

ANCA - CUSTOMER SUCCESS STORY

ANCA uses Altium Designer to develop next-generation digital servo drive system in record time.

RACING AGAINST THE CLOCK

When it comes to manufacturing precision, ANCA is the go-to source for many companies seeking high-performance Computer Numerical Control (CNC) grinding machines and systems. In business since 1974, ANCA has managed a long-standing reputation for reliability and precision with its international customer base.



Maintaining this reputation has never been more important with the company's latest product offering, a next-generation CNC and digital servo drive system, the 5DX. By committing themselves to a strict two-year development timeline, right on time for a critical international trade expo in Germany, ANCA faced a number of design challenges requiring unique solutions. Will the team be able to deliver, as they race against the clock?

THE CORE OF COMPLEXITY

At the heart of ANCA's next-generation digital servo drive system resides a complex interior of electronics consisting of 20+ complex, high-density PCBs. In addition, developing a powerful CNC product requires the participation of a range of engineering disciplines, from electronic to mechanical and software engineering. All of these processes and teams must interact seamlessly together to produce the highly-precise and reliable products that ANCA has forged its reputation upon.

In addition to a high-degree of design complexity, ANCA's project is also complicated by a lack of flexibility for multiple design iterations due to an incredibly tight deadline. Without the time to create multiple concepts or prototypes, the team of dedicated electrical engineers needs an electronics design software capable of providing incredibly accurate and quality designs. How will the ANCA team be able to forge this product from concept to creation without a highly-productive and unified design environment?

RACING FOR THE FINISH LINE

ANCA chose Altium Designer to spearhead their complex electronic design needs for the 5DX. Needing a tool that was highly reliable and focused on productivity called for software that integrated the entire design workflow into one seamless whole.

ANCA clearly did not have time to learn multiple software environments while trying to piece together schematic capture and PCB layout tools into one unified system. They needed a solution that was already unified, ready to work with immediately. ANCA's decision to choose Altium Designer amongst the competition came down to a few key characteristics that Altium Designer excels at, including:

- **A unified design environment.** Engineers at ANCA were able to take their electronic design from concept to completion all in one unified design interface. This greatly enhanced the productivity of the entire design team as the project evolved from schematic blueprints to the physical layout of their PCBs. One unified interface required less training time and maintained the highly-productive environment that ANCA needed to meet their impending deadline.

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- **Powerful design data management.** ANCA also took advantage of design management and documentation tools within Altium Designer. Hierarchical project structures kept design data organized throughout the entire design process. In addition, customizable output tools made the exporting of gerber files to manufacturers a quick and easy process.
- **Customizable design rule checks.** ANCA required the highest degree of control during their PCB design process. Design rules were easy to customize in Altium Designer, providing engineers with the ability to create a fully customized rule environment that reduced the possibility of errors during the design process and maintained the integrity of design data.
- **Comprehensive simulation options.** When it came time to check the performance of electronic circuits, ANCA took advantage of the multiple mixed-signal simulation possibilities in Altium Designer, using SPICE 3f5, XSpice, and PSpice simulation models.

ANCA also leveraged the use of technical support for Altium Designer during their design process, citing the support team as “second to none” in terms of quality and technical expertise. With a completed electronics design in hand thanks to a highly-productive design environment and the assistance of a skilled Altium Designer support team, ANCA went on to verify the mechanical aspects of the design using the company’s proprietary Unigraphics NX mechanical modeling and design software.

RIGHT ON TIME

Combining a team of highly-skilled engineers and Altium Designer allowed ANCA to finish the development of their digital servo drive system right on time for their trade show appearance in Germany. With Altium Designer, the ANCA team was able to keep the design process on track, using a set of high-productivity tools under a unified design environment that was both easy-to-use and powerful enough to accommodate a complex, 20+ PCB design process. The successful launch of the 5DX has been instrumental in cementing ANCA’s reputation as an international leader in the CNC industry, thanks in part to Altium Designer.

ABOUT ALTIUM

Altium Limited (ASX:ALU) creates electronics design software. The unified electronic design environment created by Altium links all aspects of electronics product design in a single application that is priced as affordable as possible. This enables electronics designers to innovate, harness the latest devices and technologies, manage their projects across broad design ‘ecosystems’, and create connected, intelligent designs.

Founded in 1985, Altium has offices in San Diego, Sydney, Karlsruhe, Shanghai, Tokyo, Kiev, with value added resellers worldwide. For more information, visit www.altium.com. You can also follow and engage with Altium via [Facebook](#), [Twitter](#) and [YouTube](#).