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

The additional benefits of inventory optimisation software

Contents

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 to a more flexible and scalable software-as-a-service subscription (SaaS), where they pay monthly per user.

In addition, Business Central offers a much-improved user experience, with a fantastic new web client that's easier to navigate, customise and set up automated workflows.

The ERP evolution has, however, been predominantly based on usability and connectivity improvements. Microsoft has made very few enhancements to the core functionality of the software.

However, some would argue no such upgrades were needed. NAV, and now Business Central, offer an impressive breadth of applications to support most organisations, including finance, manufacturing and supply chain modules.

Microsoft Dynamics 365
Business Central

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 easier than ever before, allowing businesses to 'bolt-on' additional functionality, often in niche areas, such as payment gateways, credit management and, of course, inventory optimisation.

In this eGuide, we're going to look at Business Central's functionality in terms of inventory management. We'll also evaluate its features and describe the additional inventory optimisation capabilities that EazyStock offers.

Business Central and inventory management

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 organisations, these features may provide an adequate level of stock control. For others, additional inventory optimisation 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, colour, 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.

Tell-tale signs that you need further inventory optimisation capabilities include:

01 | Inaccurate demand forecasts

02 | An inability to increase inventory turnover rates

03 | Difficulty improving service levels (stock availability/order fulfilment), leading to lost sales

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

05 | Issues with obsolete stock

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

07 | Regular stockouts or incomplete orders that lead to unhappy customers

08 | An inability to deal with irregular supplier lead times

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

Here's how inventory optimisation software can fill this void.

What is inventory optimisation?

Inventory optimisation 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 minimising the risk of excess stock.

Inventory optimisation software is growing in popularity. Large, enterprise-level businesses have been investing in inventory optimisation software for many years to improve their service delivery and bottom line. Now, with EazyStock, businesses of all sizes can take advantage of the same technology.

EazyStock is an ERP add-on specifically designed to provide stock-holding organisations with inventory optimisation 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.

Switching from manual to statistical demand forecasting

The challenges of manual forecasting with Business Central

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

It relies on the manual upload of sales or production forecasts and combines them with the relevant, pre-programmed reordering policies (see page 21). It then suggests a reorder proposal when stock levels are insufficient to cover future demand.

Anyone who manually produces demand forecasts knows it's a resource-intensive task, particularly when there's an extensive portfolio of products to consider. These manual calculations need regular updates to ensure forecasting accuracy; even the best forecasting spreadsheet can be prone to human error.

Manual forecasts usually predict future demand based on previous sales history. While this method is suitable for inventory items with stable demand (where the previous demand data is a good indicator of the future forecast period), 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. In addition, they are subject to market trends, variances in forecast sensitivity and seasonality.

Whilst businesses can choose to invest in Microsoft Cortana's sales and inventory forecasting extension for an added level of forecasting sophistication, most rely on basic forecasting principles that often fail to deliver accurate results.

EazyStock's additional demand forecasting capabilities

By connecting EazyStock, demand forecasting becomes an automated process.

To produce a base forecast, EazyStock takes a data feed from Business Central and starts by analysing historical demand and classifying items into one of eight different demand types based on their position in their product life cycle.
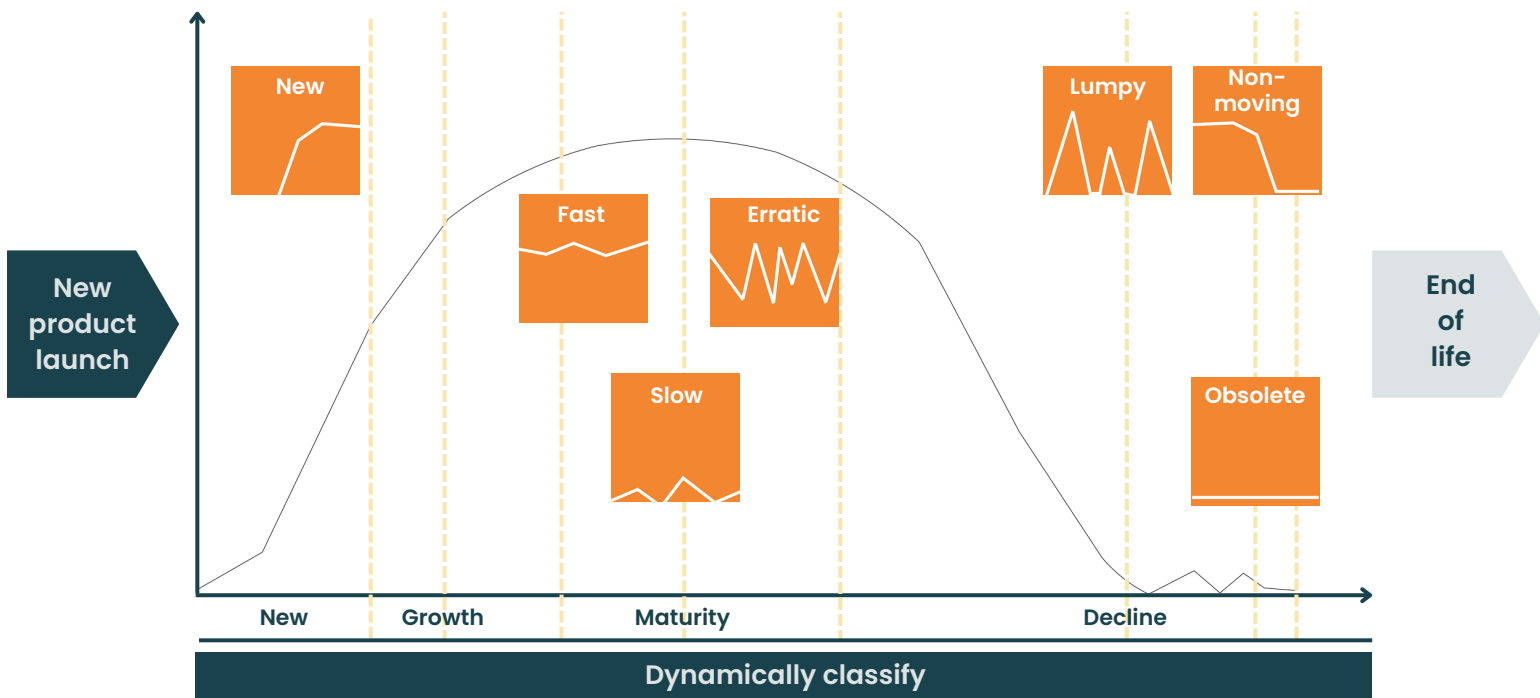
Diagram: Product lifecycle and demand types, as classified by EazyStock

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

Demand types are important as they dictate the type of statistical algorithm that EazyStock uses to calculate forecasts. As products move along their life cycle, demand types and subsequent algorithms get updated to keep forecasting as accurate as possible.
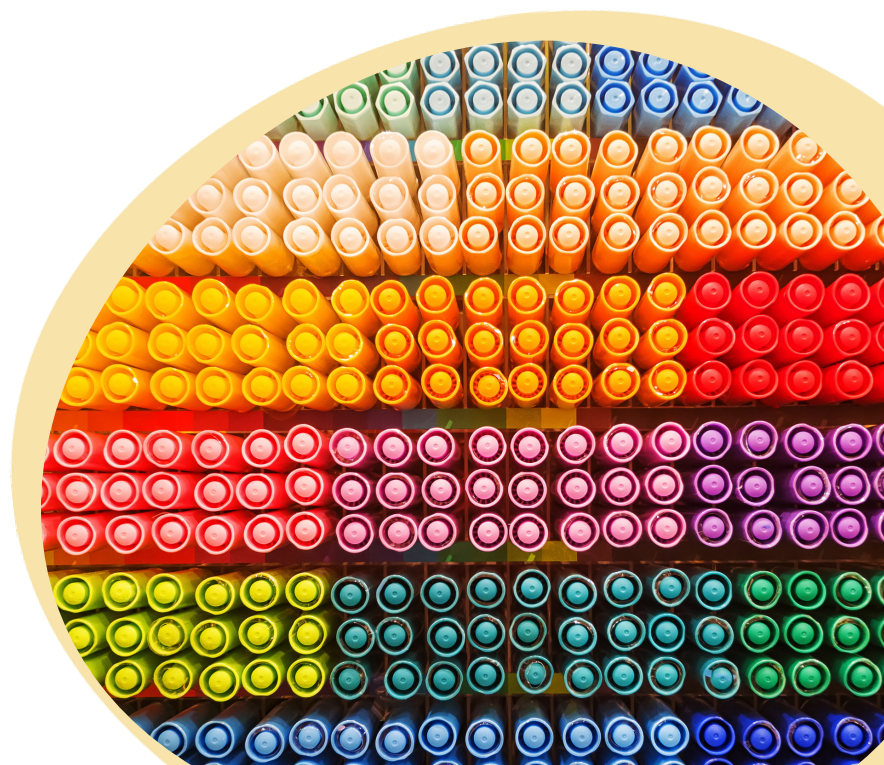
With the base demand calculated, EazyStock then considers:

Seasonality

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

Trends

Trends due to changes in consumer behaviour or tastes can be identified quickly, and forecasts adjusted accordingly for optimum reactivity.

Promotions

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

Forecast sensitivity

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

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

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

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

Put simply, 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 optimising 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 manually categorise their stock items using a simple ABC analysis model. They should then use this information to 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 to 'C' items, which are carried in high volumes and have a low comparative value.

However, analysing and classifying every inventory item is a time-consuming and manual task for any inventory management team. Unfortunately, as soon as the information is entered, it will begin to fall out-of-date, which could lead to assigning unsuitable reordering policies to items and consequential stockouts or excess stock situations.

Dynamic inventory classification

In comparison, with EazyStock, inventory classification is much more advanced. It aims to prioritise which products you stock based on a wider range of variables to optimise 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** – as discussed above.
- **The value of annual usage (VAU) of each SKU** – this takes into account sales volume as well as the product's unit cost.
- **How often each SKU gets picked** – this distinguishes 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 their demand is to forecast.

Whilst ABC classification simply groups items based on their value, EazyStock uses multi-dimensional variables and goes much more granular, categorising SKUs into inventory matrixes. These can either be kept very simple or have over 200 segments, like in the matrix on the next page.

EazyStock then automatically applies the stocking rules to ensure reordering parameters are set, and target service levels are achieved accordingly (read more about this on page 24).

EazyStock dynamically moves items between categories daily and automatically updates stocking rules as required. The result is automatically optimised 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%	96.00%		97.00%	97.50%	97.10%	80.00%	99.45% ⓘ
		L	70.00%	70.00%	70.00% ⓘ	70.00%	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%

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

As a general rule, this means items with consistent demand, high pick frequency, and a low cost-to-sell will have higher stock levels, while those that are expensive to stock, have 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 fulfilment. Service levels are directly linked to customer satisfaction, e.g. 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.

To summarise, EazyStock helps businesses make more informed inventory management decisions. Whether they're looking to increase turnover and free-up capital or reduce stockouts and improve service levels, EazyStock allows users to test, implement and fine-tune their optimisation strategies.
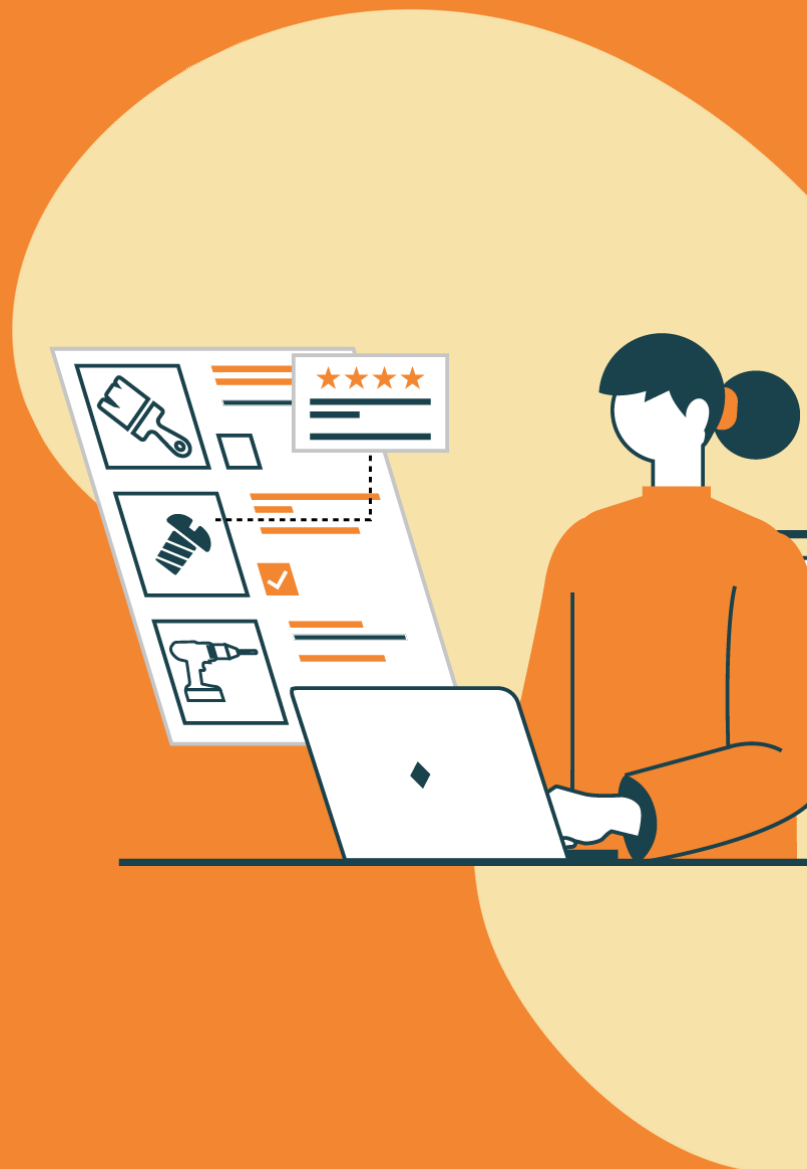
Automating reordering

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, safety stock 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.
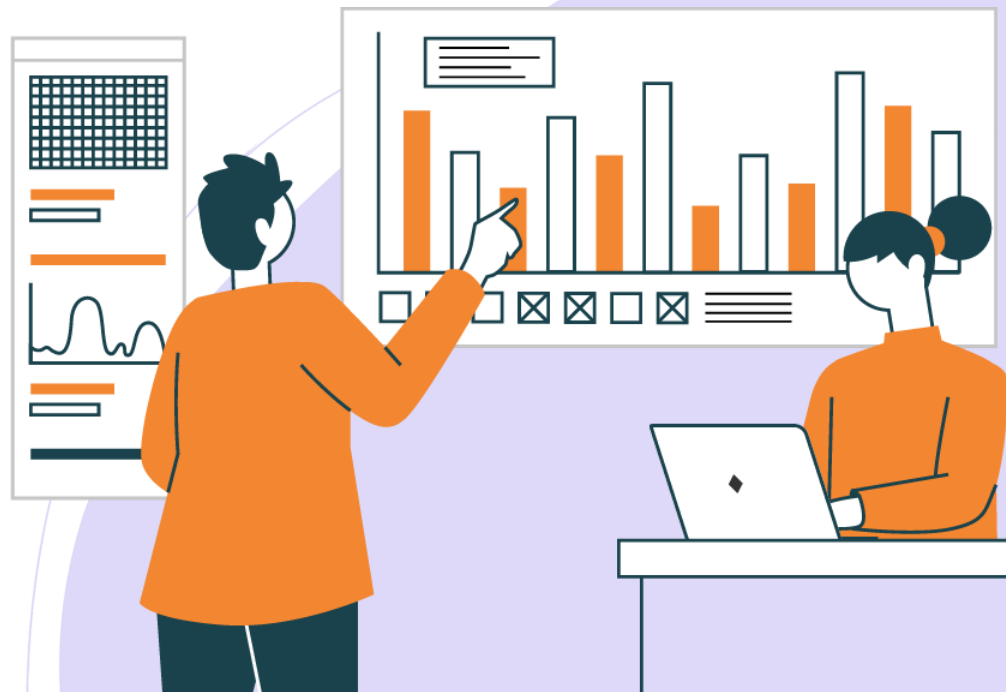
Reorder policy	Description
Fixed Reorder Quantity	When an item hits the specified reorder point, Business Central releases a reorder proposal for the specified reorder quantity.
Maximum Quantity	When an item hits the specified reorder point, Business Central releases a reorder proposal for the quantity 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, e.g. 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 depend on manual demand forecasts; some don't even use forecasts.
- Every planning parameter and reordering policy is static and has to be manually adjusted.
- It relies on lead times remaining static.
- Planning parameters are interlinked, e.g. safety stock depends on lead times and demand volatility. Minimum and maximum order quantities can affect reorder points and quantities. This means that when one parameter requires adjustment, they all might.

The lack of automation around allocating the reordering policies and planning parameters makes replenishment a very time-consuming and manual process for the user.

Plus, most markets experience fluctuating demand and supply variables. This means these policies and parameters need to be regularly revised to prevent reordering resulting in episodes of 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 reordering becomes market-led and reacts to customer behaviour (or production requirements) and supplier performance.

Let's look at 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.

Since each inventory item has a unique demand pattern, it will adjust safety stock levels accordingly.

Reorder alerts

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

In contrast, EazyStock automatically factors in dynamic demand forecasts (to mirror customer demand), safety stock levels (to avoid 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 have the potential to result in stockouts or holding 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.

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 analyse stock to ensure each SKU falls into 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 so attention can 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, reordering accounts for demand and supply variability, and prevents over-stocking.

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.
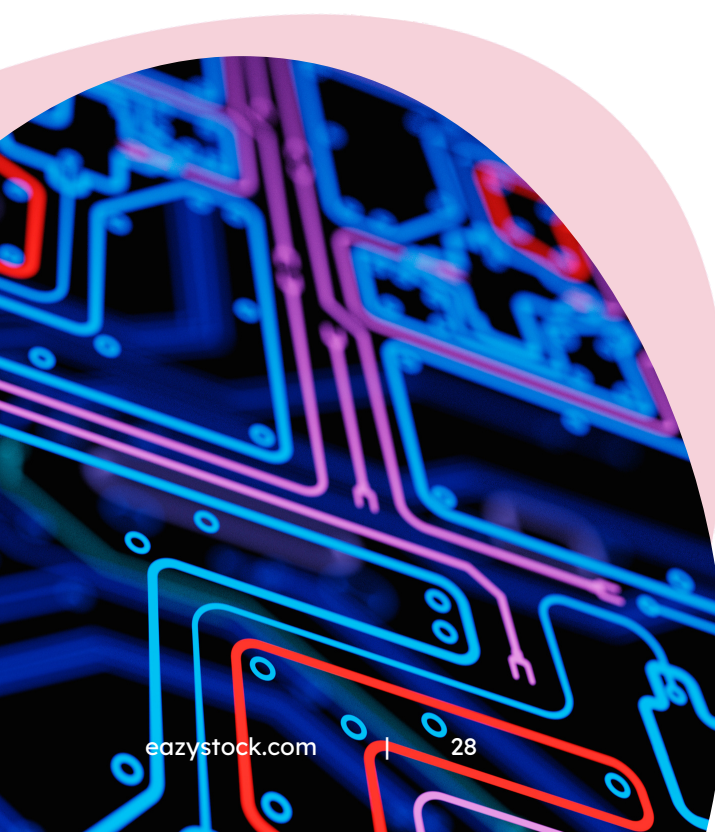
eazystock

Find out more about inventory optimisation

Book a demo