



LiveData Wins SBIR Phase II Grant to Develop Integrated Clinical “Plug and Play” Environment for Patient Safety System

Improvements in Operating Room Workflow Also Expected to Increase OR Efficiency

CAMBRIDGE, Massachusetts, Oct. 7, 2009 -- LiveData, Inc., a leader in real-time data integration and display, has been awarded a Phase II Small Business Innovation Research grant from the U.S. Army Telemedicine and Advanced Technology Research Center (TATRC). LiveData will use the \$730,000 grant to develop an integrated clinical environment with CIMIT’s Medical Device Plug-and-Play (MD PnP) team.

Together with its CIMIT/MGH partners, LiveData is developing MD-ICEMAN, an architecture for integrating medical technologies. MD-ICEMAN is an implementation of the Integrated Clinical Environment (ICE), reflecting early involvement with the standard, and its further development will continue to inform the ICE architecture and associated standards. MD-ICEMAN will:

- Integrate and coordinate medical devices in an interoperable patient-centric medical system (using a standardized API embracing a possibly enhanced ISO/IEEE 11073 protocol); and,
- Present to the clinical team critical information about the patient’s condition and detect meaningful changes in patient condition (workflow and context-aware Smart Notifications).

Although concentrating initially on the OR, the results are expected to benefit patients throughout the continuum of care including improvement in workflow, reductions in medical errors in particular and healthcare costs in general, and providing real-time comprehensive data for electronic medical records (EMR). The system will support such specific advances in patient safety as medical device safety interlocks and physiologic closed-loop control of medication fluid delivery, and ventilation.

The work, known as ICEMAN, is related to LiveData’s focus on developing workflow enhancements for its OR-Dashboard, which can lead to significant improvements in patient safety and OR efficiency through on-time case starts, reduced downtime, and automating many manual activities. Improved scheduling, another benefit, will result in reducing clinical staff time spent on non-clinical activities. Improvements in record-keeping will increase patient charge capture, a significant benefit for ongoing hospital operations, particularly during times of economic stress.

“Massachusetts General Hospital, CIMIT, and LiveData have long been collaborating on important medical technology. The development of MD-ICEMAN is a valuable stepping stone in advancing the implementation of a standardized plug-and-play medical environment where individual devices are integrated to enhance patient safety and workflow efficiency,” said Dr. Julian Goldman, MD, Director of the MD PnP program at CIMIT, Medical Director of Biomedical Engineering for Partners HealthCare System, and attending anesthesiologist at Massachusetts General Hospital. “Using an architecture that supports and is compliant with the emerging ASTM ICE standard (F2761), MD-ICEMAN will enable operating rooms and other treatment centers to rapidly and flexibly reconfigure diagnostic and treatment devices to meet the specific needs of each medical procedure.”

“While improvements in perioperative systems design will lead to increased OR efficiency and OR throughput, the ultimate objective of the ICEMAN project is to advance patient safety,” said Dr. Warren Sandberg, MD, Ph.D., associate professor of anesthesia, Harvard Medical School, and director of the Operating Room of the Future (ORF) project at Massachusetts General Hospital. “By advancing standards for medical device connectivity, the MD-ICEMAN architecture will provide a platform for further reducing OR complications and demonstrate the potential for a hospital to accommodate their patients’ needs, as well as hospital finances.”

“The issues of patient safety are well-known and all-too-much in the news these days,” said Ronald Marchessault Jr., Director for Technology Transfer/Commercialization for the Telemedicine and Advanced Technology Research (TATRC) Center, U.S. Army Medical Research and Materiel Command. “The ICEMAN project is a natural outgrowth of ORF. TATRC and the SBIR process facilitate technology development within smaller companies, which can be more nimble and innovative than their larger counterparts.”

In use at such leading institutions as Massachusetts General Hospital, Memorial Sloan-Kettering Cancer Center, and NewYork-Presbyterian Hospital, LiveData OR-Dashboard captures, synthesizes, and displays all relevant information about the surgical case. The grant responds to the strong national argument in favor of standards, and will support the use of ICEMAN to replace proprietary interfaces with the evolving standard.

“When multiple devices and technologies are involved, the issues of patient safety demand a strong, standards-based foundation. Our experience with MGH and success with OR-Dashboard have shown that LiveData can lead development of vital technology that will become the basis for an industry standard,” said Jeffrey Robbins, CEO. “LiveData’s approach to integration obtains value from the data by giving it context. We are proud to have earned TATRC’s confidence and ongoing support.”

Once the system is demonstrated and assessed for its impact on OR efficiency and patient safety, LiveData will continue to participate in medical device interoperability standards development.

This SBIR award represents a natural progression from prior SBIR awards. LiveData OR-Dashboard, jump-started with the support of \$1.3 million in TATRC grants, provides the software foundation for ICEMAN. In 2007, LiveData received a Phase I SBIR grant that conceptualized the work that has now begun under Phase II. Besides the workflow alert manager, the project is expected to further the development of an IT-extensible user interface for the OR-Dashboard patient safety system.

TATRC and the SBIR Program

The U.S. Army Telemedicine and Advanced Technology Research Center (TATRC) has played a prominent role in developing advanced technologies in such areas as: health informatics; medical imaging; mobile computing and remote monitoring; and simulation and training. TATRC has also played an important role in championing organizations such as The American Telemedicine Association (ATA) during its early years, and has continued to be an important thought leader in areas such as the use of virtual reality tools, biomaterials and hospital-of-the-future concepts.

TATRC has been exploring and implementing telemedicine and other advanced medical technology solutions for over 15 years. By exploring new developments, TATRC strives to improve health care for the US Armed Forces, their families and the public sector. Currently, TATRC manages more than \$250 million annually, primarily through congressional special interest funding, and has expanded from its original office at Fort Detrick, Maryland, to a more global presence with offices in Georgia, California, Hawaii and Europe. Equally important has been TATRC’s partnership with numerous universities, commercial enterprises, and other federal agencies, supporting approximately 500 ongoing research projects. TATRC’s vision, as an important extension of its legacy, encompasses the creation of opportunities for technology transfer to the public sector as well as the battlefield.

Under SBIR (Small Business Innovation Research Program), a portion of a federal agency's research and development effort is reserved for award to small business concerns through a uniform process having a first phase for determining the scientific and technical merit and feasibility of ideas that appear to have commercial potential, a second phase to further develop proposals which meet particular program needs, and when appropriate, a third phase in which commercial applications of R&D are funded by non-federal sources of capital.

About LiveData

LiveData, Inc. is the leading innovator of real-time integration and data visualization technology. LiveData solutions continuously monitor, synthesize and respond to highly complex, multi-faceted processes in real time, spanning a broad mix of distributed devices, diverse vendors' systems, protocols and databases. LiveData OR-Dashboard system has been installed and is fully operational in the CIMIT / MGH Operating Room of the Future, and at Memorial Sloan-Kettering Cancer Center, in its 21 new operating rooms. Founded in 1991, LiveData serves customers in healthcare, electric power and utilities, and manufacturing industries, as well as state and local governments. For more information, visit www.livedata.com.

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