



Railroad Service Business Opportunity

Seeking an experienced business leader with railroad background/connections to help lead a Nebraska based start up company in collaboration with UNL faculty.

Value Proposition

- Reduce derailments currently costing U.S. railroads over \$225M annually
- Schedule scarce track maintenance resources where the need is greatest
- Measurements are made in real-time using a unmanned rail car traveling at commercial rail speeds

Technology (PATENTS PENDING)

Research conducted by Dr. Shane Farritor resulted in the development of a laser based method of measuring vertical track modulus on a real-time basis.

- Tested and validated on over 4,000 miles of track.
- GPS system and data analysis software synchronize data and identify trends to efficiently locate problem areas.
- Compact system mounts on a standard rail car and requires minimal fabrication for installation.



Research conducted by Dr. Joseph Turner resulted in the development of a new approach to measuring longitudinal rail stress.

- Detecting excessive rail stresses can lead to proper track maintenance to prevent rail breaks and buckling.
- The technology can be implemented using a hand-held device or as part of a rolling track inspection system.

Inventors

Dr. Shane Farritor is an Associate Professor in the Department of Mechanical Engineering at UNL.



- **Previous Work Experience:**
 - Field and Space Robotics Laboratory at MIT
 - Unmanned Vehicle Laboratory at C.S. Draper Laboratories.
- **Research Interests:**
 - Robotic highway safety markers
 - Robotics for planetary exploration
 - Modular design
 - Miniature surgical robots.

Dr. Joseph Turner is a Professor in the Department of Engineering Mechanics at UNL.

- **Research Interests:**
 - Stochastic wave propagation
 - Experimental ultrasonics
 - Multi-sonic characterization
 - Linear and nonlinear vibrations
 - Elastic wave propagation and structural acoustics.



If interested in this business opportunity
please contact Randy Nitz for more
information.

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