



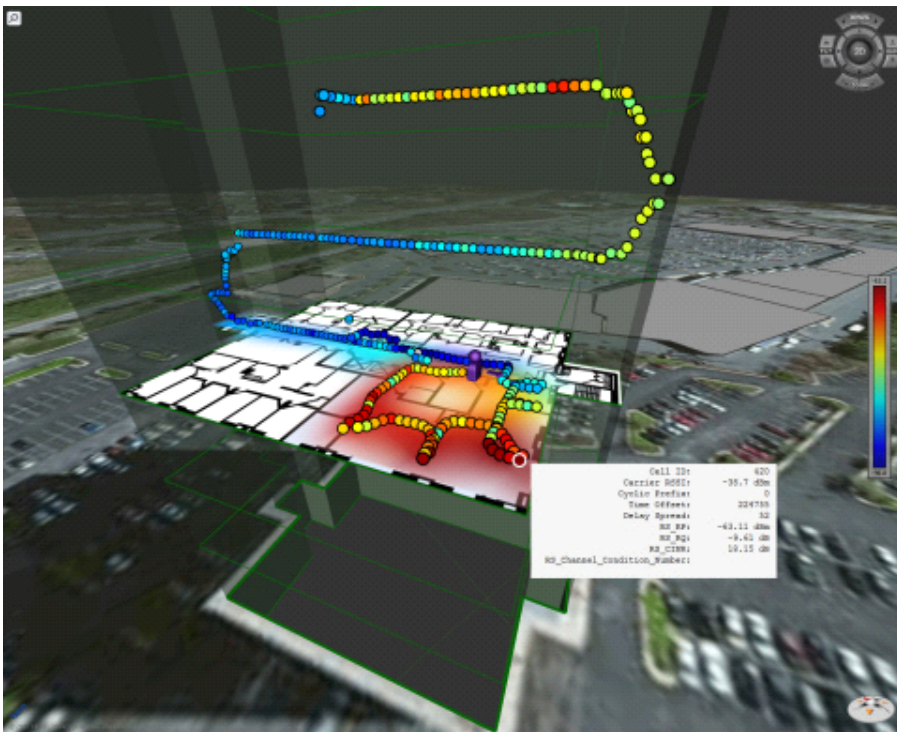
February 22, 2017

## PCTEL and TRX Systems Automate Indoor Mapping of Cellular Networks

Test and Measurement Solution Integrates 3D Indoor/Outdoor Geolocation with Network Performance Data

BLOOMINGDALE, Ill. & BARCELONA, Spain--(BUSINESS WIRE)-- PCTEL, Inc. (Nasdaq:PCTI), a leader in Performance Critical TELEcom solutions, and TRX Systems Inc., provider of NEON® Location Solutions, announced today the first scanning receiver-based cellular network test and measurement solution with automated indoor/outdoor geo-referencing. With the PCTEL-TRX solution, engineers will be able to easily collect and geo-locate RF (radio frequency) data where GPS signals are not available. The system's automatic 2D and 3D mapping supports engineering activities for DAS, small cell, and heterogeneous wireless networks.

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The new network testing solution integrates TRX's NEON® Signal Mapper 3D location and mapping solution with PCTEL's SeeHawk® Touch test and measurement software and IBflex® scanning receivers. PCTEL's scanning receivers exceed the capabilities of mobile devices, leveraging exceptional measurement accuracy and broad dynamic range to produce a more complete picture of the RF environment. Scanning receiver-based solutions such as SeeHawk® Touch are the only reliable solutions for planning, designing, benchmarking, and troubleshooting wireless networks.

"3D mapping and visualization of IBflex® power measurements is essential for testing coverage in stairwells to meet new public safety requirements," said Jeff Miller, PCTEL's Senior Vice President and General Manager, RF Solutions. "Automated 3D navigation improves the quality and efficiency of data collection by eliminating the often tedious and error-prone point-and-click in-building navigation," added Miller.

The PCTEL-TRX cellular test and measurement solution generates 3D indoor/outdoor maps using automatic geolocation. The text box reveals key data collected at the selected location. (Graphic: Business Wire)

simplifies and dramatically reduces the time required to complete signal testing both indoors and out. Field personnel will no longer need to manually tap out their location on a 2D map as they walk through a building or around a campus. Instead, the new TRX-PCTEL integrated solution uses NEON® Signal Mapper to deliver real-time geo-referenced signal data that can be visualized both locally by the user and remotely on a 3D display.

"TRX and PCTEL bring unique and complementary capabilities to wireless test and measurement," said Jeff Kunst, TRX's Vice President, Product and Business Development. "This version of the NEON® Signal Mapper solution was designed to integrate seamlessly with PCTEL's SeeHawk® Touch," added Kunst.

This innovative 3D test and measurement solution will be available only from PCTEL. Current SeeHawk® Touch users can upgrade their systems to access this innovative 3D mapping capability.

TRX's 3D location and mapping solution

Representatives from PCTEL will be available at Mobile World Congress in Barcelona, Spain, February 27 - March 2 for meetings and demonstrations. To arrange a demonstration of the automated indoor mapping solution or discuss the company's full range of test tools, please email [contact.rfs@pctel.com](mailto:contact.rfs@pctel.com). To arrange a meeting about precision antennas and related solutions, please contact Daniel Laredo at [daniel.laredo@pctel.com](mailto:daniel.laredo@pctel.com) or call 1-224-595-3685.

## About TRX Systems

TRX Systems is the developer of the NEON® Location Solutions, delivering location and mapping indoors, underground and in dense urban areas where GPS is not available or is unreliable. NEON delivers ubiquitous, low-cost, 3D indoor location through the use of advanced sensor fusion, ranging, and patented dynamic mapping algorithms.

TRX Systems is the recipient of the 2015 Silver Edison Award for innovation in the Navigation and Robotics category, the Tibbetts Award given by the U.S. Small Business Administration for innovation and economic impact of research and development, the TEDCO ICE Award for Corporate Excellence and the Innovator Award from the Chesapeake Regional Tech Counsel (CRTC). TRX's indoor location software development has been supported by the National Science Foundation, the Defense Advanced Research Projects Agency (DARPA), the U.S. Army and the Department of Homeland Security.

For more information, visit <http://www.trxsystems.com>.

## About PCTEL

PCTEL, a global provider of RF expertise, delivers **Performance Critical TELEcom** solutions to the wireless industry. PCTEL benchmarks and optimizes wireless networks with its data tools, engineering services, and RF products. PCTEL's antennas and site solutions are vital elements for networks serving SCADA, fleet management, health care, public safety, and education.

PCTEL's **RF Solutions** products and services improve the performance of wireless networks globally. PCTEL's performance critical products include its SeeGull MXflex®, IBflex®, and EXflex® scanning receivers. PCTEL tools also include CW transmitters, signal analyzers, and the SeeWave® interference locating system. PCTEL's SeeHawk® software portfolio includes SeeHawk® Touch, SeeHawk® Collect, SeeHawk Engage™, SeeHawk Engage+™, SeeHawk Engage™ Lite, SeeHawk™ Studio, and SeeHawk™ Analytics. PCTEL provides interference management and performance critical RF engineering services for wireless networks.

PCTEL **Connected Solutions** designs and delivers performance critical antennas and site solutions for public and private wireless networks globally. PCTEL's performance critical antenna solutions include high rejection and high performance GNSS products and innovative broadband LTE and Wi-Fi solutions for fixed and mobile applications, including transit, in-building, and small cell networks. In addition, PCTEL provides a broad portfolio of LMR and Yagi antennas. We leverage our design, logistics, and support capabilities to deliver performance critical antenna and site solutions into carrier, railroad, utility applications, oil and gas, and other vertical markets.

PCTEL's products are sold worldwide through direct and indirect channels. For more information, please visit the company's web sites: [pctel.com](http://pctel.com), [antenna.com](http://antenna.com), or [rfsolutions.pctel.com](http://rfsolutions.pctel.com)

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