NG911 Insights

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Advanced Next Generation 911 Alarm Device Standards

The *National 9-1-1 Program* released a compilation of standards for next-generation 911 (NG911), that are existing or under development by a variety of public safety and emergency communications standards-making associations and organizations. The standards are advancing for NG911alarm device technologies to allow sensor-based alarm devices to communicate with public safety answering points (PSAPs) and emergency responders.[1]

The standards-making bodies include the *National Emergency Number Association* (NENA), the *Internet Engineering Task Force* (IETF), the *Alliance for Telecommunications Industry Solutions* (ATIS), and the *3rd Generation Partnership Project* (3GPP). A highlight of such standards includes:

NENA. Established the i3 standard for NG911, being deployed in a number of states and counties by companies such as TCS and Intrado (now West Safety Services), that allows the transmission of sensor-based and telematics data directly to PSAPs.[2,3]

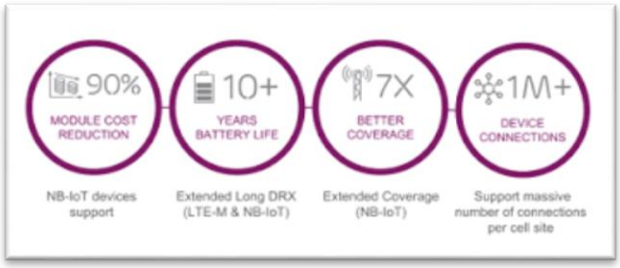
IETF. Includes *Data-Only Alarm-Initiated Emergency Calls* for data-only emergency alerts from alarms (e.g. heat/smoke/CO sensors, burglar alarms) based on Common Alerting Protocol, and *Next-Generation Vehicle-Initiated Emergency Calls* for emergency alerts from vehicles, and conveying sensor and location data related to a collision or incident (e.g. vehicle fire, theft).

Optimizing Cellular/NB-IoT Platforms for Wireless Alarm Devices

A variety of wireless communications platforms are being employed to allow functionality for Internet of Things (IoT) wireless alarm devices. These platforms include short-range local-area smart-building and smart-home platforms such as WiFi and Zigbee allowing alarm devices to interface with intermediate wireless routers to communicate over the Internet, and long-range wide-area cellular-based platforms including Cellular-IoT and NB-IoT (Cellular/NB-IoT).

A number of companies promoting Cellular/NB-IoT in the U.S. and abroad include Nokia, Ericsson, Hauwei, Vodafone, Intel, and Qualcomm, as well as consortiums formed by the 3GPP, the GMSA, and the NB-IoT Forum. These companies developed not only the network infrastructure, but also the wireless chips and modules that are the internal components of a wide-variety of wireless IoT devices. Moreover, these companies and consortiums forecast that Cellular/NB-IoT (combined 2G, 3G and 4G connections) will account for over 7 billion units by 2025.[4,5]

These devices include sensor-based detection alarms for smart-home applications, personal health monitors, and vehicle monitoring devices for telematics applications. The advantages of Cellular/NB-IoT for these applications is longer battery life, lower module cost, extended wireless coverage, and a high volume of device connections per cell site.



Evolving Communication Technologies for Disabled Persons

The Federal Communications Commission recently announced that a new digital wireless communications technology called Real-Time-Text (RTT) will replace the aging analog based TTY communications technology to accommodate persons who are hard of hearing, deaf, speech disabled, and deaf-blind. RTT allows people to better communicate with PSAPs and emergency responders using available smart-phones and tablets, without the need for specialized devices. RTT is also slated to ultimately phase out the current interim SMS-based text-to-911 technology.[6]

Sources.
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