

**Scion is a New Zealand Crown Research Institute (CRI) that specialises in research, science and technology development for the forestry, wood product and wood-derived materials and other biomaterial sectors.**

Their purpose is to drive innovation and growth from these sectors to build economic value and contribute to beneficial environmental and social outcomes for New Zealand. One key area of research for Scion is forest health and biosecurity. This project is an extension of this through a partnership with the Biological Heritage National Science Challenge and other government, primary sector, regional council and Maori partners.

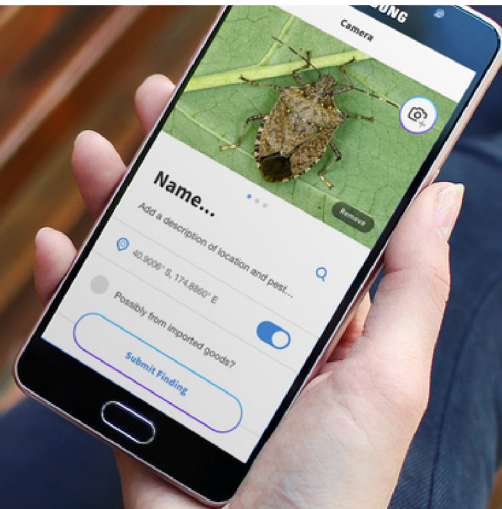
Biosecurity is everyone's responsibility because our economy is heavily reliant on primary production and our isolation provides the opportunity to protect ourselves and our natural environment from new pests and diseases. Early detection is the biggest factor that contributes to successful eradication of newly established species. Earlier detection

finds populations when they are small, allowing precise targeted tools to eliminate them before they become widespread.

Public surveillance is an important component of the overall surveillance system in New Zealand. Currently the public are encouraged to report via Biosecurity New Zealand's '0800' Pest and Disease Hotline. This project will establish a complimentary channel for reporting observations directly via mobile based tools, i.e., an iOS and Android phone application.

### **THE CHALLENGE**

The advantage of a digital reporting channel is the ability to create a community of users that are committed to the biosecurity of New Zealand. Hence, the tool Scion wanted had the objective of creating a dialogue with users using alerts, news, and commentary that builds rapport amongst people with a common interest of protecting New Zealand.



## THE CHALLENGE CONTINUED:

Scion engaged with Cucumber to develop a technology solution that allows:

- Participants to record an observation of what they believe to be a potential biosecurity threat.
- Industries to support biosecurity surveillance via intermediaries that will assist in the identification of potential biosecurity threats.
- Involvement with the iNaturalist NZ community in the public identification of pests that are already present in New Zealand, e.g., weeds.
- Standardisation of data collection to allow consumption of raw data by third parties, e.g., MPI or Regional Councils.
- Facilitation of communication between parties, e.g., comments, notifications and alerts.

There are two broad categories of users that will interact with the solution:

1. **General public:** These are general members of the public that do not associate with a particular primary sector.
2. **Sectors groups:** These are either a primary sector, e.g., forestry, or the regional councils who have a specific interest in 'weed'.

## OUR APPROACH:

Cucumber's solution for the Scion Biosecurity Surveillance application contained the following features:

- Content management system with multi-lingual support, a rich user interface, flexible content model and the ability to publish to web and offline channels
- Full offline functionality for the mobile application
- Autonomous and automatic synchronisation between the mobile devices and the master database.
- Security with best practice security principles

Using an agile process Cucumber were able to deliver functionality quickly to get key stakeholder feedback and allow for change within the defined project timelines and budget.



## EXPECTED OUTCOMES:

With this project, Scion's aims to:

- Create a community of users that are committed to the biosecurity of New Zealand.
- Aligns strongly with Biosecurity 2025, the ten year strategy of Biosecurity New Zealand
- Establish a new channel that has sufficient information to support identification of pests to keep New Zealand safe