



This image is solely intended to provide a general idea of the customer's product and does not, in any way, depict the customer's actual product.

Rapid Production Transfer and New Product Introduction for Advanced Satellite Terminals

Leveraging Benchmark's Global Network to Boost Supply Chain Resilience and Efficiency

About the Customer

With an impressive legacy providing best-in-class solutions across markets, this customer is a market leader in supplying satellite communications equipment for land and sea. When the customer planned to move production (and their entire supply chain) from Europe to Southeast Asia (where many of their customers reside), they knew they couldn't manage this alone. After carefully vetting over 50 suppliers, they chose Benchmark as their strategic supply chain and manufacturing partner. Benchmark's expertise in complex satellite systems coupled with their established global network with locations in Europe

and Asia were the two main differentiators that won Benchmark this prestigious partnership.

The Challenges

The customer specializes in complex satellite marine- and ground station solutions for rugged environments. One such product involves a fast-tracking, 3-axis dynamic antenna system for harsh environments. The dome must be kept in perfect position to the satellite while the ship moves in multiple directions due to unpredictable sea conditions that can quickly become turbulent. There is simply no room for error in these high-risk — oftentimes emergency — situations requiring

reliable connectivity. In other words, this is extremely specialized work involving high-tech craftsmanship, a unique supply chain, and a highly skilled team.

For many years, the customer had been manufacturing these state-of-the-art satellite and antenna systems for critical communication capabilities in their European facility. However, they decided that to reduce costs and create a more efficient supply chain, they needed to locate production of their specialized base stations closer to customers in Southeast Asia. But this move required a strategic partnership with an electronics manufacturing service (EMS) provider that could offer a technically advanced level of manufacturing and test setup.

Moving production of such a high complexity product while also shifting to a more regionalized supply chain without delivery interruptions is no small feat. The process of moving the delivery of these sophisticated parts from Europe to a South Asian local supply chain needed to be done systematically, step by step. As such, there were timing concerns centered around transportation. This was all happening under added pressure:

1. There was a specific timeline for the drawdown of European manufacturing operations.
2. Stringent COVID-19 travel restrictions were still in place, but expertise needed to be transferred quickly.
3. The customer's sales were rapidly increasing (by over 100 percent), and five new product families were added.

To ensure New Product Development (NPD) and New Product Introduction (NPI) of new product lines continued unhindered during the production move, the customer understood that it needed a partner to help facilitate this massive undertaking. They searched for a supply chain and manufacturing partner with the right expertise in satellite communications coupled with a global network to move production quickly. After an in-depth review of the shortlisted 12 suppliers, Benchmark was chosen to provide the customer with complete manufacturing, test, and supply chain development services for all current product lines, as well as NPI services.

The relationship began in early 2021 and deepened over the course of the year. By Q4, Benchmark was tasked with initiating production of all existing customer product lines in Benchmark's Korat, Thailand facility. The plan was to move the company's existing antenna production first, and then continue with other product lines including the company's new advanced antenna system. However, as NPI processes have many steps, planning and preparation for the NPI ran concurrent to the existing production relocation. As a result, design and serious material availability issues came up during NPI that needed Benchmark's immediate attention.

Benchmark also had to quickly build new relationships with many of the customer's proven suppliers to ensure they would be able to stay on top of materials, components, and parts availability.

The Solution

Up until this move, most of the customer's suppliers had been based in the EU. However, due to its experience with helping customers move production quickly, its presence near the customer's European headquarters, a manufacturing facility near customers in Southeast Asia, and satellite system supply chain expertise, Benchmark was able to quickly get to work on the transfer. The partnership began by establishing open lines of communication. Since Benchmark and the customer only had to contend with a six-hour time difference, the teams were able to set up multiple communication checkpoints amounting to three calls a week (in

addition to frequent check-ins between engineers). Benchmark Business Development Executive, Paul Keijser, sums it up perfectly: "The main success factor was teaming. Benchmark and the customer quickly developed and maintained open and frequent communication that was both professional and supportive." This helped to facilitate a smooth transfer and an efficient workflow as the teams collaborated on the new system's design challenges. Benchmark also worked very quickly to ensure that they were able to meet the goal of completing the transfer in just a few months to get the customer's production online in its Thailand facility.

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— PAUL KEIJSER
Business Development Executive
Benchmark



Benchmark supported several iterations of design changes on the new system to address manufacturability issues. Benchmark engineers in both Europe and Asia worked day and night with the customer's engineers to address these issues and apply design for manufacturability principles to help solve this challenge. Specifically, the original assembly was far too complex, increasing the likelihood of lower yields. Benchmark and the customer worked strategically through a multi-phase approach to reduce variables in assembly and ultimately create a more efficient process. The teams also adjusted the assembly line to add more automation to the process to ensure precision, repeatability, and efficiency. The combination of design improvements to simplify complexity and add automation significantly reduced risks and costs while ultimately creating a higher quality satellite system.

Results

With Benchmark's support, the customer met its goals of lowering costs, increasing revenue, and bringing production closer to their customers.

Today, the customer's production is up and running and continuously improving in Benchmark's Thailand

manufacturing facility. The partnership is on track to reach forecasted production goals and growth on schedule. In addition, demand for the customer's satellite systems increased by more than 100%, and Benchmark is prepared to scale production to meet the delivery schedule. The customer is also announcing added business due to the efforts and results Benchmark brings to the table.

A strong and highly communicative partnership built on continuous improvement processes allowed the teams to work effectively to meet the fast-paced requirements of both the production transfer and new product launch.

About Benchmark

Benchmark provides comprehensive solutions across the entire product lifecycle, leading through its innovative technology and engineering design services, leveraging its optimized global supply chain and delivering world-class manufacturing services. The industries we serve include commercial aerospace, defense, advanced computing, next-gen communications, complex industrials, medical, and semiconductor capital equipment.

Benchmark

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