CAS TECNOLOGIA - CUSTOMER SUCCESS STORY

CAS Tecnologia uses Altium Designer as their electronics design environment for intelligent automation and telemetry technology.

SEARCHING FOR DESIGN INDEPENDENCE

CAS Tecnologia's journey with Altium Designer began with a problem that plagues many companies. With a reliance on outsourcing to complete critical parts of a product design process, CAS found themselves dependent on another company for their financial success and future growth potential.

In order to continue growing in the intelligent automation and telemetry industry, it became necessary to bring all of their design processes in-house for complete control and independence. Self-sufficiency became the ultimate goal for this hardware development company, and part of that restructuring required integrating an electronics design process into their existing mechanical workflow.

MEETING THE DESIGN CHALLENGE

CAS's mechanical design focus called for a unique solution. A tool was needed that offered the most powerful degree of control between the electrical and mechanical elements of a design to ensure a correct fit. Developing products for the management and distribution of electricity, water, and gas also requires a high-degree of electrical complexity. Putting these two requirements together creates a very specific set of requirements from EDA software.

As CAS evaluated multiple vendors for their EDA tool, they developed a list of specific features that not all of the competing vendors were able to meet. Their unique blend of strict mechanical fitting requirements and design complexity required:

- 3D previewing to visualize mechanical enclosures and PCBs together to ensure a correct fit

- Smart and powerful routing tools for intelligent routing without compromising integrity when changes need to be made to a design

- A unified design environment, with both the schematic and layout editor in the same interface

- A powerful component library manager that can be tied to an existing database

- Thorough documentation, support, and training options

After a thorough evaluation process, CAS chose Altium Designer as their PCB design tool to meet their unique design requirements.

LOOKING LONG TERM

As CAS became more familiar with Altium Designer, they reaped the rewards of using a feature-rich and high-productivity tool. Carlos Viotto, Engineering Manager at CAS, reported that after introducing Altium Designer to the CAS engineering department, "product design capability was strongly increased. Instead of having two environments for schematic and layout each with different libraries, strong integration between these two interfaces in Altium Designer led to significantly improved PCB and product design."

The long-term results were clear, mechanical products could now be developed in-sync with their electronic counterparts using Altium Designer. With a powerful Native 3D PCB editing engine, CAS engineers could visualize their mechanical enclosures directly in the Altium Designer environment to ensure their PCB design fit as expected.

In addition, CAS linked their existing component database to Altium Designer to easily manage components and their respective part numbers. Component creation, updating, and BOM generation became a streamlined process that shaved days off the design process.

CAS also took advantage of the powerful routing and high-speed design tools present in Altium Designer. Designing DDR3 memory was a simple process with powerful length tuning and matching tools. Single-ended traces and differential pairs were easily connected with a simple click-and-drag process that turned an existing wire into a perfectly tuned connection while meeting specific design constraints.

> "Altium Designer has many features that simplify exhausting tasks. The creation of a complete BOM including several alternative part numbers is easily accomplished using a database library, reducing a 2-day job into one completed in a few minutes, literally."

> Guilherme Zalewksi, Hardware Development Engineer - CAS Tecnologia

ENHANCING DESIGN PRODUCTIVITY

CAS was excited to share their recent design success using Altium Designer. Their RS2000 Z-MONO SMART device features a remote communication interaction for energy meters. A built-in ZigBee radio module provides meter data communication that monitors a meter's output for easy energy cutting and reconnection that can be remotely performed. CAS used Altium Designer for two continuous months during this project, and reported dramatic improvements in their design process by taking advantage of:

- Library management tools that allowed them to easily manage and update components

- A powerful and integrated interface connecting the schematic and layout process together, reducing costs and the need for training on additional software

- Customizable rule management settings gave CAS full control over their design rule checks, allowing for design changes that didn't ruin existing layout integrity.

On reflection at the end of their 8-month development process, CAS noted that the complexity of their design requirements would not have been possible without all of the powerful features present in Altium Designer.

HEADING FOR THE FUTURE

Brazil's future is looking bright, riding on a growing demand for innovative technology products for the management, distribution, and control of natural resources. CAS Tecnologia's investment in Altium Designer will allow them to meet this growing demand with an independent workflow process, opening the door for new product innovations at the lowest possible cost and time-to-market.

Altium