

Implementing E1 manufacturing in industrial automation company



By Matt Ravikumar

Getting Started

The purpose of this whitepaper is to explain the uniqueness of the JDE manufacturing modules implementation and share the lessons learned during the project. The document explains the major business benefits gained from another Tier-1 system to JDEdwards (JDE) E1 system

The client is a leader in industrial automation products. This company got acquired by a world-wide company and they decided to merge to the corporate system. The manufacturing implementation was the first in the new world-wide organization.

The implementation started in Nov 2016 and got completed in May 2017. Manufacturing modules includes PDM, planning (MRP), shop floor management, product costing & manufacturing accounting. Forecasting was limited to user upload of data into the system on monthly basis.

Major business benefits

- The business is mostly sales order driven. There were daily excel files updated and shared for production meetings. Users spent lot of time in preparation of these files. JDE helped to present the data in Cafe1 view showing customer orders with inventory & WO progress. Production meetings were short and productive!
- In their previous system, WIP was a physical location and that enabled lot of cycle count issues. JDE helped them in moving away from

KEY STATISTICS (DATA IN JDE)

Branch Plants: Two
Item Records per branch:
Item master: 15000(M-3200, P-10000)
Bill of materials (at cutover)
--Total Records: 36000, parents:3300
Routing (at cutover)
-Total Records: 2500, parents: 2500
Workcenters: One per mfg BP

a WIP location but still monitor the WIP \$ correctly. WO parts issue and completion were not systematic previously. JDE brought the discipline and visibility across all users so that duplication efforts are minimized. WO variance in very huge dollars became manageable overnight!

- Doing rework or de-kitting a product was a time-consuming process previously. Simple repair workorder process made their tasks easier. There was no need for closing all open work orders at the month-end for accounting reconciliation.
- The product structure has multiple levels and phantoms was not implemented in the previous system. To avoid generating multiple workorders for each sub-assembly, phantoms are being introduced progressively.
- Floor stock. There was no consistent identification in the previous system and hence some were having real inventory in the books. Adopting floor stock in item branch and bills (issue type code=F) enabled WH to pick the right materials quicker.

Implementation Challenges

PDM: Extracting data from PLM software had resource constraints and time delays. The cut-over criteria were kept changing, like how many years of past sales data, inventory positions and defining current bills. A component from vendor showed up on the go-live date, which was considered obsolete in the cutover. There was wrong assumption that all uom were each. Adding different UOM after conversion posed challenge in the bills, since it has already taken the item master properties. That also initiated continuous addition of uom conversions. On the bills, some of the critical sub-assemblies were dropped for no reason only to be found during cost-rollups. In their previous system, make part can't be placed on PO so there was constant changing of stocking types.

Costing: Standard costing was used in the implementation. That required lot of data cleanup on the item master cost data since there were not accurate. The inaccurate bills showed up quickly on cost analysis. There was X1 factor added for material burden and that required more testing & validation.

JDE Security: This plant joined the corporate system so the security roles were just assigned in the beginning itself. But the plant users had multiple roles like CS manager responsible for planning function, Cost accountant role which includes WO to cycle count, etc. This required lot of repetitive changes to the security access to their required applications/reports. Finally, a new role was added just for cost accountant since it is not the same as regular finance role.

“Top management was very supportive to adopt best business practices and avoiding any customization.”

User Experience

Conference Room Pilots: (CRP) Two CRPs were executed to verify/validate the data upload, transaction processing and user hands-on experience. There were two rounds of UATs as well to re-define some business processes with full converted data.

Training and Documentation: User training was done predominantly during CRP execution. Additional sessions were conducted to walk thru the process and clarify any functional issues. Since the super users were conducting CRP tests it was helpful with the knowledge transfer and faster learning.

Typical user feedback after training:

- *Lots of concepts and areas. User learning and absorption is time consuming*
- *Lots of screens and applications to inquire basic data.*
- *Confusion between form exit and row exit options.*
- *Why more order numbers cannot be inserted in the data selection field.*
- *Status flows in SO, PO and WO transactions. Why some reports update them and others do not?*
- *There are lots of configurations needed in every module and users underestimated the learning curve.*

Next phases

There are several potential areas for continuous improvement and system utilization:

Bar codes are already printed in the workorder documentation. Next stage of the project will implement bar code scanners on mfg and inventory

Receipt routing: based on the inspection requirement, the items (coming from purchase order or thru workorder) go into receipt routing for QA clearance. This is a changed process, where QA report WO completions so that inventory gets updated after their approvals.

OneView enhancements: Ability to see shortages with scheduled PO delivery dates; quick metrics on time spent on workorders from release to completion; Zero cost components alerts, etc are some of the enhancements planned during support period.

MRP enhancements: The basic model MRP was rolled-out in this short implementation time frame. There are potential opportunities to bring in forecast consumption (including customer specific forecasts), using period of supply concepts and lead time rollups.

WO completions: Current model is the use of manual WO material issues (ITC=I) but super backflush so that product routing standard hours are captured as actuals. (PFBF=B). Once the system stabilizes, superbackflush may include consuming hard-committed inventory and routing labor. Additional labor can be reported from stand-alone time entry.

“There were multiple rounds of data conversions to validate key fields and better understanding of JDE functionality in master data areas.”

KEY STATISTICS

Number of WO released in a week: 50
Number of quality specs: not used

Total customer AB#: 25+
Total vendor AB#: 500+
Number of JDE users: 60
E1 System 9.1 release, toolset 9.1.5
Oneview, Cafe1, watchlist, UPK used.

“Strong technical support helped with data migration from legacy system to E1 tables using Z-file & custom program process. This saved lot of time in multiple data conversion uploads.”

The author was the lead consultant in the implementation. Author respects all relevant trademarks which are marked accordingly