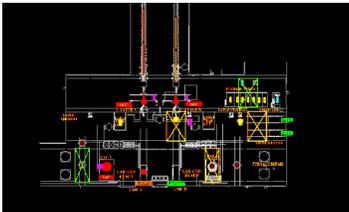
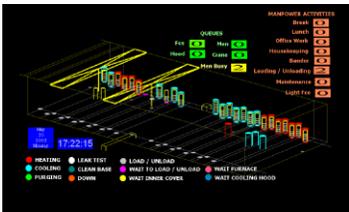


Logistics dynamic simulation

Iron & Steel



Model of a meltshop and CSP plant to explain production shortfalls and test debottlenecking strategies.



Model of a batch annealing facility to evaluate options for increasing production.

Capital effective and operationally-efficient solutions

Capital effective and operationally efficient solutions that help you achieve your business objectives are found in the context of the integrated production chain, properly quantifying potential capacity losses due to process variability, random equipment failures, resource allocation conflicts, operational constraints, and interferences across the production and supply chains.

Bottlenecks are identified and either alleviated or eliminated via operating practice changes or capital investments. At each debottlenecking step, the new supply chain capacity is determined and the next bottlenecks identified. The process is repeated until the targeted capacity is achieved. This systematic approach enables a holistic view of future capital requirements, allowing investments and operating practice changes to be deferred, brought forward or eliminated to best optimize the overall expansion plan from the simultaneous perspectives of cost, throughput, and efficiency.

Iron and steel companies including ArcelorMittal, Gerdau, Rio Tinto, Thyssen Krupp, US Steel, and Usiminas have worked with the Dynamic Simulation Group (DSG) at Hatch, which specializes in the application of dynamic computer simulation in the areas of operations management and logistics.

We have extensive experience in capacity planning, debottlenecking, and optimization so that the best configurations and operating strategies are worked out prior to building new plants or modifying existing facilities and that projects get done correctly the first time.

Benefits of logistics dynamic simulation

- Cost savings generated from reduced capital and operating expenditures, a result of optimal planning
- Global optimization of throughput, inventory, and cycle time, and consequently profitability
- Plant synchronization, bottleneck management strategies, and system robustness for smooth start-ups and years of consistently reliable performance.

We provide the following key deliverables:

- Evaluation and comparison of alternative solutions or system changes to determine the best configuration or layout
- Optimized capital spending program based on the preferred configuration

Contacts

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- Formulated operating strategies, matched to best work with plant configuration and operating philosophy
- Roadmaps to higher capacities
- Optimized plant layout and equipment specifications.

Our core services, including:

Strategic planning

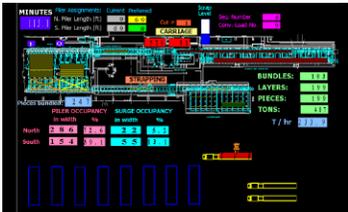
- Major capital investment decisions and capacity planning decisions
- Investment roadmaps
- CAPEX & OPEX optimization

Operations management

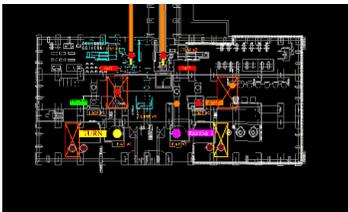
- Operating philosophies and strategies
- Design validation
- Plant layout and equipment specifications
- Production scheduling and resource allocation planning
- Bottleneck management
- Problem solving

The Hatch Advantage

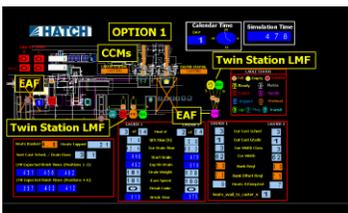
Differentiator	Advantage
Expertise	<p>Combination of...</p> <ul style="list-style-type: none"> • Process understanding • Operational insight • Engineering know-how • Modeling and simulation expertise • Holistic understanding of integrated operations <p>...yielding better models, insights, and solutions.</p>
Experience	<ul style="list-style-type: none"> • Simulation services since 1970s • High repeat business rate • Sophisticated models - refined over many years • Proprietary algorithms/model libraries
Methodology	<p>Proven and mature methodology, ensuring:</p> <ul style="list-style-type: none"> • Fastest model delivery times • Accurate predictions of future performance
Quality & Value	<ul style="list-style-type: none"> • Optimized investments/operations • Get things right the first time • Quantify, explain, and manage operations



Finishing end model to optimize cut configurations, bundle sizes, and starting billet sizes.



Meltshop model to quantify production capacity with the addition of a second caster.



Meltshop model to evaluate plant layout options for achieving a doubling of plant capacity.