Emerging trends in manufacturing
By the numbers

- **75%**
  - Percent of manufacturers who are planning to increase spending in the next 12 months.  

- **$300 billion**
  - Estimated losses in the United States as a result of IP theft.  

- **20.8 billion**
  - Projected number of Internet connected objects by 2020.  

- **43%**
  - Projected number of Internet connected objects by 2020.  

- **50%**
  - Investment increase in industrial robots between 2008 and 2014.  

- **85%**
  - Of manufacturers cite product or service cost improvements as their top investment priority.  

3D printing adoption
- **12%**
  - Experimenting to determine how we might apply  

- **24%**
  - Prototyping only  

- **36%**
  - Prototyping and production  

- **29%**
  - Building products that can’t be made from traditional methods  

- **10%**
  - Production of final products/components only  

- **3%**
  - Not implementing

Expected barriers to growth in next 12 months
- **39%**
  - Lack of demand  

- **Legislative/regulatory pressures**  

- **Monetary exchange rate**  

- **Taxation policies**  

- **Lack of qualified workers**  

- **Decreasing profitability**  

- **Oil/energy prices**  

- **Competition from foreign markets**  

- **Capital constraints**  

- **Pressure for increased wages**  

- **Higher interest rates**

Sources:
2. PwC, Manufacturing Barometer, 2015  
5. BCC Research, Strategic Analytics, Frast & Sullivan, Morgan Stanley Research, 2014  
7. Forbes survey, 2014
Microsoft Dynamics 365 for Operations

Manufacturing Factsheet

Contents

Empowering Manufacturing
A look at the data
Connected operations

Core product deep dive
- Production
- Supply chain management
- Procurement and sourcing
- Connected operations

Microsoft Dynamics 365 for Operations
Why Microsoft?
Better manufacturing through connected operations

Whether it’s through faster response times, higher quality products, or exceptional customer service and relationship building—manufacturers are being asked to show a higher value proposition to their markets than ever before. To maintain a competitive advantage, manufacturers require flexibility in their operations and must continually drive innovation—not only in the marketplace but also in how they do business.

Microsoft Dynamics 365 for Operations provides manufacturers a solution that is architected with flexibility and change in mind, built with operational excellence at its core, and focused on allowing you to drive innovation and be the market leader. It also gives businesses the flexibility to grow at their pace through the choice and flexibility of the Microsoft Cloud, allowing them to scale their operations globally to meet business needs.
Better manufacturing through connected operations

**Accelerate product introductions**
Engineering and marketing can reduce risk and rapidly validate new product ideas with simulation models and 3D printed prototypes, increasingly confident in their ability to fulfill demand using insights from their smart connected products, intelligent automation and digital manufacturing. Don’t let your enterprise software be the critical barrier to new product introductions. Rapidly model, cost, and release new products to production and procurement, with guided experiences and workspaces for discrete, lean and process manufacturing and replenishment.

**Agile shop floor execution**
Manufacturers are facing significant skills shortages on the shop floor, and yet are expected to produce more product variants with shorter ramp up times. It’s your workforce that has to operate and fill the gaps between machines. Manage your production floor with workspaces, task guides, and work instructions tailored for operators and supervisors, that can adapt to the display on any device, enhancing local productivity and global visibility with operational insights.

**Intelligent order fulfillment**
Even if you invest in the latest intelligent automation and digital manufacturing on the shop floor, supply and demand exceptions can threaten your ability to meet promised delivery dates to customers. With global visibility of inventory, manufacturing and logistics, and a role tailored workspace accessed anywhere, on any device, your customers’ service representatives can proactively explore production, warehouse and transportation options for your customers.
Core product deep dive

Production
Minimize lead times, fulfill customer demand, and manage your resources to get greater efficiency from your discrete, process, and lean manufacturing operations. Use real-time data to track production progress, get more accurate delivery dates, and reduce costs. Execute multiple production strategies, including configure-to-order, assemble-to-order, make-to-stock, and make-to-order. Use both push and pull production control mechanisms. In this new release, and taking advantage of the new enhanced UI, we are introducing a new concept called "Workspaces" with the goal of connecting people with data and processes to make better decisions.

The new Production floor management workspace will allow the production supervisor to check whether materials for scheduled production orders are available on the required date. In the workspace, the production supervisor is informed how many production orders are in the scheduled state and are pending release. Based on the dynamic master plan, information about material availability is updated if material requirements are met by on-hand inventory for actual orders, or planned orders. Based on the information about material availability, the supervisor can release the orders on the Material availability page. During the process of releasing production orders to the shop floor, the feature helps the production supervisor make correct decisions about the allocation of materials to orders.

Supply chain management
Connect sales and purchasing processes with logistics, production, and warehouse management to provide visibility and management throughout the supply chain. Manage distributed organizations with inter-company and multi-site capabilities.

Procurement and sourcing
Facilitate direct and indirect procurement of goods and services and establish a centralized buyer capability across your organization to support procurement policies and processes. In this area, we are adding two new workspaces to provide better access to the information required to manage during the purchase order preparation and the order receipt and follow-up.

The Purchase order preparation workspace provides an overview of orders from the time they are created as a draft and traced, through workflow approval states, and onward toward confirmation. Your purchasing department no longer has to seek information from multiple pages but benefits from the overview that the workspace provides.

The Purchase order receipt and follow-up workspace provides an overview of confirmed purchase orders that have pending receipts or shipments. This workspace includes lists of post-due receipts and pending receipts to help with proactive review and follow-up by the supplier. Purchase orders for which arrival registration has occurred in the warehouse are also listed to help ensure that the receipt is posted. Purchase order returns that haven’t yet been shipped are also available for review. Your purchasing department benefits from the overview that the workspace provides. Relevant information is put together to guide follow-up and help improve productivity.
Production

Workspaces

In this new release, and taking advantage of the new enhanced UI, we are introducing a new concept called "Workspaces" with the goal of connecting people with data and processes to make better decisions. The newly added workspaces include Environmental Manager, Operations Manager, Production Manager, and Shop Supervisor.

Material and capacity planning

Optimize production and materials planning, forecasting, and scheduling. Simultaneously schedule materials and capacity. Calculate available-to-promise (ATP) and capable-to-promise (CTP) deliveries. Plan and execute routing and operations. Use finite or infinite planning.

Production scheduling and sequencing

Use finite or infinite scheduling, forward and backward from various dates. Quickly (re)schedule jobs and simulate alternatives by dragging Gantt chart items. Resolve scheduling overloads by reassigning operations to alternate work centers. Optimize scheduling across the organization with a unified resource model and scheduling engine. Improve machine utilization by combining similar products while letting customers request multiple quality specifications per product (product batch sequencing).

Resource management

Schedule and track material, shop, and manpower resources. Plan resources based on production activities and capabilities of resources. Types of resources can be tool, machine, vendor, location, and human resource. Resource allocation principles include resource requirement types: resource (group), type, capability, skill, course, certificate, and title.

Subcontracting

Manage various ways of partnering with subcontractors, including outsourcing of route operations, vendor-supplied items, and item provisioning to subcontractors. Link subcontractor purchase order (PO) to production order.

Production Bill of Materials (BOM, formulas, recipes)

Create a bill of materials for production including phantoms using a graphical BOM designer. Modify and track individual line items. Manage multilevel formulas or recipes, co-products, and byproducts. Use version control to release the right BOM and electronic signatures to track changes.
Production

Product configuration

Configure custom products with a unique bill of materials and routing by using the product configurator. The product configuration models are based on constraints and can be used from sales order, sales quotation, purchase order, and production order.

Routing

Manage routing: Plan simple, sequential, and complex networks; use simultaneous routes in the same network. Use rough-cut capacity and detailed scheduling capabilities. Organize the shop floor into logical production units at individual sites.

Production orders

Create, schedule, view, track, split, roll back, or categorize production orders to maximize efficiency. Create production orders from sales orders. Follow production through creation, estimation, schedule, release, started, finished, and cost. Use scrap on BOM, resource, and route. Trace products and components through the entire manufacturing process and enable bi-directional traceability from customers back to vendors, and vice-versa.

Production reporting

Gain insight with predefined KPIs in the SQL Server analysis data cube for production.

Inventory dimensions for process manufacturing

Define multiple inventory dimensions, including dual units of measure, catch-weight calculations, packaging codes, variations to the main item and lots.

Potency management

Manage the concentration of an active ingredient through the entire manufacturing process. Enable manufacturers to model potency at each and every step of their manufacturing processes, which allows them to meet their industry-specific requirements while giving them a significant competitive advantage.
Production

Lean manufacturing
Model manufacturing and logistics processes as production flows. Use kanbans and kanban boards to signal demand requirements.

Production costing
Understand work in progress (WIP) and actual cost through production tracking and reporting. Track detailed resource and throughput costs, including work center costs. Report production variances to standard costs.

Job card device page
Updates have been made to the new Job card device page. Although the new Job card device page is designed with simplicity, it's also designed for touch. The page fits well on mobile devices, such as tablets and phones. The shop floor worker will find less information overload and more intuitive ease of use. The worker can perform the traditional tasks, such as starting, ending, and reporting progress on a job. Besides working on the actual job, or logging and clocking out, the worker can view attachments, break for lunch, and perform other activities. Jobs will be queued to the worker in a planned sequence, but they can also be picked by the worker. The page is primarily targeted at discrete manufacturing operations, where materials are prepared for production.

Product change management
Effectively manage product changes through a formal product changes methodology. With the new functionality you’ll be able to have a defined process to initiate, document, approve and release changes to product during the planning and production cycles.

Shop floor control
Manage and track shop floor operations. Register products and resources and items for operations and jobs including a touch-enabled data entry. Provide shop floor workers visibility with an overview of the production jobs that need attention. Quickly perform daily production tasks such starting jobs, reporting jobs as finished, and registering breaks and absence.
Supply chain management

Inventory management

Track items by inventory dimensions, including site, warehouse, pallet, location, batch, and serial number. Take advantage of multiple inventory control systems and inventory valuation methods including first in/first out (FIFO), last in/first out (LIFO), standard cost, moving, and weighted average. Reduce inventory costs and eliminate waste by using the ABC-analysis and by pulling inventory in optimal sequence using “best-before” management and first expired/first out (FEFO) or first in/first out (FIFO) picking guidance.

Lower inventory costs and improve turn-over with advanced inventory allocation. Replenish inventory based on picking, min/max, and transportation load-based replenishment. Use flexible location directives to organize your warehouse layout and zones. Improve your customer service level with real-time visibility into inventory using the inventory dimensions including license plates. Account for inventory with multiple cycle counting strategies including threshold cycle counting for picking, cycle counting plans, zero quantity on hand cycle counting, and ad-hoc cycle counting using filtering. Advanced property control for warehouse locations, control of mixed items, mixed batch numbers, mixed inventory statuses, thresholds, advanced volume or amount based multi-unit setup for put-away limits calculations and location allocations.

Multi-site warehouse management

Manage storage locations and material handling within warehouses. Apply advanced inbound algorithms using multiple warehouse zones and replenishment strategies. Optimize picking with a choice of picking methods. Track inventory on hand per warehouse. This capability is for customers who are looking for a basic warehouse management solution. For customers looking for a more complex warehouse management solution, see next module.

Provide customers with choice and flexibility of delivery with agile inbound and outbound processes to meet customer demands with advanced picking strategies such as cluster picking. Efficiently put away inbound goods with advanced put away strategies and increase flexibility by configuring simple workflows without coding for put-away and picking activities. Use filter capabilities to determine the custom workflow. Provide warehouse workers with material handling instructions based on the system or directed by the user (task interleaving).

Process waves: automatic, manual, batch-time scheduled, filtering and grouping, and container calculations packaging. Support for cross-docking, and pick/pack, and improve tracking and tracing of goods with registration of serial numbers in picking process and batch number support with picking strategies and put-away, based on expiry date.

Also, in this version of Dynamics 365 for Operations, a stand-alone installer can be downloaded directly through a menu item in Warehouse management instead of the standard Dynamics 365 for Operations setup process. It’s designed for self-driven on-premises deployment and configuration. During the enabling process of the Warehouse management module to use the mobile device functionality, you need to install and configure the Warehouse Mobile Devices Portal locally and get a connection to the Microsoft Dynamics 365 for Operations program in the cloud.

Tracking and tracing

Collect, track and trace inventory and tracking dimensions throughout the end to end logistic processes of the supply chain throughout inventory, warehouse, production and transport processes. Track back batch or serial numbers for quality incidents, register and monitor batch attributes, expiry and shelf life dates.
Supply chain management

Demand forecasting

Demand Forecasting is a lightweight, yet powerful demand forecasting tool that enables organizations to forecast demand based on historical data using Microsoft SQL Server forecasting algorithms, adjust the forecasted demand using the familiar environment of Microsoft Excel, and import the values into Microsoft Dynamics 365 for Operations forecast models. Demand Forecasting will help organizations improve the accuracy of forecasts and therefore improve product availability, and minimize inventory costs.

In this new release, we are providing very important updates in the demand forecasting area, specifically around integration with Microsoft Excel and Azure Machine Learning.

Now you can use Microsoft Excel to update your demand forecast, helping you to increase efficiency and productivity by accelerating the process of updating directly from a spreadsheet. You can now take advantage of the integration with Excel when working on your demand forecast. Update, delete directly from Microsoft Excel before submitting it to Dynamics 365 for Operations.

Scenario: During your demand forecasting process, you originally could export your historical data to Excel. With the new updates, you will now be able to update and edit your demand forecast based on your analysis and additional variables based on exceptions or market conditions and upload it back to Dynamics 365 for Operations.

With regards to the Azure Machine Learning integration, you could potentially estimate future demand by using the power and extensibility of a Microsoft Azure Machine Learning cloud service. The service performs best-match model selection and offers key performance indicators (KPIs) for calculating forecast accuracy. Generate more accurate forecasts by using the machine learning techniques and tools to estimate future demands forecast based on historical transactions.

Scenario: Based on historical data and defined variables based on your requirements such as weather, traffic conditions you can integrate Azure ML into your demand forecasting process to help you better predict and anticipate potential issues that could impact your product delivery or availability to customers.

Shipping carrier interface

Automatically transfer information received from shipping carriers (FedEx, UPS, and Kewill), including freight charges and tracking numbers, to Microsoft Dynamics 365 for Operations.

Returns management

Manage the return order process. Control who can return items and which items can be returned. Categorize returns according to reason code or method of disposition.
Supply chain management

Material handling
Increase quality of material handling with Radio Frequency (RF) support. Support material handling within the warehouse with browser-based mobile handheld RF-devices. Create mobile handheld device menus from within Microsoft Dynamics 365 for Operations including creation of new menus for each user or user groups, change layout and colors, and error log and actions. Last but not least, use warehouse operation in manufacturing organizations for raw material picking and report-as-finished support.

Quality management
Improve business processes for quality assurance, quality control, and lot traceability. Manage the test process. Set aside items in quarantine using quarantine orders.

Intercompany
Automate trade between subsidiaries or distribution centers. Sales and purchase orders can be generated manually or automatically across your subsidiaries.

Master planning, including order promising (ATP/CTP)
Forecast delivery dates using operations or bottleneck scheduling. Calculate available-to-promise (ATP) and capable-to-promise (CTP). Plan across multiple sites.

Additionally, in this release we are adding a Master Planning Workspace to offer at-a-glance information about when the last master planning run was completed, whether it had any errors, what the urgent planned orders are, and which planned orders cause delays. Gain quick insight into the status of a master planning run, the urgent planned orders, and the planned orders that cause delays.
### Procurement and sourcing

<table>
<thead>
<tr>
<th>eProcurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve decision-making by defining evaluation criteria upfront and improve management of Request for Information (RFIs), Request for Proposal (RFPs) and Request for Quote (RFQ) from solicitation to award. Improve the vendor/government contractor experience and help vendors operate more efficiently by providing the ability to view and respond to open RFQs, allowing the proposal of item or services substitutes or no bid, and providing visibility into the status and results of a solicitation (for Public Sector). This includes a publicly available vendor portal and open bidding. Increase sourcing efficiencies through well-defined scoring criteria and rank vendor response based on multiple criteria. Manage solicitations including specification of solicitation types, methods, scoring criteria, and track and communicate changes to the RFQ. Utilize sealed bid methodology on RFQs and provide questionnaires to qualify vendors to bid on specific items or services. Improved the user experience of the Vendor self-service portal. Bid scoring, valuation and ranking based on user-defined evaluation criteria.</td>
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<table>
<thead>
<tr>
<th>Indirect procurement (catalog and non-catalog)</th>
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<tbody>
<tr>
<td>Manage purchase requisitions of indirect goods and services using a catalog-based or non-catalog-based procurement process. The procurement process is supported by an approval workflow using the organizational hierarchy. A Microsoft SharePoint®-based catalog can easily be created from products defined in product information management. The catalog also supports punch-out capabilities to external vendor sites. Sophisticated budget check is included.</td>
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<table>
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<tr>
<th>Purchasing policies and signing limits</th>
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<tbody>
<tr>
<td>Enforce purchasing policies with a collection of purchasing policy rules that control the procurement process. A centralized procurement desk defines policy rules to support global policies and processes, and applies them to purchase requisitions and purchase orders based on the legal buying entity and operating unit. For procurement and sourcing there are six policy rules: catalog, catalog access, category, purchase requisition RFQ, purchase requisition control, and purchase order creation and demand consolidation. In addition to policy rules, Dynamics 365 for Operations provides expenditure reviewers and signing limits.</td>
</tr>
</tbody>
</table>

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<tr>
<th>Category management</th>
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</thead>
<tbody>
<tr>
<td>Provides category managers the ability to define different category hierarchies that are independent of, but still related to, commodity codes or catalog/item hierarchies in order to easily manage the overall spending based on categories.</td>
</tr>
</tbody>
</table>
## Procurement and sourcing

### Direct procurement
Manage the entire lifecycle of procurement from planned purchase order to confirming and changing a purchase order. This cycle also includes returned orders. This module also supports direct deliveries, pro-forma purchase orders, and landed-cost charges to purchase orders such as freight, insurance, and unrecoverable taxes.

### Trade agreements (vendor)
Manage price and multifaceted discount policies in all currencies. The price revision process can be governed by workflows to ensure compliance with internal policies. The generic currency agreement allows prices to be set up in a single currency and automatically converted to the vendor’s currency.

### Vendor management
Vendor management includes vendor search, vendor maintenance, and support for requesting and approving a new vendor via the Enterprise Portal supported by workflow. Take advantage of Sites Services* to extend the vendor onboarding process with a cloud-based service facilitating the dialog with new vendors.

### Vendor self-service portal
Enable vendors to update profile data, upload catalog content, and review invoices and payments. Vendors can receive notifications from the organization, respond to RFQs, and view vendor performance.

### Vendor rebate management
Automate administration, tracking and claiming process of vendor rebates and reduce administrative burden and errors associated with promotion performance monitoring and claim processing and improve cash flow forecasts through accruing for future receivables. Have a quantified basis for ongoing and future negotiations on rebates with the vendor.

### Broker and royalty contract management
Manage payment of fees to brokers for the service of facilitating sales with broker contract management. Control usage-based payments for the right to the ongoing use of an asset or an intellectual property with royalty management. This module will reduce the administrative burden of managing royalties and broker payments.
Procurement and sourcing

Workspaces

In this new release, and taking advantage of the new enhanced UI, we are introducing a new concept called "Workspaces" with the goal of connecting people with data and processes to make better decisions. The newly added workspaces include Environmental Manager, Operations Manager, Production Manager, and Shop Supervisor.

Procurement reporting

Gain insight into the organization’s procurement performance using transactional reports, analytical reports (such as vendor and procurement spend analysis, top 100 vendors, vendor performance), and KPIs. A predefined data cube for purchasing is included.

Procurement workflows

Procurement operations can be driven and governed by workflows. With the flexible and visual workflow engine, procurement managers are able to set up workflows that make the procurement cycle more efficient and enforce purchasing policy compliance.

One Microsoft

Microsoft Azure

Microsoft Dynamics 365 for Operations

Build. Deploy. Operate.
Connected operations

Distribution

For manufacturers with heavy distribution needs, operational efficiency and effectiveness is a must, but simply being able to move product cost effectively is not enough. Complexities abound in distributing product, with challenges in effective inventory control, changing regulations, and how to best leverage technology. These challenges force manufacturers to change and adapt how they manage operations and how they do business with partners. They must identify new, faster (yet less costly) transportation modes and then find a way to extend those cost savings back to the customer. Plus, warehousing and transportation capabilities have to be world-class. Dynamics 365 for Operations provides manufacturers with distribution needs a solution built to provide operations and logistics excellence while also offering 360-degree visibility and control throughout the entire supply chain.

Service

New technologies within the consumer market have deeply affected the manufacturing industry. Now, with access to information wherever customers are—24 hours a day, 7 days a week—the meaning of customer service has changed. Customers expect quality, personalized service, on their terms, across the web, social, mobile, and phone. With Dynamics 365 for Operations, you can earn customers for life by providing relevant, personalized service—at any time and via any channel. You can empower your customer service agents with everything they need at their fingertips to deliver amazing customer service.

Sales

With today's technology and the highly educated consumer, customers know more than ever before. They have more buying options on how and where to buy things. And they are making buying decisions long before you even engage with them. It's crucial that manufacturers are ready to engage with customers to build deeper relationships while personalizing every interaction. With Microsoft Dynamics 365 for Operations, we help you focus on what's most important to your customers, win faster with the right tools and information, and sell more with a toolset that effectively manages and enhances your sales efforts. Your sales reps can zero in and focus on the most impactful activities. You can win faster by making every customer conversation more relevant, valuable, and productive. And you can sell more with better insight, understanding, and pipeline confidence.
Manufacturers have traditionally just focused on operational efficiencies. Although this is still very important, these organizations now realize that producing and distributing products cost effectively is simply not enough, since they can’t cut enough costs to get to desired profitability goals. They now need to focus more on the marketplace itself, and this means getting better at marketing. Marketing is changing faster than ever before. Marketers own more of the customer journey and must engage customers in new ways across new channels to deliver amazing experiences, while tracking the results of their marketing investments. With the marketing functionality in Dynamics 365 for Operations, we can help you unleash your marketing potential. You can easily plan, execute, and measure campaigns from start to finish. Bring your marketing vision to life—engage customers across channels, build pipeline, and demonstrate the impact of your marketing.
Manufacturing

Production floor management workspace

This feature lets the production supervisor check whether materials for scheduled production orders are available on the required date. In the workspace, the production supervisor is informed how many production orders are in the scheduled state and are pending release. Based on the dynamic master plan, the information about material availability is updated if material requirements are met by on-hand inventory for actual orders, or planned orders. Based on the information about material availability, the supervisor can release the orders on the Material availability page. During the process of releasing production orders to the shop floor, the feature helps the production supervisor make correct decisions about the allocation of materials to orders.

Production supervisors can now check material availability on production orders in a separate page that is called from the Production floor management workspace.

Job card device page

Although the new Job card device page is designed with simplicity, it’s also designed for touch. The page fits well on mobile devices, such as tablets and phones. The shop floor worker will find less information overload and more intuitive ease of use. The worker can perform the traditional tasks, such as starting, ending, and reporting progress on a job. Besides working on the actual job, or logging and clocking out, the worker can view attachments, break for lunch, and perform other activities. Jobs will be queued to the worker
Manufacturing

in a planned sequence, but they can also be picked by the worker. The page is primarily targeted at discrete manufacturing operations, where materials are prepared for production.

This is particularly useful in scenarios that are related to reporting of co-products and by-products, and materials picking by tracing dimensions using the Job registration page. Also, by introducing an alternative UI that is designed for touch and can be accessed from all types of devices, such as terminal screens and mobile devices, this feature could help to reduce the implementation costs for a traditional rollout of shop floor registrations.

Master planning

Master Planning Workspace

The Master planning workspace offers at-a-glance information about when the last master planning run was completed, whether it had any errors, what the urgent planned orders are, and which planned orders cause delays. Gain quick insight into the status of a master planning run, the urgent planned orders, and the planned orders that cause delays.

Action graph

The action graph provides a better overview, and has options to show only applied and directly related actions. When actions are applied, they appear dimmed but are still displayed to keep the overview. Additional information is added to the action graph to display the data on one page.

Using this new action graphic you could potentially optimize the order date and quantity based on a visual overview of related actions that are pulled from the master planning run, letting you focus only on the relevant actions.

Demand forecasting

Microsoft Excel Integration

Now you can use Microsoft Excel to update your demand forecast, helping you to increase efficiency and productivity by accelerating the process of updating directly from a spreadsheet. You can now take advantage of the integration with Excel when working on your demand forecast. Update, delete directly from Microsoft Excel before submitting it to Microsoft Dynamics 365 for Operations.

During your demand forecasting process, you originally could export your historical data to Excel. With the new updates, you will now be able to update and edit your demand forecast based on your analysis and additional variables based on exceptions or market conditions and upload it back to Dynamics 365 for Operations.
Demand forecasting

Azure Machine Learning integration

Estimate future demand by using the power and extensibility of a Microsoft Azure Machine Learning cloud service. The service performs best-match model selection and offers key performance indicators (KPIs) for calculating forecast accuracy. Generate more accurate forecasts by using the machine learning techniques and tools to estimate future demands forecast based on historical transactions.

Based on historical data and defined variables based on your requirements such as weather or traffic conditions you can integrate Azure ML into your demand forecasting process to help you better predict and anticipate potential issues that could impact your product delivery or availability to customers.

Procurement and sourcing

Purchase order preparation workspace

The Purchase order preparation workspace provides an overview of orders from the time when they are created as a draft and traced, through workflow approval states, and onward toward confirmation. Your purchasing department no longer has to seek information from multiple pages but benefits from the overview that the workspace provides.

Use the Purchase order preparation workspace to gain quick insight into the status of purchase orders that are being prepared.

Purchase order receipt and follow-up workspace

The Purchase order receipt and follow-up workspace provides an overview of confirmed purchase orders that have pending receipts or shipments. This workspace includes lists of post-due receipts and pending receipts to help with proactive review and follow-up by the supplier. Purchase orders for which arrival registration has occurred in the warehouse are also listed to help ensure that the receipt is posted. Purchase order returns that haven’t yet been shipped are also available for review. Your purchasing department benefits from the overview that the workspace provides. Relevant information is put together to guide follow-up and help improve productivity.

Use the Purchase order receipt and follow-up workspace to gain quick insight into purchase orders that are pending receipt, to help with follow-up.
Microsoft Dynamics 365 for Operations

**Grow at your pace**
Helps your businesses grow at your pace with the choice and flexibility to modernize your business.

**Transform business faster**
Enables businesses to simplify and speed up their business processes.

**Make smarter decisions quicker**
Empowers your people to make smarter decisions quicker, so they are ready for anything.
### Grow at your pace

**Evolve your business with the choice & flexibility of the cloud**

- With the same code base, data model and technical infrastructure across deployments, you can easily deploy and/or move from private to public cloud when your business requires you to do so.

- Get the flexibility, speed and cost benefits of running your ERP solution private cloud (on-premises) and your development, test and DR in the public cloud.

- Keep your business running while taking advantage of cutting edge technology as you help your business migrate from and connect with existing/legacy systems in heterogeneous landscapes integrated with the cloud through a modern integration platform.

**Get peace of mind with trusted cloud**

- Easily set up segregation of duty with minimal maintenance of user accounts with a simple single sign-on through Azure Active directory in the cloud and federation to your people using an on-premises deployment.

- Get the peace of mind with Azure SLA for uptime, disaster recovery in the cloud across both public and private cloud deployments.

- Get the security and compliance of the Microsoft Azure cloud with adherence to WW security standards.

**Scale your business operations globally**

- Get the flexibility to deploy or expand your business operations globally with Microsoft Azure availability in 140 countries, including China, all backed by Microsoft’s $15 billion investment in global data center infrastructure.

- Match your business growth by easily adding users and business scenarios in a “pay as you go” model.
## Transform business faster

### Improve business planning with predictable implementations

- Support your end-to-end application lifecycle through an extension of Lifecycle Services with new methodologies and best practices driven tool sets for implementation, updates and support.

- Support your business in the cloud with Microsoft Lifecycle Services (LCS).

- Reduce risk to your organization with a flexible solution architecture that enables incremental implementations, changes, or updates.

- Use telemetry and diagnostics to improve product usage and identify issues so you can proactively minimize downtime.

### Faster time to value from technology investments

- Easily validate predefined and automated deployment of business processes and data to get your business up and running faster.

- Enable business analysts to streamline business processes and respond rapidly to changing business conditions.

- Simplify and accelerate your updates through predefined methodologies, automated testing and code merge while minimizing business disruption.

- Provide self-service learning and resources to your people to optimize system usage and ultimately streamline business processes.

### Readily available resources and solutions

- With newly added support for Visual Studio in the cloud your people can use their existing skill set to optimize processes to meet your business needs.
Make smarter decisions quicker

Enable people to quickly get operational insights

- Dynamics 365 for Operations uses in-memory BI to give your people real time operational insights so they can make informed decisions.

- Enable people to find, sort, visualize, and use information easily with an intuitive user interface that provides contextual insights through Power BI.

- Plan and anticipate customer needs through the use of Azure machine learning capabilities.

Empower people to work and collaborate faster

- A new guided user experience gets your people up to speed quickly with an easy-to-use, and familiar solution that looks and works like Microsoft Office 365.

- Enable your people to be more productive with activity-based workspaces to provide a task specific experience, new user task guide, and integration with O365 productivity and collaboration applications.

- Work faster, enable collaboration and get insights by seamlessly sharing information between Dynamics 365 for Operations, other Microsoft Dynamics 365 applications, Office 365 and Power BI.

Access your information nearly anywhere on any device

- A fully browser based, new HTML5 client that runs across browsers, devices and platforms gives your people access to their business application regardless of the device or platform.

- Give your business the capability to extend and build business specific mobile apps through a mobile SDK and make them available to your employees through a private marketplace.

Enable people to work and collaborate faster

- A new guided user experience gets your people up to speed quickly with an easy-to-use, and familiar solution that looks and works like Microsoft Office 365.

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- Work faster, enable collaboration and get insights by seamlessly sharing information between Dynamics 365 for Operations, other Microsoft Dynamics 365 applications, Office 365 and Power BI.

Access your information nearly anywhere on any device

- A fully browser based, new HTML5 client that runs across browsers, devices and platforms gives your people access to their business application regardless of the device or platform.

- Give your business the capability to extend and build business specific mobile apps through a mobile SDK and make them available to your employees through a private marketplace.
Microsoft Dynamics 365 for Operations

**Use the cloud your way**
Run your business and operations in a secure and trusted cloud from Microsoft.

**Simplify your application lifecycle**
Change the economics of deployment, operations and support.

**Reinvent your productivity with intelligence**
Boost productivity with broad adoption and real-time operational insights on nearly any device, anywhere.
**Use the cloud your way**

<table>
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<tr>
<th>Gain the choice and flexibility of hybrid cloud</th>
<th>Get the peace of mind with trusted cloud</th>
<th>Match your business growth with a single global solution</th>
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<td>With the same code base, data model and technical infrastructure across deployments, you can easily deploy and/or move from private to public cloud when your business requires you to do so.</td>
<td>Easily set up segregation of duty with minimal maintenance of user accounts with a simple single sign-on through Azure Active directory in the cloud and federation to your people using an on-premises deployment.</td>
<td>Get the flexibility to deploy or expand your business operations globally with Microsoft Azure availability in 140 countries, including China, all backed by Microsoft’s $15 billion investment in global data center infrastructure.</td>
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<tr>
<td>Get the flexibility, speed and cost benefits of running your ERP solution private cloud and your development, test and DR in the public cloud.</td>
<td>Get the peace of mind with Azure SLA for uptime, disaster recovery in the cloud across both public and private cloud deployments.</td>
<td>Match your business growth by easily adding users and business scenarios in a “pay as you go” model.</td>
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<td>Keep your business running while taking advantage of cutting edge technology as you help your business migrate from and connect with existing/legacy systems in heterogeneous landscapes integrated with the cloud through a modern integration platform.</td>
<td>Get the security and compliance of the Microsoft Azure cloud with adherence to WW security standards.</td>
<td></td>
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Microsoft Dynamics 365 for Operations
Simplify your application lifecycle

Predictable implementations and updates

Support your end-to-end application lifecycle through an extension of Lifecycle Services with new methodologies and best practices driven tool sets for implementation, updates and support.

Support your business in the cloud and with Microsoft Lifecycle Services (LCS).

Reduce risk to your organization with a flexible solution architecture that enables incremental implementations, changes, or updates.

Get from planning to production faster than ever

Easily validate predefined and automated deployment of business processes and data to get your business up and running faster.

Enable business analysts to streamline business processes and respond rapidly to changing business conditions.

With newly added support for Visual Studio or in the cloud your people can use their existing skill set to optimize processes to meet your business needs.

Lower the cost of maintaining by automating processes

Simplify and accelerate your updates through predefined methodologies, automated testing and code merge while minimizing business disruption.

Use telemetry and diagnostics, to improve product usage and identify issues so you can proactively minimize downtime.

Provide self-service learning and resources to your people to optimize system usage and ultimately streamline business processes.
Reinvent your productivity with intelligence

Greater user adoption and collaboration

A new guided user experience gets your people up to speed quickly with an easy-to-use, and familiar solution that looks and works like Microsoft Office 365.

Enable your people to be more productive with activity-based workspaces to provide a task specific experience, new user task guide), and integration with O365 productivity and collaboration applications.

Work faster, enable collaboration and get insights by seamlessly sharing information between Dynamics 365 for Operations, all other Microsoft Dynamics 365 applications, Office 365 and Power BI.

Real-time access to analytics to drive intelligent operations

Microsoft Dynamics 365 for Operations uses in-memory BI to give your people real time operational insights so they can make informed decisions.

Enable people to find, sort, visualize, and use information easily with an intuitive user interface that provides contextual insights through Power BI.

Plan and anticipate customer needs through the use of Azure machine learning capabilities.

Access to business info on nearly any device, anywhere

A fully browser based, new HTML5 client that runs across browsers, devices and platforms gives your people access to their business application regardless of the device or platform.

Give your business the capability to extend and build business specific mobile apps through a mobile SDK and make them available to your employees through a private marketplace.
Why Microsoft?

Dynamics 365 for Operations is Microsoft’s business solution for enterprises that enables people to make smarter decisions faster with access to real-time insights and intelligence on nearly any device, anywhere. It enables businesses to redesign processes faster and innovate ahead of the competition, with the added flexibility, scalability, and global support of the cloud.
Microsoft Dynamics 365 for Operations

Manufacturing Factsheet