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Jennifer Indovina from smart energy startup Tenrehte: "Hire slow, fire fast"

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She's a CODE_n Alumnus, a TED fellow, and a passionate entrepreneur on a mission to save the world from energy waste. We had a chat with a real pioneer in smart energy, the fabulous Jennifer Indovina, founder of **Tenrehte Technologies!** By creating the PICOwatt device, Jen has helped make the world a better place by saving tons of energy. After founding Tenrehte in 2010, Jen has staffed a great team and brought her small but ingenious helper into data centers around the world. She continues to inspire others – especially women – to do their own thing. In our interview, she shares insights into her convictions as a social-minded founder, her straight approach to leadership, and the hustle and bustle of entrepreneurial life. This one is a ripsnorter.



FOUNDER INSIGHTS

Smart energy | Leadership | Social entrepreneurship

1. Hi Jen, we're excited to talk to you and can't wait to hear an update about what's going on at Tenrehte! How has the company evolved since you participated in the global CODE_n startup CONTEST in 2013?

I'd say that we've grown – slowly but surely. Which is good growth for us. Obviously participating in CODE_n was an amazing experience because we opened ourselves up to a new group of potential collaborators in the German market. We also introduced ourselves to the German media as a company that was developing electronics for energy efficiency and saving energy in different applications. And if there was one thing that really stood out to me at the CODE_n CONTEST it was how many people came to our booth and had ideas and great suggestions to further develop the PICOwatt! Like installing the product directly when new homes were built or monitoring telecom companies on their energy consumption with the PICOwatt. It was great input, almost too much ;). But it was a great experience and we came home from CODE_n and were totally ready to take the product to the next level!

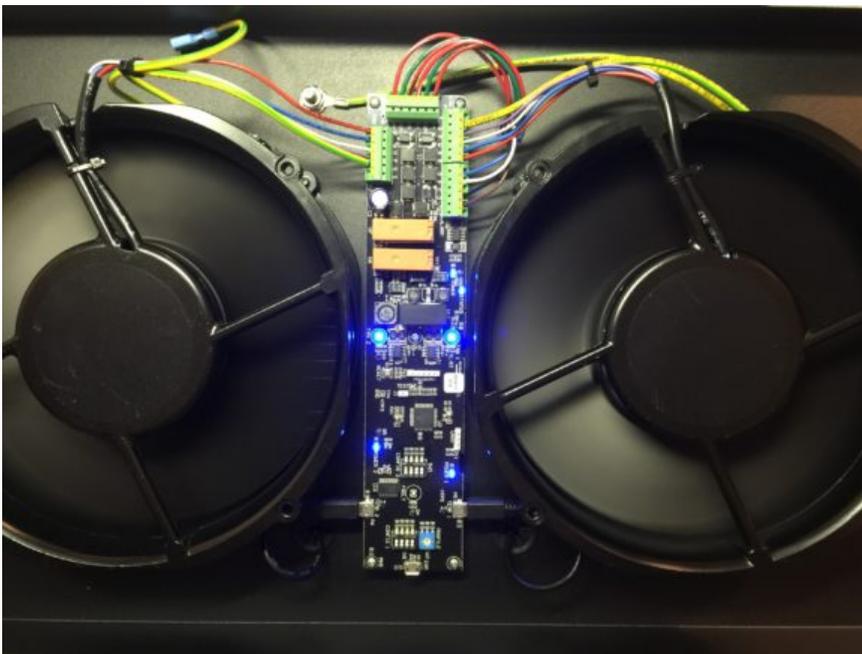
2. In an interview with CODE_n in 2013 you explained your product, the PICOwatt smart plug. Have there been any developments, new features, or even new products since then?

What we started doing was developing a version of PICOwatt in a controller board for data centers. The big energy-consuming thing nowadays is no longer homes, buildings, or even

transportation – the biggest growing segment of energy consumption in the world is data! All this data is stored in data centers. So every large telecom company, every large internet service provider, consumes megawatts of electricity daily to run your data. They store every photo, every phone call, every Facebook or Twitter post – basically everything that you've done online is stored somewhere, consuming electricity! So where we pivoted with Tenrehte is we took PICOwatt from being a smart plug to now being a monitor for saving massive amounts of energy in these data centers. And the way we do it is we control the cooling. So the controllers manage how much energy is used to keep the computers running at the optimal temperature. And believe it or not, Lisa, this saves so many megawatts of power that the server companies don't have to build new energy generation to support new big data advances and that's huge! It's an eye opener. You absolutely can monitor your own energy consumption in your home with a device like PICOwatt. But it's also very important to see as a citizen that companies and governments are saving massive amounts of power using these applications in places like data centers, so we don't have to generate more dirty energy.

3. Who is using your product/s and what markets are you represented in?

We have a global scope. We're selling to some of the big telecom companies. Some of them prefer privacy so I can't actually quote names – who uses our product and how big they are. The reason for that is security. Maybe you've heard about the attacks and security threats faced by data centers and websites. So a lot of companies really value their privacy about what energy measures they're taking, how they're generating, how much they consume etc. And some of our products end up in government-owned entities, so privacy is key. We want to celebrate these companies for going greener and taking steps into the right direction, but they're keeping it private for security reasons. I think it will take some time and then the companies will open up a bit more. In terms of business generation for us as a company, these companies talk to each other, so from one big telecom company to another, we are able to build our business and sell these sorts of energy-efficient intelligent sensors and controllers for data centers. We couldn't have this business and this growth so quickly, I believe, if there hadn't been an element of referral.



Tenrehte pivoted from PICOwatt to a smart board which saves tons of energy in data centers (image: Tenrehte Technologies)

4. What were the biggest obstacles you've had to overcome as an entrepreneur?

The two biggest obstacles in my opinion are time management associated with new developments and then resource allocation. With time management, I mean that a lot of opportunities come to you as an entrepreneur, people come at you with ideas. And you as an entrepreneur have to sift through these ideas with a certain amount of research that you do and a certain amount of gut instinct. I think that's an ever evolving skill I'm working on ;). The second is resource allocation. Another tip which comes to mind: nothing is overnight. All this overnight

is resource allocation. Another tip which comes to mind: nothing is overnight. For the overnight success you read about literally took years of effort and pushing and stress, but it's extremely rewarding. When I studied engineering and graduated from college, I was looking to work for a company that builds regular electronics. I figured out very quickly that I was going to build electronics that are meaningful instead of electronics that just ended up in the ocean or in a garbage dump. The idea that making electronics that matter more to the world than the raw materials that went into making them is very important to our whole team at Tenrehte.

5. How big is your team at the moment?

There are five of us. It's a tight team, but we also hire contract engineers on a development basis. That's another thing that allows us to be nimble with the projects we choose. If we choose a project outside of our current capability as a team, we bring in contractors. That's certainly the case with the data centers – it expands our team greatly.

6. If you want to scale up a business, hiring is an important issue. What experiences have you had so far as CEO of a tech company? Can you share the approach that has proven practical for you?

I think it's really one thing only: you have to fit in with our mission statement. Hiring for skill sets these days is very simplistic. You have to have capabilities and you have to have base knowledge, but if you are a go-getter, if you have energy, you can learn anything today. You have to be that type of lifelong learner. So I will say there is sort of a metric of an employee that we are looking for and typically that is someone who has the same social entrepreneurship leanings that we do and that is very important for us. Making money is important, but you have to care about the mission as well. You have to be very dedicated to the fact that Tenrehte is equally focused on making meaningful products as on making money. This means that we will not necessarily take on a project just to make money, it has to line up with our mission. That requires patience as well as a certain dedication to your community, to the society around you. To put it simply, you have to give a shit ;) . I'll level with you – there is a sort of personality fit which is important. I lead a certain way and people can work with my personality sometimes, and sometimes they can't. I think that conflict is sometimes good, but sometimes it hinders innovation as well, and I don't believe in operating a company based on fear. There are a lot of companies out there which lead with a top-down method; whatever the person at the top says goes and there is no room for negotiation or disagreement. That's not how I run Tenrehte. For me it's crucial to completely respect my teammates and sure, sometimes that can slow things down a bit – but when you rush into projects, you make huge mistakes that take you ten times as long to clean up after. So the whole idea of "hire slow, fire fast" really appeals to me.

7. Did you bootstrap the company or do you have venture capital on board?

Absolutely. We did raise seed capital of round about \$ 150,000 in 2012. But since then we completely bootstrapped. We believe in sustainable growth. And like I said before, it enables us to determine what projects we want to accept. The data center project would not have happened if we'd not had complete freedom to pivot away from PICOWatt and develop a new product. If we'd had been beholden to a venture capitalist to stay the course with PICOWatt we would have missed the data center opportunity.

8. You're also a TED fellow. Tell us more about your current activities.

For instance, as a TED fellow I was pulled into a lot of cool projects to develop electronics for different applications outside of our day job at Tenrehte, which is energy management. One of these projects is called Zoey Coral. It's an underwater coral reef that draws direct current power to electrify the reef underwater. And the reason you should do that is because it will spawn faster, absorbing minerals from the salt water, if you basically attach the coral reef to power so that it acts as a battery! On <http://zoecoral.com/>, you can see the coral via a live webcam we put under the water. So I helped with the development of that, putting the system together so that you could have a virtual aquarium, so you click play and you could look at the structure, the exoskeleton, of the coral reef that is currently being electrified. You can see how quickly it can spawn coral and grow faster! The science tells us that the coral spawns 500 times faster than it would naturally. This is extremely important because coral is dying around the globe – part of it is climate change, part of it is human encroachment – and if we can create these exoskeletons for the coral it will spawn faster, it will grow quicker, and that on an exponential level as a result of accelerated mineral absorption due to the electrification of the exoskeleton. This is one of my really awesome side projects as a TED fellow – and there are a lot of other exciting projects ;).

9. What are the next steps for Tenrehte?

Well, data centers are growing all the time, so I believe we're going to be quite busy trying to make data centers energy-efficient in the short term. And in the long term, I really see Tenrehte as a company that is very influential, or at least very helpful, in the market of upgrading our antiquated infrastructure. So we have this grid out there and it's all over our world. I don't think we're going to scrap that grid – I think we're going to upgrade that grid and going forward, use more of our own solar and more electric vehicles, have more of that kind of infrastructure around. Our existing grid requires upgrades. And I really do see us moving into the territory of upgrading infrastructure.

Jen, thank you so much for this intriguing update. What you're doing with Tenrehte is wonderful – keep up the good work! We're looking forward to touching bases with you soon again.

Worth watching: Jen's inspiring TED talk on her journey founding Tenrehte at TEDxItaewon in 2012:

Eliminating power poverty: Jennifer Indovina at TEDxItaewon



We'll publish a blog feature on female entrepreneurship and women in tech soon. So stay tuned for more stories and reports about incredible female founders!

Related Articles:

- [Jennifer Indovina: "It takes more than just a strong personality to deal with the startup environment", 02/18/2013](#)
- [Meet the CODE_n13 finalists for: Smart Grid & Demand Management, 02/27/2013](#)
- [Audio Interview with Jennifer Indovina from PICOwatt, 03/06/2013](#)

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