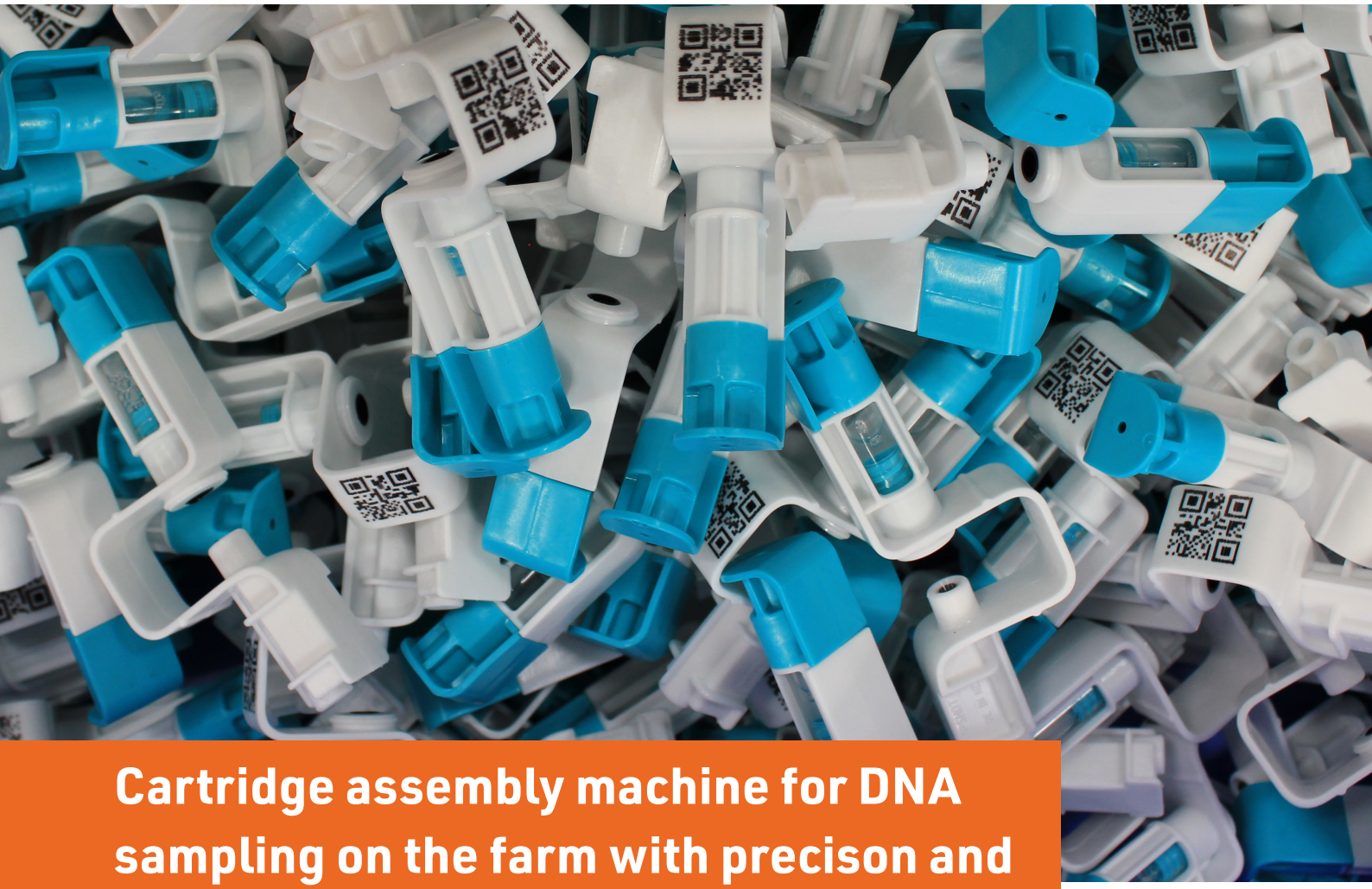
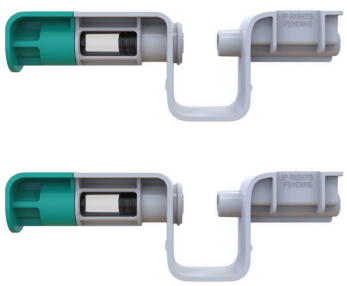


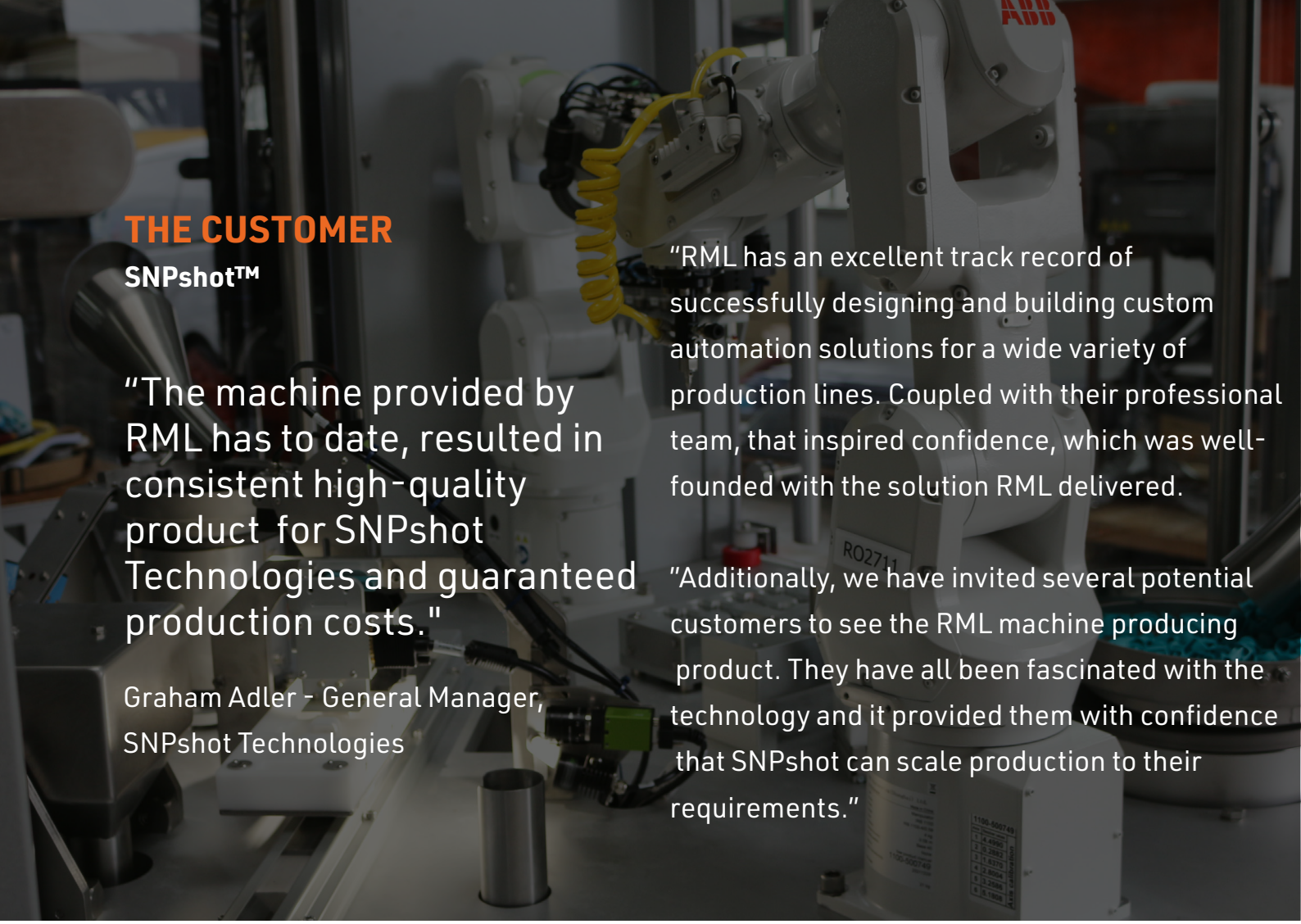
Cartridge assembly machine for DNA sampling on the farm with precison and speed

SNPshot™ is a New Zealand-based company that's designed a whole new way of DNA sampling that is seamless and simple.

Taking advantage of modern technology, SNPshot™ designed a method that met the needs of its two end users - that is, farmers sampling in the field and DNA labs processing the resulting samples. By using significant input from these two parties during the design process, the company was able to build a system that is very easy for farmers to use and samples that are simple to process in the lab.



SNPshot Catridges



THE CUSTOMER

SNPshot™

"The machine provided by RML has to date, resulted in consistent high-quality product for SNPshot Technologies and guaranteed production costs."

Graham Adler - General Manager, SNPshot Technologies

"RML has an excellent track record of successfully designing and building custom automation solutions for a wide variety of production lines. Coupled with their professional team, that inspired confidence, which was well-founded with the solution RML delivered.

"Additionally, we have invited several potential customers to see the RML machine producing product. They have all been fascinated with the technology and it provided them with confidence that SNPshot can scale production to their requirements."

THE CHALLENGE

The sampling cartridges that were in use consisted of 9 components, one filled with a saline solution. The manufacturing of these cartridges had been highly labour-intensive and had been identified as a production bottleneck.

There is nothing the dairy industry has not challenged RML to, so we gladly accepted this challenge to identify a solution for SNPshot.

To increase production output and minimise production time, SNPshot wanted a system to automate the process and produce completed cartridges at 20 units per minute.

The Injection Moulded Part Assembler that we build and design at RML provided the perfect solution, providing a reliable and consistent way of automating the manufacturing process of the SNPshot cartridges.

THE SOLUTION

RML proposed an Injection Moulded Part Assembler. The machine can receive the cartridge bodies directly from an injection moulding machine.

The other 8 components were to be loaded into separate bowl feeders where they could be singulated and presented as individual units for loading. The machine consisted of three robots, three Beckhoff servo axes for precision positioning, eight cameras for part identification, a saline solution dispensing unit, a QR barcode printer and database integration for full traceability of all components

Injection Moulded Part Assembler Render

Each cap in the cartridge has a pre-printed miniature DM code, then during the assembly process, this DM code is read and then sent to a Cloud Database through a RestAPI interface. This DM code is then validated in the database and a secondary QR code is returned through the same interface. This secondary QR code is then printed onto the exterior of the cartridge body.

For SNPshot, the result was a significant increase in output and an improvement in processes, which is something a company known for innovation is always striving for.

We love solving challenges that free our customers and maximise human potential.

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