



How Infor helps fiber processors and yarn manufacturers balance resource utilization and costs

Fiber and yarn processors and spinners are a crucial part of the fashion and textile supply chain. This guide is intended for processors, spinners, extruders, and finishers of natural fibers such as cotton, cashmere, wool, and silk, as well as those producing extruded or melt-spun synthetic fibers such as polypropylene, polyester, rayon, nylon, or new high-tech fibers.

Deliver customer orders correctly and on time

In fiber and yarn processing, long supply lead times and seasonal demand force businesses to make production decisions on colors and trends before receiving customer orders. At the same time, raw material inventory ties up valuable working capital, while a small change in fiber prices, quality, or moisture content can have a large impact on margins.

Some of the challenges and tough decisions the fiber and yarn micro-vertical industry faces include:

- Predicting customer demand.
- Knowing when and how much raw fiber to purchase.
- Dying fiber or yarn at the right time.
- Minimizing non-productive time on bottleneck resources.
- Building products to stock in the right quantity at the right time.
- Tracking whether product groups are making or losing money.
- Managing catch weight to account for changes in moisture content.
- Remaining innovative to stay ahead of the competition.

In this paper, we will discuss how Infor® Fashion can help with all of these challenges.

How Infor solutions can help

Infor Fashion is an integrated enterprise management system designed for the needs of fiber and yarn processors. It can manage core business processes, including washing, blending, dyeing, carding, spinning, winding, twisting, plying, and marling of natural fibers. For synthetic fiber manufacturers, Infor Fashion supports mixing, extrusion, and winding.

Infor Fashion can integrate to other Infor best-in-class solutions to manage and optimize business processes and activities, so you can:

1. Plan for demand needs

Manufacturers often need to make decisions on yarn colors and quantities long before they have confirmed customer orders. At the same time, forecasting customer demand and calculating raw material requirements to make purchasing decisions requires strong analytics and forecasting tools.

Infor Fashion includes collaborative demand planning and business intelligence tools to generate more accurate forecasts and enable better, faster decision-making. With Infor Fashion, yarn and fiber manufacturers can analyze historical sales and order data to identify trends and capture sales intelligence in forecasts either through account managers or directly from customers. Infor Fashion can then provide early warnings when a business' actuals deviate significantly from forecast, providing the flexibility to take action quickly.

2. Accommodate for fluctuating commodity pricing

Because of the volatility of commodity pricing, a relatively small swing in price can have a significant impact on a yarn or fiber manufacturer's profitability. Raw material buyers need to hedge against significant increases and reductions in market prices and exchange-rate fluctuations. Having accurate information on material needs and requirement dates helps buyers make smarter buying decisions.

With Infor Fashion's material planning tools, manufacturers can accurately calculate raw material requirements to guide their buyers on how much of a specific natural fiber or chemical needs to be purchased, as well as the date when the purchase should be made. The automatic generation of raw material requirements—based on the demand plan—provides a clear purchase requirements plan, easing communication with suppliers and allowing buyers to focus their time on obtaining the best price and handling exception situations.

3. Know exactly when to dye

As seasons and fashions change, so, too, do colors. New colors are introduced every season. But, a manufacturer might not receive the specifications or quantities on a new color until late in the production process. That can mean deciding to begin dyeing a few steady colors or runners to optimize the utilization of dye kettle capacity and to minimize the risk of building up unnecessary stock.

When it is time to dye, manufacturers need tools to help plan the use of available dye kettles based on aggregated order quantities for each specific color within a defined demand window and scheduling period. For example, a manufacturer might need to decide to dye a blended wool before carding—or add the color before extrusion. At a different time of year, it might make more sense to spin the yarn and dye afterwards. Infor Fashion can support either process to improve decision-making.



4. Optimize the utilization of bottleneck resources

In the capital equipment-intensive yarn production industry, bottleneck resources may be fixed or wandering depending on a manufacturer's order mix and resource capacity for each process step. In natural fiber yarn production, carding machines are often the bottleneck; however, in some cases, the bottleneck may be blending, dyeing, or spinning. In synthetic yarn production, the bottleneck is usually extrusion, but it can sometimes be spinning.

Infor Fashion provides powerful scheduling tools to help with the selection of the best machine within a group of possible machines for each order. After selecting the right machine, Infor Fashion can help sequence the operations for the different orders scheduled on that resource to minimize changeover times. For example, if carding is the bottleneck, Infor Fashion can group similar orders for similar yarn colors on a machine and then sequence from light to dark based on a set of rules to minimize time spent on major clean downs.

When working with natural fiber yarns, the quality of the raw fiber can also affect processing steps and standard lead-times. For example, animal wool that has a high-dander or high-dandruff content requires more processing, which can clog up key equipment for extended periods. Thus, it's important to have a planning system that can account for actual times when rescheduling and allocate material lots to the appropriate orders. In such a case, a manufacturer might want to avoid using wool with a high-dander or high-dandruff content in the production of black yarn.

As in all equipment-intensive production environments, asset maintenance is key. Breakdowns and unplanned downtime during seasonal peaks are a threat to profitability. To ease this pain, Infor offers enterprise asset management (EAM) capabilities that can be used to track assets and plan preventative maintenance at suitable times to improve reliability and avoid the risk of unplanned production downtime. Infor EAM can also be used to track and manage energy usage to save on costs and boost an organization's sustainability credentials.

For fiber and yarn processors, Infor Fashion synchronizes supply with demand

by optimizing the throughput

on equipment bottlenecks and by planning cost-effective stock builds.

5. Build the right stock to meet the right orders

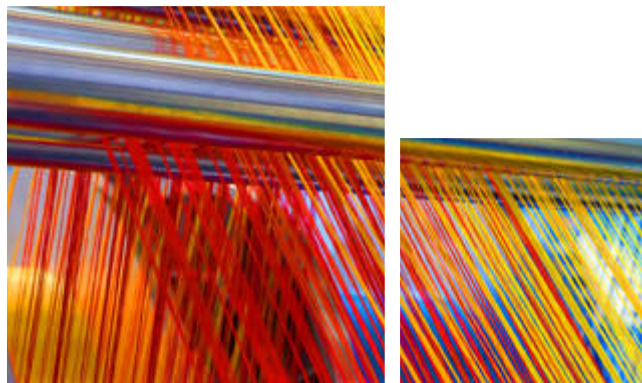
No manufacturer wants to commit to building high inventories of new seasonal colors before they have firm customer orders in place. Therefore, it is often good practice to build inventory on classic products that sell in high volume—traditional black and white shades, for example. This practice avoids the associated risk of building inventory buffers that may not be needed or sold at a profitable price.

Infor Fashion has powerful tools for planning cost-optimized stock build-ups to meet seasonal peaks in demand. Given a forecast demand, resource capacity, and costs, it can generate the ideal stock build profile to meet a business' goals. This data can then be transferred to become part of the master schedule. The material planning respects the stock build, which becomes part of the production plan that the production department works to fulfill.

With integrated financials and analytics, Infor Fashion can monitor business performance and track what inventory is available to sell, the financial value of inventory to build, and the risk to be managed. In the end, building stock on the right finished or semi-finished yarn product minimizes the risk of obsolete yarn and helps ensure the delivery of customer-specific orders in season without jeopardizing other important orders.

6. Manage and monitor profitability

Infor Fashion includes a comprehensive, integrated business intelligence platform with industry-specific analytics that provide financial and operational dashboards, charts, KPIs, and drill downs. These tools are tailored to the needs of different functional business roles. For example, there are financial measurements for the financial team, sales KPIs for the sales team, manufacturing metrics for production, and so on. Infor Fashion's analytics tools can analyze data by brand, product group, color, or season.



7. Prepare for finished goods inventory challenges

Because of the variety of challenges inventory presents, the careful management of inventory is critical. First, cotton, wool, and other natural fibers require special care in the warehouse. With strategic buying decisions and long manufacturing cycle times, natural fibers—and synthetic fibers and filaments—can sit in a warehouse for a long while before being used.

Second, the catch-weight of natural fibers and yarn can vary depending on how much moisture is held in the yarn. Catch-weight can affect how much of a raw material needs to be stored, dried out, or sent to production for processing. It also impacts the finished yarn cones when they are sold by weight. With Infor Fashion, yarn and fiber manufacturers can track and control the movement of their raw materials stock from global or local warehouses to production plants and on to distribution centers, capturing the weight and moisture level at each stage down to the individual lot level. With these tools, fiber and yarn processors can be sure they have the necessary inventory information and visibility to accurately manage the storage, processing, valuation, and sale of their inventory.

A third inventory management challenge concerns how long inventory might need to be stored. Sometimes, inventory may sit for a number of seasons, waiting to be sold to a weaver or knitter of textiles or apparel. Colors can go out of fashion quickly, and inventory sometimes has to be written off. Infor Fashion has the tools to manage warehouse locations, perform regular stock counts, and adjust inventory quantities and values. Infor Fashion can also be used to improve inventory turns and free-up working capital for investment in other business areas.

Last of all is the challenge of ethical sourcing. In this instance, Infor's Global Lot Tracker can quickly trace where individual lots were sourced from, while tight integration with Infor Document Management provides the document management system to hold compliance documentation. This is vital information for ethical sourcing considerations. With this information in hand, manufacturers can rapidly prove ethical sourcing back to the fiber suppliers for one or any number of customers.

8. Use innovation as a competitive advantage

Yarn manufacture is the first step in creating a textile or garment's ultimate features. Competitive differentiation comes from creating yarn that has the right characteristics or a new set of characteristics. Whether it's different blend, gauge, color, strength, coating, or marl, Infor Fashion can be used to plan, design, develop, cost, and produce new, innovative products. This is accomplished with Infor Fashion's collaborative product lifecycle management (PLM) capabilities that cover everything from product concept, through design specifications and development, to sampling and transfer to production.

Infor Fashion provides the analytics and

forecasting tools

to help you better predict customer demand and raw material requirements.

How you benefit

Spinning and extruding yarn is an equipment-intensive process where there are not only resource bottlenecks, but also many material challenges. Infor Fashion offers effective planning and execution, coupled with rapid notification of any exceptions, allowing companies to improve throughput, shorten lead times, reduce inventory buffers, and improve bottom line profitability—all while maintaining customer service levels.

Infor Fashion is built to improve business performance and help ensure on-time delivery against your customer commitments when there is complexity in the supply chain and manufacturing processes. With Infor Fashion, fiber and yarn processors get the tools they need to manage their material challenges, optimize bottlenecks utilization, and better meet customer demand.

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