What do you see as the future of tech & innovation?

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BRADLEY HOWARD, ENDAVA HOST (BH): Hello, everyone. I'm Bradley Howard, and I'm happy to welcome you to a new episode of Tech Reimagined. Today, I have the pleasure of welcoming Ina Martinez to our podcast. Inma is a digital pioneer and an AI scientist, leading change in the sectors of digital technology and machine intelligence. Hello Inma, welcome to the podcast.

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INMACULADA MARTINEZ, DIGITAL PIONEER AND AI SCIENTIST (IM): I'm very happy to be here. Thank you.

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BH: Can you tell us a little bit about yourself?

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IM: I got into technology by complete serendipity. I was actually in banking, working in infrastructure finance, and I had under my remit many, many sectors - oil and gas, transportation. My last project was the famous bridge between Copenhagen and Malmo, the famous bridge. Then I thought, I want to work and build things. I need to go to a client and I literally look at all of them. And I saw the telecoms in the mid-90s was growing at a five multiple over all the other ones, and I thought, Hmm, this is going to be fun. I just went and I joined a telecom company. So it was a mix of calculated destiny, and the other one was like, let's just be curious and go for something exciting.

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BH: Well, sometimes that's the luck that you need in a career, isn't it? So the big question in today's episode is how you see the future of technology and innovation, and you've been involved in some major innovation advances in both web and mobile. What do you see next for mobile?

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IM: The next for mobile is edge. I think that mobile is the old paradigm and what we are going to be seeing blooming is edge computing. The fact that all the objects and many things around us will begin to share their information with us, and we will get to know quite a lot of things that before we were just oblivious, and the best thing about edge is that it's almost like a mobile because edge computing is done on a tablet, on a small device, on an x ray machine. So it's almost like a mobile, but is actually much bigger than that, it's sensors along the highways that will monitor what kind of traffic is rolling, etc, etc. So for me, the evolution of mobile is edge computing.

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BH: And you think the future of mobile will be lots of different devices all connecting together and then maybe even presenting it on a mobile?

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IM: Yeah. I mean, the word 'mobile' emerged because the Internet originally was desk bound. So for the Internet, in other places, we call it 'mobile' because in the early days they were like handsets or cell phones or mobile phones. And now that concept of 'on the go', remember that terminology, is no longer used because it's more about the Internet of Everything. And that's where we will be, in a super digital augmented reality that will surround us and will be at our disposal. That's why I think is going to be, you know, really exciting to watch and to be a part of in the next five to ten years.

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BH: So as a leading authority in digital technology, do you think it's even possible to forecast or predict what the next big thing will be?

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IM: Well, that's what people want of me all the time. We can see what's coming at more or less the velocity of adoption. But then, you know, things happen that are unexpected and maybe things happen much, much faster. For example, the pandemic has been a total booster rocket for digital life, because we were locked up and we had to do everything on the Internet. Nobody could predict that. So now video platforms have been boosted because of the pandemic. So all the predictions about, oh, when is videoconferencing going to be part of daily life - well, now you know, thanks to COVID 19, it's the reality of every day. So what's important when you look at the future is that at least you are aware of the challenges and then the least important is more or less, you know, how fast things are going to evolve. But you must recognize what's coming at you, that's vital.

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BH: And do you think COVID 19 or the kind of working from home movement? Do you think that has set back things like wearables, like watches or glasses, spectacles?

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IM: Well, no, because, for example, wearables at the beginning of the pandemic, because I had been in Asia during SARs, the 2003, the first thing I did is I went on Amazon and I bought an oximeter and I told all my family, you have to buy an oximeter, and people were like, what? What is that? And I said, those things you put your finger and it measures the volume of oxygen in your blood. That's how you know, if you have COVID before you feel really bad, and I remember I was doing my research and there was this super company that had an oximeter, the best, best oximeter in town.

When you try to buy the oximeter, they had a little sign on their website saying, sorry, we just enter a partnership with Apple and we just can't sell the products anymore because they're going to be on their iPhones, iWatch Six. So Apple put an oximeter on their product roadmap because of the pandemic. So it's been a super gadget year. And for example, I honestly don't know what Mark Zuckerberg is intending with those Facebook glasses. Probably he didn't see the Google Glasses and everybody crying on the corners of, you know, Palo Alto. Like, what a disaster we have done.

Everybody has this fantasy of eyeglasses recording, and I don't know. It's just one of those things that people keep coming back, kind of like voice commands in cars. They don't work, but every five years somebody says, no, now we got it. So I think rather than a world of gadgets, what the pandemic has created is a huge sense of how analog and digital can seamlessly combine. And we got used to it. We got used to sitting in our kitchens and having a conference call and putting a background behind us so that we were living an AV reality of being in a virtual office. And imagine what that does to your brain, no, navigating these two things? But I am happy that at least everybody got to feel what it is to have technology allowing you to work remotely. I've been doing this since 1996, so I'm glad now it's part of everyone's life.

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BH: Yeah, absolutely. It's probably a good topic for another podcast there. So as humans, we love to focus on what the next big thing is going to be, and I personally get asked this from friends, family and customers all the time. Do you think that technology fuels innovation or do you think it's the other way around?

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IM: Innovation has always existed because it is not particularly attached or pegged to technology. Innovation is going one step further and deeper than just trying to make something better. Remember, like, we live in a society that historically optimized things. A better wheel, you know, a better boat. Innovation is very radical. Innovation is really saying, is this wheel what we need to build? Well, maybe it's a square. Because it's an approach that questions everything, and it forces you to look at the 360 of a potential requirement or a need that you need to fulfill. And then you allow yourself to have this phenomenal blue sky thinking, that you come up with a product that nobody could imagine that would come out.

That is called innovation because it really dismantles all the previous paradigms. So if you say, I need to invent a new wheel, maybe you invent a wheel that looks bizarre because it needs to do another extra functionality, and that is innovation. I think that what happens to technology is because it's digital, it doesn't have an embodiment. It's velocity is exponential. It's not linear, like a little by little, one plus one plus one. No, it's exponential it's multiplying by itself. So very, very soon it's just vertical velocity and then it's unstoppable. And no other sector was able to do that but digital tech. Because they are not biological and they're not really physical. So that's why technological innovation feels so overwhelming sometimes. And then also completely out of the left field.

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BH: Yeah, but timing is also really important in the next big thing, isn't it? So, we've seen other subscription models or types of products come out in the past, like electric vehicles, whether those were cars, bicycles, etc, came out twenty years ago but never really took off for all sorts of different reasons. But now they're obviously taking off, very clearly. So what do you think about the timing of coming up with a new invention or what you described as that optimization?

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IM: Timing is everything. Timing is absolutely everything. I've always said, and I've been working in startups and innovation, you know, for twenty years. You need to get the timing right because this is when the new invention is appreciated. It's adopted. People get it. They see its purpose clearly, you don't need to evangelize. So timing is absolutely everything, and that is what you need to measure when you launch products. In fact, you know, when I was working in innovation at Nokia in Helsinki in the mid-2000s, I was in the innovation team and we had these really psychedelic product canvases that the major part of the thinking was, are we launching these at the right time and are we launching based in a way that is really going to be understood, and is really going to be adopted effortlessly? Otherwise it's a very risky business.

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BH: Effortlessly is also quite a difficult measure to achieve. If I show my parents who are not particularly technical, if I show them some technology on a phone, it's really hard for them to understand some of the user experience paradigms on there about holding or dragging or kicking, etc. And then likewise, when they come around and I've talked to our Google Home device about switching the lights on - again, that's just not an obvious way. So that effort is so different for different groups of people.

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IM: Yeah, but also in product, there's one thing which is called incentive. And if you look at how WhatsApp has gone like wildfire with elderly people, it's because they WhatsApp their grandchildren, and for the first time they were part of their conversation. They saw pictures and they could video them and you know, WhatsApp, every old person that has a mobile has a WhatsApp and it's all about the grandchildren. So you have to ask yourself, what would make these be ignited? For for example, I remember when the famous Palm Pilot was launched in the '80s, and they thought that it was going to be for the business people of Wall Street.

But cleverly they did an MVP and they brought the Palm Pilots to university campuses and I was there, so I got one Palm Pilot. Guess what? We loved the little scribblings. You had to learn that A,B,C to scribble it. And then what happened is that the business guys were too lazy. Like, What are this saying? I'm too important! You know, Wall Street in the 80s was like Gordon Gekko, yeah? Why do I need to learn about 'A is a triangle'? Whereas campuses, everybody had a Palm Pilot, so the company had to change their user target, simply because of this reactions. I think that whenever you consider a new product or service, even though you have in mind a particular segment that you say, this is great for these kind of people, they're going to see the value… if you ever so slightly put it in the hands of someone else just to see what happens, really crazy stuff goes on. I was one of those people that.. "no, let's do an MVP with these other people" because I like to test things to the extreme, like a good engineer.

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BH: Yeah, it's really funny hearing you talking about the Palm Pilot script, I can't remember the actual name of it. But yeah, it was amazing having to learn new letters because it wasn't quite smart enough in those days to be able to understand some of our more complex characters. So we had to learn how to redo letters like D or something. It was very funny. Let's talk a bit more about social connectivity. So during the pandemic, lots of people around the world use technology to stay connected to people that they were missing. You gave WhatsApp as a really good example for intergenerational relationships. What do you think is the best way of using technology to create that more social connectivity in the future?

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IM: Well, I think we now have all kinds of platforms to stay connected with family, with friends, with work. I mean, every single phone has different platforms. You can use WhatsApp or FaceTime, whatever. You have Hangouts. And so is not about lack of diversity in terms of products and services. But I think that what people need to learn now is to detoxify themselves of, you know, the abundance of all of this. I am one of those people, that because I've worked in the industry for twenty years, I just sometimes leave my phone at home and people are like, Oh, you have your phone? I'm like, no. For two hours, if somebody wants to find me, they're going to have to wait. And I think that people are going to - they need to switch off. They need to switch off. They need to say I'm going to set settings that after 9pm, nobody is going to video call me. That's it. I don't want to see anyone's face. I'm going to watch Netflix or I'm just going to read a book. That is what we need to start doing as providers of services, because otherwise people completely overwhelm themselves. It's - imagine if Diageo, you know, the large company selling whiskeys and Guinness and stuff would not tell people, hey, you know, three gin and tonics is better than twenty, you know?

So I think somehow we need to also have strategies where we tell people, we have put this little switch, so you switch it off and you can rest. And we need to do that. We need to do that. Otherwise, the little humans, they get too excited with all this techno, and then they have mental

problems, which is why we have all these apps like stress and all that. Yeah, because they're like completely hooked to The Matrix 24/7.

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BH: Yeah. Of course, the different mobile manufacturers have tried implementing this operating system level at the handset level, about beginning to have some downtime, but it never feels like they are trying to implement that at such a level as some of the other tools, which are a bit more addictive, for want of a better word.

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IM: It's always very thoughtful and always considers that you are going to be forgetful, that you are going to leave your car with the keys in. It's an industry that constantly considers, let's just make sure that people are safe and they have that mentality for a lot of, for example, you leave your car and you leave the lights on, all modern cars now switch themselves off, etc, etc, etc. Because this is an industry that traditionally has been pressured to offer safety for people being thoughtful and look after the people. And I think we need to do the same thing in tech.

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BH: Yeah, definitely for our minds. I completely agree. So, Inma, thank you so much for spending some time with us today, sharing your views on the future of technology and innovation. To our viewers, thanks very much for spending some time with us. It's been a pleasure to have you with us. If you haven't already, please hit the subscribe button and like this podcast and then tune in again next week. Thank you very much.