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TeleCommunication Systems Adds 16 U.S. Patents Advancing Public Safety, Location-Based Services, GIS/Mapping, Secure Communications, Wireless Data and Messaging

Note: Comtech Acquired TCS on 2/23/2016

ANNAPOLIS, Md., Oct. 28, 2015 /PRNewswire/ -- TeleCommunication Systems, Inc. (TCS) (NASDAQ: TSYS), a world leader in secure and highly reliable wireless communication technology, today announced that the U.S. Patent and Trademark Office (USPTO) issued sixteen new patents to TCS. In the quarter, TCS filed for 32 U.S. patents. Thus, as of September 30, the total number of patents issued worldwide in the portfolio was 439, with more than 300 patent applications pending.

News Facts:

The 16 recently added U.S. patents describe innovations in several key communications categories, including:

- **Public Safety**: Since deploying the first U.S. wireless E911 solution in 1998, TCS has been a leader in public safety solutions for wireless E911, NG911, and E112. We are also pioneering and improving the methods by which U.S. public safety answering points (PSAPs) can receive a wireless or voice over internet protocol (VoIP) subscriber's location during calls for emergency assistance. Accurate location of a 911 caller is essential for dispatching emergency personnel. The recently issued Voice Over Internet Protocol (VoIP) E911 Metro Street Address Guide (MSAG) Validation (U.S. 9,077,817) describes key techniques to address accurate location of the 911 VoIP caller. Currently, VoIP subscribers are expected to register their validated civic address which will be presented to a PSAP as the VoIP caller's location during a 911 call. However, these self-registration processes can fail when VoIP subscribers change location and forget to update their address. Future VoIP 911 services are expected to use automatic location techniques to identify the location of the caller. The invention describes how such automated location techniques, providing a latitude/longitude description of the VoIP 911 caller's location, can be converted to an appropriate dispatchable address that conforms to the metropolitan street address guide of local public safety authority – a current expectation of most public safety authorities.
- **Location**: Many wireless device applications request and store device location information of the user and can share that information with other applications, or other users, on request. The ready availability of this type of information raises concerns with personal privacy and security. The ability to selectively give third parties the ability to locate the user, and at user-controlled times, is highly desirable. Personal Location Codes (PLC's) are network independent codes that allow users to give others access to their location via a code, and can time limit that access by having the code expire. This provides the user with strong privacy-management controls. The recently issued Personal Location Code patent (U.S. 9,113,327) describes techniques to control access to location information using PLC's.
- **GIS/Mapping**: A geofence defines a virtual spatial boundary or virtual perimeter for the purpose of creating triggers when a mobile device either enters or exits these boundaries. Geofences are commonly used in child location services to alert parents when a child's cellphone leaves the boundary of a school or park, or when company management monitors equipment at a job site or tracks the location of a mobile workforce. TCS has been developing and implementing geofence technologies for more than ten years, and this recently issued patent is the fourth TCS-issued patent covering this technology. Method and System for Identifying and Defining Geofences (U.S. 9,137,636) describes techniques to simply and easily create geofences that are based on existing boundaries associated with real-world objects or places versus the user having to physically draw a boundary around an object or place on a map.
- **Messaging.** TCS was issued another intelligent delivery agent patent bringing the total in this growing portfolio to seven US patents. Text messaging has become a ubiquitous worldwide means of communication for people, especially Millennials, and TCS has been providing the core technology that enables text messaging for more than 15 years. TCS's systems have processed more than 30 percent of all U.S. SMS text messages, including more than five trillion text messages to date. The recently issued Intelligent Delivery Agent for Short Message Distribution Center patent (U.S. 9,143,908) is a continuation of earlier patents in this area and describes improved techniques for throttling short messages to Short Message Service Centers so as to deliver messages only when the recipient's device is online. Doing so reduces the pressure on the wireless carrier's critical network resources due to repetitive failed message-delivery attempts when the device is off-line and avoids charging the message sender for a message that may not be delivered or which might be delayed.

The remaining 12 U.S. patents issued in the period are: System and Method to Publish Information from Servers to Remote

Monitor Devices (U.S. 9,077,582); System and Method for Re-Directing Requests from Browsers for Communications Over Non-IP Based Networks (U.S. 9,100,241); Small Form Factor (SFF) Router (U.S. D735,701 S); Geofence with Kalman Filter (U.S. 9,113,298); Emergency 911 Data Messaging (U.S. 9,131,357); Ancillary Data Support in Session Initiation Protocol (SIP) Messaging (U.S. 9,130,963); User Plane Location Services Over Session Initiation Protocol (SIP) (U.S. 9,088,614); Enhanced E911 Network Access for a Call Center Using Session Initiation Protocol (SIP) Messaging (U.S. 9,125,039); Location Aware Content Using Presence Information Data Formation with Location Object (PIDF-LO) (U.S. 9,087,132); Virtual Location Aware Content Using Presence Information Data Formation with Location Object (PIDF-LO) (U.S. 9,148,491); Maintaining Triggered Session State in Secure User Plane Location (SUPL) Enabled System (U.S. 9,112,683); System and Method for Positioning Using Hybrid Spectral Compression and Cross Correlation Signal Processing (U.S. 9,097,783).

TCS Chairman, President and CEO Maurice B. Tose said: "TCS continues to build a strong patent portfolio around our expertise and our engineering leadership in key areas of technology. These patents are tangible assets that provide licensing and sales opportunities. Having this depth of intellectual property also allows us to better defend claims against our products."

About TeleCommunication Systems, Inc.

TeleCommunication Systems, Inc. (TCS), headquartered in Annapolis, Maryland, is a world leader in secure and highly reliable wireless communications. Our patented solutions, global presence, operational support and engineering talent enable 9-1-1, commercial location-based services and deployable wireless infrastructure; cybersecurity; defense and aerospace components; and applications for mobile location-based services and messaging. Our principal customers are wireless network operators, defense and public safety government agencies, and Fortune 150 enterprises requiring high reliability and security. Learn more at www.telecomsys.com.

Except for the historical information contained herein, this news release contains forward-looking statements as defined within Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended. These statements are subject to risks and uncertainties and are based upon TCS' current expectations and assumptions that if incorrect would cause actual results to differ materially from those anticipated. Risks include those detailed from time to time in the Company's SEC reports, including the report on Form 10-K for the year ended December 31, 2014 and on Form 10-Q for the quarter ended June 30, 2015.

Existing and prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. The Company undertakes no obligation to update or revise the information in this press release, whether as a result of new information, future events or circumstances, or otherwise.

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