



Size
180 square
metre plot



Scan time
10-15 minutes



Location
Canberra,
Australia



Industry
Conservation



Scanned
National Park

Australian National University

Placed first in Australia and 20th in the world, Australian National University (ANU) is a research institution with its main campus in Canberra, the country's capital. The university's research priorities typically reflect the challenges facing the world today. One such project is to track tree growth and development over time in a joint effort between ANU and Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Known as the 'Precision Measurement of Trees and Forests' project, the field team is charged with comparing and contrasting different ways of collecting data, using different terrestrial and airborne laser scanners, and working with digital imagery. The survey takes place in the National Arboretum in Canberra which features some 44,000 rare, endangered and symbolic trees and is made up of 94 mini forests.

GeoSLAM's "go-anywhere" mapping technology was a natural choice for the outdoor project. Unlike terrestrial systems, the splash-proof, dust-tight, mobile laser scanners are designed to operate in the most difficult-to-access spaces, inside or outside, in daylight and darkness – without the need for GPS.

What's more, you can easily attach the portable laser scanners to a drone or helicopter for fast outdoor surveying.

“ What I really like about this product is that wherever you can walk, you can scan. It really is a case of 'go-anywhere' ”

In addition to GeoSLAM's versatile handheld technology, the team also uses fixed point scanning and traditional forestry measures – such as Suunto and digital photographs from UAV's. Tom Jovanovic, former CSIRO researcher and now Interactive Technology Specialist at the University of Newcastle, Australia, explains that the technologies are complementary, "Using GeoSLAM from the outset, as well as a different system, has enabled us to compare and contrast different measurements and combine them into a heavily monitored site finding. This includes the high level of resolution being sought."





Emphasising that the project is specifically designed to take advantage of both static and mobile approaches, Tom Jovanovic says, “What’s nice about scanning with GeoSLAM’s technology is that it doesn’t involve repeatedly setting up in different locations within the research plot. You just initiate the start-up procedure then walk around the plot covering the trees from different angles.”

“ Mobile scanning that gives us dynamic changes over time – from any angle and in 3D – is a very important contributor to this work ”

All forestry professionals like Tom need access to user-friendly technology that is easy to operate but is robust and reliable enough to do the job quickly and accurately. With GeoSLAM scanning technology, he says it takes only 10 to 15 minutes to completely cover a 180 square meter plot, adding, “What I really like about this product is that wherever you can walk, you can scan. It really is a case of ‘go-anywhere’.

The scanner has made a significant contribution to an important undertaking. Mobile scanning that gives us dynamic changes over time – from any angle and in 3D – is a very important contributor to this work.”

These GeoSLAM-delivered findings are vital to the project’s long-term aim. Combining them with knowledge of water usage and photo synthesis, plus meteorological data and high-resolution photography, they feed into very fine scale modelling that will guide forestry research management and habitat protection policies into the future.



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