



RAY microwave links:

- Exceptional stability
- Resistance to interference & noise
- Optimized for long range links
- Full Outdoor Design
- Battery power option
- Intuitive management
- Easy & fast installation

**EFFECTIVE COMMUNICATIONS
ENABLE
EFFECTIVE SOLUTIONS**

The customer

The traffic control headquarters of Prague Technical Maintenance is responsible for traffic information collection, management and distribution throughout the capital city. This information can be shared with the emergency services and more generally with the public, to support smooth traffic flow through the city.

The requirement

In 2013 Prague Technical Maintenance embarked on a complex project to record traffic flows on seven key arterial routes leading from the city centre. The requirement was to transmit data from specific points along each route to the control centre allowing staff to monitor traffic flows, collect data on numbers and classification of vehicles and to perform route timing calculations to be shared with road users. Equipment should be sufficiently small and light enough to be mounted and powered using existing street light poles with a limited power source.

A Full Outdoor microwave unit, designed to minimise OPEX costs by fast and simple installation and maintenance. Offering maximum reliability in the most challenging conditions, RAY excels in its technical parameters, professional design and quality.

Exceptional system gain and resistance to disturbances (facilitated in part by unique input filter design) make RAY the product of choice for both backbone and last-mile microwave links of any length.

Key considerations

- High link reliability (>99,99%)
- Resistance to interference
- Small footprint, small weight
- Low power consumption
- 20-24V power source

The solution

After thorough testing of various microwave brands, Camea, the main contractor, decided RAY would provide the best solution to meet all functionality requirements and overcome potential radio issues. These were crucial elements of the final decision because of the linear topology designed for each route. Dependent on specific issues on each route, 10 GHz or 17 GHz units have been implemented. Non-conflicting channel settings, developed for each link prior to final order, ensures each link reaches its required transmission capacity (between 100Mbps and 360Mbps). As each network path nears the city centre, data transmissions are transferred to existing fibre optic cables within Prague underground tunnels, to transmit the data onward to the control centre. The lightweight FOD design of the RAY units ensures they can be mounted to existing infrastructure and the low power consumption capability ensures they can be powered by existing street light power supplies and by supplementary battery power during daylight hours. RAY's resistance to interference also enables the use of smaller antennas, further reducing cost and weight.



Exceptional technical support

RACOM specialists supported Camea engineers to select parameters that ensure maximum reliability of all links and protect against noise in this busy environment. RACOM's expertise in this field helped to eliminate potential issues before they even arose.

Intuitive installation and commissioning

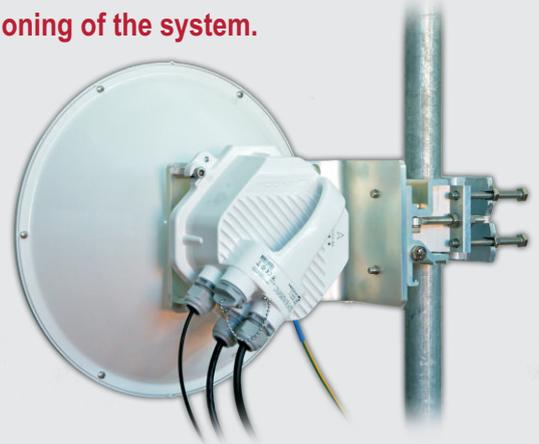
The intuitive design of RAY units enabled speedy installation, allowing higher levels of productivity within the teams involved and reducing traffic delays during this operation. Designed with an instinctive user interface and with effective remote management functionality, connectivity during commissioning proved a seamless operation; exactly as expected.

Pre-sales support

RACOM specialists supported Camea to perform a full path analysis during design, to realise optimal frequencies and radio channels within each band.

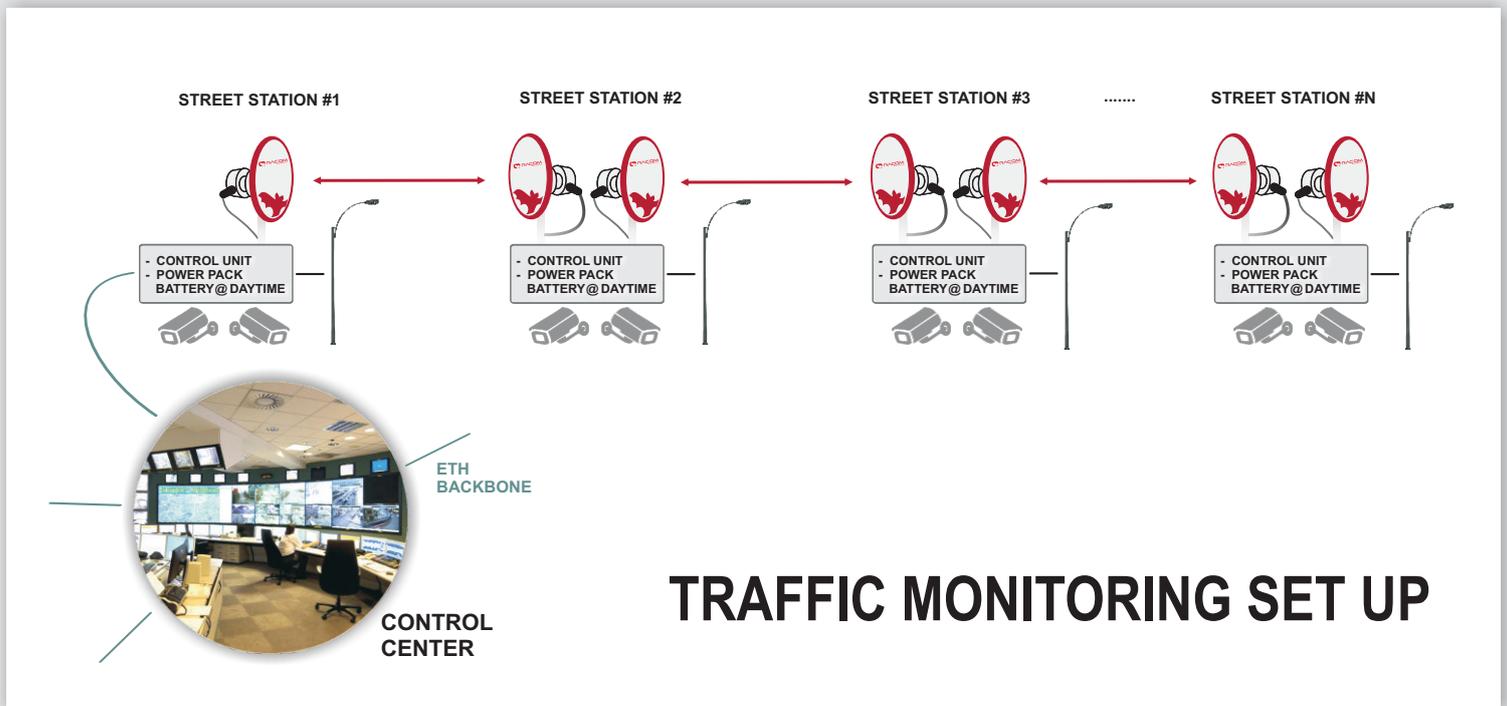
Implementation

Installation and commissioning was completed by Camea engineers. RACOM staff were available to access links remotely to support smooth commissioning of the system.



After-sales support

First level support of all links is provided by Camea. If and when required, RACOM provides unlimited, remote 2nd level technical support.



Conclusion

Jan Sedláček, Head of Camea IT Department comments: "Maximum level of reliability was a key factor for us. Any requirement to physically access a unit would be costly and disruptive. One and a half years into this project, our choice is fully vindicated. There have been no stability issues and we look forward to partnering RACOM in future projects."