

Connectivity Services for Public Safety

Summary

Network Area

- Emergency / remote sites connectivity and backhauling

Architecture

- Microwave PtMP & PtP
- Millimeter-Wave (E-Band) PtP

Solution

- OSDR
- UltraLink™-BX70

Synergies

- uni|MS™



OSDR



UltraLink™-BX70

Reliability & Implementation Speed are Most-Wanted!

An important design factor, upon which the public safety networks depend, is the reliability of the communications. In practice, connectivity needs to be secure and interference-free.

Public safety service providers however need solutions that enable rapid coverage of remote areas toward providing emergency response services.

Backhaul Challenges of Public Safety Networks

The main backhaul challenges of public safety networks include:

- **All-Outdoor Solutions Support in the Product Portfolio**

Ease of installation is critical for the OpEx of large deployments, especially where space for indoor equipment is unavailable. All-outdoor, space-efficient systems need to be used to allow rapid implementation of the network.

- **Support of Legacy Interfaces (Where Needed)**

Public safety networks have depended heavily on legacy TDM interfaces (E1, SDH). These interfaces need to be supported where available.

- **Scalability of Terminals in Large Areas**

The higher the number of terminals that can be served in a sectorized area (PtMP coverage), the faster the ROI. Increase in demand should not obligate spending on additional equipment (i.e. external switches) at the hub.

- **Secure & Flexible High-Bandwidth Transmission**

Emergency operations may require rapid and high-throughput transmission (i.e. emergency video coverage). This can be achieved with the use of unlicensed connectivity over an encrypted channel to guarantee the security of communication.

Intracom Telecom: The Vendor to Trust!

Thirty five years of state-of-the-art engineering and manufacturing excellence have led to a carefully-designed portfolio of cutting-edge telecommunication products. Among them, the innovative OmniBAS™ and UltraLink™ platforms that make use of advanced mature wireless technologies for a variety of customizable options that perfectly meet the aforementioned backhaul challenges of public safety networks.

- Field-proven PtP and PtMP licensed technologies for interference-free operation and guaranteed high service quality.
- Best-of-breed E-Band technology providing fast deployment of high-bandwidth links. This technology has been tested and verified for seamless interoperability with security gateways and encryption-capable third-party solutions.
- Software-defined PtMP or PtP operation in microwave frequencies with customization of different firmware profiles. The same hardware can be used differently and as needed, either as an overlay terminal, or as part of the PtMP / PtP extension.

Operators are now able to provide emergency connectivity services in remote areas fast, securely and reliably, based on a complete line of high-performance innovative products from a trusty vendor with high specialization in the wireless telecommunications field.

Solution Highlights

Backward Compatibility



Legacy interfaces can be accommodated in all-outdoor cabinets to provide legacy connectivity where available

Unified Management



One management suite, uniIMS™, manages everything, from radio equipment to wireless services

Powerful & Flexible Connections!

Industry-Leading Capacity



Highest radio throughputs per link with modulations up to 4096-QAM

Configurability

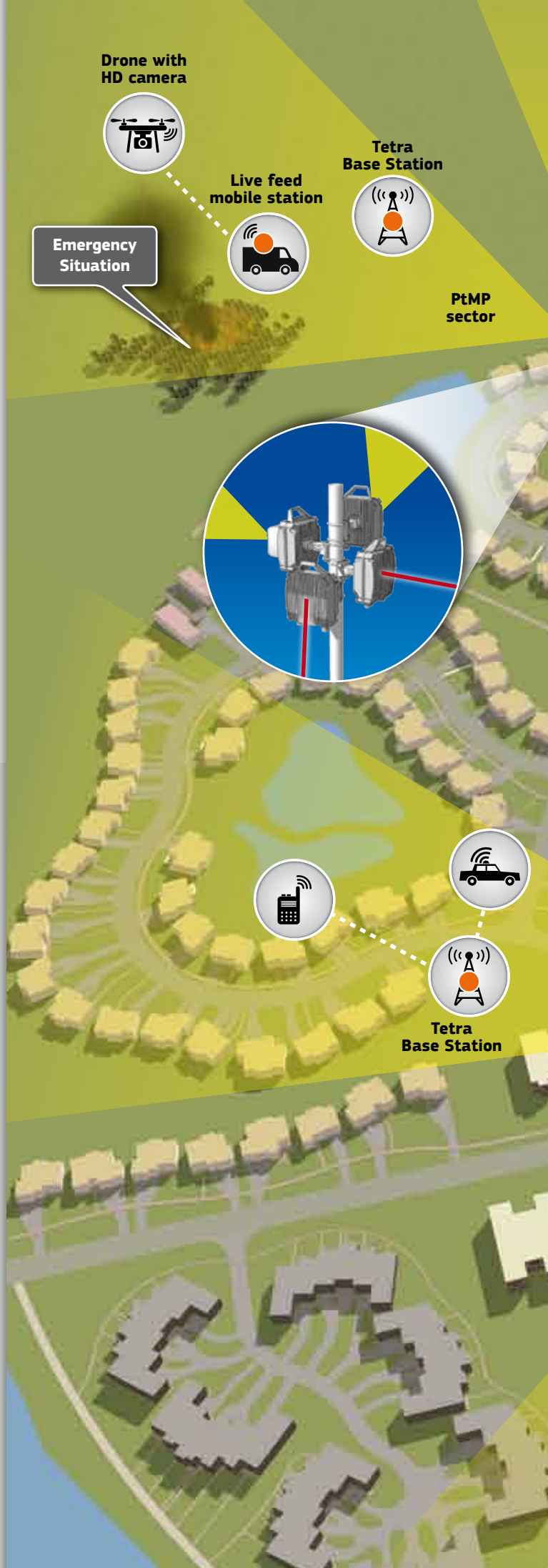


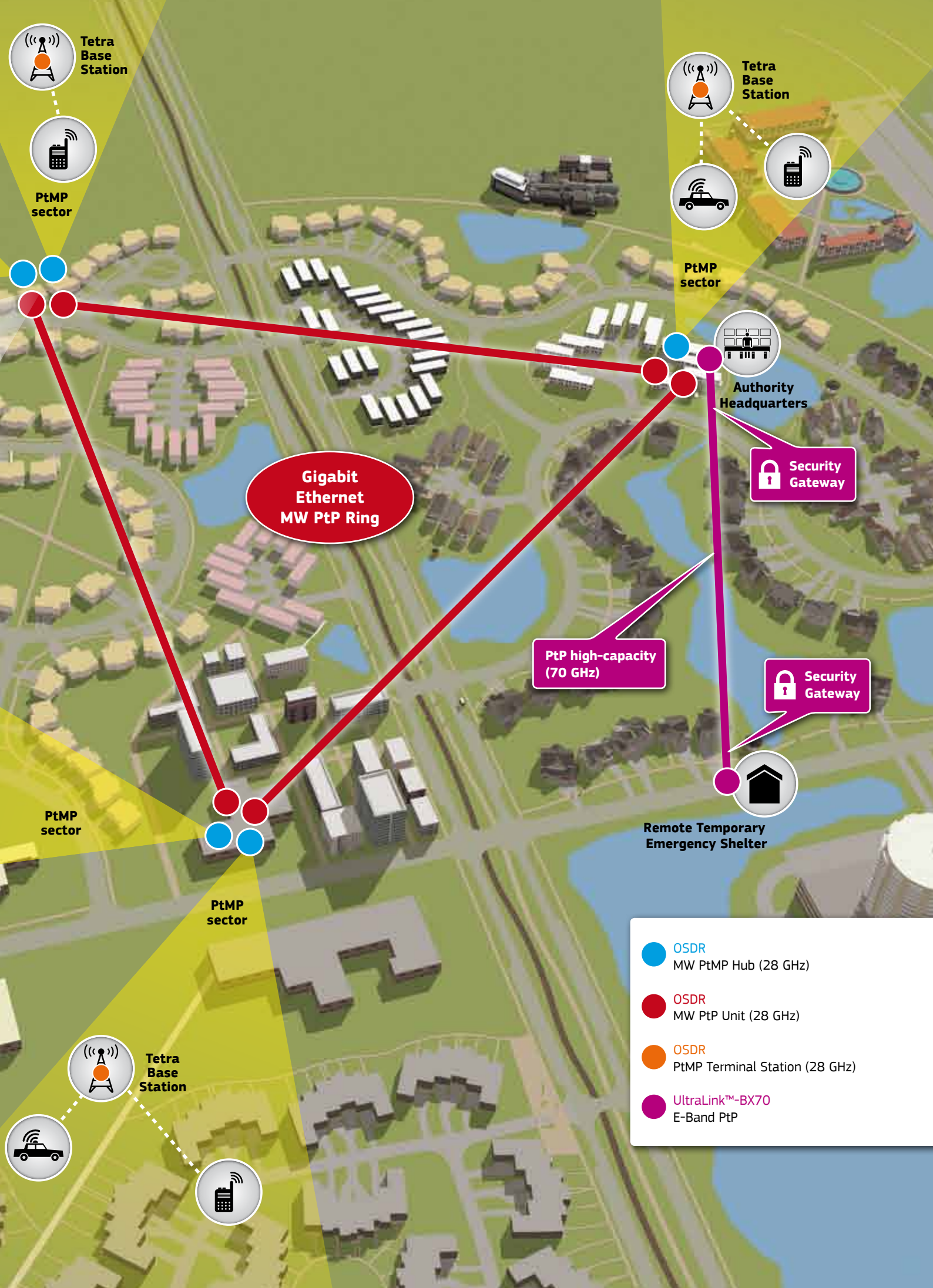
Point to Multi-Point (PtMP) or Point-to-Point (PtP) operation for all-outdoor systems (OSDR)

Complete Portfolio for Transport



The PtP family of products span all the segments of the network, from the edge sites to the high aggregation nodes





Tetra Base Station

PtMP sector

Tetra Base Station

PtMP sector

Gigabit Ethernet MW PtP Ring

Authority Headquarters

Security Gateway

PtP high-capacity (70 GHz)

Security Gateway

PtMP sector

PtMP sector

Remote Temporary Emergency Shelter

- **OSDR**
MW PtMP Hub (28 GHz)
- **OSDR**
MW PtP Unit (28 GHz)
- **OSDR**
PtMP Terminal Station (28 GHz)
- **UltraLink™-BX70**
E-Band PtP

Tetra Base Station

Why this Solution is for You

Market-leading features for the microwave PtP systems

- Highest radio performance and capacity:
 - Modulation up to 4096-QAM
 - XPIC and RLA for doubling the throughput
- Comprehensive portfolio for unmatched deployment flexibility
 - From nodal to zero-footprint installations
- Investment security
 - Field-proved solution, continuous evolution

Top-notch microwave PtMP performance

- Highest capacity per radio (540 Mbit/s)
- Longest ranges (5 dBm more transmit power than nearest competitor)
- Hitless adaptive modulation (no bandwidth-consuming retransmissions needed)
- Highest terminal capacity – 30 terminals per sector without any additional IDU

Unique offering of PtP & PtMP radios

- Innovative all-outdoor software-defined radio (OSDR) platform
- Converged Backhaul Aggregation Node (CBAN) – the market's unique product offering to combine PtP and PtMP architectures at the same site

Unprecedented innovations for the millimeter-wave product family

- Highest capacity in their class
- Carrier Ethernet networking features
- Multiple network synchronization options
- Gigabit and CPRI interfaces
- Powering type flexibility – direct DC, DC PoE, AC PoE

The StreetNode™ and UltraLink™-BX70 products, which participate in this solution, can be combined with other PtP and PtMP offerings from Intracom Telecom for a complete wireless backhaul toolkit)

Participating Products Specifications Summary

OSDR (MW-Band), PtMP & PtP

- Radio
 - PtMP
 - › Up to 540 Mbit/s throughput
 - › Up to 1024-QAM hitless adaptive modulation
 - PtP
 - › Up to 880 Mbit/s throughput
 - › Up to 4096-QAM hitless adaptive modulation
- Mechanical & Electrical
 - Dimensions (HxWxD), mm: 290 x 238 x 96
 - Weight: 4.5 kg (excluding the mounting kit)

UltraLink™-BX70 (E-Band)

- Radio
 - Up to 1.6 Gbit/s aggregate throughput
 - TDD throughput split 1:1, 2:1, 3:1
- Mechanical & Electrical
 - Dimensions (HxWxD), mm: 200 x 200 x 40
 - Weight: <3 kg (excluding the mounting kit)

uni|MS™

- Unified multi-vendor and multi-technology management
- Unprecedented network visualization through Web-based user interface
- Out-of-the-box dashboards & reports with network bandwidth & performance analysis
- Highly-automated network rollout through self-organized networks
- Network and RF planning tools closing the loop between “as planned” and “as built”

Why Intracom Telecom

- **One-stop Shop**
 - Comprehensive portfolio of end-to-end radio access & backhaul solutions
 - Proven integration & interoperability
 - State-of-the-art end-to-end management suite
- **Established Wireless Vendor**
 - Growing and continuous presence for a variety of access and transmission solutions
 - Growing brand name recognition for PtP and PtMP solutions
- **Recognized for Service Excellence**
 - Extensive implementation track record
 - Specialized & highly experienced personnel
 - Consulting, design, implementation & support
 - Commitment to adding customer value
- **Continuous Innovation**
 - Innovating in the wireless access and transmission field for over one and a half decade
 - Successful development and deployment of PtP and PtMP systems with numerous operators in Europe, the Middle East, the CIS, Asia and Africa
 - Investing heavily on the continuous evolution of its wireless product lines

About Intracom Telecom

Intracom Telecom is a global telecommunication systems and solutions vendor operating for over 35 years in the market. The company innovates in the areas of small-cell backhaul, wireless transmission and broadband wireless access and has successfully deployed its industry leading point-to-point and point-to-multipoint packet radio systems worldwide. Moreover, Intracom Telecom offers a competitive portfolio of revenue-generating telco software solutions and a complete range of ICT services, focusing on big data analytics, converged networking and cloud computing for operators and private, public and government clouds. The company invests significantly in R&D developing cutting-edge products and integrated solutions that ensure customer satisfaction. Over 100 customers in more than 70 countries choose Intracom Telecom for its state-of-the-art technology. The company employs more than 1,900 people and operates subsidiaries in Europe, Russia and the CIS, the Middle East and Africa, Asia and North America.