Rail Integrity Monitoring (RIM) Module

AVANTE' rail gauge systems are designed to provide cost-effective tools along tracks and rails. Their reports provide coverage of the exact conditions of rails, including damage along the line. Exceptions discovered by the system are reported in real-time to the rail's control center as well as broadcasted to oncoming trains scheduled that run on shared lines. This provides train engineers vital information that stops or slows a train and avoids hazards before they reach the track. AVANTE believes this advanced patent-pending solution will help sustain rail life and reduce the previous percentage of accidents.

- Rail tracks can distort by natural long-term erosion, natural disasters and extreme temperatures. They can also be tampered with artificially, a major concern in developing countries. Most track-based accidents could have been prevented if rail operators have advanced alerts of present hazards.

- Devices located along the rail track provide live reporting of the exact condition of the track. It can measure distortion, support structure, erosion and damages. Potential exceptions that run an accident risk are reported to control centers as well as broadcasted to oncoming trains to alert on the potential hazard.

- Patented onboard geo-mapping of vibration-shock profile along the train in real-time, providing data on track gauge, rail body condition and potential track bed sinking.

- AVANTE's communications network of real-time sensors monitors can gauge exceptions in rail track conditions. Utilizing RFID IP-based sensors embedded along the track, our sensors monitor track temperature, shock and vibration. When portion of the rail are compromised, geo-tagged reports are sent to the whole system in real-time. Trains within 5 kilometers are immediately alerted while in operation.