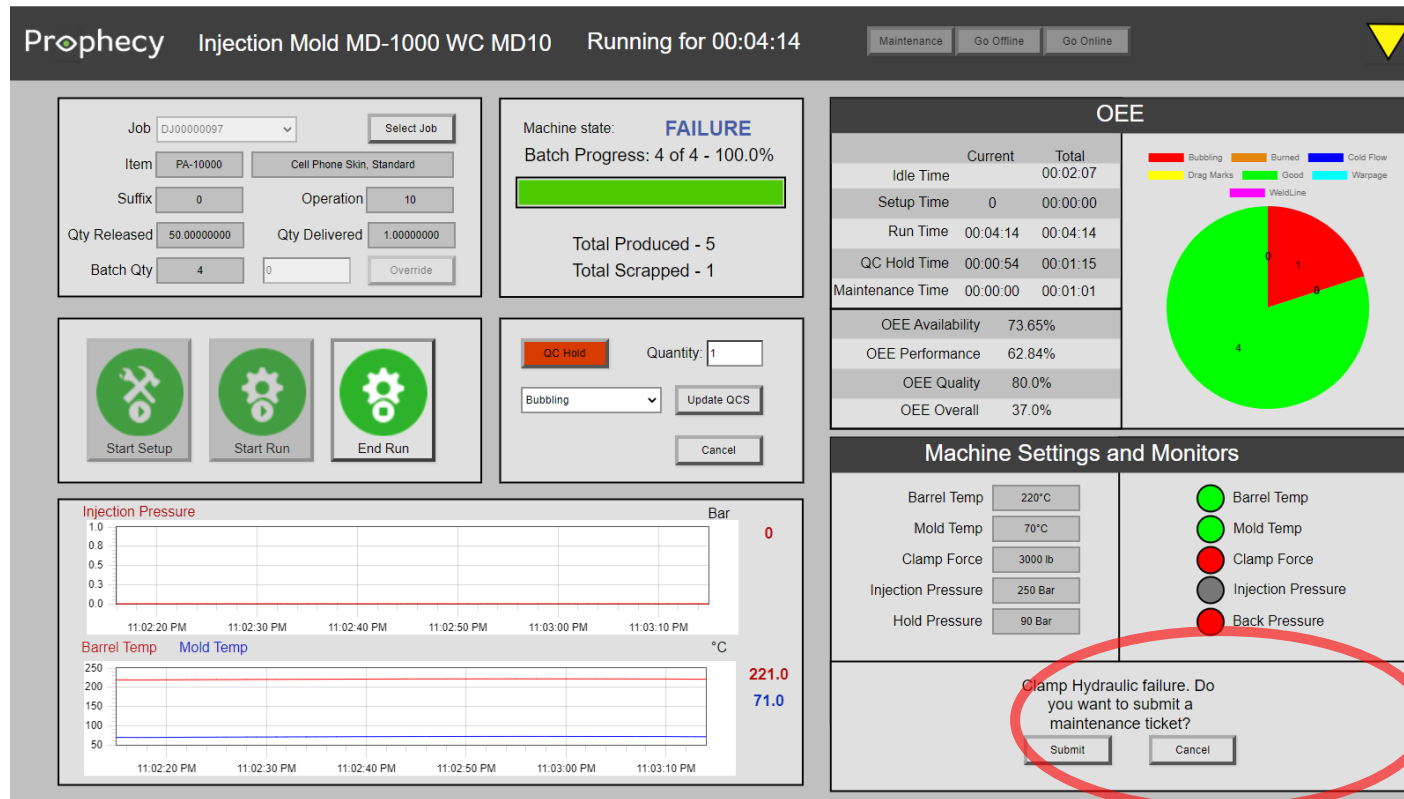
Operator(s)

- Job Selection
- Machine State
- Scrap
- Production Target vs. Actual
- **Machine State vs. Job Spec**
- Auto Record Data in ERP & Drive Andon's



HMI Use Case – Injection Molding

Entire Operator process flow in ONE screen



Operator(s)

- Machine Failure & Maintenance Alert



Use Case – Manual Assembly

Entire Operator process flow in ONE screen

Final Assembly

Operator Login

Job Queue

Job	Suffix	Item
DJ00000095	0	908
DJ00000097	0	PA-10000
DJ00000134	0	TC-10000
DJ00000140	0	SP-11000

Pages: 1 2 3 4 5 6 Next Last 1 of 6

Job Information

Job #:

Item #:

Qty Released:

Production

Qty. Complete: Rework Entry:

Shift Qty: Shift Rework:

View Drawing

Material Inventory

Part #	Qty
CLA0000001	NewClamp
CLA0000001	800400
CLA0000001	201400-001

Material Ready?

Operator

- Log on / off
- Job Queue
- Job & Material Information
- View Drawing
- Alert Supervisor
- Submit Scrap for Approval
- Auto Record Data in ERP & Drive Andon's



Use Case – Manual Assembly

Entire Operator process flow in ONE screen

FINAL ASSEMBLY CELL ABC1

Daniels, David I. ▼

Daniels, David I.

Log On
Log Off

Job Queue

Job	Suffix	Item
AIR0000001	3	COR1162-3.8
DJ00000365	0	912
DJ00000559	0	Forklift

Pages: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 ...
Next Last 1 of 18

Load Job

Job Information 📄

Job # DJ00000365

Item # 912

Qty./ Cycle 0

Production

Start Setup
Start Run
Stop Run

Qty. Complete 0

Scrap Entry

Production Speed

Shift Scrap Count 0

Submit

Work Cell Information

Cycle Count 0

Shift Time 0

QC Input

Call Supervisor

Measurement

Submit

High 0
Entry
0

21

Low

Operator

- Log on / off
- Job Queue
- Job Information
- View Drawing
- Submit Scrap for Approval
- Auto Record Data in ERP & Drive Andon's



Use Case – Operator vs. Supervisor

Unique views by role

Operator

101 -I3001D
Item: 0 Mold: 0 Date: 2023-03-07

Item Description: 0 Active Cavities: 0 Time: 10:17

Log On/Off

Operator 1:

Operator 2:

Set as Secondary

Job Information

Job Number: 0

Suffix: 0

Operation: 10

Qty Released: 0

Job Qty Complete 0

Shift Qty Complt: 0 / Oper.

Job Actions

Call Supervisor

Reporting

Enter Scrap:

Total Shift Scrap: 24 Each Operator

Scrap %: ∞

End of Shift

Enter Purge:

Shift Metrics

Start Cycle: 101210

Current Cycle: 101210

Target Cycles / Hr: ∞

CurrentCycles / Hr: 0

Efficiency: 0

Job Progress: NaN

Alarms

Efficiency

Job Status

Scrap High

Supervisor

Adjust Production Adjust Scrap W/C Target

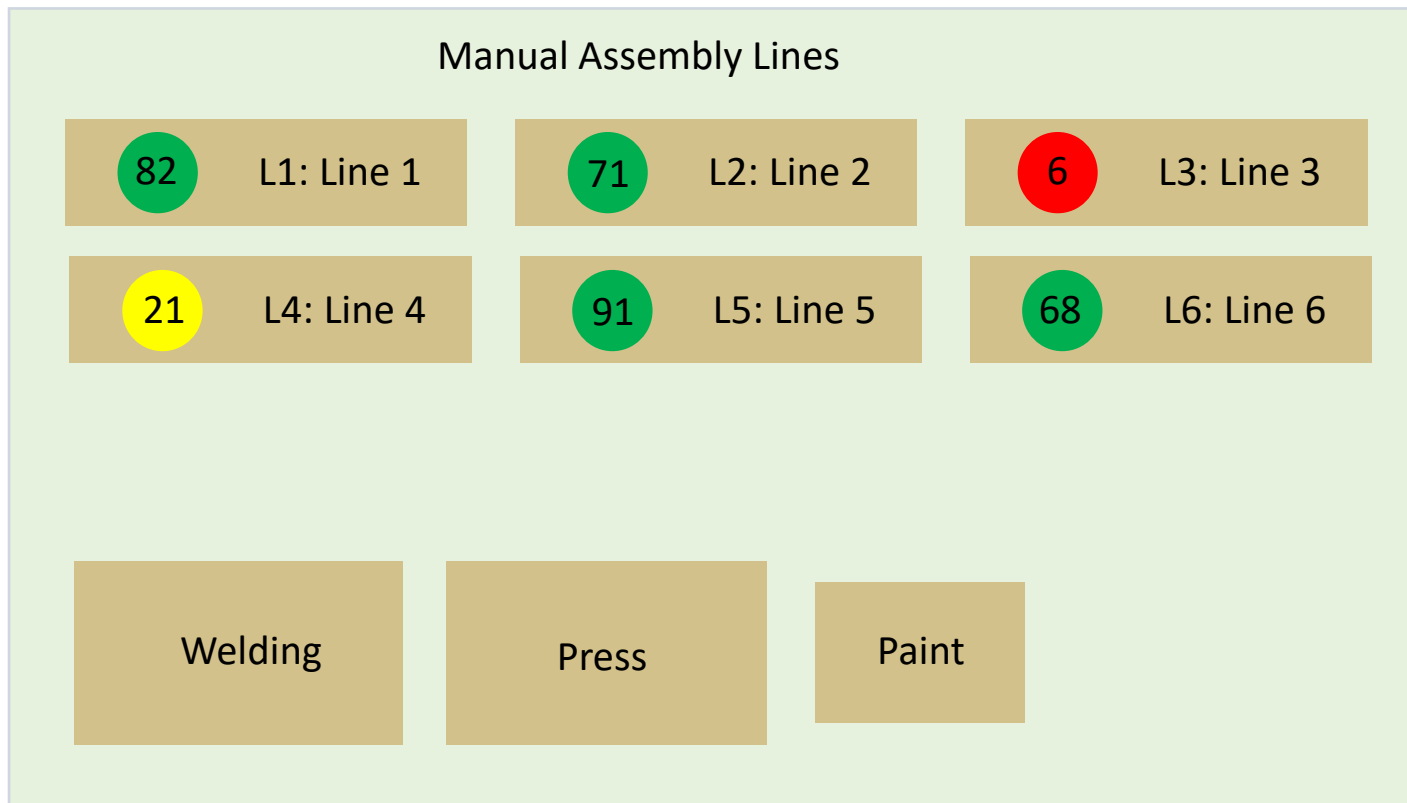
Supervisor

Item # Job # J-00000671

Job Ready for Loading	Job #	Suffix	Operation	Item #	Description	Mold #	Cavities			
	J-10000037	0	10	101888	BOOT FOR REV G GAUGE	101888-M	8.00000000			
Machine	Job #	Item #	Oper. 1	Oper. 2	Effc. %	W/C Target	Job Progress	Stop Job	Set Job to Machine	
I01-I3001D	0	0	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	0	∞	NaN	<input type="button" value="Stop Job"/> <input type="button" value="Set Job"/>
I35-I3505P	0	0	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>			NaN	<input type="button" value="Stop Job"/> <input type="button" value="Set Job"/>
I36-I3506P	0	0	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	0	∞	NaN	<input type="button" value="Stop Job"/> <input type="button" value="Set Job"/>
I09-I3002D	0	0	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	0	∞	NaN	<input type="button" value="Stop Job"/> <input type="button" value="Set Job"/>
C11-C3507	0	0	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	NaN	∞	∞	<input type="button" value="Stop Job"/> <input type="button" value="Set Job"/>

Use Case – Assembly Lines

Flow Automation Options – RFID, Camera Photo Eye, Light Bar



Line

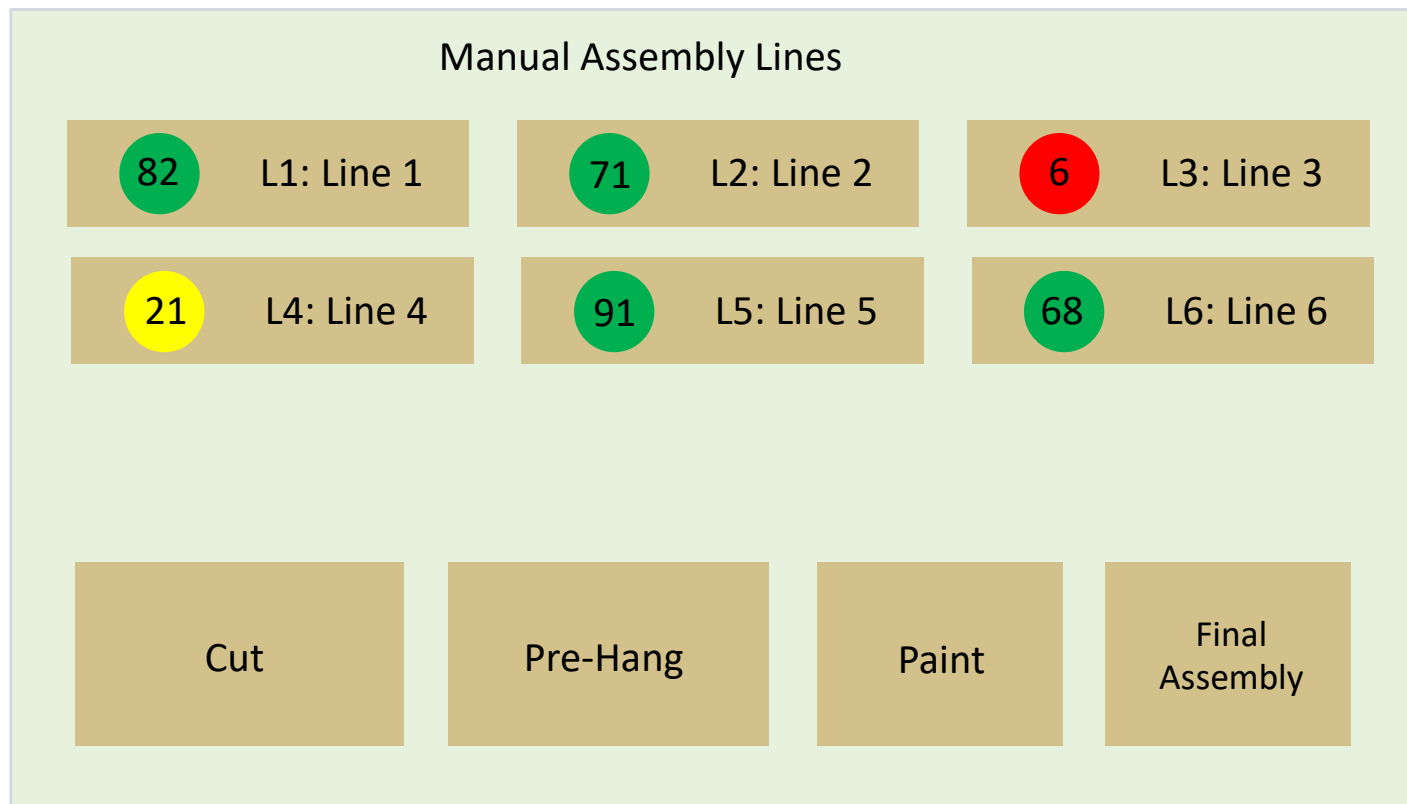
- Line Counts or Job position
- Plan vs. Actual





Use Case – Assembly Lines

Flow Automation Options – Photo Eye, Light Bar, Proximity Sensor, etc.



Line

- Line Counts or Job Location
- Plan vs. Actual Run Rates
- Automated Job Moves

