

CUSTOMER SUCCESS STORY

DESIGNING PCBs FOR MARS - MAKING COMPLEX DESIGN PROCESS MANAGEMENT WORK IN REAL WORLD



The difference between a successful project and an unsuccessful one can easily come down to good communication. Just ask Darya Bronston, President of DKB Resources Inc. As the owner of a successful electronics service bureau, Ms. Bronston has created a reputation for quality, customer service, product realization and efficiency with some of the world's most recognizable organizations. With a 99.8% 'first time turn on' success rate, it is no wonder Ms. Bronston includes NASA, the Jet Propulsion Laboratory (JPL), Northrop Grumman and Raytheon as her clients.

“ One of the biggest benefits we give our clients is how we manage data - we manage information input, store data, verify facts, research details and turn all of this information into products. Altium Designer is a powerful asset for us, helping us more accurately and efficiently manage data received from clients as well as how we then get that data to our customers for review, and then receive that data back with whatever changes and feedback the client includes. The ease with which Altium Designer helps makes this information exchange happen has made my company more efficient by at least 50%. And we can pass these time savings on in cost savings to our clients. ”

Darya Bronston, President, DKB Resources

Managing the lingua franca of electronic design

DKB Resources has created a niche developing specialized PCBs for organizations in the space and military industry. But with this commitment comes a lot of responsibility. Ms. Bronston must work within the strict requirements of her clients and design using specific sets of standards and guidelines, while still maintaining creative cutting-edge technology. The nature of DKB's work also means that her company's designs must withstand harsh environments,

such as space. This means that there is a big emphasis on quality and reliability. The key to binding these all is an emphasis on documentation and good communication with clients.

Program managers, procurement managers, and administrative support managers all need to check the work provided by DKB. Each of these elements have their own data requirements and their own document standards. To Ms. Bronston, dealing with all these multiple requirements is like being multilingual.

“Double checking, rules and requirements play their part. But we're not just having data checked by engineers. If it were just engineer to engineer, that would be an easier proposition.

“It's like speaking Italian to someone who speaks Chinese. One of the things I like about Altium Designer as a tool is the ease with which we can export different types of data - PDFs, DXF, mechanical data, and the actual design Gerbers - for in-depth and visual review at all levels by clients.”

In effect, DKB is able to translate and document the details of its design into varying formats and then share this information with the various parties involved. It is what separates DKB Resources from its competitors and allows it to provide a higher level of support.

“We are supporting and selling to more than one type of need, person and personality, working across a range of requirements. With Altium Designer, we have engineers who are performing in the tool, doing the work, able to read and interpret information, engineer to engineer. Because it is so easy to go into PDF or into these DXF files and read those back in, we are able to communicate better with managers, and with procurement and administration employees who do not have an engineering background.”

“The incredible ease with which Altium Designer outputs data in different formats takes away the language barriers across this dynamic set of diverse departments.”

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One project, several requirements and just one chance to get it right

In DKB Resource's line of work, there is no room for error. Working with space and military corporations means that people's lives could depend on the reliability of a design.

"It's a complex situation. We work with so many projects that really push the edge of current technology and yet also need to rely on proven technology. This is particularly true for the space industry, where people's lives depend on the quality of our electronics. It's got to work and it's got to work right. There is no room for error, so there is a huge requirement for attention to detail."

Helping the company through this is Altium's data management system, which lets the engineers from DKB Resources develop a series of design rules and design libraries that are relevant to each of its clients. It is a system that lets the design team reuse design elements while maintaining quality and reliability.

"Through Altium Designer, we have been able to create a DRC check specific to the JPL flight requirements. This allows us to run automated design checks against entire designs specific to JPL requirements."

One example of how DKB Resources uses this system to full advantage is its collection of golden libraries and golden templates that are specific to each customer. For JPL, DKB Resources was provided a 600-plus page rule book of requirements and guidelines for bread boards, engineering modules and flight modules. DKB used Altium Designer to recreate these applicable rules in a DRC check list to ensure adherence to JPL requirements. This is a commitment that was recognized and appreciated by JPL: in 2009, DKB Resources was awarded the Supplier Trust and Recognition Award for its work on the Mars Rover MSL project.

Creating a point of difference

In a competitive market like electronics design, it is important to find a point of difference, something that sets you apart from your competitors. Ms. Bronston and her company, DKB Resources has discovered that it is how they use Altium Designer that gives them a competitive edge.

"In another tool you might just get a down and dirty design and although this gets the job done, it may not be in the most efficient or optimized way. Using Altium Designer, with the multiple views, allows our team to work within one or two design iterations instead of the two or three design iterations we experienced with other design tools."

About DKB Resources

DKB Resources is an electronics design service bureau based in Santa Barbara, CA. With more than 10 years experience in developing specialized PCBs for research and development programs including the space and defense sector, DKB Resources has developed a reputation for customer service, productivity, efficiency and quality. Customers of DKB Resources include NASA's Jet Propulsion Laboratory (JPL), Raytheon, Teradyne and Northrop Grumman.

For information on DKB Resources, Inc. and the services it offered, visit www.dkbresources.com

ABOUT ALTIUM

Altium Limited (ASX:ALU) creates electronics design software. Altium's unified electronics design environment 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](#).