

POSITIVE TRAIN CONTROL SYSTEM

Positive Train Control with Visual and Digital Visibility of Rail Switch Position, Rail Gauge Integrity and Obstruction, Long Range Visibility and Around the Blind Spots

Creating a safety “envelope” that moves with the train:

In the US, the Rail Safety Improvement Act of 2008, which mandated system-wide Positive Train Control (PTC) by Dec. 31, 2015 on all lines where passenger and/or TIH (toxic inhalation hazard) traffic operates. Positive train control (PTC) is a system of functional requirements for monitoring and controlling train movements to provide increased safety.

According to the 2010 GAO report (<http://www.gao.gov/new.items/d11133.pdf>), for the last 10 years of the rail accidents, 35% are attributable to human factors, while 32% are attributable to rail track defects and 12% to equipment failure, 7% rail crossing, 2% being signal problem and 13% attributable to other causes. With the currently mandated PTC solution, it can only address 30% of the causes of rail accidents. AVANTE Rail Safety Technologies and Solutions have been designed to address most of the other causes of rail accidents while also provide supplemental benefits to the PTC solutions being implemented.

AVANTE Rail Safety Technologies and Solutions provides additional visibility and independent sensor network to enhanced the mandated systems in achieving higher safety of rail operations.

1. AVANTE PTC System works independently using onboard computer and software based on GPS-RFID-WiFi-Cellular-Satellite technologies for geo-position and train configuration in speed control.
2. AVANTE Rail Visibility System provides onboard all weather visibility for up to 5 Kilometer including blind spots.
3. AVANTE Rail Track Integrity Monitoring Sensor Network for 24/7/365 track integrity reporting
4. AVANTE Rail Switch Point Monitoring Sensor Network for 24/7/365 real-time reporting of switch positions and exceptions