Collaboration of Production Process with Contract Manufacturers in Hi-Tech Industries

Applies to:
Business Process Experts Community, High-Tech Industry Vertical
Work order process, SAP R/3, ECC 5.0 & ECC 6.0, SCM and SNC
For more information, visit the Supply Chain Management homepage.

Summary
Most of the Hi-Tech industries (OEM – Original Equipment Manufacturer) work with Contract Manufacturers (CM) to build the products and also work with Third Part Logistics Providers (3PL) to distribute the products to the Distribution centers and customers.

The visibility of the Products manufactured and the yield as well as the testing of the manufacturing products are very crucial for the Hi-Tech industries to better plan and meet the customer demands. Monitoring of various stages of production is possible by collaborating with the CM and utilizing the internet technologies for almost real time data.

The collaboration to monitor the production process is work order collaboration.

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Collaboration of Production Process with Contract Manufactures

Most of the Hi-Tech industries have business process, to design the products and evaluate various Contract manufacturers who can better manufacture the finished product based on the design specifications.

The Job of the contract manufactures is to build the products by sourcing all or some of the components or some of the components being drop shipped directly by vendors as requested by the Hi-tech company. Products are manufactured as per the Bill of materials and the routing (operations) and work instructions supplied by the Hi-tech company.

Once the finished product is manufactured it passes through Quality check and on approval gets the approved label and the company’s Logo on the product as per the Hi-Tech company work instructions. Most of the time the logos are customer logo as these are exclusive products designed for the Hi tech company customers.

Once the products are picked, packed and ready for shipping, the finished products will be picked up by the 3PL (Third party logistics) Providers who will ensure customs clearance and delivery to customer locations or company’s distribution centers.

In this process the visibility of manufacturer’s production activities and testing procedure is limited to the Hi Tech Company. This information is very crucial for the Business to know the yield at each process and determine the expected delivery dates to make sure the customer requirements can be met.

Collaboration is the key to get the relevant information at each stage of the manufacturing process.

This is possible now by using the internet technologies.
Work Order Process

OEM will issue a Subcontract Purchase orders to the Contract manufacturers to produce and deliver the finished product for a required quantity at a certain delivery date and for an agreed service or labor cost.

Along with the PO it is possible to give a work order to define each major Production process steps which OEM wants to track. It is defined what are the input material and what are output materials in each phase of the work order along with the design drawings and other documents like Work instructions. OEM can create each phase manually or define from the Routing and BOMs of the finished product.

The Work order allows the OEMs to monitor the Production process at the CM shop floor, and compares the planned vs. actual production and the dates based on which corrective action can be taken.

Master Data for the Work Order Process

The following master data is required to create a work order, Bill of Materials, Routings, (Production Process stages), Design drawings, Testing Instructions.

Create Work Orders - OEM

It is possible to create a work order for each PO line items; systems can be setup to generate work order automatically upon creation of a PO or by a batch process by collecting all the POs and generate work orders for each PO line Item.

The work orders are transmitted to the Contract manufacturer electronically, or by sharing the web interface for which contract manufacturer has access and update the status of each phase.

Acknowledging and Accepting the Work Order - CM

Once the CM receives the work order and they can review the work orders and accept as it is if they can deliver the required quantity with in the delivery date or propose new quantities and dates based on their capacity. This information will be transmitted to the OEM and once accepted by the OEM it is visible to OEM as acknowledgment from the CM.

Execution – CM

CM will be manufacturing the products and updates each phase of the work order with details of the components consumed, dates and outputs at each Phase, including the yield.

The products will be tested as per the instructions and test guidelines provided by the OEM.

All the relevant manufacturing and testing data can be transmitted to the OEM.

This data can be the yield at each assembly line to analyze which Assembly line the yield is ok and which is not OK. The test data from the testing equipments can also be acquired to understand the type of defects and at what stage in the production process the products are failing, this will also help them to perform a root cause analysis.

Further Process – CM / 3PL

Once the products are manufactured the Bill of lading information is prepared and Advance shipping notification will be sent to the OEM and the 3PL will pick up the products and send through different means of transportations to the distribution centers and to the customer locations. Mostly it is 3PL who will take care of the entire distribution function for the OEM and some representatives from OEM can monitor the progress of the distribution by 3PL.
Benefits of Work Order Process

Real time information available for both the OEM and CM, to meet the end customer demands by closely monitoring and taking corrective action to the production situations.

Root cause analysis of the defects and capturing the data for future references for service calls and make engineering changes to the products and components.

Related Content

SAP Help: [www.help.sap.com](http://www.help.sap.com)

SAP Help on SNC:
[http://help.sap.com/saphelp_snc70/helpdata/EN/45/bd01d6a87d0063e10000000a11466f/frameset.htm](http://help.sap.com/saphelp_snc70/helpdata/EN/45/bd01d6a87d0063e10000000a11466f/frameset.htm)

For more information, visit the [Supply Chain Management homepage](http://supplychain.sap.com).
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