

## Case Study

### OPTIMISING GLOBAL SUPPLY CHAIN FOR AN INDUSTRIAL MACHINERY MANUFACTURER



## Background

Unimacts, a subsidiary of Zetwerk has been the primary supply chain partner for the world's leading global lifting and material-handling machinery manufacturer for the last 10+ years. We have been working with them as a manufacturer for multiple commodities, like., castings, fabrications, etc.

We have also engaged in value analysis (VA) and design for manufacturability (DFM) efforts. As they develop new designs, we consult with them to identify equivalent steels and standard metric sizes both in North America and Asia, and act as a partner for engineering and supplier management.

At present, Zetwerk manages a diverse range of 60 part numbers, sourced from eight suppliers in different geographies. Notably, the majority of these parts were being sourced from China for over a decade, and Zetwerk introduced India & Vietnam to the supply base which helped in mitigating tariffs and reducing geopolitical risks.

## Identifying the problem

Over the years, we have solved a wide array of problems for the client, primarily related to fabrication, supply chain, demand forecasting, etc.

For example, they had a model being built in one of their US plants, adhering to US specifications. When they decided to move production to a plant in Italy, they needed to localize materials and standards to meet European requirements.

Another challenge had been the forecasting and demand-supply matching in a global supply chain. The key challenge was in understanding the quantities of different material consumption on a daily and weekly basis, then managing the impacts of those consumption decisions rippling through a 12-16 week lead time in advance. The length and complexity of the supply chain meant that any mistake or change had substantial unintended consequences due to the bullwhip effect.

Our customer also wanted to convert a few fabrications to castings to explore cost reductions.

## Our Solution

As a global manufacturing leader with facilities across India, Vietnam, Mexico, the US, and Europe, we stepped in to address these challenges. We approached each of the above issues differently.

For the USA to Italy production shift, we began as engineering consultants and reversed engineered the products and converted the designs to the European Standards. We also took care of the production ramp-up by defining the process flow and quality standards. We started routing the parts through our Warehouses and setup a rework station with design and 3D Scanning capabilities. This ensured rework could be done at our facilities even before the parts reach customer's production unit and facilitated continuous production.

For another part, the client was working with a supplier in China who lacked robust export controls and had not solved the freight and warehousing aspects of the supply chain. So, we came in to manage that supplier for them, set up warehousing and distribution practices in the US, and then went ahead and managed the supply chain, ensuring supplier quality and timely delivery to the US.

For mitigating anti-dumping duties and tariffs, we developed suppliers of critical components in India.

To convert the fabrications to castings, we iteratively designed the products for Casting. We performed finite element analysis (FEA), DFM & Value Analysis (VA) on these designs. This helped our customers save them roughly \$700,000 per year in production costs. This exercise helped in consolidating individual fabricated part numbers down to one casting in that process further reducing the complexity of the supply chain.

## Insights for Industrial machinery manufacturers

These successes highlight our strengths in DFM, VA, supply chain interventions, precision manufacturing, and scalable production processes, making Zetwerk an ideal partner for industrial equipment manufacturers.

We converted a complex fabrication to a simple casting by combining advanced design techniques, such as 3D modeling and finite element analysis (FEA). Our specialty is in innovating new processes to achieve the desired outcome.

Our methodical approach to scaling production ensures consistency and reliability in production. This is possible only due to our highly reliable supply chain, with a vast network of manufacturing units based in the US, Mexico, India, China, and Europe. Our collaborative approach with clients, which includes rapid prototyping and implementing feedback at every phase ensures perfect alignment with client's vision and market demands, thus driving innovation and custom-made solutions.

## The Zetwerk Advantage

As the parent company of Unimacts, Zetwerk's global presence makes it all possible. From our capability to deliver complex precision goods and supply chain expertise put us at the forefront of industrial solutions worldwide. We collaborate closely with clients from conceptualization to final delivery, ensuring product success through technical excellence and innovative manufacturing processes.

The success of this project underscores the value Zetwerk brings to customers. By addressing pain points, offering precise manufacturing solutions, and supply chain re-engineering, we provide a seamless transition for customers seeking to switch their supply base or logistics partner. Our comprehensive approach ensures that you don't just get the part you ordered but also a well-oiled ecosystem to sustain and scale production.

When you work with Zetwerk, you get:

- ⦿ Manufacturing capabilities spanning multiple continents
- ⦿ Seamless transition and diversification of supply
- ⦿ An expert team that identifies and solves problems
- ⦿ Local support with manufacturing facilities and warehouses
- ⦿ A solid, reliable partner, with financial stability and an impeccable track record
- ⦿ State-of-the-art manufacturing units capable of delivering cutting-edge products