



In a model shop somewhere in outback New South Wales, Australia, founding directors of Aeronavics Ltd Rob Brouwer and Linda Bulk first set eyes on the beginnings of one of the first aerial robots. Little did they know this was to lead them down a path that is changing the way we farm.

Coming from a background as a commercial pilot, Rob had always been interested in flight and aviation.

"I've always played with model airplanes and I had a model helicopter that I needed to buy some parts for. Linda and I went into an out of the way little model and hobby shop and it was there we saw a very crude version of what was to be the beginnings of a commercial/consumer aerial robot," he said.

The first aerial robot prototypes were made up of aluminium curtain rods screwed together to form a cross with and a camera wrapped in foam and cable tied to the underneath. There was a very crude PCB board with some sensors and that was it. "This was the very very beginnings of what is now

a multibillion dollar industry around the world.

"Back then there were forum sites where geeky characters were hanging out and experimenting with the technology.

"As soon as I saw that proto type, there was a light bulb moment, so I started following what was happening and became one of those geeky characters myself."

It was here that Rob and Linda became interested in the physical airframe structures and began experimenting.

"Things were falling out of the sky all the time at the start. They would only fly for a maximum of four to five minutes carrying a tiny little point and shoot camera."

Rob and Linda focussed on using carbon fibre, a lightweight vibration absorbing material, whilst everyone



Aeronavics Ltd founding directors Rob Brouwer and Linda Bulk have a passion for creating quality aerial robots

else was still using aluminium. Rob taught himself how to use technical design software and started drawing up airframe structures.

"We hand-made our own airframe designs and got to the point where we could get crystal clear high resolution images and video from cameras hanging underneath these crafts. At that point we had a bit of a eureka moment and

we were ready to start it as a business for aerial photography."

Some of their hand made prototypes were photographed and put online. They were soon flooded with enquiries and people began to offer large sums of money to buy them.

"At that time it took us three months to complete one. We decided if we could machine make them we could

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Aerial robots are becoming popular in the agricultural industry as a way to save time and reduce injuries

sell them commercially. That was a change in direction for us and soon we launched the business Droidwork online. Within three months we had about 60 distributors — mostly start-up companies — from around the world.”

At this stage the company was operating out of a house in New South Wales so Rob and Linda decided to move to New Zealand in 2010, choosing Raglan for the lifestyle, to launch their business Aeronavics Ltd before they got too big. Rob says he is constantly motivated by the vast possibilities of what these aerial robots

WHEN TIMES ARE HARD, WHY SPEND

can do, and how they can contribute to a safer, more sustainable and more prosperous environment

“What started off as hobby machines for aerial photographers are now being used for search and rescue, mapping and other critical commercial applications such as precision agriculture and infrastructure inspection.”

In comparison to some overseas companies making similar products, Aeronavics Ltd has stayed small, more like a boutique manufacturer, focussed on a specialised market. Another company which started a year after them

has grown into a billion dollar company pumping out 30,000 plastic drones a month aimed for the consumer market. However Rob says he couldn't do that.

“I couldn't be a part of a company that makes plastic things that will last a short while and end up in landfills. I am inspired by creating quality and beauty and things that are useful and add value so we chose to go down this path and focus on professional, specialised markets who use the technology as a tool — meaning we weren't instantly going to grow big and get rich and famous, but it is much easier for me to sleep at night.”

“Farmers are using them more and more. There is the immediate opportunity for situational awareness, monitoring operations without actually leaving your front porch. For a lot of farmers to check on fences, stock, water

troughs and leaks takes up a lot of time and this is a time saving device, and it also eliminates the need to take risks on quad bikes — utilising the technology to reduce injury and even deaths due to quad bike accidents.”

Farmers can also use multi spectral cameras on these aerial robots which scan crops and gather information about the level of nutrients in the plants and the ground around them.

“If you buy a machine off us today, you have a tool for a good few years. Our new range, launching in a couple of months, is our most advanced craft yet and is future proof. As new sensors and hi tech smart add-ons continue to be invented, we can just attach them to the craft as an upgrade. We build flying robots that you invest in — it's a high performance utility tool designed to last for years.”

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