



Heterogeneous Networks for European Public Safety

Harold LINKE – HITEC Luxembourg
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- **Public Safety Services**
 - Police, Fire brigades, Ambulances, Civil Protection

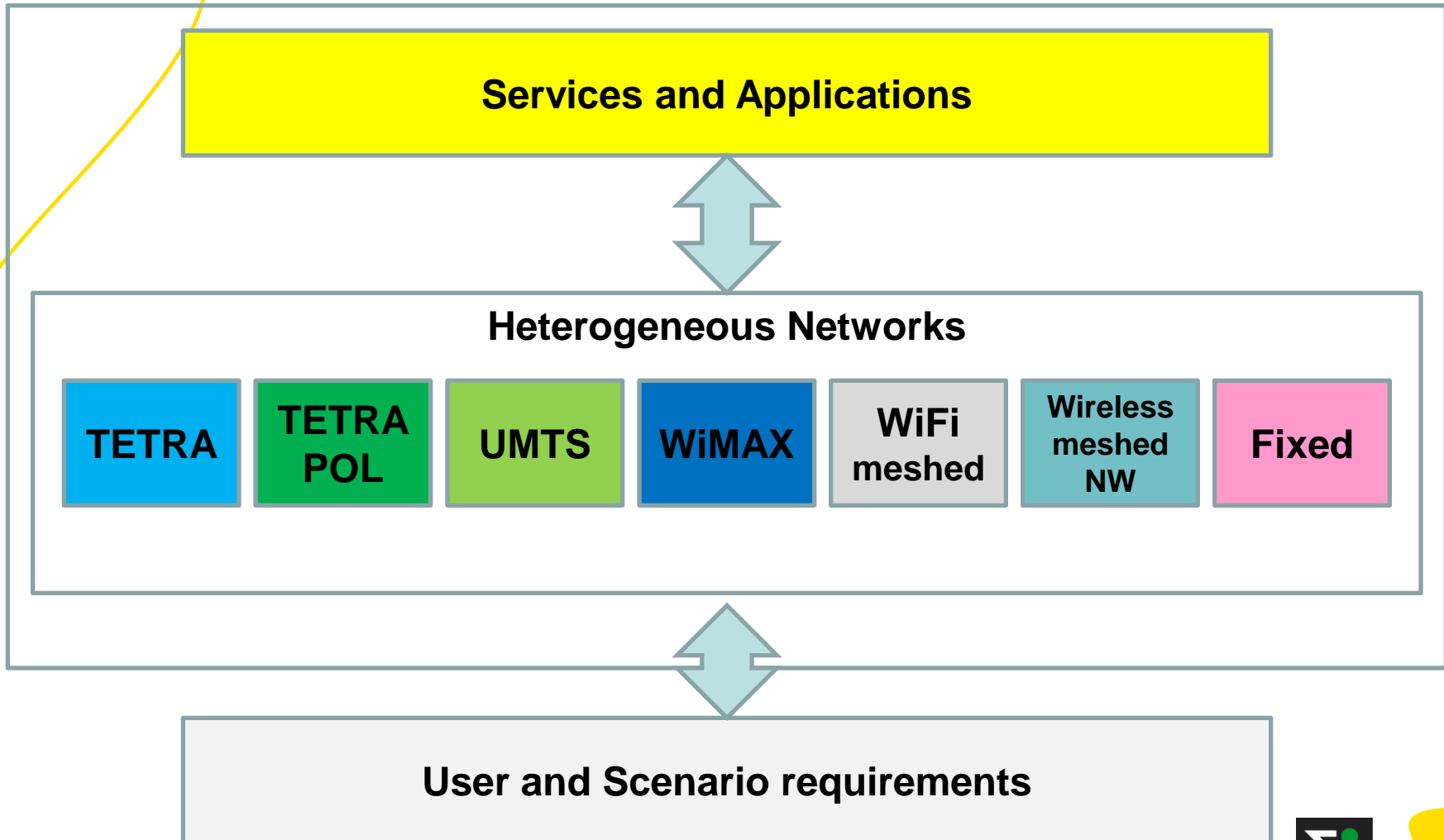
 - **Communication Requirements**
 - Mission Critical Communication – Voice
 - Increased situational awareness
 - Video from incident site
 - Sensor information
 - Access to data and archives
- => More and more need for
Broadband Communication

- **Voice Communication**
 - dedicated Networks
 - Analogue
 - TETRA
 - TETRAPOL

- **Broadband Communication**
 - no dedicated broadband Networks for public safety services available
 - dedicated spectrum not decided yet (availability earliest 2020)
 - Other options
 - public broadband networks
 - Fast deployable broadband networks

- **Heterogeneity in radio networks**
 - PMR (TETRAPOL, TETRA) – for voice
 - GSM/UMTS/HSDPA/(LTE)
 - SatCom (e.g. ASTRA2Connect)
 - WiMAX, WiFi
 - Fast deployable network solutions
 - Ad hoc Wireless Sensor Networks

- **Heterogeneity in services**
 - Several Crisis Centres (EWFM, ARIGON+, Portal)
 - Several Tactical applications
(mobile clients, phone clients, PMR group call application)
 - Intelligent Video Analytics
 - Location based services
 - Dynamic Information Sharing



HNPS Project Achievements (1)

- **Five demonstrations executed (Four public with users)**
 - Mid-term review, Mai 2010
 - User workshop Nozay, November 2010
 - User workshop Luxembourg, March 2011
 - Transport Scenario demonstration, Madrid, November 2011
 - Final Demonstration, Elancourt, November 2011

- **Two different scenario were used:**
 - The cooperative terrorist scenario, integrating nearly all components realised in one solution
 - The Transport Scenario, Madrid, integrating selected components into a scenario defined and supported by the Consortium Regional Transport of Madrid

HNPS Project Achievements (2)

- ✓ **Integration of communication networks**
 - ✓ **Fixed radio networks**
 - ✓ TETRAPOL – national PMR for public security
 - ✓ TETRA – private PMR,
 - ✓ WiFi – exterior et interior – with localisation service.
 - ✓ WiMAX – wide band 4G radio network private
 - ✓ UMTS – wide band 3G radio network public
 - ✓ SatCom – Long distance connection with backhaul
 - ✓ **Fast deployable networks**
 - ✓ WiMAX – wide band network limited to the 'intervention site
 - ✓ Wireless Meshed Network (WMN) – deployed in areas where other networks unavailable e.g. basements – connected to the WAN via WiMAX and
 - ✓ Wireless Meshed Network (WMN) – deployed in areas where other networks unavailable e.g. basements – connected to the TETRAPOL IP network through a gateway
 - ✓ Wireless Sensor Network (WSN) – deployed on demand to connect sensors – may use the WMN or WiMAX

HNPS Project Achievements (3)

- ✓ **Applications and Solutions integrated**
 - Video and Imaging
 - video analytics (UPM)
 - Thermal Imaging (NGARO)
 - Headquarter applications
 - Command Control Centre – VOMATEC ARIGON PLUS in combination with HITEC middleware
 - HITEC Web Portal
 - Mobile Units
 - HITEC middleware
 - HITEC tactical client
 - Intervention Teams
 - Cassidian TETRAPOL Client via Voice over IP

- ✓ **Technological aspects**
 - Detailed security analysis and recommendations
 - Self Configuration Management solutions

- Project Start: July 1st, 2008
- Project End: December 31st, 2011
- Duration 3.5 years
- €9.6 Mio Budget

- 15 Partners
 - Including major players of the Public Safety Market
 - Coming from five different countries
 - Spain (5)
 - France (4),
 - Luxembourg (4),
 - Germany (1) (self-funding),
 - Netherlands (1) (self-funding),

Industry Players



Government



Research



- **Positive Feedback received from users**
 - Approx 30 participants from the public safety user community in all demonstration
 - Main feedback:
 - A very relevant topic for public safety services today and in the near future
 - The demonstrations showed ways for future public safety communication
- **The input of the HNPS project is already and will be used as basis for several public safety solutions**
 - Emergency.lu
 - Alpine Search and Rescue (ALPSAR)
 - High interest for implementation of the Madrid Transport Scenario in Madrid
- **The partners and the associated users are satisfied by the results of the project and the very good collaboration between partners and users**

- The HNPS project partners would like to thank

- The CELTIC office for their support
- The public authorities of
 - France
 - Luxembourg
 - Spain



- Active Supporting users

- France



Pôle Pilote de Sécurité Locale

- Luxembourg



- Spain



Thank You

Harold Linke, HITEC Luxembourg
harold.linke@hitec.lu