

## CASE STUDY METAL

# MARCEGAGLIA

**Marcegaglia** is the leading Italian industrial group in the transformation of steel. With 6.2 million tons of steel processed every year, the group operates worldwide with 6,600 employees, 60 commercial units and 28 factories, serving over 15,000 customers.

A leadership that is the result of a long, solid and constant growth path, which makes Marcegaglia the largest independent global operator in the transformation of steel. Thanks to the unique characteristics of the production network, which allow the creation of synergies with customers, which become real partnerships in the integration between the supply chain and industrial processes, the Marcegaglia group is the reference player in the steel industry with verticalization in different industrial sectors.

Downstream of primary productions, Marcegaglia is present in the entire value chain in the steel industry, both along a horizontal and vertical axis, with a unique strategic positioning. Marcegaglia is the main steel transformer equipped with a range of products ranging from carbon to stainless, from long to flat products, from commodity to specialty.

Thanks to its entrepreneurial history, the Group has created an integrated and widespread logistics network worldwide, to ensure maximum timeliness, flexibility and punctuality in the delivery of products all over the world. The Marcegaglia logistics network includes, in addition to the 28 factories, 11 hubs located in the most strategic production districts in Europe, 2 railway terminals and 2 port docks owned on the Mediterranean, to constitute an efficient distribution network to respond to requests from all over the world.

### ANALYSIS

The project scope involved an extensive review and digitization of Supply Chain processes in the Carbon Steel Division (division that transforms flat products (coils, strips and sheets) into carbon and pre-painted steel (PPGI) and steel pipes carbon; it processes a total of 4.6 million tons of steel per year, with a turnover of around 2.8 billion euros

and is the first producer of welded tubes in Europe).

The production network for the production of tubes includes 5 factories (Gazoldo, Dusino, Lomagna, Casalmaggiore, Boltiere). The Plans area mainly affects the Ravenna and Gazoldo plants.

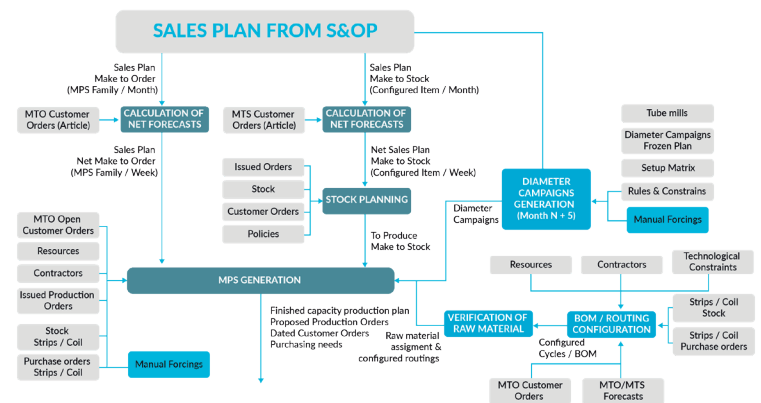


Figure 1

As can be seen in the *Figure 1*, the project involved the processes of:

- » Demand Management: definition of commercial demand in the medium / long term
- » S&OP: aggregate planning of sales requirements at finite capacity
- » Inventory Management: definition of stock targets and production proposals for MTS (Make-to-Stock) products
- » MPS: planning of production requirements at finite capacity in the medium term, dating customer orders and generation of material purchase proposals.

The main objectives of the initiative were:

- » Improve the reliability of sales forecasts
- » Sizing the production logistics system in the medium - long term, defining the production quotas at the product / month family level



**COMPANY**  
MARCEGAGLIA GROUP



**SECTOR**  
STEEL PROCESSING



**SIZE**  
28 PLANTS WORLDWIDE  
6.600 EMPLOYEES



**TURNOVER**  
5,5 MLD € (2019)



**SEDAPTA MODULES**  
DEMAND MANAGEMENT  
RESOURCE&SUPPLY PLANNING  
INVENTORY MANAGEMENT

- » Generate the Finite Capacity Production Plan in the medium term (MPS plan) according to the availability of resources, raw materials and the constraints set
- » Configure cycles and BOMs for MTS and MTO (Make-to-Order) products
- » Generate and optimize medium-term production campaigns (7 - 8 months) according to demand, rotation constraints and minimum production levels set
- » Date the sales orders
- » Reduce inventory
- » Optimization of the process of assigning materials to the Demand
- » Generate the Raw Materials Purchase Plan in the medium term
- » Integrate and extend the functions present in ERP SAP
- » Standardize processes within the Marcegaglia Group, reducing manual activities.

## SOLUTION

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

- » Demand Management
- » Resource&Supply Planning
- » Inventory Management.

In the first design phase, the Demand Management solution was introduced for the definition of commercial demand through mathematical algorithms and advanced collaborative environments. The forecast thus validated allowed the subsequent implementation of the S&OP finite capacity validation process in the medium to long term, defining sales and production budgets consistent with the capacities and constraints set. The second phase, on the other hand, involved the implementation of the MPS solution - finite capacity planning in the medium / short term.

The introduction of the "sedApta Metal" verticalization tools was of particular importance:

- » Generation of diameter campaigns: the system, through a mathematical optimization algorithm, allows to define the ideal diameter campaigns on the individual tube mills according to the commercial demand, the setup matrices and the technological constraints set (minimum / maximum length of the campaigns, rotation indices , ...). The system determines the optimal solution to protect deliveries and minimize setup costs
- » Configuration of cycles and lists: the system, according to the characteristics of the demand, the technological constraints of the systems and the configuration rules set, allows the automatic creation of cycles and production lists
- » Raw material verification: the system, through a mathematical optimization algorithm, determines the ideal distribution of materials on demand to reduce stocks and maximize on-time deliveries.

## BENEFITS

The implemented system fully met the project requirements, allowing you to quickly generate reliable production plans, optimize the use of materials with a consequent reduction in inventory value and improved customer service. The solution also enables the generation of what-if scenarios to react to numerous scenario changes. Generation times of the plan and manual activities have been reduced significantly.



### ANTONIO MARCEGAGLIA CHAIRMAN & CEO

*"With sedApta we are completely rethinking the organization of our supply chain. It is not just a question of making plants evolve, but also of affecting the organizational models and cultural approaches of people in the company, starting with top management. We therefore need a new mental software, rather than physical, in order to really make a qualitative leap."*

