

Process Planning

The planning module for processing optimises the production of the company's processed main products, enabling the company to deliver the correct quantity of finished products in consideration of the company's capacity limitations. This module thus aims at planning production which:

- Ensures that orders are delivered on time
- Guarantees optimum utilisation of raw materials
- Ensures optimum utilisation of production capacities.

Process planning will, therefore, contribute to the achievement of the company's current goals by optimising the use of cost-intensive capacities and expensive raw materials. Likewise, the module may also contribute to the future development of the company by fulfilling supplier obligations and hence increasing customer satisfaction and strengthening long-term customer relations.

Besides being process-oriented, process planning is based on monthly production budgets. These budgets are used in connection with the day-to-day production planning and are subsequently divided into minute-to-minute plans for each day. These plans take account of aspects such as resource availability and tool changes.

Demand and capacity

When setting up the planning, it is essential to determine the capacity limitations that apply to the company's critical resources. A number of resources and resource groups are assigned to each production location. For each resource, it is specified during which periods and on which calendar days the resource is available.

The production is based on a number of recipes which – for each main product – define raw materi-

als, costs and processing procedures. The recipes thus specify the resource consumption of raw materials, machinery, human resources, etc. for the production of a given quantity of the main product in question.

Sales budget and production budget

The sales budget constitutes the basis for the production budget for finished products. The sales budget is prepared on a monthly basis and can be transferred to the production budget where the demand for semi-finished items and raw materials is calculated. The production budget serves as a catalyst for day-to-day planning, as the planner uses the production budget as a basis for production planning.

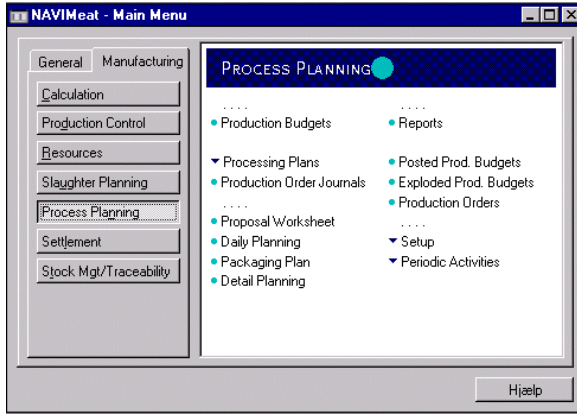
However, before the daily planning has been completed, the planner may choose to simulate different production budgets, and for each budget make a feasibility study on resource consumption and the demand for semi-finished items, raw materials, additives and packaging.

The resource consumption is determined for each resource group on a monthly basis. Hence the planner has a complete overview of the maximum number of available hours, the number of hours consumed and the remaining number of available hours per time unit for each resource group.

When the optimum budget has been found, it is possible to print production plans and resource utilisation plans on a monthly basis.

Daily planning

On the basis of existing orders, the production budget and the current stock lists, the system will present a day-to-day production proposal.



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The production proposal specifies resource groups and/or the resources needed for the planned production and furthermore indicates to what extent the resources are to be used. In addition, the system will inform the planner whether – and to what extent – it will be necessary to produce the semi-finished items required for the planned production. And it will also indicate to what extent company resources will be involved. If such requirements are defined in the plan, a production order will automatically be generated in one of the preceding production sections. The plan will further specify the need for raw materials, additives, and packaging materials.

NAVImeat employs three different types of planning:

- POPO - Packaged according to order, production according to order
- PBPB - Packaged according to budget, production according to budget
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In connection with POPO planning, production as well as packaging are based on actual sales orders. This planning type is typically used in connection with the production and packaging of perishable items with a short production cycle.

In connection with PBPB planning, production and packaging are based on the budget, thus enabling the company to meet the estimated demand for the product. This will often apply to frozen goods with long shelf-lives. These products can be produced in periods with surplus capacity, allowing the most efficient employment of production facilities.

In connection with POPB planning, semi-finished items are produced according to the budget for finished products. The final packaging of these products is postponed until an actual sales order is received. This type of planning is often used in connec-

tion with short shelf-life products which require a longer production cycle. POPB planning is, for instance, used in the production of sliced meat products where the semi-finished items are produced according to budget, but e.g. sliced and packaged according to a concrete order specifying customer demands regarding packaging, net weight, etc.

Detailed planning

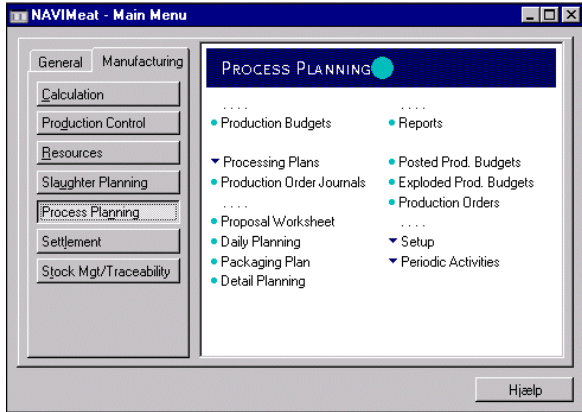
After the completion of the day-to-day planning which – for each day – specifies what to produce and which resources to use for the production, a detailed plan can be developed.

By clarifying the production, the detailed planning ultimately ensures that the production plan can be implemented with the available resources. It is thus possible to plan the sequence and timing of the individual production processes, which results in improved utilisation of resources, higher productivity, lower costs and fewer changes of tools and labels.

The detailed planning can also handle shift work. As a special feature, the system is able to handle shifts working over midnight from one day to the next. The management is based on logical days and treats shifts starting on e.g. Sunday night at 10.30pm as part of the planning for Monday.

Follow-up, traceability and age-divided stocks

NAVImeat quickly provides an overall view of the status of the actual production compared to the planned production. The company only needs to transfer the production order number in the weighing string. It is thus possible to follow-up on each planned production via various reports. In this way, the planner can quickly obtain an overall view of any adjustments needed in the existing production plans.



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If the production order number is part of the weighing string, production traceability can also be introduced. Particularly if the procedure is employed consistently, i.e. using the production order number for weighing-in as well as weighing-out of different stock units. In addition, this makes it possible to create it as an age-divided inventory.

Balancing slaughtering and processing

The slaughterhouse and meat industries are generally characterised by large product volumes with small margins. Therefore, company success very much depends on optimising the use of production facilities: Producing the most profitable products that can be sold at the highest price per kilo. Against this background the planning module bases its calculations of raw material requirements on the finished products.

However, in connection with slaughtering, the company may be committed to purchasing a certain number of animals per period which must then be pushed through the system, whereas in other cases the production is based on the demand for raw materials and finished products. It is essential for company profitability to reach a perfect balance between slaughtering output and the demand for processed products.

Therefore, NAVI meat gives the planner a complete view of the raw material requirements in a given period. If the company also engages in slaughtering, cutting and deboning stages, the planner can compare the supply of raw materials and main products from slaughtering with requirements in connection with processing.

In this way, the planner knows the status of the company's raw materials, i.e. he knows what to purchase and what to dispatch. Thus, the company always holds the required goods, while at the same time keeping stock to a minimum.

Possibilities for the planner

The broad functionality in the planning module for processing provides the planner with excellent possibilities to ensure a smooth and efficient production flow based on order volume, budgets and stock levels.

Planning ensures that the company can always meet its obligations as a supplier to order-placing customers, while also being able to cope with general and seasonal demand fluctuations.

In addition, planning ensures an optimum utilisation of the company's resources, minimising the number of unnecessary tool changes, etc. Furthermore, process planning contributes to obtaining efficient stock management by always attempting to keep stock levels at the minimum required for the implementation of a given production.

Thus, the module for process planning is a powerful tool for managing a complex process involving many variables. As a result, the module can contribute to increasing the company's competitiveness by improving the efficiency of production and stock management internally, and by strengthening customer satisfaction externally thanks to correct and punctual deliveries.