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**A new partnership between Mt Cook Alpine Salmon, Scott Technology and Seafood Innovations to automate removal of fish bones from New Zealand's highly prized King Salmon.**



## **King Salmon Pin Bone removal**

A pathway to automation

There are more than 30 pin bones in every King Salmon fillet with no current alternative to providing a bone out product than plucking them manually, one by one.

The picture below shows one of the team at Mt Cook Alpine Salmon's Timaru plant removing pin bones from King Salmon fillets.



*“We currently process around 500,000 fish a year through our Plant and a growing proportion of our market is looking for bone out fillets and portions,” said Brent Keelty, Manager of Mt Cook’s Processing operations.*

*“Pin boning is a tedious and costly task and we have to rotate our staff on the pinbone line to avoid repetitive strain injuries.”*

Unlike the more ubiquitous Atlantic Salmon grown elsewhere in the world, King Salmon or Chinook, have a finer bone structure and technologies developed for automating pin bone removal for Atlantics, can’t be adapted for King Salmon.

*“New Zealand is the largest producer of King Salmon in the world, but overall volumes are tiny. We’ve visited the large equipment manufacturers and they have no interest in developing an automated solution for this species,” said Keelty. “The market is too small for them to invest.”*

*“A year ago we partnered with Scott Technology to research various known technologies around the world and to develop a pathway that could provide some level of automated solution to the manual pinboning task. It was the ideas and knowledge displayed by Scott in this preliminary work that gave us confidence to proceed with the current project,” said Keelty.*

**Scott Technology is a New Zealand company with widely acknowledged expertise in imaging technologies and robotics in the food sector.**

*“It was this set of skills we needed to tackle a project like this,” Keelty said, “but we wanted a pragmatic approach that would provide a staged solution along the way to a potentially fully automated solution.”*

According to Scott Technology, CEO, Chris Hopkins -

*“We love a challenge like this. It’s ingrained in our culture, finding interesting ways to apply technology solutions to business challenges – particularly to help fast growing New Zealand companies whose products are delivering valuable export revenues for the country.”*

In the first instance, Scott is developing assistive hand held devices for Mt Cook Alpine Salmon.

*“We will follow with some more advanced concepts deploying our machine vision technologies to develop a high resolution 3D view of every fillet and then use algorithms to determine the precise locations of the bones in each fillet. Then the plan is to adapt our robotic automation to remove the bones,” said Hopkins.*

Because of the pioneering nature of the project, Mt Cook Alpine Salmon approached Seafood Innovations Ltd to provide financial assistance and was delighted to receive more than half a million dollars of backing for the project.

**Seafood Innovations Ltd encourages and provides funding support for innovative research and development within the seafood industry, with the aim of adding value to the sector.**

*“Seafood Innovations Ltd is really excited about the potential this project has to deliver significant value to Mt Cook Alpine Salmon by helping the company meet growing market demand for its premium product,” notes Seafood Innovations Ltd’s General Manager Anna Yallop. “Similarly, Scott Technology has an excellent track record of delivering highly effective solutions to New Zealand companies, so we are very pleased to be a part of this endeavour and look forward to seeing how this project progresses over coming months.”*

The pin bone project has several milestones and is expected to take around 18 months to complete.

According to CEO of Mt Cook Alpine Salmon, David Cole, *“We are focused on taking more value added products into our international markets and smartening up on our pin boning efficiencies is just one step towards matching the cuts and offerings expected by our global customers.”*

## Contacts

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