SNUG
Queenstown '21

12:10 - 12:30, Thursday 11 March

Certified System OHS ISO 45001 SAI GLOBAL
Certified System Environment ISO 14001 SAI GLOBAL
Certified System Quality ISO 9001 SAI GLOBAL

Agenda

Traffic Radars

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

Signal Controllers

- Benefits of VC6.2
- Remote Access Monitoring System

What we do...

Supplier

Downer
Relationships creating success

Fulton Hogan

M&P

DEMPSEY WOOD
Working together on tomorrow

BPC BRIAN PERRY CIVIL

SCENTRE GROUP

JFC

Constructor

Manufacturer

Hamilton City Council
Te kaunihera o Kirikiriroa

Tauranga City

NPDC

Maintainer

ATC
Moving Traffic

smartmicro
SMART MICROWAVE SENSORS

BRAUMS
"ITS" Moving Traffic

SMART CITY

SPHERE

Solution Partners

Certified System
OHS ISO 45001 SAI GLOBAL
Environment ISO 14001 SAI GLOBAL
Quality ISO 9001 SAI GLOBAL

Traffic radars - what & why?

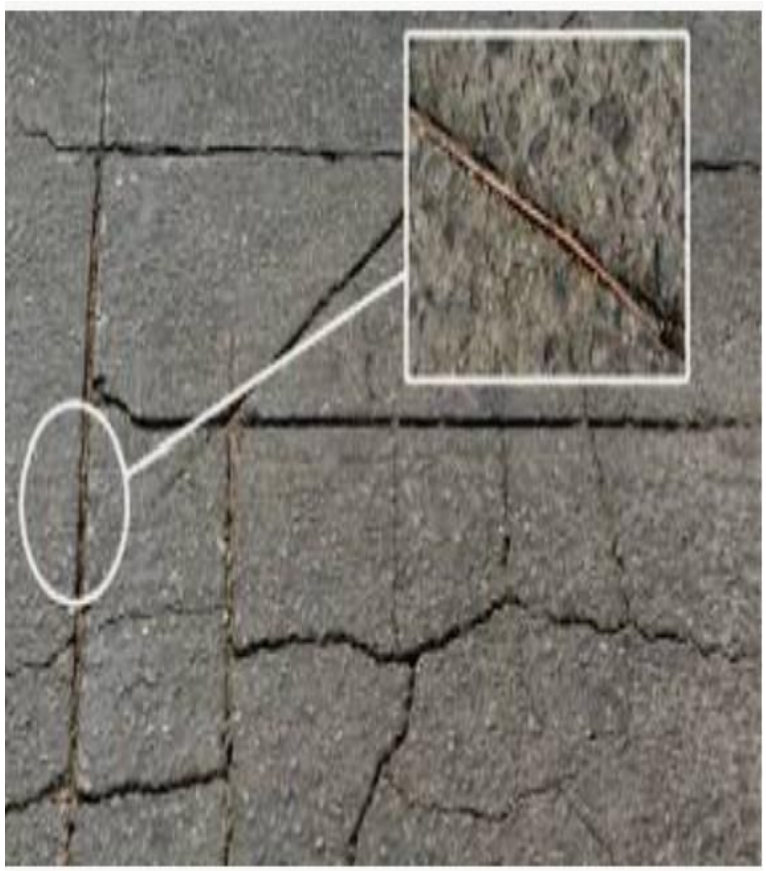
Single tool that gives a precise method of detection and accurate data classification and collection:

- 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

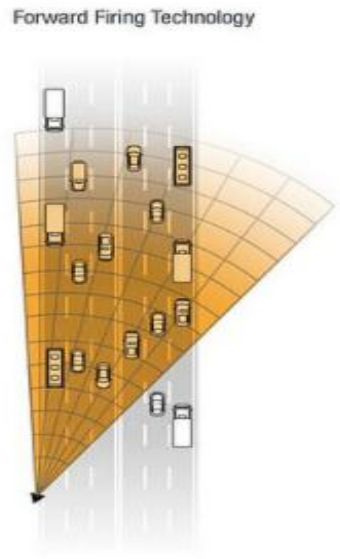
Radar – connectivity

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

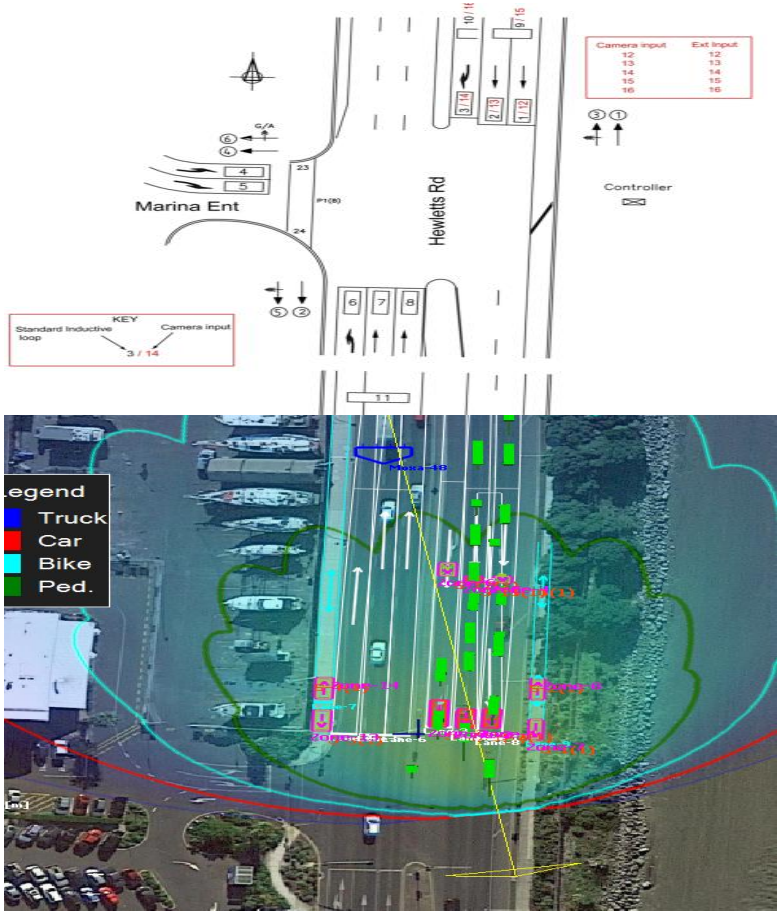
Radar - site set up

- 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



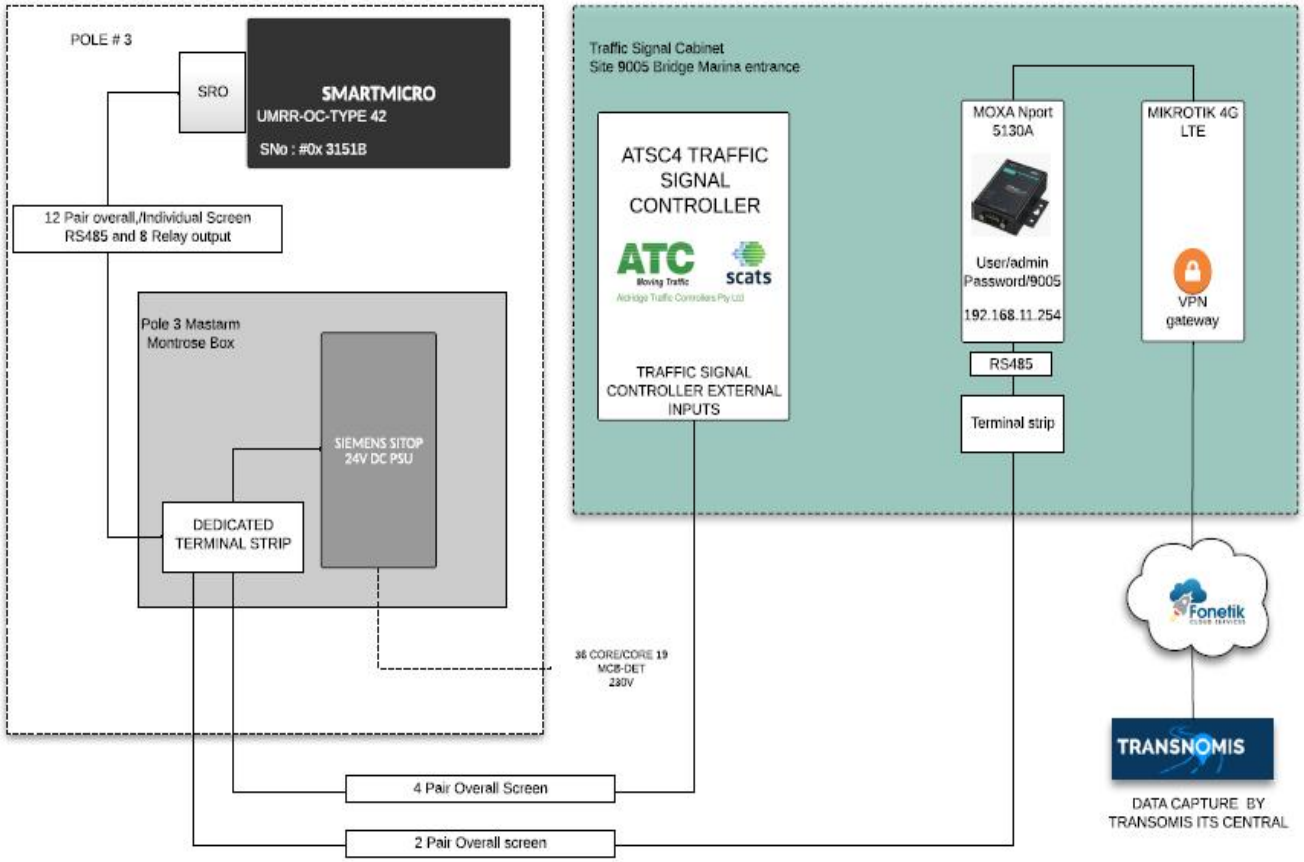
smartmicro
SMART MICROWAVE SENSORS

12 month Tauranga field trial



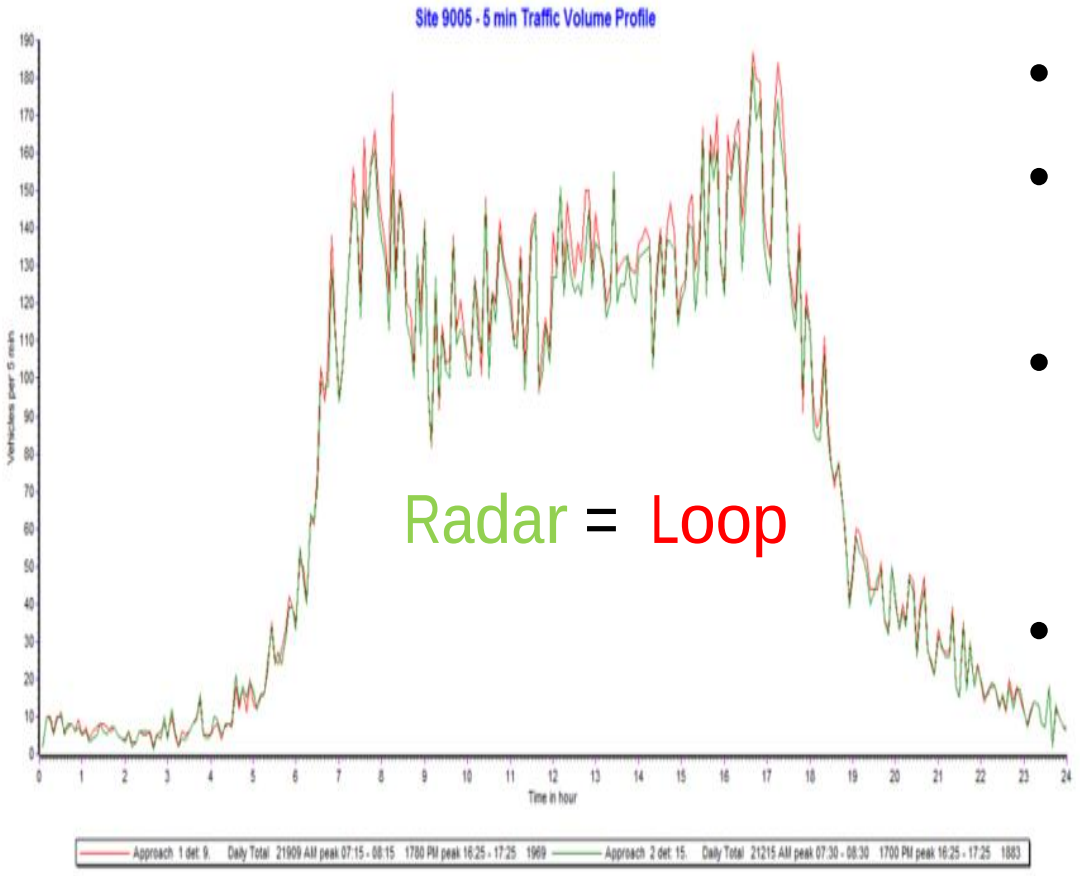
- Installed March 20
- Very busy port intersection
- Large no. truck movements and daily volumes
- Existing loop detectors located on the limit lines and advance on the approach at 35m
- Intersection personality re-written to enable direct comparison of loops v radar

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!

Auckland CBD - Permanent

- 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

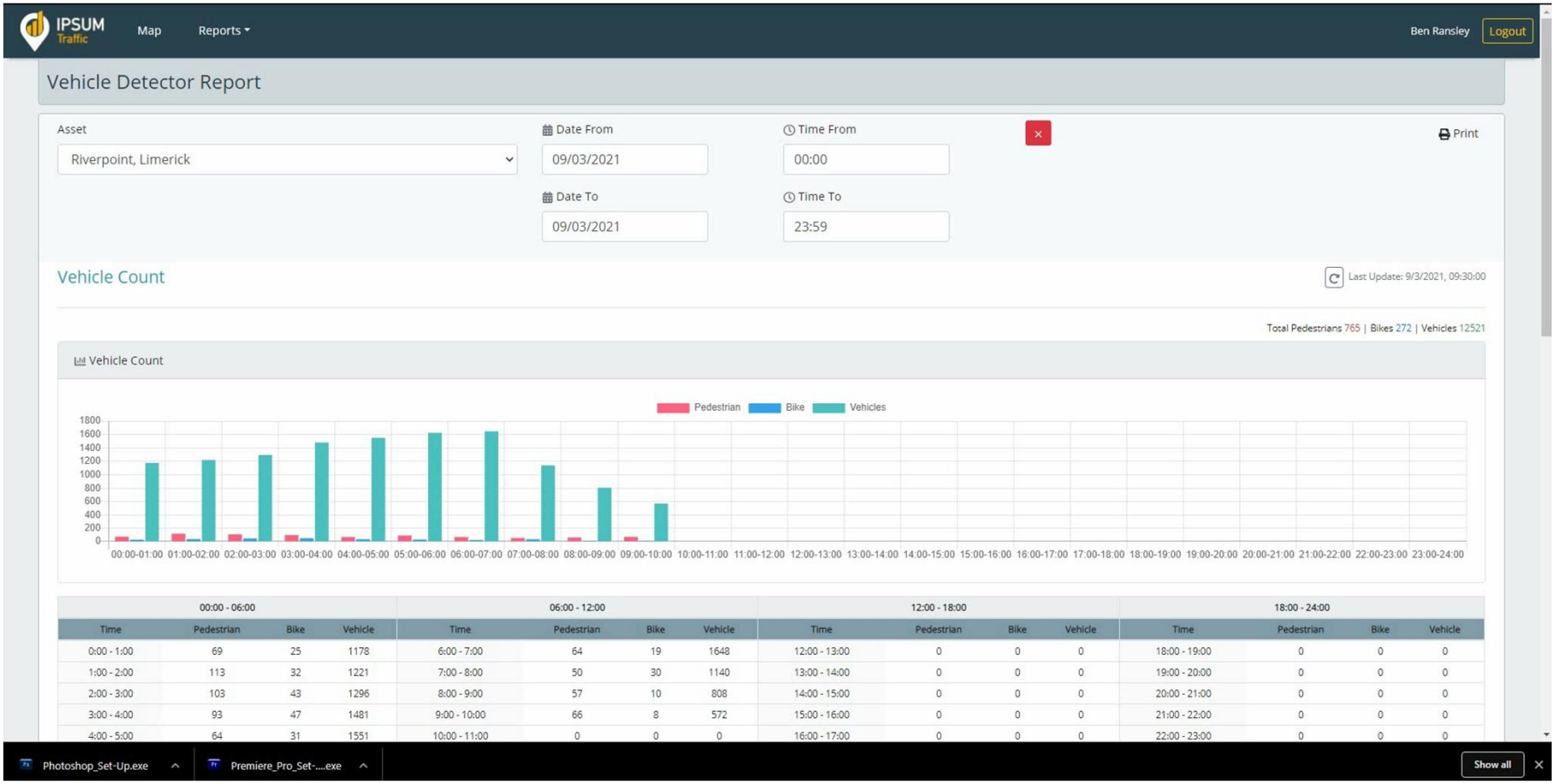
Auckland Airport – Temporary Works

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

Video clip 4 – radar in action

Auckland Airport – Temporary Works

Data Visualisation – Ireland Dashboard



00:00 - 06:00				06:00 - 12:00				12:00 - 18:00				18:00 - 24:00			
Time	Pedestrian	Bike	Vehicle	Time	Pedestrian	Bike	Vehicle	Time	Pedestrian	Bike	Vehicle	Time	Pedestrian	Bike	Vehicle
0:00 - 1:00	69	25	1178	6:00 - 7:00	64	19	1648	12:00 - 13:00	0	0	0	18:00 - 19:00	0	0	0
1:00 - 2:00	113	32	1221	7:00 - 8:00	50	30	1140	13:00 - 14:00	0	0	0	19:00 - 20:00	0	0	0
2:00 - 3:00	103	43	1296	8:00 - 9:00	57	10	808	14:00 - 15:00	0	0	0	20:00 - 21:00	0	0	0
3:00 - 4:00	93	47	1481	9:00 - 10:00	66	8	572	15:00 - 16:00	0	0	0	21:00 - 22:00	0	0	0
4:00 - 5:00	64	31	1551	10:00 - 11:00	0	0	0	16:00 - 17:00	0	0	0	22:00 - 23:00	0	0	0

Where to next?

- 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

Value for money

Detection +

Classification +

Collection

All functionality in 1 tool!

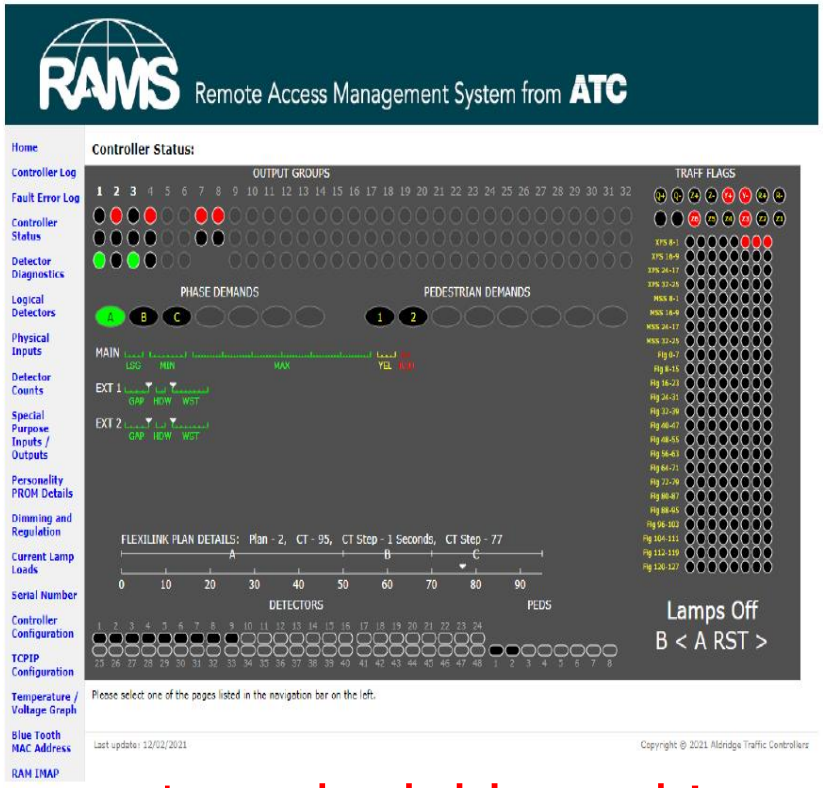
ATC & Braums leading the way … again

- 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

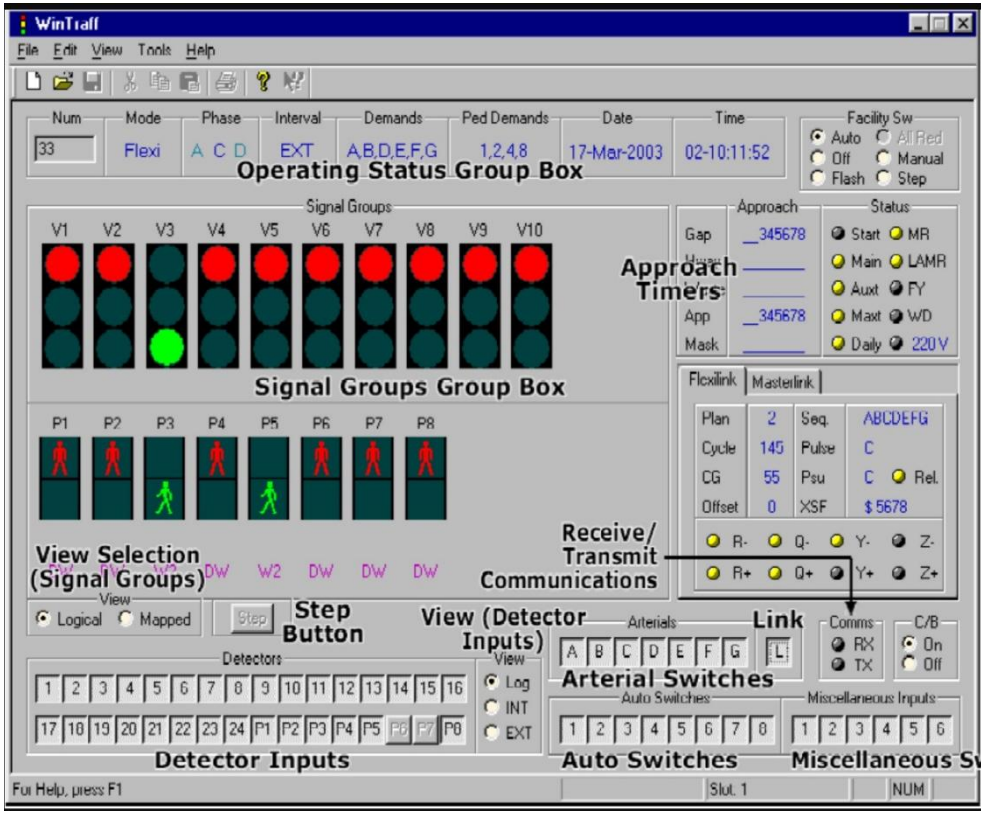
Remote Access Management System



Launched this week!

- 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
- ‘Push Reporting’ to meet user needs

So why use ATC's VC6.2?



- 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

Wrap up …

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...