Real-Time Innovations (RTI)
Spaces
30 Moorgate
London, EC2R 6PJ,
United Kingdom
www.rti.com

Press release

Monogram Orthopaedics Selects RTI Connext Anywhere as the Connectivity Software Solution for Remote Surgery

Connext Provides Reliable and Low-Latency Data Transfer Across Networks Enabling the World's First Fully Remote Total Knee Arthroplasty (TKA) Procedure from Over 2,000 Miles Away

SUNNYVALE (USA)/London, May 23, 2023 – Real-Time Innovations (RTI), the largest software framework company for autonomous systems, today announced Monogram Orthopaedics Inc. has selected RTI Connext® Anywhere to provide real-time connectivity during its fully remote simulated robotic surgery. Monogram recently achieved a significant industry milestone by completing the world's first fully remote, robotically-assisted Total Knee Arthroplasty (TKA) procedure on a cadaver leg, where surgeons in New York City controlled an orthopedic robot located in Austin, Texas. Monogram uses Connext Anywhere to achieve reliable and low-latency communications for telesurgery, enabling highly precise and time-saving procedures.

In order to address the technical challenges of teleoperation, Monogram required a flexible software connectivity solution that was designed for distributed, secure, and reliable data flow. Connext Anywhere, based on the Data Distribution Service (DDS™) standard, accelerates development of intelligent and connected platforms, and provides a range of reliability features to optimize and prioritize real-time data flow over intermittent networks.

"A joint-replacement surgery is incredibly invasive, stressful and is still a largely manual process today, with 100,000 knee replacements failing each year," said Kamran Shamaei, CTO at Monogram Orthopaedics. "We feel strongly that our total knee replacement system, with RTI's underlying technology, will help to dramatically reduce this number, allowing patients to

have a more stable, better-fitting knee replacement with fewer complications in a fraction of the time it takes today."

The Connext Anywhere Cloud Discovery Service minimizes deployment-specific configuration while improving system scalability. This allows Monogram applications to dynamically discover each other across networks and establish efficient peer-to-peer communication. Monogram is able to take advantage of RTI's extensive set of development tools in order to easily visualize data sharing across large-scale distributed surgical systems. This allows system developers to better observe behavior during test and deployment, and to more quickly identify configuration or network problems.

"For remote surgery to be feasible, the system requires high-fidelity, low-latency, and secure communication over mobile and wide area networks," said Darren Porras, Market Development Manager, Medical at RTI. "Connext Anywhere addresses the biggest technical challenges in teleoperations today. We're proud to be working with Monogram Orthopaedics as they break through barriers with this historic, fully remote demonstration."

A full replay of the Monogram Orthopaedics remote simulated robotic surgery is available here. To learn more about RTI in healthcare, please visit the RTI website.

Picture (source: Monogram Orthopaedics):

# # #

About Monogram Orthopaedics (Monogram Orthopaedics Inc.):
Monogram Orthopaedics Inc. (Nasdaq: MGRM) is working to develop a product solution architecture with the long-term goal of enabling patient-optimized orthopedic implants at scale by linking 3D printing and robotics with advanced pre-operative imaging. The Company has a robot prototype that can autonomously execute optimized paths for high precision insertion of implants in synthetic bone specimens. Monogram intends to produce and market robotic surgical equipment and related software, orthopedic implants, tissue ablation tools, navigation consumables, and other miscellaneous instrumentation necessary for reconstructive joint replacement procedures. The Company has not yet made 510(k) premarket notification submissions or obtained 510(k) clearances for any of its robotic products. FDA approval is required to market these products, and the Company has not obtained FDA approval for any of its robotic products, and it cannot estimate the timing, or assure the ability, to obtain such clearances.

About RTI (www.rti.com)**:**
Real-Time Innovations (RTI) is the largest software framework company for autonomous systems. RTI Connext® is the world's leading architecture for developing intelligent distributed systems. Uniquely, Connext shares data directly, connecting AI algorithms to real-time networks of devices to build autonomous systems.
RTI is the best in the world at ensuring our customers' success in deploying production systems. With over 1,800 designs, RTI software runs over 250 autonomous vehicle programs, controls the largest power plants in North America, coordinates combat management on U.S. Navy ships, drives a new generation of medical robotics, enables flying cars, and provides 24/7 intelligence for hospital and emergency medicine. RTI runs a smarter world. RTI is the leading vendor of products compliant with the Object Management Group® (OMG®) Data Distribution Service (DDS™) standard. RTI is privately held and headquartered in Sunnyvale, California with regional offices in Colorado, Spain and Singapore.

Media Contacts:
Beate Lorenzoni, Agentur Lorenzoni GmbH for RTI, T: +49 8122 55917-0;
rti@lorenzoni.de

Tiffany Yang, Public Relations, RT, press@rti.com