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Case study

# NatSteel reduces cycle times by 50% and boosts service levels with Quintiq



“We have seen the planning cycle drop from almost a full working day to less than a few hours. So that is something that has really motivated the planning team. They can spend more time optimizing rather than just staffing the line.”

– Vivek Kamra,  
President and CEO, NatSteel



## About NatSteel

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“Scratch any building in Singapore and there's more than a 50% probability that you'll find NatSteel.”

– Vivek Kamra,  
President and CEO, NatSteel

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<b>Parent company:</b>	Tata Steel
<b>Headquarters:</b>	Singapore
<b>Footprint:</b>	Malaysia, Vietnam, China, Australia, Singapore
<b>Core business:</b>	Steel reinforcement products and steel solutions for the construction industry
<b>Employees:</b>	3,000

For half a century, NatSteel has been Singapore's leading steel producer and supplier of steel solutions for concrete buildings. Although NatSteel still produces over a million tons of steel per annum, this construction industry heavyweight is moving up the value chain into construction services, value-added reinforcement solutions and packaged solutions for its customers in the construction industry throughout Southeast Asia. With that move come new challenges and demands on the company's supply chain, and a need for a change in the way NatSteel interfaces with its customers and suppliers.

## Challenges

**Fragmented planning system:** Like many companies with multiple departments and complex supply chains, NatSteel was using separate systems to manage separate functions. Its planners faced synchronization issues between upstream material planning and downstream material consumption. This inevitably created some planning gaps that it had to patch up before it could expand its operations.

**Lengthy lead times:** The legacy systems used at NatSteel required tedious manual steps – like grouping reports by release codes, downloading data to production machines and generating tags run by run – before any real planning could begin. It took anywhere from 8 to 12 hours for planners to plan a production cycle with no opportunity to refine plans.

**Loss of data integrity:** NatSteel was working with separate systems on supply chain elements that were interdependent. With every data transaction between systems, there was a risk of compromising data integrity, which could negatively impact business outcomes further down the line.

**Mass data handling:** The company was scaling up in a big way, but the legacy systems it was using could barely handle the existing database, and ran at a sluggish pace at best. Natsteel knew it was time to invest in a solution that could handle increasing data volumes across the organization if it wanted to see its expansion plans come to fruition.

## Why Quintiq?

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"We wanted to transform our overall supply chain. We reviewed several solution providers along with the Quintiq solution. Quintiq was the obvious choice for us because of their strong expertise in the steel industry."

– Tan Man Ee,  
Chief Supply Chain Officer, NatSteel

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### An industry and customer solution

The Quintiq three-layered architecture was the main attraction for NatSteel. The base of the Quintiq solution provided commercial off-the-shelf convenience. The second layer offered solutions specific to the steel industry, based on best practices and years of Quintiq experience with leading metals manufacturers. The third layer was configured to provide NatSteel with a 100%-fit to its unique processes, constraints and KPIs.

The incorporation of Natsteel-specific procedures, business rules, and goals meant that its planners would no longer need to manually input data into machines. This promptly cut down the bulk of their 8-hour planning process.

### Impressive one-week challenge outcomes

Part of the selection process involved a material optimization puzzle put forward by NatSteel. Here, Quintiq outperformed all competing solution providers and cemented the steel company's confidence in the solution.





## A user-friendly user interface

The user interface was one of the main reasons NatSteel chose Quintiq. Tan Man Ee, chief supply chain officer at NatSteel explains: "The user interface gives the users better control and allows them to design their own screens. It's also relatively easy to use."

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"(The Quintiq user interface was) far more interactive and easier to handle than some of the other solutions we were looking at."

– Vivek Kamra,  
President and CEO, NatSteel

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## Implementation

Implementation began in 2011. By mid-2014, NatSteel had implemented the full Quintiq suite to manage their upstream and downstream business in Singapore.

"We were impressed with the Quintiq implementation process. It was very systematic and customer-centric. The Quintiq consultants were always ready to solve issues with us," says Paul Ng, assistant vice president of planning and inventory management at NatSteel. "As we had purchased the full suite, we were privileged to experience the depth of the team's expertise. The support after go-live was equally impressive."

## Results & benefits

### Reduced planning cycle times

“One immediate benefit from the implementation is reduction in planning cycle times by 30% to 50% depending on product range,” observes Gan Xingping, business IT manager for planning, logistics and procurement at NatSteel.

Reduced cycle times had a positive domino effect. They cut down lead times and allowed quicker response to customer orders. Manpower resources were reduced by 30%, freeing planners from tedious manual input processes to work on improving plans.

### Increased order volumes

NatSteel's demand volumes had outgrown its outdated system, creating a bottleneck at the planning stage. Planners were spending extra hours at the workplace to process and release production plans. “Since implementing the Quintiq solution however, our production volume has gone up by 20% and we have yet to stretch the performance of the new system,” says Paul Ng.

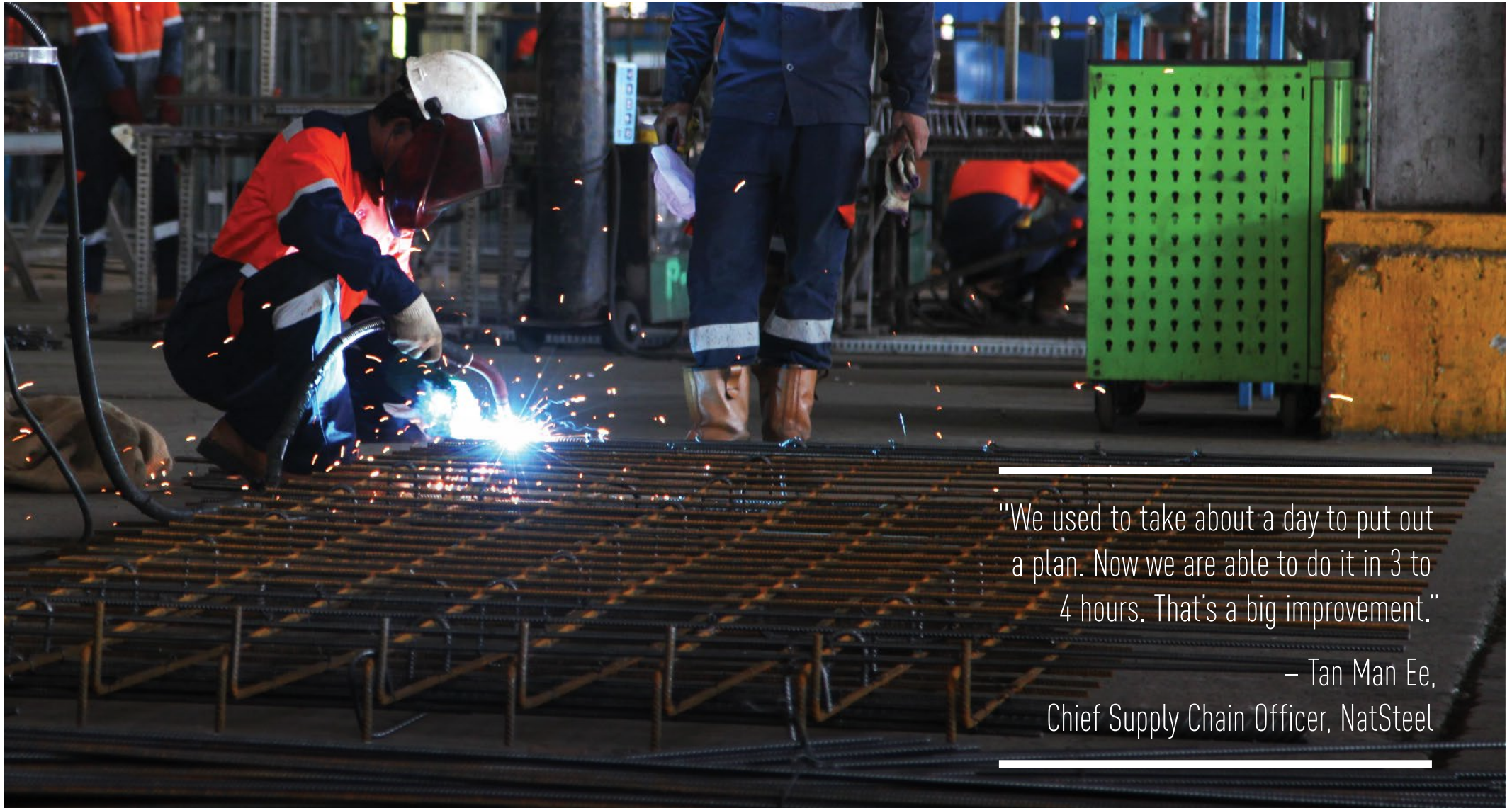
### Higher customer service levels

End-to-end visibility of products across projects allowed NatSteel to plan better in terms of capacity, inventory management, throughput and productivity. Knowing exactly where products were and what was happening to them meant that NatSteel could immediately respond to process disruptions and customer enquiries, bringing delivery compliance and customer service to higher levels.

### Optimized material usage

The Quintiq scheduler allowed NatSteel to have better visibility into its production lines, enabling planners to fine-tune plans and improve yields. For example, planners could now allocate usable offcuts to machines, minimizing waste and optimizing material consumption.





"We used to take about a day to put out a plan. Now we are able to do it in 3 to 4 hours. That's a big improvement."

– Tan Man Ee,  
Chief Supply Chain Officer, NatSteel

## New solutions, new ideas, new era

The Quintiq solution went beyond NatSteel's expectations, giving them more than they were looking for.

### Inspiration to innovate

The Quintiq integrated platform seamlessly links schedules from customer project sites through a single platform. This inspired NatSteel to embark on an auto-ordering system that would be triggered by pre-set rules based on contract agreements and actual on-site usage information. All data would be automatically available to planners, eliminating the need for customers to cyclically place orders.

Another new move designed to raise delivery performance levels is the consolidation of separate orders into project orders. Customers will receive a combined set of products and can look forward to smoother project flows that were previously hampered by staggered product deliveries.

### Paperless planning

NatSteel also found themselves without paper transactions after implementing Quintiq. All plans and schedules go directly to their plant equipment, freeing shop floor supervisors from the tedious task of uploading plans to machines. Shop floor supervisors can now focus on making sure all materials are flowing according to schedule. They also have the capacity to investigate bottlenecks and to explore areas for improvement.





## The future

NatSteel has completed implementation of the full Quintiq planning suite throughout its operations, and is optimistic about future innovations with Quintiq.





## About Quintiq

Every business has its supply chain planning puzzles. Some of those puzzles are large. Some are complex. Some seem impossible to solve. Since 1997, Quintiq has been solving each of those puzzles using a single supply chain planning & optimization software platform. Today, approximately 12,000 users in over 80 countries rely on Quintiq software to plan and optimize workforces, logistics and production. Quintiq has headquarters in the Netherlands and the USA, and offices around the world.



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