

## Where Innovation Meets Technology

Pioneers Festival is the leading platform for science, innovative future technologies and entrepreneurship in Europe. Furthermore, it is one of the most important annual events in the scene, named by TechCrunch, Forbes and CNBC. Every year, over 2,500 international guest, startups, investors, corporates, developers & engineers, designers & marketers gather at the 500 year old Hofburg Imperial Palace in Vienna to celebrate the latest trends and topics together with renowned top speakers.

This year has been no disappointment. «From the world's premier flying car to innovative flying drones passing by DNA Printing, the event exceeded all my expectations», referred Dr. Da Silva, Professor of Entrepreneurship and invited international expert at Pioneers at the School of Management Fribourg.

### **Pro snowboarder creates autonomous camera drone Hexo+**

Xavier de la Rue has been a pro snowboarder since he was 17 and has been world champion seven times. Although he still boards, de Le Rue's life has recently taken a different course, he tells the audience at the Pioneers Festival in Vienna. He is now also a filmmaker, an inventor and a tech entrepreneur.

Following on from his physical achievements, this has meant capturing the sport on film in the most unusual ways. «You always need to find a new angle, a new way to film, a new way to tell the story», says de la Rue. Innovation in technology has allowed for increasingly exciting and ambitious filming of adventure sports over the past few years. The proliferation of Go Pros and other wearable action cameras has played a huge role in this, allowing people to capture point-of-view shots, the likes of which had never been possible before. «Action sport footage used to always be filmed from the outside; now we are able to help people really live the moment»

But the generic distance shots and the POV shots were not enough for de la Rue. «I wanted to show more than just the action», he says. «Often the most important part of the story is before the action happens or just after. The moments I was scared, the moments I had to turn back, the moments I succeeded» And there were plenty such moments, given that he had also become more and more focused on specializing in filming snowboarding in places no-one had been before.

He became obsessed with the idea of capturing decent aerial footage, without needing to splash out vast sums of money on -- or find sponsorship for -- a helicopter. «The aerial angle really brings the emotion and allows you to really see the dimension of the place. I swore that there would be no way I would go into an expedition without a way to capture it from the air»

At first he was experimenting with paragliders, but more recently a new technology came along that offered him the potential solution he'd been searching for. De la Rue started using drones about two years ago, and like everyone else, he says, he

presumed they would be really easy to use. Quickly discovering that this was not the case when it came to framing a shot, he found that the time had come to collaborate.

He partnered with a group of entrepreneurs and software engineers trying to tackle exactly the same challenge. They brought the entrepreneurial knowledge and programming skills and he brought the snowboarding and filming knowledge, as well as the platform he'd built up to show off the resulting videos. «Our goal has been since then to build the first autonomous flying camera», he says.

In January this year they launched their company; in March they built their first prototype and in June they put the Hexo+ autonomous filming drone on Kickstarter, raising \$1.3m.

You control the drone with your phone, using it to choose the altitude, angle and pitch, and capture all manner of different shots. Once it's been set up, you can hit «follow me» to get the drone to track your movements. In a few months' time the team will be able to combine all these camera movements, pre-programme them and launch the product to the public.

### **The world's most advanced flying car by AeroMobil**

The world's most advanced flying car, AeroMobil 3.0, was unveiled today at Pioneers Festival in Vienna. «We get lots of offers from auto shows», says AeroMobil co-founder Juraj Vaculik. «We decided pioneers festival is so right for us." As much as they are designers and engineers, Vaculik and his partner Stefan Klein are also entrepreneurs, and their projects have been primarily self-funded.

Behind the development of the AeroMobil is the idea that people should be able travel freely, but the Vaculik says they have also been inspired by the idea they can free people from the «daily prison we are all in» -- that is the «traffic jam prison» and the «airport prison». This statement provides insight into the two primary applications of the vehicle -- overcoming traffic- and airport-related problems -- but there is a third, not entirely unrelated application too.

«There are still a lot of countries where there is not an infrastructure», says Vaculik. Only three percent of the world has paved road and the AeroMobil team believes they have built the kind of vehicle capable of overcoming problems caused by lack of this infrastructure in many places.

«It's a really nice startup story. This story, like many start-up stories, started in a garage», says Vaculik. Now the company only has 12 full time members of staff and after all these years have finally made Klein's childhood dream come true. Vaculik points that through their perseverance they have managed to create something that engineers and designers have been attempting since the early twentieth century. «We were able to achieve something that even today is amazing»

## Designing every human on a computer – DNA Printing Technology

Cambrian Genomics, where Austen Heinz is CEO, has a clear mission: genetically engineer everything that is alive on the planet, create totally new organisms that have never existed, and replace every existing organism with better ones. They are the first company in the world to make hardware/systems for laser printing DNA.

«It just seems obvious that eventually every human will be designed on a computer» continued Austen Heinz. You may think this represents the vision of a mad scientist, or the opening scene of a new sci-fi movie, well, it's not. Heinz is rational in his view, and is committed to change the world like no entrepreneur has ever before. While the total funding has not been disclosed, Cambrian Genomics has backing from investors including PayPal's Peter Thiel, and its vision of the future includes a platform through which people can manipulate DNA online to create nearly everything that is alive.

Heinz believes that everything has a more optimal version of itself and as such we should be creating them. «We are running a program that is designed for us to die. I think obviously every organism will be designed synthetically. It's not a stretch to take it to every human and everything that's alive», he said.

Glowing plants were the first products the company made. When they were advertised for sale online, they generated half a million dollars in a matter of weeks.

If you're wondering whether all this genetic modification is 1) dangerous and 2) who is regulating it, the answers are: 1) potentially yes, and: 2) Nobody. There is potential to create bioweapons with the technology, and these could apparently be «more powerful than hydrogen bomb» «This is going to be a centralized service forever», says Heinz.

«It is scary and exciting at the same time. The existing technology blew my mind. Austen's is about to revolutionize biology and the world. Imagine having all trees in public streets glowing in the dark thus abolishing our need for street lights? From anti-aging solutions to genetically engineered pets that are small versions of tigers or polar bears – the start-up possibilities that will emerge from DNA printing technology are endless», referred Dr. Da Silva.

Sources: Pioneers Festival Press, Wired Magazine.