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TeleCommunication Systems Adds 45 U.S. and Six Foreign Patents Advancing Location Based Services, GIS/Mapping, Public Safety, and Wireless Data, and Receives a Restricted License to Several Thousand Patents

Note: Comtech Acquired TCS on 2/23/2016

ANNAPOLIS, Md., July 22, 2013 /PRNewswire/ -- TeleCommunication Systems, Inc. (TCS) (NASDAQ: TSYS), a world leader in highly reliable and secure [mobile communication technology](#), today announced that the U.S. Patent and Trademark Office (USPTO) has issued TCS eight patents during the second quarter of 2013, and six foreign patents in the first half of 2013.

In addition, through a purchase of some technology tuck-in assets, TCS acquired 37 U.S.-issued patents, 15 U.S. applications and three foreign applications related to advanced techniques for locating mobile devices and other innovative technologies. Key patents in the acquired assets describe methods used by mobile location systems that involve Assisted GPS (A-GPS), location calculation techniques that use timestamps associated with multiple RF transmission sources and systems that combine two prevalent location techniques (User Plane and Control Plane) into one platform. In addition to the acquired patents, TCS was assigned the rights to a license to several thousand patents for use in the LBS product line acquired.

The technology tuck-in also transferred a multi-million dollar sales pipeline and product portfolio that increases TCS Location Based Services (LBS) #2 market share, as measured by ABI Research's 2012 study, to 26%, only two percentage points behind #1. The transaction had an immaterial impact on TCS's balance sheet.

News Facts:

The 45 recently-received U.S. patents describe innovations in LBS, GIS/mapping, public safety and wireless data and further strengthen these areas of TCS' intellectual property. Of the 45 patents added to TCS' portfolio, the following eight are indicative of their depth and relevance:

- | The recently issued Personal Location Code (PLC) patent (U.S. Patent 8,428,619), a continuation of patents 7,957,751 & 8,165,603 that were issued in previous years, is an LBS patent that describes techniques that allow mobile device users to control access to their location information through the use of a PLC. By implementing a PLC, the user can customize the access of the user's location information by another individual or application. For example, if you are expected at a meeting, you can allow others to track your travel progress to that meeting. A PLC is unique, does not reveal any identification information about the user and establishes parameters that determine who can locate a user, in addition to how and when a user can be located. A PLC can be made to expire due to time, geographic location or other parameters. Location Based Services can use PLCs to constrain the use of a user's location and can be conveyed either via proprietary techniques or use standard messaging, chat, and instant messaging protocols.
- | The recently acquired System and Method for Determining the Location of a Mobile Device patent (U.S. Patent 8,378,888) is an LBS patent that describes a system and method that sends time-stamped information from a mobile device to a Mobile Location Center wherein the platform produces the calculated location of the mobile device. This location method is described in later-released LTE standards and may serve as the foundation for LBS services in an LTE network.
- | The recently acquired System and Method for Preventing A-GPS Devices from Searching for Specific Satellites patent (U.S. Patent 8,085,193) is an LBS patent that describes a system and method that reduces the number of satellites that a device needs to search and acquire in order to calculate its location. By marking "healthy" satellites as being "unhealthy," the amount of power and time needed to generate a location calculation can be reduced, thus extending battery power and reducing the time to get a satellite-based location fix. This technique can extend the battery life of devices that use GPS-intensive applications and can speed up the time-to-first-fix, thereby improving user interfaces and response times.
- | The recently acquired Using Serving Area Identification in a Mixed-Access Network Environment patent (U.S. Patent 8,019,339) is an LBS patent that describes a system and method that allows two LBS location-calculation techniques, Control Plane and User Plane, to cohabitate within a specific platform. In a typical Control Plane architecture, an outside entity may request the location of a mobile device. In a typical User Plane architecture, the request for the

location of a mobile device starts with the mobile device. As LBS applications continue to proliferate, a wireless carrier is more and more likely to need platforms that support both Control Plane and User Plane technologies. Being able to support both technologies within a single platform provides economies of scale and a competitive advantage to the vendor providing such a combined system.

- | The recently issued Context Enabled Address Selection patent (U.S. Patent 8,428,869) is a GIS/Mapping patent that describes methods that improve the user interface when attempting to search for a specific address or point of interest. Mapping and navigation devices and/or software have become a mainstay for travelers around the world. They can be seen in formats such as in-dash vehicle telematics systems, add-on devices hanging from windshields or smartphone applications. Key to the usability of these systems is their ability to quickly and easily find a sought-after place of interest, even with just a partial address or keyword search. Many of today's systems will return a list of potential addresses when the user does not input an exact address, but they give the user no context with which he/she can make an accurate choice. This patent describes techniques to supplement the search results with contextual information, such as map data, images, landmarks, pictures and other graphics that will allow the user to make a more informed and accurate choice.
- | The recently issued First Responder Wireless Emergency Alerting with Automatic Callback and Location Triggering patent (U.S. Patent 8,436,728) is a Public Safety patent that describes a system and method that enables a first responder to reply to an Emergency Alert System (EAS) broadcast. Emergency alert systems, designed to inform the general public, have been around since 1963, when the original Emergency Broadcast System was put in place. What was lacking at the time this patent was filed was a fully integrated EAS that enabled a first responder to reply to the emergency alert. This patent describes a system that supports the ability to receive a callback from the first responder, trigger the identification of the location of the engaged first responder and contextually reply to the first responder. Using this approach, a first responder could call back into the system and receive instructions that would allow the responder to coordinate with other resources responding to the emergency.
- | The recently issued Run-Time Engine Implemented on a Computing Device Allowing Synchronization of Records During Application Execution patent (U.S. Patent 8,429,303) is a Wireless Data patent that describes a system and method for synchronizing data between a wireless mobile device and a remote database. Wireless mobile devices have become ubiquitous for business users and consumers. Keeping the databases on these devices synchronized with the users' business or home PC/system is a fundamental feature. A continuation of a patent with a priority date of 2000, the Run-Time Engine patent describes techniques for the efficient wireless synchronization of databases, such as contacts and calendars, from a host system to a hand-held device.
- | The recently issued System for Efficiently Handling Cryptographic Messages Containing Nonce Values in a Wireless Connectionless Environment Without Comprising Security patent (U.S. Patent 8,453,240) is a Wireless Data patent that describes an apparatus and methods for improved wireless security. Security is a key factor for mobile devices, as spam and replay attacks—when a message is rebroadcast multiple times to disrupt communications systems—are having an increased impact on wireless networks. The Efficient Handling of Cryptographic Messages patent describes techniques to deal with replay attacks by using nonce values to detect and rapidly reject the rebroadcasted messages, thus allowing the mobile device to ignore the replay messages.

Supporting Quotes:

TCS Chairman, CEO and President Maurice B. Tose said: "TCS remains committed to creating and monetizing leading technologies. The addition of these patents and assets will significantly enhance our Location-Based Services business unit while adding marketable strength to our mobile location patent portfolio. We remain committed to expanding our efforts to maximize the value of our intellectual property."

TCS Vice President of Intellectual Asset Management Bob Held said: "Through both licensing and partnership arrangements in core and non-core business areas, there is an abundance of opportunities to leverage our 320+ patents and other intellectual property worldwide."

With clear strengths in mobile location, public safety, messaging, and the [wireless communication](#) fields, TCS has created an impressive intellectual property portfolio. Meaningful partnerships with other industry-leading companies can be developed through direct licensing, cross licensing and joint venture agreements. For the year to date, TCS has filed 32 U.S. patents, the total number of patents issued worldwide in the portfolio is 328, and more than 385 patent applications are pending worldwide.

About TeleCommunication Systems, Inc.

TeleCommunication Systems, Inc. (TCS) (NASDAQ: TSYS) is a world leader in highly reliable and secure mobile communication technology. TCS infrastructure forms the foundation for market leading solutions in E9-1-1, text messaging, commercial location and deployable wireless communications. TCS is at the forefront of new [mobile cloud computing](#) services providing wireless applications for navigation, hyper-local search, asset tracking, social applications and telematics. Millions of consumers around the world use TCS wireless apps as a fundamental part of their daily lives. Government agencies utilize TCS' cyber security expertise, professional services, and highly secure deployable satellite solutions for mission-critical communications. Headquartered in Annapolis, MD, TCS maintains technical, service and sales offices

around the world. To learn more about emerging and innovative wireless technologies, visit 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. Specifically, the statements about our commitment to monetizing leading technologies and the opportunities to leverage our 320+ patents and other intellectual property worldwide are forward-looking statements. Risks include without limitation the possibility that no licensing or other revenues will result from these efforts, and those detailed from time to time in the Company's SEC reports, including the reports on Form 10-K for the year ended December 31, 2012, and on Form 10-Q for the quarter ended March 31, 2013.

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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