The Client

The Client is a world's leading manufacturer of compressors.

Business Situation

Customer manufactures hundreds of different models of compressors. All come on same final assembly line. In the old assembly line confusion and delay in assembly due to several different models and components assembled to them are different to each other. Also assembly of the model to be delayed or stocked until demand for the product is with sufficient quantity.

The old conveyor was not PLC controlled. Manually instructed and trained the operators what component to assemble for the model in front of them. Also testing of the compressor was not based on PLC controlled tester and data was collected by computer. All was determined manually and quality testing was severely impacted.

The Challenges

The issues to address are:

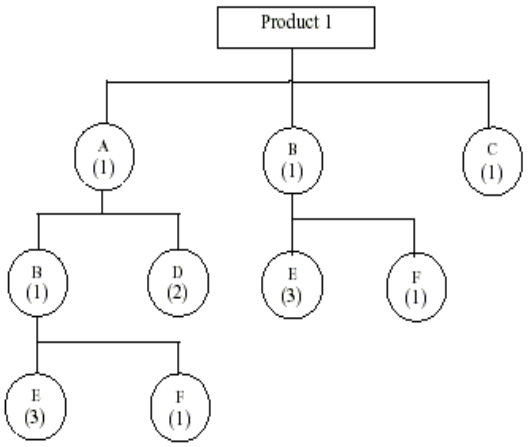
1. How to produce any model at any given time without additional training to operators
2. How to reduce production delay or stock of compressors that may arise due to batch production.

The Solution

From the pre-determined map the component list and assembly instructions are provided in the HMI in front of the operator/station currently the model is in. Each operator along with testing operator confirms the operation and quality of the compressor is up to the expectation. If below par then the software is designed to

send the control to PLC to reject the compressor and shift the compressor automatically to another conveyor belt for rework.

Rework statistics are accounted and cost analysis is done by the software and sent information to management for take action. If the all test results up to the expectation then compressors are sent to serial number engraving station and serial number is collected through PLC tag and finished goods inventory is updated in ERP. Production report is generated by model and by serial number.



Business Impact

Due to automation and more information in HMI for operators

- Less quality issue
- Faster production
- Less inventory and out of stock issue
- Rework statistics to get corrective measures
- Direct update of inventory to ERP to reduce error
- A comprehensive production report (see below)

Value Adds

Apart from improved quality, just-in-time inventory, faster production, rework statistics can be used for rework cost analysis and there by the reason for the quality issues. Once know the reason for quality issue management can address the same to reduce rework cost.

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PRODUCTION REPORT

START DATE: 01/03/2011 **END DATE:** 20/03/2011 **SHIFT:**

MODEL CODE	SERIAL NUMBER	PROCESS SERIAL NUMBER	VISUAL INSPECTION	ACCESSORY - MOUNT ON	NAME PLATE	OLP	STN 70	TEST BENCH	STN 120	TC,GS,BS
KCE419HAG -V134H		00001	OK	NG	NG	OK	OK	OK	OK	OK
KCE419HAG -V134H		00002	NG	NG	NG	NG	NG	OK	NG	OK
KCE419HAG -V134H		00003	OK	OK	OK	NG	OK		OK	NG
KCE419HAG -V134H		00004	OK	OK	OK	OK	NG		NG	OK
KCE419HAG -V134H		00005	OK	OK	OK	OK	OK		OK	OK
KCE419HAG -V134H		00006	OK	NG	NG	NG	OK		NG	OK
KCE419HAG -V134H		00007	OK	NG	NG	NG	OK		OK	OK
KCE419HAG -V134H		00008	OK	NG	NG	NG	OK		OK	NG
KCE419HAG -V134H		00009	OK	NG	NG	NG	OK		OK	NG
KCE419HAG -V134H		00010	OK	NG	NG	NG	NG		OK	OK
KCN411LAG-B230		00001	OK	OK	OK	OK	OK		OK	OK
KCN411LAG-B230		00002	OK	OK	OK	OK	OK		OK	NG

The Technology

- Oracle 11i Applications
- Oracle 9i
- MSSQL
- SQL, PL/SQL
- .net, VB
- MSSQL
- Unix/Windows

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