Enhancing the inventory management capabilities of **Microsoft Dynamics 365 Business Central**

The additional benefits of inventory optimization software

Microsoft Dynamics 365
Business Central

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Introducing Microsoft Dynamics 365 Business Central

In 2018, Microsoft launched Microsoft Dynamics 365 Business Central (Business Central) as the successor to their well-established enterprise resource planning (ERP) system, Microsoft Dynamics NAV (NAV).

The latest edition of the ERP has been built on a new system architecture, using different code and application logic at its core.

This means it can be hosted in the cloud (as well as on-premise), removing many of the burdens of on-site business systems.

For starters, it's easier to upgrade and update than NAV and can be connected to the entire Microsoft 365 suite of software for greater system integration.

Businesses can also sign up for a more flexible and scalable software-as-a-service subscription (SaaS), where they pay monthly per user.

Business Central also offers a significantly improved user experience, featuring a new web client that's easier to navigate, customize and set up automated workflows.

The ERP evolution has primarily been driven by improvements in usability and connectivity, with few enhancements to the software's core functionality.

NAV and Business Central offer an impressive breadth of applications to support most organizations, including finance, manufacturing, and supply chain modules.

These are supplemented with access to Microsoft AppSource, a cloud-based digital marketplace where Business Central users can download a wide range of apps, add-on software, and technology extensions.

These can be linked to the ERP much faster and more easily than ever before, allowing businesses to 'bolt-on' additional functionality, often in niche areas, such as payment gateways, credit management, and, of course, inventory optimization.

In this eGuide, we examine Business Central's functionality in terms of inventory management. We'll also evaluate its features and describe the additional inventory optimization capabilities that EazyStock offers.

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Business Central and inventory management

The inventory management module of Business Central allows users to oversee the management of stock items across their business.

It lets them store a wealth of data about every product they carry, making it easy to track these goods across their supply chain and update stock levels based on outgoing sales and incoming purchases.

For some organizations, these features may provide an adequate level of stock control. Unfortunately, it cannot optimize stock as it only allows for static reorder points and forecasts. For others, additional inventory optimization functionality could be essential.

Key core inventory management functionality in Business Central

Storing a wide breadth of data on every inventory item, including units of measurement, unit costs, sales prices, color, country of manufacture, and dimensions.

Grouping items into hierarchical structures and assigning category attributes.

Assigning stock locations and tracking items from one location to another.
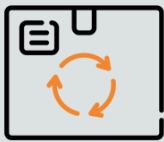
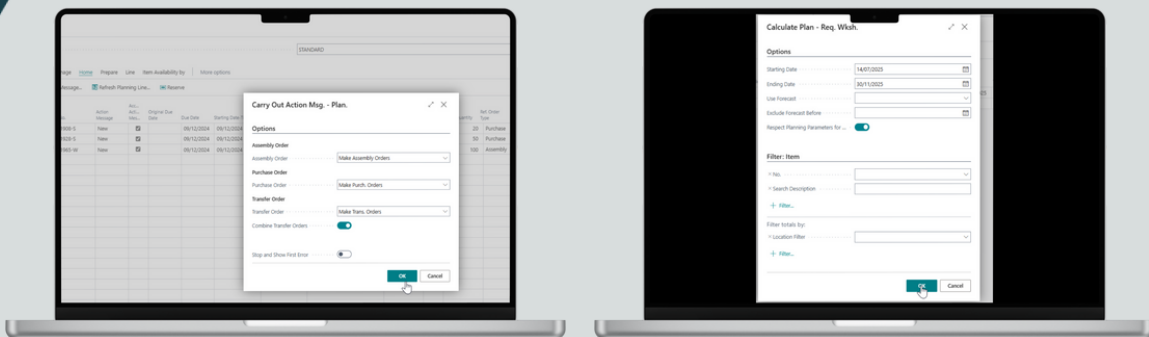Linking items to create a bill of materials for production.

Posting item transactions, such as sales and purchases, against each item to automatically adjust stock counts.

Linking replacement articles to offer alternatives to sold-out products.

Managing non-stocked items.

However, as Business Central's primary purpose is offering a wide range of functionality across a business, it doesn't specialize in inventory management. This means there will be performance gaps that could lead to inventory management challenges.

These challenges occur because, while Business Central, like most ERPs, is great at managing inventory from goods in to dispatch, it cannot optimize stock levels. This makes it challenging to hit order fulfillment targets while keeping inventory investment to a minimum.

Fortunately, ERP systems like Business Central can connect to specialized apps, including those that enhance your inventory management. If you recognize any of the issues below, it's a sign that you could benefit from the additional capabilities of an inventory optimization add-on. Thanks to ready-made connectors available in AppSource, this is pretty straightforward.

Business Central inventory management issues

1 Inaccurate demand forecasts

2 An inability to increase inventory turnover rates

3 Difficulty improving service levels (stock availability/order fulfillment), leading to lost sales

4 Consistently having too much working capital tied-up in excess stock

5 Issues with obsolete stock

6 Spending too much time updating Business Central's reordering policies and planning parameters

7 Regular stockouts or incomplete orders that lead to unhappy customers

8 An inability to deal with irregular supplier lead times

Let's have a look at how connecting inventory optimization software can help overcome these challenges.

What is inventory optimization?

Inventory optimization is the concept of balancing high service levels with the lowest possible inventory investment. It allows businesses to achieve stock availability while reducing inventory costs and minimizing the risk of excess stock.

EazyStock is an ERP add-on specifically designed to provide stock-holding organizations with inventory optimization capabilities.

As a cloud-based system, it's easy to implement and offers a fast ROI.

Like Business Central, EazyStock users sign up on a 'software as a service' (SaaS) subscription model, meaning it's a low-risk financial option with little upfront capital investment.

Key benefits of inventory optimization include:

- Statistical demand forecasting instead of manual forecasting
- Inventory classification
- Optimized stock levels
- Automated reordering and replenishment.

We'll explore these in more detail.

Switching from manual to statistical demand forecasting

The challenges of manual forecasting with Business Central

The core demand forecasting functionality in Business Central is similar to that found in most other ERP systems.

Business Central relies on the manual upload of sales or production forecasts and combines them with the relevant, pre-programmed reordering policies (see page 23). It then suggests a reorder proposal when stock levels are insufficient to cover future demand.

Anyone who manually produces demand forecasts using spreadsheets knows it's a resource-intensive task, particularly with an extensive product portfolio. These manual calculations then require regular updates to ensure forecasting accuracy, which opens them up to human error.

Another problem with manual forecasts is that they often employ very simple approaches to predict future demand, such as previous sales history or moving averages. While this method is suitable for inventory items with stable demand (where previous demand data is a good indicator of future demand), very few items follow such simplistic logic in reality. This is because as they move through their product life cycle, most experience a range of demand patterns. They are also subject to market trends, variances in forecast sensitivity, and seasonality.

EazyStock's additional demand forecasting capabilities

Connecting EazyStock automates demand forecasting and incorporates advanced statistical calculations and algorithms that even the most sophisticated spreadsheet could only dream of.
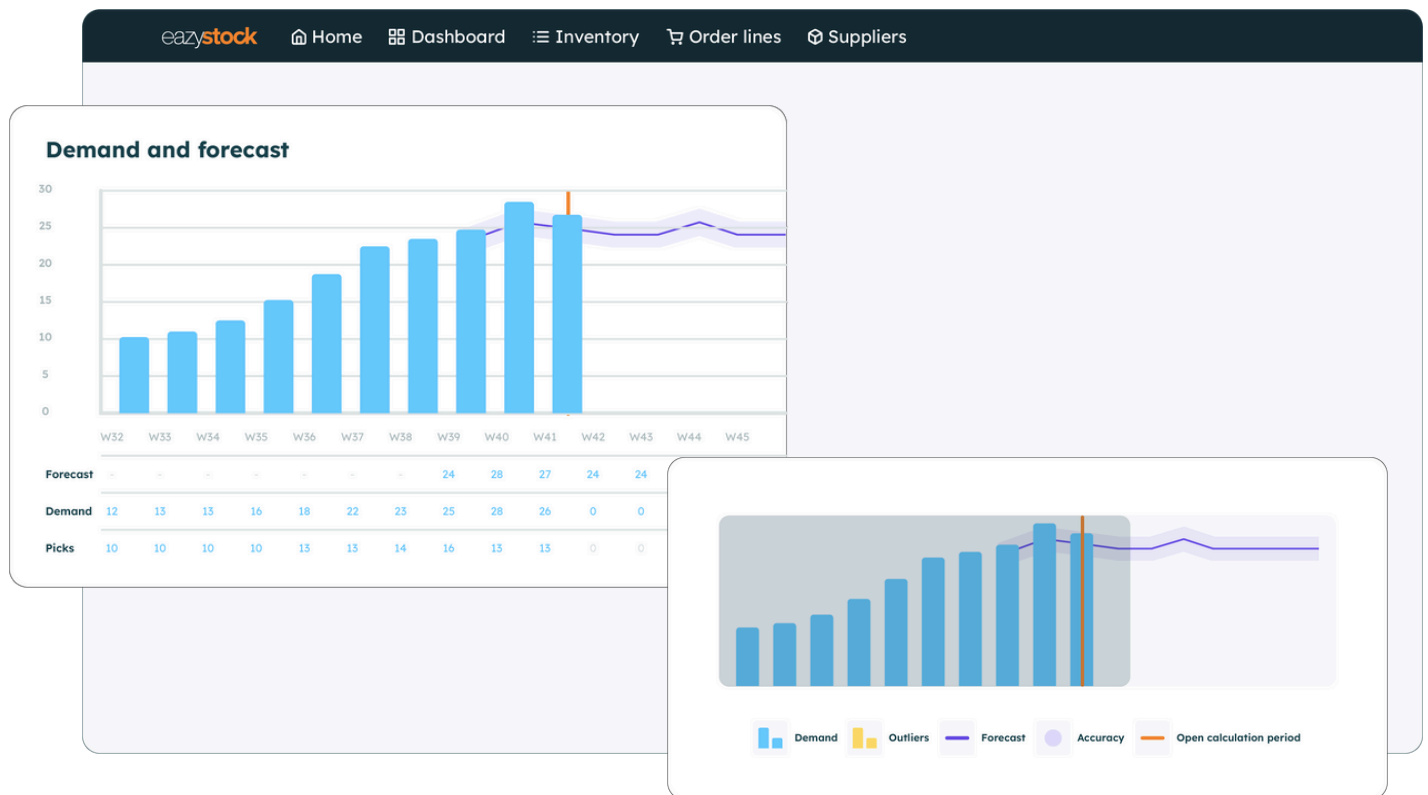
Not a true representation of the EazyStock interface

To produce a base forecast, EazyStock takes a data feed from Business Central and analyzes historical demand data. This enables it to classify items into one of eight demand types based on their position in their product life cycle.
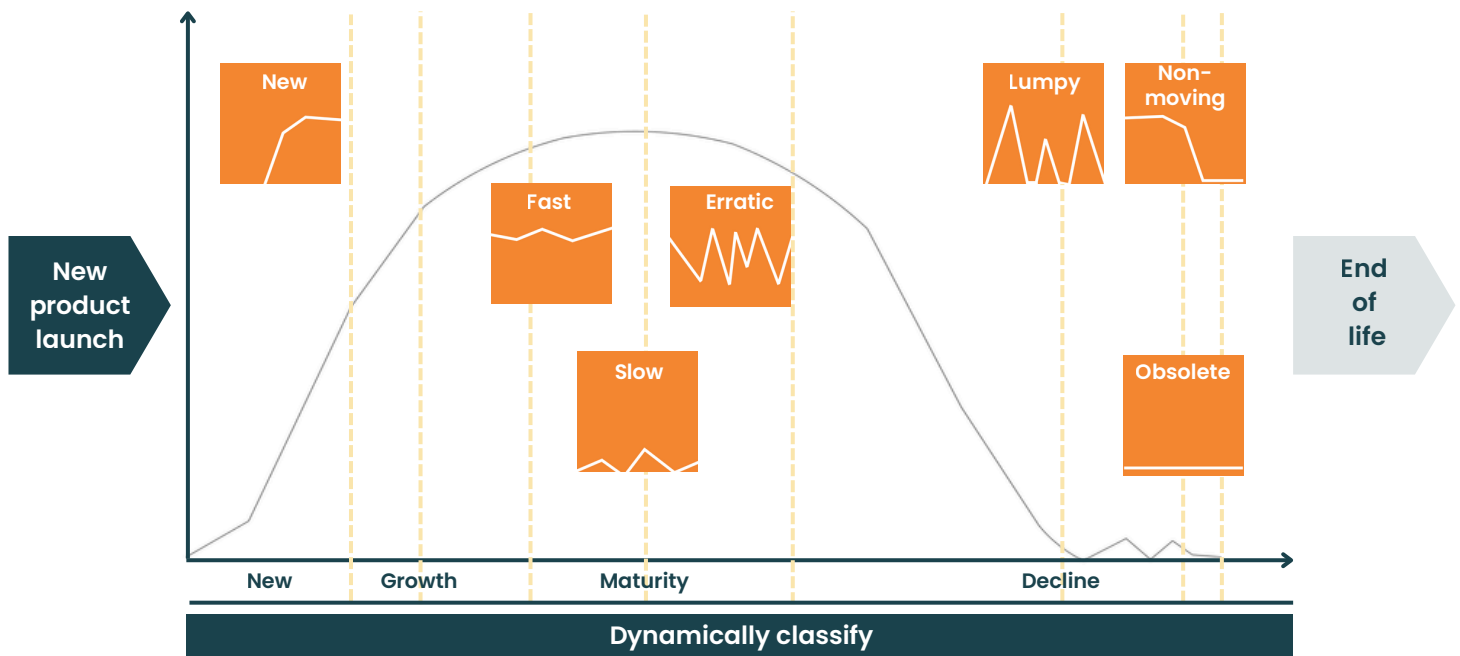
Diagram: Product life cycle and demand types, as classified by EazyStock

For example, a product in its growth phase will likely follow a positive demand trend as sales increase until it hits maturity. Here, demand usually stabilizes before becoming increasingly erratic and lumpy as it faces decline.

Demand types are important as they dictate the statistical algorithm that EazyStock uses to calculate forecasts. As products progress through their life cycle, the system updates demand types and subsequent algorithms to maintain forecasting accuracy.

With the base demand calculated, EazyStock then considers:

Seasonality

Adding seasonal demand profiles helps prevent shortages during peak seasons and expensive surpluses as demand tails off.

Trends

Trends resulting from changes in consumer behavior or tastes can be identified quickly, and forecasts adjusted accordingly for optimal reactivity.

Promotions

Special offers, discounts, and long-term price drops can easily be added to the forecast manually.

Forecast sensitivity

EazyStock can be configured to weight forecasts on more recent demand data for fast-moving industries, or longer historical demand periods for industries where trends are slower to change.

With data flowing daily from Business Central to EazyStock, items are re-analyzed and forecasts updated to ensure they are constantly reacting to market dynamics and consumer behavior.

EazyStock also tracks actual demand throughout the forecast period and provides alerts when there's a significant deviation from the projection. This allows the user to act on the intel and prevent potential stockouts or excess inventory build-up.

At the end of a forecast period, it will also highlight extreme forecast variances, e.g. demand outliers, so that the cause can be investigated and future forecasts adjusted accordingly.

Essentially, EazyStock removes the need for creating manual forecasts or using Microsoft's sales and inventory forecasting module.

Instead, it automatically generates projections using advanced statistical algorithms – ready to inform replenishment calculations.

EazyStock highlights demand variances

Classifying inventory and optimizing stock levels

ABC inventory classification

When deciding what items to stock and what not to stock, it makes sense to group SKUs with similar 'characteristics' and set different stocking policies to manage them.

Business Central uses a simple form of inventory classification to inform its reordering calculations. Users are encouraged to categorize their stock items manually using a simple ABC analysis model. Using this information, they then choose and assign a suitable reordering policy to each item within the ERP.

Microsoft defines ABC classification as grouping items based on their value and volume relative to total stock. So 'A' items with a high value that are stocked in low volumes are treated differently from 'C' items, which are carried in high volumes and have a low comparative value.

However, manually analyzing and classifying every inventory item is time-consuming. Unfortunately, as soon as the information is entered, it's out of date, which could mean that unsuitable reordering policies are assigned. Consequently, you'll experience stockouts or excess stock.

Dynamic inventory classification

In comparison, EazyStock's, inventory classification is much more advanced. It aims to prioritize which products you stock based on more variables to optimize inventory levels and increase inventory turnover.

To do this, EazyStock takes a daily feed of demand profiles, stock levels, and items on order and in transit from Business Central and calculates stocking rules for every SKU based on several key criteria:

- Demand types – new, fast, slow, erratic, lumpy, non-moving, or obsolete.
- The value of annual usage (VAU) for each SKU – considering sales volume and unit cost.
- How often each SKU gets picked – distinguishing high-volume products with many requests (1000 requests for 1 unit) from high-volume products with low requests (2 requests for 500 units).
- The demand volatility of each SKU – segmenting items based on their demand volatility and, therefore, how easy it is to forecast their demand.

While ABC classification groups items based on their value, EazyStock uses multi-dimensional variables and provides more granular categorization, categorizing SKUs into inventory matrices. These can either be simple or have over 200 segments, like in the matrix on the next page.

EazyStock then automatically applies stocking rules to set reordering parameters and achieve target service levels (see page 26 for more information).

EazyStock dynamically moves items between categories daily and automatically updates stocking rules as required. The result is optimized inventory levels, allowing capital investment in the right stock and achieving healthy turnover rates.

Picks class	DG	A1	A2	A3	A4	B1	B2	B3	C1	C2
P0	0	N 94.00%	95.00%	96.00%	96.50%	97.00%	97.50%	98.00%	98.50%	99.00%
		L 70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
		S 90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
P1	1	N 94.00%	95.00%	96.0..		97.00%	97.50%	97.10%	80.00%	99.45%
		L 70.00%	70.00%	70.00%	70.0..	70.00%	70.00%	70.00%	70.00%	98.40%
		S 90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	99.25%	99.80%
P2	3	N 94.00%	95.00%	96.00%	96.50%	97.00%	97.30%	97.00%	97.40%	99.40%
		L 70.00%	70.00%	60.00%	60.00%	60.00%	70.00%	93.00%	95.00%	99.00%
		S 90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	97.50%	99.25%	99.95%
P3	5	N 94.00%								9.65%
		L 70.00%								9.60%
		S 90.00%								9.95%
P4	7	N 94.00%								9.96%
		L 60.00%								9.80%
		S 90.00%								9.97%
P5	10	N 92.50%								9.97%
		L 70.00%								0.00%
		S 90.00%								9.98%
P6	15	N 95.00%								9.98%
		L 70.00%								0.00%
		S 90.00%								0.00%
P7	24	N 97.80%								9.99%
		L 70.00%								0.00%
		S 99.90%								0.00%
P8	47	N 99.90%	99.90%	99.96%	99.95%	99.96%	99.97%	99.98%	99.00%	99.99%
		L 70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
		S 90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%

Zoomed detail:

Picks class	DG	A1	A2
P0	0	N 94.00%	95.00%
		L 70.00%	70.00%
		S 90.00%	90.00%
P1	1	N 94.00%	95.00%
		L 70.00%	70.00%
		S 90.00%	90.00%

Diagram: Example of an EazyStock inventory matrix with target service levels

Generally, this means items with consistent demand, high pick frequency, and a low cost-to-sell will have higher stock levels. Those that are expensive to stock, with a low pick frequency, and more volatile demand will be stocked in lower volumes.

Service levels and stock availability

Many businesses use service-level KPIs to measure stock availability or order fulfillment. Service levels are directly linked to customer satisfaction. For example, if orders can be fulfilled entirely, customers are more likely to be pleased with their service experience.

Unfortunately, most ERPs, including Business Central, lack the functionality to measure service levels and track this important KPI. With EazyStock, however, target service levels can be set and measured at product group or even SKU level, allowing businesses to keep a closer eye on stock availability and its impact on customer satisfaction.

In EazyStock, service levels are usually configured during system implementation and assigned to segments of the inventory matrix. So, if high service levels are required, EazyStock will automatically adjust stocking rules accordingly to carry more of the items, and vice versa.

EazyStock helps businesses make more informed inventory management decisions. Whether looking to increase turnover and free up capital or reduce stockouts and improve service levels, EazyStock enables users to test, implement, and fine-tune their optimization strategies.

Automating reordering

Business Central's planning system and reordering policies

When it comes to inventory reordering functionality, Business Central's inventory planning system has arguably more sophisticated features than many other ERPs on the market.
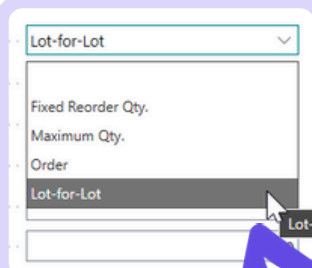
Users can assign one of four reordering policies:

- Fixed Reorder Quantity
- Maximum Quantity
- Lot-For-Lot
- Order

They then manually enter a range of planning parameters, such as reorder points, safety stock lead times and quantities, time

buckets (reorder cycles), and order modifiers, e.g. minimum or maximum order quantities or order multiples.

Each chosen reordering policy determines how these individual planning parameters interact to define when and how much to reorder.

Reorder policy	Description
Fixed Reorder Quantity	When an item hits the specified reorder point, Business Central releases a reorder proposal for the specified reorder quantity regardless of existing stock levels.
Maximum Quantity	When an item hits the specified reorder point, Business Central releases a reorder proposal for the quantity that will 'fill up' to the specified maximum inventory value.
Order	Used for non-stocked items, Business Central releases a reorder proposal every time there is demand for that specific item, e.g. a sales order. The order amount matches the demand exactly.
Lot-For-Lot	Business Central looks at forecasted demands over a specified future period and combines them in one reorder proposal. The order quantities depend on the demand within the 'lot accumulation period'.

Using this pre-programmed logic, Business Central produces reorder proposals when replenishment is necessary.

This functionality, however, has several crucial drawbacks:
- It's time-consuming to set up. For example, the user needs to calculate all planning parameters outside of Business Central and port them back in.
- It relies on the user knowing which reordering policy is most suited to every stock item.
- Some reordering policies rely on manual demand forecasts while others don't use forecasts at all.
- Every planning parameter and reordering policy is static and requires manual adjustment.
- It relies on lead times remaining static.
- Planning parameters are interlinked. For example, safety stock depends on lead times and demand volatility, while minimum and maximum order quantities can affect reorder points and quantities. This means that when one parameter requires adjustment, they may all need to be adjusted.

The lack of automation in allocating reordering policies and planning parameters makes replenishment a time-consuming and manual process.

Plus, most markets experience fluctuating demand and supply variables. This means these policies and parameters need regular revision to prevent excess (even obsolete) inventory or stockouts.

Automated reordering and replenishment

A key benefit of using EazyStock is that it removes all the manual work and deliberation over choosing the right replenishment strategies and rules.

EazyStock calculates all reordering policies and automatically adjusts them to changes in demand forecasts, stocking rules, target service levels, and supplier lead times (more below).

This means that reordering becomes market-led and reacts to customer behavior (or production requirements) and supplier performance.

Here are some examples of EazyStock's replenishment functionality:

Safety stock

Most inventory planners manually calculate safety stock quantities by taking the cycle stock quantity over a specified period and adding a little more, just in case.

In comparison, EazyStock uses statistical algorithms to consider important factors, such as service level, forecast accuracy, and lead time variability to determine recommended safety stock quantities.

Since each inventory item has a unique demand pattern, safety stock levels are adjusted accordingly.

Reorder alerts

In Business Central, reorder points are either fixed or based on a static forecast – both of which are manual calculations.

In contrast, EazyStock automatically factors in dynamic demand forecasts (so ordering mirrors customer demand), safety stock levels (to prevent stockouts), and supplier lead times (to cover supplier holidays or busy periods).

If ordering or delivery acceptance can only take place on specific days of the week or month, the user can add these operational constraints to EazyStock's order calendar feature. The system then recalculates reorder quantities and safety stock levels to prevent any impact on stock availability.

Reorder quantities

In Business Central, reorder quantities are either a specified fixed amount (using the Fixed Reorder Quantity reordering policy), vary to hit a specified max/min capacity (Maximum Order Quantity), or are accumulated based on a demand forecast (Lot-For-Lot).

All options can potentially result in stockouts or surplus stock. For example, fixed or maximum order quantities are static and fail to account for market dynamics, while the Lot-For-Lot strategy relies on a manual forecast and places the order when the first demand is needed.

So, unless the lot accumulation period is relatively short, items could be held in the warehouse for unnecessarily long periods. If demand completely falls, this could result in dead stock that needs to be sold at a significant discount or written off.

Dynamic replenishment in EazyStock

Instead, EazyStock automatically uses a wide range of supply and demand variables when generating daily order proposals:

- Current stock levels, reserved stock, goods in transit, and back-orders
- Demand forecasts, including demand types, seasonality, trends, and human inputs
- Inventory policies, including target service levels
- Safety stock
- Dynamic lead times
- Minimum and maximum order quantities
- Order calendars

Smart and efficient reordering

EazyStock will continuously analyze stock to ensure each SKU is assigned to the correct demand type and the appropriate area of the inventory matrix so it's subject to the correct stocking rules and planning parameters.

With these advanced algorithms working in the background, EazyStock provides a daily list of items and their optimal reorder quantities. Users can then decide whether to review the orders (which they may do for high-priority, slow-moving items) or simply automate the ordering process (which often happens with faster-moving, low-value items where the risk of excess stock is low). The orders can then be imported back into Business Central for processing.

A daily review of EazyStock's user-friendly dashboard allows users to sense-check their replenishment recommendations.

The system promotes managing by exception, providing inventory alert reports that allow attention to be given to product categories or SKUs that need revision or fine-tuning with a human perspective.

The result is that day-to-day replenishment tasks become more efficient, ensuring reordering accounts for demand and supply variability, to prevent over- and under-stocking.
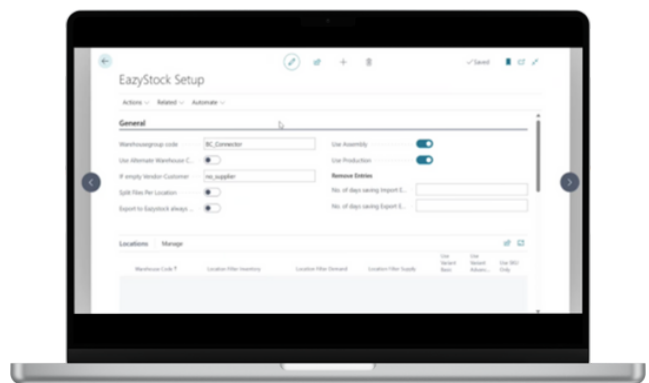
# Connecting EazyStock to Business Central

Connecting EazyStock to Business Central follows a few simple processes, starting with downloading the integration app from Microsoft AppSource.
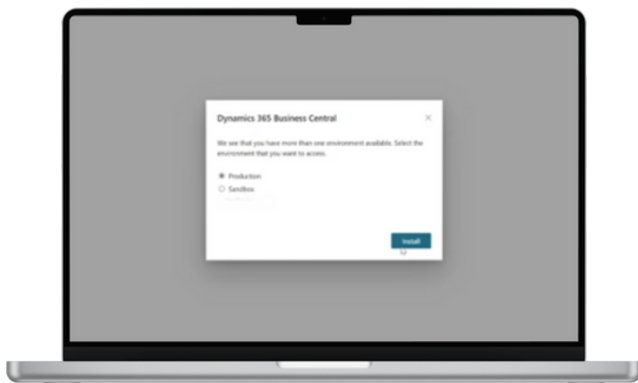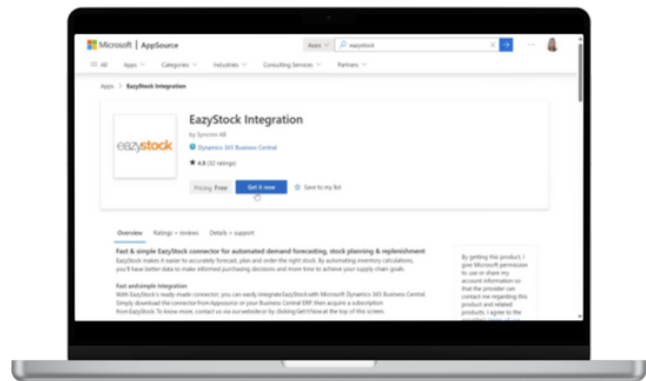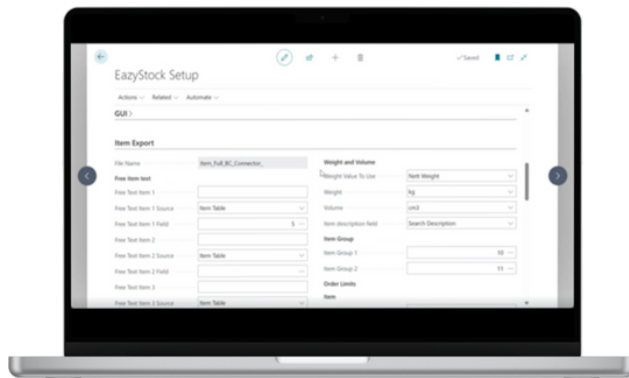

Next, you configure the information in the EazyStock set-up screen where you define what information to export from Business Central to EazyStock and vice versa.
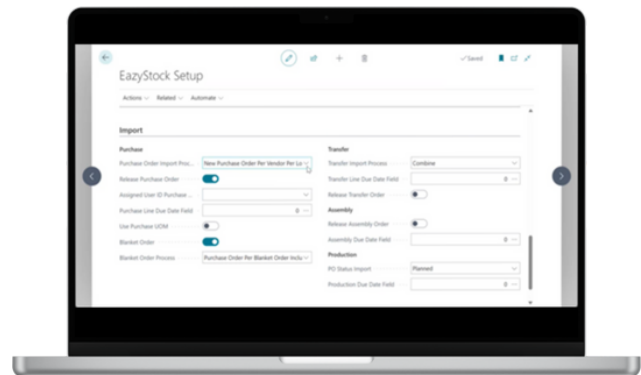
First, you choose which locations you want to export from.
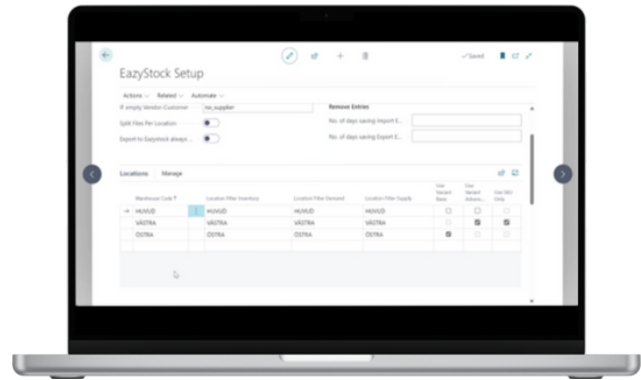
Secondly, you have a list of all the information that can be sent to EazyStock, so you can map where to source this information.


You also map importing information from EazyStock, which includes deciding how to create orders in Business Central after importing them from EazyStock.

Finally, you add the credentials sent by the EazyStock team to guarantee secure data transfers.

After configuring the information, you need to automate the process so that you won't have to worry about it in the future by creating two new job queue entries. One will be responsible for importing information from EazyStock, and the other for exporting it to EazyStock. Eazy Import job ID is 70470529, and the Eazy Export job ID is 7047052.
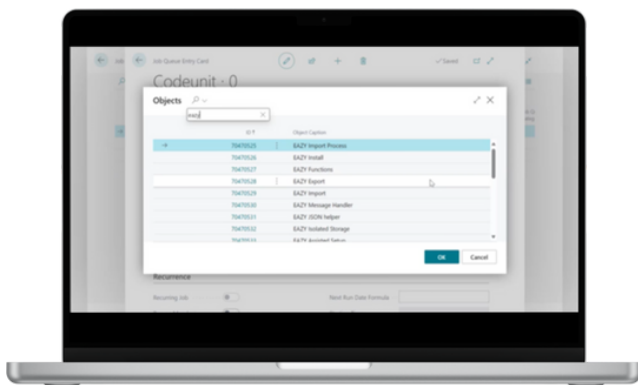
Imports should be set up to run every few minutes, while exports should run daily, preferably at the very end of the day.

While this simple guide shows how easy it is to connect EazyStock to Business Central, our team can guide you through the integration and answer any questions you may have.
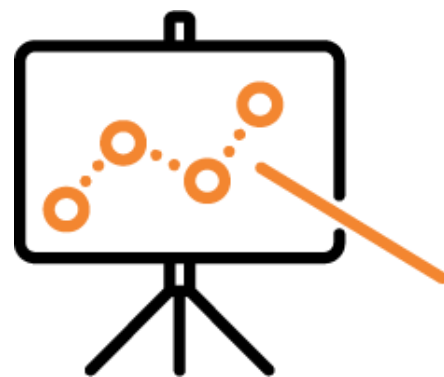
Summary: Intelligent inventory planning

Supply chain management teams need time to manage customer expectations and find solutions to supply challenges. Every hour saved by using automation to do forecasting and replenishment calculations is time available for more strategic tasks.

With EazyStock, teams see their focus shift from manually producing forecasts and updating reordering policies to reviewing those automatically generated by the software. Users are no longer wasting hours on calculations in spreadsheets. Instead, they can manage by exception, interrogate the data in EazyStock, and make smart adjustments using the simple dashboards, reports, and item screens.

EazyStock is an invaluable add-on to Business Central that will empower businesses with the information they need to perform in a much more efficient and informed manner. In addition, they will be able to proactively lower stock levels, free-up capital, and reduce excess stock.

Ultimately, they'll experience higher profits, happier customers, and a more resilient supply chain.

eazystock

Find out more about inventory optimization

Book a demo