

# Emerging Technology Forum

## WHAT'S ON THE HORIZON FOR MISSION CRITICAL COMMUNICATIONS

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# Advances in Information Technology are Driving Rapid Change



***Access to Information  
Anytime - Anywhere***



**Cyber Threats**



***"Unlimited" Processing  
and Storage Capacity***



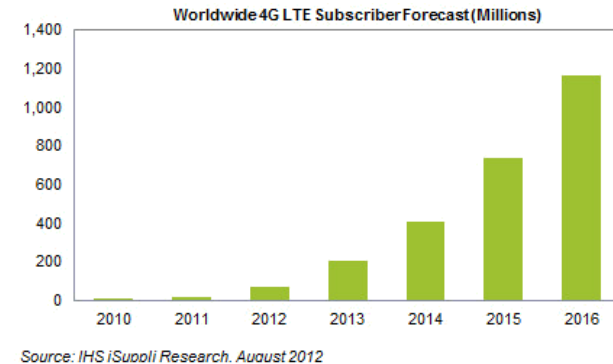
***Technologies that enable human collaboration  
are Driving Social and Economic Change -  
Worldwide***



***There's an "App" for everything***

# Megatrends

- LTE is the worldwide dominant wide-area wireless broadband technology
  - For commercial cellular operators worldwide
  - Public Safety (U.S.) mandate
  - In the DoD as a next-generation access waveform
- iPhone and Android™ now dominate the world of SmartPhones and application eco-systems
- “BIG Data” and Analytics are redefining what is possible



These megatrends are re-shaping the future of Public Safety information technology and will have growing impact in National Defense and Homeland Security.

# What Does the Future Look Like?

- Broadband Mobility will continue to shape every facet of our society
  - This trend points to communication networks
- Networked Collaboration via social media technologies will drive social and economic change
  - This trend speaks to users and the application paradigms they will drive
- There will be acceleration of commercial technologies into once protected spaces such as Defense, Public Safety and other Mission Critical Industries
- Cyber crime and cyber terrorism will be one of the biggest threats to our society, economy and welfare



# Paradigms are Shifting

Mission-critical industries that rely on a mobile workforce are poised to leverage broadband technology to significantly enhance their ability to perform their mission

- “Game boy generation” will drive their commercial experience to the workplace
- IT emphasis is shifting
  - User experience is the dominant influence in the technology trend
  - Applications Technology focus - User is driving this change, no matter the mission
  - Mission-criticality is about access to information
- This user-driven shift will have a profound influence on how we apply commercial technology to traditional closed eco-systems



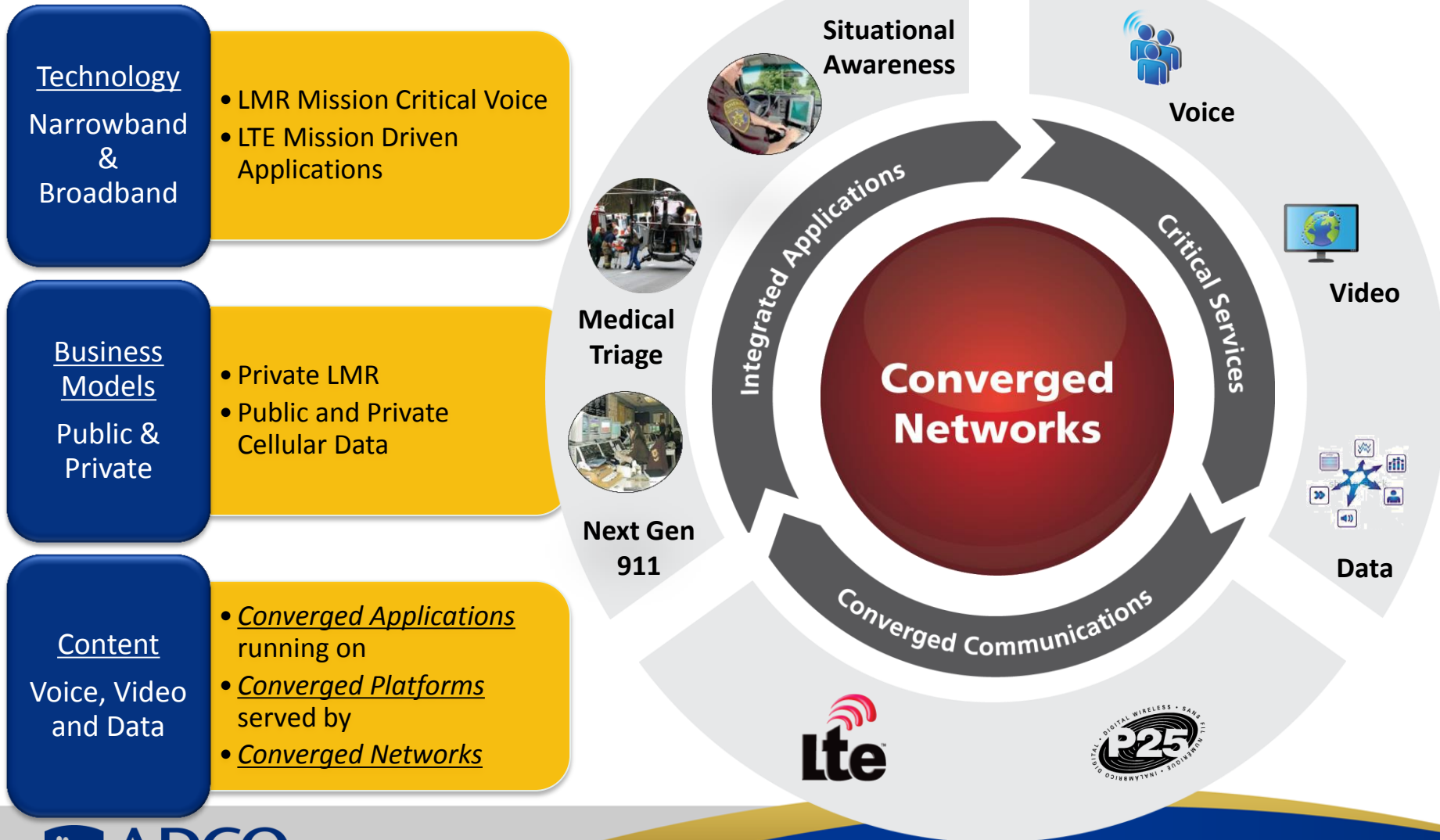
# Trends and Implications

- Moving from Radio → Network → Application-Centric Focus
  - Battlefield Wideband is now being deployed
  - Broadband is emerging in Public Safety and the Battlefield
  - Wideband/Broadband connectivity is enabling Convergence
    - “Apps on the Move”
    - Edge device is more than Comms – it’s a termination point for Apps
    - Video is becoming a “Universal App” like Voice
- Escalating influence of commercial technology and user experience
  - Smartphones and Tablets are redefining user expectations and business models
  - There’s an “App for everything”
  - User-developed apps for Battlefield Cellular Networks emerging
  - Commercial ecosystems drive Waveforms, Devices and Application Platforms





# Evolution – In Public Safety Multiple Levels of Convergence are Emerging

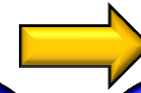


# Evolution of Public Safety Communications

Today



Mid-Term



Long -Term

## Multiple Technologies Disparate Networks

LMR & Paging  
Systems



Commercial  
Cellular Data  
Services

## Hybrid Network

Legacy LMR &  
Paging Systems



Voice  
Interoperability

700 MHz Public  
Safety LTE  
Network



- Roaming
- Asset Leverage
- Services

Commercial  
Cellular Data  
Services  
(3G & 4G)

## Converged Network

National Public Safety LTE  
Network Supports:

- Mission Critical Voice and Data
- Nation-wide Roaming
- Public Safety Grade – Availability and Service Levels
- Interoperability with Relevant Alternate Technologies







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