

# Management & Control for Smart Grids & Smart Cities



Integrated RTU,  
Data Modem & Gateway



*Monitoring the Heartbeat of Mission Critical Networks*



## Simoco Pulse is a suite of products which enable organisations to deploy SCADA telemetry applications over narrowband PMR (private mobile radio).

**T**oday's utility and public service operators need to do more than just monitor and control operations across vast areas.

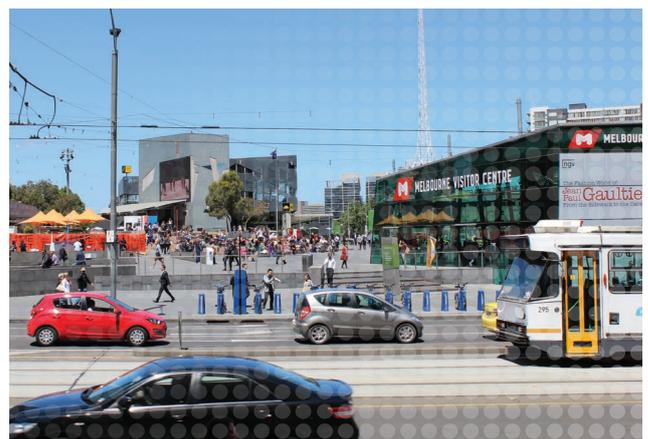
Automated and remotely delivered communications bring significant benefits such as: real-time monitoring, network optimisation, delivery of proactive maintenance programmes and the remote implementation of commands and updates.

However setting up the communications infrastructure to support data transmission and control, as well as voice comms can be challenging. Cellular coverage can be patchy and intermittent, and installing wired networks has significant cost implications, especially where wide and remote areas are concerned.

Simoco Pulse is a suite of products which enable organisations to deploy SCADA telemetry applications over narrowband PMR (Professional Mobile Radio).

Using wireless radio infrastructure as the comms carrier, Simoco's Pulse solutions enable SCADA applications to be quickly and cost effectively deployed across operational areas.

In many instances, the wireless infrastructure is already *in situ*, enabling even faster deployment. Many organisations are benefiting from the operational and resource efficiencies brought by combining voice and data transmission across a single resilient and available radio network.



## The Simoco Pulse Portfolio

Simoco's Pulse solutions meet the needs of a wide range of utility operations' electricity distribution; generation and supply; oil; gas and water. They also serve any sector where there is a requirement to acquire and control data from equipment and systems.

### Pulse AIR Data Modem

For customers who already have RTUs either integrated into their equipment or have existing RTUs deployed over unreliable unlicensed UHF or public networks such as 3G or GPRS, Simoco Wireless Solutions has developed a data modem product. The data modem directly interfaces with any RTU that uses standard telemetry protocols, and transport data back to the SCADA master using reliable digital over licensed VHF or UHF channels.

The Pulse AIR has been specifically designed to address the needs of customers who have equipment using only DNP3 protocol and the DNP3 Gateway has been integrated into the Simoco DMR Xd base station to provide the most optimised and cost effective solution.

### Gateway

To complete the solution, Simoco Wireless Solutions offers a range of Gateway products which enable the SCADA master(s) to seamlessly interface with the digital radio infrastructure. This makes the radio infrastructure transparent to the SCADA application and thus requires no customisation or integration in order to deploy SCADA over radio. Systems can either be fully deployed over PMR or can be used to form part of mixed technology telemetry solutions.

### Case Study

UK utility company **Western Power Distribution (WPD)**, which provides electricity to 7.8 million customers across 55,300 square kilometres of the Midlands, South West England and South Wales, is rolling out a Simoco DMR Tier III system – Simoco Pulse with further deployments planned.

The rollout equips 200 new sites with DMR infrastructure with 14,000 data modems deployed across the entire operational region.

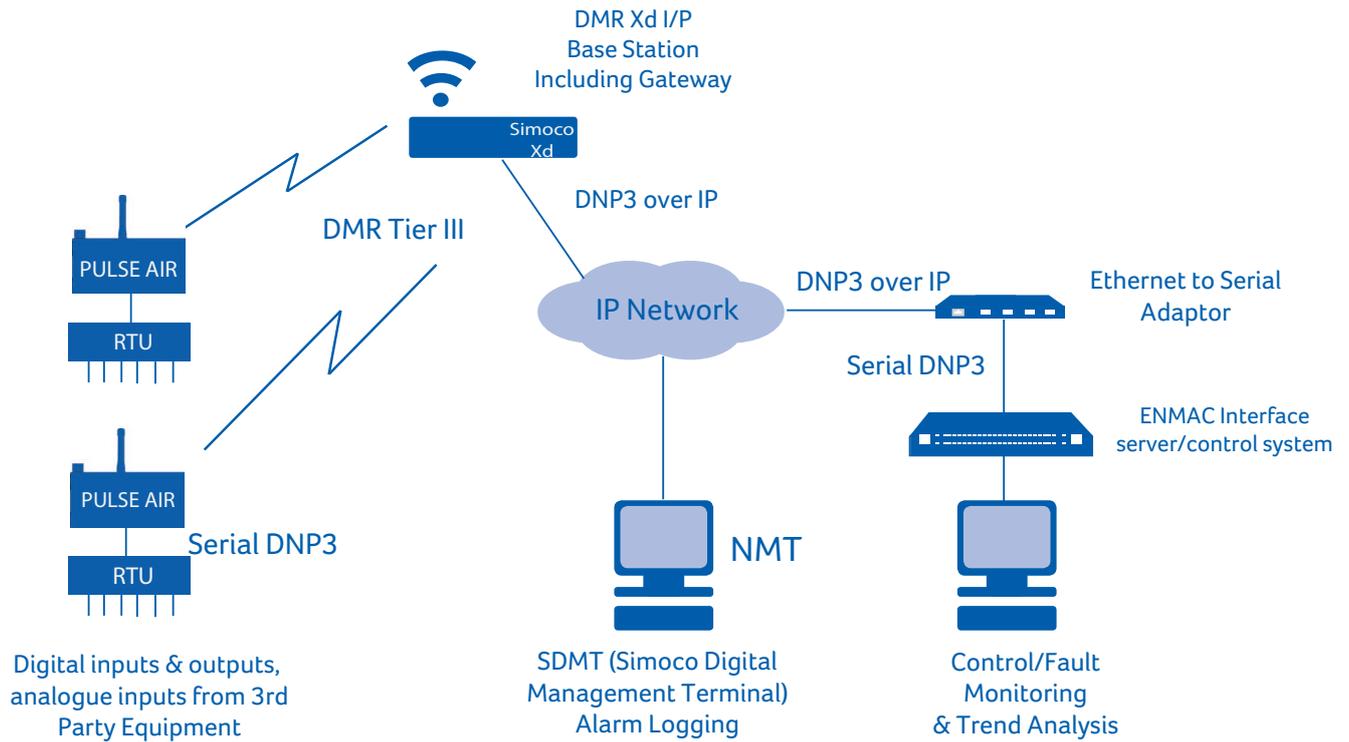
The system has enabled WPD to add smart grid management and control functionality to its operations using a fully integrated IP network to connect information sent from data modems or RTUs to supervisory control and data acquisition (SCADA) masters. This functionality allows for more modems, RTUs and voice transmissions to the same WPD network, which spans the width of the country from Penzance on the tip of Cornwall to Skegness on the East Coast. The DMR system provides the resilience needed to allow the reliable flow of large quantities of complex information.

Its benefits include real-time monitoring, network optimisation, delivery of preventative maintenance programmes and the remote implementation of commands and updates. If a problem on the network occurs, WPD saves time and costs by locating the exact problem rather than having to dispatch teams to manually search areas of the grid.

The RTUs were supplied with the Simoco Pulse Air data modem. It uses the widely adopted DNP3 protocol when communicating across the DMR network. The modem provides a robust connection to the SCADA master using digital radio over licensed VHF and UHF radio channels and is also capable of directly interacting to any RTU that uses this standard telemetry protocol.



# Simoco Pulse Data Modem AIR



# Simoco Pulse Benefits



## Reliability

PMR reliability with fully resilient, distributed architecture using licensed frequencies



## Scalability

Fully scalable on DMR Tier III trunked system, designed for tens of thousands of devices



## Cost Effective

Low operating costs achieved through CAPEX investment and consistent dependability



## Improved Coverage

Wider range of coverage for the entire operational region keeping you constantly connected



## Ease of Integration

RTUs can seamlessly share the DMR system with voice and other data users



## Industry Standards

interface protocols; DNP3, IEC 60870-5-101, IEC 60870-5-105, Modbus