

# MachineTalker, Inc. - Shareholder's Newsletter

(Roland F. Bryan, President & CEO - 21 May 2007)

## Dear Shareholder:

The last two quarters have been very productive for MachineTalker®. I want to share some of the progress we have made in moving your company forward.

### iRFID for Military Logistics - Intelligent "Cargo"

As you may recall from our news release, MachineTalker was an invited exhibitor at the DoD RFID Summit Conference in Washington DC in April. We heard from many visitors to our booth that we were the only company exhibiting a product that is a marked improvement over the standard RFID component. RFIDs are being utilized in both commercial and government operations as the replacement for bar codes and other forms of identification. These Radio Frequency IDs can be interrogated from a distance by a radio source and respond with a fixed ID code or other pre-set information.

To participate in this conference and in this potential business for the Company we developed a Talker® unit as an *intelligent* RFID or, as we've dubbed it, *iRFID*™. The iRFIDs are meant for attachment to cargo pallets and automatically report pallet identity to monitors in trucks or warehouses or when the monitors pass by as in a standard security patrol, thereby providing constant information on location. They also contain details about pallet cargo, ownership, source, destination and any other relevant data about contents. (This product was the topic of the last December's Shareholder' Newsletter, email a request for a copy: [info@machinetalker.com](mailto:info@machinetalker.com))



## What's On Your Pallet?

**Our HERO-Approved iRFID**  
Logs and reports 17 key factors  
impacting inventory on pallets.  
**In Real Time!**  
**In transit or in storage!**



**Making RFIDs Smarter**

**MACHINE**Talker®

**CONTACT:** [info@machinetalker.com](mailto:info@machinetalker.com)  
MachineTalker, Inc. 513 De La Vina Street, Santa Barbara, CA 93101  
Ph: 805-957-1680 Fax: 805-957-1740 [www.machinetalker.com](http://www.machinetalker.com)

Show Booth with Operational Units - An iRFID Up Close - Ad for "Military Logistics Forum" Magazine

Our booth at the Conference had iRFIDs placed as pictured and a dynamic laptop display that permitted the user to interact directly with them. One feature of our technology and of our strong intellectual property is the achievement of better ways to conserve battery power over long periods of time. This involves putting iRFIDs into various modes of sleep. Using the display in our booth, potential clients were able to put Talker units to sleep and wake them up and interrogate them for information, thus demonstrating first hand, our unique capabilities.

### **Using MachineTalkers® to Enhance the Energy Audit Process**

*“Increasing energy efficiency is a first crucial step toward solving the climate-energy problem, and energy usage efficiency can be accomplished when each wasteful component is identified, measured and reduced.”*

Dr. Thomas J. Wilbanks of the Oak Ridge National Labs

*“An Energy Audit is a fundamental step of the energy conservation program in any industrial plant or energy consuming facility. The intention of the Energy Audit is to spur companies to systematically identify and rectify weaknesses in their plant design, management systems and practices that adversely affect energy efficiency. Using sophisticated instrumentation (like those illustrated below) the Energy Audit focuses on major energy demands which may account for as much as 70% of total energy consumption.”*

S. C. Bhattacharya of the Asian Institute of Technology

**An Energy Audit**, or Energy Utilization Analysis, is used to identify the quality and cost of various energy inputs that are part of a large, complex, industrial operation. Multiple points of energy consumption, like electrical power, air pressures and flow of gases or liquids, are individually monitored by sensors on MachineTalkers. The Talkers® use an internal clock to simultaneously record and store sensor readings every 20 seconds for over 7 days. These data points are then transferred to a computer system for correlation in order to assess these factors:

- The pattern of energy consumption within a facility
- Relationship between Energy input and production output
- Potential ways to economize on thermal energy use
- Potential ways to economize on electrical energy use
- Wastage in all areas of energy consumption
- Measures for energy conservation and savings

All readings must be accurately timed so that the data points are coincident. For this application, a Talker is assigned a single sensor as shown below, and time-stamps each reading as it is stored away. The data from all the Talkers are then correlated and presented as a final integrated report.



**Talkers® Combined with Sensors for Pressure, Flow and Current, Respectively**

The wireless MachineTalkers are ideal for the Energy Audit function because an Audit requires precise placement of sensors in hard to reach locations in industrial facilities often cluttered with pipes and vents and fans. There is little desire for a customer to string new wiring at great expense and considerable danger to employees in order to find ways to save energy. Our wireless networking mesh also allows for random placement of other Talkers as repeaters to reach over great distances within a facility and to allow signals to pass around huge metal frames and structures.



**Energy Audit "Kits" are being prepared for our OEM sales representative, Sense-Comm Technology, LLC.**

**One Kit of 8 Talkers (pictured) may service 4 Current Sensors, 2 Pressure Sensors, 1 Flow Sensor and a CAP®. When long recordings end, the stored data are passed to the CAP for transfer to a computer system.**

**A group of Talkers, designated as a "Kit" for on-site Energy Audit**

### **Condition Based Maintenance of Rotating Machinery**

Technology has brought on a sea-change in industrial maintenance. In large facilities, maintenance of rotating machinery often relies upon physical observation and scheduled tear-down procedures. Sometimes the equipment is hard to reach, up many floors of outside ladders; and sometimes the scheduled disassembly and re-assembly of the machine turns out to have been unnecessary as the components were not worn out. Physical observation may mean toting heavy analyzers up those ladders on a weekly basis, as is the case with one of our potential customers. There is an emerging alternative to this scheduled tear-down known as Condition Based Maintenance or CBM, where expensive maintenance is not undertaken until conditions warrant.

We are negotiating the installation of a group of Talkers that will provide CBM by detecting unusual vibrations in the bearings of rotating fans located throughout petroleum refineries. A fan that is about to break down exhibits a noticeable change in its ability to rotate smoothly and vibrations ensue. The Talkers measure the change and report a potential problem to the maintenance staff.

We have analyzed this approach by locating and testing giant fans at a major refinery. A suitable vibration sensor attachment for a Talker has been chosen and we expect to install a number of units for this purpose. One outstanding issue is that Talkers must be housed inside an enclosure that is "explosion-proof" with an intricate means for attaching our radio antenna. We have found a supplier that has a packaging solution.

## **A GreenTalker™ to Access, Measure and Monitor the Environment**

The basic Talker product, now used for the Energy Audit, can operate many other types of sensors with little change. A range of similar sensors and detectors will permit Talkers to provide environmental observation and analysis.

The Company has experimented with a sensor that detects CO<sub>2</sub> (Carbon dioxide) while another detects CO (Carbon Monoxide). Some Talkers already carry sensors for temperature, movement and light detection while the current design will service sensors for moisture, motion, direction (of movement), leaks, salinity and intrusion (both near and far).

This innate ability to service environmental sensors, and a rugged enclosure that can be used in harsh environments, has allowed the Company to introduce a version of the product line referred to as the "GreenTalker". Depending upon the nature of customer requirements, GreenTalkers could be produced in very small housings for the specific purpose of environmental study and monitoring, while exhibiting all of the basic Talker functions,

### **Conclusion**

MachineTalkers are so versatile and so easy to place into service that the possible applications seem endless, but we know we have to focus our efforts in order to magnify our results. The Company continues to charge forward on those applications first identified as holding the largest, most prosperous and readily available markets: 1) Talkers for tracking, chain of custody, security and on-board identity for shipping containers and pallets; and 2) Talkers for industrial energy audits, gathering process control data, and the local analysis/storage of parameters for later review.

Your comments and suggestions are always welcome.

### **For MachineTalker, Inc.**

Roland F. Bryan  
President & CEO

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### **Safe Harbor Statement**

Matters discussed in this press release contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. When used in this press release, the words "anticipate," "believe," "estimate," "may," "intend," "expect" and similar expressions identify such forward-looking statements. Actual results, performance or achievements could differ materially from those contemplated, expressed or implied by the forward-looking statements contained herein. While reasonably expected, the company can make no assurances that there will be a material increase in actual trading volume. These forward-looking statements are based largely on the expectations of the Company and are subject to a number of risks and uncertainties. These include, but are not limited to, risks and uncertainties associated with: the impact of economic, competitive and other factors affecting the Company and its operations, markets, product, and distributor performance, the impact on the national and local economies resulting from terrorist actions, and U.S. actions subsequently; and other factors detailed in reports filed by the Company.