

KNOWLEDGE SPACE

DS

DETAILED PRODUCTION SCHEDULING

KS.IBP ECOSYSTEM

Integrated Planning Solutions

2 ЭКОСИСТЕМА KS.IBP



OBJECTIVES

- **Enhance efficiency** of operational production planning
- **Accelerate responsiveness** to scheduling changes

TASKS

- Automated generation of minute-by-minute production schedules
- Automatic calculation of changeovers and retooling
- Interactive production plan management via Gantt charts
- Flexible configuration of plan optimization parameters
- Minimization of unplanned downtime
- Online evaluation of plan KPIs

4 ADVANTAGES AND KEY FEATURES

Use of Advanced Technologies

- Interactive production Gantt chart with wide customization capabilities
- Automatic plan generation using built-in and connectable optimizers

Easy Solution Integration

- Easy embedding into customer infrastructure, with the ability to connect to any existing solutions
- Seamless integration with KS.IBP products

Scalability and Performance

- Solution scalability and consistently high performance with any data volumes
- Support for a large number of users

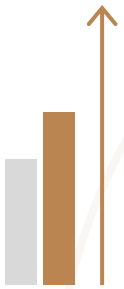
Professional Team

- Certified specialists with extensive project implementation experience
- Verified expertise in configuring calculation models

5 IMPLEMENTATION IMPACT

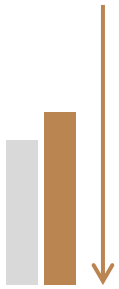
+20–30%

Increased productive time of production lines



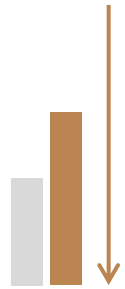
+5–10%

Improved service level



+30–40%

Growth in productivity of planning specialists



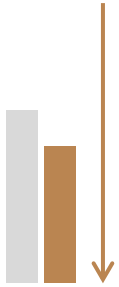
-50–70%

Reduced time for productio schedule generation



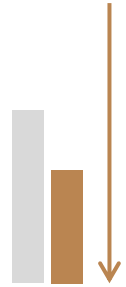
-5–20%

Optimization of resource consumption (energy, raw materials, personnel)



-20–35%

Reduced costs during changeovers



Implementing the DPS system allows a significant reduction in product cost through optimized resource utilization and minimization of overproduction

6 OPERATIONAL PRODUCTION PLANNING

Production needs

Interactive Gantt

Shift/daily assignment

Constraint management

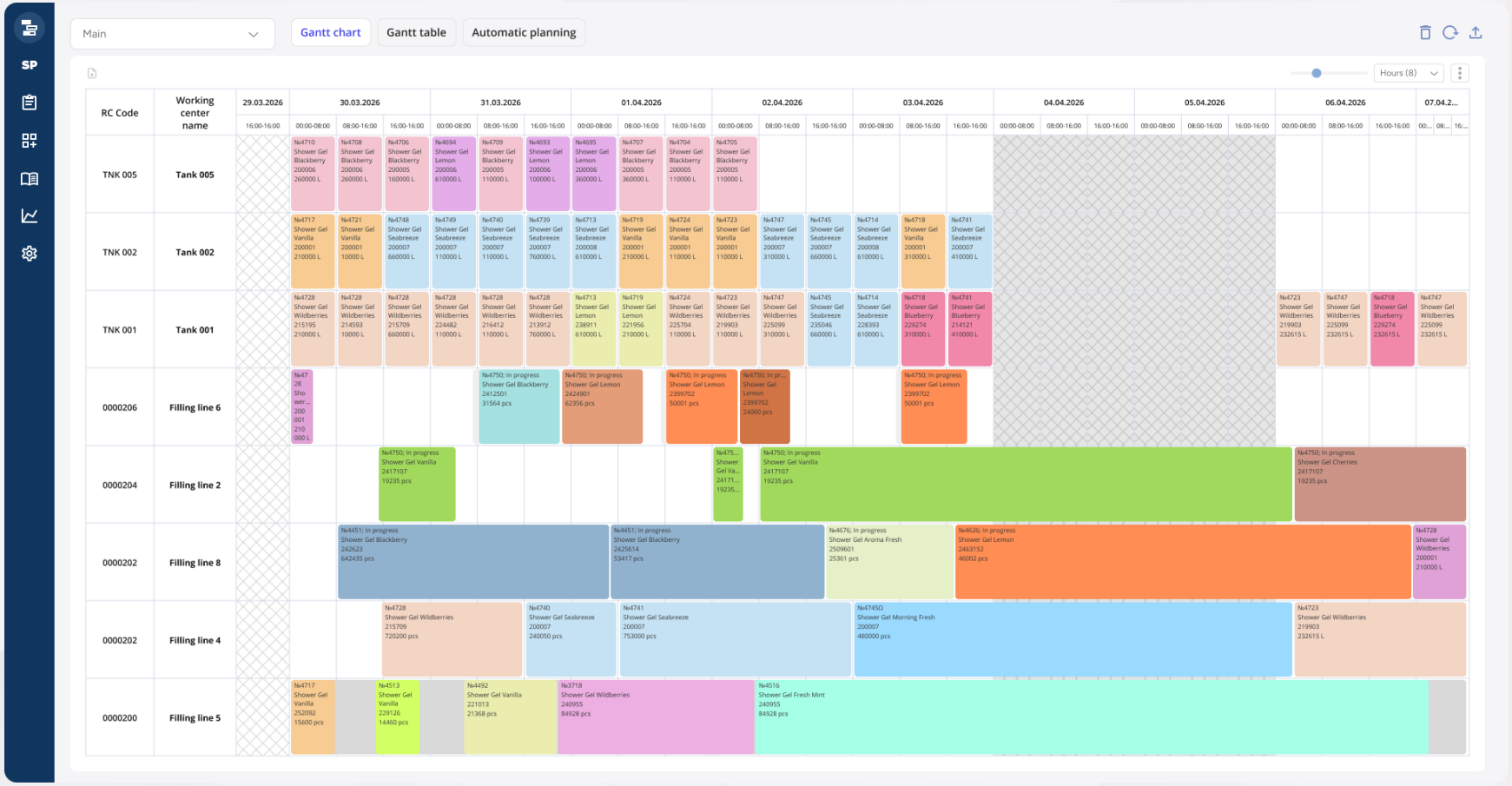
Calculation and creation of a list of production orders

Interactive modification

Automatic plan calculation

Calculation of the need for materials

7 FUNCTIONAL MODULES



Description

- Creating production orders based on demand
- Automatic planning: setting parameters and constraints
- Placing orders on a Gantt chart
- Drag and drop within one distribution center or transfer to alternative distribution centers
- Calculating supply of materials and supplies based on planning results
- Online KPI tracking
- Creating and uploading shift-daily assignments
- Processing production results (actual)

Disassembling

- Disassembling the entire process chain by recipe – from Finished Product to Semi-finished Product and Materials
- Disassembling only those process stages required for integration with the SP module

Heuristic approaches

- Configure rules and restrictions for automatic queue generation at the work center
- Large number of built-in scheduling heuristics
- Automatic rescheduling when data changes

Constrained planning

- Accounting for the availability of materials and equipment
- Accounting for the availability of constraining resources (tooling)
- Accounting for the expiration dates of materials and equipment
- Accounting for cleanings (cyclical changeovers)

Проприетарные солверы
Open-source библиотеки

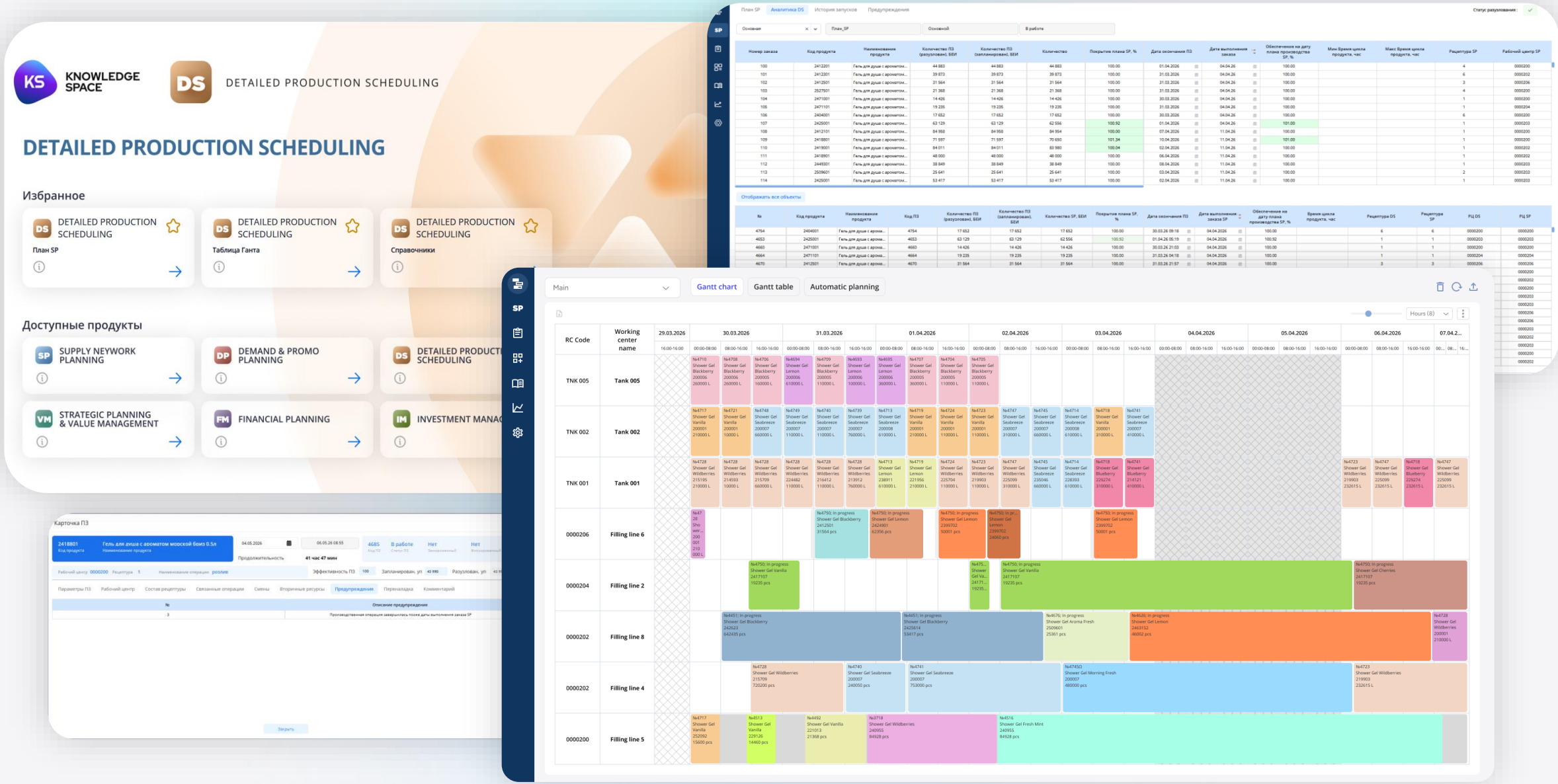
GUROBI OPTIMIZATION
COPT Cardinal Optimizer
IBM CPLEX
HiGHS

Rules for constructing a graph

- Planning direction (from GP to PF, from PF to GP, from bottleneck)
- Accounting for production parameters
- DC balancing mode
- Setting frozen and fixed horizons

9 INTERFACE EXAMPLES

KNOWLEDGE SPACE



Thank you!

If you have any questions,
we'll answer them.



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