Hidden causes of excess inventory.

Excess inventory is frozen capital.

Capital to expand your product offering or enable you to invest in software to streamline operations and reach more customers.

This eBook uncovers the **top five hidden causes** of excess inventory and provides actionable steps to improve forecasting and reduce excess inventory.

Content.

1. Bad forecasts
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Introduction

In today's ever-changing supply chain landscape, successful inventory businesses recognize that maintaining the right inventory levels is paramount to success. However, various challenges such as supplier constraints, inaccurate forecasting, incorrect inventory levels, and forecasting for new items can all lead to hidden excess stock, draining resources and hindering overall efficiency.

What's excess inventory?

Excess inventory is the surplus or leftover stock a business holds beyond what is needed to meet current or anticipated demand.

This surplus may result from overestimating demand, production inefficiencies, supplier constraints, changes in customer preferences, or other factors. Excess inventory ties up capital, takes up valuable storage space, and increases holding costs and potential losses if the products become obsolete or perishable. However, with a strategic approach and advanced tools, businesses can revamp their inventory management, turning excess stock into an opportunity for increased profitability.

37%
of Netstock customers rate excess stock as their No.1 inventory challenge.

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Change affects customers and channels differently, so it's essential to incorporate channel, customer, and region into the planning process.

For example, when the COVID-19 pandemic first hit, beer manufacturers saw a massive shift as demand moved from on-premise consumption at restaurants and bars to beer stores and grocery channels.

Businesses that identified this more quickly could have the right packaging and avoid overstock and shortages.

1. Bad forecasts

Bad forecasts are the leading cause of excess inventory. Management often skips right past this one, thinking they do not use forecasts in the first place. Further investigation almost always shows that they use a simple sales average or static ordering model. Although those are basic calculations, they qualify as forecasts and are outdated!

As forecasting is a common practice for inventory-holding businesses, let's explore the process of creating and executing a forecast. We like to break it down into two basic sides:
1. The **forecast engine** that does all the grunt work
2. The **process and tools** used to identify forecasts that are off the mark

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> *The important point is that forecast engines reach the end of diminishing returns. This means there's a limit to how much a forecast engine can be improved or optimized. After a certain point, any further enhancements to the engine may not lead to substantial gains in the accuracy of the forecasts.*

Businesses spend vast amounts of money adding incredible layers of complexity to their forecasting engine to account for every possible scenario. The result is a forecasting engine that **no one on the team understands, inevitably leading to an engine that no one trusts.**
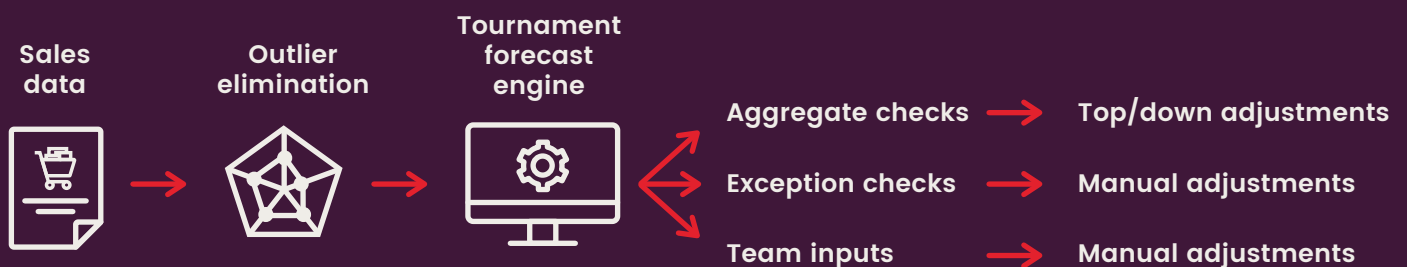
If you cannot comprehend or trust the forecasts you are generating - what's the point? **That's why the tools and processes you implement are essential.** A forecasting engine will only be so effective – no matter its complexity. It's far more efficient to employ a robust forecasting engine with effective checks and balances to keep everything in order.

Let's learn more about the Tools:
A **simple sales average** can be used as a basic type of forecast. Such an average, however, does not detect or address seasonality or trends, which are critical to many forecasts. Using a spreadsheet to understand forecasting data can be quite overwhelming. It's also important to address the concept of a "tournament" or a "best-fit test," which compares the various formulae that an engine can use.

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> A forecasting engine will only be so effective – no matter its complexity.

Sales data → Outlier elimination → Tournament forecast engine →

Aggregate checks → Top/down adjustments

Exception checks → Manual adjustments

Team inputs → Manual adjustments

That allows an engine to pick the best algorithm and range of parameters needed for a specific item within a particular month. Be careful editing the formulae or changing the parameters, as slight changes could have significant ramifications. Some people will even modify the historical data to game the engine, but that should not be necessary if the engine works correctly.

Let's learn more about the Process:
The process means **getting the right people involved at the right time**. The sales team plays a key role in updating the inventory planner. A word of warning, though: please do not use sales projections as a forecast for purchasing stock! The same can be said for budgets, which is a similar input type, usually on the optimistic side. Both are likely to be outdated. They can provide useful context, but they should not be blindly followed. We suggest starting each month with an overall review.

Here are the key aspects to look at:

Compare sales against past forecasts, overall and by group.

Look at over-and under-forecast percentages for recent months.

Identify any products or groups of products that seem to be behaving unusually (and loop in more senior team members to gather more intel).

Compare the top over- and top under-forecasts from the last three months with the corresponding sales figures.

Examine new products and intervene manually if data is lacking.

Before placing significant orders for the month, getting these steps out of the way is essential. During the month, checking in on items where the run rate is ahead or behind expectations is important.
For example: *if there's an item with a forecast of 100 units for the month, but there have only been a few sales after a couple of weeks, something may need to be adjusted.*

Check-in on these exceptions in weeks two and three of the month to help align the forecasts. Forecasting comes with a set of challenges and headaches, but a smart forecasting engine aided by some basic processes for monitoring goes a long way to a more balanced inventory.

Without the right balance of an inventory forecast engine and an ongoing process to check the forecasts, the warehouse is doomed to stock out at inopportune times. Most planners will go with extra buffer inventory, so they don't have to worry about stock-outs, but that's where the expense of excess becomes a cash flow killer. The result will be a balanced inventory for businesses that balance the tools and processes.

2. Forecasting new items

Businesses need to move forward to stay relevant, and for many inventory businesses, that means starting new product lines. However, getting forecasts on new items can be challenging. Most warehouses have new products that were ordered in excess and now have a bit of dust piling up. This is bound to happen, and there's no silver bullet to solve the problem completely, but it's better to dial in a workable process to make new item excess a rarity. The improved cash flow that will result is critical to staying nimble and responsive to demand.

Let's dive into some simple strategies to help reduce excess inventory on these newer items.

Supersessions
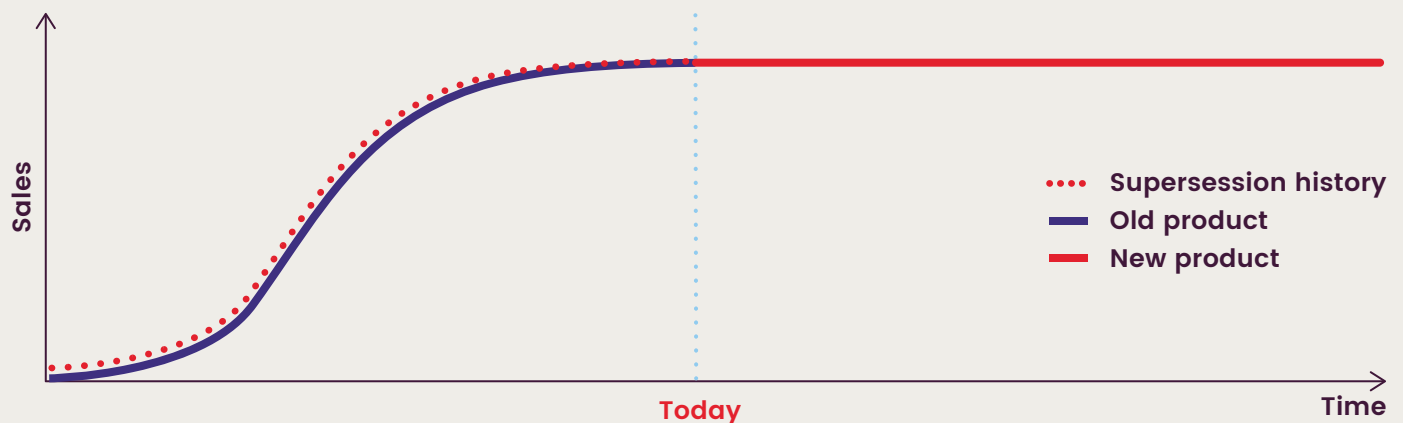
If a new product is only being created because the vendor changed its code, consider using a concept called supersessions. That's where the new product links to the old product, and the sales history can be shared. Follow that by flagging the old product as obsolete to avoid that item coming up on the wrong lists. Also, consider any outstanding sales orders, purchase orders, and existing inventory left from the old code and devise a plan for the remaining old stock. With product supersessions, remember to look at supply chain links like inter-warehouse links and bill of material structures. Be sure to include the new products when appropriate. That helps ensure that the demand streams that were in place for the old code carry through to the new one and get the planning off to a good start.

Comparable items

It's also common to have a product likely to behave the same as some other products, but the other product is still active. The solution here isn't exactly a supersession but rather a simple override of the forecast for the new product that reflects the older, comparable item.

One key aspect is clearly identifying new items that require more attention. Remember while these items are "growing up," they will need more examination and occasional manual overrides. It's common for planners to overbuy because there's no history to rely on, but at least try for a reasonable estimate, even if that's based on "gut feel." That's better than nothing!

Aim for a forecast that starts when stock is due to arrive. Any over-or under-performance can be found in the period-to-date forecast analysis.

Watch out for sudden spikes caused by launch specials later in the product's life cycle. These new products are often critical to a business's growth, but ordering too much to start will be costly and could stick around for a while. Planners that use relevant data and keep their eye on fluctuations will be way ahead of schedule to create quality forecasts in the future.

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> There is no go-to solution for new items. But with supersessions and comparable products, realistic forecasts are possible. Add some manual tweaks based on initial performance, and there is no reason to be saddled with new items in excess.

> Ultimately, customer-level forecasting is a tool businesses use to hold the sales team accountable or to get customers to commit. Those objectives are entirely understandable, but what if it affects the buying process negatively? 99

3. Customer forecasting

Customer forecasting, also known as demand forecasting or customer demand forecasting, is a process businesses use to predict future demand for their products. It involves analyzing historical data, market trends, customer behavior, and other relevant factors to estimate the quantity of goods customers will likely purchase within a specific time frame.

The goal of customer forecasting is to assist businesses in optimizing their production, inventory, and supply chain management. By accurately predicting customer demand, businesses can:

- reduce excess stock or understocking products
- ensure efficient use of resources
- minimize costs
- enhance overall customer satisfaction

Various statistical and analytical methods, such as time series analysis, regression models, and machine learning algorithms, are employed in customer forecasting to provide reliable and actionable insights for decision-making in the competitive market landscape.

Many planners are adamant about creating forecasts per customer, product, and warehouse. The technology is available to make something like that work, but is it the best approach to inventory planning?

Ultimately, customer-level forecasting is a tool businesses use to hold the sales team accountable or to get customers to commit. Those objectives are entirely understandable and sometimes may even feel necessary, but what if it affects the buying process negatively? What if the result is excess inventory from overly enthusiastic sales projections?

Let's break this down a little more.
Say we have 100 customers we want to get information on. We have 5 warehouses and an average of roughly 200 products involved here.

That makes for simple math:

100 x 5 x 200 = 100,000

That's 100,000 product-level forecasts to be collected. If that task is spread across ten salespeople, each salesperson would be responsible for **1,000 monthly forecasts** from customers. Even if it only took five minutes per forecast, that would take nearly 85 hours per salesperson. That's half the month right there.

Likely scenario

100 customers
200 products
5 warehouses

→ **100,000** forecasts!

→ with **10** salespeople

↓

1,000 forecasts for each sales person...

=85" hours per month!

Is that really what the sales staff should be doing?
What is the reliability of each forecast?

Some businesses rely on customers to submit their forecasts, usually on spreadsheets.

- What is the quality of that forecast?
- If you were the customer and wanted to ensure there would be enough stock when you order, would you maybe round up a little on your forecast, just as a buffer?
- And what if, say, half of the other customers filed similarly inflated forecasts?

It's easy to see how this process lends itself to inaccurate forecasting and how those inaccuracies can quickly become costly excess stock in the supplier's warehouse.

Another option is using a forecasting engine to crunch the numbers, which is certainly better than asking for customers' best guesses. The results are only as good as the inputs with any statistical engine. Smooth data creates more predictability.

Smooth data represents historical customer demand or sales that display gradual and consistent patterns over time. This type of data is characterized by relatively stable and predictable customer buying behavior, with minimal fluctuations or irregularities. Businesses make more reliable and accurate predictions when customer inventory forecasting is based on smooth data.

Many articles suggest starting at a highly aggregated level for better results. Think about this for a moment. If a customer buys a product and the sales rate is in the single numbers per month, they could have an ordering pattern of ten every second or third month, give or take. **That will create a horrible forecast unless you have some causal-based model that proves to be predictable**. Now multiply that by all customers, and you end up with bad forecasts.

Other limitations to consider when relying on customer forecasting:

1. **Inaccuracy:** Customer forecasts are often based on subjective opinions and assumptions, leading to potential inaccuracies in predicting customer behavior and demand patterns.
2. **Short-term focus:** Customers may focus more on immediate needs and desires, neglecting long-term trends or changes that could impact future forecasts.
3. **Unpredictable customer behavior:** Human behavior can be erratic, and customers may unexpectedly change their preferences or buying habits.
4. **Lack of expertise:** Customers typically need more expertise and access to specialized data and analytical tools that professionals have, making their forecasts less reliable.
5. **Small Sample size:** If customer forecasts are based on feedback from a limited number of individuals, the sample size may differ from the entire customer base.
6. **Unrepresentative demographics:** Forecasts from a specific subset of customers might not represent the diversity of the entire customer population, leading to skewed predictions.

What's the takeaway on customer-based inventory forecasting?

If it's a tool to keep the sales team striving for their monthly goals or to keep customers engaged, that's fine. In fact, those figures could be helpful when building forecasts. But to use those numbers instead of a forecast is a recipe for excess inventory, month after month. Using a statistical forecast is a far more reliable method of planning, and customer forecasts can help provide further analysis and context to keep everything running smoothly.

Remember...

The key is a balanced warehouse, where excess inventory and stock-outs are kept to a minimum. If customer forecasting isn't doing the trick, it's time to consider other inventory planning solutions.

We are at the mercy of suppliers

❮4. Supplier constraints

Dealing with suppliers requires some give and take. Even the best and most efficient suppliers out there will have some constraints that must be accounted for to keep prices competitive. Restrictions like Minimum Order Quantity or Minimum Order Values are common, and the nature of the supply chain requires planners to also factor in lead times.

Safety stock

When you add up these various concerns, it's understandable why so many planners rely on carrying additional inventory, sometimes referred to as "buffer stock" or "safety stock." That extra inventory is quite helpful in case of the occasional minor disruption. With longer lead times or higher minimum orders, two things are usually true:

1. Calculating the appropriate safety stock becomes complex
2. Planners need to work out their orders further in advance

These aspects complicate even the most basic planning tasks. They can leave warehouses with excess inventory that exceeds the need for normal safety stock amounts.

Let's explore supplier constraints in more detail

Minimum constraints

At the simplest level, this is imposed as a minimum order quantity (with some multiple). It's important to factor these minimums into the ordering parameters to calculate safety stock. One twist that may seem counterintuitive, when making bigger purchases, you might need to decrease the buffer amount.
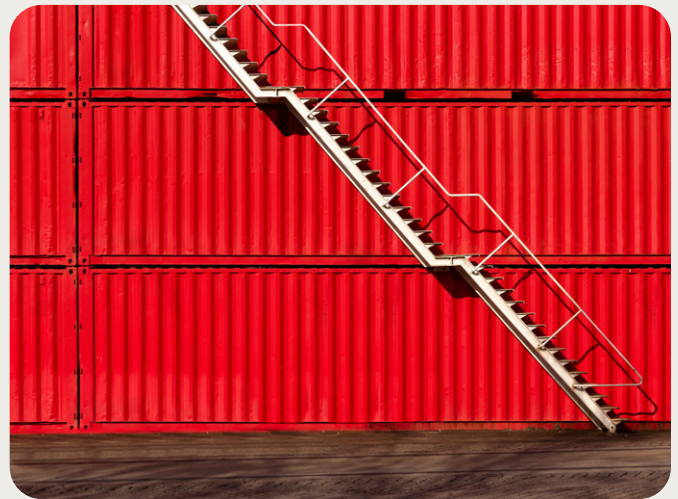
CUSTOMER STORY | **LMC TRUCK**

LMC Truck integrated its Magic Software ERP with Netstock and was able to monitor their supplier's performance. By sharing their forecasts of future orders with their suppliers, LMC Truck had leverage for negotiating better MOQs and discounts.

66 *They agreed that having a line of sight on future orders instead of getting a surprise each month helped them with their raw materials requirements and planning. With all the increases in the cost of goods and shipping fees, having this data at our fingertips has enabled us to negotiate better deals. This has helped us address some of the price increases.*
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LMC Truck

LMC Truck increased inventory visibility of suppliers.

Download LMC Truck's story

Container loads

One important restriction is container loads and fills. When shipping products in containers, the aim is usually to maximize their weight or volume capacity. This can be achieved by efficiently utilizing the available space, shipping consolidation services, or adding more containers when needed. However, it's crucial not to fill a container with only one type of stock, as that can lead to unnecessary excess inventory.

Similarly, filling up a container with other random items is not a great idea. It would be ideal to identify items that should be ordered in the next few weeks and determine a top-up quantity that fits with the overall buying plan. That's the smartest way to get the most out of any extra container space without getting bogged down with unhelpful and costly excess inventory.

Stock visibility

Another common stumbling block is lead times and the stock's visibility while it's in transit. Losing sight of stock en route can end up double ordering. Some stock tracking systems provide little help here. When a stock transfer is posted, the system might immediately place the stock in the receiving warehouse, even though it isn't there yet. That's bound to drive a warehouse manager crazy!

Some companies create an "In Transit" warehouse in the system as an intermediary to account for ongoing shipment. That is helpful for basic inventory control, but it makes planning a lot more complicated. To avoid problems, a planner needs to see that stock is inbound and when it is scheduled to arrive, which can be done by adding some custom fields in the "In Transit" warehouse database.

CUSTOMER STORY | TRUAUDIO

TruAudio integrated their NetSuite ERP with Netstock to save time and resources, enabling the management team to focus on other emergent issues.

66 *We did not have visibility, and now we do. Whether that's through stockholding numbers, which is what our CEO is paying attention to, or whether that's by evaluating excess stock, surplus orders, and stock-outs, it gives us visibility and a greater level of accountability.* 99
TruAudio

TruAudio gains inventory visibility using Netstock.
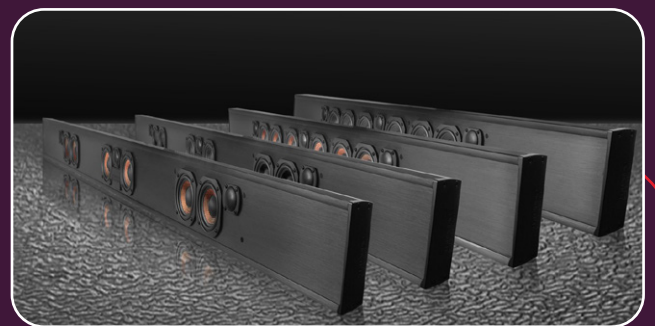
Hear how TruAudio's optimized their inventory with Netstock

▶ Play TruAudio's story

Lead times

As for lead times, planners and suppliers must accurately and appropriately calculate. Any discrepancies or lack of visibility will lead to stock-outs or excess inventory. Plan each location in isolation and consider the lead time as the measurement of time between the moment an order is placed and when it is available for sale, assuming no unusual disruptions or complications. That is the best way to ensure that all of the various aspects are factored into the lead time for a specific product.

If this seems complicated, remember that these restrictions and considerations aren't always applicable. However, complex environments also exist, and the only reliable solution is a better set of tools. The right tools make the process easier to manage and comprehend. They can't change the fact that the ordering and planning process is often quite complicated, but they can provide a solution to keep planners on top of the various issues at hand. Such complexities will lead to excess inventory or stock-outs without the right tools for the job.

Want to reduce supplier lead time?

Read this article

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Losing customers as a result of stock-outs is damaging to your bottom line.

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5. Incorrect levels

It may seem evident that incorrect inventory levels can lead to excess inventory. Various planning inputs determine levels, and it's those inputs that need to be examined. No matter the applied methodology in calculating levels, the result will also be off if the inputs are off. We need to check inputs first to fix incorrect levels and refine the inventory planning process.

Before the reign of the desktop computer, most businesses relied on simple processes to determine their inventory levels. Often, a planner's gut feeling provided most of the ordering insights, something like "there's a big order coming in, so let's plan for that" or "these bins are looking a little light, let's top them off." As companies and supply chains grow, more people get involved, and more complexities are on the table.

For now, let's characterize these complexities in two main camps. First is a "re-order level" that defines when re-ordering should occur. Second is an "order-up-to level" that defines the quantity up to which should be ordered. Crunch this number: current stock minus any commitments plus any stock coming. Then compare that to the "re-order level" — if the item is below that level, it's time to place an order that hits the "order-up-to level."
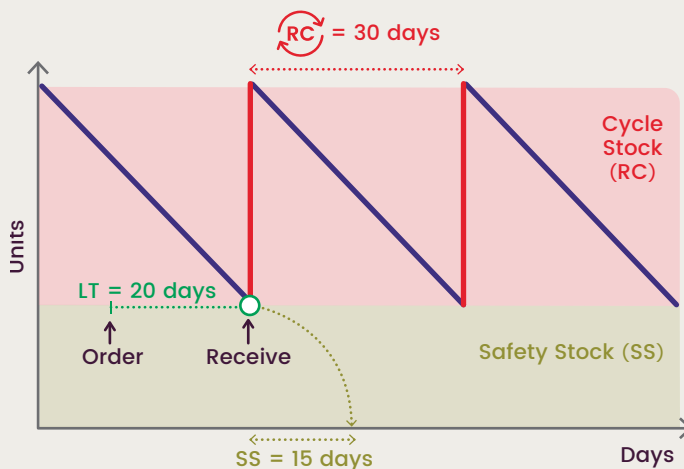
The factors that go into these levels are the buffer stock (or safety stock), the lead time (LT), and the replenishment cycle (RC).
The resulting order should be modified by the minimum order restraints or order multiples, of course, but these restrictions shouldn't be factored into level calculations at the risk of making the levels too high. It's usually best to make these measurements in terms of days, but measuring in weeks may be more appropriate in some instances. Other demand streams that may apply could include sales orders, manufacturing demand (MRP), and/or other warehouse requirements (DRP).

Earlier in the eBook, we zoomed in on the importance of lead time. **It is critical to stay on top of product lead times, including the status of ongoing orders en route so that no unnecessary orders are placed.**

Incorrect Levels continued.

The way lead time interacts with safety stock is key. For example, if a supplier delivered the exact quantity needed at the right time, without fail, that perfectly corresponds with the timing and amount of all customers. There wouldn't be a need for any safety stock. Even if the lead time was long, a planner could make that work without safety stock. But that's not how real life works in the supply chain, and it highlights exactly why safety stock calculations are critical. Suppliers aren't that reliable, and customer demand isn't that predictable, which means safety stock is a necessity to bridge the gaps as they occur.

Additional concerns to factor in here include order cycle and lead time. These are must-have inputs that calculate the safety stock levels that correspond with different fill rates. The higher the ideal fill rate for a product, the higher the safety stock should be. The most important products will need the highest fill rates, so holding additional safety stock is probably necessary.

Furthermore, if two items had the same target fill rate but very different supplier risks, they would also have very different safety stock levels. This dynamic approach allows you to cover each item based on its unique profile and reduce the overall investment while improving customer fill rates simultaneously.

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> It is this sort of dynamic approach that allows you to cover each item based on its unique profile and reduce the overall investment while improving customer fill rates at the same time.
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With bad inputs, the process is going to be out of whack, regardless of the tools used to forecast. A quality tool will help a planner identify places where data purity can be improved so the tool will work better. There is no hope of improving the data for those on spreadsheets doing calculations as best they can. Weak data purity is not a reason to keep using the same old process and tools; it's a wake-up call to improve the warehouse and the business.
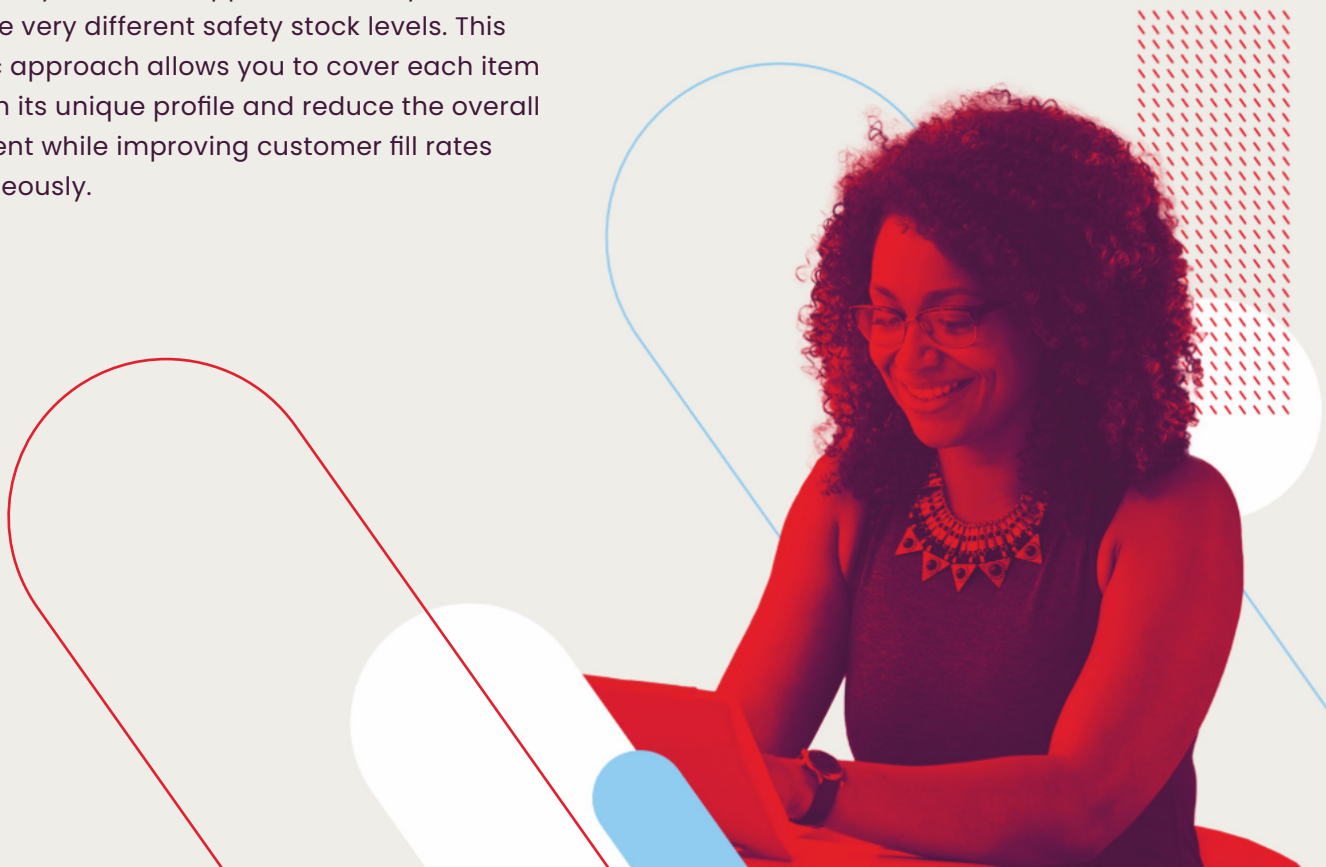
6. Tips for managing excess inventory

#1. Planning: Use an inventory planning solution with effective classification, improved forecasting, safety stock, and ordering modules to forecast accurately and place the best possible order in the first place.

#2. Offer discounts: Opt for bulk discounts or marked-down prices. Discounts can be very painful, and a good data analysis should help pinpoint the correct depth of discount to offer.

#3. Give donations: Donate your excess inventory to get a tax deduction.

#4. Re-assess your marketing and sales strategy: Reconsider your marketing and sales strategy and think of innovative ways to reduce your items.

#5. Perform a thorough analysis: Why do you have excess inventory, and are your orders aligned with customer demand and forecasts?

Hartland Controls reduced its inventory by $1 million.

Read their success story

Hartland Controls' Story

7. Conclusion

With excess inventory, business growth is hindered. A balanced inventory allows a business to grow and tackle new opportunities. Achieving that balance can be complicated, as we have seen while examining forecasts, new items, supplier constraints, and incorrect levels.

Relying on outdated applications and methods is guaranteed to prevent a balanced warehouse.

What do you need to improve your inventory?

Save time, money and resources with Netstock

Contact an inventory expert, and let's unpack how to prevent excess inventory!

Place orders quicker
Save time on planning, forecasting and ordering

Minimize stock-outs
Save time on planning, forecasting and ordering

Reduce excess stock
Release cash tied up in excess inventory

Enhance functional collaboration
Align sales, operations and finance with S&OP

About Netstock

Netstock is a leader in inventory management and has earned the trust of over 2,200 global customers. Integrating into leading ERP platforms, Netstock empowers small-to-medium businesses to place orders quicker, reduce stock-outs, minimize excess inventory and optimize capacity planning. Delivering immediate ROI, Netstock provides customers with the visibility to free up working capital, adapt to changes, and deliver outstanding customer service.
For more information, visit **www.netstock.com**.