



# PHENIX PLANNING AND SCHEDULING

## INTRO

Changeovers and incorrect inventory levels waste significant time and money and affect customer service. Phenix planning and scheduling software uses Aligned Product Wheels™ to minimize waste and align production with the business’s customer service, cost and working capital goals.

## SCHEDULING HAS A MAJOR IMPACT ON THROUGHPUT AND COST

Optimized schedules have throughputs 5% to 20% higher than typical production schedules! But scheduling is really difficult.



### Process Manufacturing is Complex

Schedules determine the sequence and timing of the production of hundreds or thousands of different products across multiple production lines.



### Production Sequence is Critical

Correct production sequences minimize changeover costs. Every out of sequence product complicates the changeover and wastes time and money.



### Cycle Times are Critical

Correct cycle times balance changeover and inventory costs. Cycles that are too short or too long cause customer service and inventory problems.



### Supply Chains are Disrupted

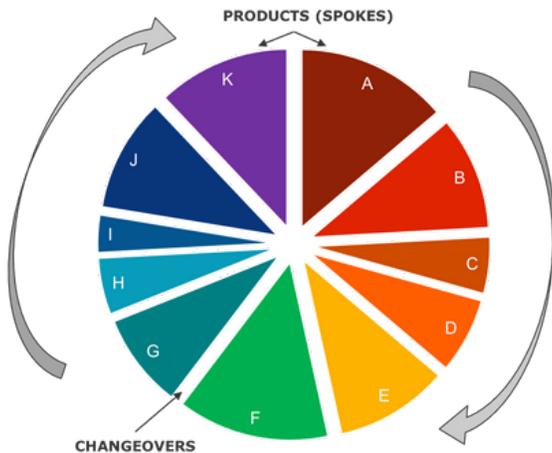
Volatile demand, erratic supply, and internal plant and staffing problems force schedulers to frequently deviate from plan and reschedule.

**Creating and maintaining an optimized schedule is impossible without software support.**

## PHENIX ALIGNED PRODUCT WHEELS

Aligned Product Wheels™ extend Product Wheels by aligning schedules with business goals and market conditions.

## PRODUCT WHEELS ENABLE LEAN SCHEDULING



Phenix Product Wheels assign product families to lines and optimize the production sequence to minimize changeover loss.

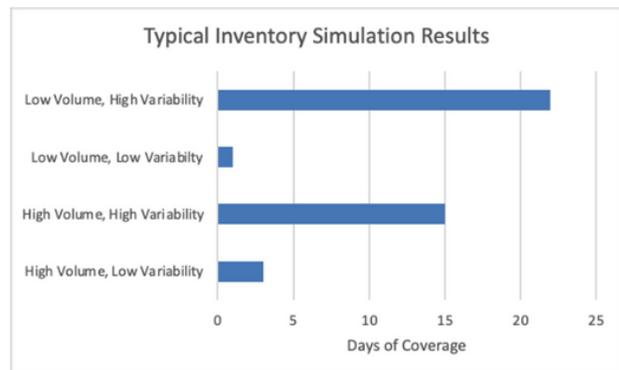
Cycle times are scheduled to balance the cost of changeovers and inventory.

The wheels introduce a rhythm that simplifies and stabilizes production.

## ALIGNED PRODUCT WHEELS ALIGN THE PLANT WITH THE BUSINESS

Inventory Design considers the demand variability and volume of each product to determine inventory levels, aligning production with market conditions.

Production Design aligns schedules with the business's customer service, cost and working capital objectives.



## SCHEDULING AND RESCHEDULING IS LEAN, ALIGNED AND OPTIMIZED



### Scheduling

Phenix schedules based on orders from ERP or SCM systems, based on historic demand or forecasts, or based on a combination of the two. Schedulers can create optimized schedules using Aligned Product Wheels in seconds.



### Plant Floor Integration

Phenix can integrate with MES systems or operator interfaces to collect data on actual schedule performance. This includes actual change over times, production run times and production quantities, as well as reason codes for schedule violations and more granular data on changeovers and production when available.



## Rescheduling

Phenix alerts schedulers to problems (plant issues, demand exceeds capacity, raw material and staffing constraints). Schedulers have visibility into product attributes, and can sort products by priority, reschedule and immediately see the cost and time impact.

## TECHNOLOGY

Phenix is a multi-tenant cloud-based application built with mature technologies. It is delivered on a highly scalable architecture deployed on Amazon Web Services. It is designed to be highly resilient, including multi-region database backups. This is cloud-software, so there are no servers or applications to maintain –Phenix is always running the latest version. New features are optional and are enabled by a system administrator.

## CUSTOMER BENEFITS

Customers see increases in throughput of between 5% and 30% while maintaining service levels and optimizing inventory. This saves them time, allowing them to increase production if they have the demand, and further improve service levels, reduce costs and inventory, and engage in other improvement projects.

At Phenix we believe that better scheduling is an attractive first step towards improving production performance. There is no capital investment, you will see a return on your investment in a few months, and you will create the time you need to be proactive on the plant floor.



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