

CASE STUDY DISCRETE STERILINE

Steriline S.r.l. is an established European manufacturer highly specialized in the production of complete lines for the aseptic processing of injectable products that supplies pharmaceutical companies worldwide. Founded in 1989 in the Lake Como area (Italy), where it still has its headquarters and production sites, the Steriline brand now operates in more than 50 countries around the world.

DPCenter S.r.l. represented an important production site for the Steriline group; from July 2019 it was acquired and integrated into the group itself. In the current model, therefore, the Steriline and DPCenter plants represent two different production units that follow an identifiable process according to the Engineering to Order (ETO) model, even if all the processes implemented such as modularization and standardization of the products aim to push the more and more production towards a Make to Order / Assembly to Order model.

PROJECT

The critical issues that emerged during the As-Is analysis phase are the following:

- » Lack of information at the ERP system level (eg no MRP);
- » Planning and manual production progress control managed through single MS Project 2007 files disconnected from the ERP base;
- » Purchase plans logically disconnected from the order;
- » Lack of dedicated reporting.

The following short, medium and long-term macro objectives have been identified during the evaluation of the To-Be phase:

Short term goals

- » Generation of RDA (Purchase Request) and ODL (Production Orders) for components, to support the work, to date manual, which both planning and logistics areas carry out daily;

- » Requests for transfer (RDT) between plants for the Common Parties;
- » Generation of purchase materials solicitation plans to suppliers based on the order links;
- » Logics of replenishment stocks for the Common Parts of the plants;
- » Management through Material Reservation.

Medium term goals

- » Analysis of infinite capacity workloads for job order assembly plans with reporting highlighting the use by type of resource and related activities;
- » Planning management of the internal departments common to the plants, such as workshop and carpentry, in buy logic;
- » Generation of a Lead Time work plan to be supplied to the workers on the assembly benches, according to the availability of the components, thus reducing delays and stops caused by the lack of WIP parts;
- » Finite capacity analysis of design criticalities with possible management of alternatives (designers) and evidence of the criticality of the plan.

Long term goal

- » Dating and control over time of the Customer order / Commercial proposal with respect to the promised dates depending on the existing production and purchase plan, any new productions and RDA to be issued, with the addition of the possibility of simulating the impact of a job order change on the production / purchase plan in place.

The process of developing and managing the needs of the individual machines is kept in line with the needs of the individual assembly stations through which each individual machine must pass.



COMPANY
STERILINE



SECTOR
MANUFACTURER OF LINES
FOR THE ASEPTIC PROCESSING
OF INJECTABLE PRODUCTS



SIZE
HEADQUARTERS AND
PRODUCTION SITES
IN ITALY
OPERATING IN OVER
50 COUNTRIES



TURNOVER
33 MLN € (2018)



SEDAPTA MODULES
RESOURCE & SUPPLY PLANNING
ANALYTICS
VISION

SOLUTION

The solution involves the integration between an open source management system with SQL Server database and the following modules of the sedApta suite:

- » Resource & Supply Planning
- » Analytics (Reporting Framework)
- » Vision

PHASE 1: infinite capacity, material replenishment and exploration of availability between plants

Creation of standard Lead Time Assembly Cycles

Initially, the cycles required to manage the replenishment of materials on the basis of their given data for the assembly department were not defined at ERP level. The project required that the ERP system provided the information about the resource (for Steriline the Assembly Station) to which any component of the bill of material level in question belonged. The cycles defined in this way can now be associated with one or more ODLs using the DBManager application integrated in the sedApta suite.

Material Management

The project includes the material control of the job order to solicit delayed materials to be able to comply with the assembly appointments for machines and lines, in addition to the verification of the requirements and RDA emission according to the evolution of the job order. Following the extension to two production units, it was necessary to manage a virtual warehouse of the Common Parts used by both plants.

Piking Phase

The materials are called up at the appropriate time (assembly station management) in order to reduce the WIP in the plant. To this end, the allocation of inventories / purchase order must be performed based on the cycle times.

Management of common internal departments: Workshop and Carpentry

The workshop, the first internal department common to both production sites, was considered in the system as a supplier, therefore the availability for the required semi-finished products enters the system as a standard supply order. The semi-finished workshop is all intended as common parts for the plants. The carpentry, the second common internal department, was instead mapped as a plant common to DPCenter and Steriline, whose material requirements can be covered by orders to the supplier or from semi-finished products made internally from the carpentry and managed as ODL. Downstream, appropriate logics of loading and management of the transfers of requirements between plants have been configured.

RDA Proposal Management

The joint planning and purchasing department allows the material replenishment. The purchasing plan issued by the system is always maintained on the ERP system and is sent through an interface to the sedApta planning system.

RDT Proposals Management

Since many purchasing components are Common Parts (they can be in both production plants) a process has been integrated to propose to the ERP system material transfers according to the intra-plant availability.

Material Reservation Management

The management through material reservation (logical material reserve, not physical at warehouse level) allows to reserve a quantity of a certain component for a specific application / ODL.

This segregation can be performed on:

- » Order to the supplier
- » Free stock in the warehouse
- » RDA proposals.

PHASE 2: finite capacity management of designers and assembly resources

Designers Load Management

In order to verify the capacity of the designers resources, it will be necessary to introduce the design cycles, as shared during the analysis, within the sedApta suite. Each design activity is identified by a single ODL whose configuration allows to manage both horizontal and vertical constraints. The designers planning will be developed with logic "as soon as possible" according to the criticality of the order, aimed to saturate the resources themselves.

Machines Assembly Load Management

The validation of workloads for assembly machines on assembly lines will be held at a finite capacity with "later" logic to be as close as possible to the completion of the order within the established time frame.

