Advanced planning & scheduling for orchestrated production and laboratory planning

CAPACITY LABORATORY TESTS WITH "ORSOFT LABSCHEDULING"

Quality control in laboratories is of paramount importance for companies in the life science, food or chemical industries – and can also become a blocking point in supply chain planning. Capacity limitations can lead to production delays or even delivery failures. Planning quality controls must therefore be considered an indispensable part of production planning.

Traditionally, the planning of laboratory activities is carried out with MS Excel spreadsheets, as ERP systems do not provide production planning functionalities for this purpose. Inspection lots are usually only created for a very short time horizon. Quality control is performed in the LIMS (Laboratory Information Management System), which is an additional process system. A reliable capacity forecast is therefore not possible for quality control laboratories, as there is a system break between production planning and the execution of quality controls as well as the database underlying the two systems.

To improve these process-related procedures, laboratory planning must be integrated into the associated business processes and the data basis must be standardized. This is offered by the software ORSOFT LabScheduling.

Laboratory planning on the basis of ORSOFT LabScheduling

LabScheduling enables integrated laboratory planning on the basis of production planning in ERP up to the evaluations from the LIMS. At the process level, capacity analysis, capacity planning and detailed planning are supported. This is achieved through real-time data processing of the ERP system and the LIMS in a common database. ORSOFT LabScheduling ensures that horizontal and vertical planning levels are taken into account by avoiding system breaks and using centralized data storage between the systems.

ORSOFT LabScheduling considers all planning levels from produc-tion planning to the execution of quality controls, as well as the capacities, material flows or personnel re-quire-ments in the scope of laboratory planning. The planning horizon in laboratory planning is similar to that of production planning. This allows for precise capacity forecasts and the early detection of capacity bottlenecks in the laboratories.

In detailed planning, on the other hand, real-time data processing allows flexible reactions to changing business events and agile detailed planning of the laboratories. This achieves a high level of planning transparency and takes into account the entire business process along the long-, medium- and short-term planning horizon.

ORSOFT LabScheduling with SAP

Via a certified interface to SAP ERP and SAP S/4HANA, our software solution can be easily connected to SAP systems and all necessary master and transaction data can be extracted directly from SAP ERP. The planning results are stored in this system, and all necessary data for capacity planning of laboratory resources is available in SAP ERP. Information such as inspection characteristics and the corresponding specifications for the laboratory are taken from inspection plans and recipes and then displayed. The results of production planning and purchasing and the resulting inspection lots are available within the MM and PP/PI (or PP) modules. Capacity requirements from other inspection lot origins are also recorded via the corresponding inspection lots. This enables simultaneous planning which takes into account laboratory resources, personnel and test equipment.

The planning is based on the production and procurement planning in SAP ERP / SAP S/4HANA. To this end, the quantity of inspection lots in SAP QM is supplemented with inspection lots simulated by LabScheduling. The inspection lots simulated by LabScheduling are used to anticipate capacity requirements. Additional functions enable the prioritization of tests in relation to the requirements of the production, procurement and sales departments. It is also possible to assign inspection lots to employees. Since several test plans can be stored in SAP, LabScheduling also allows cross-laboratory planning or the use of other equivalent alternatives such as workstations or equipment. If laboratory capacity is insufficient, inspection lots can be moved to another laboratory within the software. The creation of inspection lots is based on maintenance plans/strategies. The result of the simulation is a medium-term capacity consumption overview for the different types of laboratory resources.

Detailed planning is supported by functions such as dyna-mic pegging or levelling. When using dynamic pegging, the order start and end are dynamically calculated for inspections using the first-come-first-serve principle. Instead of a static goods receipt processing time, the order end time is thus determined by the time of the first requirement ele-ment of the end product. When levelling, capacity leveling can be performed using interactive stacking diagrams for different resources. Individual blocks represent the capacity requirements of an inspection lot and can be easily moved to another shift within the diagram by dragging & dropping.

In LabScheduling, all planning results can also be accessed via a web frontend. In addition, the planning results can be displayed in diagrams and made available for reports by exporting them to CSV or MS Excel.

THE BENEFITS OF ORSOFT LABSCHEDULING AT A GLANCE

Integrated planning of production and laboratories

Certified SAP interface

Flexible connection to external databases and LIMS

Fast response to changing conditions through real-time data processing and complex simulation capabilities

Short-, medium- and long-term capacity forecast

Out-of-the-box functionalities such as simulated inspection lots, individual prioritization of inspection lots, dynamic pegging or interactive and automatic leveling

Access to planning results via web frontend

Fewer capacity bottlenecks and maximum throughput in laboratories

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