

## SNUG Queenstown 21

#### 12:10 - 12:30, Thursday 11 March



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Traffic Radars

- What & why
- Site set up
- Examples
- One product

Signal Controllers

- Benefits of VC6.2
- Remote Access Monitoring System







Traffic radars - what & why?

Single tool that gives a precise method of detection and accurate data classification and collection:

- Loop replacement at intersections
- Captures all vehicle types number, size, speed, occupancy
- Cyclists, scooters, pedestrians
- Tracks up to 256 objects simultaneously

Used to enable traffic flows to be optimised:

- Track trends to inform operational & safety improvements
- Reduces journey times
- Reduces traffic congestion and pollution







## Why replace loops with radar?



• Eliminates:

- saw cutting the pavement to embed & seal wires
- » cutting of kerbs & footpaths for connections
- » costly traffic management
- No disruption to traffic flows
- No impact to residents noisy saw cutting
- No maintenance costs no moving parts or lenses to clean, weather proof
- Expensive pavement lasts longer
- Reduces opex and capex spend for Asset Owners





## Radars – application & growth

- smartmicro introduced traffic radar in late 2008, high res 2013
- Best technology available worldwide ISO9001 quality accredited
- 80,000 operating across Europe, USA, South Africa, Australia...
- Expecting minimum 10% year on year growth
- 4-10 units used for isolated intersections
- 250-1000 units on Smart City Projects over 2-5 year scheme
- Clients see value of having all functionality in 1 product
- TSL introduced the UMRR-0C Type 42 radar to NZ in 2020





Pre-requisites

- Up to 4 radars at an intersection using separate configurable frequency channels and operates at 24GHz no interference
- Has CAN Bus, Ethernet and RS485 communications protocols
- Can be interfaced with any controller via Solid State Outputs (8) to External Inputs on Traffic Signal Controller
- The 8 outputs per radar come in 2 forms SRO and CRO
- No software changes for temp. installs, just remap in SCATS





- Covers multiple lanes & dual direction forward firing technology
- Most set up done pre-install less time on site
- Traffic management needed once
- Lane configuration easily changed once installed
- Typical set up parameters:
  - 6m high
  - 150m approach
  - 20-90m from stop line
  - 50-100m advanced detection







smartmicro



### 12 month Tauranga field trial

- Installed March 20
- Very busy port intersection
- Large no. truck movements and daily volumes
- Existing loop detectors located on the limit lines and advance on the approach at 35m
- Intersection personality re-written to enable direct comparison of loops v radar

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### 12 month Tauranga field trial



 Systems architecture used to configure and access radar data to compare to loop data





### 12 month Tauranga field trial

- Graphs prepared by TCC
- Since adopting radar no locked or false detections
- No SCATS alarms or operational performance issues identified
  - Due to accuracy & reliability- others radar sites now

identified!



Radar = Loop

1780 PM peak 18:25 - 17:25 1969



• Two installed Nov. 20 at Victoria/Halsey - save cutting new pavement

Positive feedback from ATOC:

- Working well, stable solution does what we need in detection & extending signal phasing and reduces wasted motorists time spent on the road
- Helped sort out delays and reduce motorist complaints
- A device that can save a lot of money for the economy because it is contributing to reducing congestion in Auckland and suited to the CBD with data used to help optimize the network for all users





#### Video 2 – Radar in Action



#### Auckland Airport – Temporary Works



- 3 radars installed Oct. 20 at George Bolt / Tom Pearce intersection
- Many lane changes over project life
- Reduced impact to motorists
- Significant \$\$ savings loops & TM

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- Quick & easy set up with good software tools
- Mimic loops extremely well

Video clip 4 – radar in action







## **Data Visualisation – Ireland Dashboard**

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- Radar technology instant, >98% accurate, durable
- Accommodating changes in layout/zones is much easier requires software changes not costly TM & loop cutting
- More sites identified in Tauranga, Hamilton, Auckland and in discussion with other NZ clients
- Expect radar to be become mainstream
- TSL supporting smart clients with smart tools





## Detection +

### Classification +

### Collection

### All functionality in 1 tool!









- 42V ELV Dim By Wire Technology
- Safer by design public & technicians
- VC6.2 unlocking the full capability of SCATS
  6.9.4 5 years ahead of the pack
- Full Graphical User Interface (ATSUI)
- Remote Access Management System
- BIO Bluetooth (Classic and LE), Bluetooth LAP and Wi-fi



### Benefits of the VC6.2 Signal Controller



- Operates in Masterlink during comms outage so eliminates delays
- Increased personality flags to 128
- Full lamp & conflict monitoring for 32 Signal Groups
- 48 loop inputs
- 8 dedicated pedestrian inputs
- Minimal upgrade cost to VC6.2 as no hardware mods required

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RAM IMAP



### Remote Access Management System

R	Remote Access Management System from ATC	
Home	Controller Status:	
Controller Log	OUTPUT GROUPS	TRAFF FLAGS
Fault Error Log	<b>1 2 3</b> 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	0 0 0 0 0 0 0 0 0
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Temperature /	Please select one of the pages listed in the navigation bar on the left.	
Voltage Graph		
Blue Tooth MAC Address	Last update: 12/02/2021	Copyright @ 2021 Aldridge Traffic Controllers

#### Maintenance personnel - review performance using remote access via RAMS web-interface via IP address

- Live detector performance
- Enables cause identification before site visit, problem to be rectified remotely, or pre-planning so tech arrives with correct equipment
- Launched this week!
- 'Push Reporting' to meet user needs





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- All ATC Controllers are backwards compatible with VC6.2
- Leverages investment at low cost
- Empowers users through RAMS to see real time performance and enable proactive response to issues
- TSL now offer personality generation via N Gen & simulation via WinTraff





#### TSL helping clients use emerging technologies to create environments using smart products & services to keep the public and the contractor safe...

### Smarter – Safer – Networks





# Thank You & enjoy Dinner on us tonight...



