

TECS TEAM

FY2019

ACHIEVEMENTS

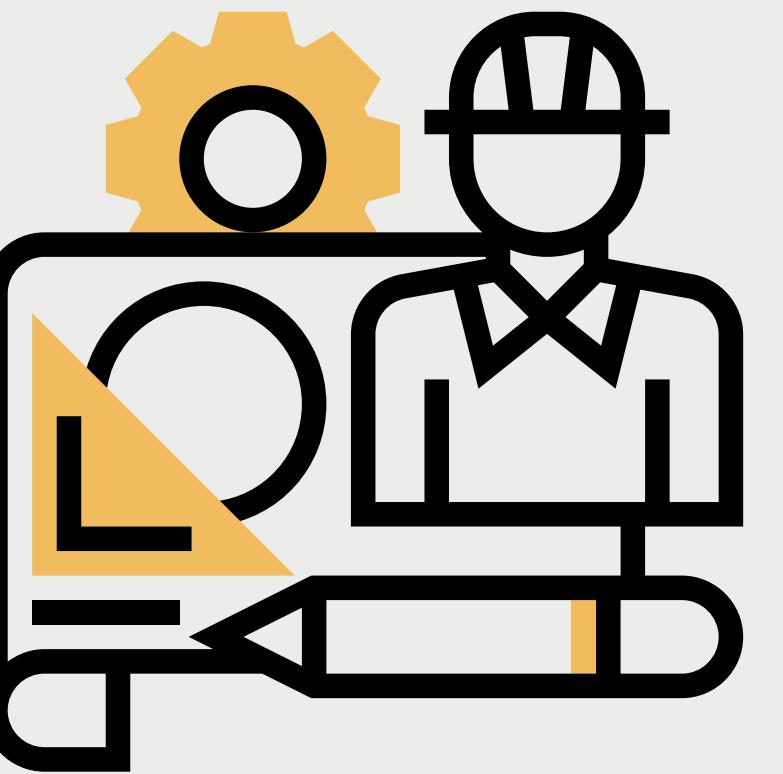
PRESNTATION

Presented by Scarlett Yates

Produced by Marcin Wisniowski

WAIMIHA 439KM CURVE

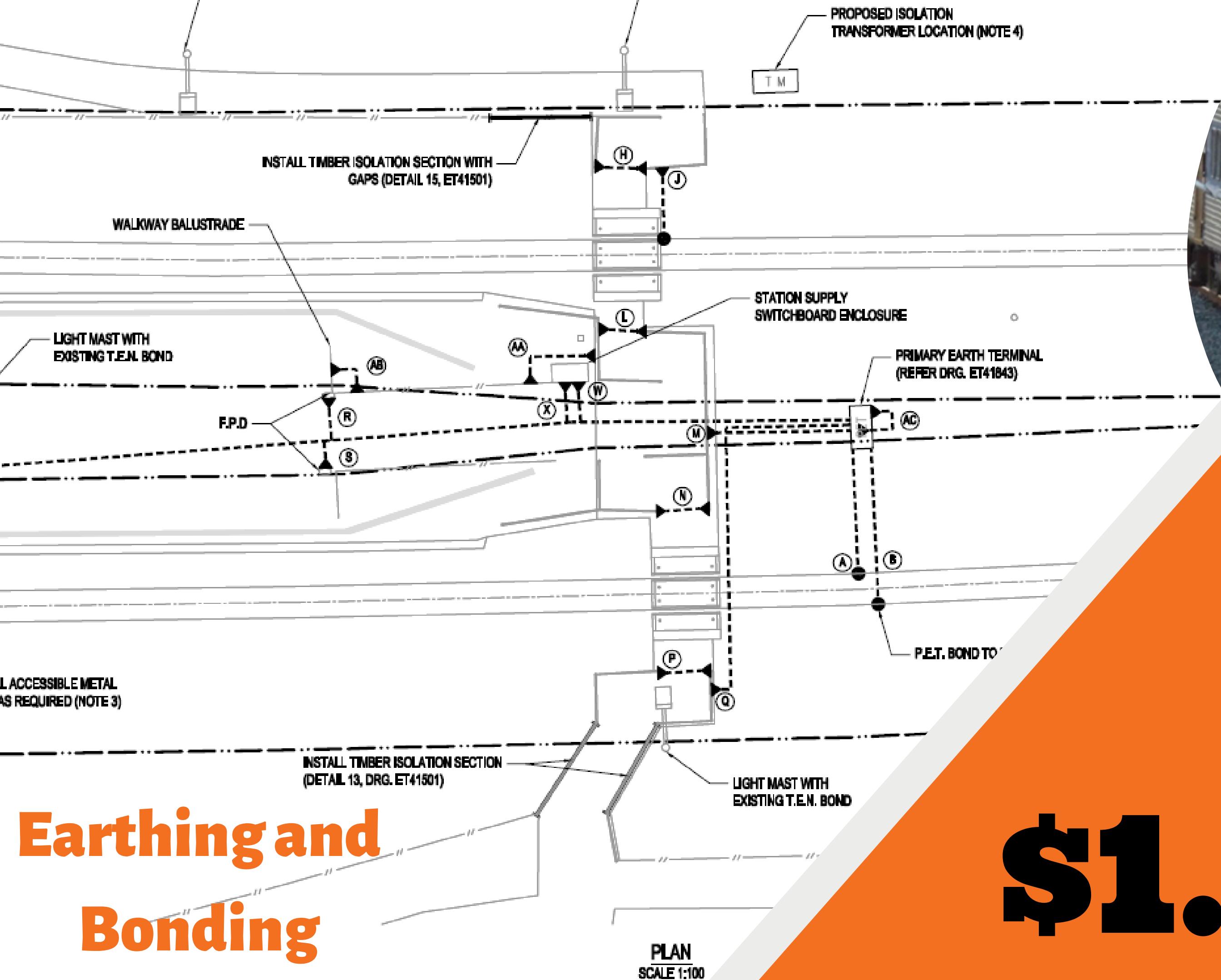
RE-ALIGNMENT



DESIGN, APPROVAL, TESTING,
COMMISSIONING



613 METERS OF NEW
OVERHEAD



Earthing and Bonding

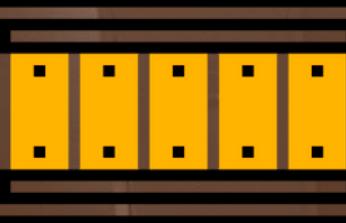
\$1.2

million for DBC

to be issued/completed to NZTA by
02/09/2019

Procurement Strategy for P2P

Fibre Optic Cable
Laid out Across:



78 Undertrack
Crossings



127 Bridges



3 Tunnels



467 Pits
Installed



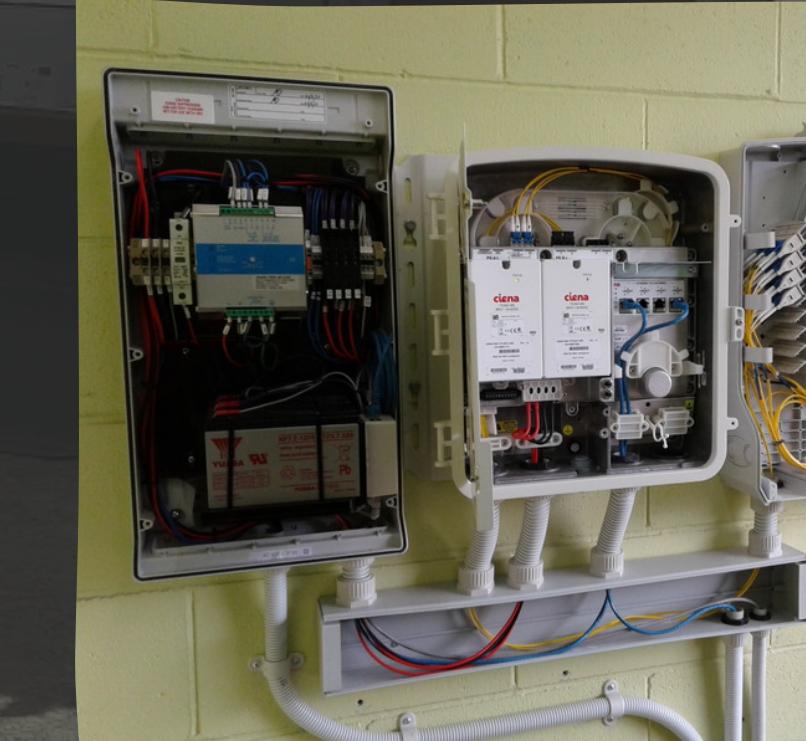
NICE4 and Ciena

Replaced 30 year old
Signal and Traction RTUs

Deliver Resilient Train
Control data network

Replaced 1980s fibre
cable and Nokia
transmission equipment

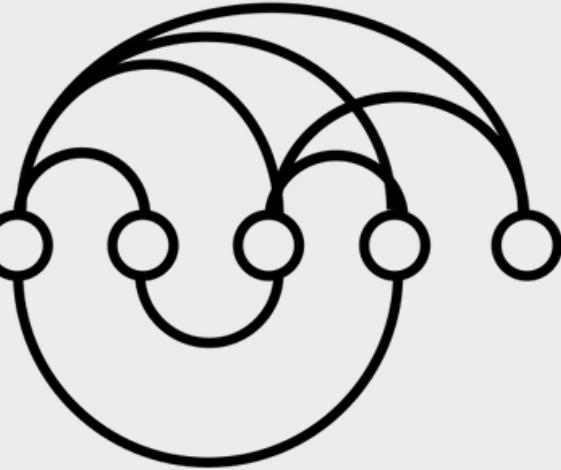
Over 120,000 man hours



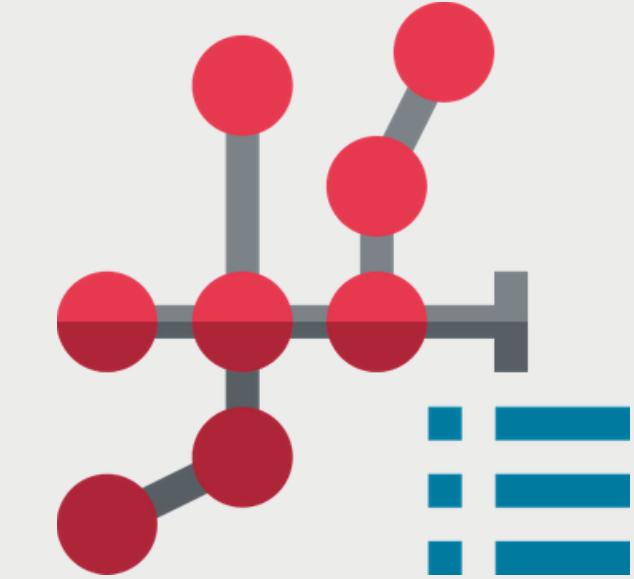
\$27.1 million



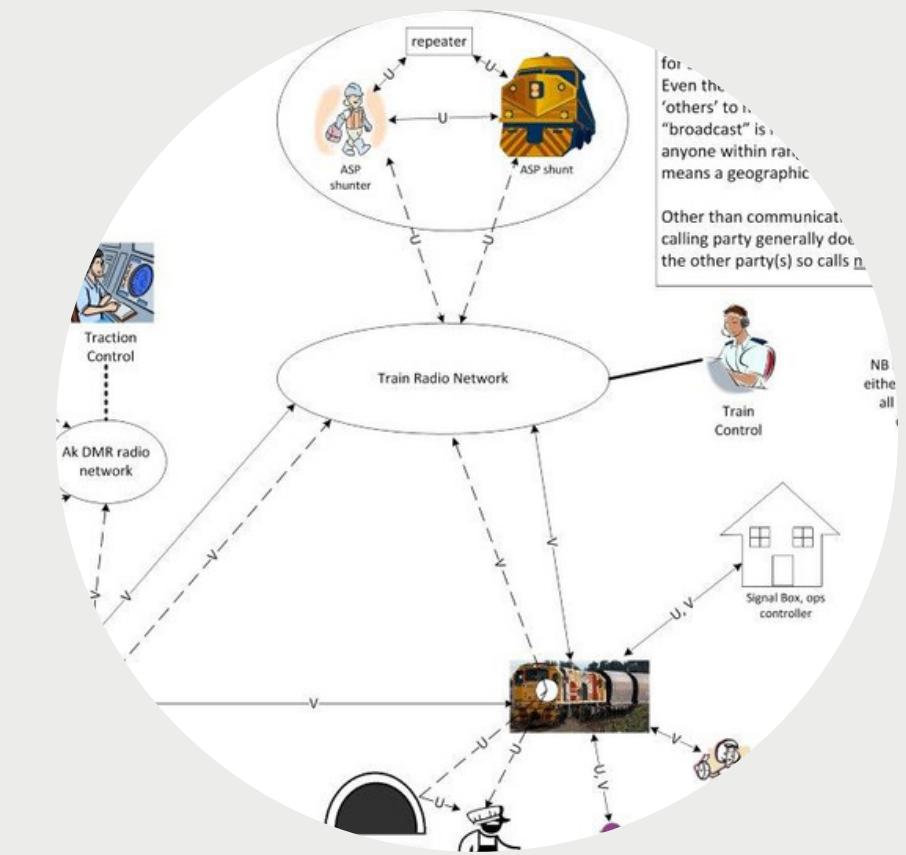
Radio Upgrade: NIMT - T1 and T2 NML - T21

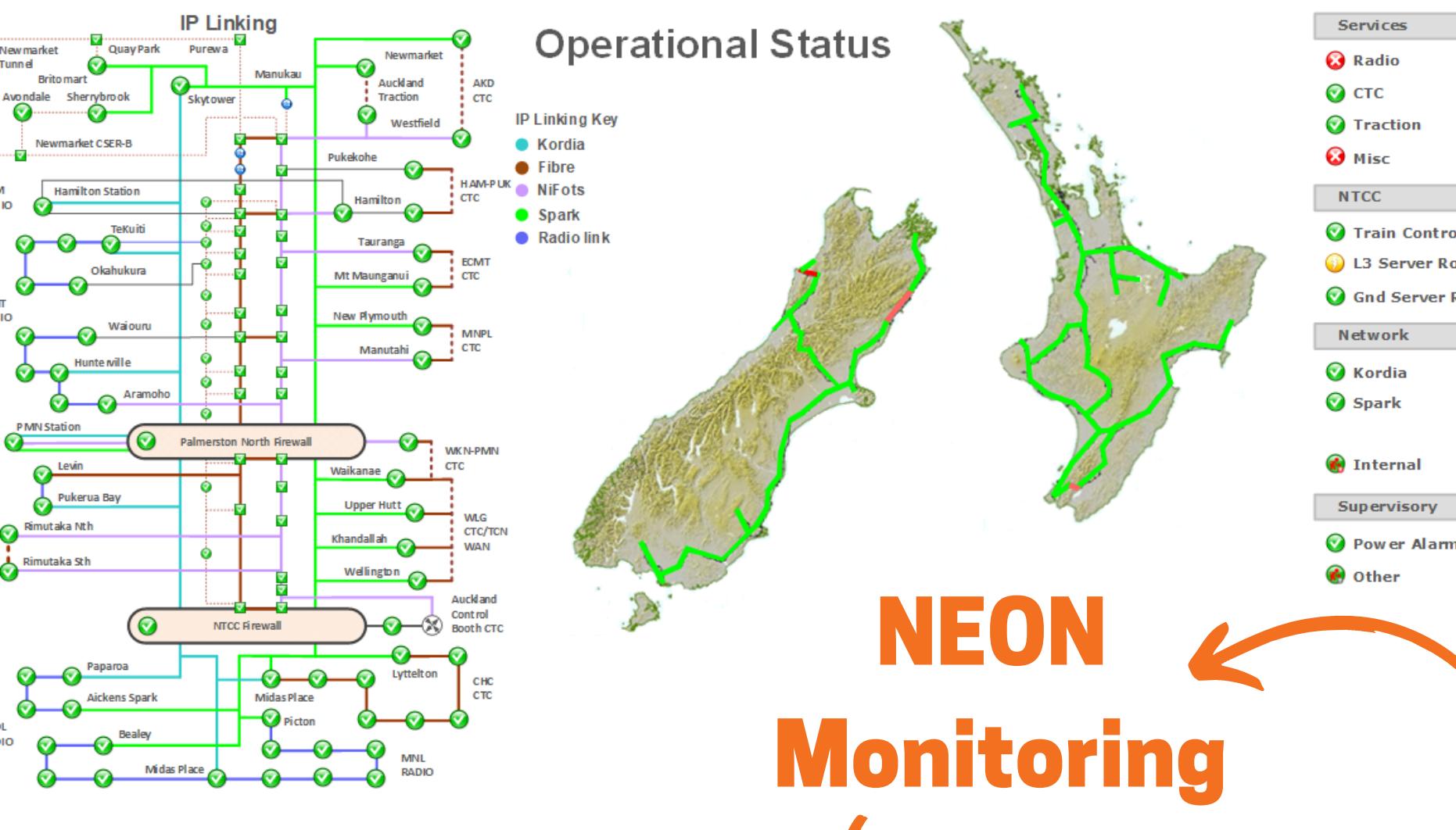


Central Rail Loop: Major review of the communications design



Radio Roadmap: Future plan for radio communications





The diagram features two large, bold, orange text elements: "NEON Monitoring" at the top left and "LinkPlanner" at the bottom right. A thick orange curved arrow originates from the bottom of the "LinkPlanner" text and points upwards towards the "Monitoring" part of "NEON Monitoring". Another orange curved arrow originates from the top of the "NEON" text and points downwards towards the "LinkPlanner" text. The background consists of horizontal blue and white stripes.

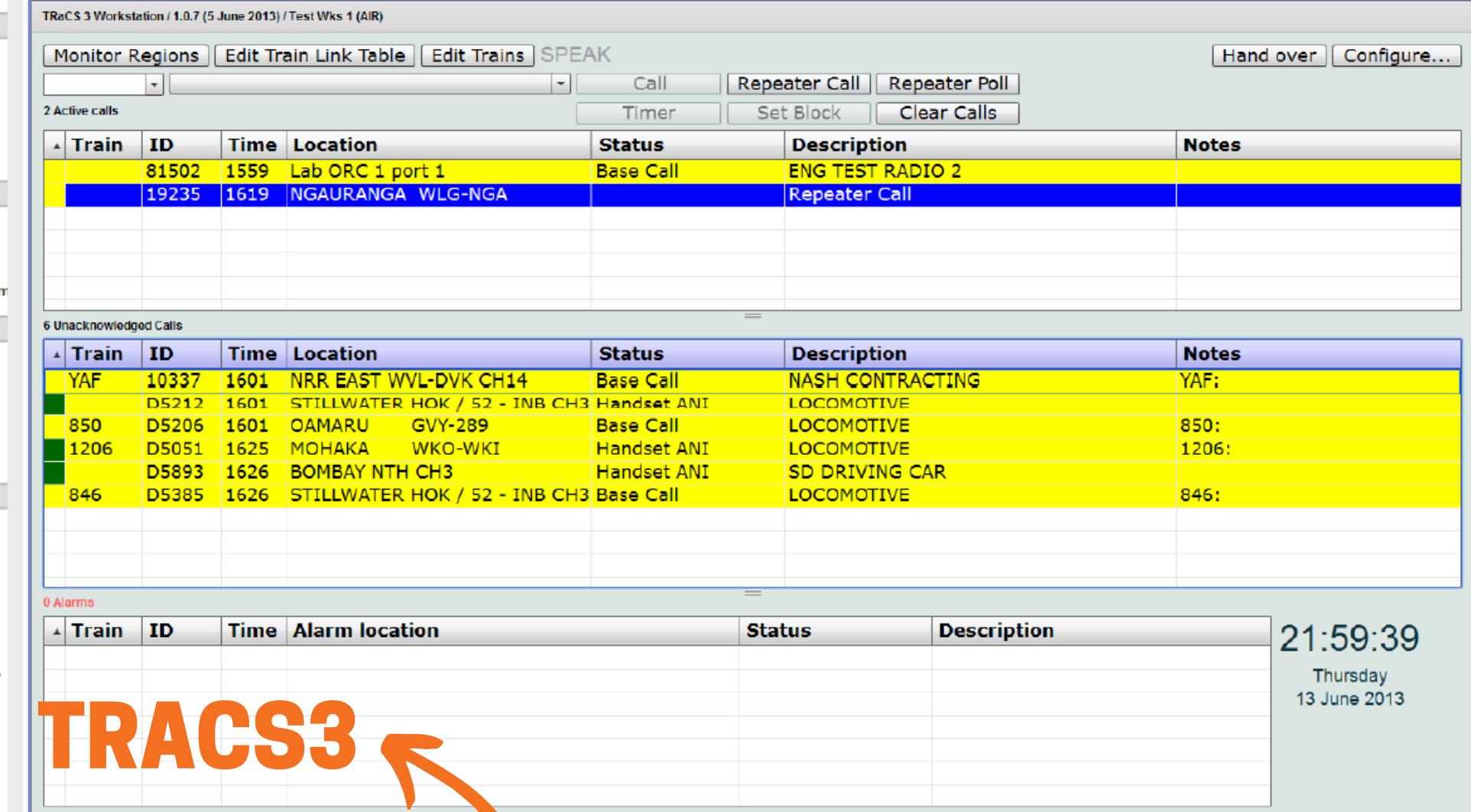
0.0 is available for download

LinkPlanner

LinkPlanner version 5.0.0 is available for download.

LinkPlanner

The screenshot shows the Cambium Networks LinkPlanner software interface. The main window displays a 'Link Profile' for a link between 'Swanson Sigs' and 'Avondale'. The profile shows 'Height Above Sea Level (meters)' on the y-axis (0 to 90) against 'Range on path (kilometers)' on the x-axis (0 to 12). A red line represents the path, and a blue shaded area indicates the coverage or signal envelope. The terrain is shown as a brown line. The software interface includes tabs for 'Link Description', 'Equipment', 'Region and Equipment Selection' (set to 5.8 GHz, PTP650), 'PTP650 Configuration' (Bandwidth 5 MHz, E1/T1 Optimization disabled, Sync None, Symmetry Enabled, Modulation 256QAM 0.81, BPSK 0.63 Sngl, Master Swanson Sigs), and 'Profile: 12.9 kilometers, Non Line-of-Sight'. Below the graph, there are sections for 'Configuration at Each End' for both ends of the link, and a 'Performance Summary (ITU-R)' section. A large orange arrow points from the top right towards the title 'LinkPlanner'.



A screenshot of a web browser window. The main content area displays the TRACS3 software interface, which includes a grid of vehicle status information. At the top of the browser window, the URL is visible: "http://wmskmprod.tranzrail.co.nz/WMS2/". Below the URL, the browser's menu bar shows "File Edit View Favorites Tools Help". A toolbar below the menu contains icons for "Suggested Sites", "AA Maps", "ASB", "Cisco Phone", "Google", and "HI-TEC". The navigation bar at the bottom of the browser window has several tabs, with "Vehicle" being the active tab, indicated by an orange arrow pointing to it from the word "CIMW" located at the bottom of the screen.

The screenshot shows the WMS2 application running in a web browser. The main window displays a 'Vehicle history' table and a detailed 'Vehicle graph' for a truck with ID PKL 000075.

Vehicle history:

Date	Time	Site	Platform
17-Jul-2019	02:46:00	TG	-
17-Jul-2019	10:30:00	TG	-
18-Jul-2019	14:59:00	TG	-
18-Jul-2019	21:29:00	TG	-
20-Jul-2019	02:12:00	TG	-
20-Jul-2019	10:50:00	TG	-
21-Jul-2019	15:49:00	TG	-
21-Jul-2019	21:19:00	TG	-
23-Jul-2019	15:59:00	TG	-
25-Jul-2019	10:46:00	TG	-
27-Jul-2019	21:29:00	TG	-
28-Jul-2019	21:18:00	TG	-
31-Jul-2019	10:34:00	TG	-

Vehicle graph:

The graph illustrates the weight distribution across four axles (A, B) for three bogies (NHB, PKL 000075, HB). The data is summarized in the following table:

Bogie	Axle	Weight (tonne)
NHB	4A	12.3
	4B	12.5
PKL 000075	3A	12.5
	3B	12.6
HB	2A	12.5
	2B	12.2
HB	1A	12.6
	1B	11.5

Alerts:

- NHB: wheel impact(kN) 111, bearing severity RS3
- NHB: wheel impact(kN) 110, bearing severity RS3
- PKL 000075: wheel impact(kN) 138, bearing severity RS2
- PKL 000075: wheel impact(kN) 121, bearing severity RS3
- HB: wheel impact(kN) 112, bearing severity RS3
- HB: wheel impact(kN) 110, bearing severity RS3
- HB: wheel impact(kN) 122, bearing severity RS2
- HB: wheel impact(kN) 115, bearing severity RS3