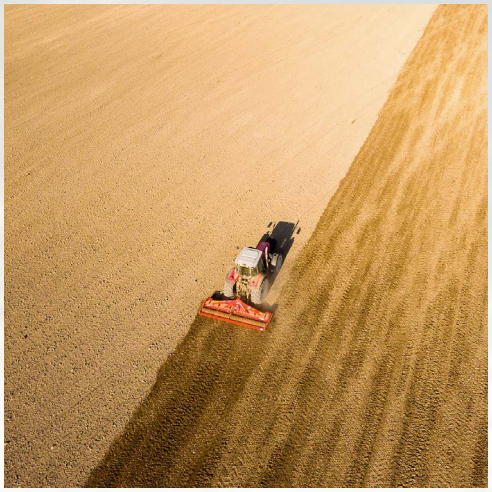
TDE enhances SMR network with Digital Mobile Radio functionality

DMR
DIGITAL MOBILE RADIO ASSOCIATION

simoco
wireless solutions



background

Specialized Mobile Radio (SMR) network operators provide communication services and subscriber devices, typically for a monthly fee, to customers looking to benefit from the reliability and coverage provided by a radio network. SMRs have been providing individual and group communications between mobile workers, office based staff, and private users since the 1970s and while the demand for such networks remains high, particularly in areas where public mobile phone operator coverage is limited, the expectations of users has changed dramatically over recent years. Customers now expect their land mobile radio to offer a rich array of features and applications similar to that which they now take for granted through use of mobile phones, tablets and other devices. This has placed great pressures on SMR operators to deliver innovation across their networks in order to maintain end-user value.

Télécommunications de l'Est (TDE) has established itself as a leader in the field of communication technology over recent decades, having been founded 35 years ago. As an SMR operator, the company offers consumers and businesses telecoms products and services across a large territory in eastern Canada. Like other SMR's, TDE was faced with the challenge of providing its users with a reliable radio network that was also feature rich and easy to operate.

"Having a reliable communications system, with advanced features such as GPS tracking, is of critical importance to our users. Advanced features offer additional revenue opportunities to SMRs such as ourselves, but also mean users, such as remote workers, are never alone and can rely on constant support from colleagues or support teams"

Daniel Gignac - CEO of TDE

network requirements

TDE operates across a vast territory of 1,000,000 square kilometers, including the Bas-Saint-Laurent, Gaspésie, North Shore and northern New Brunswick regions of Canada. Many of these areas have mountainous and rugged terrain, resulting in limited cellular coverage. TDE had already established several analogue VHF radio systems in the region, however, in order to provide customers with additional services and improved voice quality, TDE was looking to move away from aging technology to a digital radio trunking network.

Digital Mobile Radio (DMR) was identified as being capable of providing TDE with an opportunity to offer increased capacity across its network as well as enabling the operator to expand coverage areas with minimal infrastructure commitments. The standard was known to provide better noise rejection and voice quality over a greater range than analogue, especially at the farthest edges of the transmission range. Most importantly, DMR would facilitate the advanced functionality and control features that today's users demand, while also making an SMR's role in managing the network as efficient and as cost-effective as possible.

TDE's goal to provide users with a high-performance wireless communication solution in remote regions and territories not served by cellular would be greatly advanced by a DMR network. A transition to DMR would also allow TDE to deliver additional, revenue-generating services to its customers.

the simoco wireless solutions

SMR solution

TDE decided to deploy Simoco's Xd DMR Tier III solution as the infrastructure behind a new SMR network, known as NOMAD. NOMAD is available to users across a number of important industrial and economic regions and organizations from a wide range of sectors needing reliable communications in order to manage operations effectively.

Furthermore, TDE supplies subscribers to the network with Simoco Wireless Solutions' latest range of digital radios, which include the SDP760 DMR Portable Radio and SDM730 DMR Mobile Radio, both of which offer a rich set of features supported by the SMR network.

One of the key features provided by Simoco's SMR solution is the introduction of full duplex calling to the NOMAD network. Traditional push to talk radio is based upon simplex or half duplex voice calling, meaning that each party takes its turn to speak. This limitation makes it difficult to integrate telephone users across the network. However, with full duplex functionality TDE is able to offer a seamless experience to customers regardless of the method of communication they were using. Telephone users are able to share conversations with radio users both in an individual and group capacity.

"Full duplex calling is a key feature that attracted us to Simoco's DMR technology. It means we can make communications between radio and telephone devices even easier for our customers." said Daniel Gignac, CEO of TDE. "This is something that is particularly important considering we are in an especially remote area with poor cell phone coverage. As much as possible, we want to offer a solution that our customers can use like a cell phone, and the seamless way that the duplex functionality connects to external telephony systems is a big benefit."

NOMAD
Mobile Network • Digital Two-way Radio

For more information on the Nomad Network visit www.nomadmobilenetwork.ca

Additional features of the system include encryption and Over-The-Air-Programming (OTAP) functionality, which enables TDE to manage network development and service provision efficiently. It also features Push-to-Talk (PTT) functionality over 3G/LTE commercial networks which allows smartphones to connect like a radio to NOMAD using Simoco Push technology.

Daniel Gignac commented: *"Having PTT over cellular functionality means we can now offer our customers an alternative to traditional two way radio while still supporting the group communications that radio users rely upon for efficient and fast communication with teams. This is important for users who are increasingly looking for networks capable of integrating multiple device types or need integrated communications outside of the NOMAD footprint."*

GPS location services are another key feature of the NOMAD, providing users and operating teams with accurate information when working in remote areas.

"The rich feature set provided by Simoco Wireless Solutions is a great benefit we can pass on to our customers, and GPS location services are another example of this," said Daniel Gignac, *"particularly as many of our users are working in remote locations and really appreciate the added safety and security provided by reliable tracking.*

"Overall, the DMR feature set enhances the level of functionality we are able to offer as an SMR while simultaneously making it easier for us to program and manage our network."

scaling the network to meet future demand

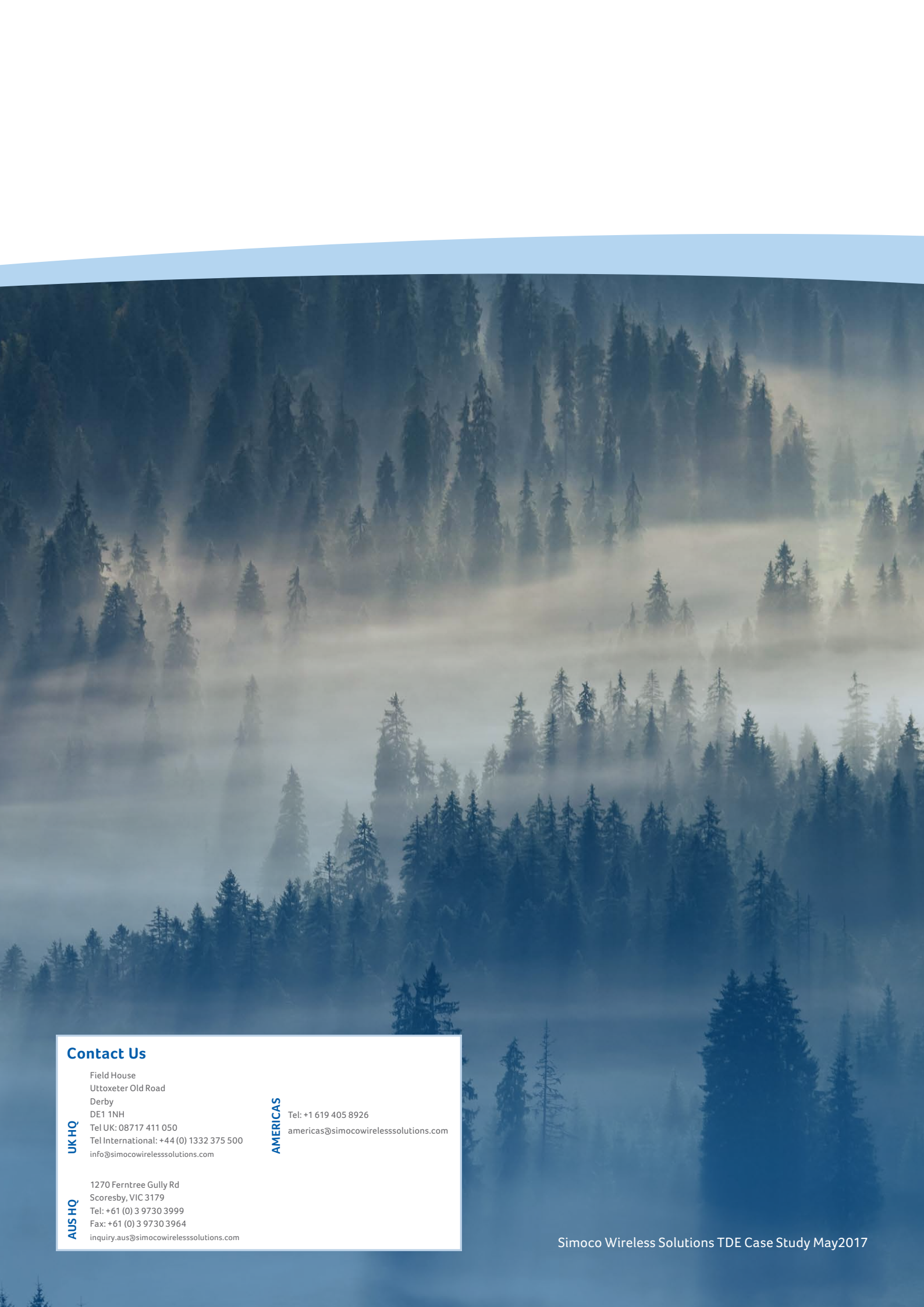
Simoco Xd's unique IP Ethernet-based distributed architecture makes it easy for TDE to expand the NOMAD network across wider operational areas. The infrastructure comprises just one core component, the base station repeater, which is interconnected over IP at both site and multi-site levels providing a completely scalable infrastructure. This provides a unique proposition in terms of low cost and high resilience.

TDE has initially rolled-out the network across a number of its sites, with the objective of expanding this across more locations in the near future. The NOMAD mobile network will eventfully cover 98% of the territory of Gaspésie and Bas-Saint-Laurent, as well as the road network and all municipalities on the North Shore. Coverage will also extend to the counties of Gloucester, Madawaska, Northumberland, Restigouche and Victoria, New Brunswick.

Daniel Gignac continued: *"Through our NOMAD network, we can now provide reliable and high performance access to communications for businesses and users. The impact this type of network should not be underestimated, with huge implications for the economic and social development of the region, and the safety of communities that will never be isolated again.*

"It has also enhanced the value we deliver as an SMR operator and ensured we are able to meet the rising demand among users for a land mobile radio offering that is rich in features and functionality.

"In the future, TDE also plans to use NOMAD to support new telemetry and SCADA solutions utilizing Simoco's Pulse technology. This enables users to manage and control assets across vast and remote operational areas using the Xd DMR network for the provision of low bandwidth data, where cellular coverage is otherwise intermittent and installing wired networks has significant cost implications"



Contact Us

UK HQ

Field House
Uttoxeter Old Road
Derby
DE1 1NH
Tel UK: 08717 411 050
Tel International: +44 (0) 1332 375 500
info@simocowirelesssolutions.com

AUS HQ

1270 Ferntree Gully Rd
Scoresby, VIC 3179
Tel: +61 (0) 3 9730 3999
Fax: +61 (0) 3 9730 3964
inquiry.aus@simocowirelesssolutions.com

AMERICAS

Tel: +1 619 405 8926
americas@simocowirelesssolutions.com