



CITY FORESTS

OPTIMISING DIGITAL COVERAGE AND SAFETY MEASURES ACROSS TWENTY THREE THOUSAND HECTARES

CUSTOMER PROFILE

CITY FOREST NEW ZEALAND

INDUSTRY FORESTRY

SOLUTIONS

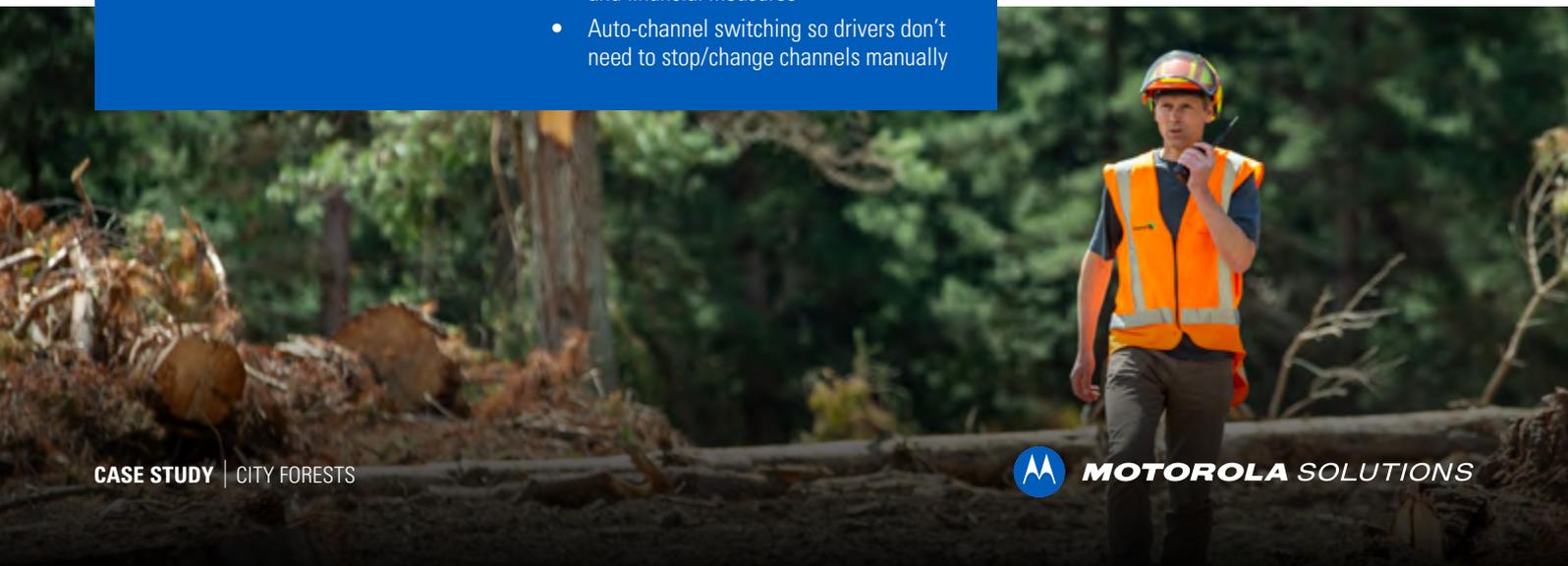
- MOTOTRBO SLR5500 Digital Repeaters across 4 sites
- TRBOnet Data & Safety Capabilities, via the Orion Network Core
- GPS location services
- GEO-fencing
- Auto-Channel Switching
- Man-Down & Emergency buttons
- Digital forms transmitted via the digital network

BENEFITS

- Stable and reliable digital radio coverage across 23,730 hectares
- Crystal clear voice communication
- GPS location services for improved safety/ man down situations
- Contactless/ Covid-Safe digital docket system
- GEO Fencing – Auto notification when switching from private to public roads
- Improved Reporting across operational and financial measures
- Auto-channel switching so drivers don't need to stop/change channels manually

City Forests have been managing forestland in the Otago region of New Zealand since 1906. Over the years they have sustainably grown, sold and distributed heavy forest materials to a wide range of national and international clients daily. Today City Forests owns and manages over 23,730 ha of land within an 80km radius of Dunedin, the city in which they're based. The company prides itself on maintaining the highest safety and environmental standards, protecting not only the forest but also those who work in it.

City Forests wanted to advance safety for employees and contractors working in the region, they turned to their communications partner Central Radio Services (CRS) and Motorola Solutions to replace their out of date analogue network with a new digital technology solution.



CHALLENGES

City Forest's existing network was working off analogue VHF repeaters located in four locations. These had been in commission for many years and were approaching the end of their working life. New parts were no longer being manufactured so upgrading the network was the only viable option for bringing the company's safety systems up to industry standards.

URGENT NEED FOR CONTACTLESS OPERATIONS DURING THE COVID-19 PANDEMIC

Each time a truck is loaded prior to dispatch and distribution, City Forest requires operators to complete a hand written 'bush docket'. For many years this has been a manual process, with each docket recording the truck number, quantity of logs, crew ID, source code and volume/length before departure is permitted.

With COVID-19 arriving in New Zealand in March 2020, the paper docket system was no longer a safe option. This was due to the transmission risk from dockets being passed between truck drivers, load operators and other third parties. City Forest had an urgent need to digitise their system so that workers could operate safely under the new lockdown measures imposed by the New Zealand government.

WEAK VOICE COMMUNICATIONS IN REMOTE AREAS

City Forest and their associated subcontractors operate between forty to sixty trucks daily across Otago's challenging forest terrain. Stable and reliable communication between drivers is therefore crucial for optimising safety. Protocol requires truck drivers to frequently call out their location via radio to alert other drivers within their vicinity. In forests of this scale there are weak spots, especially in remote or mountainous zones. Voice calls can invariably be scratchy and hard to decipher, heightening the likelihood of miscommunication.

UNRELIABLE REPORTING AND TRACKING

With the existing analogue network it was not possible to track or retrieve accurate data across every block and forest. Drivers had to be relied upon to manually report their location and follow important safety protocols such as notifying their foremen whenever they transferred from private to public roads.

INSUFFICIENT SAFETY IN 'MAN DOWN' SITUATIONS

Under the former safety protocol, contractors working in remote areas were required to confirm they and their teams were safe by making regular check-ins at timed intervals. As this was carried out via radio, having adequate coverage was vital but not always possible. Being subject to potential network or human error, man down situations could therefore present a high risk for individuals.





SOLUTION

TECHNOLOGY TO IMPROVE SAFETY AND EFFICIENCY IN THE FOREST

City Forests now has access to CRS' digital network, equipped with Motorola Solutions MOTOTRBO SLR5500 at each of their four sites. The switch over to the digital network and connection into the Orion application core was critical in improving safety, enabling clear and reliable voice and text communication, accurate GPS location tracking, instant reporting and the digitisation of the bush docket system during COVID-19. Using TRBOnet, City Forests was able to gain a true and accurate picture of operations across the entire region. Benefits included:

- **GPS Location Tracking:** With TRBOnet, City Forest HQ in Dunedin will have full visibility of each truck's onsite location and movements. Warnings for situations such as adverse weather can be rapidly issued to the fleet, either by voice or text. In man down situations, a dedicated emergency button on the radio can be programmed to instantly flag a precise GPS location to first responders.
- **Geofencing:** The TRBOnet platform has enabled the setting up of Geo-fencing zones across the entire forest. Safety alerts can now be automatically generated whenever trucks are entering or leaving these zones.
- **Digital Dispatch:** Implementation of a digital docket system during the COVID-19 pandemic ensured that loading crews were able to issue dockets instantly, safely and without requiring physical contact.
- **Automatic Site Roaming:** Truck drivers moving between blocks no longer have to stop their vehicles to manually change voice channels. Voice connection stays live without the operator ever having to take their hands off the wheel.
- **Voice Connection:** With the four new digital repeaters, voice connections are stabilized across the entire forest. Clearer voice communication has dramatically reduced miscommunication between drivers and their base.





BENEFITS

UPGRADING TO A DIGITAL NETWORK TO MAXIMISE SAFETY FOR ALL FOREST WORKERS

With a focus on heightening safety protections for truck drivers, load operators, and other contractors working across the Otago region, City Forest tackled their partner CRS and Motorola Solutions with implementing a digital network that could enable GPS tracking, auto-channel switching between blocks, rapid alert messaging and a new digitised docket system.

“Upgrading our network to digital not only enabled clearer voice communication, but also provided other useful features like text messaging and GPS capability,” said Forest Production Manager Guy Bonner, “Moving to a digital platform also gives us the option to plug in further capabilities to improve safety in the future.”

A FASTER, MORE EFFICIENT METHOD OF SUBMITTING BUSH DOCKETS

Completing and submitting bush dockets via TRBOnet has made processes faster and more efficient. Load operators now use their radios to navigate a set of simple drop down menus. These contain fewer fields to fill out, as source codes and crew IDs are now auto-populated and updated to the radio remotely. Once completed, the docket is instantly submitted.

As well as circumnavigating the risks of transmission during COVID-19, the new docket system delivers additional benefits such as decreasing administration time and cost, and speeding up the invoicing process.

CRYSTAL CLEAR VOICE COMMUNICATION

Since phasing in the digital network, loader operators have reported a remarkable improvement in the definition and clarity of voice calls. TRBOnet has also enabled instant voice messaging between HQ in Dunedin and the fleet, leading to greater safety in the forest.

GREATER EFFICIENCY AND ACCURACY IN REPORTING

Checking and reporting that a truck’s tyres, chains and loads are secure before entering public roads is an essential safety procedure. With TRBOnet, this process takes a fraction of the time thanks to a dedicated button on the driver’s radio. Pressing it instantly logs in TRBOnet that each check has been completed, along with the time and location. This provides a far more reliable audit trail for trucks operating in the region.

FASTER RESPONSE TIME IN MAN DOWN SITUATIONS

Now, with GPS capability and TRBOnet, an operator only has to press a dedicated emergency button on their radio for GPS to provide the precise coordinates of the injured party. The rescue operation can then be carried out with much greater precision and speed.

To learn more, visit motorolasolutions.com or contact your local Motorola Solutions representative.

