



An Overview of Chemical Distribution in Microsoft Dynamics 365 - Xcelpros

AT A GLANCE

- Failure to meet customer demand at Chemical Distribution companies
- Overview of End-to-End supply chain processes including solutions to increase operational efficiencies
- Overview of planning and inventory management for bulk chemicals and packaged chemicals
- Best practice depictions of typical Chemical distribution processes including the need to track hazardous chemicals, product labels, shipping labels, safety data sheets, certificate of analysis and shipping documentation
- Quick glimpse of a chemical distribution company in Microsoft Dynamics 365

If you are a chemical distribution company, it is all about optimized supply chain, warehouse and floor operations. In the current day, you are more a supply chain partner to your customers, anticipating their needs and helping them stay ahead of their competition.

Chemical distribution industry is on a massive growth curve now more than ever. There is a need to set your processes straight and streamline supply chain with sufficient controls in place to keep up with the pace of the market.

You need to organize your warehouse in a way that can provide an optimized pick route for your warehouse operator to pick inventory for break bulk, repack operation or an outbound shipment. Inventory transactions and storage need to be planned with precision while handling hazardous chemicals (HAZMAT).

There are 4 key processes that matter to a chemical distribution company:

1. Order-to-Cash: Ability to take a customer order efficiently and deliver within the shortest time / customer requested date.
2. Procure-to-Pay: Ability to manage purchase orders and receiving efficiently, optimize spend on procurement to avoid high capital inventory spend.
3. Inventory Management: Maintain optimal inventory levels without excessive capital spend. Ability to conduct inventory operations seamlessly with the desired visibility.

4. Break Bulk Operations: Applicable if you receive in bulk totes, drums or tankers and do pack-downs into smaller pack-sizes.

From 2012 through 2017, specialty chemical distribution increased by a compound annual growth rate (CAGR) of 5.6% each year, to a global market size of about €97 billion.

There is also an anticipated growth in specialty chemical distribution, which will ease slightly, to 5%, through 2022-BOSTON CONSULTING GROUP

The Pain Point – Warehouse Chaos & Lack of a Trace on Inventory Movement

If this connects with you, then you are one of the many companies that suffer with lack of inventory optimization and procedures to move inventory from cradle-to-grave in a methodical manner.

This article provides insights on key processes within Chemical Distribution companies and the value delivered by Microsoft Dynamics 365 for Finance and Operations to this industry.

User Story

One of our chemical customers has 3 big warehouses with bulk as well as packaged chemicals stocked in row, rack and bins spread across multiple aisles. Some of these chemicals require temperature control and many have restrictions on how they need to be stored to avoid hazards. Their focus was just the basic must-haves and not necessarily a well-organized warehouse. The warehouse space was highly disorganized making it difficult to track inventory movements in and out to fulfill customer demand.

To top it off, operators had poor operational practices of inventory movements to staging. One of their high volume orders involved a break-bulk operation from a 55 gallon drum of bulk chemical. Operators would carry the drum to staging, dispense the chemical for the order and leave the drum at staging without recording the location / remaining inventory for the batch. At best, inventory numbers were manually written on a tag attached to the drum and not within the system.

This process created many inefficiencies downstream:

- The physical space within “Staging” was limited. However, the drums and totes for most break-bulk orders were still left at staging. The size of staging grew everyday. The system showed the drums to be still at their primary inventory location. When picking for an order, the operators check the primary location first and when they cannot locate the drum in inventory, they launched a massive hunt for the missing drum in staging by manually checking each tag. With time, some operators developed tribal knowledge on where to look for inventory – staging or primary. For other temporary workers, it was extreme inefficiency.
- Lack of a method to properly track inventory movement.

- Inventory counts were completely inaccurate as they would constantly adjust inventory for missing / untraceable inventory.
- With inaccurate counts, planners ordered more supply to fulfill customer demand.
- The inaccurately stated inventory caused over-supply and more bulk material than needed / could be handled.
- Due to the chaos, conducting a physical inventory count was a Herculean task. As the operators traced the missing inventory stuck at unplanned staging locations, it caused further imbalance of inventory in the warehouse.

The Ideal Journey

Be it chemical manufacturing or distribution, you need to analyze how your company operates, your growth initiatives and business goals for the next 5 years.

Below are a few points that can help improve your operations:

- Review your warehouse storage and design – locations and inventory groupings.
- Create proper location directives to adhere to all restrictions on chemicals based on properties.
- Number your locations by aisle, row, rack and bins or aisle, row and rack to the bare minimum.
- Stock your fast moving items optimally to speedup packout work orders and shipments.
- Label the bulk containers at the time of receiving with a barcode that can be scanned.
- Label the put away locations as well as staging locations to count how many items and quantities by lot are available at a specific location.
- Give the warehouse user the ability to sign in to a mobile device to scan a work order that provides real time work details and status of orders.

Inventory that is accurate and visible is the key to efficiently operate a chemical distribution company

Chemical Industry – Process & Procedure

You will notice some commonalities between manufacturing and distribution of Bulk / Speciality Chemicals with respect to receiving, inventory, planning, shipments and warehouse management.

The basic processes within chemical distribution industry are centered more around warehouse management, inventory, planning, repacking, light manufacturing, shipping and receiving. While Chemical Manufacturing also includes extensive route operations, resources and elaborate Work-in-Process (WIP) testing.

Let us dive into typical processes within a Chemical Distribution company:

01. Purchasing and Receiving

Purchased products are bulk chemicals, packaged chemicals, packaging items, labels and other supplies. These products are almost always purchased from an approved and primary vendor / supplier.

There are 2 statistics that determine the course of action with respect to future purchases that could be shown through reporting and analytics.

- Your buyer's decision to 'switch to an alternate vendor' for a specific purchase, and the number of times 'a switch to an alternate supplier' occurs.
- A vendor rating that depicts the percentage of purchases that were delivered on time and in full is another statistic that your buyer may be interested in.

FIGURE 1: HIGH-LEVEL FLOW OF PURCHASE ORDER-TO-RECEIVE PROCESS

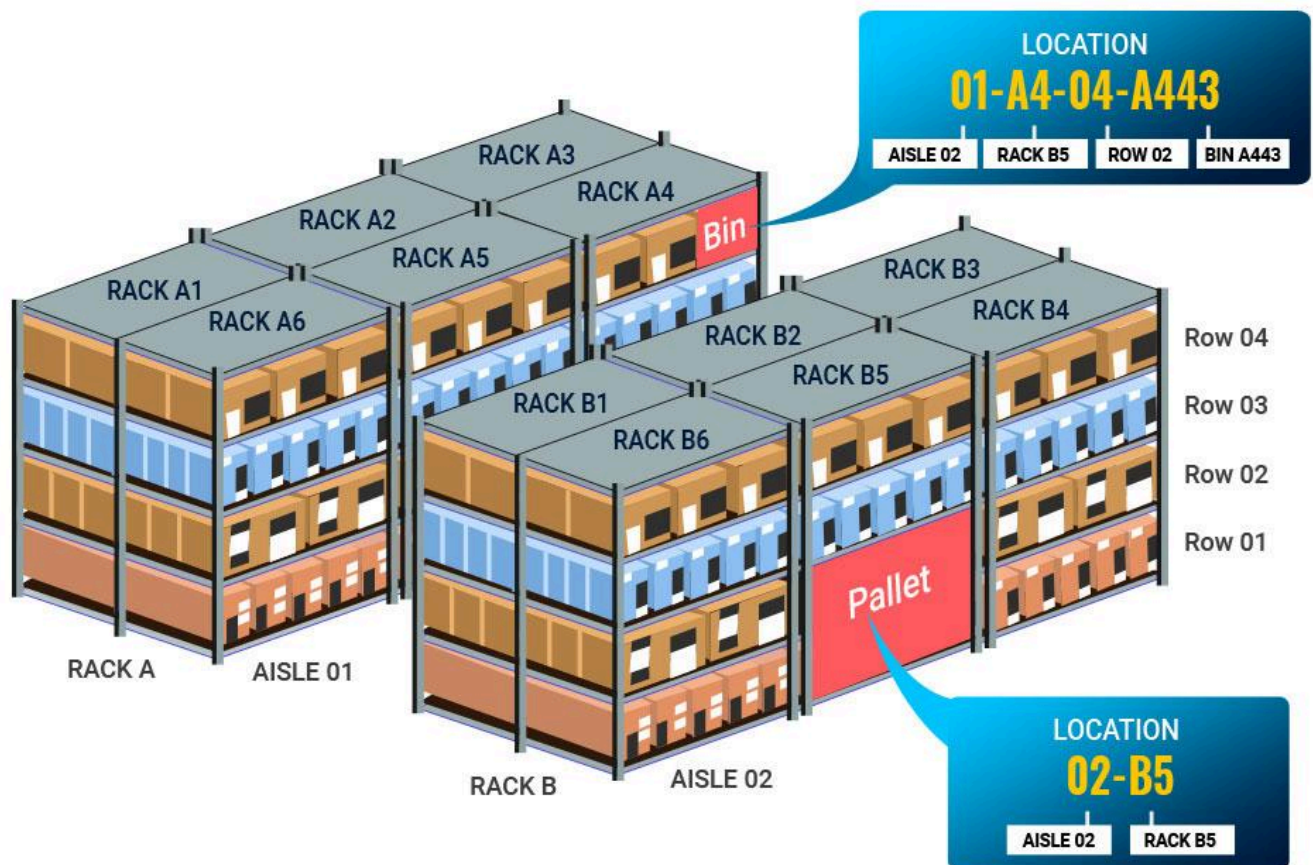


02. Inventory and Warehouse Management

- Organize by aisle, row, rack, bin, lot / batch, pallet IDs and box IDs. Your materials manager that is responsible to organize the warehouse is always looking for ways to stack inventory into row, rack and bins by pallets with a license plate number. The pallets could be scanned to easily retrieve inventory using a mobile device.
- Organizing inventory through optimization of the warehouse is the primary responsibility of anyone keeping inventory counts accurate.
- Majority of the issues within your warehouse are with respect to lost inventory, inability to track a product, incorrect counts or products constantly showing up in wrong locations, especially at the time of physical inventory or when inventory inspections are done. The overall chaos could be attributed to multiple issues in processes and inefficiencies within methods.

- Being able to track-and-trace inventory, especially when you are performing repack operations, requires visibility of how inventory is moving into pack sizes.
- Labeling of all locations in the warehouse is critical to streamline operations. Labeling of the locations can be done a couple of different ways – Serpentine and Standard Methods. Most companies follow a 4-dimensional naming standard – Aisle-Rack-Row-Bin.

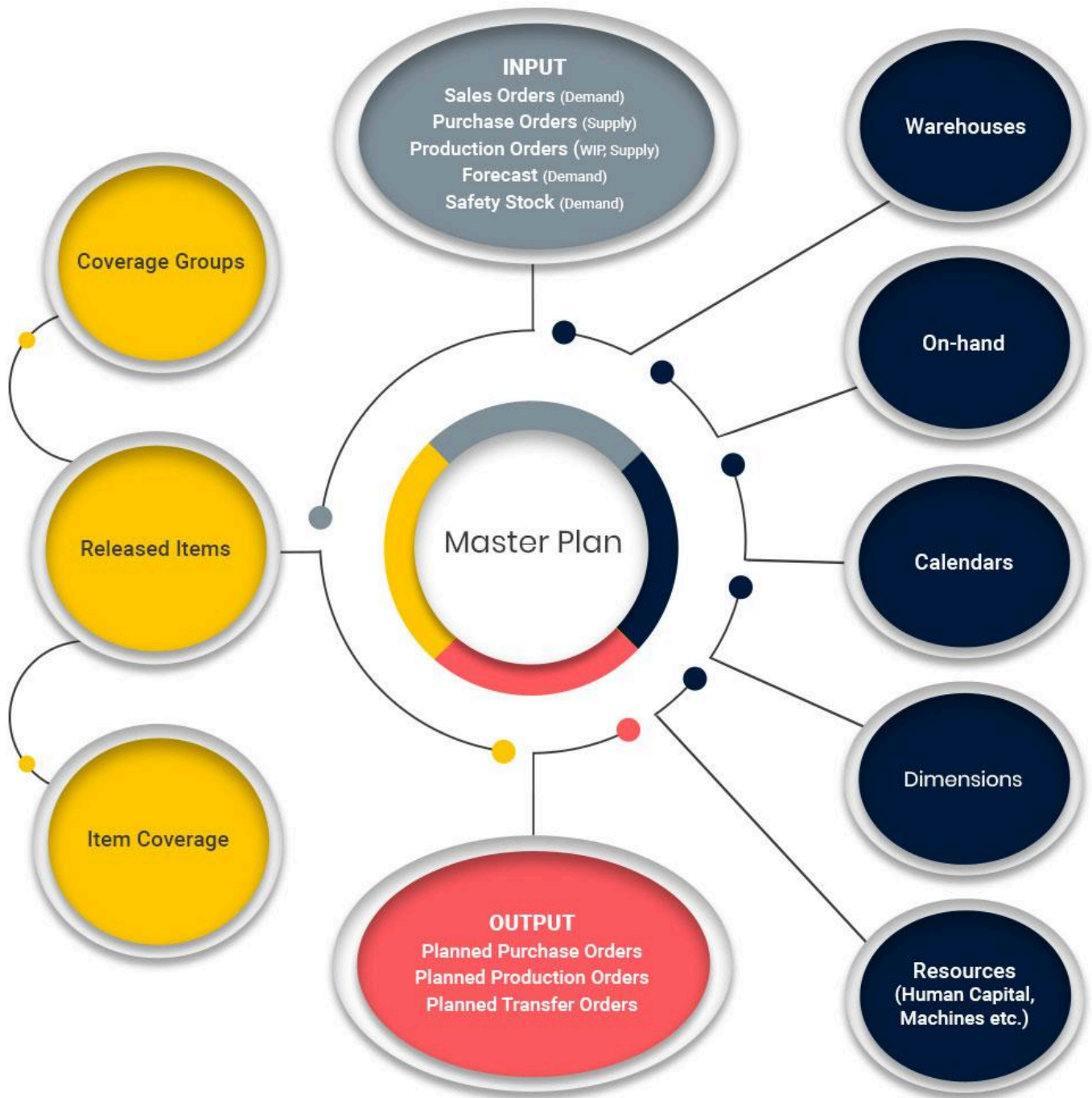
FIGURE 2: LAYOUT OF A TYPICAL WAREHOUSE IN A CHEMICAL DISTRIBUTION COMPANY



03. Materials and Capacity Planning / Master Planning

- As a Chemical distribution company you need to plan for break-bulk / repack, labeling operations and need to track capacity of human resources, label printers, packaging machines etc.
- Typical operations involved such as repackaging or break bulk would require those stations to be available along with operators who perform the operation.
- Planning supply demand signals for distribution is a challenge of its own, however when done correctly, there is no better solution to fulfill orders.
- Be it static or a dynamic plan, there are daily decisions made on how to allocate inventory for a certain repack order.

FIGURE 3: HIGH-LEVEL VIEW OF MASTER PLAN IN MICROSOFT DYNAMICS 365



- Being a distribution company, you see fast moving or express items that require your planning to be more agile and be able to operate on a net change mode rather than a complete recreation every hour. Providing that flexibility would help your planner make key decisions and set priorities on work orders to optimize the work effort.

04. Production and Packaging

- Production in Chemical Distribution companies includes light manufacturing operations such as repack and break-bulk. A bulk container is opened to consume quantities in the

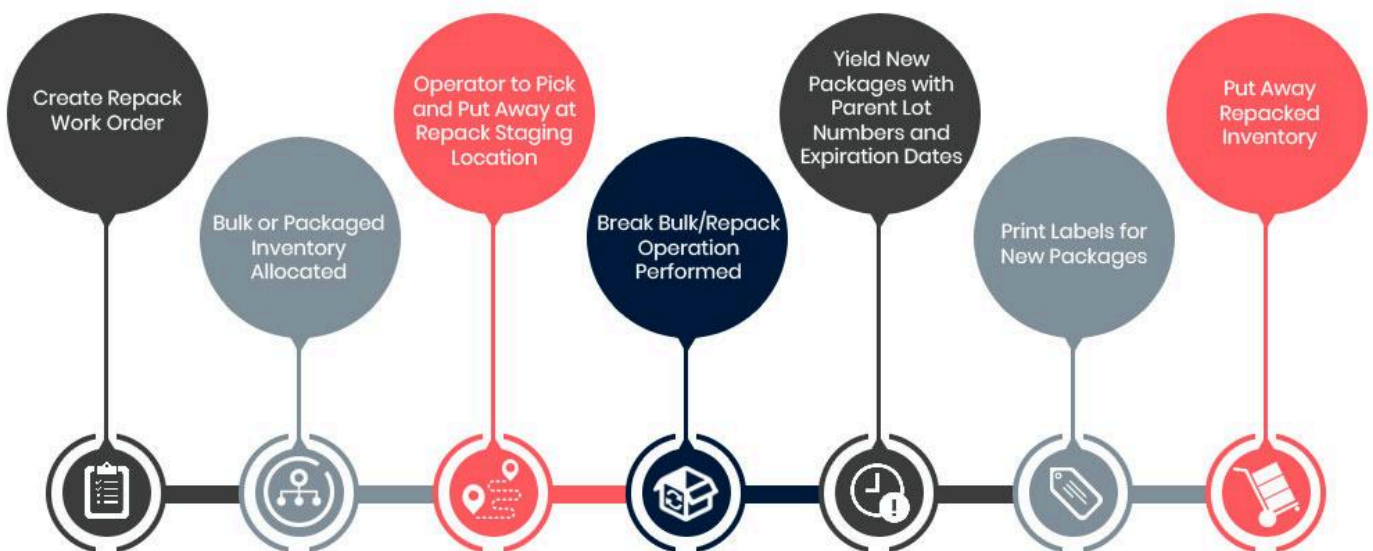
base unit of measure such as kilograms or pounds and yield packages in eaches to fulfill a sales order.

- The work order includes operations such as Filling, Packing, Labor, Quality and Labeling. The produced yield will give you the quantities and cost to produce each bottle / container.

05. Labeling

Labeling would be an additional operation on the shop-floor work order. An integrated label management solution would be an ideal to be included within the workflow of the business process.

FIGURE 4: HIGH-LEVEL REPACK PROCESS IN CHEMICAL DISTRIBUTION



06. Order Management

- Your customer service places an order with the correct ship-to address that may either come from the Customer Master or it could be a brand new address that you have never shipped before. You would need to add this to the sales order for the repacked chemical or a packaged product.
- Once inventory becomes available, your warehouse picker needs to select an optimal pick route to pick all orders in the pipeline for shipment.
- The items picked for each individual sales order would need to be
 - packaged into appropriate boxes
 - shipping labels and DOT labels printed and applied
 - shrink wrapped
 - print and attach a certificate of analysis, safety data sheet, packing slip and a bill of lading for a truck or a UPS or Fedex label to be printed with a tracking number for

small parcel

FIGURE 5: HIGH-LEVEL CUSTOMER SALES ORDER TO SHIPMENT IN CHEMICAL DISTRIBUTION



07. Billing

The final step in this process would be to send a bill to the appropriate bill-to address of the Customer.

What Does a Distribution Company Look Like in Microsoft Dynamics 365

Below is a quick view of what your company would look like within Microsoft Dynamics 365 assuming all required raw materials are available in stock.

01. Products

- This information is maintained within the Product Information Management (PIM) module, and for a chemical distribution company, it is the heart of supply chain and manufacturing.
- At a high level, it falls into the following categories:

ITEM GROUP	TYPE	DEFINITION
ITEM – RM	RAW MATERIAL	INGREDIENT PURCHASED
ITEM – INT	INTERMEDIATE	PRODUCED AS PART OF THE FORMULATION
SKU	FINISHED PRODUCT	CONTAINERIZED FINISHED PRODUCT THROUGH A FORMULA
LABEL	PACKAGE – RAW MATERIAL	LABELLED RAW MATERIAL
KIT	FINISHED PRODUCT	PACKAGED INTO 1 CASE WITH SAME SKUS
BOX	PACKAGE – RAW MATERIAL	PACKAGE PURCHASED

CONTAINER (TOTE, DRUM, etc)	PACKAGE – RAW MATERIAL	PACKAGE PURCHASED
PACKAGE (CASES, KITS, etc)	PACKAGE – RAW MATERIAL	PACKAGE PURCHASED
SERVICES	SERVICE	
SUPPLIES	EXPENSED PACKAGING MATERIAL, LAB SUPPLIES, OFFICE SUPPLIES, etc.	

- On top of this, you need to define which of the inventory products require tracking by batch, location and license plate turned on, the coverage settings, lead times and other item attributes such as chemical properties, label elements (hazard statements, pictograms, hazard symbols, etc.)

02. On-Hand Inventory

- You need a detailed view of inventory slice-and-dice by batch, serial number, site, warehouse, location and license plate number (could be a pallet or other depending on how the containers need to be grouped) for each product. This view will provide a snapshot of inventory to multiple roles such as a planner, buyer, customer service representative, materials manager.
- Your controller will be most interested in an Inventory value report that shows the glimpse of inventory quantity, total value along with physical and financial cost by unit. Having a view into on-hand inventory value for both inventory and WIP would need to be defined that can be reconciled back to General Ledger.
- In Dynamics 365, there are many different ways of viewing slice and dice of inventory. One such screen is an on-hand list view that displays all available inventory based on the dimensions selected on the dimension display that allows a user to select site, warehouse, location, Batch, Serial Number etc.

Dynamics 365 > Finance and Operations > Inventory management > Inquiries and reports > On-hand list

Transactions Intercompany on-hand Quantity adjustment Released product details Dimensions **VIEW** BATCH TRACKING INSPECT RELATED INFORMATION

VIEW
Counting history
Consolidated on-hand

ON-HAND
Filter Inventory quantities

Users can select the parameters of their view of inventory based on the dimensions that are relevant to their business model.

Dimensions display

PRODUCT DIMENSIONS
☒ Configuration
☐ Size
☐ Color
☐ Style

STORAGE DIMENSIONS
☒ Site
☒ Warehouse
☒ Location
☒ License plate
☐ Inventory status

TRACKING DIMENSIONS
☒ Batch number
☒ Serial number
☐ Owner

TRANSACTIONS
☒ Item number
☐ Closed transactions
☐ Quantity <> 0

Item number	Search name	Site	Warehouse	Batch number	Location	Serial number	Physical inventory
D0111	Sodium Chloride	1	11	140127-000003		000001	1.00
D0111	Sodium Chloride	1	11	140127-000003		000002	1.00
D0111	Sodium Chloride	1	11	140127-000003		000003	1.00
M0061	Catalyst	2	24	180411-000006			
M0061	Catalyst	2	24	180424-000007			
M0061	Catalyst	3	31	140121-000001			125,000.00
M0061	Catalyst	3	31	180411-000006			15,000.00
M0061	Catalyst	3	31	180424-000007			3,200.00
M9200	Hydrogen Peroxide	5	51		001		
M9200	Hydrogen Peroxide	5	51		BULK-001	LP92001	100.00
M9200	Hydrogen Peroxide	5	51		BULK-002	LP92002	100.00

Transactions Intercompany on-hand Quantity adjustment Released product details Dimensions **VIEW** BATCH TRACKING INSPECT RELATED INFORMATION OPTIONS

VIEW
Counting history
Consolidated on-hand

ON-HAND
Filter Inventory quantities

Inventory can be tracked in multiple ways depending on your item and warehouse setup. Example shows an item tracking dimension set for batch and serial number tracking

Items can be tracked in warehouse locations down to the Location and License Plate level

Item number	Product name	Search name	Site	Warehouse	Batch number	Location	Serial number	License plate	Physical inventory
D0111	Ruggedized Laser Projector	Ruggedized Laser P...	1	11	140127-000003		000001		1.00
D0111	Ruggedized Laser Projector	Ruggedized Laser P...	1	11	140127-000003		000002		1.00
D0111	Ruggedized Laser Projector	Ruggedized Laser P...	1	11	140127-000003		000003		1.00
M0061	Catalyst	Catalyst	2	24	180411-000006				
M0061	Catalyst	Catalyst	2	24	180424-000007				
M0061	Catalyst	Catalyst	3	31	140121-000001				125,000.00
M0061	Catalyst	Catalyst	3	31	180411-000006				15,000.00
M0061	Catalyst	Catalyst	3	31	180424-000007				3,200.00
M9200	Steel pressed frame	Steel pressed frame	5	51		001			
M9200	Steel pressed frame	Steel pressed frame	5	51		BULK-001		LP92001	100.00
M9200	Steel pressed frame	Steel pressed frame	5	51		BULK-002		LP92002	100.00

03. Sales Orders

- Your customer calls to place a sales order for chemical products, kits or cases. In Microsoft Dynamics 365, a customer can have the products shipped to their own ship-to addresses or a drop ship address directly to their customer.
- Customer service creates a sales order with customer's PO number and adds the kits or cases that need to be shipped to the customer. The order can include specific instructions and notes as requested by the customer. Notes / attachments can be categorized to be printed on specific downstream documents such as packing slip, BOL etc.
- For distribution, Microsoft Dynamics provides a DOM (Distributed Order Management) indicator that allows the user to have a complete picture of inventory across the warehouse and handle order processing to fulfill orders correctly.

Dynamics 365 Finance and Operations USMF

Find product price New OPTIONS

Sales order processing and inquiry

Summary

15 Unconfirmed	0 Delivery date changes	5 Confirmed	3 Partially shipped	All customers
156 Delayed order lines	1 Orders on hold	0 Rejected order lines	All sales orders	

Orders and favorites

With delivery date changes

Unconfirmed

Delayed order lines

Favorite contacts

Find sales order

Find customer

Filter

Sales order

000810

000784

000776

000773

000747

000735

000734

000732

Dynamics 365 Finance and Operations Retail Customers All sales orders

Save + New Delete SALES ORDER SELL MANAGE PICK AND PACK INVOICE RETAIL GENERAL WAREHOUSE TRANSPORTATION LABEL PRINT OPTIONS

CUSTOMER: Check credit limit Statistics Credit card Find prices

INTERCOMPANY TRACING: Intercompany sales order Purchase order Original sales order Intercompany purchase order

COUPONS: Coupons

DISTRIBUTED ORDER MANAGEMENT: View DOM Logs

SALES ORDER DETAILS 000612 : Infinity Chemicals Company

Lines Header Open order

DELIVERY ADDRESS
Name: Infinity Chemicals
Delivery address: Infinity Chemicals
Address: 456 Yellow Road, Blue Mountain, MA 38610, USA

DELIVERY DATE
Requested ship date: 12/12/2018
Requested receipt date: 12/12/2018
Simulate delivery dates

Confirmed ship date
Confirmed receipt date

DISCOUNTS
Total discount %: 0.00

DISTRIBUTED ORDER MANAGEMENT
DOM Status: Not processed

WAREHOUSE
Release status: Open

REFERENCES
Customer reference: Line 14
Customer requisition: PO-8777

TRANSPORTATION
Routes

Sales order lines

+ Add line + Add lines Add products Remove Sales order line Financials Inventory Product and supply Update line

Item number	Product name	Quantity	Unit	Delivery type	Adjusted unit...	Unit price	Net amount	Adjusted net...	Line status	Same batch selection	Fulfillment status
M2003	Sodium Hydroxide	1,000.00	lb	Stock	0.00000	13.00	13,000.00	0.00	Open order		Unknown

Same batch selection: Select to reserve inventory from a single batch. If the quantity can't be filled from a single batch, the Same batch reservation conflict page is displayed, and you can take additional action.

Dynamics 365 Finance and Operations Retail Customers All sales orders

Save + New Delete SALES ORDER SELL MANAGE PICK AND PACK INVOICE RETAIL GENERAL WAREHOUSE TRANSPORTATION LABEL PRINT OPTIONS

CUSTOMER: Check credit limit Statistics Credit card Find prices

INTERCOMPANY TRACING: Intercompany sales order Purchase order Original sales order Intercompany purchase order

COUPONS: Coupons

DISTRIBUTED ORDER MANAGEMENT: View DOM Logs

SALES ORDER DETAILS 000612 : Infinity Chemicals Company

Lines Header Open order

DELIVERY ADDRESS
Name: Infinity Chemicals
Delivery address: Infinity Chemicals
Address: 456 Yellow Road, Blue Mountain, MA 38610, USA

DELIVERY DATE
Requested ship date: 12/12/2018
Requested receipt date: 12/12/2018
Simulate delivery dates

Confirmed ship date
Confirmed receipt date

DISCOUNTS
Total discount %: 0.00

DISTRIBUTED ORDER MANAGEMENT
DOM Status: Not processed

WAREHOUSE
Release status: Open

REFERENCES
Customer reference: Line 14
Customer requisition: PO-8777

TRANSPORTATION
Routes

Sales order lines

+ Add line + Add lines Add products Remove Sales order line Financials Inventory Product and supply Update line Send SDS to customer Warehouse Retail

Product name	Quantity	Unit	Delivery type	Adjusted unit...	Unit price	Net amount	Adjusted net...	Line status	Same batch s...	Fulfillment status	DOM Status
Sodium Hydroxide	1,000.00	lb	Stock	0.00000	13.00	13,000.00	0.00	Open order		Unknown	Not processed

Fulfillment of Sales Orders of chemical distribution can be handled through Distributed Order Management function. The fulfillment status is tracked on the sales order line

- Depending on how the packaged items have been setup for planning (Min/Max, Requirement or Period) with the lead times and calendar setup, you have the ability to run a master plan in a regeneration mode – which nets all supply, demand, planned supply and forecasted demand or in net change that considers changes since the last full run of MRP.
- Typically you would run master planning for all items or items under a certain coverage group, a good example would be your “Fast moving items”.

Dynamics 365 Finance and Operations Sales and marketing Sales orders All sales orders

Update OPTIONS

000559 : P3005

Net requirements, Item number P3005, Black paint - Quart can, Sorting: Requirement date

Plan MasterPlan

Overview Item coverage Summary Period

Warehouse	Site	CW minimum	Minimum	CW maximum	Maximum	Coverage group	Planned order type
14	1		0.00		0.00	Group	Production

The Net Requirements view provides visibility into all orders (sales, purchase and production) and calculate quantity and availability of product

Overview General Action

Inquiries

Reference	Number	Item number	Requirement date	Expiration date	Requirement...	Requirement...	Accumulated	CW accumula...	Delay (days)	To date
Production	B-000022	P3005	12/14/2016		368.00		368.00		714	11/28/2018
Production	B-000022	P3005	12/14/2016		368.00		736.00		714	11/28/2018
Production	B-000022	P3005	12/14/2016		368.00		1,104.00		714	11/28/2018
Sales order	000342	P3005	1/22/2019		-368.00		736.00			
Sales order	000353	P3005	2/8/2019		-368.00		368.00			

PEGGING

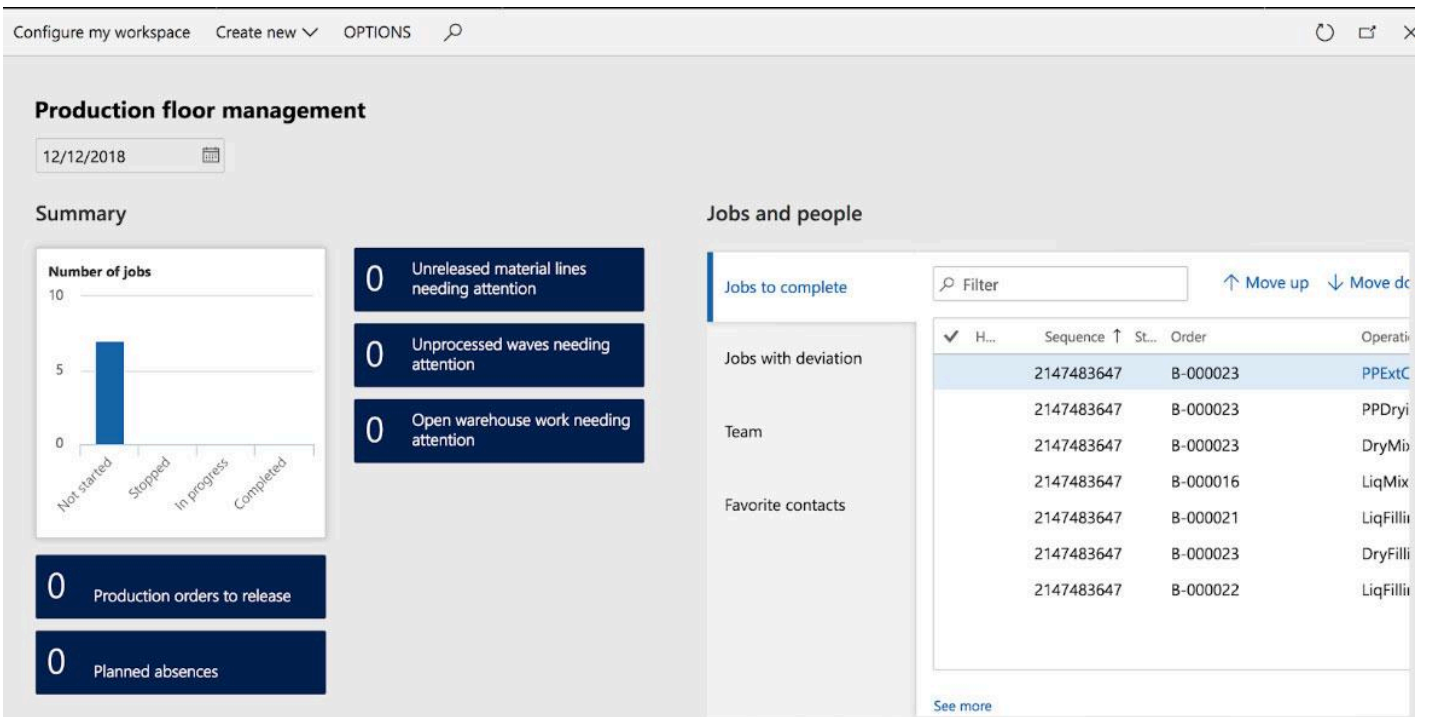
Number	Reference	Item number	Requirement...	Requirement...	Requirement...	Covered quan...	Covered CW...	Changed by q...	Changed by...
000342	Sales order	P3005	1/22/2019	-368.00		-368.00			
000343	Sales order	P3005	2/20/2019	-368.00		-368.00			
000353	Sales order	P3005	2/8/2019	-368.00		-368.00			

05. Production of Kits and Cases

Microsoft Dynamics 365 has extensive functionality to support all production operations for the Chemical Distribution company. The operations can be streamlined to be made really simple or suit your current state on the shop-floor.

5.1 Production Order

- You can go with a Production order in Microsoft Dynamics 365 if you need your finished goods produced, work planned along with tracking operations, routes, resource cost and scheduling of jobs.
- There are different views available that would be based on security roles and privileges that allow different sets of users to view the production order, picklists, route cards or job cards.



Dynamics 365 ▾ Finance and Operations USPI 🔍 🗨️ ⚙️ ?

🗑 Delete New production order New batch order PRODUCTION ORDER **SCHEDULE** WAREHOUSE VIEW MANAGE COSTS 🔍 ⚙️ 🔄

PRODUCTION ORDER **VIEW**

Schedule operations Gantt chart

Schedule jobs Trace

Locked for rescheduling Gantt Chart - Fast view

ALL PRODUCTION ORDERS 🔍 Filter

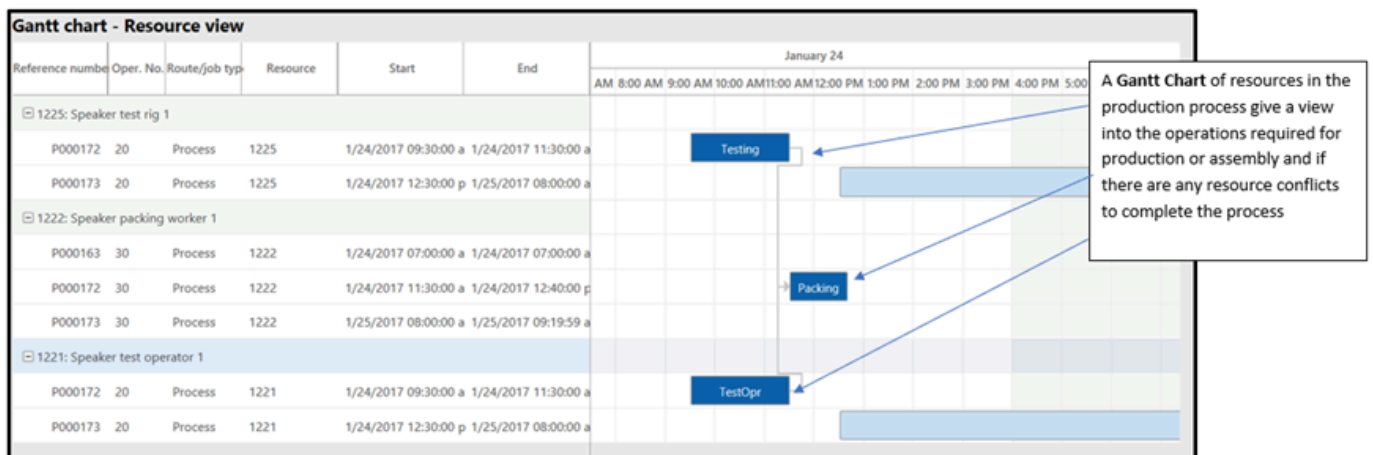
✓	Production ↓	Item number	C...	C...	Quantity	Report remaind...	Delivery	Status	Remain status	R...	P...	L...	Release to warehouse
	B-000023	P4000			290,000.00	290,000.00	12/18/2018	Started	Route consumption				Allow partial reservation
	B-000022	P3005			1,104.00	1,104.00	12/26/2018	Started	Material consumption				Allow partial reservation
	B-000021	P3004			2,206.00	2,206.00	12/24/2018	Started	Material consumption				Allow partial reservation
	B-000020	P3003			3,186.00	3,186.00	12/21/2018	Scheduled	Material consumption				Allow partial reservation
	B-000019	P3002			1,470.00	1,470.00	12/20/2018	Scheduled	Material consumption				Allow partial reservation
	B-000018	P3001			5,146.00	5,146.00	12/18/2018	Scheduled	Material consumption				Allow partial reservation
	B-000017	P3000			6,740.00	6,740.00	12/17/2018	Scheduled	Material consumption				Allow partial reservation
	B-000016	P2000			361,464.00	361,464.00	12/14/2016	Started	Material consumption				Allow partial reservation
	B-000015	P2000			344,236.00		11/15/2016	Ended	Ended				Allow partial reservation
	B-000014	P4000			275,000.00		11/22/2016	Ended	Ended				Allow partial reservation

Dynamics 365		Finance and Operations		Production control > Operations > Current operations		USPI					
Process	Requirements	Journals	Operation details	OPTIONS							
PERSONALIZE		PAGE OPTIONS		SHARE							
Personalize this form		Security diagnostics		Get a link		Create a custom alert					
Add to workspace		Advanced Filter/Sort		Record info		Manage my alerts					
				Change view							

CURRENT OPERATIONS											
Filter											
✓	Production ↑	Oper. No.	Operation	Resource	Production unit	Route ...	Start date	St...	Operation sta...	Material consumption	Hours Type
	B-000017	10	LiqFilling	21	2	Stand...	11/27/2016	1...			Resource gr
	B-000018	10	LiqFilling	21	2	Stand...	12/13/2016	1...			Resource gr
	B-000019	10	LiqFilling	21	2	Stand...	12/12/2016	1...			Resource gr
	B-000020	10	LiqFilling	21	2	Stand...	12/13/2016	1...			Resource gr
	B-000021	10	LiqFilling	21	2	Stand...	12/10/2016	1...			34.26 Resource gr
	B-000022	10	LiqFilling	21	2	Stand...	12/14/2016	1...			3.13 Resource gr
	B-000023	10	PPEExtCut	11	1	Stand...	11/21/2016	1...			43.59 Resource gr
	B-000023	20	PPDrying	11	1	Stand...	11/28/2016	1...			26.15 Resource gr
	B-000023	30	DryMixing	11	1	Stand...	12/3/2016	1...			47.46 Resource gr
	B-000023	40	DryFilling	11	1	Stand...	12/11/2016	1...			26.15 Resource gr

5.2 Visual Planning and Scheduling of Jobs Using Production Gantts

- D365 has a powerful visual planning and scheduling tool that comes handy when scheduling a job / operation for all sales orders planned during a day, week or a month.
- It gives you the ability to reschedule and re-prioritize an operation or a work order depending on customer demand.



I recommend reading one of our prior blogs – [“Operational Challenges in a Chemical Company: Key Solutions”](#). This blog will help you learn more on production and operations.

5.3 BOM Journal

- BOM Journals are used in the production process to add finished goods into inventory and to reduce the inventory components within the Formula or Bill of Material.
- BOM Journals help reduce the process time instead of using a full production order.

- A BOM journal, however, cannot perform functions like tracking jobs and operations and cannot be a part of visual planning.

BOM Journals are used in the production process to add finished goods into inventory and to reduce the inventory components within the Formula or Bill of Material

Date	BOM line	Item number	Quantity	Cost price	Cost amount	Log	Batch number	Batch disposition code	Batch disposition status
12/12/2018	<input type="checkbox"/>	MW4007	700.00	0.08	56.00		800009	Avail	Available
12/12/2018	<input type="checkbox"/>	M2007	1,000.00	0.27	270.00		000024	Avail	Available
12/12/2018	<input type="checkbox"/>	M2003	500.00	0.45	225.00		000016	Avail	Available

06. Shipments

- The difference between domestic and international shipments is the add on export documentation that needs to be attached for international shipments.
- For most customers you need a common set of documentation that can be generated from the application.
- With advanced warehouse management, outbound work and shipment wave is created to pick products and put-away for packaging (There is too much to discuss about warehouse work and will be a topic of its own).

Before the product can be shipped, Microsoft Dynamics 365 enhanced with the power of Integrated Chemical Management (iCM) prints the below documentation package.

- Warehouse Work – Displays sales order number, work number in barcode format, product batch/ lot number in barcode format, license plate information in barcode format, put-away location in barcode format. Work is processed using a barcode device.
- Packing Slip – Displays the sales order number, customer PO number, delivery method, ship date, product to be delivered, quantity delivered, unit of measure, batch number/ lot number delivered, ship to address, ship from address, back-order quantity (if any), etc.
- Bill of Lading (BOL) – Displays ship to address, sales order number, hazard information, pallet information, number of boxes, master bill of lading number (if any), etc.
- Certificate of Analysis (C of A) – Displays product, company logo (for private label customer logo), test specifications, test results (min/ max or average), visual, fraction,

integer tests, approver information, expiration dates/ best before dates, test dates, etc.

- Safety Data Sheets (SDS) – Displays product label information, pictograms, hazard statements, warning statements, transportation/ DOT information, by country, by language, CAS number information, etc.
- Shipping Labels – Displays company logo, ship to address, product information, etc.

The screenshot shows the Dynamics 365 Finance and Operations interface. The top navigation bar includes 'Dynamics 365', 'Finance and Operations', and 'USMF'. The main area displays a 'New wave' dropdown menu with options: 'Replenishments', 'Load demand replenishment', 'Automatic release of sales orders', 'Automatic release of transfer orders', and 'Process waves'. Below the menu, a dashboard shows several work items: 'Shipments not on a wave' (0), 'Unprocessed waves needing attention' (0), 'Unreleased waves needing attention' (0), 'Unprocessed waves' (0), 'Unreleased waves' (0), 'Open replenishment work' (0), 'Open warehouse work' (0), and 'Open shipment work' (2). A 'Shipments' section on the right shows 'Shipments not on a wave'.

The screenshot shows the Dynamics 365 Finance and Operations interface with the 'WORK' tab selected. The top navigation bar includes 'Dynamics 365', 'Finance and Operations', and 'USMF'. The main area displays a 'WORK' tab with a 'Filter' input field. Below the filter, a table lists open shipment work items:

Work ID	Work creation number	Work status	Work order type	Order number	Site	Warehouse	Work in process
USMF-000001	USMF-000000001	Open	Sales orders	000748	2	24	
USMF-000002	USMF-000000002	Open	Sales orders	000752	2	24	

07. Invoicing

After shipments are done, Microsoft Dynamics 365 gives you the ability to create invoices in a batch mode or mass select shipments for invoicing. The system also gives you the ability to print or email a specific customer email address.

+ New free text invoice

OPTIONS

Customer invoicing

Summary

Orders and invoices

3

Shipped but not invoiced sales orders

1

Sales orders on hold

0

Free text invoices assigned to me

4

Unposted free text invoices

Shipped but not invoiced sales orders

Sales orders on hold

Unposted free text invoices

Open customer invoices

Sales orders posting history

Free text invoice posting history

Find customer

Filter

Invoice

✓ Sales order ↑	Customer account	Customer name	Date	H...
000713	US-016	Whale Wholesales	12/7/2016	
000714	US-017	Turtle Wholesales	12/7/2016	
000754	US-001	Contoso Retail San Diego	1/18/2017	

See more

Dynamics

+ New free te

Custom

Summary

3

Shipped b

1

Sales orde

0

Free me

4

Unp

Posting invoice

Arrange Select Printer setup

PARAMETER

Quantity

Packing slip

Posting

Yes

Late selection

No

Reduce quantity

No

COMPLIANCE DOCUMENTS

Prevent sales pack slip/invoice posting

No

Print product safety data sheet

Yes

PRINT OPTIONS

Print

Current

Print invoice

Yes

Use print management destination

No

Print COD

No

Print charges

Show details

Print Shipping Label ICM

Yes

SETUP

Check credit limit

Balance+All

Credit correction

No

Credit remaining quantity

No

SUMMARY ORDER

Summary update for

None

OK

Cancel

Batch

Posting invoice

Arrange Select Printer setup

Parameters Packing slip

Overview

+ Add Remove Tracking information Select packing slip Totals Sales tax Payment schedule

✓	Packing slip	Update	Customer packi...	Sales order	Name	Currency
	<multiple>	Invoice		000713	Whale Wholesales	USD
	<multiple>	Invoice		000714	Turtle Wholesales	USD
	SPK-001976	Invoice		000754	Contoso Retail San Diego	USD

Setup

OK Cancel Batch

Key Takeaways

- The above information should give you a decent picture in understanding your current state and what your company would look like in Dynamics 365.
- You can streamline your processes with a robust, simple, easy to understand yet powerful system like Microsoft Dynamics 365.
- The ability to integrate with other Microsoft applications allows your company to fully integrate and enhance efficiencies.
- Power tools such as master planning and production gantt charts provide the ability to plan and schedule your production operations.
- Microsoft Dynamics 365 will help you boost your business efficiencies through the “one Microsoft ecosystem” and enhances the interoperability across other Microsoft applications.
- Microsoft Dynamics 365 has the ability to address most, if not all requirements for a Chemical Distribution company out-of-the-box.



What does your company look like in Microsoft Dynamics 365? Talk to us to take a test drive.

REFERENCES

<https://www.bcg.com/publications/2018/why-specialty-chemical-distributors-need-to-raise-their-game.aspx>

For more information or a demonstration of Microsoft Products, feel free to send me an email at bindu.chunduru@xcelpros.com

For more insights on the industry and related technologies, follow us at

1. XcelPros Insights <https://xcelpros.com/insights>
2. LinkedIn at <https://www.linkedin.com/in/bindu-chunduru-05a9933/>
3. XcelPros Twitter <https://twitter.com/xcelpros>
4. Twitter at <https://twitter.com/BCtechnologist>

This article is written by Bindu Chunduru, Head of Delivery & Solutions Architect at XcelPros. She has extensive hands-on experience in Finance, Costing and Manufacturing functions in conjunction with industry leading ERP systems like SAP, Microsoft Dynamics and building industry specific products. She has been an advocate of transformation through technology and a change agent helping companies grow by improving business processes & practices. If you have any questions or need help in anyway, you can reach out to the author at bindu@xcelpros.com or follow her on Twitter [@BCtechnologist](https://twitter.com/BCtechnologist) and LinkedIn [@BinduChunduru](https://www.linkedin.com/in/BinduChunduru)

About XcelPros

XcelPros is a Chicago-based company and delivers transformation through technology. We offer business and technology solutions with deep industry experience in Chemical, Pharma, Life Sciences (including Medical Devices, Bio-Medical & Biotech), Insurance, Discrete Manufacturing, Process Manufacturing, Distribution and Food & Beverage.

XcelPros is a Microsoft Gold Partner, Direct Cloud Solutions Provider (CSP) and a Systems Integrator (SI) offering software licensing, implementation and consulting services for Microsoft

Dynamics 365, CRM, Microsoft Dynamics AX, Business Intelligence & Analytics (Power BI), SharePoint, Office 365 and Azure (Cloud, IOT, Microsoft Flow amongst many others). Our mission is to provide integrated technology solutions that amplify impact and empower our customer's businesses. We believe technology is the key enabler of exponential growth for us and our customers.

Contact XcelPros today to transform your business.

Call us toll-free – 1.855.411.0585 (or) visit www.xcelpros.com

