

WU LIANG

Co-Founder and CIO of Green City Solutions

Patrick NICOLET

When you think of leaders, you think of entrepreneurs, so we will comply with the entrepreneurship side of it. Our two next presenters are entrepreneurs and we will start with Liang Wu, who is the co-founder and Chief Information Officer of Green City Solutions in Germany, which focuses on air depollution.

WU Liang

Can you imagine that 90% of all people are breathing polluted air every day and did you know that this causes more than seven million premature deaths annually? I bet you did not know that. For every breath of polluted air that you or your family are taking, it means that your life expectancy is shortened. For my family in China, that probably means that their life expectancy was shortened by more than 10 years already. Most people talking about air pollution still have pictures of Asia or Africa in mind, but the annual economic damage due to air pollution in Europe alone amounts to EUR 1.48 billion every year.

The problem of air pollution is that it is invisible to the human eye, but it is also directly related to climate change. I wanted to show you that young people are not only marching on the streets. We are so young that we are capable of multi-tasking, so apart from marching on the streets, which we actually did three weeks ago, we are also working on a solution. I also wanted to show you that we cannot do it alone. It is the diversity that makes it happen: different nationalities, ages and genders are what make up my team and what drives innovation in this case.

When we started four years ago, we were four co-founders, four dudes, and we covered the fields of architecture, mechanical engineering, horticulture-biology, and personally I have an IT background. One of our professors told us that plants are actually capable of cleaning the air, so we did some research and discovered that there is a technology millions of years old capable of partially solving the pollution problem. We have discovered special moss cultures, which we have patented in our own system, which are literally able to eat-up the air pollution and convert it into biomass. Those moss cultures have potential; they have a static charge that attracts the opposite charge to pollution particles. They have an increased leaf surface, which means that they are capable of capturing more pollution than any other plant and they are also capable of evaporating water on the leaf surface and creating cooling effects. This is a climate medication tool that we are talking about. The solution has been found. Moss can clean-up more than 80% of pollution in our system. That is it? No. We combine this natural solution with our own IoT technology, and this consists of sensors that measure the pollution levels, measure the humidity in the plants, as well as the water conditions. This augments the system to be capable of filtering the 80% I just told you about.

However, our approach is not just building a product, it is a holistic approach. With the sensors we collect the data, we analyse the conditions in the street canyons in the cities. We analyse where pollution is coming from. We do research on biology itself and the plants. Only with the help of all these different departments, institutions, corporates were we able to come up with what we call the CityTree. The name might change, but it is the product that counts. Five years of experience have gone into this development and I originally wanted to talk more about this, but this is not supposed to be a product pitch, so I have just shorted it to the version that we can adapt that moss to any infrastructure. We can adapt it to the building facades, even make it portable, build a smaller version for indoors to put in people's homes. Our original approach was that we wanted to provide a solution for the people in the city who cannot afford to have an isolated space, the elderly and the young people who suffer most from air pollution.

I have to be honest, we are not yet profitable. As a young company we have not been able to grow at such a fast pace, and maybe Peter you can help me out with that later. We also had big support from the European Union, and I wanted to highlight one of their funding programmes, which is called Horizon 2020. With their help and their funding, we will be able to create the first hyperlocal clean air zone in Berlin next year. This is also an invitation to all of you because at



Green City Solutions we do not only grow clean and fresh air, we also engage global leaders, which is why I was very happy to be invited to speak here and for this opportunity. Thank you, Patrick. If any of you has time, please come and visit us in Berlin and I will be more than willing to show you what young people are willing and capable of doing and maybe a picture of you and me showing the CityTree will be replaced next year.

Patrick NICOLET

Thank you Liang for covering many aspects and showing how the view is almost holistic. You want to develop sustainable solutions and I think it is a very important part of the young generation, not just the climate, it has to work, and it has to be sustainable.