Comm on wheels at the 'Race to the Sky Event.' Cardrona Valley, 18 – 19 April 2015.

"We moved 67GB of data in 3 days for the event without failure"

"Ubiquiti AC gear worked a treat and was instrumental on delivering such services as: race timing, media file transfers, internet access, audio streaming, big screen TV, EFTPOS, as well as relaying live TV from multiple locations back to the editors without jitter."

Gareth Bennett - Director of RadioSystems Ltd

The Challenge:

Dunedin based independent solution provider, RadioSystems Ltd, specialise in the design, procurement, construct and maintenance of radio systems for a diverse range of organisations including:

- Cellular service providers
- Government departments
- Local councils to small private companies

A solution was required to cover the famous Highlands Motor Sport 'Race to the Sky' track with IP connectivity, which covered approximately 10km. An IP internet backhaul was also required as there were no local internet connections available.

RadioSystems

Customer

RadioSystems Ltd
Dunedin

Challenge

IP Connectivity for approximately 10km.

Solution

Ubiquiti 802.11ac radios for the point-to-point and multipoint sections.

3x PTMP links *(R5AC-PTMP)*

9x CPE's *(NBE-5AC-19)*

3x PTP Backhaul *(PBE-5AC-500)*

3x ARC Dual Pol 5GHz *(ANT-178)*

Highlands race to the sky .co.nz

The iconic Race to the Sky is the longest gravel hill climb in the world. Over the weekend of 18-19 April, more than 100 competitors in cars, motorcycles, quads and off-roaders competed for the prestigious title of the Repco Race to the Sky King of the Mountain Champion and their class victories. The Cardrona Valley course is 14.5 km in length, includes 135 corners and climbs from 450 to 1500 metres above sea level.

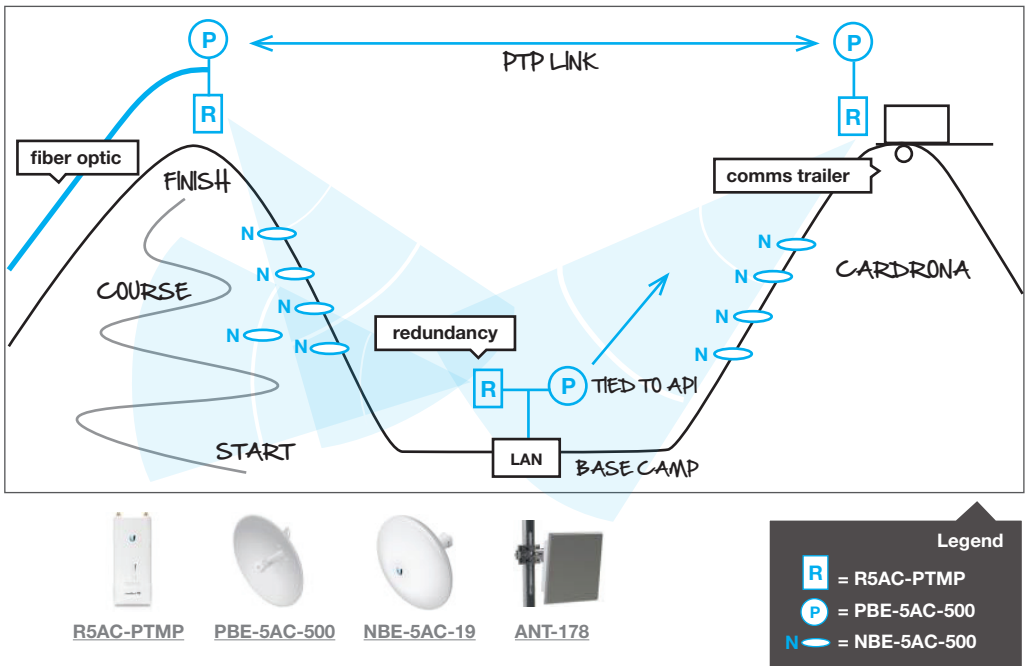
The Solution:

A kit was put together using all of the latest Ubiquiti 802.11ac radios for the point-to-point and point to multipoint sections.

"We moved 67 GB of data in 3 days for the event without any failures!" Gareth Bennett proclaims.

The 'comm on wheels' included 1 Ubiquiti R5AC-PTMP link, as well as 6 UHF repeaters to cover all voice comms channels for the entire course (race control, timing, 2 TV channels, operations and management).

"We used a mixture of 9 Ubiquiti NBE-5AC-19 units for the clients, 3 Ubiquiti PBE-5AC-500 units for the bearers (backhaul), with 3 Ubiquiti R5AC-PTMP units using customised dual polarity antenna as access points." Bennett Explains.



"We patched into the fibre at the top of the mountain and had a PBE-5AC-500 bearer (backhaul) and R5AC-PTMP installed. The PTP link then connected to the Cardrona comms trailer where it covered the course using a second R5AC-PTMP. At the base of the hill, another PBE-5AC-500 was set up as a subscriber off the R5AC-PTMP installed on the comms trailer, whilst feeding a third R5AC-PTMP for redundancy.

A lot of the work was RF engineering such as path profiles, choosing the locations for the links, fade margins etc and antenna specifications. The trailer needed to cover a large chunk of the hill where sector antennas were not suitable due to high gain and narrow e-plane." Bennett continues.

"I never considered any other product as the Ubiquiti products are easy to use out of the box and extremely good value for money. We use Ubiquiti at Macraes Mine and have yet to have an issue with them so we knew we could count on their reliability.

The AC protocol was chosen due to its economic spectrum use and security for the event, ensuring we didn't have any problems and could operate with a high degree of confidence immediately."

The Benefits:

"Race to the Sky 2015 was a huge success!" exclaimed Bennett.

"Ubiquiti AC gear worked a treat and was instrumental on delivering such services as: race timing, media file transfers, internet access, audio streaming, big screen TV, EFTPOS, as well as relaying live TV from multiple locations back to the editors without jitter.

On site looking at constellation, recieved signal strength indicator (RSSI) and data rate, everything went smoothly and GUI information such as RSSI was within 3dB of our calculated path profiles. We were very happy with the results."