

Mount Barker employee takes out state award

By Deirdre Graham



Finch Restorations may be a relatively small company by global standards, but its commitment to emerging technology has shone through at a recent state award.

Employee Andrea Manclus took out the Emerging Innovator category at the Women in Innovation Awards for the work she does merging IT with design and graphic arts, including creating 3D spatial models of vehicles under construction or restoration at the Mount Barker business.

The Finch team has recreated some of the most important vehicles the world has ever seen, and owner Peter Roberts said technology had become an essential part of modern-day restorations.

"We were able to obtain a Federal Government grant to help us purchase a 3D laser scanner and Andrea took that scanner under her wing," he said.

"It was easy for her to learn the software to use with the 3D scanner because of her background in graphic design.

"From there, it evolved and for the SS100 Jaguar we have just built, Andrea took the 1938 paper drawings of the original chassis design and then converted them into a 3D spatial model of the chassis.

"Then developed our various components, so they could then be cut by modern laser cutting techniques."

Mr Roberts said while the role was already emergent and innovative, they looked to take the process even further.

"We had a vehicle here that was very badly distorted after some major accidents in the 1960s and 1970s, and to repair a vehicle that is very badly damaged from back then, you really need to know the original dimensions," he said.

"Being such an old vehicle it was very hard to find those specifications, so the idea that emerged was that the next best thing would be to find a similar vehicle that hadn't had these major accidents and 3D that vehicle to use it as a reference, and then scan the damaged vehicle – this is something that Andrea developed herself.

"Using distance mapping you can actually look at what parts of the two different scans for the good car and the damaged car, and map the difference between them."

The company couldn't find anywhere on the internet where this technology was being used, so reached out to AI to locate someone.

"It came back with four references, and three of those were just companies selling 3D scanners, but... one company, they were using it for forensic analysis of road crashes to do an assessment of the energy of impact and how damaged the cars were," Mr Roberts said.

"From there, they could calculate how fast the vehicle was travelling from the amount of energy that had gone into distorting the modern cars.

"It is an associated activity but not for our purpose, and who knows if (what Andrea has done) is a world first but it was unique.

"It is using modern technology associated with what old school coach builders and panel beaters are doing; to utilise this knowledge to reverse engineer what the specifications are for the old cars.

"We are extremely proud, and it is a fabulous thing that Andrea has achieved."

Ms Manclus said being able to undertake her work required a lot of practice.

"I think it is a mix of technical and creativity because you need to have a lot of special visualisation that is not only technical," she said.

"It is a bit of everything, and you need to have a technical background because it needs to make sense.

"In the end it is a team job because of course, I don't have all the knowledge.

"We have a lot of experienced people here



Finch Restorations owner Peter Roberts with award-winning employee Andrea Manclus. Andrea took home the Emerging Innovator category at the Women in Innovation Awards.
Photo: Deirdre Graham

that are engineers, mechanics, and panel beaters, so at the end, it is a group of things that are merged together."

One of her next projects is to build a 1910 Halley truck.

The Halley trucks originated from Glasgow but folded during the Great Depression because after World War I military trucks came back from Europe and flooded the market.

Finch Restorations were approached by a Northern Territory Trucking Hall of Famer who wants to gift a Halley truck to a South Australian museum.

"The truck is not complete, and the engine appears to have been vandalised at some stage with a sledgehammer to put it out of commission," Mr Roberts said.

"It doesn't have a cabin, but there are some old 1910/1920 photographs of it.

"This is where Andrea is taking a 3D model of the engine and all the parts.

"Andrea now has to interpret the photographs to create a 3D model of something that we don't even have.

"I imagine she will superimpose that over the photograph to get it to fit, and then we will be building the missing parts of the truck that no longer exist out of that, but also look at other trucks around the world for help."

The Women in Innovation Awards were staged late last year, with South Australian women across many fields represented.

"When we went to the event that Andrea won her award at we felt 'we are doing car restorations here and there are women here from the space industry,' Mr Roberts said.

"We felt like we were imposters, doing just car restorations, but when Andrea won, we couldn't believe it."