



WHITEPAPER

WHY CHOOSE MICROSOFT DYNAMICS 365 OVER CHEMPAX

xcelpros

CONFIDENTIAL

TABLE OF CONTENTS

1. Preview 01

2. Executive Summary 02

3. The Chemical Industry - Overview and Challenges 03

4. The need for a modern Enterprise Resource Planning 05

5. Key Functions for Chemical Companies 07

 5.1. Products & Inventory Management 07

 5.2. Sales Management 07

 5.3. Supply Chain Management 07

 5.4. Financial Management 08

 5.5. Manufacturing Controls 08

 5.6. Quality Control 08

 5.7. Compliance 09

 5.8. Reporting 09

 5.9. Interoperability 09

 5.10. Integrated Label Management 09

 5.11. Integrated SDS Management 09

6. What is Microsoft Dynamics 365 Finance & Operations? 10

7. Microsoft Dynamics 365 covers functionality for the following Chemical SIC 12

 Codes 12

 7.1. Industrial inorganic chemicals 12

 7.2. Plastics, materials and synthetics 12

 7.3. Soap, cleaners, and toilet goods 12

 7.4. Industrial organic chemicals 12

 7.5. Agricultural chemicals 13

 7.6. Miscellaneous chemical products 13

TABLE OF CONTENTS

8. Chempax, and how it does in comparison to Microsoft Dynamics 365? 14

 A. Complex Chempax System Design 15

 B. Chempax and Complex Manufacturing 20

 C. Chempax and Reporting 22

 D. Product Lifecycle 23

 E. Dynamic Synergy 25

9. Microsoft’s Return on Investment of \$16.97 for every dollar spent. 25

10. Power of One Microsoft Ecosystem - The need for more than just a good
 ERP 26

 10.1. Document Management System 27

 10.2. Embedded Analytics & Reporting with Microsoft Power BI 27

 10.3 Automated Workflows with Microsoft Flow 28

 10.4 Microsoft Dynamics 365 CRM 28

 10.5 Custom Business Applications using Microsoft PowerApps 29

 10.6 Microsoft AppSource 29

11. Closing Thoughts 31

PREVIEW

Enterprise Resource Planning (ERP) software is no longer the traditional back-office accounting software. It is extending intelligence to the enterprise with powerful and connected processes from machine learning (ML) to Internet of Things (IoT). Customers in the Process Manufacturing industry are deriving more benefits from ERPs today than ever before due to the extensive functionality embedded within these systems, level of integration with other applications and cloud.

Implementing the right technology that is supported by the enhanced flexibility and scalability of the modern cloud is enabling more and more customers to reach greater levels of maturity as they continue their digital evolution.

This document, including any attachments, is intended solely for the person or entity to which it is addressed and may contain confidential, proprietary and/or non-public material. Except as stated above, any review, re-transmission, dissemination or other use of, or taking of any action in reliance upon this information by persons or entities other than an intended recipient is prohibited. If you receive this in error, please notify the sender and delete the material from any media and destroy any printouts or copies

EXECUTIVE SUMMARY

ERP is the cornerstone of a modern-day enterprise. It supports a majority of your day-to-day operations, business processes and secures your critical enterprise data.

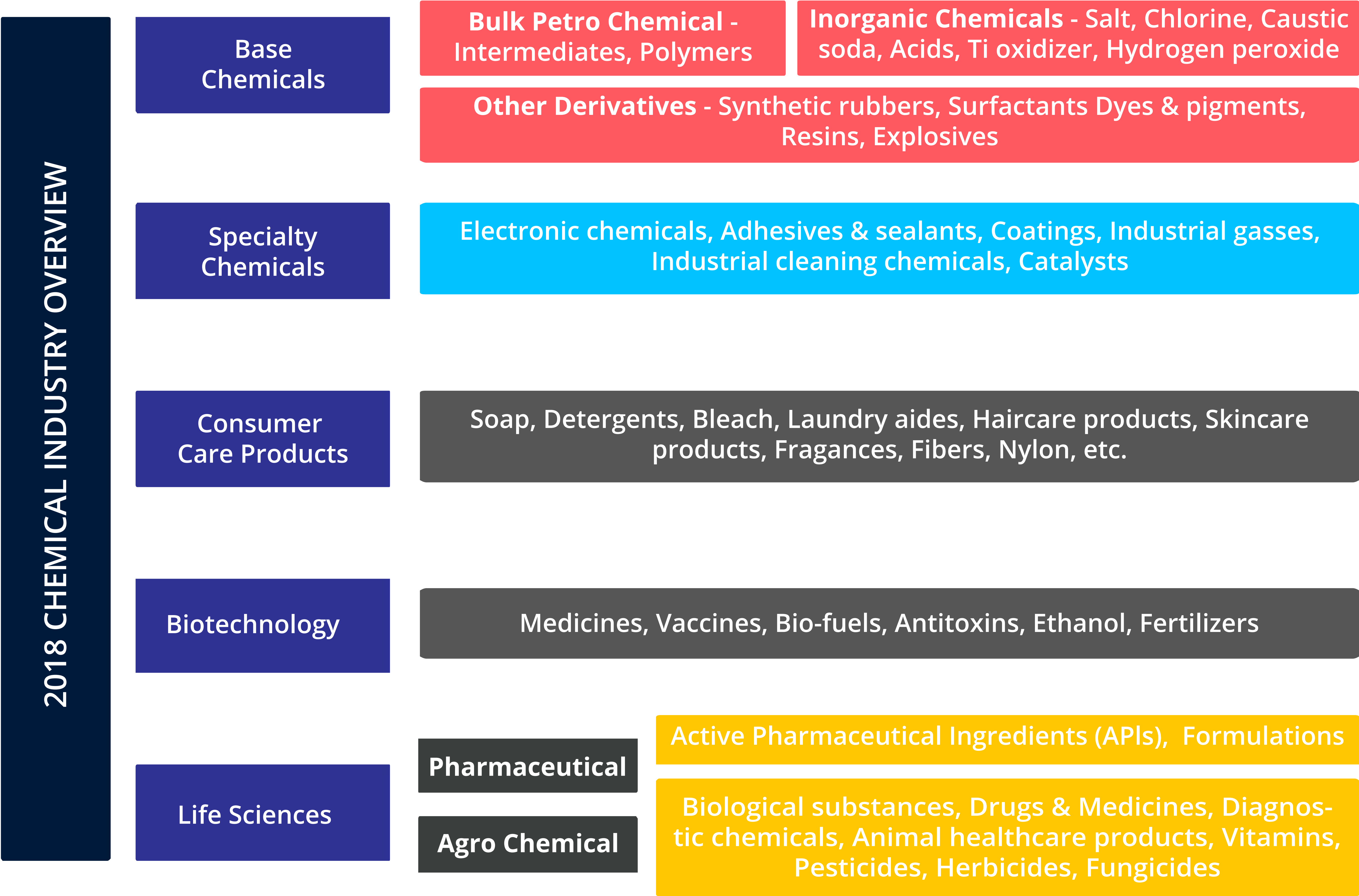
The purpose of this document is to highlight the competitive advantages that Microsoft Dynamics 365 Finance & Operations (Microsoft Dynamics 365) delivers to the Chemical industry in comparison to Datacor's Chempax.

THIS DOCUMENT ELABORATES ON KEY TRENDS WITHIN THE **CHEMICAL INDUSTRY** AND OFFERS INSIGHTS INTO

- How these products fare in comparison
- Functional advantages of one vs the other
- The synergies that can be gained by virtue of an ecosystem like Microsoft Dynamics 365

The information compiled in this article is a result of extensive research conducted by the views of industry experts, Chempax consultants, journals, desk research, reviews, and triangulation with our in-house consultants with over 20 years of ERP experience.

THE CHEMICAL INDUSTRY - OVERVIEW AND CHALLENGES



- Due to its cyclical nature and volatility, the Chemical Industry is one of the most economically sensitive sectors. Chemical companies operate in a complex and challenging business environment and are subject to more regulations than any other industry.
- Tariffs, global economic challenges, tighter regulations and shrinking margins have driven the chemical industry to seek innovative ways to minimize costs, increase efficiencies, and optimize production.
- Even in challenging economic times, chemical companies continue to make decisions they have always made on which products to produce, and in what quantities, but they need more confidence that the ERP system will aid in these decisions leading to correct outcomes.

- For chemical companies, the priority for technology investments should be to focus on solutions that connect people and processes. Technology solutions can deliver the business insights manufacturers need.
- Regulations in the United States include
 - TSCA (Toxic Substances Control Act)
 - FIFRA (Federal Insecticide, Fungicide and Rodenticide Act)
 - FFDAC (Federal Food Drug and Cosmetics Act)
 - OSHA
 - GHS for Labeling
- European regulations include
 - REACH (Registration, Evaluation, Authorization of Chemicals)



EQUIPPED WITH THE RIGHT TOOLS, COMPANIES CAN USE THEIR RESOURCES MORE WISELY.

- A few challenges being faced by the Chemical industry today
 - Tariffs
 - Increasing regulations
 - Increasing competition for skilled staff, high attrition
 - Complex supply chains
 - Opportunity in innovation and new technologies (companies need investments in a continuous stream of differentiation for new products)
 - Integration with 3rd party applications to manage compliance, data, labels, blockchain etc.
 - Aging infrastructure
 - Rising energy and feedstock costs

THE NEED FOR A MODERN ENTERPRISE RESOURCE PLANNING

- To operate effectively in this demanding environment, companies need the information that allows them to be more agile.
- For modern day organizations, Enterprise resource planning (ERP) software is used primarily as the central system of record bringing together data from all of its departments, i.e. Sales, Finance, Production etc.
- Choosing the right Enterprise Resource Planning (ERP) solution is therefore a key factor in realizing company's short- and long-term objectives, as well as allowing your organization the flexibility to uncover previously overlooked trends and potential growth opportunities.
- ERP needs to be intuitive, agile and powerful enough to support the functions of your organization. Scalability to support your future growth is an imperative.

- ERP needs to be able to promote automation in a controlled way in adherence to the industry best practices.
- If the technology you choose doesn't support requirements that are important for your company, then it will hold you back, preventing growth as you divert time, energy, resources and money trying to make it work with custom code, 3rd-party add-ons and band-aid fixes.
- Unlike Microsoft Dynamics 365, very few ERP vendors can claim to have built-in functionality to be able to service any business, and even less can deliver a solution flexible enough, and with the capabilities needed in a cost-effective manner. Microsoft Dynamics 365 ERP made great advancements by extending intelligence to typical back-office processes by leveraging the flexibility and scalability of modern cloud platforms.
- The technology heavyweight is investing heavily in a wave of new technology from Internet of Things (IoT) and artificial intelligence (AI), to machine learning (ML), natural language processing, and Bots. The firm committed \$14.7B in R&D expenses in 2018. In fact, there is a constant influx of enhancements and product releases centered around the Dynamics portfolio with every product on a 5 year roadmap that is being reviewed biannually.

KEY FUNCTIONS FOR CHEMICAL COMPANIES

01. PRODUCTS & INVENTORY MANAGEMENT

- Full Track & Trace Functionality (Forward & Backward)
- Inventory Management
- Batches with shelf life dates, best before dates, expiration dates and retest dates
- Inventory adjustments and cycle counts
- Chemical Properties
- CAS Number Management
- Multiple Units of Measures
- Multidimensional Inventory

02. SALES MANAGEMENT

- Quotes & Order analysis
- Pricing by product, sales channel, other
- Tiered pricing and promotional pricing
- Available-to-Promise reporting
- Order Profitability
- Sales Commissions function
- Order management and tracking
- Automated email notification

03. SUPPLY CHAIN MANAGEMENT

- Match demand and supply
- Improved Supply Chain Responsiveness
- Updated and efficient Logistic analysis
- Automated planning based on lead times and time fences
- Master planning and demand forecasting

04. FINANCIAL MANAGEMENT

- Basic and advanced functions for GL, AP & AR
- Cash & Bank Management with Bank Reconciliation
- Fixed Assets
- Budgeting

05. MANUFACTURING CONTROLS

- Safety and sustainability analysis
- Real-time production data
- Equipment failure predictions
- Production scheduling and rescheduling
- Production operations and routes
- Process bulk manufacturing
- Co-product and by-product yields
- Break-bulk operations
- Packout operations

06. QUALITY CONTROL

- Incoming inspection
- Quarantine Management
- Work in process (WIP) quality control
- Post yield quality
- Certificate of analysis that includes chemical tests, batch potency information, metal tests
- Carry over certificate of analysis information from the parent bulk chemical to packaged chemical
- COAs specific to a customer / item

07.COMPLIANCE

- Hazardous chemical indicators
- Safety Data Sheet information by country by language
- Environment health and safety information (EH&S)
- DOT information
- DEA Controls
- 21 CFR Part 11 (Electronic Signatures)
- GHS
- OSHA

08.REPORTING

- Inventory slice and dice by dimensions important to the business
- Autonomy to generate the reports you need without reliance on IT technical resources

09.INTEROPERABILITY

- Workflow-based tools for seamless integration with 3rd party systems
- Native integration with mail servers and advanced analytics tools
- Native integration with a reliable and powerful CRM system that provides highest insights to capture prospective customer information
- Integrated Document Management with Microsoft SharePoint

10.INTEGRATED LABEL MANAGEMENT

- Labels must adhere to OSHA's constantly updated Hazard Communication Standards (HCS)
- Alignment with the Globally Harmonized System for Chemical Labeling (GHS)

11.INTEGRATED SDS MANAGEMENT

- Ability to author and maintain a 16-section SDS in compliance with the standards

SO WHAT IS MICROSOFT DYNAMICS 365 FOR FINANCE & OPERATIONS?

- Microsoft remains a Leader in the 2018 ERP marketplace with its enterprise solution: Dynamics 365 for Finance & Operations (D365). Continuing with its vision of unifying people, products and customers through digital feedback loops that are enabled by the technologies it offer, Microsoft continues to help organizations along their digital transformation path.
- Microsoft Dynamics 365 for Finance & Operations delivers unparalleled capabilities in several areas such as
 - Process, Discrete and Mixed-mode Manufacturing
 - Logistics and Fulfillment
 - Advanced Warehouse Management with Mobile Supply Chain
 - Transportation Management
 - Financial Management
 - Retail and Commerce
 - Supply Chain Planning
 - Product Design
- Microsoft Dynamics 365 for Finance & Operations is a Tier 1 product offered at a Tier 2 price.
- In its Spring 2018 update, Microsoft included improvements to analytics, data integration, extensibility and customization, supply chain optimization, and compliance. The extreme value of Microsoft Dynamics 365 is derived from the power of the native integrations it provides to all the other products in the One-Microsoft-Ecosystem, including Field Service, Project Service Automation, Retail, Sales, Talent, Customer Service and more.

- Underpinning and extending Microsoft's applications are technologies such as Power BI, PowerApps, Common Data Service, and Microsoft Flow, which give users the tools to tailor their own environment to suit their needs.
- With another update completed in October 2018, Microsoft started giving its customers and partners a preview of what's to come and whether the capability will be delivered to cloud or on-premises deployments. Imbuing its applications with intelligent technologies such as Artificial Intelligence (AI) has been a theme for Microsoft in recent releases, as the vendor seeks to improve efficiency and productivity by having the system make intelligent recommendations.
- As vendors increase the number of use cases for new capabilities and their adoption becomes more widespread, its ability to deliver value that differentiates its products will improve. With Microsoft in the helm, you can be sure Microsoft Dynamics 365 will remain ahead of the curve.

MICROSOFT DYNAMICS 365 COVERS FUNCTIONALITY FOR THE FOLLOWING **CHEMICAL SIC CODES**

INDUSTRIAL INORGANIC CHEMICALS

- 2812 Alkalines and chlorine
- 2813 Industrial gases, (oxygen, acetylene, hydrogen)
(typically this is a services industry, not ERP)
- 2816 Inorganic pigments
- 2819 Inorganic industrial chemicals

PLASTICS, MATERIALS AND SYNTHETICS

- 2821 Plastics, materials, and resins
- 2822 Synthetic rubber
- 2823 Cellulose man made fibers
- 2824 Organic fibers, non-cellulose

SOAP, CLEANERS AND TOILET GOODS

- 2841 Soap and other detergents
- 2842 Polishes and sanitation goods
- 2843 Surfaces and active agents
- 2844 Toilet preparations
- 2851 Paints and allied products

INDUSTRIAL ORGANIC CHEMICALS

- 2861 Gum and wood chemicals
- 2865 Cyclic crudes and intermediates
- 2869 Industrial organic chemicals

AGRICULTURAL CHEMICALS (FERTILIZERS)

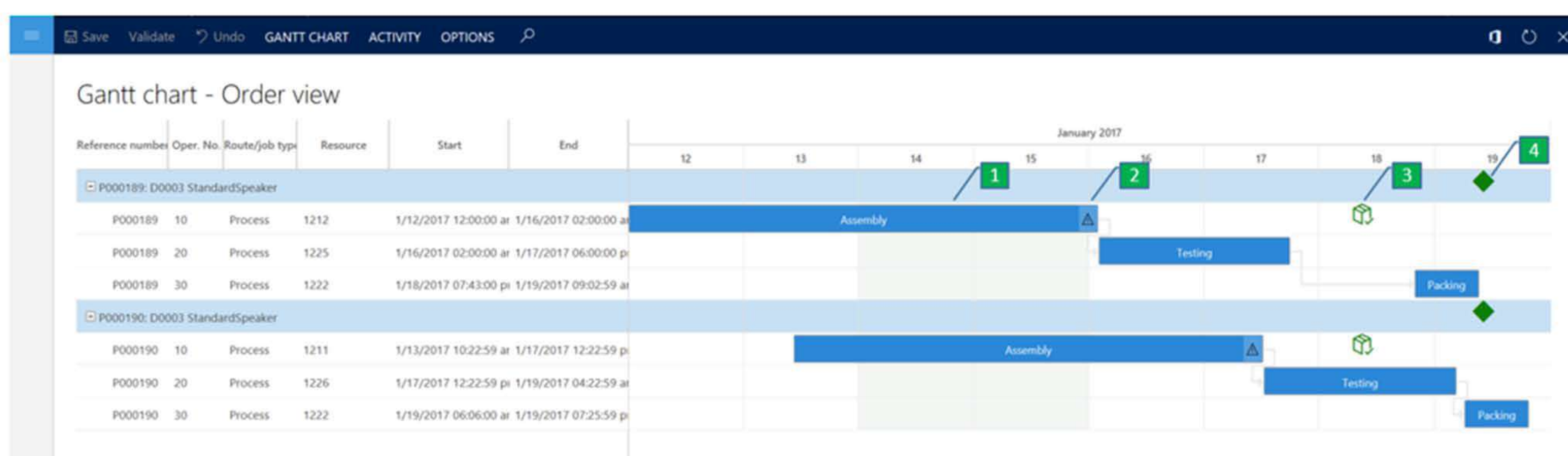
- 2873 Nitrogenous fertilizers
- 2874 Phosphoric fertilizers
- 2875 Fertilizers, mixing only
- 2879 Agricultural chemicals

MISCELLANEOUS CHEMICAL PRODUCTS

- 2891 Adhesives and sealants
- 2892 Explosives
- 2893 Printing ink
- 2895 Carbon black
- 2899 Chemical preparations

CHEMPAX, AND HOW IT DOES IN COMPARISON TO MICROSOFT DYNAMICS 365?

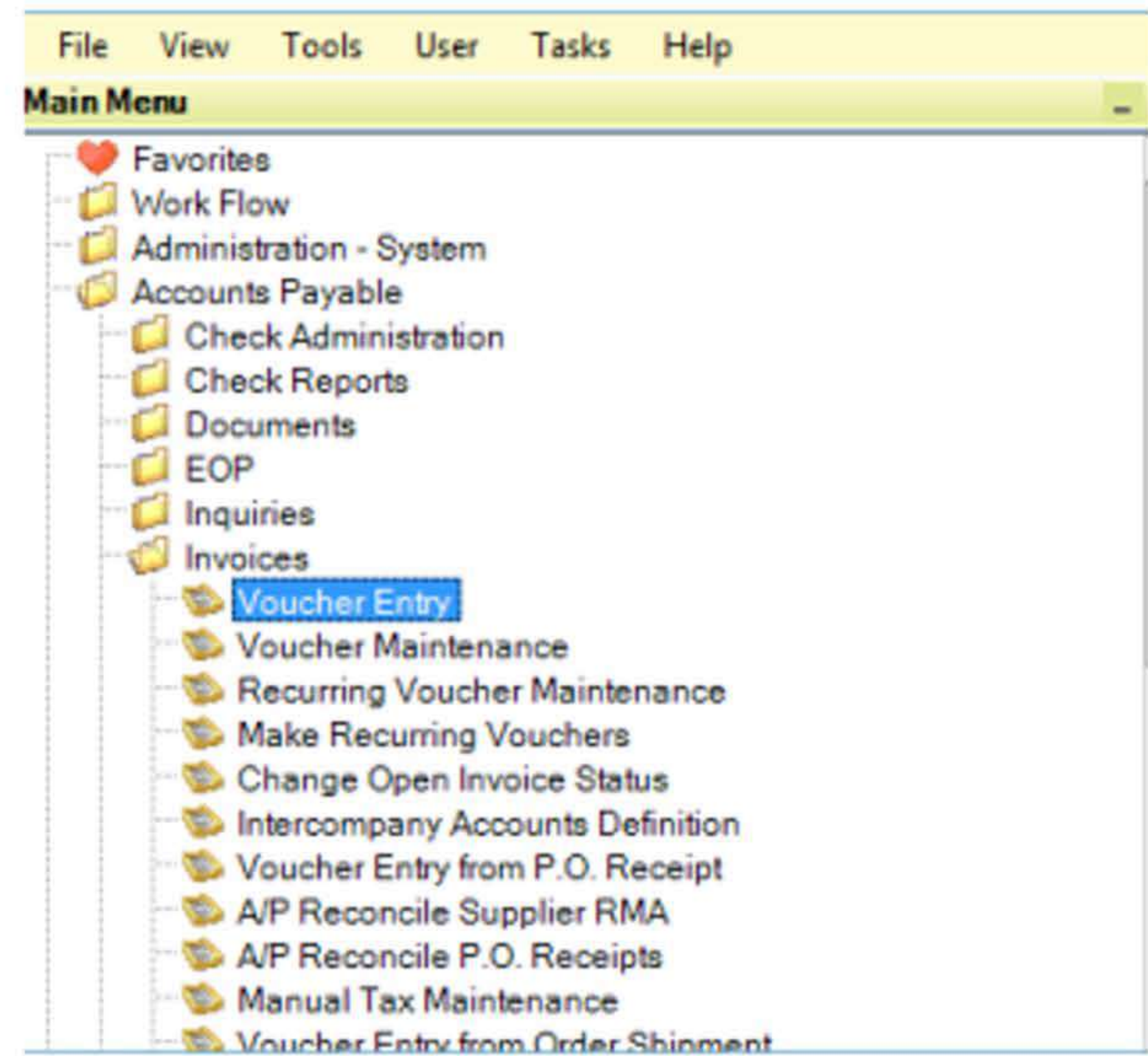
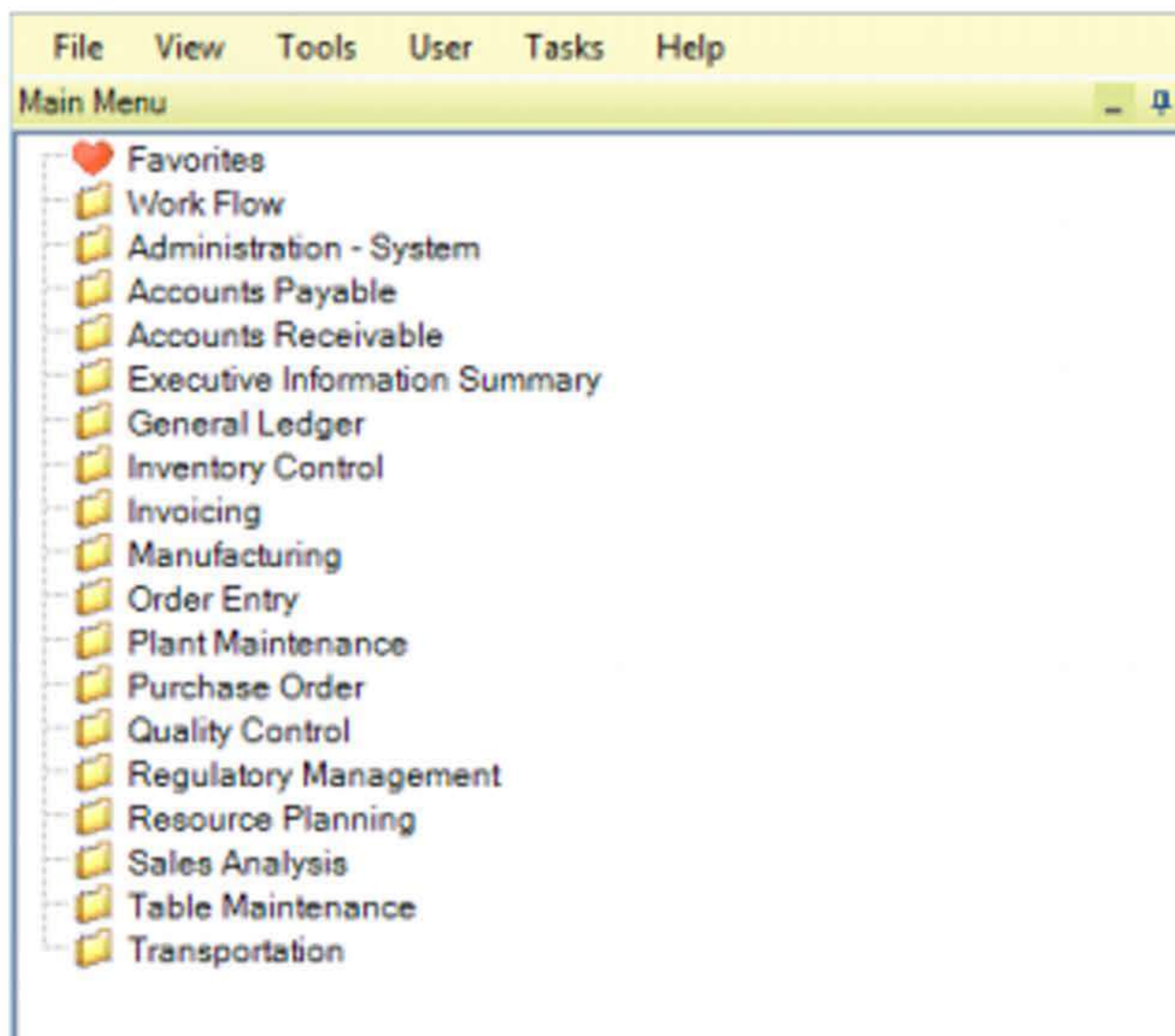
- Datarcor's Chempax is an integrated ERP application that is used by chemical process manufacturers and distributors.
- Chempax, however, positions itself in the industry as just another vendor in the fragmented ERP marketplace. Dynamics 365 on the other hand is backed by a giant, Microsoft.
- Chempax also offers ERP features like Materials Resource Planning (MRP), Manufacturing Execution Systems (MES), product lifecycle management, supplier and supply chain management, business intelligence and more.
- The solution also offers accounting tools with both multi-language and multi-currency support.
- To achieve the highest level of functionality, however, requires additional costly addons, unlike Microsoft Dynamics 365 where emphasis is placed on strong out-of-the-box performance and native integration to the one-Microsoft ecosystem.
- Microsoft Dynamics 365 boasts features specific to process manufacturing and distribution, including but not limited to



- 21 CFR Part 11 compliance
- Full Lot Traceability (Forward & Backward)
- Formulation Management (Percent and Weight Based Formulas)
- Batch Production
- Lot Inheritance
- Multi-location real time inventory visibility
- Rebates and Trade Spending
- Pricing support (Tiered pricing and multi-level discounts)

A. COMPLEX CHEMPAX SYSTEM DESIGN

- Chempax is a stand-alone ERP system. Unlike Microsoft Dynamics, Chempax is tedious to operate and is complex in its operation. Furthermore, Chempax runs on local server and is of no match to the security and scalability factors offered by Microsoft.
- Unlike the familiar Microsoft Windows environment, Chempax resides in the area of the unknown requiring significant investment in resources such as time and cost to train your personel. Let's take a look in to the complexities involved in operating Chempax screen by screen (see below).
- To get around you double-click to access modules, maneuvering through the program in an archaic and cumbersome folder-in-folder method. While it does the job, it's time consuming and leads to inefficiencies.



- Everything in Chempax is a long and arduous task, requiring the navigation of multiple screens for very basic operations. Creating a simple order in Chempax, for example, requires navigating through three separate screens required vs just one in D365.
- In order to input the complete customer information, you need access to
 - Ship To
 - Order or
 - Product tabs

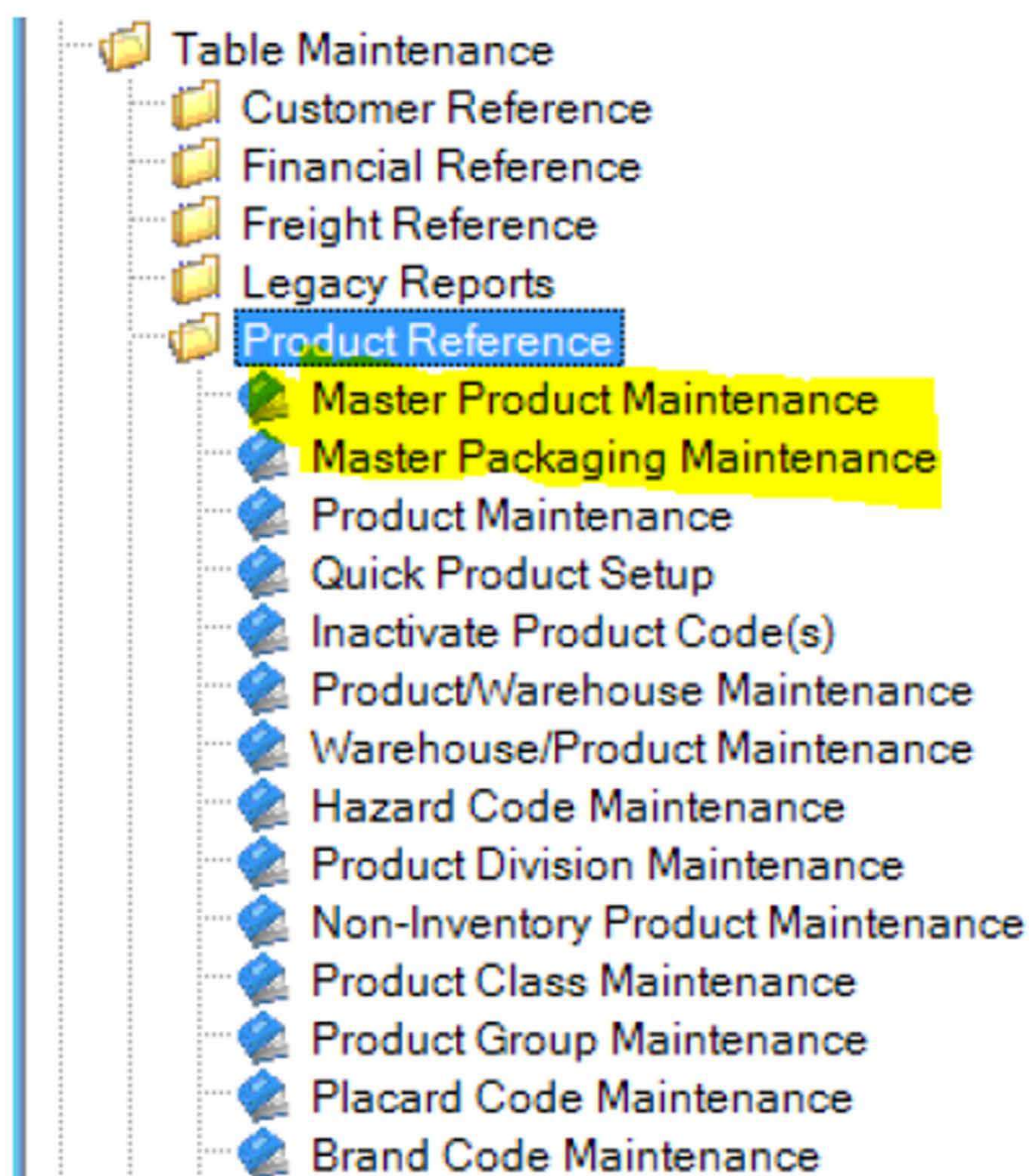
- After the customer information is entered, the order information needs to be entered on a seperate tab.

The screenshot shows the 'Order - General Information' tab. At the top, there are navigation icons for 'Customer', 'Ship To', 'Order', 'Products', and 'Order Pending'. The main form area contains various input fields: 'Order Type' (set to Warehouse), 'Order Status', 'From Warehouse', 'Customer P.O. #', 'Requisition #', 'Load Date', 'Load Time', 'Ship Date' (09/28/2017), 'Ship Time', 'Delivery Date' (09/28/2017), 'Delivery Time', '1st Conf. Del. Date', '1st Conf. Del. Time', 'Request. Del. Date' (09/28/2017), 'Delivery Type' (Regular), 'Freight Terms', 'F.O.B. Remark', 'Freight Remark', 'Freight Tracking', 'Payment Terms' (N 30), 'L/C #', 'Currency' (USD), 'Order Date' (09/25/2017), 'Delivery Window', 'Market Date', 'On Manual Hold' checkbox, 'Manual Hold Reason', 'Freight Charge' (0.00), and 'Freight Cost' (0.00). There are 'Enter' and 'Cancel' buttons on the right. At the bottom, there are 'Enter Customer Order', 'Enter Order', 'Cancel', and 'Exit' buttons.

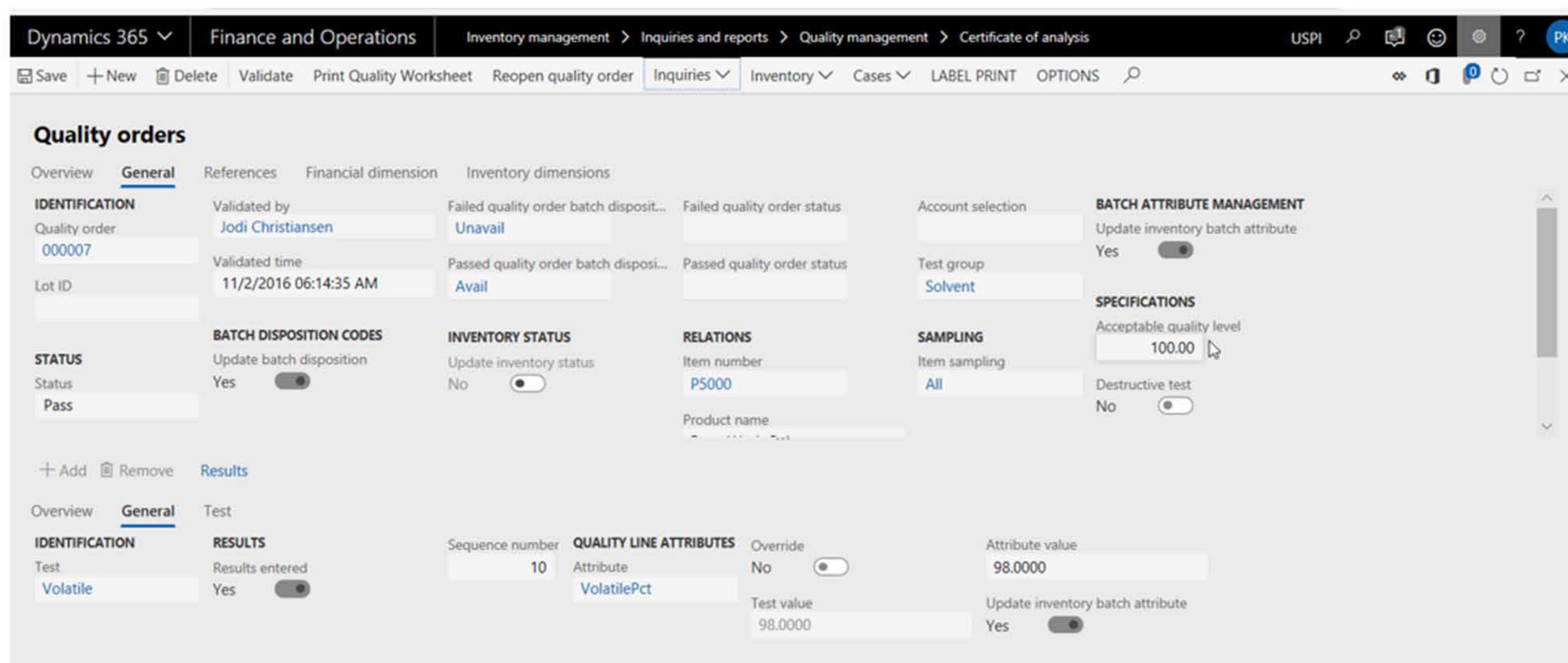
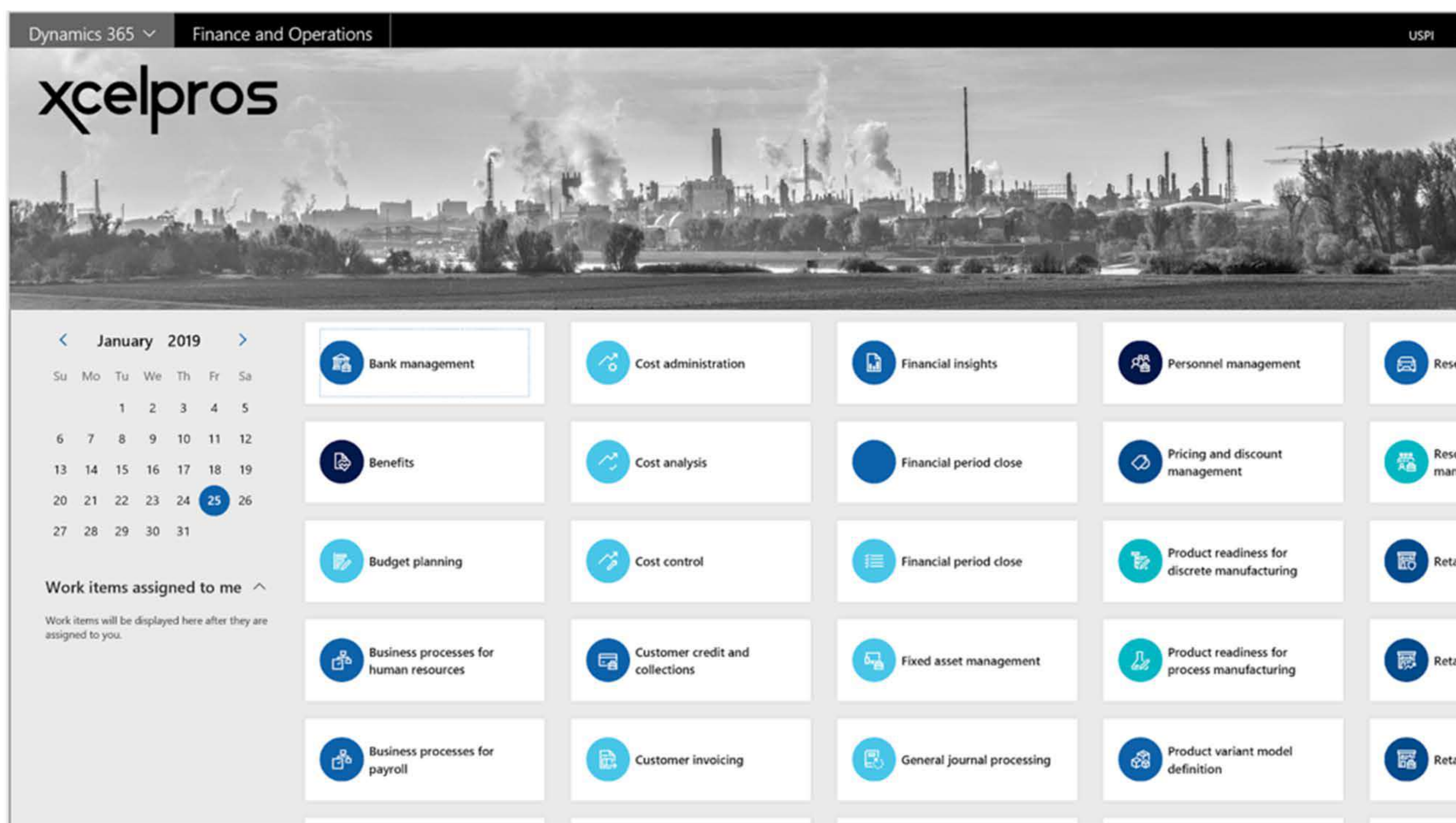
- After all the required information is entered, selection of the necessary product is required. It is important to remember that no sellable product other than the one related to the existing customer is to be selected.

The screenshot shows the 'Products - Order Line Items' tab. At the top, there are navigation icons for 'Customer', 'Ship To', 'Order', 'Products', and 'Order Pending'. The main form area contains input fields for 'Product Name', 'Code', 'Cust Prod Code', and a table with columns: 'Product Name', 'Product Code', 'Sale Packaging', 'Price (USD)', 'U/M', 'Quantity', and 'U/M'. The table has several rows with empty fields. There are 'Enter' and 'Cancel' buttons on the right. At the bottom, there are 'Enter Order', 'Cancel', and 'Exit' buttons.

- After all information is feeded, the user needs to click on “Enter Order” to finally create the order.
- In Chempax, even sellable products are broken into two components which are then combined to create a sellable inventory item as a product.
 - Master product
 - Master package



- In comparison, Microsoft Dynamics 365 has its focus on the User Interface (UI), streamlined simplicity, and the enhanced out-of-box capabilities. Dynamics 365 offers an easy user adoption due to the familiar navigation to Microsoft Office Suite of products, providing an effective transition for user operations.



TAKEAWAY

- In contrast to Chempax, Dynamics 365 for Finance & Operations offers simplicity and out-of-box personalization abilities that aid in driving operational efficiencies of an enterprise.

- Familiarity by virtue of Microsoft products is a significant advantage that Microsoft offers over Chempax.

B. CHEMPAX AND COMPLEX MANUFACTURING

- One of the biggest drawbacks of Chempax in comparison to Dynamics 365 is in regards to complex chemical manufacturing, specifically
 - Product Variations
 - Non-Prime Inventory
 - Derivative Products
- Such customers will benefit most from the strong out-of-the-box manufacturing capabilities in Microsoft Dynamics 365 for Finance & Operations has to offer. Microsoft Dynamics 365 is able to handle Product Masters (multiple pack sizes / variations of the same product) and Formulation Management really well.
- From our experience, Chempax has historically had issues when conditions are less than optimal.
- Chempax is built to be sold without initial customizations and most organizations who use it find themselves spending significantly more than budget to make it work for their specific needs, including manufacturing.
- Specialized manufacturers that deal with complex chemistries are likely to find issue with Chempax as finished products can only be created by directly consuming raw material inputs through batch manufacturing.
- In use, Chempax offers minimal abilities to affect batches on the fly and operators must wait until batch operations are completed before they can make any adjustments to raw material inputs. Because of this, operators are required to maintain their inputs outside the system which leads to lost data or input errors when the manufacturing process is complete.

Product Variations

- On-the-fly stoichiometric adjustments
- The blending of products into the current batch ad hoc
- Product lines that have re-occurring known product variations

Non-Prime

- Off-prime products
- Off-spec products

Derivatives

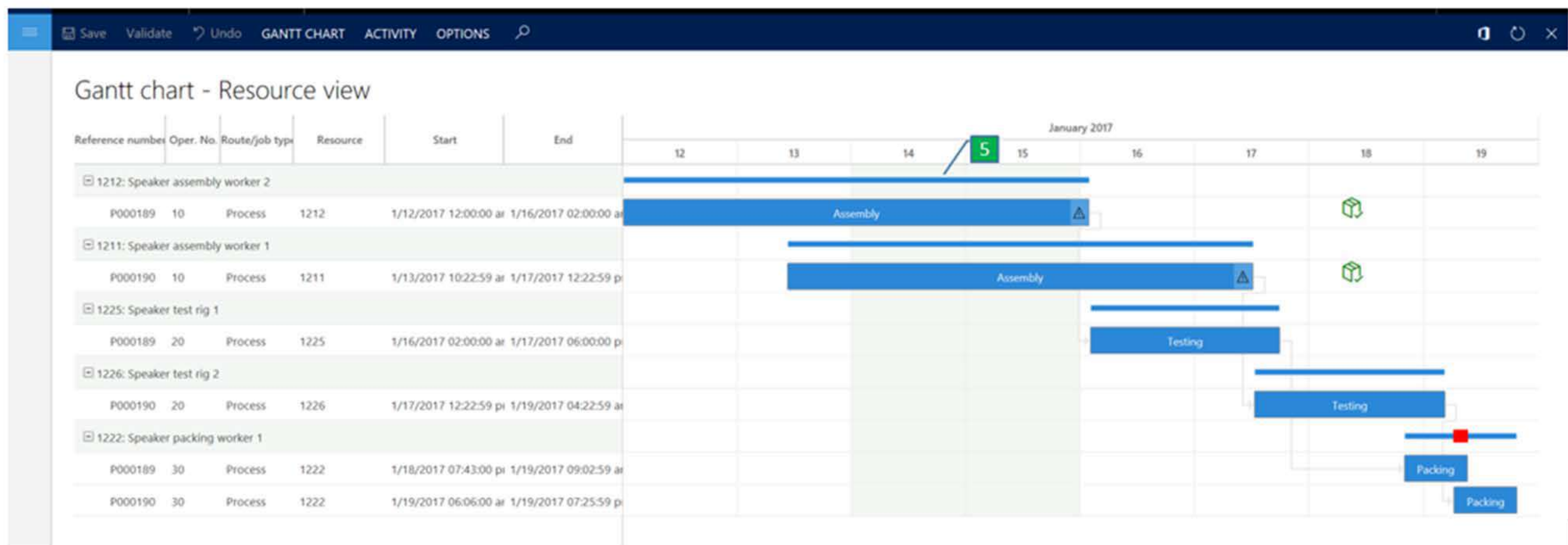
- Co-products
- By-products
- Products with multiple specs

(In Chempax you must create a new master product to have a new specification)

- In the case of Microsoft Dynamics 365, the included Gantt Charts provide a 360 degree view of all production orders, organized by order and resources, respectively. Production managers using this software are able to get a clear, real-time pictorial view of the production schedule displaying.

- Material availability
- Scheduled production orders
- Resource capacity within the organization

- These screens also come with an interesting drag-and-drop feature that aids in changing schedules as required.



TAKEAWAY

Chempax pales in comparison to Microsoft Dynamics 365's ability to easily handle complex manufacturing processes out-of-the-box.

C. CHEMPAX AND REPORTING

- Another major area of weakness for Chempax is data reporting, integrations with industry leading software like PowerBI and data exporting.
- While able to export data to display on screen, as a *.CSV file which can be manipulated externally with a Business Intelligence (BI) solution, to a *.PDF file, to a local printer, or even an email address – these are static reports using historical data, and as such are unable to be updated from an outside source - requiring a new report to be run every time a report is required.
- Most reporting modules in Chempax will natively export data to an Excel file; however, where an export option does not exist users must extract the data manually.

- Consistency issues make the task of exporting data difficult, highlighting Chempax less than stellar reporting functionality.
- Dynamics 365 Finance & Operations has a native integration with Microsoft Power BI and Office 365 allowing you to visualize your data and generate reports.
- Electronic Data Interchange (EDI) capabilities exist with Chempax, however, this is not a typically requested feature as the export/import of EDI data in Chempax is a lengthy process which most often leads to less time for recurring tasks. Microsoft provides multiple EDI options for Dynamics 365 through its AppSource

TAKEAWAY

- Microsoft Dynamics 365 stands above Chempax with its reporting capabilities. Standard static reports are available in each functional area with the ability to export to Excel.
- Leveraging Power BI enhances your reporting abilities and gives you the ability to assimilate data from disparate sources.

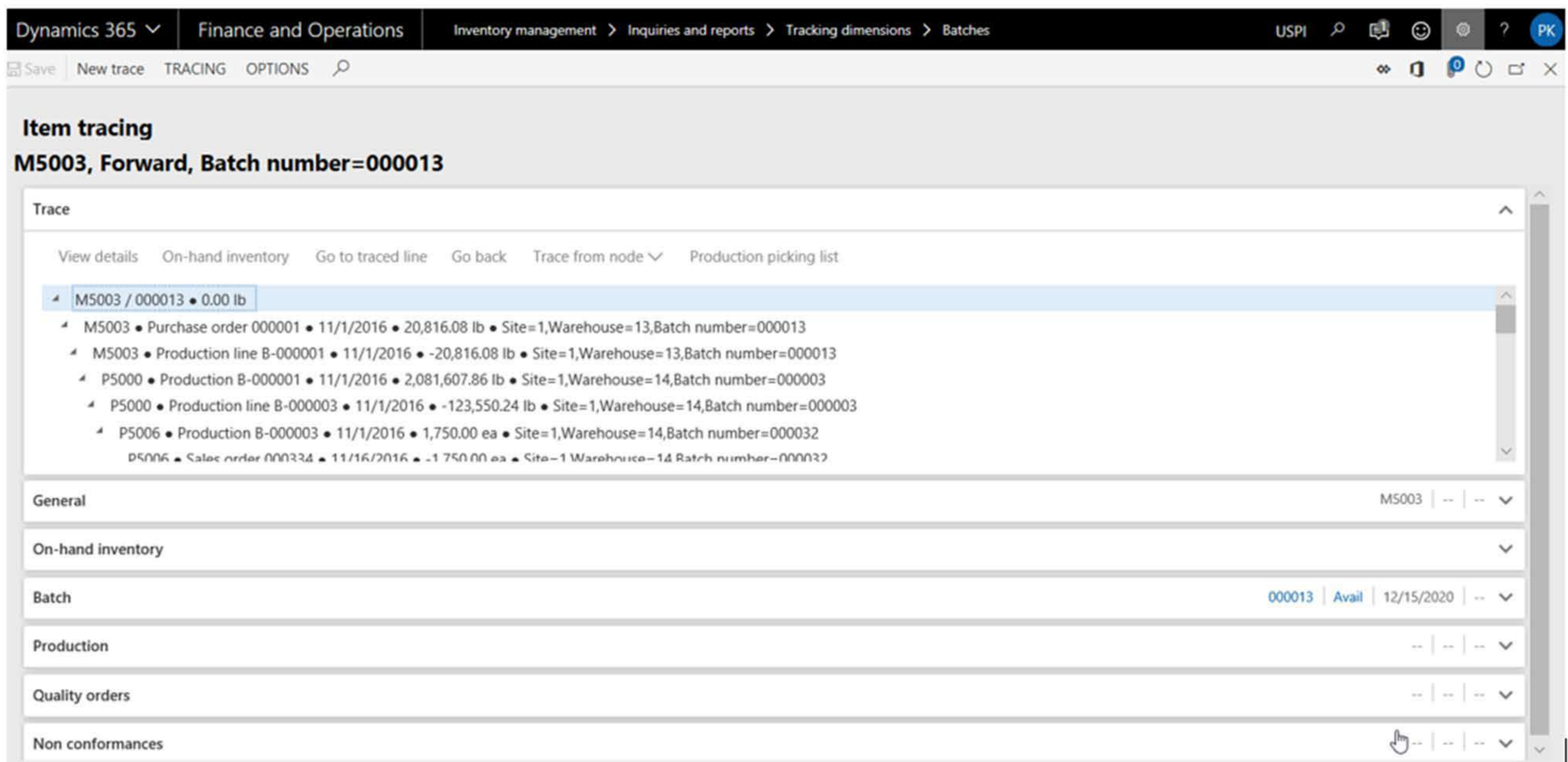
D. PRODUCT LIFECYCLE

- Another specific area where Chempax falls short when being compared to Microsoft Dynamics 365 is with regards to the tracing of the lifecycle of a product. In short, Chempax does a poor job of condensing the lifecycle of a product into a single function or module.

PRODUCT LIFECYCLE - Purchase Order for Raw Materials >> Receipt of Raw Materials to warehouse >> Consumption of Raw Materials in batch to create Finished Goods >> Finished Goods moved to storage/inventory >> Finished Goods consumed on a sales order >> Finished Goods shipped to customer location



- When the problem of product contamination arises, a specific tool designed to efficiently handle track and trace functionality becomes immediately invaluable.
- Chempax does have the ability to perform track and trace functionality but requires navigation through multiple modules to achieve results.
- Performing this task in Chempax is a complex process requiring deep subject matter knowledge (or a power user) to efficiently complete.



TAKEAWAY

- Microsoft Dynamics 365 offer full inventory track and trace functionality standard within the Inventory Management module with a two click process.

- This information is often leveraged for recall reports for regulated products in pharmaceutical and other industries.

E. DYNAMIC SYNERGY

- One way to remain competitive in the chemical manufacturing industry is to have more internal synergies than your competitors. Chempax, however, is a standalone ERP system with very little connectivity to outside applications. This specific weakness is one of the biggest competitive disadvantages of a system like Chempax.
- Alternatively, with Microsoft Dynamics 365 for Finance & Operations you will have insights into the entire lifecycle of your operations. From the first communication in Outlook to document control Via SharePoint, to drill down reporting & analytics with Power BI - Dynamics 365 is the one solution that aims to solve all potential connectivity issues.
- Once you realize Dynamics 365 is not only easier to use, but also more powerful, with internal measures in place to prevent errors from being entered, and designed to build synergies within your organization, you will be a satisfied customer for life.

TAKEAWAY

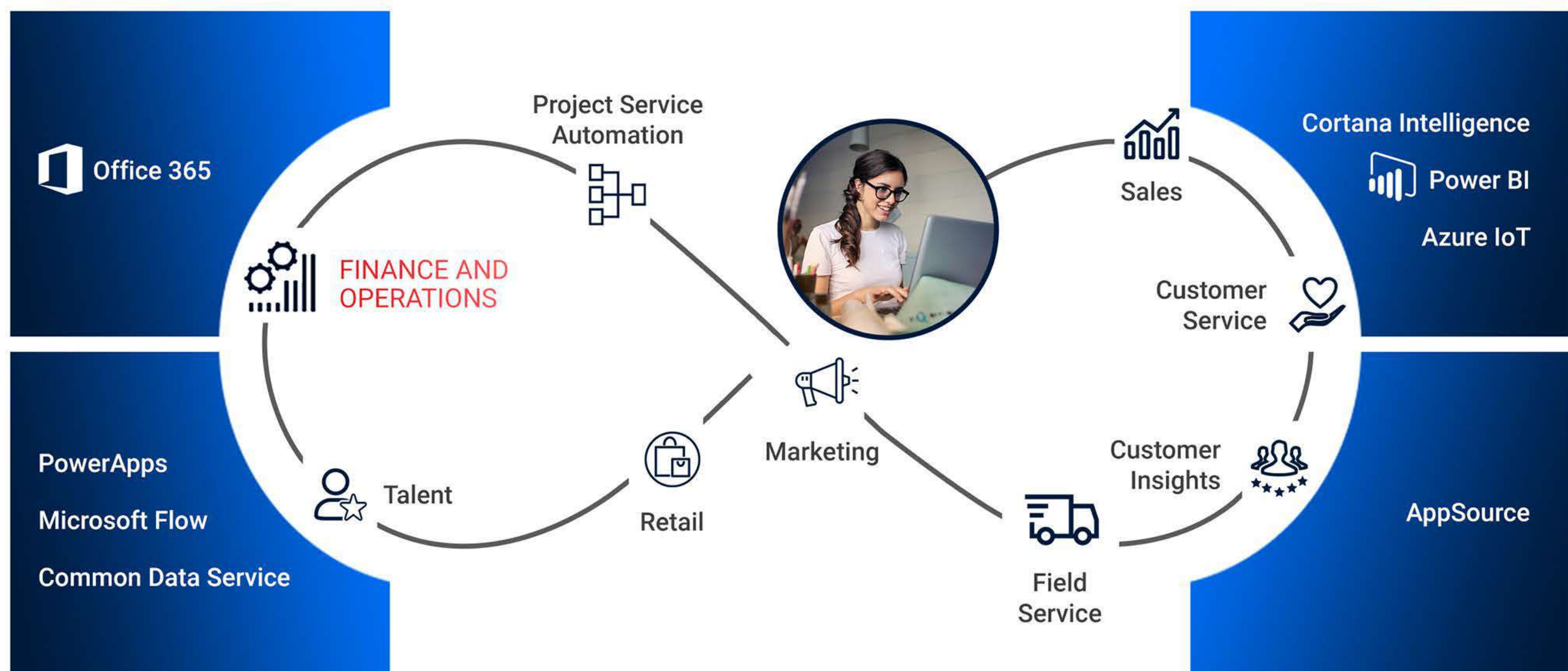
The synergy between Microsoft Dynamics 365 and the One-Microsoft ecosystem (including applications in AppSource) increases efficiency and optimizes internal operations.

MICROSOFT'S RETURN ON INVESTMENT OF \$16.97 FOR EVERY DOLLAR SPENT

- Microsoft Dynamics 365 offers the highest [ROI of \\$16.97](#) for every dollar spent within the first three years. The return is exponentially higher considering the ROI for competing ERP and CRM products \$7.23 and \$8.71, respectively. The company's continued investment in cloud, user experience, analytics and integration is aimed to increase productivity while reducing overall costs.

NOTE: Click on the link above to access the report from a 3rd party industry research company - Nucleus Research.

POWER OF ONE MICROSOFT ECOSYSTEM - THE NEED FOR MORE THAN JUST A GOOD ERP



- A good ERP system is imperative, however, it does not address all the needs of an organization. Every organization needs an ecosystem to be able to conduct operations efficiently. An ecosystem that is easy to use, secure and scalable.
- Microsoft ecosystem includes a comprehensive suite of applications ranging from analytics, visualization, artificial intelligence, IoT, PowerApps, CRM, Office 365, and a host of other third-party applications. The seamless integration and the communication of these applications is the key differentiator between Microsoft and any other applications in the market. Some of the noteworthy benefits of the ecosystem include:
 - Improved connectivity without the need for additional customizations
 - Improved productivity to enhance efficiencies
 - Improved visibility of information across business functions
 - Significantly lower spend and faster ROI than any other solution

BELOW IS A HIGHLIGHT OF JUST A FEW MOST COMMONLY USED APPLICATIONS WITHIN THE MICROSOFT ECOSYSTEM -

0.1 DOCUMENT MANAGEMENT SYSTEM

Microsoft Ecosystem includes the world's best document management system - [Microsoft SharePoint](#). This is natively integrated and connected to Microsoft Dynamics 365 for Finance & Operations. You need a document management system to store sales order documents, invoices, purchase orders, legal documents, agreements and many more business attachments. You are able to store and access these documents seamlessly from Microsoft Dynamics 365 without any additional customizations. You are able to experience this interoperability from practically any module, transaction or form within Microsoft Dynamics 365. Microsoft SharePoint Online is included as an offering within the Microsoft Office 365 Suite or even independently.

Chempax does not include native integrations with Microsoft SharePoint within its modules or forms. You will need extensive customizations and additional spend to make this happen.

0.2 EMBEDDED ANALYTICS & REPORTING WITH [MICROSOFT POWER BI](#)

An analytics tool like Power BI delivers remarkable operational efficiencies to companies. Most of our customers have published Power BI dashboards to big screen TVs at strategic points along the shop-floor and production facilities. Power BI and Microsoft Dynamics 365 for Finance & Operations are seamlessly integrated.

Our customers noticed a few of these efficiencies rather quickly -

- Gain an accurate view of the current business operation.
- Integrate data from multiple sources.
- Convert data into visual formats and help people to see trends and patterns.
- Support all sorts of analyses, including trends and “what-if” scenarios.
- Fuel communication and collaboration across the company.

Chempax does not belong to an ecosystem like Microsoft and therefore needs to depend on complex integration at an added cost to deliver such Analytics & Reporting.

0.3 [AUTOMATED WORKFLOWS WITH MICROSOFT FLOW](#)

By virtue of Flow, you are now able to build automated processes with your customers, vendors or even with internal cross-platform applications. You are able to send and receive notifications related to sales or purchase transactions, shipments, production orders, receipts, quality issues, provide visibility of onhand inventory to your customers, synchronize files, collect data and so much more - the applications are endless.

0.4 [MICROSOFT DYNAMICS 365 CRM](#)

Having an industry-leading CRM within the ecosystem is a huge competitive advantage for Microsoft. The strength is in the interoperability between the other suite of Microsoft products, Microsoft Dynamics 365 for Finance & Operations and Microsoft Dynamics 365 CRM. You are able to quickly integrate sales and invoice data from the Microsoft Dynamics ERP to Microsoft Dynamics 365 CRM. This makes a big difference for the sales team as they now have the visibility into all data relevant to a customer.

Microsoft Dynamics 365 CRM has extensive functionality built into the following modules -

1. Sales
2. Customer Service
3. Field Service
4. Marketing
5. Project Service Automation
6. Talent Management
7. AI for Sales
8. AI for Customer Service
9. AI for Market Insights

0.5 CUSTOM BUSINESS APPLICATIONS USING MICROSOFT POWERAPPS

You can now build custom business applications that you need for your organization in hours without any reliance on IT resources and developers.

0.6 MICROSOFT APPSOURCE

This is a key element of the Microsoft Ecosystem. Similar to Apple's App Store, Microsoft Appsource has a huge repository of tailored business applications developed by industry experts. AppSource gives you the power to scale with industry and function specific apps on Microsoft AppSource.

INTEGRATED CHEMICAL MANAGEMENT (ICM) FOR **CHEMICAL, PHARMACEUTICAL AND FOOD INDUSTRIES**

- Integrated Chemical Management (**iCM**) is an industry-first integrated solution for Microsoft Dynamics that offers comprehensive functionality for SDS-Authoring and Maintenance, Label Management (including Private Labels) and DEA Management in compliance with the GHS guidelines. It is available on Microsoft Appsource and proves to be immense value for Chemical, Pharmaceutical, Life Sciences and Food Industries.

Organizations within these industries need to be able to print labels integrated within business processes and author / maintain SDSs for

- all the chemicals they interact with. Without this application, companies need to spend tens of thousands of dollars to customize the workflows, develop new reports and create many more new elements within Microsoft Dynamics 365.

An ERP such as Dynamics 365 with an integrated labeling and SDS management capability using iCM is the answer to most of the GHS,

- OSHA, WHO related compliance standards.

VALUE PROPOSITION OF iCM

- Eliminate the cost of integration to 3rd-party labeling and SDS systems
- Integrated Safety Data Sheets Management
- Real-time safety data sheets and label data management, that are consistent and GHS complaint
- Reduce Total Cost of Ownership (TCO) by removing the need to maintain product safety documentation and data in-house
- Integrate 3rd-party systems to fast-track processes and time to market

Talk to the experts at XcelPros to get a case study on cost avoidance using iCM

CLOSING THOUGHTS

- In this document we focused on two ERP solutions that reside at the top of the market leaderboard – Microsoft Dynamics 365 Finance & Operations, and Datacor's Chempax – to help you determine the best ERP solution for your organization today.
- If your organization has had a change in ownership, are run by a private equity firm or have a single owner – and manufacture the same product line – based on the strengths and weaknesses we highlighted means that focusing on Dynamics 365 will be in your companies' best interest.
- While Chempax comes close in functionality and features (especially after the June 2018 announcement to integrate PowerBI), Microsoft Dynamics 365 for Finance & Operations is still on the top of the leaderboard for modern ERP solutions in 2018 for a reason.
- Dynamics 365 for Finance and Operations is built on a solid technical platform that support large global deployment scenarios, complex integrations, and advanced security and development requirements with strong multicurrency and localization capabilities, as well as intercompany and multi-organization support.
- Chempax still has a long way to go. As it is designed for smaller businesses, it is still not considered a suitable solution for global companies/deployments and will fall short to support growth for companies that are aspiring to scale up.
- Due to all the reasons cited in this document, Microsoft Dynamics 365 for Finance & Operations will continue to shine well into the future, offering your business years of sustained operation using the best and newest technology, and supporting your organization's growth!

| COMPARISON | CHEMPAX | MICROSOFT |
|---------------------------|--|---|
| Product Enhancements, R&D | Designed to handle smaller companies | Well built to support Tier 1 development |
| Simplicity & Ease of Use | Not as easy to use: old sub-folder in folder navigation. | Easier to use. Accessible through a browser. Works and looks like modern Office products. |
| Annual Maintenance | Higher maintenance costs with additional local server maintenance | Offered On-Premise and in the Cloud <ul style="list-style-type: none">On-premise annual maintenance as much as 16% lower than Chempax.Cloud Pricing is in three tiers - per user per month |
| Manufacturing | Weak regarding product variations, non-prime inventory and derivative products | Robust functionality for all batch and discrete manufacturing regardless of product variations – Multiple Formulas and BOM's supported |
| | Lacks the ability to manage complex chemistries, requiring customization | Built to handle complex chemistries out-of-the-box |
| | Finished Goods are created by directly consuming raw material inputs through batch manufacturing with a limited ability to modify on the fly | No need for operators to keep information offline until production is complete with the ability to make changes on the fly |
| Track and Trace | Poor lifecycle tracking and tracing capabilities with multiple screens required to see the entire path products follow | Easy to use single screen for viewing forward and backward materials consumption and batch creation |
| Reporting | Only static reports can be run, which must be rerun every single time | Dynamic reports can be exported to Excel visualized in Power BI. Includes extensive out of the box reports |
| Business Intelligence | No built-in Business Intelligence or reporting | Customized reporting via Power BI, included in every workspace |
| Data Export | Can only export static data to a display on screen, PDF file, printer or email. Data cannot be updated from an external source | <ul style="list-style-type: none">Utilizes Excel, Word documents or PowerPoint for Export and Import functions.Additionally, Power BI can provide additional exports |
| Platform | Available as a stand-alone ERP on a local server or as a program on a single machine | Available either On-Premise or a Cloud-based |

| | | |
|-----------------|--|---|
| Productivity | Supports lower user productivity with its sub-folder in folder approach and lack of integrations | Looks and feels like other modern Office products. Enables high productivity due to seamless integrations with other software and Office products |
| Licensing | Only offers on-premises licensing options with expensive annual maintenance fees | Cloud or on-premise - All functionality included in initial license. Ability to add additional licenses as needed |
| Integration | Lacks integrations to external programs and data. | Seamless integration to dozens of products on a unified platform |
| Optimization | Almost guaranteed to need additional high-cost customizations | More out-of-the-box functionality and stability available |
| EDI Integration | Weak EDI integration for automating recurring processes | Strong EDI integration for automating recurring processes |