

## Adept Engineering Document Management Helps Construction Equipment Manufacturer Guntert & Zimmerman Compete For Big Projects And Enter New Markets

**G**untert & Zimmerman is a small company that competes and thrives in the highly competitive construction equipment market. What's their secret? They have built a core business on solid principles. They care for their customers. They have carved out a niche that larger companies don't or can't own. And finally, they have leveraged technology that lets them bring products to market faster.

Guntert & Zimmerman (G&Z) of Ripon, California ([www.guntert.com](http://www.guntert.com)) offers a complete line of high performance, state of the art concrete highway, airport and canal construction equipment. To help them streamline, they're using SolidWorks 3D modeling and Adept engineering document management software from Synergis Software.

### A lean engineering department accomplishes big projects

"We don't have a huge staff, yet we do big things," states Jerry Dahlinger, Vice President of Engineering at G&Z. Take, for example, the company's S850 QUADRA Base and Concrete Slipform Paver, which has placed miles of airport aprons, runways, taxiways, and highways around the world, including North America, France, Australia, and India. "The S850's top level assemblies might have 7,000-10,000 parts and sub-assemblies. And we're developing machines even larger than that."

"We're selling to the top highway and airport paving contractors in the world," explains Dahlinger. "Our real niche is customization. Because we're not the biggest supplier in the highway/airport paving market, we offer custom solutions to the customer's problems. As a result, engineering has to react very quickly to requests for design or feature changes to our standard product line. We make-to-order much of our equipment."

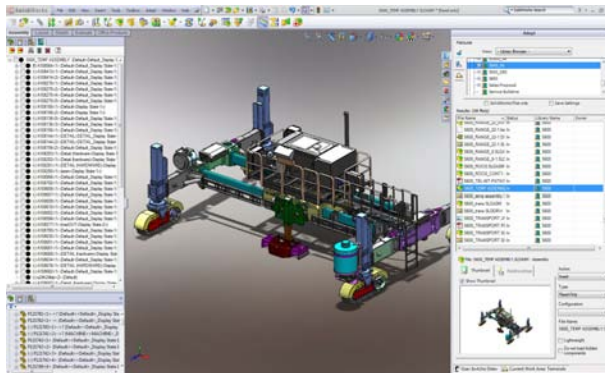
There are other factors that require G&Z to be agile. "Our

markets have changed," notes Dahlinger. "Historically, we built large highway paving machines but now the projects are getting smaller, and the paving width is smaller. There is a bigger market for a smaller machine so we spent the last couple of years developing a new smaller highway paving machine. We started from scratch. Virtually every drawing and every model on it is new. We just introduced the new paver in the Pittsburgh, PA area and were featured on CBS news. That was a big accomplishment."

### G&Z stays competitive by managing data

Because their product models were complex, with many parts to track, Dahlinger wanted to give engineering an automated solution to help them manage and control their data. Any manual system or methods could only prove troublesome.

"We were using Windows Explorer to archive and track our files with AutoCAD," explains Dahlinger. "When we started using SolidWorks, we thought we could continue to use Windows Explorer, but our productivity went down and we were nearing a crisis. It turned out we couldn't effectively use SolidWorks without a data management system that supported its interdependent file structure. To meet our deadlines, we had to be able to have multiple people working on the same assemblies or different sub-assemblies with the same top level assembly – without stepping on each other's feet."



*G&Z uses Adept to manage their SolidWorks assemblies, some of which may include 7,000-10,000 parts.*

### Cost + value + support = Adept

While it was obvious that they needed a document management system, they still had to find the right solution. At first Dahlinger considered a company-wide document management system, but couldn't get support from the other departments. Instead, he focused on solving engineering's document management challenges.

“Our top system requirements were the ability to manage AutoCAD and SolidWorks files and streamline our ECO process.” That narrowed down the choice to a handful of solutions, including Adept from Synergis Software.

Dahlinger ultimately selected Adept for more reasons than he had originally outlined. “Adept’s biggest competitive advantage was the people that stood behind the product,” explains Dahlinger. “It was the people, plus the company’s 100% commitment to and focus on engineering document management.”

Synergis Software also offered a range of implementation plans, which ultimately helped G&Z stay within a tight budget. “The Adept pilot program was essential to selling this solution to the company’s owner,” describes Dahlinger. “I couldn’t get him to bite on the whole proposal, so I asked him if I could buy one or two seats for the pilot program. We did a pilot for a couple of months and were able to prove its success. Then we bought more seats and rolled out Adept to the entire Engineering Department and then to the Production, Purchasing and Sales Departments.”

### Implementing Adept is easy and straightforward

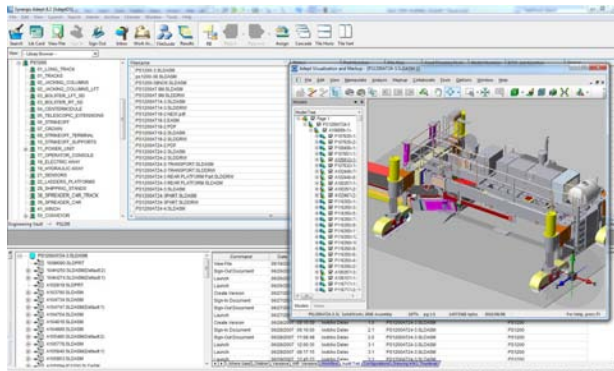
Dahlinger and his team chose to implement Adept on their own, with helpdesk phone support from Synergis Software. “Doing this on our own was a pretty big deal,” recalls Dahlinger. “I thought that I’d have to be heavily involved, but I was able to delegate most of the implementation to one of our project engineers, Iovtcho Delev—and he ran with it. Iovtcho now does our Adept administration along with his previous duties. Implementation was a lot easier than I thought it would be.”

“There was a lot of automation available for bringing the data from our existing drawings,” adds Iovtcho. “With Adept, we were able to quickly find all of our duplicate files, then delete and rename them. It took us about two weeks to get all our data cleaned up.”

### Managing both complex machinery design and their ECOs

One of G&Z’s unique value-added engineering services is 3D modeling, which helps them ensure fit and accurately conveys concepts to their customers. Adept plays a big role in supporting this effort.

“Adept makes us more productive by managing all of our parts



*Adept’s built-in viewer lets G&Z share their designs in a lightweight format, enabling easy markup and review.*

and assemblies,” says Dahlinger. “In many cases, we may have several different overlapping areas of a machine. We need to find and open these files without worrying that other people might be working on the same area. Adept completely eliminates this problem.”

“We also have engineering projects that use existing AutoCAD drawings for details or production and SolidWorks for creating part models,” notes

Dahlinger. “We don’t generally create another detailed drawing, but instead have a model of the part in SolidWorks and retain the detail of that drawing in AutoCAD. In Adept, we can find the AutoCAD DWG file and the SolidWorks assembly file since they both have the same part number reference.”

In more recent product development projects, all the company’s new designs are created in SolidWorks and legacy designs and products are in AutoCAD. “Right now we have a hybrid model—meaning that a SolidWorks assembly may have AutoCAD components in it. Adept lets us preserve, manage, and view all the parent/child relationships between our 3D and 2D files,” says Dahlinger. “It also lets us create relationships between PDFs of our detail drawings and our 3D model,” adds Delev.

Besides engineering, there are people in manufacturing who take advantage of the workflow created in Adept. “We went a step further and designed a workflow that tracks our Excel-based engineering change orders,” explains Delev. “Now people can electronically view and mark up drawings, fill out an ECO form, and then assign it to one of the product engineers for review and assignment to a detailer for further action, if necessary.”

### PLM, no thank you

In the midst of the recent economic downturn, G&Z is streamlining their processes even further. They wanted to eliminate double entry of data by automating their parts cataloging. They asked the Synergis Software development team to create a program that tied together the part information from SolidWorks with their ERP database.

“We had been doing a similar process with AutoCAD for years, but with SolidWorks, it’s a lot more complex to implement,” describes Dahlinger. “The program automatically populates our bills of materials in SolidWorks drawings with data from our ERP system. “It searches the ERP database for the part number and then pushes the metadata from the ERP system through Adept

into the SolidWorks model. From there, we create a drawing and a bill of material.” Dahlinger elaborates, “To close the loop, we export the bill of material information from the SolidWorks assembly into a text file, which we then import into our ERP database to generate the bill of material for that same assembly part number.”

“In our earlier system, we had to transfer data from our ERP system to SolidWorks line by line, which was hugely inefficient,” states Delev. “Now we can transfer data on a full SolidWorks assembly and its components.”

“At one point, we looked at PLM but the overhead and administrative cost to implement and run a system like that was too much for us,” comments Dahlinger. “So instead, we use Adept for our engineering document management and the custom programming to tie our design data to our ERP system. This solution really meets all our needs.”

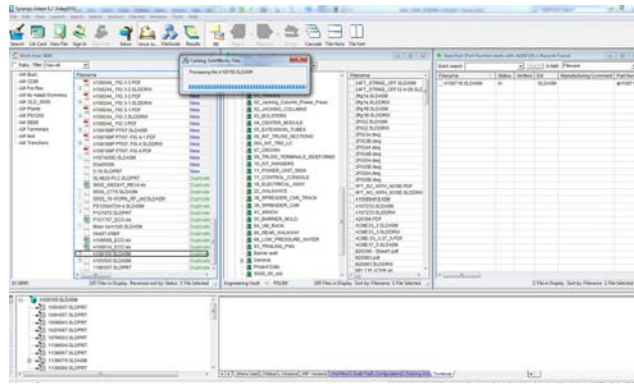
“Of course, if we didn’t have Adept at all, we would probably all give up and go home,” laughs Dahlinger. “I don’t understand how people can work in an environment like ours without the systems we use. I’m sure that when compared to a system of spreadsheets and manual data entry, we’re probably two or three times faster with Adept.”

#### **Adept makes it possible to work in the office – from home**

From day one of using Adept, Dahlinger has been leveraging it to connect with remote users.

“We have an engineer-designer in Texas who has an Adept seat and works from home,” states Dahlinger. “He connects remotely to our database and does everything we do here in the office.”

Because of Adept, G&Z is able to build a virtual team of external contractors, which reduces overhead and helps Dahlinger get work done quickly. “For example, Iovtcho might design a part and create the model in SolidWorks,” explains Dahlinger. “He will assign the model to the detailer—wherever they may be—either locally here in the office or out of state or offshore. They do the detailing with our drawing templates, then use Adept to sign the completed drawings in or assign them for approval with our workflow. We couldn’t work this way if we didn’t have Adept.”



*With Adept, it's easy to track the status of any document and eliminate duplicates, if necessary.*

#### **Going Electronic All the Way**

After three or more years of using Adept, Dahlinger developed a plan to get all the company’s hard copy drawing documents in storage –dating back from the 1950’s, 1960’s and 1970’s—into electronic format and then into Adept. They started out by deleting any hard copy AutoCAD drawings that were already saved electronically. Then they transported all the remaining hand drawn copies to an off-site storage

facility. Now, whenever they need an old drawing, they call the storage facility and ask for a scanned version which is available the same day or overnight. Engineering gets a PDF file to review and if it looks good, they sign it into Adept and instruct the storage facility to throw away the hard copy drawing.

“As we get the PDF files, we add the customer name, title block information and job numbers to Adept’s database,” says Dahlinger. “We’re close to having all our archive data easily accessible in Adept.”

Dahlinger concludes, “When you have a product like Adept, you get used to it and don’t always appreciate it. But given our company size, without Adept, it would be difficult, if not impossible to work as productively and efficiently as we do now.”