

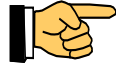
 **EXCERA**

DMR T2 IP Multi-site Solution

SHENZHEN EXCERA TECHNOLOGY CO., LTD.
深圳安信卓科技有限公司



CONTENTS



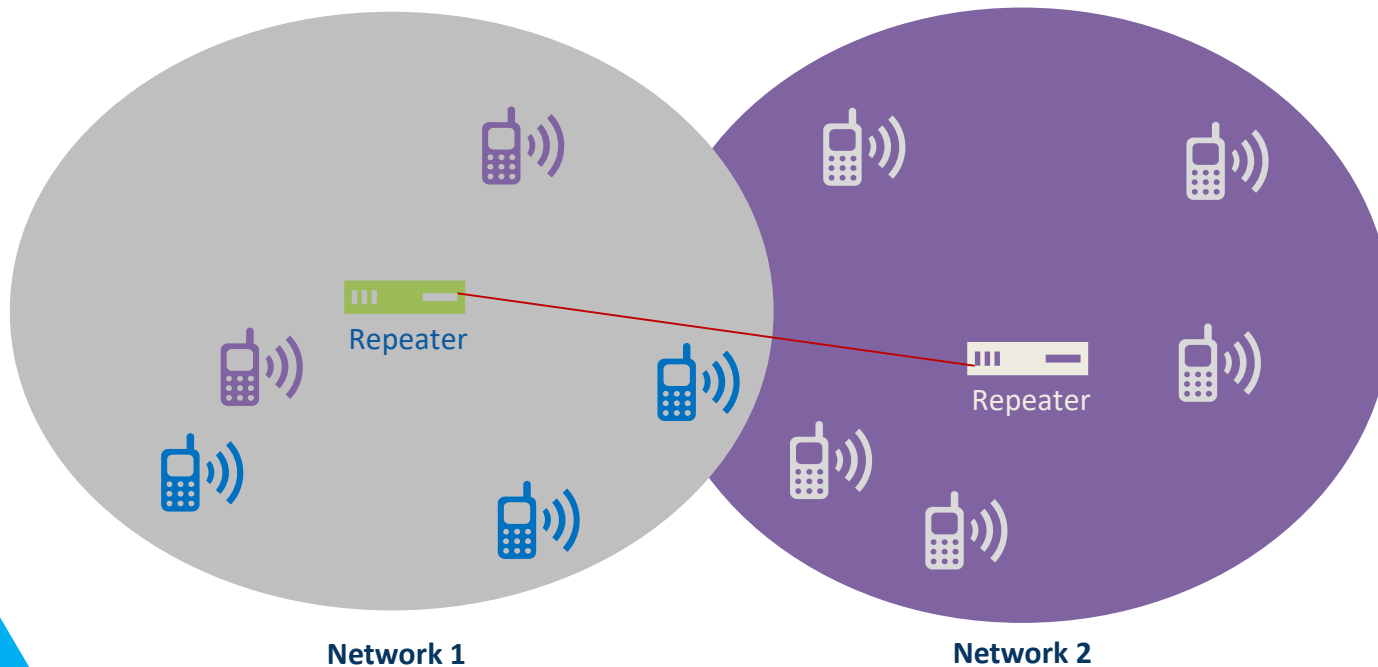
1>. Technical introduce

2>. Device information

3>. Market demand

4>. Business cases

Working mode



DMO:

Small region, Point to Point or Point to Multi

RMO:

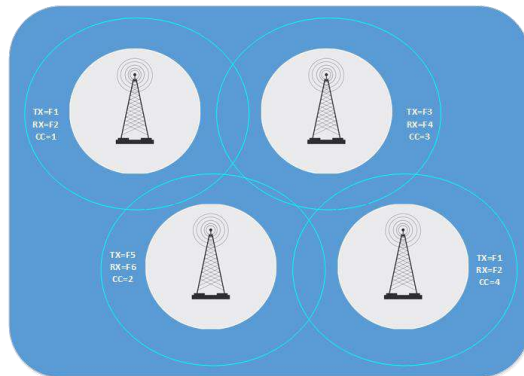
Middle region, to enlarge the coverage but not enhance the capacity.

IP Multi-site:

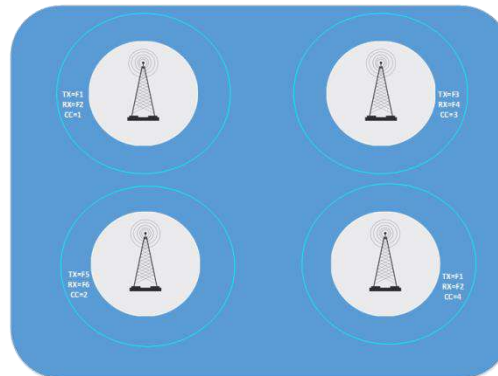
larger region, to further enlarge the coverage but still not enhance the capacity.

Network Architecture

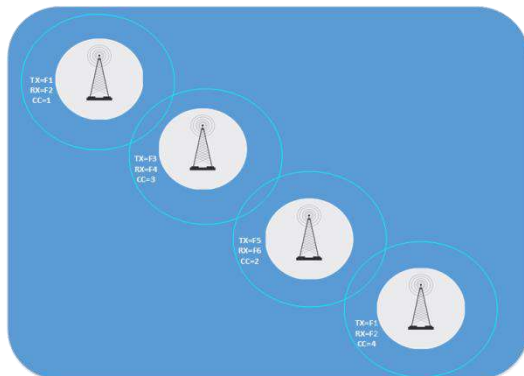
Heavy Overlapping
(City center)



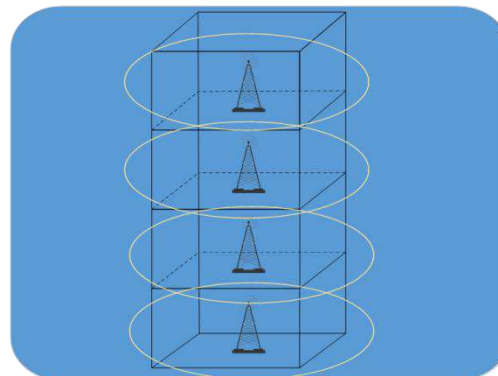
Non-overlapping
(Rural area)



Minimal Overlapping
(Railway/subway line)

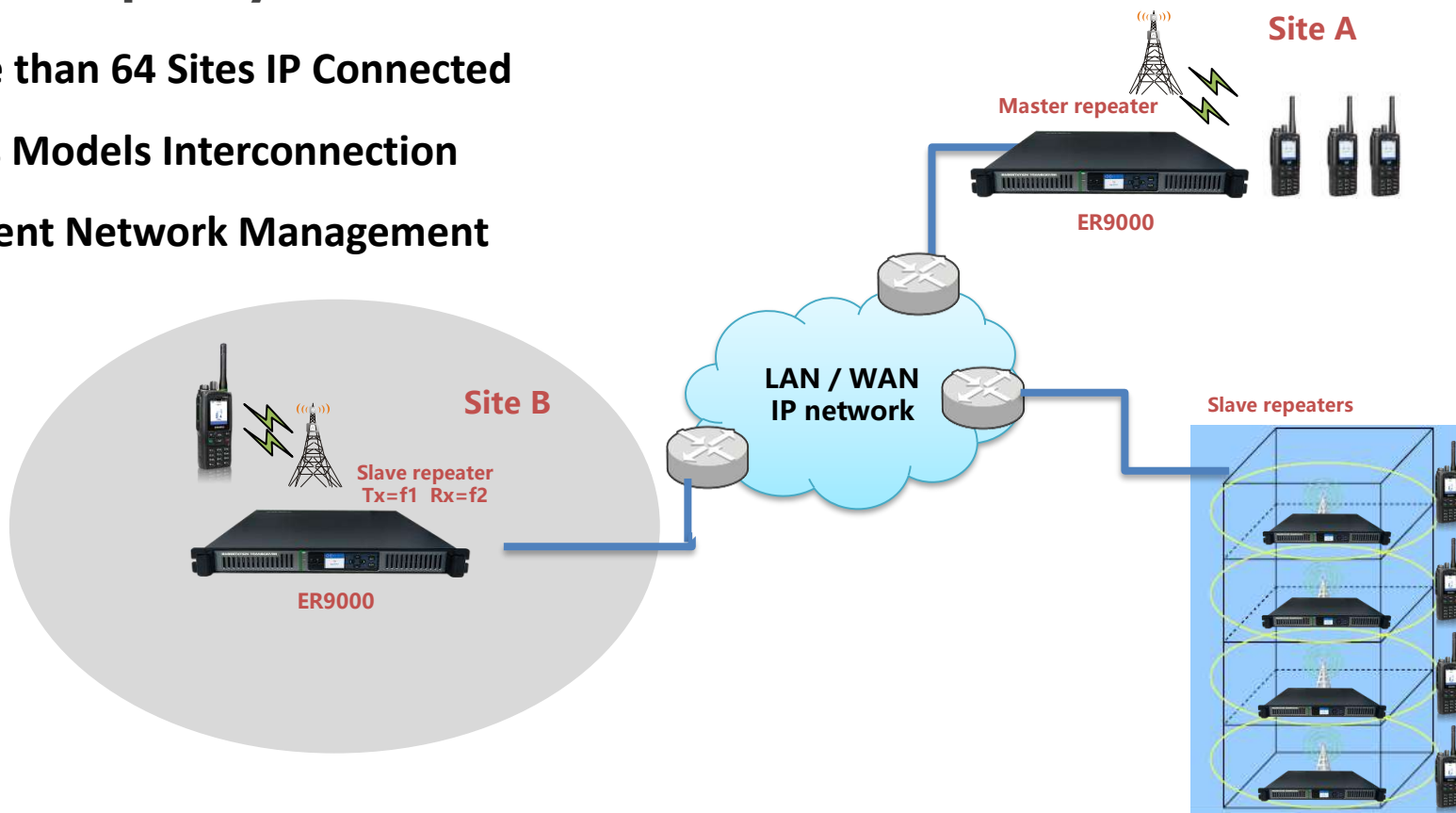


Multi Overlapping
(Business building)



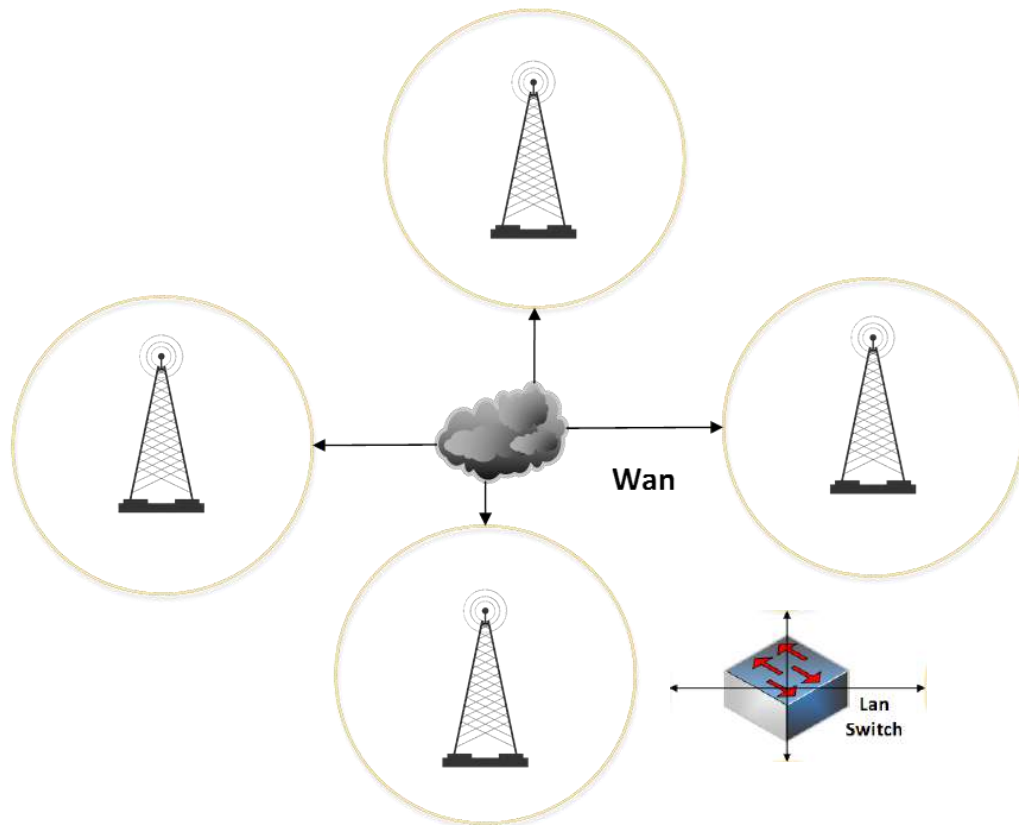
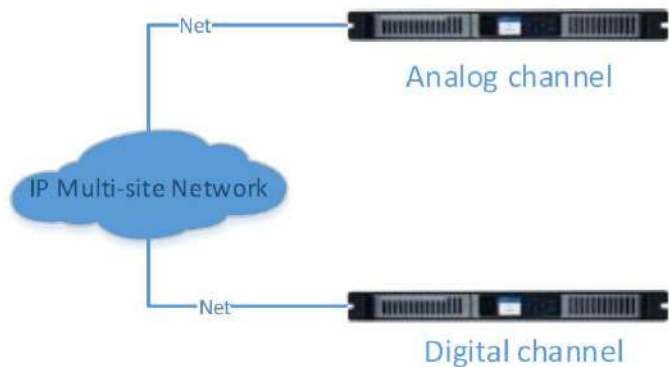
System capacity

- ✓ More than 64 Sites IP Connected
- ✓ Cross Models Interconnection
- ✓ Efficient Network Management



System composition

IP address via Wan/Lan network
+
Stations with ER9000 repeater
+
Portable/mobile radios



DMR-Dispatcher



Voice Calls

- Private Call
- Group Call
- All Call
- Emergency Call
- Telephone Call
- Voice recording
- Dispatcher Intercommunication

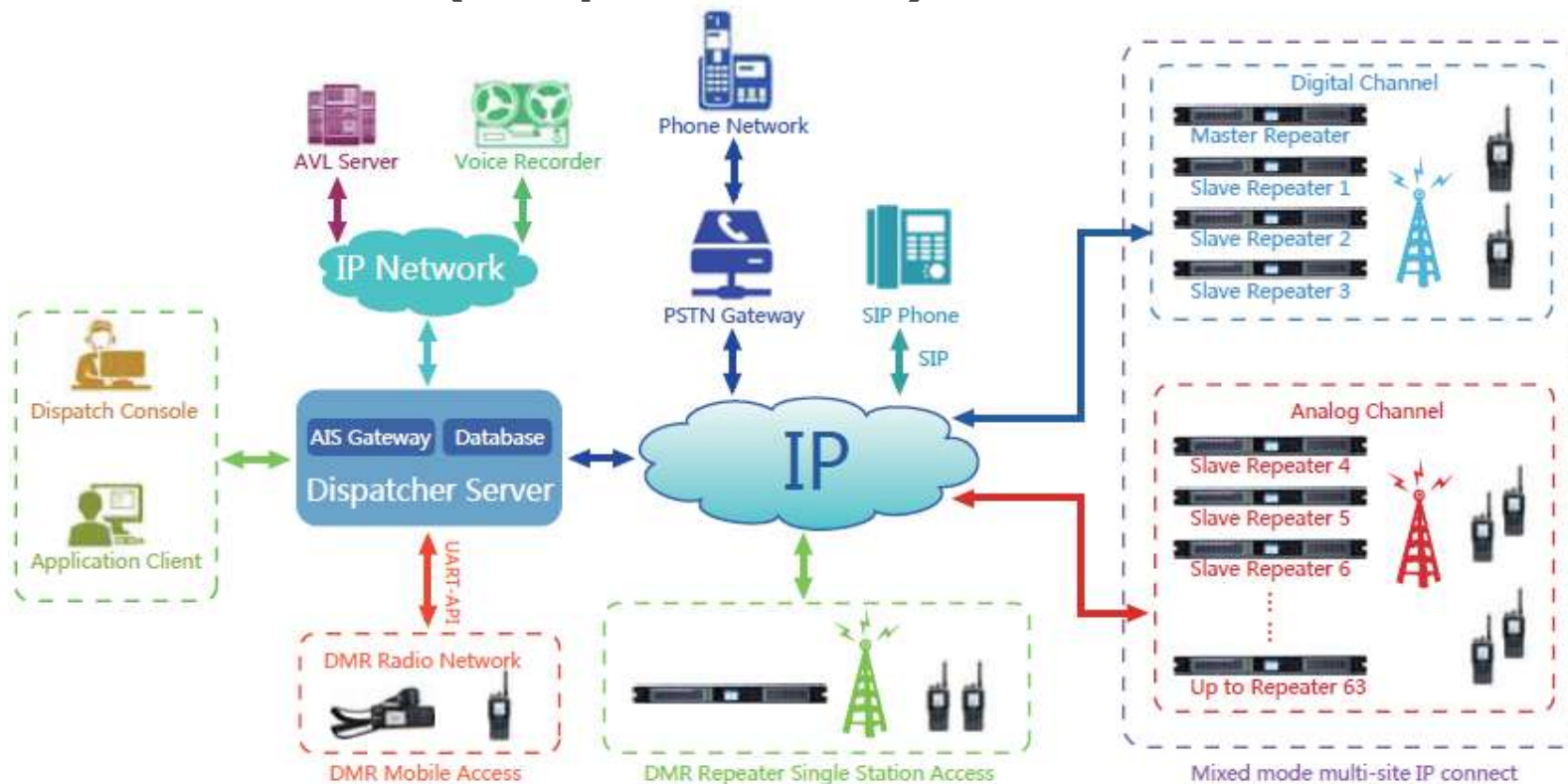
Data Operations

- Text Message
- Timing Message
- GIS
- Normal Data (GPS/RRS)
- Remote Programming

Supplementary Service

- Speed alarm
- Reporting & Statistic
- Remote Monitoring
- Radio disable & enable
- Enable / disable unknown radios

Frame structure (complex version)



Mixed analog & digital DMR conventional system

CONTENTS

1>. Technical introduce



2>. Device information

3>. Market demand

4>. Business cases





Dispatcher



Terminals + Base station





EP8100
Portable radio



EP8000
Portable radio



EM8100
Mobile radio



EP5500
Portable radio



EP5800
Portable radio



EP5000
Portable radio



ER9000
Multi-feature repeater

- 1st full-duplex DMR radio in the world
- 2.0" HD transfective TFT LCD display (EP8100)
- IP67 and MIL-STD-810 standard compliance
- DMR Tier II conventional & DMR Tier III trunking
- High capacity battery: 2400mAh / 3400mAh
- Built-in physical noise reduction (25dB)
- 136-174 MHz, 300-360 MHz, 350-400 MHz
400-470 MHz, 450-520 MHz

- ◆ Bluetooth 4.0
- ◆ Easy trunking
- ◆ Rich API support
- ◆ SFR (single frequency repeating)
- ◆ Ad Hoc network

IP67



Professional High-end



EP8000

EP8100



EP5000 EP5500 EP5800

Professional Mid-end

- Utilize TI OMAP Processor
- IP67 and MIL-STD-810 standard compliance
- Fast charge (85% capacity finished within 1h)
- Panasonic cell battery: 2000mAh/2400mAh
- IP67 and MIL-STD-810 standard compliance
- 136-174 MHz, 350-400 MHz, 400-470 MHz
- Bluetooth 4.0
- Pseudo trunking
- Support add-on development





Professional Mobile Radio

- ◆ Bluetooth 4.0
- ◆ Ignition
- ◆ Easy trunking / Pseudo trunking
- ◆ Rich API support
- ◆ SFR (single frequency repeating)
- ◆ Ad Hoc network

- Full-duplex communications
- 2.8" HD transfective TFT LCD display
- IP54 and MIL-STD-810 standard compliance
- DMR Tier II conventional & DMR Tier III trunking
- Innovative auto-protecting technology
- Built-in physical noise reduction
- 136-174 MHz, 300-360 MHz, 350-400 MHz, 400-470 MHz, 450-520 MHz,





- Channel Capacity 128
- 100,000h MTBF performance
- 100% duty cycle at 50W high power output
- 19 inches, 1U cabinet with power supply inside
- Simulcast / EasyTrunking
- Seamless Multi-site IP connection (up to 64 stations)
- DMRA AIS application successful solution applications
- 136-174 MHz, 300-360 MHz, 350-400 MHz, 400-470 MHz, 450-520 MHz

Base-station Repeater



CONTENTS

1>. Technical introduce

2>. Device information



3>. Market demand

4>. Business cases



Transportation:

Airports, Rail, Roads, Ports, Tunnels, etc.

Government and Infrastructure:

Government, Healthcare, Construction, etc.

Utilities:

Electricity, Oil and Gas, Water, Mining, etc.

Public Safety:

Police, Fire Fighting, etc.



Transportation: Airports

The multi-tenant nature of airports means that communications are at the centre of achieving successful, safe and on-time operations – and these communications need to deal with a wide variety of different environments. From refuelling areas to air traffic control, hospitality and duty free to security, airports require communications that can handle complex combinations of voice and data. Meanwhile, the demands for robust security and rapid incident response are changing and growing daily.

Airport communications challenges are not just focused on staff. Delivering an outstanding passenger experience, and maintaining smooth passenger flow throughout the airport are also essential.

All this demands a wide variety of different communications technologies, which somehow need to be unified and centralized.



Transportation: Airports-Features / Benefits

- A unified communications network for all voice and data requirements – today and into a digitally-driven future.
- Rapid identification of any problems on the network, with easy isolation.
- Easy patching of ground to air radio, driving faster turnaround and more efficient ramp operations.
- Faster and more streamlined emergency response.
- Hardware and software that operate within the strict safety regulations of environments such as refuelling areas and air traffic control.

Transportation: Rail

Today's railway, metro and tram networks require customized communications programmes that go beyond voice to provide location tracking, data transmission and integration between on-board systems and control rooms. This means that communications for railways are no longer based purely on voice, but are data-driven, incorporating multiple different technologies and protocols.

Maintaining smooth and efficient passenger flow through rail environments is a crucial challenge, and one that requires staff from multiple functions to be able to communicate clearly with each other.

Managing this multiplicity requires a unified, integrated approach to communications – one that can flex and grow as railways add new services and reach out to new customers.



Transportation: Rail-Features / Benefits

- A unified communications network for all voice and data requirements – today and into a digitally-driven future.
- Rapid identification of any problems on the network, with easy isolation.
- Faster and more streamlined control of track operations through enhanced data capabilities.
- Automatic Vehicle Location (AVL) systems allow not only asset location, but also the ability to build an historic view of performance and provide a better customer experience.

Transportation: Tunnels

Tunnels are a key part of many transport infrastructures. Whether for road, rail, power utilities, public use or service vehicles only, they keep cities moving and communities connected.

Engineering reliable communications systems and deploying them in tunnels requires detailed planning and expert execution. From extensive radio propagation testing, to integrating with mobile phone carriers and commercial radio broadcasters; planning a network that runs underground calls for a wealth of specialized knowledge and experience.



Government and Infrastructure: Government

Central government departments experience some of the most complex communications challenges in the world. Workforces are spread across the country, continually moving and changing. Vast amounts of data must be transferred, shared and collaborated upon – with robust levels of security embedded at all stages. Central government must embrace the innovations offered by new technology – yet deliver cost-efficiency at every turn. And a single point of centralized visibility is essential.

Digital communications protocols mean that upgrades and maintenance can be performed remotely and multiple user groups can be catered for, making ongoing management of the communications network simpler than ever before. Task management systems allow for closer controls of workflows and resources. And all of this is delivered by teams with vast experience in working in hostile environments and complex buildings, so no matter where your department is located, its geography is no barrier to effective communications.



Utilities: Electricity

Globally, electricity providers are under pressure to create the smart grids of tomorrow while simultaneously delivering reliable and continuous power to rapidly growing populations. Smart grids mean that data is an increasingly important part of the mission-critical communications mix, while new applications require new services and protocols.

Meanwhile, should outages or grid disruptions occur, electricity providers need to be able to rapidly identify and isolate those problems.

These disparate demands require disparate technologies, all of which need to be unified across potentially huge geographical areas.



Utilities: Electricity-Features / Benefits

- A unified field area network for voice and data communications.
- Reduced cost of deployment and overall cost of ownership through deployment of private networks that can incorporate serial.
- Management and control of smart grids across widely dispersed assets.
- Understand exactly where problems on the network are located, rather than having to dispatch teams to manually search areas of the grid.
- Fully resilient, guaranteed availability and quality of service, remaining operational in the event of a major incident.
- The added security and health and safety benefits of tracking your teams and ensuring their safety is maintained.
- Guaranteed voice communication allowing your teams to continue necessary dialogue when public networks may have ceased to operate.

Public Safety: Police

Police forces face a unique set of communication challenges. Communications must remain clear and audible throughout unusual environmental challenges – police officers may find themselves venturing underground or deep into buildings, for example – and on the move at potentially very high speeds. Data is increasingly part of the picture too, whether to enable officers on the move to run license plate checks, or to process pictures and video information.

A wide variety of technologies are available to support these data-rich communications, but a single police force also requires a single unified network to manage them.

Police forces that work with Excera Wireless Solutions enjoy data-rich communications that remain secure and reliable even in the most restrictive environments, across wide geographical areas and when travelling at high speeds.

In turn, this enables officers to share information more rapidly and on the move, leading to more intelligent and strategic policing. Officers on the beat are empowered with data from background checks to license plates, enabling them to serve the public more efficiently and with more information at their fingertips.



CONTENTS

1>. Technical introduce

2>. Device information

3>. Market demand



4>. Business cases



	End user	Working field	Products adopted
	BHP Billiton_Brazil	Iron ore /Rail Network	EP8100 & EP8000 DMR Portable Radio; Disaster backup control console.
	Heathrow Airport_U.K.	Airport	EP8100 & EP8000 DMR Portable Radio; EM8100 DMR Mobile Radio; Network operations center.
	TDE_Canada	SMR operator	EP8100 DMR Portable Radio; EM8100 DMR Mobile Radio; DMR Tier III infrastructure.
	Punjab Public Security Bureau_Pakistan	Public Security	EP8100 DMR Portable Radio; EM8100 DMR Mobile Radio; ER9000 DMR Repeater.

THANKS !

