TEXTILE INSTRUMENTS LLC

Smart ▪ Vital ▪ Fabrics

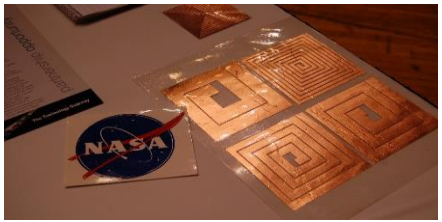
Passive Wireless Vital Sign Detection

www.textileinstruments.com

Technology Transfer Program

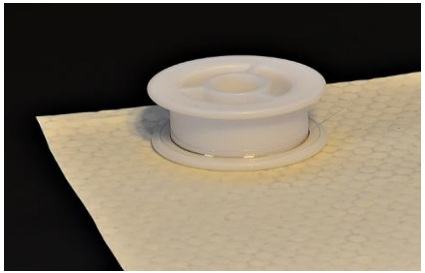
Technology Enhancement

NASA Technology



- Developed for aviation applications, to detect damage to materials
- Deployed on rigid base materials
- Electromagnetic phenomena discovered

TI Smart Thread



- Enhanced NASA progress with innovation of flexible thread
- Developing long-range antenna and biomedical capabilities
- Developed Miniaturized System for data acquisition

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Vision

- Enhance diagnostic techniques through non-invasive/wireless collection of vital signs:
  - Temperature
  - Heart rate
  - Touch
  - Presence of fluids
  - Sleep/Active state

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Application Enhancement

Today's monitoring system

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TI Smart Thread

Fabric integrated solution

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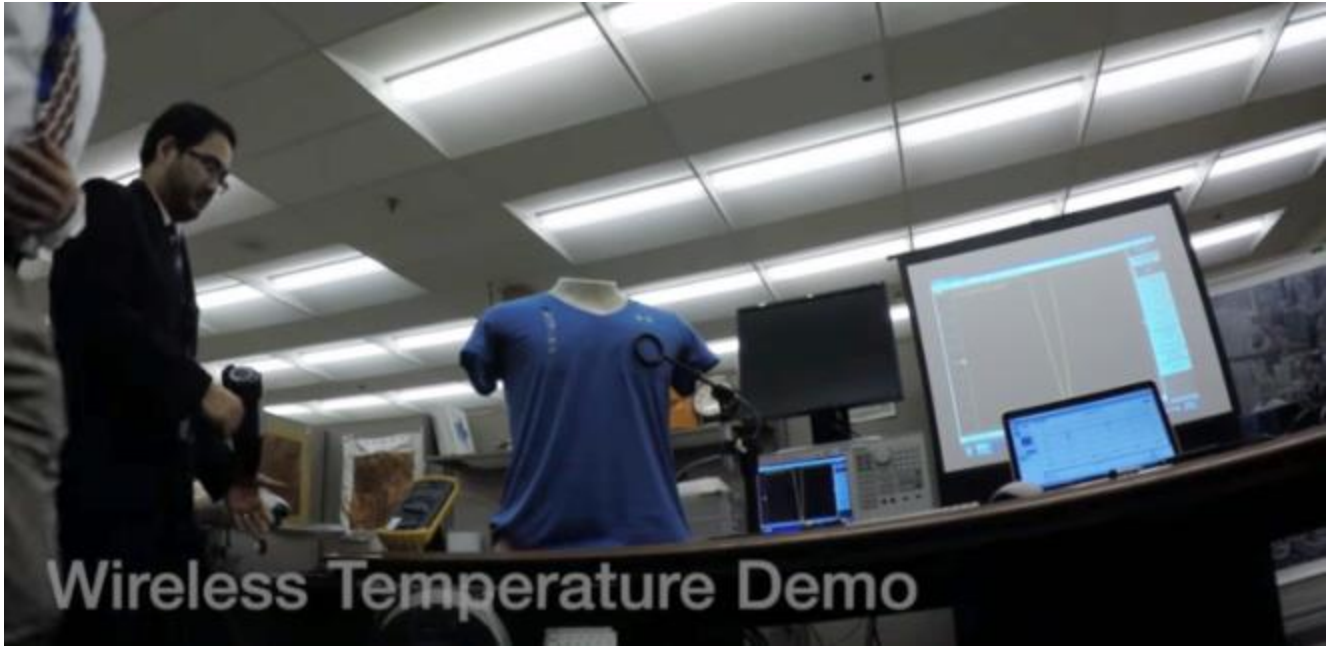
Demonstration – NASA Langley



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Key Attributes

- Open circuit sensor - no electrical connection or battery
- Bio-compatible (FDA approved materials)
- Multiple measurements collected with single sensor
- Low RF emission
- Simple, low profile textile integration
- Washable
- Continuous real-time data collection
- Miniaturized

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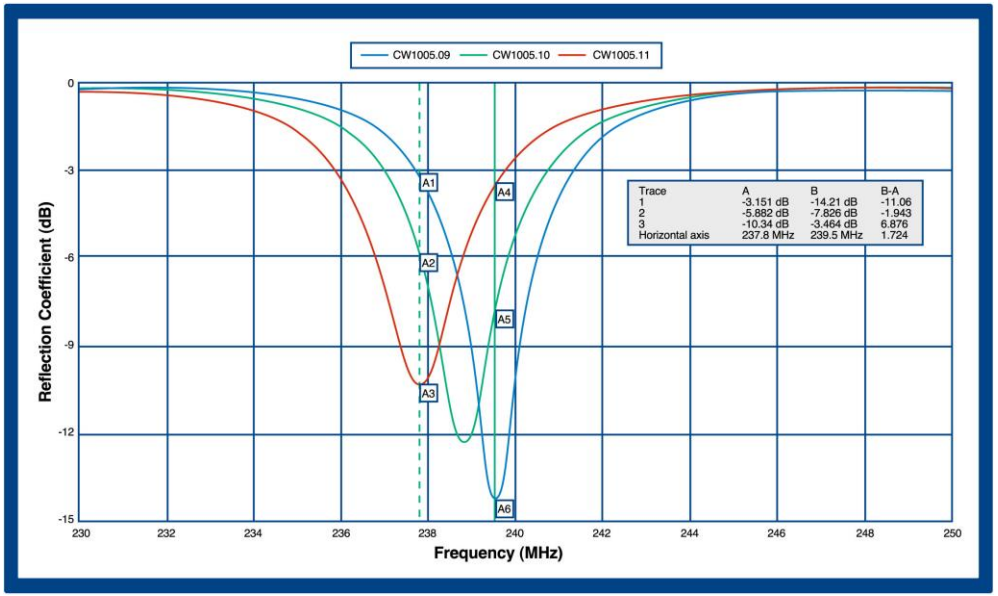
Min. Interference Design

- Sensors can be easily tuned to operate on low traffic frequencies



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Potential Applications

- Active Wear
- Space Suit
- Incontinence products
- Textile quality monitoring
- Protective vest damage detection
- Remote industrial monitoring

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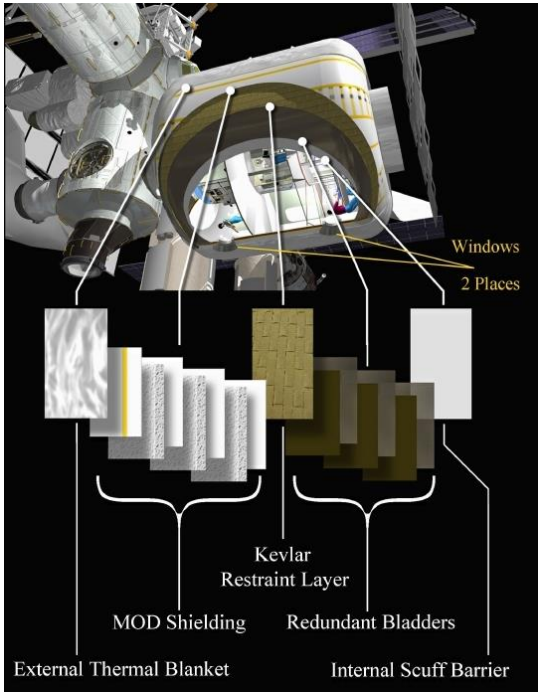
Future Vision

Aerospace Applications

Figure 1 –The LaRC Expandable Lunar Habitat. Stowed and deployed



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State of Technology

	Current Abilities:	Future Abilities:
Sensor Development	Repeatable manufacturing of high-sensitivity sensors Current generation antenna Max. Distance: 3 inches	Tuned frequency sensors for individual and unique identification. Long Range Operation of 15 feet, 25 feet, 100 feet.
Hardware	Currently running on $400 off-the-shelf hardware package with a wired connection to a GUI	Standalone hardware package, then mobile device integrated, wireless data transmission to smart device/IT network/EMR.
Software	Display of raw data(frequency shift, peak, band)	Mobile Device Interface with transfer functions and software filtering displaying processed data.
Detected Phenomena	Presence of fluids, Body temperature, Breath rate, Heart Rate, Pressure and more	Single sensor system enhanced to multi sensor system to monitor several individuals or applications simultaneously.

Textile Instruments

- Textile Instruments LLC (“TI”) is seeking funding and partnerships to commercialize our sensor for consumer, medical, and military applications
- TI Smart Thread Sensors can easily be incorporated into textiles, fabric, and paper for monitoring vital signs

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Team

CEO: Susan P. Bernard, BA Business Administration from University of Miami, is a first generation American with a family history of entrepreneurial success. Her drive for perfection and a desire to create led Susan to initiate business plans and capitalize on valuable opportunities. Her first start up business is running at 40% profits, is celebrating its 6th year in business.

CMO: Sara E. Bowen, BS Engineering from Northwestern University, is a creative business strategist who has a unique ability to merge business development, operations, and diverse groups of people to produce successful, measurable outcomes. After her experience as a product manager of a 13 million dollar fiber line she started a marketing consulting company specializing in technical start ups.

CTO: Robert P. Donley, P.E., BS Engineering from Colorado School of Mines is a focused engineer with expertise in medical device R&D, engineering team leadership, lean transformation, and manufacturing. With specific experience in organizational leadership, Robert has led Kaizen change teams to streamline business operations, and has filed several international patents.

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Contact

- Textile Instruments LLC has successfully demonstrated textile integrated wireless sensor technology
- We are seeking investment to commercialize
- We are seeking partners with experience in the medical, military, and active wear markets

Please contact Susan Bernard
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