

# Making the quantum leap

## TEDxSydney 2012 perspectives



***Is it enough to keep refining existing models of business, technology, government? If this year's TEDxSydney talks are anything to go by, we might need to start from the beginning to understand what it is we are trying to achieve in order to redefine the problem and reimagine the solution.***

***For business, this could mean very different ways of providing services, interacting with customers, and a radical rethink of accepted norms, of doing something because we've always done it that way. And these changes could come much faster than we think.***

If one speaker stood out at TEDxSydney 2012 this year, by consensus it was Professor Michelle Simmons who spoke about the next generation of computers. And we're not talking 4G – we're talking quantum, atomic computing, and a new measure of speed: the qubit.

Simmons is a pioneer in quantum computing who is working to harness the power of atoms to develop super-fast, super-small devices that can crunch enormous amounts of data. As Director of the Australian Research Council Centre of Excellence for Quantum Computation and Communication Technology, she is at the cutting-edge of this technology and it appears that she and her team are pretty close to being able to produce a transistor based on just one atom. In effect, Simmons has thrown out the baby with the bathwater, and is now creating a whole new baby. Just wait until that baby grows up.

“If we think the rate of change that we have to deal with today is fast, what's coming down the path is going to totally change the world,” says John Riccio, Partner, PwC. “Once we get to the point where the quantum computer is reality and if you take what Michelle was saying about the rate of change, our fundamental way of

being will be totally different to today. It's not about technology on the side that influences our current way of living, it will be the way of living.”

Angelo Estrera, Partner, PwC, concurs: “In another 20 years the world will probably be very different. It will be a very different economy. Work will be done differently. The firm will be very different. From a technology perspective we can't even imagine what they'll be able to do.”

For Don Munro, Partner, PwC, Simmons' message was even more fundamental in terms of the impact on business.

“The analogy that classical computing has been taken as far as it can and we need to start with something different to take it to the next level, I think very clearly applies to many businesses out there, including PwC.

“We've refined and refined and refined, and we actually have to stop and think, what's a different model that works in the current environment, rather than constantly refining a model that was built in a previous time.”

This theme was taken up in other TEDxSydney talks including the joint presentation from Gerard Reinmuth and Anthony Burke who spoke about design and 'spatial intelligence' – rethinking the way we look at and design cities.

Jeremy Heiman's talk about 'killing green' made it clear that it's time to shake up the way we frame environmental issues to radically influence consumer behaviour; and Chris Anderson's sneak-peek of the next TED's offering, TEDed 'Lessons Worth Sharing' (which can be seen at [ed.ted.com](http://ed.ted.com)) essentially turned the limited world of classroom teaching on its head.

This kind of approach to technology, to design, and to education, Munro says, will impact on the way all sorts of industries – from health to

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finance to retail – service customers and share knowledge. “In a digital world we are already seeing people design very different businesses to the ones that we have traditionally operated under. Michelle Simmons wasn’t trying to adjust a current computer. She was starting again, from scratch. If we can establish the outcome we want to get to (which itself is not easy!), then the exciting part is to go back to basics and design an entirely new way to get there using all of the digital and behavioural connectivity opportunities we now have available – rather than the 20<sup>th</sup> century building blocks that have been governing our thinking to date.

“The most advanced mobile banking system in the world is in Africa, because they hadn’t built a traditional banking system there, they didn’t have the infrastructure to drive a network of ATM machines. Some of the great models for how things are going to work in the future are going to come out of less developed countries, because it’s far easier to design from scratch than to change an existing system.”

For Joanna Moore, Director, PwC Private Clients, this is something business is already grappling with, some more successfully than others.

“One of the themes that emerged for me over the day was not just challenging the way we do things but why we do them. Just because we’ve used a certain model to get us to this point that doesn’t mean that’s the model we should use to take us forward. If I relate that back to a business sense, so often we could think this is still working and I have growth; we’re winning new customers.

“I think the really successful entrepreneurs are the ones that strip it right back and go why am I doing this again, and what’s the value that I’m creating? And, is the model that got me here

going to get me to the next stage or do I actually have to do something different?”

Estrera goes back to the architecture analogy, which right now approaches design in a silo – rather than looking at the impact of a building on a city, and a city on a community, too much is dealt with in isolation. Many businesses work in a similar way.

“What they said about spatial intelligence is probably a good lesson for the firm. You’re doing something to *this* space, but how does it effect and impact on the rest of the community? The learning for PwC and other organisations is if you’re building something you need to make sure that it’s in line with strategy and you really look at the implications not just to your own business, but what is it going to do our other business units, what is it going to do to our customers, how are our competitors going to react to it? We have to look at things a lot more holistically.”