

# The Brainstorm: Virtual And Remote Teams

**IMPO sister publication, *Product Design & Development*, talks with industry to get their perspective on issues critical to the design engineering marketplace. In this issue, we ask:**

*What does it take for virtual or remote teams to succeed? Can you build an effective long-distance design team?*

**Kevin Simmons, Design Development Director, Industrial Designer, [DD STUDIO](#) [1]**



Being a full-service design and engineering consultancy, DD Studio has communicated at various levels over the course of 27 years with molders and manufacturers in the Far East on behalf of our clients. This has been primarily during the tooling phase for products that we've designed.

To make things efficient, and to streamline the process, we've been working directly with engineers based in China who have worked on a particular project, or who have sufficient experience working with us on past projects. They act as on-site representatives able to visit a manufacturer quickly, communicate in the local language, and utilize their specific project or general engineering knowledge to address most challenges that may arise.

If problems occur that must be addressed directly, we are able to answer questions and resolve issues during our business day, prepping for the next day in the East and thus saving significant time in the schedule.

This extends to rapid prototyping as well as production manufacturing and has enabled us to move beyond supplying tooling liaison services, to acting as contract manufacturers: supplying parts and electronic assemblies, and dealing with shipping and logistics — more opportunities for us and a boon to smaller start-up

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level clients.

The Internet has greatly streamlined remote communication. It allows us to utilize communication tools like computer videos, Skype, and on-line meetings

Customer satisfaction is enhanced by our ability to conduct on-site inspections for documentation and confirmation that QC processes and procedures are established and followed. This helps us be ISO compliant and maintain fidelity to the design of the intended product.

We have developed this process and found that our deeper relationships with our remote teams have created a much higher level of trust in both directions. This helps reduce concern with IP loss and enhances our ability to cut costs and save time for our clients.

DD STUDIO is 16-person multidisciplinary design and engineering consultancy located in Carlsbad, California.

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**Bruno Delahaye, Vice President, [Dassault Systèmes](#) [2]**



As businesses and supply chains branch out across the world, real-time collaboration becomes an issue of increasing logistical confusion. How does one hold a product design brainstorm with a marketing team in the U.S., engineers in India, and designers in France? And how does one do so securely, avoiding sending hard copies of sensitive information across international mail channels?

The answer is real-time, secure, virtual reality collaboration environments in which participants can communicate through social networking, access critical information only within that specific environment, and share instantaneous feedback.

Using social media enabled 3D environments, team members all over the world can come together virtually and simultaneously. What it takes for these virtual teams to

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succeed is individual dedication to attending meetings regardless of the time zone, and adoption of cutting-edge 3D PLM (product lifecycle management) and PDM (product data management) technologies that will afford this type of communication.

Can one build a truly synergistic and effective long-distance team? Of course, if he/she is using the right technology. Beyond that, the issues are purely driven by traditional team values.

Even teams gathered together in the same physical room won't work well together if they don't share the same overarching goal — and aren't prepared to tackle product development problems as they arise, often unexpectedly.

While 3D collaboration environments encourage participants to be creative and innovative, team motivation must be engendered individually. Technology doesn't make teams work — it allows good teams to function even better.

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**Bill Boswell, Senior Director of Teamcenter Marketing, [Siemens PLM Software](#)** [3]



Yes, because the technology exists today to make this happen. The real challenge is more related to people than software or networks. Managers need to understand the challenges and the solutions and know how to put an effective deployment and training plan in place that will work throughout an extended enterprise. Then they need to lead by example.

Large multinational enterprises have had to work with long-distance design teams for years. But today, even small suppliers are designing and manufacturing components that need to fit and perform flawlessly with an OEM's product that may be assembled thousands of miles away. Small companies have the added challenge of fewer resources and the need to work with multiple OEMs with a variety of CAD and PLM technologies.

Open PLM systems like Teamcenter have been allowing people to collaborate for years by ensuring they can work anytime and any place with a single source of product and process knowledge that is accessible by everyone. Now Teamcenter

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customers are experiencing new integrated communication techniques born out of the social media revolution including wikis, blogs, and social networks. These techniques add significant enhancements to the traditional collaboration technology by creating a virtual environment that more closely mimics the “hallway” conversations and face-to-face team meetings that used to take place back when product design was done in one location.

So the bottom line is that widely distributed global design teams can and do succeed today. But the real challenge to making it work is more related to “biology” than “technology.” Leaders must encourage people to collaborate and create virtual teams with the software technology to empower them. To help ensure your success, make sure your PLM supplier has an excellent implementation track record, open software technology, lots of satisfied customers, and a detailed planning and implementation methodology.

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**Christian Barr, Product Marketing Director, [PTC](#) [4]**



It's cliché to say that people, process, and technology are the core elements of any great product, but it's true. No solution is created without first being conceived by someone with intimate knowledge of the problem or need. Technology alone doesn't determine the success of your new widget; you also need smart people and good processes.

At PTC, we're particularly focused on bringing these elements together through design and PLM solutions for organizations that make great products.

In the 21st century, you can't swing a cat and hit everyone involved in a team's

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product development process. That's right; they're not all within reach. Team members, critical ones even, are thousands of miles away across multiple continents.

The Web 2.0 and social computing technology wave can reduce that distance between teams, taking global collaboration and development to another level. In fact, many companies have embraced a new initiative called social product development, thereby connecting team members and experts across the organization with the collaboration tools to accelerate time-to-market for new products. We've extended Windchill, our PLM solution, with social computing capabilities to enable our customers to do just that.

Is it possible for distributed teams to succeed? Yes, indeed. One only needs to look at your newest smartphone to see the result of a product that was designed, engineered, and manufactured in different locations.

It doesn't come easy and it may not come quickly. It starts with a culture of people that share the values of communicating often. More tangibly, it requires the use of tools such as social computing to reduce the natural communication friction experienced by distributed workers.

Successful design teams recognize these demands and not only accept but embrace new technologies and the work methods that go with it.

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**Ian Sultan, COO, [E.E. URD Design and Manufacturing](#) [5]**



In a very real sense, E.E. URD Design and Manufacturing creates virtual teams as a core part of our business. Our design engineers are not only separated by continents, but frequently work for different companies as well.

At any given time we have design teams from multiple locations — the customer, E.E. URD-USA, E.E. URD-China, and other suppliers — all working on the same

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design to improve the product for manufacturability. Communication is the key to a successful project using virtual teams.

A clear expression of ideas and issues, an understanding of all requirements, positions, and viewpoints, all must be mutually committed to and documented in order to ensure that goals are met within the final product.

We have been manufacturing in China for over 30 years, and we use that track record to our advantage. The digital age has given us great flexibility, but if we're not careful, it also allows us to relax our inter-personal skills. Direct, face-to-face communications with our Chinese colleagues is critical; therefore, we regularly visit our design and manufacturing teams in China to continually build rapport.

Sure, this is costly and time consuming, but is a necessary step that we consider crucial and it makes a huge difference in the end result.

Truly synergistic and highly effective long-distance design teams are extremely practical and effective, but in order to be successful, communication barriers (cultural and language), must be overcome. Relationships with the various parties in the virtual team must be maintained, and what would otherwise be limiting factors, such as time zone differences, must be leveraged.

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### **Links:**

- [1] <http://www.ddstudio.com/>
- [2] <http://www.3ds.com/>
- [3] <http://www.plm.automation.siemens.com/>
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