Production Planning is a software product that forms part of ABB's cpmPlus for pulp and paper mills and provides an environment to implement production planning functions.

**Main functions**

All planning functions are supported, from rough to fine planning and from order entry to delivery planning.

Schedules are created for all machines requiring planning and production sequencing. Orders are routed through multiple machine phases. Capacity is reserved on all machines required to provide raw material for the order. Cost parameters are defined for the benefit of the schedule. The change in the cost function is calculated after each change in the schedules. Orders can be planned and re-planned using automatic planning functions.

Graphics based on schedules can be dynamically created to balance the production and warehouses. Automatic delivery plans can be created for the orders to optimize deliveries.

Three different trim optimizing algorithms are available for finding the best results for all kinds of trimming scenarios. The following trimming strategies are supported: winder trimming, trimming customer orders from raw material reels on finishing machines, and trimming customer orders for finishing machines and generating the required raw material orders at the same time.

**Scheduling**

- Block planning with capacity control
- Jumbo reel planning with bottleneck control
- Easy-to-use graphical interface
- Possibility to simulate different planning scenarios
- Automatic scheduling functions
- Schedule synchronization with production
- Order balancing to ensure each order is fully produced
- Dependency calculation between machine phases
- Cost functionality
- Profitable To Promise (PTP) functionality
- Accurate production time calculation
- Delivery planning functionality
- Graphics calculated from schedules
- Schedule optimizers

**Trimming**

- Three independent trimming algorithms
- Trimming of finishing machine orders at winder
- Optimized schedules thru multiple machine phases
- Trimming customer orders from storage reels and storage pallets
- Automatic creation of raw material orders and storage orders
- Accurate calculation of required production with waste factors
- Multiple solutions for each production run
- Re-trimming of runs even when partly produced

**Important benefits**

- Creates optimal production plans
- Accurate timing information
- Ensures orders are fully produced
- Reduces inventory levels
- Ensures delivery on time
- Provides costing functionality
- Graphical and visual user interface
- Schedule optimizing algorithms
- Multiple trimming algorithms with best results
- Handles fine planning of complex scenarios
- Easy and configurable user interface
Optimizing algorithms

In addition to the scheduling application, a number of optimizing algorithms have been developed for various purposes.

Paper machine optimizer re-arranges the orders in the optimum sequence. The optimum schedule can be defined using cost parameters and grade change matrices. The user can see how the cost function approaches the optimum. Different parameters can be prioritized during optimization.

Multi Mill/Multi Machine optimizer allocates the orders between machines. The algorithm checks how well the order is trimming against each machine, together with other orders for the time period. The optimization takes into account the delivery cost from each mill.

Finishing machine optimizer allocates each order to the most efficient machine for the order. If one of the machines is overbooked, the second best is selected. The optimization results in a set of balanced schedules for the group of finishing machines with runs arranged to minimize the number of machine-to-machine changes required.

Standard reporting

Production Planning contains the following standard reports:

- Order backlog
- Run schedule
- Run instruction

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