SIE Computing Solutions specializes in rugged electronic packaging solutions for mission-critical, embedded computing platforms that are deployed in the world’s harshest environments. With deep engineering expertise that addresses the challenges in thermal design, signal integrity, complex interconnection, and power management technologies, SIE provides enclosures, backplanes, system integration, and custom engineering solutions. As a preferred vendor to the world’s largest defense and industrial companies, including Raytheon, Lockheed Martin, BAE Systems, and General Dynamics, SIE customers leverage best-in-class processes from initial concepts, design and development, prototypes, certifications, and production.

**APPLYING ENGINEERING RESOURCES EFFECTIVELY**

Domenic Trapassi, a senior systems architect with 20 years’ experience in mechanical engineering, works with prospective customers to configure custom solutions to unique problems. Customer input can vary from a simple request for proposal to detailed specifications with CAD data. Domenic’s role is to identify the best solution for the prospect, understand their cost of goods, and generate a comprehensive proposal.

The SIE CAD team would often have to validate concepts during the bidding process, which took them away from working on strategic engineering assignments. Although the sales team, including Domenic, had prior CAD experience, they did not have adequate tools to create models in the time required to win the business. The sales team would communicate with the customer using 2D sketches and notional models, leaving much to the prospect’s imagination. They also lacked the ability to price non-standard parts, which made it difficult to calculate ultimate costs.

“We were forced to communicate designs in a rough form to our prospects and that didn’t engender confidence that we could do the job to their satisfaction,” said Domenic Trapassi, Senior Systems Architect, SIE Computing Solutions.

**SPACECLAIM FREES UP CAD RESOURCES AND HELPS WIN MORE BUSINESS**

When SIE tried SpaceClaim, they realized that they had found the right tool that would enable sales to create conceptual designs and develop feasibility reports. The software allowed the sales team to create well-planned concept models that brought all stakeholders together before a contract was ever signed.

Hurdles that SIE faces during the bidding process include designing the requested components and fitting them into the allowable size, weight, and temperature constraints. With SpaceClaim however, the sales team could work within the customer-specified envelope, understand the mass properties, and perform preliminary CFD studies of heat flow.

“Working with military, telecommunications, and aerospace customers, we are often asked to come up with a solution that crams ‘100 pounds of components into a 10 pound enclosure.’” Domenic Trapassi

Many new sales opportunities involve customizing an existing product to customer requirements. The sales team was able to take designs created in Pro/ENGINEER, import them directly into SpaceClaim, and quickly make the required changes to accommodate customer constraints. As the design evolved, they could provide customers with actual solid models of the
SIE Computing Solutions Wins 60% More Business with SpaceClaim

preliminary design, easing collaboration with the customer. SIE could even make edits in real time using GoToMeeting, responding instantly to customer requests.

Having an accurate solid model at the concept phase allows the sales engineers to get quotes on custom components, such as machined brackets, helping them better pinpoint the price before bidding. After the contract is won, the CAD team uses the SpaceClaim data as the specification for the detailed Pro/ENGINEER design of the product. The benefits: fewer iteration loops with the sales team and fewer unplanned changes in CAD.

**BENEFITS THAT ADD UP TO 60% MORE BUSINESS**

SIE has found that SpaceClaim helps in the bidding process and in responding quickly to customer issues. For example, a customer might ask for a fast turnaround on a particular part issue. SIE can quickly put the model into SpaceClaim, make the changes, and deliver drawings back to the customer, who can then go immediately to manufacture.

"Response times can be critical. With SpaceClaim, we’ve saved 50% in turnaround time by not involving engineering and enabling us to address the issues directly for the customer." Domenic Trapassi

Companies sometimes come to SIE with a customer-generated design for sub assemblies and they ask SIE to evaluate the feasibility for manufacturing. SIE has been able to do the evaluation totally in SpaceClaim, again without tying up engineering resources.

Using SpaceClaim has drastically improved the bidding process. Prior, the sales team could neither be as precise with concepts nor visually portray the final product as prospects demanded. Now, SIE is able to generate accurate and exact conceptual designs. They plan team reviews by moving existing files from Pro/ENGINEER directly into SpaceClaim, inserting the SpaceClaim file into a presentation, and then highlighting the specifics of the requirements, easily creating different views.

"We used to win bids approximately 50% of the time. With SpaceClaim, we’re able to bid much smarter and more accurately. It’s changed our win rate to 80% and customers feel much more comfortable that what they see is what they will get." Domenic Trapassi

While sales engineers are the active users of SpaceClaim, the CAD team also welcomes its value. Completed files generated in SpaceClaim are easily imported into Pro/ENGINEER, eliminating the guess work out of interpreting exactly what the customer wants. Engineers can start working immediately, providing a clear path forward and reducing their overall engineering cycle by 30%.

"I can’t stress enough how valuable SpaceClaim is to our team. There is no downside to it and the product is easy to use, intuitive, and still powerful. I sat down and started working right away. We never experience downtime due to the software. Its value in helping us increase our business has been extraordinary." Domenic Trapassi

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