

## CASE STUDY DISCRETE MANUFACTURING

# QUADRIFOGLIO

For over 25 years, **Quadrifoglio Group** produces and designs spaces dedicated to office living, improving people's experiences in professional environments.

The company was founded in 1991 and has grown year after year up to having over 200 collaborators and more than 1600 active customers around the world.

### ANALYSIS

In the office furniture sector, the main critical issue is the management of conflicting objectives: the breadth of the range of products to meet the needs of the consumer looking for customized products; the standardization of production that allows to make the production flow simpler and more linear as well as more efficient.

Given this context, Quadrifoglio was looking for a way to make the entire flow of materials within the supply chain more robust and flexible, from the purchase of raw materials to the management of internal production and subcontracting, up to the shipment of packaging, in order to be more reactive in managing customers' requests, without however undermining the stability of production plans.

Quadrifoglio was able to manage situations of materials lack and sudden changes in customer requests raised by the Sales area, but at the price of an increase in stress of the entire internal and external supply chain: urgent reminders to suppliers and contractors, with the risk of slowing down production and shipments, very expensive setup of the machines which resulted in lines efficiency decrease, constant conflicts between the Customer Care & Sales and Internal Logistics area.

The collaboration path, started in 2018 and still ongoing, has seen the constant evolution of improvement initiatives: 2018 - 2019

- » Infinite capacity planning of all production departments
- » Implementation of the dynamic system of missing materials analysis

- » Implementation of an effective and efficient workflow, from the release of production proposals, to preparation of orders for the departments and customer orders confirmation.
- » Management of reminders to suppliers.

Beginning 2020

- » Introduction of finite capacity planning logics for some departments;
- » Management of production progresses;
- » Management of framework orders and related references with suppliers and subcontractors.

### SOLUTION

The project involved the implementation of the following sedApta application module:

- » Resource&Supply Planning.

The primary objectives to be achieved were:

- » **Early identification of critical situations:** reactive, automatic and constant (twice a day) analysis of the entire order portfolio to identify any missing components and any critical issues related to production capacity
- » **Automatic proposal of the main production plan:** optimized plan based on the given rules (priority of sales orders, planning heuristics) and in compliance with all production constraints
- » **Increase of visibility in the short, medium and long term:** communication to suppliers of deliveries priorities in order to promptly satisfy the market and increase the level of service and complete visibility that allows quickly circulation of reliable information to internal and external entities
- » **Implementation of a homogeneous and effective workflow:** preparation of a step-by-step work procedure that guides and makes the work of the Production Planning, Purchasing / Production and Commercial Areas more integrated.



**COMPANY**  
QUADRIFOGLIO  
FURNITURE SYSTEMS



**SECTOR**  
OFFICE FURNITURE



**DIMENSION**  
1 HEADQUARTERS  
137 EMPLOYEES



**REVENUE**  
45.7 MLN € (2019)



**SEDAPTA MODULES**  
RESOURCE&SUPPLY PLANNING



Once the criticalities within the planning process have been identified, in order to reduce problems related to delays, blocks and inefficiencies of various types, our partner Quin, first of all, worked on the re-engineering of the process itself, improving it, enhancing the professionals who manage it, in order to strengthen the organization itself and by introducing adequate technological supporting tools.

The project involved several intervention steps:

- » Two guiding principles have been identified for all the initiatives undertaken at the planning level: the timely identification of missing items and the release of purchase and production orders at the latest. The first principle has allowed the company to identify promptly and in advance all potential critical situations of material lack and then immediately act to resolve them. The second principle allows the operators to promote proposals only at the right time to avoid unnecessary constraints on the production plan and subsequent time-consuming corrections
- » Rules have been defined for calculating the priority of needs that were shared at company level
- » An advanced algorithmic planning system was introduced for the dating of needs and for the dynamic assignment of materials
- » Automatic systems have been introduced that allow the planner to focus attention only on customers' orders with critical issues (in terms of delivery and materials), reducing the time required for order confirmation
- » Development of a purchase order analysis dashboard and fast handling of reminders. Thanks to this tool, the buyer is able to quickly intercept potentially critical situations also in the medium-long term and promptly communicate them to the supplier

- » Development of a dashboard for the release of production and purchase proposals, which allows the planner to decide which specific proposals to release and above all at what time point. However, this flexibility is driven by a system of target dates to be able to respect the "release at the latest" principle mentioned above.

## BENEFITS

- » **Reduction of average tardiness in customer order fulfillment: -29.2%**  
Allowed by the timely identification of missing items that allow the purchasing and production offices to operate for their resolution
- » **Reduction of the time spent to identify critical issues (materials and production capacity): -15 h / weeks**  
Time previously spent daily by the operators of the purchasing and production planning office and now reinvested in the more profitable resolution of the missing items
- » **Reduction of purchase costs**  
By reducing reminders and carrying them out with a greater notice, Quadrifoglio was able to strengthen its position in the negotiations for the renewal of the purchase price lists
- » **Reduction of costs related to partial shipments / missed shipments and complaints**  
With the risk reduction of the missing material in the load
- » **Efficient use of internal resources**  
Thanks to the alignment between the shipping plans, assembly and internal production of the components (doors and sides).