

The Public Safety LTE & Mobile Broadband Market: 2017 – 2030 – Opportunities, Challenges, Strategies & Forecasts

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Abstracts

Until recently, LTE has predominantly been considered a supplementary mobile broadband technology in the public safety sector, to provide high-bandwidth data applications that cannot be delivered over existing narrowband LMR (Land Mobile Radio) systems. However, with the standardization of capabilities such as MCPTT (Mission-Critical PTT) by the 3GPP, LTE is increasingly being viewed as an all-inclusive critical communications platform for the delivery of multiple mission-critical services ranging from PTT group communications to real-time video surveillance.

A number of dedicated public safety LTE networks are already operational across the globe, ranging from nationwide systems in the oil-rich GCC (Gulf Cooperation Council) region to citywide networks in Spain, China, Pakistan, Laos and Kenya. Among other notable engagements, several "early builder" networks are operational in the United States – that will subsequently merge with the wider FirstNet nationwide system; early pilot LTE networks for the Sate-Net program are in the process of being commercialized in South Korea; and Canada is beginning to see its first dedicated LTE network deployments, starting with the Halton Regional Police Service.

However, the use of LTE in the public safety sector is not restricted to dedicated networks alone. For example, the United Kingdom Home Office is in the process of deploying an ESN (Emergency Services Network) that will use British mobile operator EE's commercial LTE RAN and a dedicated mobile core to eventually replace the country's existing nationwide TETRA system. The secure MVNO (Mobile Virtual Network Operator) model is already being used in multiple European countries, albeit at a smaller scale – to complement existing TETRA networks with broadband capabilities. In addition, this approach also beginning to gain traction in other parts of the world, such

as Mexico.

Driven by demand for both dedicated and secure MVNO networks, SNS Research estimates that annual investments in public safety LTE infrastructure will surpass \$800 Million by the end of 2017, supporting ongoing deployments in multiple frequency bands across the 400/450 MHz, 700 MHz, 800 MHz, and higher frequency ranges. The market – which includes base stations (eNBs), mobile core and transport network equipment – is further expected to grow at a CAGR of nearly 45% over the next three years. By 2020, these infrastructure investments will be complemented by up to 3.8 Million LTE device shipments, ranging from smartphones and ruggedized handheld terminals to vehicular routers and IoT modules.

The “Public Safety LTE & Mobile Broadband Market: 2017 – 2030 – Opportunities, Challenges, Strategies & Forecasts” report presents an in-depth assessment of the global public safety LTE market, besides touching upon the wider LMR and mobile broadband industries. In addition to covering the business case, market drivers, challenges, enabling technologies, applications, key trends, standardization, spectrum availability/allocation, regulatory landscape, deployment case studies, opportunities, future roadmap, value chain, ecosystem player profiles and strategies for public safety LTE, the report presents comprehensive forecasts for mobile broadband, LMR, and public safety LTE subscriptions from 2017 till 2030. Also covered are unit shipment and revenue forecasts for public safety LTE infrastructure, devices, integration services and management solutions. In addition, the report tracks public safety LTE service revenues, over both private and commercial networks.

The report comes with an associated Excel datasheet suite covering quantitative data from all numeric forecasts presented in the report, as well as a list and associated details of over 190 global public safety LTE engagements – as of Q4’2017.

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- 9.49 Armour Communications
- 9.50 Arqiva
- 9.51 Artemis Networks
- 9.52 Artesyn Embedded Technologies
- 9.53 Artiza Networks
- 9.54 ASELAN
- 9.55 ASOCS
- 9.56 Assured Wireless Corporation
- 9.57 ASTRI (Hong Kong Applied Science and Technology Research Institute)
- 9.58 ASUS (ASUSTeK Computer)
- 9.59 AT&T
- 9.60 ATDI
- 9.61 Atel Antennas
- 9.62 Athonet
- 9.63 Atos
- 9.64 AttoCore
- 9.65 Avanti Communications Group
- 9.66 AVI
- 9.67 Aviat Networks
- 9.68 Avigilon Corporation
- 9.69 Avtec
- 9.70 Axis Communications

- 9.71 Axon
- 9.72 Azcom Technology
- 9.73 Azetti Networks
- 9.74 BAE Systems
- 9.75 Baicells Technologies
- 9.76 BandRich
- 9.77 Barrett Communications
- 9.78 BATS (Broadband Antenna Tracking Systems)
- 9.79 BCDVideo
- 9.80 BCE (Bell Canada)
- 9.81 BEC Technologies
- 9.82 Benetel
- 9.83 BeyondTrust Software
- 9.84 BFDX (BelFone)
- 9.85 BHE (Bonn Hungary Electronics)
- 9.86 Bird Technologies
- 9.87 Bittium Corporation
- 9.88 BK Technologies
- 9.89 Black & Veatch
- 9.90 Black Box Corporation
- 9.91 BlackBerry
- 9.92 Blackned
- 9.93 Blueforce Development Corporation
- 9.94 Bosch Security Systems
- 9.95 BridgeWave Communications
- 9.96 Broadcom
- 9.97 Brocade Communications Systems
- 9.98 BTI Wireless
- 9.99 C Spire
- 9.100 CACI International
- 9.101 CalAmp Corporation
- 9.102 Cambium Networks
- 9.103 Capita
- 9.104 Carlson Wireless Technologies
- 9.105 Casa Systems
- 9.106 Casio Computer Company
- 9.107 Catalyst Communications Technologies
- 9.108 Caterpillar
- 9.109 Cavium

- 9.110 CCI (Communication Components Inc.)
- 9.111 CCI Systems
- 9.112 CCN (Cirrus Core Networks)
- 9.113 cellXica
- 9.114 CelPlan Technologies
- 9.115 Ceragon Networks
- 9.116 Certes Networks
- 9.117 Challenge Networks
- 9.118 Chemring Technology Solutions
- 9.119 Cielo Networks
- 9.120 Ciena Corporation
- 9.121 Cirpack
- 9.122 Cisco Systems
- 9.123 Cloudstreet
- 9.124 CND (Core Network Dynamics)
- 9.125 Cobham Wireless
- 9.126 Codan Radio Communications
- 9.127 Coherent Logix
- 9.128 Collinear Networks
- 9.129 Comba Telecom
- 9.130 COMLAB
- 9.131 CommAgility
- 9.132 CommandWear Systems
- 9.133 CommScope
- 9.134 Comrod Communication Group
- 9.135 Comtech Telecommunications Corporation
- 9.136 CONET Technologies
- 9.137 Connect Tech
- 9.138 Contela
- 9.139 Coolpad Group
- 9.140 Coriant
- 9.141 Cornet Technology
- 9.142 Corning
- 9.143 Covia Labs
- 9.144 Cradlepoint
- 9.145 Crown Castle International Corporation
- 9.146 CS Corporation
- 9.147 CybertelBridge
- 9.148 CyPhy Works

- 9.149 Dahua Technology (Zhejiang Dahua Technology)
- 9.150 Dali Wireless
- 9.151 DAMM Cellular Systems
- 9.152 Datang Mobile
- 9.153 Dell Technologies
- 9.154 Delta Electronics
- 9.155 Dialogic
- 9.156 DragonWave-X
- 9.157 Druid Software
- 9.158 DT (Deutsche Telekom)
- 9.159 Duons
- 9.160 Eastcom (Eastcom Communications Company)
- 9.161 EchoStar Corporation
- 9.162 Ecom Instruments
- 9.163 EE
- 9.164 EION Wireless
- 9.165 Elbit Systems
- 9.166 ELUON Corporation
- 9.167 ENENSYS Technologies
- 9.168 eolane DOUARNENEZ
- 9.169 Ercom
- 9.170 Ericsson
- 9.171 ETELM
- 9.172 Etherstack
- 9.173 Ethertronics
- 9.174 ETRI (Electronics & Telecommunications Research Institute, South Korea)
- 9.175 EXACOM
- 9.176 Exalt Wireless
- 9.177 Excelerate Technology
- 9.178 EXFO
- 9.179 Expeto Wireless
- 9.180 Expway
- 9.181 ExteNet Systems
- 9.182 Eyecom Telecommunications Group
- 9.183 Fairwaves
- 9.184 FastBack Networks
- 9.185 Federated Wireless
- 9.186 Fenix Group
- 9.187 FiberHome Technologies

- 9.188 FireEye
- 9.189 Flash Private Mobile Networks
- 9.190 FLIR Systems
- 9.191 Forcepoint
- 9.192 Fortinet
- 9.193 Foxcom
- 9.194 Fraunhofer FOKUS (Institute for Open Communication Systems)
- 9.195 Fraunhofer HHI (Heinrich Hertz Institute)
- 9.196 FreeWave Technologies
- 9.197 Frequentis
- 9.198 FRTEK
- 9.199 Fujian Sunnada Network Technology
- 9.200 Fujitsu
- 9.201 Funkwerk
- 9.202 Future Technologies
- 9.203 Galtronics Corporation
- 9.204 GCT Semiconductor
- 9.205 GE (General Electric)
- 9.206 Gemalto
- 9.207 Gemtek Technology
- 9.208 Genaker
- 9.209 GENBAND
- 9.210 General Dynamics Mission Systems
- 9.211 Genesis Group
- 9.212 GenXComm
- 9.213 GeoSafe
- 9.214 Getac Technology Corporation
- 9.215 GIKO GROUP
- 9.216 Gilat Satellite Networks
- 9.217 Globalstar
- 9.218 Goodman Networks
- 9.219 Goodmill Systems
- 9.220 Google
- 9.221 GRENTECH
- 9.222 GroupTalk
- 9.223 GSI (GS Instech)
- 9.224 Guangzhou Iplook Technologies
- 9.225 GWT (Global Wireless Technologies)
- 9.226 Hanwha Techwin

- 9.227 Harris Corporation
- 9.228 Haystax Technology
- 9.229 HCL Technologies
- 9.230 Hexagon
- 9.231 Hikvision (Hangzhou Hikvision Digital Technology)
- 9.232 HISPASAT Group
- 9.233 Hitachi
- 9.234 Hoimyung ICT
- 9.235 Honeywell International
- 9.236 Horsebridge Defence & Security
- 9.237 HPE (Hewlett Packard Enterprise)
- 9.238 HQT (Shenzhen HQT Science and Technology)
- 9.239 HTC Corporation
- 9.240 Huawei
- 9.241 Hughes Network Systems
- 9.242 Hunter Technology
- 9.243 Hytera Communications
- 9.244 IAI (Israel Aerospace Industries)
- 9.245 IBM Corporation
- 9.246 Icom
- 9.247 IDEMIA
- 9.248 IDY Corporation
- 9.249 IMPTT
- 9.250 Indra
- 9.251 Infinova
- 9.252 InfoVista
- 9.253 Inmarsat
- 9.254 InnoWireless
- 9.255 Insta Group
- 9.256 Intel Corporation
- 9.257 Intercede
- 9.258 InterDigital
- 9.259 Intersec
- 9.260 Intracom Telecom
- 9.261 Intrepid Networks
- 9.262 ip.access
- 9.263 IPITEK
- 9.264 Iridium Communications
- 9.265 Irvies Technology

- 9.266 ISCO International
- 9.267 IS-Wireless
- 9.268 Italtel
- 9.269 ITCEN
- 9.270 ITRI (Industrial Technology Research Institute, Taiwan)
- 9.271 ITS Ibelem
- 9.272 JMA Wireless
- 9.273 Johnson Controls
- 9.274 Jolla
- 9.275 JPS Interoperability Solutions
- 9.276 JRC (Japan Radio Company)
- 9.277 Juni Global
- 9.278 Juniper Networks
- 9.279 JVCKENWOOD Corporation
- 9.280 Kapsch CarrierCom
- 9.281 Kathrein-Werke KG
- 9.282 KBR
- 9.283 Keysight Technologies
- 9.284 Kirisun Communications
- 9.285 Kisan Telecom
- 9.286 Klas Telecom
- 9.287 Klein Electronics
- 9.288 Kleos
- 9.289 KMW
- 9.290 Kodiak Networks
- 9.291 Koning & Hartman
- 9.292 Kontron S&T
- 9.293 KPN
- 9.294 KRTnet Corporation
- 9.295 KT Corporation
- 9.296 Kudelski Group
- 9.297 Kumu Networks
- 9.298 Kyocera Corporation
- 9.299 L3 Technologies
- 9.300 LCR Embedded Systems
- 9.301 Leenos Corporation
- 9.302 Lemko Corporation
- 9.303 Lenovo
- 9.304 Leonardo

- 9.305 LG Electronics
- 9.306 LG Uplus
- 9.307 LGS Innovations
- 9.308 Ligado Networks
- 9.309 Lime Microsystems
- 9.310 LOCIVA
- 9.311 Lockheed Martin Corporation
- 9.312 Lookout
- 9.313 LS telcom
- 9.314 Luminare Wireless
- 9.315 M87
- 9.316 Macquarie Group
- 9.317 Magister Solutions
- 9.318 Martin UAV
- 9.319 Mavenir Systems
- 9.320 McAfee
- 9.321 MediaTek
- 9.322 Mellanox Technologies
- 9.323 Mentura Group
- 9.324 MER Group
- 9.325 Metaswitch Networks
- 9.326 MIC Nordic
- 9.327 Micro Focus
- 9.328 Microlab
- 9.329 Microsoft Corporation
- 9.330 Microwave Networks
- 9.331 Milestone Systems
- 9.332 MitraStar Technology Corporation
- 9.333 Mitsubishi Electric Corporation
- 9.334 Mobile Tornado
- 9.335 MobileDemand
- 9.336 MobileIron
- 9.337 Mobilicom
- 9.338 ModUcom (Modular Communication Systems)
- 9.339 MoMe
- 9.340 Moseley Associates
- 9.341 Motorola Solutions
- 9.342 Moxtra Public Safety
- 9.343 MP Antenna

- 9.344 MRV Communications
- 9.345 MTI (Microelectronics Technology, Inc.)
- 9.346 Mutualink
- 9.347 N.A.T.
- 9.348 Nash Technologies
- 9.349 NEC Corporation
- 9.350 Nemergent Solutions
- 9.351 Netas
- 9.352 NetMotion
- 9.353 NETSCOUT Systems
- 9.354 New Postcom Equipment
- 9.355 Nextivity
- 9.356 NextNav
- 9.357 NI (National Instruments)
- 9.358 NICE Systems
- 9.359 NIKSUN
- 9.360 Node-H
- 9.361 Nokia Networks
- 9.362 Northrop Grumman Corporation
- 9.363 NuRAN Wireless
- 9.364 NVIS Communications
- 9.365 NXP Semiconductors
- 9.366 Oceus Networks
- 9.367 Octasic
- 9.368 ODN (Orbital Data Network)
- 9.369 Omnitele
- 9.370 Omoco
- 9.371 One2many
- 9.372 Openet
- 9.373 Oracle Communications
- 9.374 Orange
- 9.375 PacStar (Pacific Star Communications)
- 9.376 Palo Alto Networks
- 9.377 Panasonic Corporation
- 9.378 Panda Electronics Group
- 9.379 Panorama Antennas
- 9.380 Parallel Wireless
- 9.381 Parsons Corporation
- 9.382 PCTEL

- 9.383 pdvWireless
- 9.384 Pelco (Schneider Electric)
- 9.385 Pepro
- 9.386 Persistent Telecom
- 9.387 Phluido
- 9.388 Plover Bay Technologies
- 9.389 PMN (Private Mobile Networks)
- 9.390 Polaris Networks
- 9.391 PoLTE Corporation
- 9.392 Potevio
- 9.393 PRISMA Telecom Testing
- 9.394 Pryme Radio Products
- 9.395 Pulse Electronics
- 9.396 Qinetiq
- 9.397 Qualcomm
- 9.398 Quanta Computer
- 9.399 Qucell
- 9.400 Quintel
- 9.401 Quortus
- 9.402 RACOM Corporation
- 9.403 RAD Data Communications
- 9.404 Radio IP Software
- 9.405 Radisys Corporation
- 9.406 RADWIN
- 9.407 Rafael Advanced Defense Systems
- 9.408 Range Networks
- 9.409 Rave Mobile Safety
- 9.410 Raycap
- 9.411 Raytheon Company
- 9.412 Reality Mobile (ASTRO Solutions)
- 9.413 Rebel Alliance
- 9.414 Red Hat
- 9.415 RED Technologies
- 9.416 REDCOM Laboratories
- 9.417 Redline Communications
- 9.418 Redwall Technologies
- 9.419 Rescue
- 9.420 RF Window
- 9.421 RFS (Radio Frequency Systems)

- 9.422 RIVA Networks
- 9.423 Rivada Networks
- 9.424 Rockwell Collins
- 9.425 Rogers Communications
- 9.426 Rohde & Schwarz
- 9.427 Rohill
- 9.428 ROK Mobile
- 9.429 Rosenberger
- 9.430 RugGear
- 9.431 Saab
- 9.432 SafeMobile
- 9.433 SAI Technology
- 9.434 SAIC (Science Applications International Corporation)
- 9.435 Samji Electronics
- 9.436 Samsung Electronics
- 9.437 Sapiient Consulting
- 9.438 Savox Communications
- 9.439 Senstar Corporation
- 9.440 Sepura
- 9.441 Sequans Communications
- 9.442 SerComm Corporation
- 9.443 SES
- 9.444 Sevis Systems
- 9.445 SFR
- 9.446 Shentel (Shenandoah Telecommunications Company)
- 9.447 SIAE Microelettronica
- 9.448 Siemens Convergence Creators
- 9.449 Sierra Wireless
- 9.450 Signal Information & Communication Corporation
- 9.451 Siklu Communication
- 9.452 Silicom
- 9.453 Simoco Wireless Solutions
- 9.454 Singtel
- 9.455 SiRRAN
- 9.456 Sistelbanda
- 9.457 SITRONICS
- 9.458 Siyata Mobile
- 9.459 SK Telecom
- 9.460 SK Telesys

- 9.461 SLA Corporation
- 9.462 SmartSky Networks
- 9.463 Smith Micro Software
- 9.464 Softil
- 9.465 SOLiD
- 9.466 Soliton Systems
- 9.467 Sonim Technologies
- 9.468 Sonus Networks
- 9.469 Sony Corporation
- 9.470 Sooktha
- 9.471 SOTI
- 9.472 Southern Linc
- 9.473 Space Data Corporation
- 9.474 Spectra Group
- 9.475 SpiderCloud Wireless
- 9.476 Spirent Communications
- 9.477 Spreadtrum Communications
- 9.478 Sprint Corporation
- 9.479 SRS (Software Radio Systems)
- 9.480 Star Solutions
- 9.481 STMicroelectronics
- 9.482 Stop Noise
- 9.483 sTraffic
- 9.484 StreamWIDE
- 9.485 Sumitomo Electric Industries
- 9.486 Swisscom
- 9.487 Symantec
- 9.488 Sysoco Group
- 9.489 SyTech (Systems Engineering Technologies) Corporation
- 9.490 TacSat Networks
- 9.491 Tait Communications
- 9.492 Tampa Microwave
- 9.493 TASSTA
- 9.494 Tata Elxsi
- 9.495 TCL Communication
- 9.496 TCOM
- 9.497 Tech Mahindra
- 9.498 Tecom
- 9.499 Tecore Networks

- 9.500 TEKTELIC Communications
- 9.501 Telco Systems
- 9.502 Telefonica Group
- 9.503 Televate
- 9.504 Tellabs
- 9.505 Telo Systems Corporation
- 9.506 Telos Corporation
- 9.507 Telrad Networks
- 9.508 Telstra
- 9.509 Teltronic
- 9.510 Telum
- 9.511 Telus Corporation
- 9.512 TESSCO Technologies
- 9.513 TETRATAB
- 9.514 Thales
- 9.515 TI (Texas Instruments)
- 9.516 Tieto Corporation
- 9.517 TIM (Telecom Italia Mobile)
- 9.518 Titan Securite
- 9.519 TLC Solutions
- 9.520 T-Mobile USA
- 9.521 Toshiba Corporation
- 9.522 Tropico
- 9.523 TRX Systems
- 9.524 Twinhead International Corporation
- 9.525 U.S. Cellular
- 9.526 UANGEL
- 9.527 Ukkoverkot
- 9.528 UNIMO Technology
- 9.529 URSYS
- 9.530 US Digital Designs
- 9.531 Utility Associates
- 9.532 V5 Systems
- 9.533 Vanu
- 9.534 Vencore Labs
- 9.535 Verint Systems
- 9.536 Verizon Communications
- 9.537 ViaSat
- 9.538 Viavi Solutions

- 9.539 Vidyo
- 9.540 Vision Technologies
- 9.541 Visual Labs
- 9.542 VMware
- 9.543 VNC (Virtual Network Communications)
- 9.544 VNL (Vihaan Networks Limited)
- 9.545 Vodafone Group
- 9.546 Voxer
- 9.547 VTT Technical Research Centre of Finland
- 9.548 West Corporation
- 9.549 Westell Technologies
- 9.550 Wildox (Shenzhen Happy Technology)
- 9.551 WINITECH
- 9.552 WinMate
- 9.553 WiPro
- 9.554 Wireless Technologies Finland
- 9.555 Wireless Telecom Group
- 9.556 WNC (Wistron NeWeb Corporation)
- 9.557 WTL (World Telecom Labs)
- 9.558 Wytec International
- 9.559 xG Technology
- 9.560 Xiamen Puxing Electronics Science & Technology
- 9.561 Xilinx
- 9.562 Xplore Technologies Corporation
- 9.563 Z-Com
- 9.564 Zello
- 9.565 Zetel Solutions
- 9.566 Zetron
- 9.567 Zinwave
- 9.568 ZMTel (Shanghai Zhongmi Communication Technology)
- 9.569 ZTE

CHAPTER 10: MARKET ANALYSIS AND FORECASTS

- 10.1 The Global Public Safety Mobile Broadband Market
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 - 10.2.3.2 Private vs. Commercial Public Safety LTE Device Shipments
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 - 10.2.4.2 Vehicle-Mounted Routers & Terminals
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 - 10.2.4.4 Tablets & Notebook PCs
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 - 10.5.1.3 Infrastructure
 - 10.5.1.4 RAN
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 - 10.5.2.2 Devices
 - 10.5.2.3 Infrastructure
 - 10.5.2.4 RAN
 - 10.5.2.5 Mobile Core (EPC, Policy & Application Functions)
 - 10.5.2.6 Mobile Backhaul & Transport
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 - 10.5.3.1 Subscriptions & Service Revenue
 - 10.5.3.2 Devices
 - 10.5.3.3 Infrastructure
 - 10.5.3.4 RAN
 - 10.5.3.5 Mobile Core (EPC, Policy & Application Functions)
 - 10.5.3.6 Mobile Backhaul & Transport
 - 10.5.3.7 Management & Integration Solutions
 - 10.5.4 Middle East & Africa
 - 10.5.4.1 Subscriptions & Service Revenue
 - 10.5.4.2 Devices
 - 10.5.4.3 Infrastructure
 - 10.5.4.4 RAN
 - 10.5.4.5 Mobile Core (EPC, Policy & Application Functions)

- 10.5.4.6 Mobile Backhaul & Transport
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 - 10.5.5.1 Subscriptions & Service Revenue
 - 10.5.5.2 Devices
 - 10.5.5.3 Infrastructure
 - 10.5.5.4 RAN
 - 10.5.5.5 Mobile Core (EPC, Policy & Application Functions)
 - 10.5.5.6 Mobile Backhaul & Transport
 - 10.5.5.7 Management & Integration Solutions
- 10.5.6 Western Europe
 - 10.5.6.1 Subscriptions & Service Revenue
 - 10.5.6.2 Devices
 - 10.5.6.3 Infrastructure
 - 10.5.6.4 RAN
 - 10.5.6.5 Mobile Core (EPC, Policy & Application Functions)
 - 10.5.6.6 Mobile Backhaul & Transport
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CHAPTER 11: CONCLUSION AND STRATEGIC RECOMMENDATIONS

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 - 11.4.5.3 Rest of Latin & Central America
- 11.5 Spectrum: Will 700 MHz Dominate the Public Safety LTE Market?
 - 11.5.1 400/450 MHz
 - 11.5.1.1 Band
 - 11.5.1.2 Band
 - 11.5.1.3 Non-3GPP Bands
 - 11.5.2 700 MHz
 - 11.5.2.1 Band
 - 11.5.2.2 Band
 - 11.5.2.3 Band
 - 11.5.3 800 MHz
 - 11.5.3.1 Band
 - 11.5.3.2 Band
 - 11.5.4 Higher Frequencies
 - 11.5.4.1 1.4 GHz

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 - 11.6.5 Operator-Branded Public Safety LTE Platforms
 - 11.6.5.1 Swisscom's LTE Platform for Blue Light Organizations
 - 11.6.5.2 TIM (Telecom Italia Mobile)'s Public Safety LTE Platform
 - 11.6.5.3 KPN's Critical Broadband Platform
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 - 11.7.2 Airwave's 4GMax
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 - 11.10.1 Mission-Critical Voice
 - 11.10.2 Mobile Video, Multimedia & Situational Awareness Applications
 - 11.10.3 Safe City Projects: Real-Time Transmission of CCTV Video Streams
 - 11.10.4 Aerial Surveillance via LTE-Connected Drones
 - 11.10.5 Field Data Applications for Law Enforcement, Fire & Emergency Medical Services
 - 11.10.6 AR (Augmented Reality) Applications
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 - 11.11.1 Macrocells
 - 11.11.2 Small Cells

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LIST OF COMPANIES MENTIONED

3GPP (Third Generation Partnership Project)
3M
450 MHz Alliance
450connect
4K Solutions
6Harmonics
A10 Networks
Aaeon
AAS (Amphenol Antenna Solutions)
Abu Dhabi Police
Accedian Networks
Accelleran
Accuver
Ace Technologies Corporation
AceAxis
ACMA (Australian Communications and Media Authority)
Actelis Networks
Aculab
Adax
ADCOM911 (Adams County Communications Center)
ADLINK Technology
ADRF (Advanced RF Technologies)
ADTRAN
ADVA Optical Networking
AdvanceTec Industries
Advantech
Advantech Wireless
Aeroflex
AeroMobile
Affarii Technologies
Affirmed Networks
Agile Networks
Aicox Solutions
Airbus Defence and Space
Airbus Group
Air-Lynx
Airspar Networks
Airvana

Airwave Solutions
Ajman Police
Alcatel-Lucent
Alea
Alepo
Alliander
Allied Telesis
Allot Communications
Alpha Networks
Alpha Technologies
Alphabet
Altaeros Energies
Altair Semiconductor
ALTAN Redes
AltioStar Networks
Alvarion Technologies
AM Telecom
Amarisoft
Amdocs
America Movil
American Tower Corporation
Anatel (Agencia Nacional de Telecomunicacoes)
Anritsu Corporation
APCO (Association of Public-Safety Communications Officials) International
Apple
APT (Asia-Pacific Telecommunity)
Aptica
ARASKOM
Arcadyan
ARCEP (Autorite de Regulation des Communications Electroniques)
Archos
Argela
ArgoNET
ARIB (Association of Radio Industries and Businesses, Japan)
Aricent
ARItel
ARM Holdings
Armasuisse (Federal Office for Defence Procurement, Switzerland)
Armour Communications

Arqiva
Artemis Networks
Artesyn Embedded Technologies
Artiza Networks
ASELSAN
ASMG (Arab Spectrum Management Group)
ASOCS
Assured Wireless Corporation
ASTRI (Hong Kong Applied Science and Technology Research Institute)
ASTRID
ASTRO Solutions
ASUS (ASUSTeK Computer)
AT&T
ATDI
Atel Antennas
Athonet
ATIS (Alliance for Telecommunications Industry Solutions)
Atlas Telecom
Atos
AttoCore
ATU (African Telecommunications Union)
Avanti Communications Group
Avaya
AVI
Aviat Networks
Avigilon Corporation
Avtec
Axell Wireless
Axis Communications
Axon
Axxcelera Broadband Wireless
Azcom Technology
Azetti Networks
BAE Systems
Baicells Technologies
BandRich
Barrett Communications
BASE (Telenet)
BATS (Broadband Antenna Tracking Systems)

Baylin Technologies
BayRICS (Bay Area Regional Interoperable Communications Systems Authority)
BayWEB (Bay Area Wireless Enhanced Broadband System)
BCDVideo
BCE (Bell Canada)
BDBOS (Federal Agency for Public Safety Digital Radio, Germany)
BEC Technologies
Benetel
BeyondTrust Software
BFDX (BelFone)
BHE (Bonn Hungary Electronics)
Bilbao Metro
Bird Technologies
Bittium Corporation
BK Technologies
Black & Veatch
Black Box Corporation
BlackBerry
BlackBerry AtHoc
Blackhawk Imaging
Blackned
BLiNQ Networks
Bluebird
Blueforce Development Corporation
BMI (Federal Ministry of Interior, Germany)
BMVg (Federal Ministry of Defense, Germany)
Boise Police Department
Bosch Security Systems
Boston Police Department
Bravo (Public Telecommunication Company)
Brazilian Army
Brazos County Sheriff's Office
Bridgewater
BridgeWave Communications
British Army
Broadcom
BroadSoft
Brocade Communications Systems
BRTI (Indonesian Telecommunications Regulatory Authority)

BT Group
BTI Wireless
Bullitt Mobile
Bundesnetzagentur (Federal Network Agency, Germany)
Bundeswehr (Armed Forces, Germany)
C Spire
C4i
CACI International
CACP (Canadian Association of Chiefs of Police)
CAFC (Canadian Association of Fire Chiefs)
CalAmp Corporation
Calgary Police Service
Cambium Networks
Camden County Public Safety
Canadian Advanced Technology Alliance
Capita
Carlson Wireless Technologies
Casa Systems
Casio Computer Company
Catalyst Communications Technologies
Caterpillar
Cavium
CCI (Communication Components Inc.)
CCI (Competitive Companies, Inc.)
CCI Systems
CCN (Cirrus Core Networks)
CCSA (China Communications Standards Association)
Cellvine
cellXica
CelPlan Technologies
CEPT (European Conference of Postal and Telecommunications Administrations)
Ceragon Networks
Certes Networks
Challenge Networks
Chemring Group
Chemring Technology Solutions
Chicago Police Department
Cielo Networks
Ciena Corporation

Cirpack
Cisco Systems
CITC (Communications and Information Technology Commission, Saudi Arabia)
CITEL (Inter-American Telecommunication Commission)
CITIG (Canadian Interoperability Technology Interest Group)
City of Charlotte
City of Fort Worth
City of Huntsville
City of Irving
City of New Orleans
City of Oakland
City of Pembroke Pines
City of Sendai
Cloudstreet
CND (Core Network Dynamics)
Cobham
Cobham SATCOM
Cobham Wireless
Codan Radio Communications
Collinear Networks
Colorado Parks and Wildlife
Comba Telecom
COMLAB
CommAgility
CommandWear Systems
CommScope
Comrod Communication Group
Comtech EF Data
Comtech TCS
Comtech Telecommunications Corporation
CONET Technologies
Connect Tech
Contela
Coolpad Group
Coriant
Cornet Technology
Corning
Covia Labs
CPqD (Center for Research and Development in Telecommunications, Brazil)

Cradlepoint
CRC (Communications Research Centre Canada)
Crown Castle International Corporation
CS Corporation
CybertelBridge
Cyfas Systems
CyPhy Works
Dahua Technology (Zhejiang Dahua Technology)
Dali Wireless
DAMM Cellular Systems
Datang Mobile
Datang Telecom
DDPS (Federal Department of Defence, Civil Protection and Sport, Switzerland)
DeKalb Police Department
Dell Technologies
Delta Electronics
DEPEN (National Prison Department, Brazil)
DFW (Dallas/Fort Worth) International Airport
Dialogic
DNA
DND (Department of National Defence, Canada)
DNK (Norwegian Directorate for Emergency Communication)
DragonWave-X
DRDC (Defence Research and Development Canada)
DRDC CSS (Defence Research and Development Canada's Centre for Security Science)
Druid Software
DSB (Directorate for Civil Protection, Norway)
DSTL (Defence Science and Technology Laboratory, United Kingdom)
Dubai Police
Duons
Eastcom (Eastcom Communications Company)
EchoStar Corporation
EchoStar Mobile
EchoStar Satellite Services
Ecom Instruments
EE
EF Johnson Technologies
EION Wireless

Elbit Systems
Elta Systems
ELUON Corporation
Embraer
EMC Corporation
ENENSYS Technologies
eolane DOUARNENEZ
Ercom
Ericsson
Ericsson LG
ETELM
Etherstack
Ethertronics
ETRI (Electronics & Telecommunications Research Institute, South Korea)
ETSI (European Telecommunications Standards Institute)
Ewing Police Department
EXACOM
Exalt Wireless
Excelerate Technology
Exelis
EXFO
Expeto Wireless
Expway
ExteNet Systems
Eyecom Telecommunications Group
FAB (Brazilian Air Force)
Facebook
Fairwaves
Falu Municipality
Fastback Networks
Federated Wireless
Fenix Group
FFI (Defence Research Establishment, Norway)
FiberHome Technologies
Finavia
FinnHEMS (Helicopter Emergency Medical Services, Finland)
Finnish Border Guard
Finnish Defence Forces
Finnish State Railways

FireEye
Flash Private Mobile Networks
FLIR Systems
Forcepoint
Fortinet
Foxcom
Fraunhofer FOKUS (Institute for Open Communication Systems)
Fraunhofer HHI (Heinrich Hertz Institute)
FreeWave Technologies
French Armed Forces
Frequentis
FRTek
Fujian Sunnada Network Technology
Fujitsu
Funkwerk
Future Technologies
Galtronics
GCT Semiconductor
GE (General Electric)
Gemalto
Gemtek Technology
Genaker
GENBAND
General Dynamics Corporation
General Dynamics Mission Systems
Genesis Group
GenXComm
GeoSafe
Getac Technology Corporation
GIKO GROUP
Gilat Satellite Networks
Global Invacom Group
Globalstar
Goodman Networks
Goodmill Systems
Google
Grant County Sheriff's Office
GRENTECH
Groupe ADP (Aéroport de Paris)

GroupTalk
GSI (GS Instech)
Guangzhou Iplook Technologies
GWT (Global Wireless Technologies)
Halton Regional Police Service
Hanwha Techwin
Harris Corporation
Harris County
Harris County Fire Marshal's Office
Harris County Sheriff's Office
Haystax Technology
HCL Technologies
HFRS (Hampshire Fire & Rescue Service)
Hikvision (Hangzhou Hikvision Digital Technology)
HISPASAT Group
Hitachi
Hoimyoung Corporation
Hoimyoung ICT
Home Office, United Kingdom
Honeywell International
Hong Kong Police Force
Horsebridge Defence & Security
Houston Police Department
HPE (Hewlett Packard Enterprise)
HQT (Shenzhen HQT Science and Technology)
HTC Corporation
Huawei
Hub One
Hughes Network Systems
Hunter Technology
Hytera Communications
IAI (Israel Aerospace Industries)
iBwave Solutions
ICCRA (International Critical Control Rooms Alliance)
Icom
ICT (Islamabad Capital Territory)
IDEMIA
IDF (Israel Defense Forces)
IDY Corporation

IFT (Federal Institute of Telecommunications, Mexico)
IMDA (Info-communications Media Development Authority of Singapore)
IMPTT
Indian Army
Indiana DHS (Department of Homeland Security)
Indianapolis Fire Department
Indianapolis Metropolitan Police Department
Indra
Infinova
InfoVista
INL (Idaho National Laboratory)
Inmarsat
InnerWireless
InnoWireless
Insta Group
Intel Corporation
Intercede
InterDigital
Intersec
Intracom Telecom
Intrepid Networks
ip.access
IPITEK
Iridium Communications
IRIS (Red Nacional de Radiocomunicacion de Mision Critica Tetrapol)
Irvees Technology
ISCO International
ISED (Innovation, Science and Economic Development Canada)
IS-Wireless
Italtel
ITCEN
ITELAZPI
ITRI (Industrial Technology Research Institute, Taiwan)
ITS Ibelem
ITU (International Telecommunication Union)
JMA Wireless
Johnson Controls
Jolla
Jordanian Armed Forces

JPS Interoperability Solutions
JRC (Japan Radio Company)
Juni Global
Juniper Networks
JVCKENWOOD Corporation
Kantonspolizei Zurich (Cantonal Police of Zurich)
Kapsch CarrierCom
Kathrein-Werke KG
KBR
KCC (Korea Communications Commission)
Kenyan Police Service
Keysight Technologies
Kirisun Communications
Kisan Telecom
Klas Telecom
Klein Electronics
Kleos
KMW
Kodiak Networks
Koning & Hartman
Kontron S&T
KPN
KPN Critical Communications
KRNA (Korea Rail Network Authority)
KRTnet Corporation
KT Corporation
Kudelski Group
Kudelski Security
Kumu Networks
Kyocera Corporation
L-3 Communication Systems-West
L-3 Technologies
Laos Police
LA-RICS (Los Angeles Regional Interoperable Communications System)
Las Vegas Metropolitan Police Department
LCR Embedded Systems
Leenos Corporation
Lemko Corporation
Lenovo

Leonardo
LG CNS
LG Electronics
LG Group
LG Uplus
LGS Innovations
Ligado Networks
Lijiang Police
Lime Microsystems
LOCIVA
Lockheed Martin Corporation
Logic Instrument
London's Air Ambulance
LS telcom
Luminate Wireless
M87
Macquarie Group
MadCo 911 (Madison County Alabama's 911 Dispatch Center)
Magister Solutions
Martin UAV
Mavenir Systems
MBIE (Ministry of Business, Innovation and Employment, New Zealand)
McAfee
MCMC (Malaysian Communications and Multimedia Commission)
MCTIC (Ministry of Science, Technology and Innovation and Communications, Brazil)
McWane
MediaTek
MegaFon
Mellanox Technologies
Mentura Group
MER Group
Metaswitch Networks
MetroPCS
MHA (Ministry of Home Affairs, Singapore)
Miami-Dade County
Miami-Dade Police Department
MIC (Ministry of Internal Affairs and Communications, Japan)
MIC Nordic
Micro Focus

Microlab
Microsoft Corporation
Microwave Networks
MIIT (Ministry of Industry and Information Technology, China)
Milestone Systems
MIMOon
Minas Gerais State Military Police
Ministry of Defence, Sweden
Ministry of Industry and Information Technology, China
Ministry of Interior & Coordination of National Government, Kenya
Ministry of Interior, Angola
Ministry of Interior, France
Ministry of Justice, Sweden
MitraStar Technology Corporation
Mitsubishi Electric Corporation
Mobile Tornado
MobileDemand
MobileIron
Mobilicom
MoD (Ministry of Defence, United Kingdom)
ModUcom (Modular Communication Systems)
MOI Qatar (Ministry of Interior, Qatar)
MoMe
Monmouth County Sheriff's Office
Moscow Police
Moseley Associates
Motorola Mobility
Motorola Solutions
Moxtra Public Safety
MP Antenna
MPS (Ministry of Public Security, China)
MPSS (Ministry of Public Safety and Security, South Korea)
MRC (Mobile Radio Center)
MRV Communications
MSB (Civil Contingencies Agency, Sweden)
MTI (Microelectronics Technology, Inc.)
Mutualink
N.A.T.
Nash Technologies

NATO (North Atlantic Treaty Organization)
Naval Postgraduate School
NBTC (National Broadcasting and Telecommunications Commission, Thailand)
NCRIC (Northern California Regional Information Center)
NDOT (Nevada Department of Transportation)
NEC Corporation
Nedaa
Nemergent Solutions
Neptune Mobile
Net4Mobility
Netas
NetMotion
NETSCOUT Systems
New Hampshire Department of Safety
New Jersey Office of Homeland Security and Preparedness
New Jersey ROIC (Regional Operations Intelligence Center)
New Jersey State Police
New Mexico DoIT (Department of Information Technology)
New Postcom Equipment
New Zealand Police
NewCore Wireless
NextG Networks
Nextivity
NextNav
NI (National Instruments)
NICE Systems
Nigeria Police Force
NIKSUN
Nkom (Norwegian Communications Authority)
Node-H
Nokia
Nokia Networks
Norsat International
Northglenn Police Department
Northrop Grumman Corporation
NTT DoCoMo
NuRAN Wireless
Nutaq Innovation
NVIS Communications

NXP Semiconductors
O3b Networks
Oakland Fire Department
Oceus Networks
Octasic
ODN (Orbital Data Network)
OFCOM (Federal Office of Communications, Switzerland)
Ohio State University
OMA (Open Mobile Alliance)
Oman Royal Office
Omnitele
Omoco
One2many
Ontario Ministry of Transportation
Ooredoo
Openet
OpenSignal
Optiway
Optus
Oracle Communications
Orange
Orange Belgium (Mobistar)
Ottawa Fire Services
PacStar (Pacific Star Communications)
Palo Alto Networks
Panasonic Avionics Corporation
Panasonic Corporation
Panda Electronics Group
Panorama Antennas
Parallel Wireless
PCC (Paramedic Chiefs of Canada)
PCTEL
pdvWireless
Pelco
Pennsylvania State Police
Pepperl+Fuchs
Pepro
Persistent Telecom
Philadelphia Police Department

Phluido
Pikewerks Corporation
Plover Bay Technologies
PMN (Private Mobile Networks)
Polaris Networks
Police Federation of Australia
Police of the Netherlands
Polizia di Stato (State Police, Italy)
PoLTE Corporation
Portalify
Potevio
PowerTrunk
PRISMA Telecom Testing
Productivity Commission, Australia
PROMTEL (Office for the Promotion of Investments in Telecommunications, Mexico)
Proximus
Pryme Radio Products
PSCA (Punjab Safe Cities Authority)
PSCE (Public Safety Communications Europe)
PSP (Potomac Spectrum Partners)
PTS (Post and Telecom Authority, Sweden)
Public Safety Canada
Publicis
Pulse Electronics
Qatar Armed Forces
Qinetiq
Qingdao Police
Qiqihar Municipal Public Security Bureau
Qiqihar Police
Qualcomm
Quanta Computer
Qucell
Quintel
Quortus
RACOM Corporation
RAD Data Communications
Radio IP Software
Radisys Corporation
RADWIN

RAF (Royal Air Force)
Rafael Advanced Defense Systems
Range Networks
Rave Mobile Safety
Raycap
Raytheon Company
RCC (Regional Commonwealth in the Field of Communications)
RCMP (Royal Canadian Mounted Police)
Reality Mobile
Rebel Alliance
Red Hat
RED Technologies
REDCOM Laboratories
Redline Communications
Redwall Technologies
RESCAN (Canary Islands Network for Emergency and Security)
Rescue
RF Window
RFS (Radio Frequency Systems)
RIKS (State Infocommunication Foundation)
Rio de Janeiro Fire Department
RIVA Networks
Rivada Networks
Rockwell Collins
Rogers Communications
Rohde & Schwarz
Rohill
ROK Mobile
ROKAF (Republic of Korea Air Force)
Roper Industries
Rosenberger
Royal Thai Police
R-TRON
RugGear
Saab
Safaricom
SafeMobile
Safe-Net Forum
SAI Technology

SAIC (Science Applications International Corporation)
Samji Electronics
Samsung Electronics
Samsung Group
Samsung SDS
San Diego Fire-Rescue Department
San Diego Police Department
SANG (Saudi Arabian National Guard)
Sao Paulo State Military Police
Sapient Consulting
Sapura Secured Technologies
Saudi MOI (Ministry of Interior)
Savis
Savox Communications
Schneider Electric
SCT (Mexican Ministry of Communications and Transport, Mexico)
Senstar Corporation
Sepura
Sequans Communications
SerComm Corporation
SES
SETAR
Sevis Systems
SFR
Shanghai Police Department
Shentel (Shenandoah Telecommunications Company)
Sheriff's Department of Suffolk County
SIAE Microelettronica
Siemens
Siemens Convergence Creators
Sierra Wireless
Signal Entertainment Group
Signal Information & Communication Corporation
Siklu Communication
Silicom
Simoco Wireless Solutions
Singapore Police Force
Singtel
SiRRAN Communications

Sistelbanda
SITRONICS
Siyata Mobile
SK Telecom
SK Telesys
SLA Corporation
SLC (Secure Land Communications)
SmartSky Networks
Smith Micro Software
SoftBank Group
Softil
SOLiD
Soliton Systems
Sonim Technologies
Sonus Networks
Sony Corporation
Sony Mobile Communications
Sooktha
SOTI
Southern Company
Southern Linc
Space Data Corporation
Spanish Army
Spectra Group
SpiderCloud Wireless
Spillman Technologies
Spirent Communications
Spreadtrum Communications
Sprint Corporation
SRS (Software Radio Systems)
Stadtpolizei Zurich (Zurich City Police)
Star Solutions
State of Colorado
State of Louisiana
State of Minnesota
State of Mississippi
State of New Jersey
State of New Mexico
State of Ohio

State of Oklahoma
State of Texas
State Security Networks Group
STC (Saudi Telecom Company)
STMicroelectronics
Stop Noise
sTraffic
StreamWIDE
SUBTEL (Subsecretaria de Telecomunicaciones de Chile)
Sumitomo Electric Industries
Surrey Police
Swedish Police Authority
Swiss Army
Swisscom
Swisscom Broadcast
Symantec Corporation
Sysoco Group
SyTech (Systems Engineering Technologies) Corporation
TacSat Networks
Tait Communications
Tampa Microwave
Taqua
TASSTA
Tata Elxsi
TCCA (TETRA and Critical Communications Association)
TCL Communication
TCOM
Tech Mahindra
Tecnicas Competitivas
Tecore Networks
TEKTELIC Communications
Telcel
Telco Systems
Telefonica Group
Televate
Tellabs
Telo Systems Corporation
Telos Corporation
Telrad Networks

Telstra
Teltronic
Telum
Telus Corporation
TESSCO
TETRATAB
Texas A&M University
Texas National Guard
Thales
TI (Texas Instruments)
TIA (Telecommunications Industry Association)
Tieto Corporation
TIM (Telecom Italia Mobile)
Titan Securite
TLC Solutions
T-Mobile USA
Tokyo Metropolitan Police Department
Toshiba Corporation
TOURTech
TPL Systemes
TRAI (Telecom Regulatory Authority of India)
Tropico
TRX Systems
TSDSI (Telecommunications Standards Development Society, India)
TTA (Telecommunications Technology Association of Korea)
TTC (Telecommunication Technology Committee, Japan)
Turk Telekom
Turkish National Police Force
Twinhead International Corporation
Twisted Pair Solutions
TxDPS (Texas Department of Public Safety)
U.S. Air Force
U.S. Army
U.S. CBP (Customs and Border Protection)
U.S. Cellular
U.S. Coast Guard
U.S. Department of Commerce
U.S. DHS (Department of Homeland Security)
U.S. DIA (Defense Intelligence Agency)

U.S. DoD (Department of Defense)
U.S. FBI (Federal Bureau of Investigation)
U.S. FCC (Federal Communications Commission)
U.S. FEMA (Federal Emergency Management Agency)
U.S. FirstNet (First Responder Network Authority)
U.S. Marine Corps
U.S. Navy
U.S. NIST (National Institute of Standards and Technology)
U.S. NPSTC (National Public Safety Telecommunications Council)
U.S. NTIA (National Telecommunications and Information Administration)
UANGEL
UCLA (University of California, Los Angeles)
Ukkoverkot
UNIMO Technology
University of Ottawa
UPMC (University Pierre and Marie CURIE)
Uppsala Ambulance Services
UPV/EHU (University of the Basque Country)
URSYS
US Digital Designs
USSOCOM (U.S. Special Operations Command)
Utility Associates
Vanu
Vencore Labs
Verint Systems
Verizon Communications
ViaSat
Viavi Solutions
Victoria Police
Vidyo
Vientiane Municipal Government
Village of Schaumburg
VIRVE
Vision Technologies
Visual Labs
Vmware
VNC (Virtual Network Communications)
VNL (Vihaan Networks Limited)
Vodafone Group

Vodafone Hutchison Australia
Vodafone Netherlands
Vodafone New Zealand
Voxer
West Corporation
Westell Technologies
Western Australia Police
Wildox (Shenzhen Happy Technology)
WINITECH
WinMate
Wireless Technologies Finland
Wireless Telecom Group
Wireless Telecom Group Company
WNC (Wistron NeWeb Corporation)
WTL (World Telecom Labs)
Wytec International
xG Technology
Xiamen Puxing Electronics Science & Technology
Xilinx
Xplore Technologies Corporation
Zain Saudi Arabia
Z-Com
Zello
Zetel Solutions
Zetron
Zhengzhou Metro
Zhengzhou Municipal Public Security Bureau
Zhengzhou Police
Zinwave
ZMTel (Shanghai Zhongmi Communication Technology)
ZTE

About

For more than 60 years first responders have relied on narrowband Land Mobile Radio (LMR) systems for mission critical voice communications. While many of these dedicated LMR systems generally support basic data applications such as short data messaging, first responders are often compelled to rely on commercial (cellular) mobile broadband networks to support data intensive applications such as bulk multimedia transfers in emergency situations.

However, commercial networks do not meet the availability and resilience requirements for public safety operations, where a single glitch in communications can result in a loss of human lives. Thus public safety agencies worldwide are echoing demands for the deployment of cost effective mobile broadband networks dedicated for public safety usage.

While a number of public safety agencies deployed a combination of private WIMAX and proprietary technology based mobile broadband networks between 2009 and 2011 to support data intensive applications such as video surveillance, it soon became apparent that a solution that is interoperable nationwide and across borders will be necessary enable cooperation among different public safety entities, and to achieve economies of scale.

Considering its thriving ecosystem, spectrum flexibility and performance metrics, public safety organizations worldwide recognize LTE as the de-facto standard for mobile broadband.

With spectrum already allocated, public safety agencies in the Middle East, Asia Pacific and the U.S have already begun to operate private LTE networks. Driven by public safety demands, LTE products can now also operate in spectrum bands previously unthinkable, such as the 400 MHz band, which is widely available to public safety agencies worldwide. Moreover, demands for tactical and rapidly deployable broadband solutions have also led vendors to develop private LTE base station products in a variety of innovative form factors such as Cell in a Box (CIAB) or airborne cells.

SNS Research estimates the global spending on private LTE infrastructure including base stations (eNodeBs), mobile core (EPC) and backhaul will account for \$2 Billion annually by the end of 2020. By the same time, the installed base of private public safety LTE base stations (eNode Bs) will reach nearly 155,000 globally, following a

CAGR of nearly 60% between 2014 and 2020, and will serve nearly 4 Million private public safety LTE subscribers worldwide.

However it is important to note that the transition to LTE is one of the will be one of the most complex technical changes the public safety communications industry will ever witness and will present challenges in its own right, particularly in the context of global standardization. Furthermore spectrum, regulatory and budgetary issues in certain regions such as Europe will delay large scale private deployments.

Nonetheless, service prioritization partnerships with commercial LTE network carriers will create an ecosystem for operating public safety devices over commercial LTE networks during this transition period. We estimate that public safety LTE device shipments over commercial networks will account for nearly \$7 Billion in annual revenue by the end of 2020.

This report presents an in-depth assessment of the global public safety LTE market, besides considering the wider LMR and mobile broadband industries. In addition to covering the business case, challenges, spectrum allocation strategies, industry roadmap, deployment case studies, vendor products, strategies, standardization activities and application ecosystem for public safety LTE, the report also presents comprehensive forecasts for mobile broadband, LMR and public safety LTE subscriptions from 2011 till 2020. Also covered are public safety LTE service revenues as well as device and infrastructure (eNodeB base stations, EPC mobile core, backhaul) shipment and associated revenue forecasts.

The report comes with an associated XLS datasheet covering quantitative data from all figures presented within the report, as well as a list and associated details of 46 global private public safety LTE network deployments (as of Q1'2014).

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