



Jim O'Connor



Mary Drotar

Inside Motorola

How Motorola uses an Early-Stage Accelerator— Interview with Jim O'Connor

Mary Drotar, Principal of Strategy2Market, Inc., (mdrotar@strategy2market.com) interviews Jim O'Connor, Corporate Vice President of Intellectual Property Incubation & Commercialization, Motorola, (James.O'Connor@motorola.com)

As companies struggle to find the best way to jump-start innovation, incubators have become more common. That doesn't mean it is easy to use this tool effectively in New Product Development efforts. In this article, Mary Drotar interviews Jim O'Connor about Motorola's Early-Stage Accelerator and how it works.

Motorola is using a number of the many ways to jump-start innovation. Jim O'Connor, Motorola's corporate vice president of Intellectual Property Incubation and Commercialization, currently manages the business of innovation through an Early-Stage Accelerator (ESA), Motorola's internal commercialization and new business incubator. Within ESA, O'Connor has been able to apply the same types of venture capital principles that he developed in his previous roles as co-founder and managing director of Motorola Ventures.

The ESA team is responsible for identifying high-impact technology and commercially viable research, and putting them on a fast

track. Some recent projects managed by ESA that have had an impact on Motorola include Wireless Security Services for Carrier and Enterprise Networks, Carbon Nanotubes in Nano Emissive Displays, Broadband Over Powerline (BOP), and iRadio. According to O'Connor, the lessons he learned while developing ESA are the need to develop

a robust and active pipeline, willingness to take risks and push the envelope, and the importance of implementing a front-end market orientation, among others.

Mary Drotar: What is the Motorola Early-Stage Accelerator (ESA) department, and why was it formed?

Jim O'Connor: In September 2003, Motorola created the ESA as the prime new technology innovation engine for the company. The goal was to invigorate new technology commercialization within the corporation, particularly from the corporate labs from where so many great innovations had come historically. ESA's focus is to incubate ideas that either advance current Motorola technologies or disrupt and replace existing technologies. The results can accelerate commercialization into products and lead to new revenue streams, including the monetizing of intellectual property rights through licensing.

Drotar: Can you describe ESA's organizing principles?

O'Connor: Many of our organizing principles are from industry, in particular venture capital. Warren Holsberg, Matt Growney, and I started a venture fund within Motorola in 1999. Through 2003 we did a lot of venture capital work in Silicon Valley, Boston, Austin, and other locations.

As a result, a lot of people within Motorola began to see how venture firms and startups work. So we thought, "Why not take the venture capital structure and apply the same type of thinking to *inside* ventures?" This consists of using the *portfolio theory* as venture firms would to look at a number of different opportunities and placing the bets according to the risk threshold.

The second part is *managing* the startups—it's not just about giving people money, walking away, and expecting something to come of it—it's about setting milestones and monitoring progress towards them. If an idea is not working, kill it. But if an idea starts to get traction, give it more money and support. An additional principle we brought from the venture mindset was setting an aggressive development timeline—accelerating from a more traditional three or four-year development schedule to a more aggressive six to twelve months.

“The Early-Stage Accelerator's focus is to incubate ideas that either advance current Motorola technologies or disrupt and replace existing technologies.”

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Drotar: What criteria do you consider when you look at a new technology or project?

O'Connor: We have four criteria we set when we look at a potential projects. Is this project strategic? Answering that question ensures that investments in internal projects are relevant to Motorola's long term strategy and targeted markets. The second gate is financial. What is the return on investment? The third is execution risk. How aligned is the project with the business? More alignment usually translates to higher levels of execution capability and resources.

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Finally we look at the team itself. Has the team had proven entrepreneurial success, either inside or outside the corporation?

Drotar: Did the size of Motorola influence the way you developed the ESA model?

O'Connor: The dynamic of Motorola's size as large company composed of divisions of varying size definitely influenced our thinking to place ESA in the corporate headquarters. For example, a Motorola business unit could introduce a breakout product that generates \$1 billion, but an ESA startup project could take years to reach that number. In this larger business unit entity, the ESA startup could get lost without the proper incubation and positioning. ESA provides an incubation path like a startup—the technology then moving into the larger business unit entity when it has matured sufficiently to stand on its own.

Drotar: Describe your ideation process.

O'Connor: In the ideation phase there can be as many as 10,000 ideas. Walk around Motorola and talk to any engineer and you'll find plenty of ideas. ESA's unique role is to whittle that number down to roughly the top 300 or so, using the very strict selection criteria I mentioned earlier:

strategic relevance, ROI potential, execution risk, and the makeup of the team. In each of these strategic criteria areas, we have an even more extensive set of criteria—about 100 questions—that we evaluate via a very analytical tool that we call internally, “I-Growth.” Based on some of the best client software tools, I-Growth helps our strong team of top business leaders apply quantitative methods to the analysis of these decisions. Our team comes from top schools—The University of Chicago and Kellogg (School of Management at Northwestern)—where they've been trained in analytics.

We also use qualitative assessments. We ask questions that really challenge the baseline assumptions in the business models. Furthermore, we force the teams to really consider the relevant problem they are trying to solve, helping them focus on a plan that tests the hypotheses and generally results in much better outcomes.

Drotar: Where do your new project ideas come from?

O'Connor: They come from customers, internal inventors, Motorola Labs, our strategy department, and internal business unit operational teams. Early on, we were concerned about the ability to feed such a deep pipeline, but we soon found out this was not an issue. The pipeline quickly filled with great ideas and has only gotten more robust over time. If you really want to get 20 to 25 good ideas a year to fund, with a criteria of one in ten succeeding—the typical venture number—you have to crank out a lot of ideas. That has never been a problem for Motorola.

Drotar: How do you measure market attractiveness when a market doesn't even exist?

O'Connor: There is nothing worse than a cool technology with no market, or an amazing marketing opportunity without any technology. Motorola Ventures, which is a sister organization, helped us validate what startups are doing in certain areas. Additionally, we have something that we call the Research Visionary Board, which is made up of roughly 50 people who are the top industry thinkers in certain areas, including universities and industry. They are constantly giving us ideas and validating our direction. Plus, we created a trend-analysis to assess where technologies, business practices, and consumer behaviors are headed.

Drotar: How do you manage this initiative globally?

O'Connor: We've been very aggressive in funding global ideas. Between 20 to 25 percent of our funds are designated to global projects, which is pretty high for an innovation fund like ours.

For the first year-and-a-half of the ESA program, we focused on the U.S. market where the majority of our initial engineering is. I believed it was essential to get that market up-and-running close to home. We then decided to expand around the world, knowing that for a company to innovate globally we needed regional talent on the ground, thinking about new ideas and how best to push them forward. So about a year ago, we created what we call International Innovation Leadership Teams, which consist of our top technical, business, and strategic people within a geographic area. We have a North American team that resides in Illinois and represents some of the top people from our business units and corporate entities. We now have similar teams in Europe, China, India, Latin America, Israel, and Africa.

This global innovation strategy complements our strong overseas business. For example, India is an incredibly important market for Motorola. There we recently funded two projects for which the technical and business criteria were very different than in North America. Cost structures and business models are different; plus there are countless regional aspects to a project that can be nearly impossible to account for half a world away.

Drotar: It is my understanding that some organizations that adopted this kind of corporate incubator model are encountering problems with the “not invented here” syndrome. How are you getting around that difficulty?

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O'Connor: Having worked in this area for some time, I have seen how the "NIH" syndrome can be an issue. What you have to do is bring people in from the business unit early so the business unit is part of the process. It's absolutely critical from day one.

Drotar: Looking at your process at a very high level – ideation, exploration, and commercialization, when do you bring the business unit into the process?

O'Connor: It's important to bring the business units in during the ideation phase. For example, we are currently in the ideation phase on a technology that probably won't come to market until 2008; yet we're meeting with members of a business unit team, the lab team, and my

ESA team. We're forming the idea and we're making it happen right now with a business unit. This is important because as it moves to the market-ready phase—where it's actually going into the business—the business unit is then already familiar with it and has been part of the

The third factor is that you have to have a team that really understands the process of risks/rewards and the venture mentality. The team has to be very highly skilled in discerning whether a project could really go the whole way. And that's a very important point because I've seen different project teams in different companies who just put techies into the incubation path or they just include startup people from the outside. I think you have to have well-rounded individuals who have good technical expertise, good business acumen, and good experience within the company—including relationships. Getting ideas going across disparate business units is a very relationship-driven process. Trust and good team formation are really a fourth component that is critical to ESA's success.

Drotar: What is the size of an ESA group?

O'Connor: The team is anywhere between 25 to 30 people with an additional rotational element associated in the overall technology organization for additional resources. In some cases, team members can actually graduate into the business with a project or they can fold back into ESA to start a new project.

Drotar: What is the skill set of the ESA team?

O'Connor: The predominant makeup of the team are engineer undergrads with an MBA, most of whom have worked for Motorola for a number of years but many of whom also have external experience. New business development experience is important, as is an understanding of process and quality. We have developed a number of Master Black Belts (Digital Six Sigma Quality experts) in the team, which brings a high level of discipline into our process.

Drotar: Describe the culture within ESA?

O'Connor: The culture is very entrepreneurial, very dynamic, and very fast-paced, with people who are taught to take risks. The environment is very flexible with people allowed to go in and out of project teams.

Drotar: Describe the most significant lessons learned during the development of ESA.

O'Connor: You have to have a very robust, active funnel with lots of ideas and a willingness to take risks. You can't just bet on two programs and think both are going to win, or even bet that one is going to win. That's just not the industry odds. You also have to have the willingness to push the

envelope to get people out of their comfort zone. You don't want to be held to quarter-to-quarter thinking; for the good of the corporation, you have to be able to think two to three years out. Finally, having a front-end market orientation in which you really understand that the market in the early stages of a project can make significant contribution towards project success.

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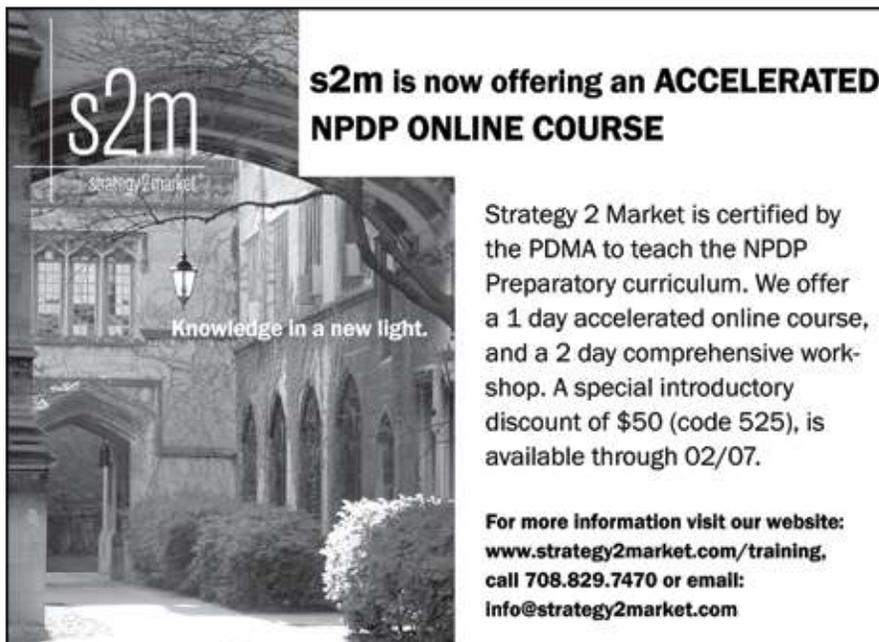
“The team has to be very highly skilled in discerning whether a project could really go the whole way.”

process from the beginning.

Drotar: What factors do you foresee as being most important to ESA's success?

O'Connor: There are four in my mind. The first is you have to have top management buy in. The CEO and the senior leadership team have to truly believe in the innovation process we're using. Ed Zander, chairman and CEO of Motorola, is a huge advocate of innovation and talks about it as his number one priority for the company. He is from Silicon Valley and understands how quickly things can change, so he fully supports the program.

The second factor is that you have to have the stomach to fund these projects. You have to put some money behind them. It doesn't have to be hundreds of millions of dollars, but you do have to have a substantive amount to actually get ideas off the ground.



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