**NIST and TEDCO Demonstrate Technology Transfer Initiative with Monitoring & Analytics Company**

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May 30, 2015 - In January of this year, a Maryland technology company, Sparks Dynamics, LLC, closed on a $100,000 financing note with the State of Maryland's Technology Development Corporation (TEDCO). This event marked the conclusion of the first phase of a technology transfer story that began at a NIST-TEDCO technology and entrepreneurship showcase in the spring of 2013, and the commencement of a second phase: the funding of a start-up company collaborating with NIST to commercialize technology emerging from mission-oriented research in the Engineering Laboratory (EL).

Sparks Dynamics is the entrepreneurial creation of Mr. McCammon R. "Mac" Mottley, a successful businessman and engineer who has considerable experience in the industrial air compressor and facilities fire safety and security industries and George Privalov, a Biophysics PhD from Johns Hopkins who has substantial experience in data analytics and artificial intelligence. Mr. Mottley attended the 2013 showcase, listened to the presentation by Dr. Daniel Veronica of the Engineering Laboratory on equipment fault detection algorithms, and immediately determined that a business providing products and services based on Dan Veronica's research could be developed. At the networking session that followed Dan's presentation, which included TEDCO Representative Ron Kaese and representatives from the NIST Technology Partnerships Office as well as Dan, Mac and George, a vision for possible TEDCO funding and a Cooperative Research and Development Agreement or CRADA with NIST began to take shape.

From that point forward, many moving parts had to be crafted and fit together. This work involved the combined efforts of Dan Veronica and Mac Mottley for a CRADA Statement of Work, the drafting of a CRADA by Ms. Honeyeh Zube, NIST's CRADA and Licensing Officer, and the coordination of Mac's proposal to TEDCO for Sparks' funding. An interesting and most unprecedented part of the CRADA was Mac's approach to use NIST's facilities as a test bed. The test bed design and operation required review approval from Plant Manager Mr. David Henry, to assure that there would be no adverse impact on plant operations from the CRADA activities. Although not members of the EL research staff, Dave and his project engineer John Filano were valuable contributors for both Mac and Dan in vetting Sparks' product/service concept. The CRADA was approved in September 2014, with TEDCO funding approximately four months later.

The system has now been up and running reliably for months; an energy efficiency retrofit project has been spawned based on the analysis of baseline operations, and the Fault Detection and Diagnostics software has found several patterns of inefficient operation as well as several short cycling anomalies that can lead to reliability issues.

This effort demonstrated an outstanding example of how many participants in and out of the Federal government can come together quickly for a technology transfer initiative.

**About NIST**

Founded in 1901 and now part of the U.S. Department of Commerce, NIST is one of the nation's oldest physical science laboratories. Congress established the agency to remove a major handicap to U.S. industrial competitiveness at the time—a second-rate measurement infrastructure that lagged behind the capabilities of the United Kingdom, Germany, and other economic rivals. Today, NIST measurements support the smallest of technologies—nanoscale devices so tiny that tens of thousands can fit on the end of a single human hair—to the largest and most complex of human-made creations, from earthquake-resistant skyscrapers to wide-body jetliners to global communication networks.

**About Sparks Dynamics**

**Sparks Dynamics, LLC** provides intelligent solutions to our industrial customers that enhance business profitability through smart systems that continuously monitor energy, security, and equipment status. This continuous verification allows for increased efficiencies, reliability and business continuity. Our state of the art cloud based R**e**mote Monitoring Analytics System Technology for Efficiency and Reliability (**ReMASTER**) product provides an intelligent monitoring solution with data analytics and specially developed artificial intelligence that ensures operating parameters remain within the performance envelope.