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Case Study: Creating a Truly International Partnership

The Experience of Two Collaborating Companies Shows Global Outsourcing Can Be Challenging But Highly Rewarding

Chris Trembath
Contributing Writer

You've done all the market research, product development and prototyping. Finally, you have an approved device that is ready for mass production. But wait—you realize you don't have the manufacturing capabilities or the manpower to accomplish such a daunting task.



Photo courtesy of Invetech.

Maybe you've planned to outsource manufacturing from the start. Or perhaps it's simply not economically feasible to manufacture your product in-house. So, how do you find an outsourcing partner that will manufacture your device in the short timeframe dictated by a fiercely competitive market?

This dilemma faces many medical device companies when time and money guide the course of decision-making. As this magazine has illustrated time and again, an ever-growing number of OEMs are deciding to transfer manufacturing responsibilities to a company that specializes in large-scale development and manufacturing. But the pitfalls that can arise are many, especially if the outsourcing relationship is on a global scale involving multiple time zones and various company divisions. On the other hand, the rewards can outweigh all the initial concerns.

Take, for example, the outsourcing arrangement forged between MDS Sciex of Toronto, Canada and Invetech of Melbourne, Australia.

Invetech, a product development consultancy, was asked by MDS Sciex, a global supplier of analytical instruments and technology solutions for the medical industry, to help design and manufacture the CellKey System, a device that allows for the measurement of endogenous cell surface receptor activation in live cells. With one company based in the Great White North and the other Down Under, one could not expect it to be a textbook example of an outsourcing relationship. To add further challenges, MDS Sciex's marketing division is based in San Francisco while its manufacturing facility recently was opened in Singapore.

Even with these obstacles of communication, scheduling and logistics to overcome, the determination of two companies with similar cultures working together to reach a common goal ultimately transcended the limits of time and space.

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Traversing Some Uncharted Territory

While OEMs can make the decision to outsource for any number of reasons, MDS Sciex was motivated by lack of experience in a new market. Historically, MDS Sciex's primary products have been mass spectrometers, but with the introduction of the CellKey, the company knew it needed the help of an experienced outsourcing company to help navigate through this uncharted territory.

"CellKey wasn't our core [competency], and we actually had a resource shortage. We didn't have the infrastructure to support the build," said Yvonne Strauss, manager of external co-development at MDS Sciex. "We had some leads, but we just weren't able to move forward at the speed that we had hoped. We've outsourced smaller projects, but this is the first large-scale project we've outsourced."

During a meeting at a co-development conference, representatives from MDS Sciex and Invetech crossed paths, and an outsourcing relationship was forged.

"Our director of engineering back then bumped into Invetech and learned about its capabilities," recalled Ferhan Bulca, manager of systems engineering at MDS Sciex. "He passed that information to us, and we realized Invetech was a capable company that offered diverse development services."

Strauss echoed Bulca's sentiment. "I had called a number of companies that Invetech had already done work for to get some feedback, and in one instance I spoke with a company that, if it had the opportunity, would use Invetech again—and for me that holds a lot," she said.

With that, both companies entered into a trial period in which MDS Sciex gave Invetech preliminary pieces of the CellKey design to see if the arrangement was feasible from both a logistical and practical standpoint.



Photo courtesy of Invetech.

"One thing that Invetech brought to the table was experience, especially in one particular area of the CellKey design that we concepted to be a high technical risk," said Ferhan. "Invetech had worked on other similar devices, which gave us enough confidence to allow the company to address our needs. They brought in some know-how that we didn't have."

MDS Sciex not only chose Invetech because of its experience, but also because the company's one-stop-shop offerings would facilitate a time-sensitive completion of the CellKey System.

"There were some highly challenging, risky parts of the design," explained Paul Dovile, manager of life sciences, instrument design and development at Invetech. "MDS Sciex could have found another company that only focused on those parts, and then had Invetech work on the rest of the instrument. But the ability to have it all in one place was an attractive feature to MDS Sciex."

Dovile also noted that Invetech was willing to take on the challenge of developing something that, while new and innovative, also was difficult to manufacture and risky. "There really wasn't anyone else out there that had done exactly this thing before, either, so in this case we stepped up to the plate," he said.

Similar Cultures Yield Similar Results

Even with the "experience" factor addressed, OEMs and their outsourcing partners must find ways to reach common ground in terms of management style and structure.

Try as you might, oil and water do not mix and eventually will separate. Companies with different philosophies and management styles will befall the same fate if their internal cultures are on opposite sides of the spectrum. But companies with the same core values of teamwork, craftsmanship and management can facilitate a smooth and compatible working environment to achieve a particular goal. In the case of MDS Sciex and Invetech, culture played a crucial part in the successful development of the CellKey System.

"With regards to internal cultures, we go through what is called a gating process," said Strauss. "Invetech has a phase process, and in that sense, our processes were very, very similar to one another—and in many instances, complemented each other. Australia,

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culturally, is very similar to North America as well."

As with many OEM and contract service provider relationships, the awareness of two management structures invariably can lead to a polarization, but if the two companies involved can look past that reality, the net effect of cooperation usually surpasses that limitation.

"We were all working towards success and we didn't have any 'them and us' situations. It was just 'We, we as a team,'" said Strauss. "I think we had very good open communication on both sides, which helped tremendously. There were times when Invetech would come here and MDS Sciex would go there. And that also helped grow the relationship."

Bulca further reinforced that the idea of one management structure allowed employees to take ownership of the issues they were dealing with on a day-to-day basis and, ultimately, bring them to a resolution.

Similar cultures and management styles invariably can lead to success on a given project, but when the constraints of time and space enter the equation, it presents new obstacles to attaining the desired goal. The MDS Sciex and Invetech relationship posed such obstacles, but both companies were determined and found ways to make it work through extensive communication.

Planes, Trains and Teleconferencing

One could easily envision a logistical nightmare considering the multitude of time zones involved in this particular outsourcing arrangement. When it's 12 noon in Ontario, it's 9 am in San Francisco, 2 am in Melbourne and 12 am in Singapore. Even the proverbial "redeye" flight cannot facilitate same-day, face-to-face meetings in such varied time zones. Yet, in a truly global arena where parts incorporated into a medical device can come from every corner of the world, open and abundant communication is the one constant that holds the process together, as the experience of these two companies illustrates.



The CellKey System. Photo courtesy of MDS Sciex.

"There's a risk issue when working with three or four separate parties doing many different things, because it can lead to bottlenecks and inefficiencies," said Dovile. "There has to be constant communication between the parties and it can be a lot of work for someone in Sciex's position to keep those parties working productively together."

Strauss agreed with Dovile when she pointed out how each team lead on both sides of the partnership—whether it was the electrical or mechanical team— was on the phone biweekly due to the distance involved.

"We purposely setup a structure that forced open communication, so that the members involved understood what each other was talking about," she noted.

Although teleconferencing and e-mail can bridge the gap between intercontinental entities, in this case there was still a need for personal, up-close communication, if only to nurture trust and mutual camaraderie.

"I can't say it enough how important face-to-face visits are, even though you can get to the endpoint via phone," said Strauss. "Just spending that time together developing interpersonal skills and working together to develop strong relationships is critical."

Along with global distance, time also was a factor in the outsourcing relationship formed by MDS Sciex and Invetech. With various company divisions in multiple time zones, the convoluted nature of the arrangement proved to be a challenge, yet worked out in favor of the CellKey project. Dovile explained how the varying time zones actually extended the working day and created a practical 24-hour work cycle. Since the working day in North America ends just as the working day in Australia begins, a small window of direct communications was possible via teleconferencing with all the technical teams involved in the project.

"We would have team meetings at 5 pm in Toronto and 7 am here in Australia. That was an important element in maintaining constant communication," explained Dovile.

Strauss paralleled Dovile's sentiments by commenting on how the time zone difference actually helped facilitate quick turnaround and resolution of problems. "We had some instances where we would communicate solutions to problems via telephone to Invetech, who, in turn, would work through our night to resolve the problem," said Strauss. After figuring out a resolution, MDS Sciex would return revisions to Invetech, which would then test the solution the next day. "I think the location of the two companies forced us to put in some very stringent communication practices, which helped make this a successful project," Strauss added.

Time is not the only issue that can arise when outsourcing globally. Simple tasks, such as shipping, that companies take for granted can create logistical problems when items are

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required to pass through Customs. Bulca explained how, in the larger scope, shipping issues seem trite when companies wait one or two or even three days for devices, but when shipping takes weeks due to simple paperwork discrepancies, something stands to be learned.

"How long devices stay in Customs plays a factor when the heat is on. One of our shipments coming from Australia to San Francisco was delayed for about a week in Customs, which was the worst of all. But after the first time, we learned how to deal with this for later shipping," said Bulca.

Not Just a Relationship, But Friendship

The one thing that stands out about the outsourcing agreement between MDS Sciex and Invetech is that the relationship was not formed solely because of cost. Rather, it was built based on proven customer value and reputation, which Strauss said is key to a successful outsourcing venture.

"When you're looking at outsourcing, cost really should be your last variable. It should instead be about asking pertinent questions like, 'Can you provide the customer more value because you're working from an innovative perspective?' or 'Can you develop a product quicker than you might be able to do internally?'" he said. "Of course, if you can make it cheaper, than all the better."

With the right questions answered, MDS Sciex knew Invetech would be compliant with the technical requirements, be able to handle the schedule of tight deliverables and utilize a good supply chain management structure. More important, however, Sciex knew Invetech would be committed to the overall goals of the project and share responsibility for success—or failure.

In the end, with the success of the CellKey system, Sciex personnel believe Invetech both met and exceeded all of their expectations.

"I think the things that worked well and that could be a model to everyone else were Invetech's ability to incorporate our process into its own and vice versa," said Bulca. "They were very flexible, really listened to us and understood what we were trying to do and how we were trying to do it." ❖

