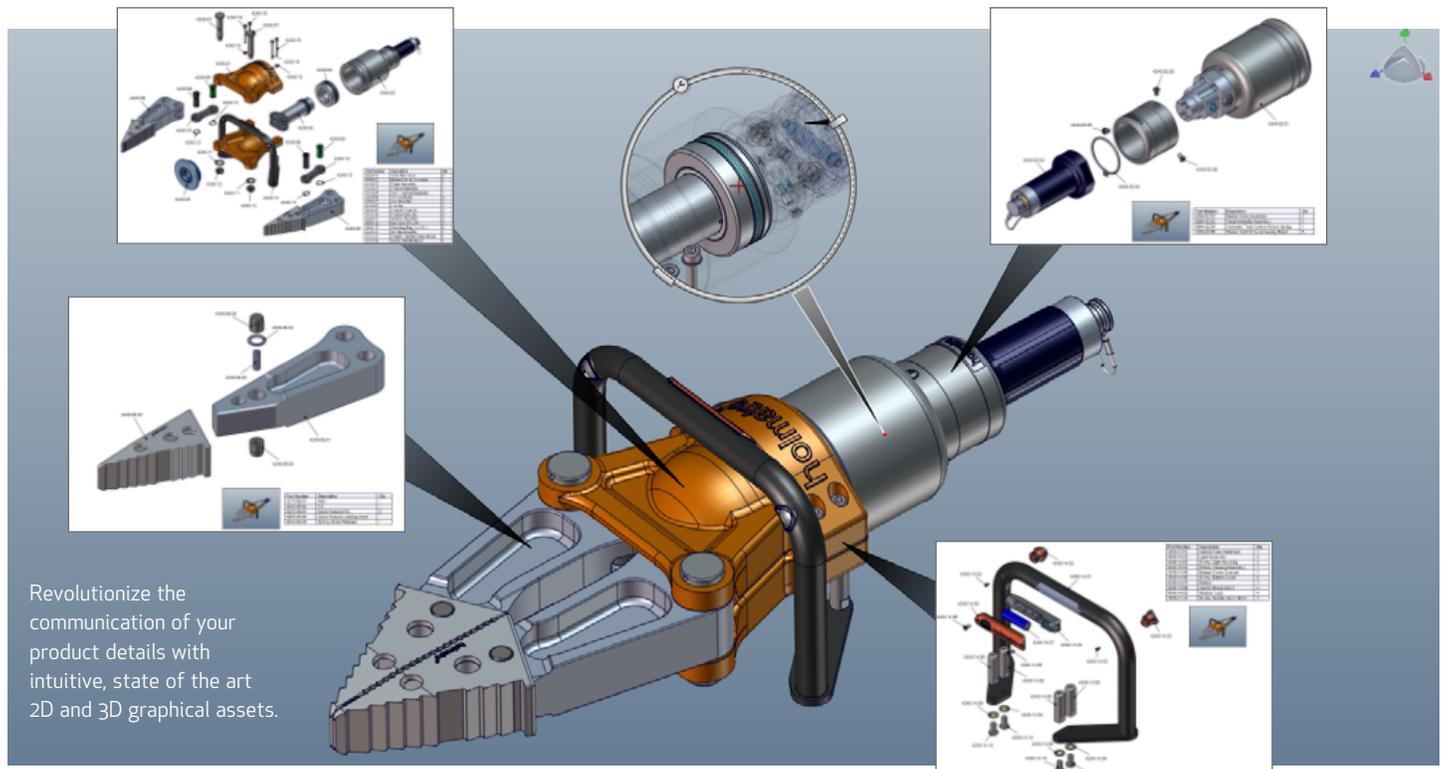


MODERNIZING TECHNICAL COMMUNICATION BY LEVERAGING 3D CAD DATA

Overview

Nowadays, product companies have automated their design engineering processes to get products to market faster and more efficiently. But in many companies, technical communication—the creation of technical data to support the product—remains woefully under-automated and out of synch with the design process. Now, you can break the bottleneck by making technical communication part of the design process—and concurrent with it. With a dedicated and powerful tool for graphical technical communication from Dassault Systèmes SolidWorks Corp., you can let everyone involved in technical communication directly repurpose 3D CAD data to create 2D and 3D graphical content.



A business opportunity

Companies that design products invest significant time and money in their R&D and product strategies. It's how you differentiate and stay competitive.

Today, you need to invest similarly in technical communication. More and more, it is becoming essential to how you differentiate and stay competitive.

Technical communication is the process of creating user manuals, assembly instructions, diagrams, and other technical data about the product. This data helps people assemble, sell, use, troubleshoot, and enjoy your products.

Technical communication materials are integral to the overall product and brand experience. Technical documentation is often customers' first exposure to your products. For better or worse, many customers will judge your company based on the quality of your technical documentation. Effective technical communication is a must-have, not a nice-to-have.

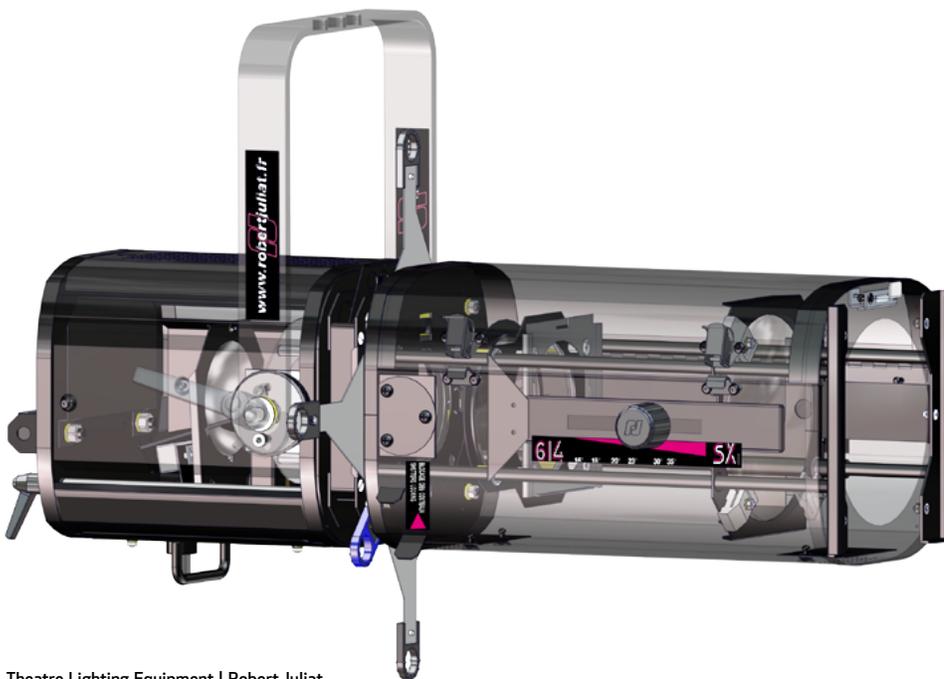
Effective technical communication can reduce your design, manufacturing, assembly, sales, and support costs. For example:

- Good assembly instructions can reduce losses from errors in Manufacturing. Good packaging instructions can reduce losses from dropped or damaged goods in Shipping.
- A detailed model of a new product in development can help your Pre-Sales team close advance orders more quickly.
- A short animated product “fly-through” can help a customer troubleshoot a problem, preventing a call to Technical Support.

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Technical communication is the evolution of the age-old profession of technical writing. Today, technical communication applies all kinds of media—graphics, animation, and audio—to 21st century needs. Effective technical communication means using the right combination of skills and media to help your customers.

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Theatre Lighting Equipment | Robert Juliat

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Robert Juliat's sales team produced a video animation of a theatre lighting equipment in less than a day, and was able to take the first orders a few days after the SolidWorks prototype was validated.

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Unfortunately, many companies can't produce time-, money- and brand-saving technical communication materials like these quickly and cost-effectively enough. They can't produce the materials early in the product lifecycle, where their availability could help increase sales or lower costs. And they can't produce enough of them—for example, for use in customized sales proposals for important prospects.

Most companies are constrained by antiquated processes for producing technical communication. As a result, effective technical communication often ends up being rationed among products—when it ideally should be part of every product design.

According to a study by Aberdeen Group,* best-in-class businesses that have adopted the right kind of automation and practices for dynamic publishing have achieved significant business benefits. These include:

- A 23% increase in customer satisfaction scores over the past 12 months
- A 20% reduction in the number of inquiries made to Customer Support
- A 18% increase in product revenue

If you have invested in modernizing product design with 3D CAD, you already have the raw materials for streamlining and simplifying technical communication: 3D CAD data.

Imagine if you could equip engineers and non-engineers to use and repurpose that 3D CAD data easily. You could turn technical communication into a real business opportunity.

The challenge: engineers in the critical path

Unfortunately, if you are like most companies, your investment in 3D CAD data is locked up in the Engineering Department. Meanwhile, technical communication needs and skills are distributed throughout your organization.

Engineers own the design data and are responsible for its integrity. Many create technical communication materials as part of their jobs.

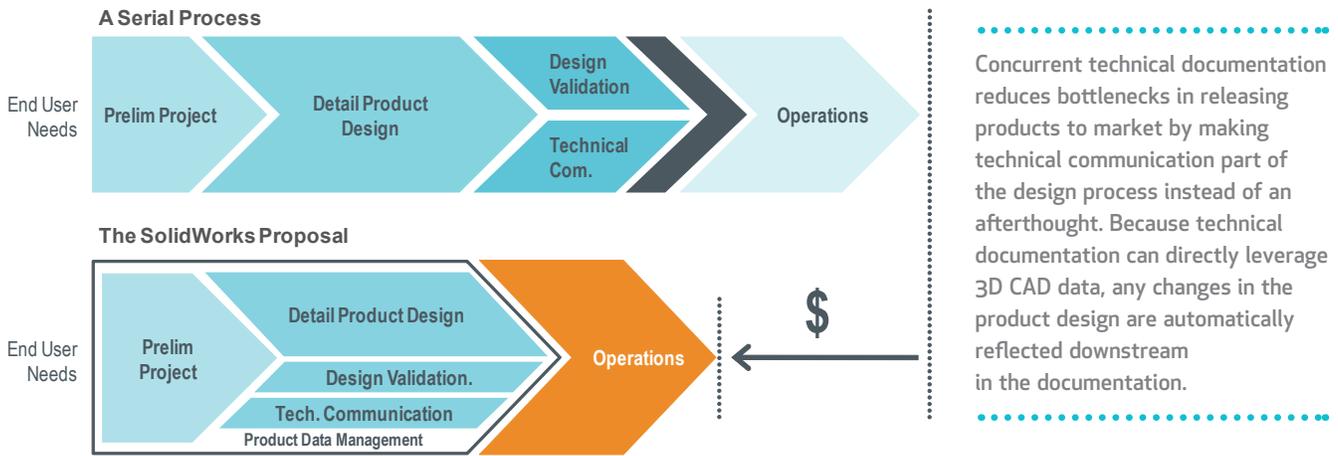
But many other people and departments beyond Engineering are creating technical communication content for many different needs. As a result, engineers are usually barraged with multiple requests from non-engineers for the same data. This cuts into design time as engineers stop to create screen shots, exploded diagrams, and drawings for others. Often engineers never see the fruits of their labors, which usually makes such requests a low priority for them.

There are other problems. Content creators are often working with different, cobbled-together tools, including 2D CAD drawings, digital photography, and file translators. There are too many manual steps to get to a finished document, and far too much back-and-forth activity.

"Our management realized that 3DVIA Composer would allow us to run into the future by making a quantum leap in our ability to communicate and leverage design information."

*Roger Kelso
Allmand Bros. Inc.*

BREAKING THE BOTTLENECK



The technical communication process is always out of synch with the design process. Content creation occurs sequentially—not simultaneously—with product and process design, because it depends on near-completed products. Changes in the product require manual changes in technical communication materials. Content creators are hesitant to work with early design data, because of the time and expense of downstream changes.

The whole process is therefore inefficient, slow, and disruptive to the Engineering Department and to the organization as a whole.

Companies have used concurrent engineering to streamline and simplify product and process design. But the product documentation process remains maddeningly non-concurrent with their design processes.

This means that technical communication is a bottleneck to business growth and competitiveness, when it could be a gateway.

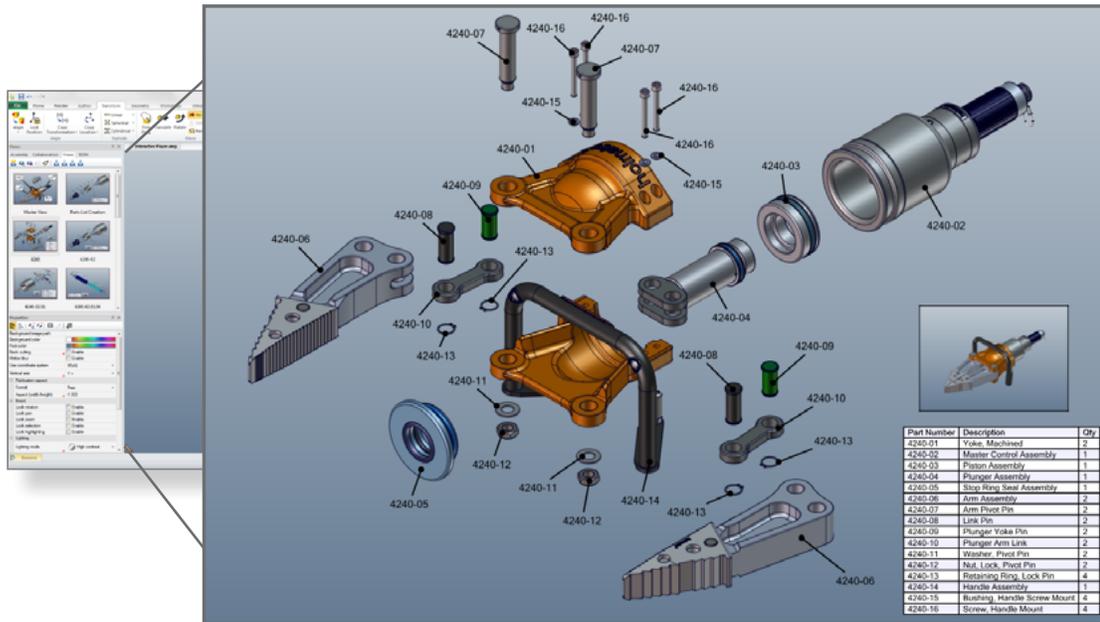
Concurrent technical documentation, finally

Think about the possibilities if you could automate your technical communication process, and make it concurrent with the design process. You could make it easier and faster for everyone involved to create compelling technical communication materials. You could create, fine-tune, and publish technical documentation—both print and interactive—when the product is available. You could reuse and repurpose 2D and 3D graphics in all kinds of ways, so every project didn't have to start with a blank sheet of paper.

When technical communication is in step with product design, you can deliver the materials you need, exactly when and where they are needed. You could communicate an important engineering change in an existing product, or help your offshore assembly partner meet a tight deadline for a new product you're launching. You could equip Sales to give your best customers a sneak peek at a product in development. Goodbye bottleneck, hello more business.

3DVIA Composer™ from Dassault Systèmes SolidWorks Corp. makes this dream a reality.

3DVIA Composer is 3D software that empowers engineers and non-engineers to directly access the intelligence in 3D CAD models and use it to create the graphical contents for technical communication materials.



Using 3DVIA Composer, engineers and non-engineers alike can easily create all kinds of sophisticated technical documentation, such as this interactive parts list.

With a technical communication strategy based on 3DVIA Composer, engineers can “write once, serve many.” The detailed data in their 3D CAD models frees everyone involved in technical communication to create better, richer documentation—and do so independently.

Non-engineers without CAD skills can directly and remotely access 3D CAD files, using familiar tools. Engineers and designers can create better documentation faster by working directly with 3D CAD data. No more Sneakernet. Less wrestling with different file formats. Less data lost in translation. Better efficiency.

3DVIA Composer is associative with your 3D CAD models. Therefore, technical communication documents and data automatically update whenever designs change.

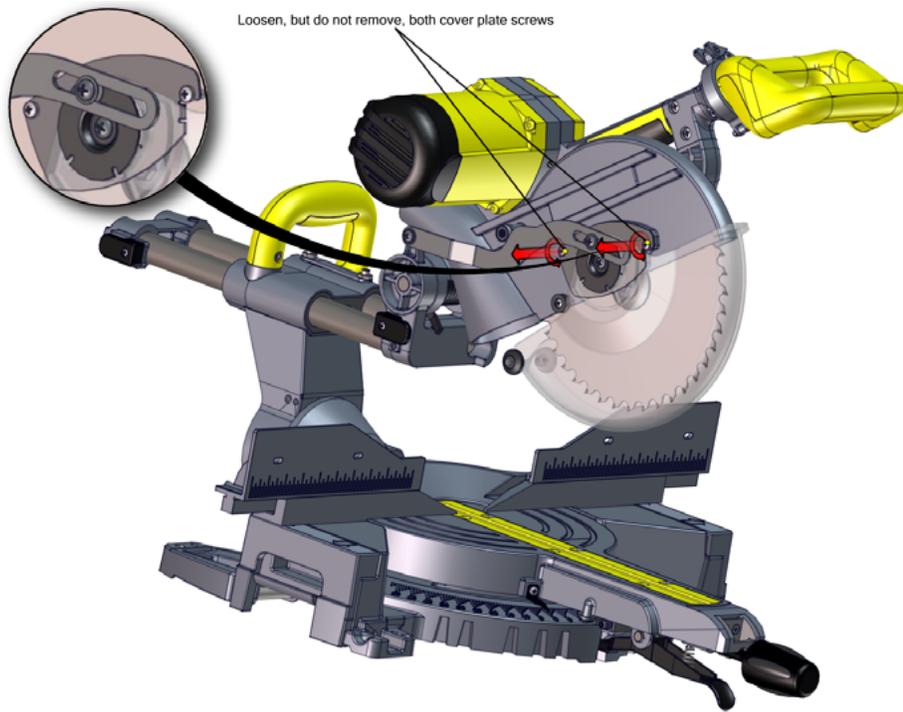
What used to be all-hands-on-deck exercises become hands-off exercises. Your technical communication process is—finally—concurrent with your design process.



Design. Document. Deliver. Easily

With 3DVIA Composer, you can dramatically improve the quality, quantity, effectiveness, and customer appeal of your technical communication materials.

For example, you can quickly create better assembly instructions, with exploded views taken from multiple perspectives. You can produce better product manuals, with more graphics and more-realistic graphics. You can extract 2D CAD drawings straight from the source (engineering data), manipulate them, annotate them, and publish the finished work—in a fraction of the time it took before. You can produce professional, finished documentation automatically by pushing a few buttons.



Using 3DVIA Composer, you can easily create detailed, rendered and annotated 3D documentation that leads people through the proper use of your products.

Moreover, you can open a new world of more-visual communication. Think about:

- Creating visual assembly/disassembly instructions that are so clear and detailed that they require no text. You can use the same documentation in multiple offshore sites without any translation, saving localization costs.
- Automatically generating current Bills of Materials (BOMs) with the push of a button, for inclusion in proposals or assembly instructions.
- Surprising and delighting customers with “how-to” interactive animations on your intranet or on product CDs.
- Producing winning proposals because you were able to include finely rendered interactive simulation models instead of just text.

With concurrent technical communication, you can do everything faster and with less friction. There are fewer delays, fewer disconnects, and fewer errors. There is less wear and tear on your engineers. You can produce more—and better—documentation with the same resources, instead of rationing it.

Business benefits abound

By integrating 3D CAD data with your technical communication process, you can achieve real business benefits, including:

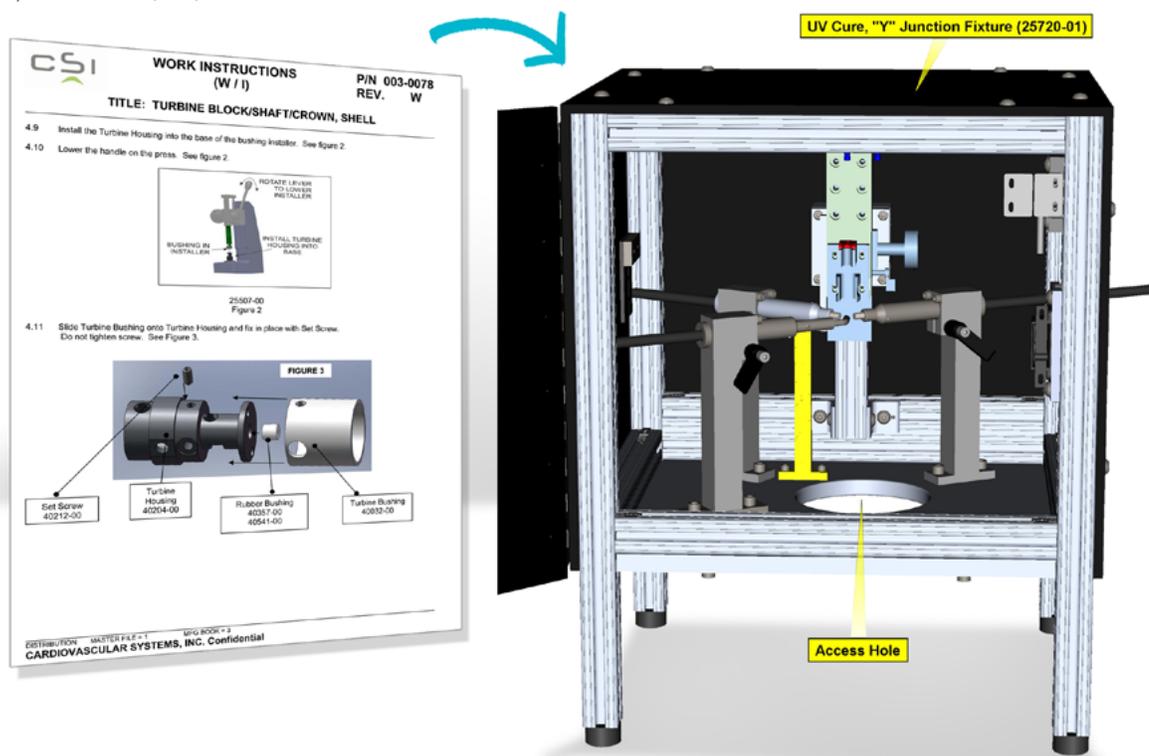
- Faster time to market. You can create documentation in parallel with product design and development, so products get to market faster.
- Lower costs, higher margins. You can communicate technical data more clearly and visually, lowering costs throughout the business and optimizing your margins. In Manufacturing, there's less waste: fewer products dropped or damaged during assembly. Engineering becomes more efficient because there is less duplication of effort. Customer Support gets fewer calls because customers can solve more problems on their own.
- Better product experiences. You can improve the overall quality of experience with your product and your brand. Richer documentation and assembly instructions can make customers more self-sufficient. They are less likely to turn away from your brand and toward social media, YouTube, and other possibly misleading public resources for assistance in using your product.

"The assembly animations that we created with 3DVIA Composer are an example of how 3D is helping us to streamline processes and save time. We are also using 3DVIA to create animations of new designs for consulting physicians to show how the product will inject, travel, and work. 3D is vital for us, and 3DVIA Composer gives us the flexibility to use 3D in innovative ways."

*Christopher Narveson
Design and Engineering Services Manager
Cardiovascular Systems, Inc.*

Automating systems assembly at Cardiovascular Systems

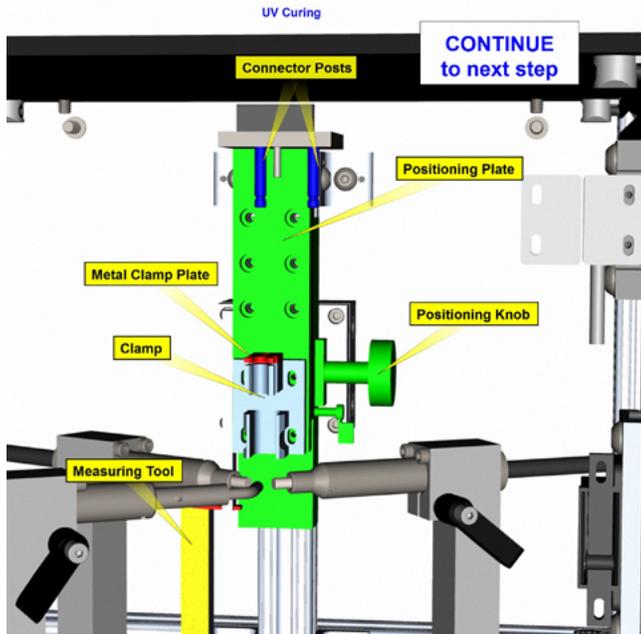
3DVIA Composer can dramatically improve the way you do business, as Cardiovascular Systems, Inc. (CSI) discovered.



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Using 3DVIA Composer software, Cardiovascular Systems has transformed its assembly instructions from potentially confusing paper documents (left) to easy-to-understand 3D computer animations (right)
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Using SolidWorks® software, CSI is revolutionizing the treatment of vascular disease through the development of a disposable, diamond-coated, catheter-based device. 3DVIA Composer has reduced assembly training time by 25 percent, streamlined the preparation and updating of assembly instructions, and improved the quality of the instructions and sales training materials. The company has also mitigated the bioburden (biological risk) in its Class 10,000 clean room, where it assembles its products.

With 3DVIA Composer, CSI has the ability to automate its assembly operations. Before implementing 3DVIA Composer, clean room operators had to keep paper assembly instructions in plastic sleeves and swab the documents regularly with alcohol. With 3DVIA Composer, the company's engineers created easy-to-follow assembly animations that run on a computer terminal inside the clean room, completely eliminating the sleeving and cleaning process.



With 3DVIA Composer, CSI's engineers created easy-to-follow assembly animations that run on a computer terminal inside the clean room where the company assembles its medical catheter devices. This step completely eliminated paper assembly instructions, and the time-consuming sleeving and cleaning process they required.

A new world of streamlined technical communication

By leveraging 3D CAD data, you can create a common language for technical communication, while boosting productivity and efficiency in every department involved.

Engineering teams can quickly create and share documents of work in progress. They can highlight differentiators with detail views and transparent components. They can even create lifelike 3D experiences of their designs.

Marketing teams can create sales and marketing videos, interactive storyboards, animated fly-throughs, product literature with transparent and exploded views, and other marketing tools that are rich in technical detail and customer appeal. Consumer-products marketers can easily create multiple brochures for the many new product configurations released every year. Heavy-equipment marketers can easily update complex documentation to reflect product modifications from engineering change orders (ECOs).

Manufacturing teams can create parts catalogs with rich detail, for use in print or on the web. They can create maintenance manuals for equipment, or workflow documents for use on the shop floor.

Assembly teams can create detailed, accurate assembly/disassembly instructions for all kinds of situations.

Technical Documentation teams can create product documentation faster and with a finer level of detail, even for very complex products.

Example: Brayton Energy Canada is a leading developer of innovative energy applications that combine abundant renewable fuels with a gas turbine—the technology used to power jet aircraft engines. By using 3DVIA Composer, the company reduced the time it takes to document common designs by about 25 percent and large, complex assemblies (with as many as 50,000 parts) by 35 to 50 percent.

Sales teams can create working-prototype videos to win business and differentiate themselves from the competition. They can create compelling proposals and presentations that “sell don’t tell,” even after the sales call ends. Sales representatives can update proposals on the fly to respond to fast-breaking competitive opportunities or prospects’ requests for more information.

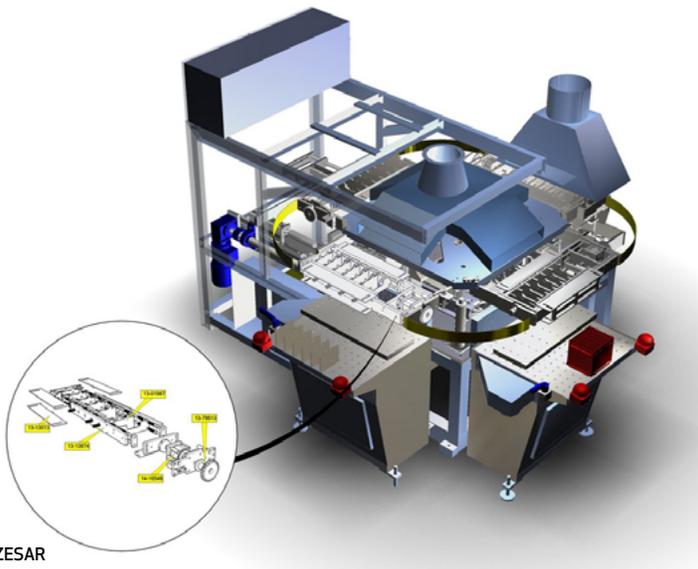
After-sales teams can create customized operating instructions for high-end, customized machinery. Service and Technical Support departments can create videos of basic repair processes, reducing the need to send service technicians to customer sites to fix problems.

Finance/Quotations teams can dramatically reduce the time and cost of creating proposals and quotes, while creating compelling graphical media that go beyond traditional word processing documents. 3DVIA Composer can even reduce or eliminate the need to build prototypes, saving time and money.

Example: ZESAR is a small, family-owned Turkish manufacturer of custom machinery for battery production for automotive and marine uses. Using SolidWorks software, the company was able to eliminate the need to build costly demonstration units in order to win business. In competing for a large contract, ZESAR used 3DVIA Composer to develop an animation from its SolidWorks design model, to demonstrate how its machine would work and to highlight the benefits of its technology. Three weeks later, ZESAR won the contract. “Without 3DVIA Composer and this animation,” notes General Manager Zeki Sariçam, “it would have been very hard for us to win this €700,000 contract.”

“We immediately understood that 3DVIA Composer could help us obtain the global reach and technical credibility we needed to grow the business.”

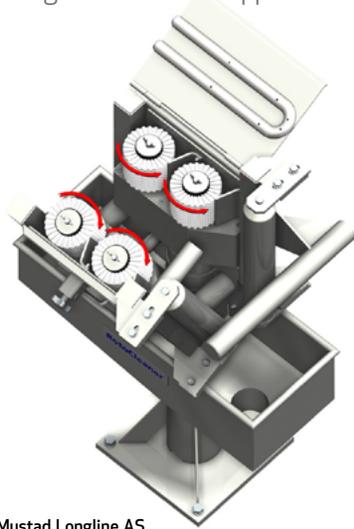
Yavuz Sariçam
Foreign Trade Manager
ZESAR



Packaging Equipment | ZESAR

With 3DVIA Composer, ZESAR can use animations like this to demonstrate its battery production technology, eliminating the need to build costly demonstration units in order to win business.

Training teams can quickly produce high-quality, visually detailed materials that reduce training and technical support costs.



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3DVIA Composer helps Mustad Longline AS efficiently create and maintain detailed service manuals for its longline fishing systems.
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Rotocleaner | Mustad Longline AS

Example: A subsidiary of Mustad AS, Mustad Longline AS of Norway is the leader in automated systems for longline fishing, a more responsible and sustainable method of fishing that the company helped pioneer. By adding 3DVIA Composer to its SolidWorks 3D CAD system, the company greatly improved the production of its service manuals. 3DVIA Composer software provides a single documentation solution for all the company's needs, including educational materials for use in its training courses.

The future of technical communication, here today

3DVIA Composer elegantly transitions you to the new world of distributed technical communication.

3DVIA Composer is associative with 3D CAD data created with SolidWorks CAD software, which is used by more than one million engineers worldwide. This means that 3DVIA Composer directly accesses and updates files in SolidWorks. You can also access other 3D CAD data formats, including CATIA®, Pro/Engineer®, STEP and IGES.

3DVIA Composer is easy to use for non-engineers as well as engineers. A common language for technical communication can spark more creativity and collaboration.

It speeds and simplifies the creation of both print and interactive technical communication, in a single solution. With 3DVIA Composer, you can quickly and easily create clear, compelling 2D and 3D graphics that drop right into your publishing tools, including Microsoft Office, Adobe Acrobat, and Adobe Flash.

3DVIA Composer is easy to learn, and a free 3DVIA Composer Player lets you consume and deliver 3D interactive communication internally as well as externally.

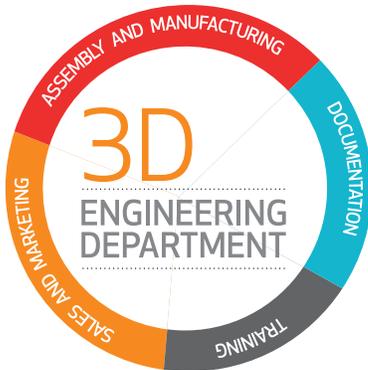
3DVIA Composer has low total cost of ownership, typically paying for itself in less than a year. You can start small—automate a single department—and grow from there. Customers have found 3DVIA Composer habit-forming: the more people use it, the more applications they find for it.

Speed product success

Streamlining and simplifying technical communication has many benefits—benefits far beyond freeing up your overworked engineers.

By exploiting the intelligence and investment in your 3D CAD data, you free all your content producers to create harder-working, more-effective technical communication:

- Engineers can spend more time designing and more easily create technical documents to communicate their work.
- Department heads can produce more work with current staff, with little or no additional training.
- Content creators can spend more time creating great content and less time chasing and updating data.
- Customers, resellers, partners, and other product users can have more efficient and more engaging experiences with your products.



Dynamic publishing with 3D CAD data is the next natural step in the continuous improvement of the design process. It lets you turn what has frequently been an afterthought—technical communication—into a strategic opportunity to save money, to make more money, and to shine with your customers.

Get started today. It's easier than you think with 3DVIA Composer.

*** Source: Aberdeen Group, "Dynamic and User-Centric Publishing Strategies," September 2010 (survey of 131 organizations).**

To learn more about 3DVIA Composer, visit www.solidworks.com, or call 1 800 693 9000 or 1 978 371 5011.

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