

Ford Tamer, Ph.D. is an Operating Partner at Khosla Ventures, the leading clean-tech venture capital firm spearheading investments into areas such as bio-refineries for energy and bioplastics, solar, battery and other environmentally friendly technologies. At Khosla Ventures, Ford is focused on breakthroughs related to mechanical and electrical efficiency, solar and IT. He has led Khosla Ventures' investments in and is on the board of EcoMotors, Kaai, Soraa, and Topanga. He also sits on the boards of eASIC and PAX Streamline.

Before joining Khosla Ventures, Ford was Senior Vice President and General Manager of the \$1.2 billion Enterprise Networking Group at Broadcom. During his five years with the company, he grew the networking semiconductor business four-fold to leading market share at tier one customers worldwide.

Ford has over twenty years experience founding and building successful technology businesses. He co-founded and served as the President and Chief Executive Officer of Agere, Inc., a semiconductor manufacturer, until it was acquired by Lucent Microelectronics for \$430 million. Following the acquisition, he served as Vice President of the Processing, Aggregation and Switching business unit at Lucent's Agere Systems. Prior to founding Agere, he was part of the founding executive team at Dazel Corporation, which was acquired by HP, and MegaKnowledge, which was acquired by IntelliCorp.

Ford earned a Masters of Science and PhD from MIT in engineering with theses focused on material science and system numerical modeling.

We are thrilled to present this interview with Ford Tamer.

**Greg Selker:** Obviously there's a lot that we see and hear in the news today about the economy. And given what appears to be some potential negative economic trends, from Ben Bernanke using the word "recession" for the first time, to the subprime meltdown, the lowest amount of IPO's in the last two quarters since the dot.com implosion, and recently The Economist predicting an uptick in record corporate bankruptcy rates, how do you see those factors affecting the ability of companies to attract and retain top talent?

**Ford Tamer:** That's a good question. You know in our view, investments into the energy sector will be a very interesting area for the next 20 years. So we don't see the creation, development, and maturation of some of these new energy companies being slowed down by current economic factors. The one concern we have is that some of these companies need pretty big amounts of financing for projects, and that may be a bit harder to attract.

For example, solar thermal companies building solar plants, biofuel companies building cellulosic ethanol plants, or new engine companies. For all of these companies, ultimately getting to market requires a lot of money.

So how does that help us attract or retain top talent? Again, we don't see this as an impact. We think people are smart enough to recognize that we have an energy problem, that this is a problem for the next 20 years, and one that needs to be solved.

**Greg Selker:** In terms of the deal flow that you and your partners at Khosla Ventures are seeing, how would you describe the increase or decrease of opportunities that are coming across your desks that represent true potential investments?

**Ford Tamer:** So my first comment, Greg, is we don't use the word "deal" or look at these investments as "deals" at Khosla Ventures. We really look at it as backing top teams and building large companies. And the number of opportunities we have to really go invest in these top teams – it's just tremendous.

We probably see more companies and more teams than we can invest in today. And it's not slowing down. If anything, we're seeing an increase in the rate of business opportunities coming across our desks.

**Greg Selker:** Another area that has been talked about for a number of years, and has high relevance today, is the growing disparity between the numbers of individuals in the United States, versus India, China, and other parts of the world, that are graduating with degrees in science and computer science. How do you see that deficit affecting strategic planning and recruitment of top talent?

**Ford Tamer:** I think this is definitely an issue, on both on the education and the immigration front. We need to keep increasing budgets that are associated with education, and we need to keep allowing H-1 visas to be opened up, so we can bring some of this talent to the United States.

One of the most interesting aspects of green technology is that it opens up hiring and building leadership teams beyond the traditional IT disciplines, to basic science such as chemistry, thermodynamics, and materials science. So we are tapping into new disciplines representing additional aspects of engineering whether it's solar or making cement or biofuel, that were not tapped into when we historically built companies based upon entrepreneurs and technologies in most technology startups. If you think about a company making cement, you're hiring materials scientists. A company making heat engines, you're hiring thermodynamic, fuel dynamic engine, and mechanical engineering people.

Each of these disciplines requires a set of technologies and experiences that were not utilized in building IT companies. In building the leadership of an IT company, you need to recruit individuals with Computer Science degrees for either software or hardware, or those with EE degrees for the telecom or semiconductor industries. It's a different set of skills for green companies. The focus on green technology potentially will create totally new jobs in different basic science disciplines.

**Greg Selker:** Are there different recruiting criteria you see that need to be brought into play with green companies, as opposed to a traditional company?

**Ford Tamer:** I think the basic elements of building a company are still the same. In our case, we focus the first year to two years on technology and basic science. Initially, we don't spend much time on business plans, business models, and financial models. Instead, we focus on proving the technology, removing the risks, developing the IP, and growing the initial team. As we prove the technology, our focus shifts to scaling from a business and financial perspective. But I think the elements of building a company are the same.

**Greg Selker:** What type of recruitment and development programs do you see are crucial in a green company to really attract and retain top talent?

**Ford Tamer:** I think the most interesting part, at least for me, was the fact that you're going after and recruiting talent from very mature, very stable, very slow moving fields that haven't evolved that much over the past 30 years. Most of these people, when you try and recruit them from large companies, still have a high level of risk-aversion.

In the IT sector, you have multiple generations of startup successes. So you have a pool of entrepreneurs that have already gone through one, two, three, multiple successes, and are used to the formula of growing an early stage company to viability and long term success. They're not as risk averse, and they're ready to take the jump. In engines, lighting, solar and biofuel, you're recruiting people from larger companies that have been in the same job for potentially 10, 15, 20 years, and have not had the chance to experience the startup world yet.

The biggest challenge here is to make sure we bring some of the characteristics from the traditional fast-moving IT world of having a, technology focused culture that takes risks, to these slower moving industries.

**Greg Selker:** How are you doing this?

**Ford Tamer:** I think it's a two-pronged approach. First, we're seeing a transition of traditional tech people to the clean tech industry; people like me that have spent a fair amount of time in traditional technology businesses, creating companies from scratch, and have helped grow them into large businesses.

In fact, we are seeding some of these new companies with this breed of traditional technology people who have experienced this in the past. For example, we just hired a former CEO of a systems company to become the CEO of a company focused on fluid dynamics efficiency. This is an example of a networking guy that's just made the jump to developing HVACs, propellers and turbines.

Secondly, we are bringing some of the tools that were available to traditional technology companies, to this new world. For example, some of the companies that we have invested in, their founders didn't understand stock options, and in the companies where they worked,

stock options were given to very select individuals. So we have rolled out stock option programs, and are stressing the importance of IP and the development of the internal gene pool, based on technology risk removal from the start.

**Greg Selker:** As the technological hurdles are overcome, what do you see that needs to happen to shift awareness from technology more towards leadership?

**Ford Tamer:** There are a few aspects. The next phase post proving the technology and risk removal is scaling, Greg. So once a technology is proven, the scale at which some of these companies have to be built is enormous. You've got to build solar plants that can produce hundreds, if not thousands, of megawatts.

But at the same time, it's good news. These are huge markets with very large volumes. The challenge in scaling is that nobody's going to pay more for green. You're going to have to deliver those new technologies at the same price, if not cheaper, than what are traditionally on the market today, with the added benefit of better efficiency, better emissions, and less CO2.

So the whole challenge is scaling in a cost-effective and cost-competitive way. It's a very difficult challenge at the scales we're talking about. There's also obviously an emphasis on leadership and public policy that needs to be a focus. There's going to be a need for working very closely with different state and federal governmental agencies, to be able to have a policy environment that is favorable to these new companies. Then at that point, from the recruiting aspect, you emphasize operations, manufacturing, distribution and finance, all those business and commercial skills and experience.

**Greg Selker:** What are you doing, Ford – or what do you see that could be done, to help develop individuals within green companies to have leadership skills of this nature?

**Ford Tamer:** I think we are hiring people that have been in these industries for a long time. Leaders who bring a deep understanding of the industry and a set of industry contacts that are obviously going to be very helpful to these new companies, and in turn, the leaders will put a team in place that has the same set of skills. This is an example of how we think prior industry knowledge and experience is critical to building a winning team and company. We believe we've got to be able to deliver some green to be green. If these companies are not sustainable at a large scale, if they can't scale a green product, they won't be able to make the impact on the world that we desire. It's almost like you've got to bring somebody who has run a pretty large business before in the industry, and by the nature of past jobs, that person would have the public leadership skills and experience – both with federal and state legislation.

**Greg Selker:** Ford, specifically when a company really begins to scale, HR has a key role in attracting, developing and retaining leadership. But beyond

holding an HR organization accountable for this, what do you believe is the obligation of the leadership team to demonstrate personal involvement and support in these activities?

**Ford Tamer:** I think in an early stage company – the number one, number two, and number three tasks of the current leadership is to attract new leaders. We believe there are never too many A-plus players on a team. If somebody at the top in one of our companies delegates hiring to HR, it's a huge mistake. They have to do it themselves.

From a venture capital point of view, we do get very involved in recruiting CEO's and vice presidents in all these companies. We stay very close to the recruiting process. Because again, we believe it's the most important mission that these companies have.

**Greg Selker:** What do you see the leadership obligation is of the senior team to develop leadership within these clean tech and green companies, and how do they do that?

**Ford Tamer:** I think there's probably a two-part answer. The reality, in some of these smaller companies, is that people end up wearing multiple hats and doing a tremendous amount more than they would do in a narrowly focused job in a large company. So by definition, some of the leadership in early stage companies ends up with many more responsibilities than in a larger company setting. Just by the nature of the job, there is a development that takes place that is broader than what occurs in a larger company.

As far as a formal and rigorous process, this is typically a bit more challenging for a smaller company. They're running fast so I think the tradeoff is to put some processes in place, but not so many that you end up with red tape. It's a very fine balance between putting enough processes in place, so that you can develop the next generation of leaders, but at the same time, not curtailing the decision making ability, and limiting an individual's influence and power.

When you have a flat organizational structure and culture so that the optimal on-the-job learning occurs, people have expanded responsibilities and can have a broader impact on the company. Greg, I go back to a couple of lives ago when you and I built companies in the systems management world. We defined a culture that was the correct culture for the company that was able to be sustained through rapid growth. In these early-stage companies, the correct culture is critical to create the optimal learning and development environment.

**Greg Selker:** Ford, when you look at your career and the successes that you've had in creating a culture that delivers the results we are talking about, and when you look at the companies you are now investing in and building, what do you see as the consistent core values that you are putting in place, and how do you determine that the leaders you're hiring have those values?

**Ford Tamer:** I think there are five principles or values I have always tried to stress, and they are: innovation, focus and execution, open communication, teamwork, passion and fun. Innovation and leap frog-ability is a defining element for a company. This is something I stressed at Agere, and I think you know I ended up stressing in some of my other jobs as well. You want to start with an environment in some of these early-stage companies, where you foster and focus on leap frog-ability. Because you want a team that's going to be motivated to create and imagine a 10X improvement over what's in existence today.

If all you realize is a 10% to 20% improvement, by the time you get to market, your competitor – which is a large company – will have already equaled your achievement. This means you can't just have a commitment to marginal improvement. You've got to focus on leap frog-ability and creating a true gap in innovation to stay ahead.

We have also determined the flatter the organization is, the better it is for fostering innovation, and we have learned that you have to put in place a system that rewards innovation in order to continue to encourage behavior that leads to it. For example, creating an incentive structure which rewards patent generation and IP creation can help encourage behavior that leads to innovation. We also look at a balance in an organization between the CTO/Advanced Development Office, and the mainstream engineering organization, paying attention to the number of people working on advanced projects, and those that are executing on the mainstream bread and butter projects.

In terms of hiring, a good measure of whether someone has these qualities of innovation and leap frog-ability is by trying to understand what they've done in their past. Have the products that they have introduced in the market created discontinuity, or was it a "me too" product? Do they understand the need for leap frog-ability and gap-opening products and does their career history prove this?

**Greg Selker:** In particular, how do you define these elements of leap frog-ability and innovation so you know what you are looking for?

**Ford Tamer:** For example, the Nintendo Wii controller, which was based on Broadcom chips, was a leap frog innovation. The wireless aspects of the controller totally changed how people played with games compared to the Sony PS3 or the Xbox from Microsoft. Having this wireless controller gave a total new dimension to gaming and changed the games which could be introduced into the market.

**Greg Selker:** So what was it about the culture from a values perspective that allowed for this innovation to occur at an individual engineering level, and then be accepted and embraced?

**Ford Tamer:** I think by large the founders of Broadcom, Henry Nicholas and Henry Samuelli, were able to put in place an early culture that has largely survived until today, and the number one value in this culture is

innovation. We talked a lot about leap frog-ability, about “word first” product; a product that represented the leading edge in people’s minds, and was talked about, was on the tip of people’s tongues. Everybody was encouraged and rewarded for coming up with these “word first” products, and you could see how this was very much reinforced in the culture at all levels of the organization, all the way to the top.

**Greg Selker:** Ford, there are many organizations that would like to be innovative, and even say they have a commitment to it, but there are few that actually achieve a culture that supports risk taking, allows rapid decision making, is a learning by doing culture, and supports fun and passion.

**Ford Tamer:** You’re right; those are all supporting elements of innovation. Because if people cannot take enough risk, and failure is not okay, then innovation does not happen. In an innovative company, the only issues should be, technically does the product make sense, and, is there a market discontinuity in which we can introduce this product?

You also have to manage the company so this innovation can actually move from R&D into the marketplace. This is where the top management and leadership of a company make a huge difference, and the CEO is the key person. Meaning, if the CEO and top management understand and embrace innovation, and they allow it to happen, it will happen. In addition, you also need an environment that encompasses financial discipline and is focused on execution, to drive innovation to market.

Execution is the second value we look to create and try to find in the people we hire. I used to give new hires a pep talk focused on culture, and my second tenet was execution, and what I used to say is “listen, these innovations are not going to just languish in a closet somewhere, we’re going to find a path to bring them to market”.

An emerging company lives or dies by getting products to market that are going to work, are high quality, and are ahead of their competition. The phrase we used to coin was, “over-promise and over-deliver”. The definition of mediocrity in my mind is “under-promise and deliver.” This is making it too easy.

The third value in building a highly successful company and culture is open and constructive communication, as opposed to a culture that frowns on tough communication. We used to teach people in meetings that if you’ve got a problem with the direction of the business or technology, just say it right then and there in the room full of people. There is no need to have a one-on-one chat in the back room. Yes, you’ve got to be sensitive to people. But you don’t have the time to be private or secretive with your concerns. You do need to take the time you have to provide constructive criticism.

You just need to remember, that what goes around comes around. If you present your feedback from a personal rather than a technology

and business perspective, at some point somebody will present their feedback to you from a personal perspective. The most important thing you can do is to stay focused on the business problem at hand.

The fourth value is teamwork. You want to hire very smart people, and create a team that checks their egos at the door. Egos destroy companies. It has to be a team that's going to work well together, deliver together, and go through the difficult and tough times together.

And finally, I think the last necessary value is passion and fun. You want to recruit people that are passionate about what they do, and are interested in changing the world. This is especially true on the green side. The good news for green companies is that by default, the people that want to work for them truly do want to change the world, and at the same time, have fun doing it. Regardless of what kind of company you work for, life is too short to say, "I've got to go to work in the morning." You can't build and sustain a highly successful company if people are not going to be passionate about what they do, and have fun doing it. This allows you to create a culture of passion and fun.

**Greg Selker:** That's great, Ford. We've had a far ranging and fascinating conversation, but I'd like to get back to several of the things you've spoken about in terms of green technology. You've talked about the building of clean tech companies as a movement that is giving rise to a whole new generation of businesses, and people who have a focus on green educational learning, particularly the technology and science aspects of this, in addition to an emphasis on public accountability. Given the emphasis on "green" science, technology, and on public accountability, what would you say to young people who are in the middle of their college years about green technology, green business and the importance of this in their careers?

**Ford Tamer:** I think it's a very important trend that's here for the long term. The one thing I would say is, go back to basic science. These technologies, whether we look at new car engines, or lighting, or new materials like cement, or solar and new types of bio-fuel, all of these go back to the basic sciences such as thermodynamics, fluid dynamics, material science, chemistry, and biotechnology. The basis for all these green companies and businesses is all fundamental science.

**Greg Selker:** I just have one more question I'd like to ask you. When you look at your career, what do you think is the best or the most important piece of leadership advice that you've received?

**Ford Tamer:** I think it's interesting. Probably the phrase that I would say is probably the most important, is one that I learned from Vinod [Khosla]. "Dare to be great." I think this is true. If you want to be great, imagine the future and amplify your goals, and dare to imagine that you can reach them.

**Greg Selker:** Yes. Well that's excellent, Ford. That's something that I personally believe in at a very deep level as well. And it's thrilling to hear you say

that – as one of the most important pieces of advice, in terms of leadership, that you’ve received.

**Ford Tamer:** Thank you. This has been a very good and a very interesting discussion.