

An Interview with Chris Matthews, Managing Director of Silenceair

In Silicon Valley, 2007 will no doubt go down as “The Year of the Green”. Green technology—or clean technology—is the wave of the future. And, in Silicon Valley, the future is now. Chris Matthews and his Sydney-based [Silenceair](#) certainly found themselves in the right place at the right time at this year’s ANZA’s Gateway to the US Summit. Their small, easy-to-install, acoustic ventilators that require no energy to operate clearly stood out from the pack. Silenceair was chosen as one of the Guy Manson Award winners for Hottest Technology at this year’s ANZA Summit. We asked Chris to tell us a little more about his product and how Silenceair came to be at the forefront of the green technology movement.



Silenceair’s acoustic ventilators require no energy to operate. No duct work is involved. They can be installed in a building in just one day.

ANZA: As the “green tech” company at this year’s Summit, do you feel you’ve had an advantage as far as interest around this technology goes here in Silicon Valley?

CHRIS MATTHEWS: Yes—we’ve had an enormous advantage. Coming to the Summit and talking with people here has given us a realization around focusing our marketing and pitch into this emerging green technology market. We’ve been selling our technology based on the idea that it simply saves you money, which is a good side to it, but the other side is this “green” aspect of it, which excites people’s imaginations beyond simple cost-benefit ratios.

ANZA: How long has your product been on the market?

CM: Our commercial launch was in May 2007. So we’ve only been in the market for 5 months.

ANZA: Has the product sold well in Australia?

CM: Yes. We are selling in Australia. Our product is going exactly how we intended it to go in. All the feedback from our clients is that it has performed to their expectations and to our sales pitch. So that’s been great.

ANZA: In your presentation you say that your acoustic ventilators “add fresh air to a building and keep the noise out.” Can you elaborate a little more about how your technology works?

CM: The platform technology behind the products is the idea that you have an air passage which has a series of tubes along the side of the air passage. These tubes are of different sizes—different widths, different lengths—and they’re in specific ratios to each other. The dimensioning of the tubes is quite specific. All our patents are around the algorithms of how you choose the size of the tubes. With the different size tubes, as

sound waves come in to the air passage, and move through the air passage—sound travels through air—the sound waves go into the tubes and the tubes resonate. Just like an organ pipe, a different size tube will resonate at a different pitch. So, what happens is out of each of these tubes a sound wave comes back out of it at a very particular frequency. That makes a sound wave come in at the same frequency, like a low sound or a high sound—they'll meet each other and because they're out of sequence, or what we call “out of phase”, they annihilate each other, just like a wave running back from the beach will hit a wave coming in. So, instead of the wave running all the way up onto the beach—it stops, right in the middle. We actually reduce the energy—the sound—as it comes through.

ANZA: So, one wave hits the other and stops it from coming through?

CM: That's correct. We reduce the power of the sound, and that reduces the volume. What we can do because of this technology is that we can do this over a passage that is only 10 inches long—you can see straight through it. In this tiny passage, 85% of the noise is reduced. That's equivalent to 40 decibels of noise being reduced. That's the same as effectively trying to talk through a masonry wall or a laminated glass window. You can see someone's mouth moving, but you can't hear what they're saying.

ANZA: You've taken this noise reduction technology a step further and applied it to building products.

CM: Yes, specifically, we've applied it to ventilators for buildings. The idea is that we can actually start to get air moving through buildings—be it fresh air or internal air—it can move through a building, across acoustic barriers, like walls and windows and floors. We want to stop the noise moving in, but we want the air to go through. So what we now have is a way of getting air to move through buildings either from the outside to the inside or across partitions inside the building at very low pressure. It doesn't take a lot of energy to get the air to move because we have this virtually straight path, whereas all the other technologies that exist at the moment mean the air has to move through very convoluted passageways; it takes a lot of pressure to get it going. Our technology does not require duct work. You can actually have air moving through the walls and straight across the space and out the other side and you don't need to put ducts into the building.

ANZA: How did your background as an architect help this product come into being?

CM: When I was a practicing architect, back in the 1970s and early 1980s, I was interested in the green building movement. The movement then was in its very early stage and there wasn't much technology about. I moved from being an architect to being an academic, I taught industrial architecture and industrial design. I did courses in entrepreneurship and I set up a company with a colleague at university which was aimed to commercialize intellectual property. We put out the word that we were looking for technologies and we came across this technology from someone who was one of my ex-professors from university. He was actually one of the core inventors. When I first saw this technology, I thought that it was absolutely brilliant in its concept, but it needed to be

redesigned to actually make viable products and to increase its performance. We spent several years designing it, adding new technologies. I invented several new sound-reducing technologies which helped lift—when all combined—the performance of the product to the point where we were significantly better than any of our competitors' products.

ANZA: What led you to come to the ANZA Gateway to the US Summit?

CM: We wanted to begin to explore what we needed to do if we wanted to enter the US market. We've been lucky that we have been specified into two very significant projects in the United States at Yale University and Stanford University, both of which will be high-profile buildings—they're meant to be extremely green buildings and we were included in these design plans because we could give an answer to the issue of green acoustic ventilation.

With these opportunities and the realization that we are about to have exposure to our product and the fact that we also won an award as one of the Top 10 Eco Products in the United States by *Sustainable Industries* magazine, we thought it was an appropriate time to start researching what we needed to do to come to the US. We're aware that it's a big market, it's a difficult market, and we wanted to make sure that we entered it properly. ANZA was a great opportunity to actually do that, to explore the market and understand what we need to do in a really non-threatening way and highly supportive environment. People were giving us advice that we would never get any other way and it's given us a great insight into what we need to do to go forward.