

Ferris Wheel Gondola Load Testing

Load Pin and Wireless Telemetry System

Industry: Entertainment

Summary

Customer Challenge

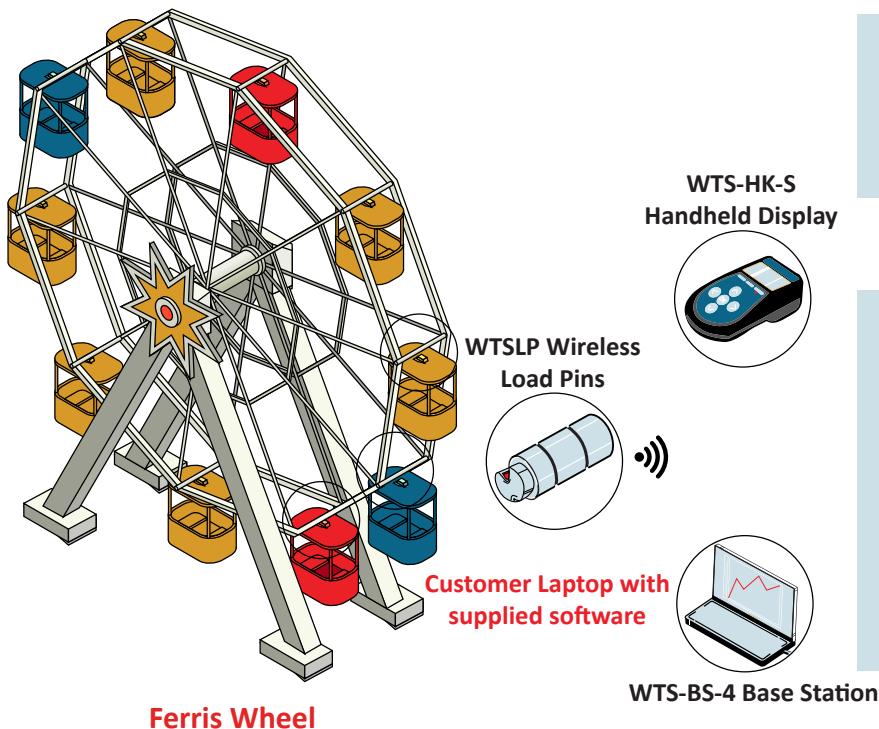
Ferris wheel operators and ride manufacturers must ensure that passenger gondolas remain safely supported throughout all operating conditions. As cabins are loaded with passengers and continuously rotate around the wheel, forces are transferred through the gondola hanger assemblies and pivot connections. Engineers require an accurate method to measure the forces in order to validate safety and identify potential maintenance concerns before they become issues.

Interface Solution

Interface suggests implementing WTSLP Wireless Custom Load Pins directly into the gondola hanger connection, replacing standard structural pins. The wireless load pins continuously measured the shear forces transferred between the gondola and hanger arm during operation. Force results are wirelessly transmitted directly to engineers PC's for analysis with the WTS-BS-4 USB Industrial Base Station. Or, it can also be transmitted to the WTS-HK-S Next-Generation Wireless Handheld.

Results

Engineers successfully captured real-time gondola loading data with Interface's force products. The monitored force measurements helped identify any abnormal loading conditions, and validate any other potential safety concerns.



Materials

- WTSLP Wireless Custom Stainless Steel Load Pins
- WTS-BS-4 USB Industrial Base Station with supplied Log100 software
- WTS-HK-S Next-Generation Wireless Handheld
- Customer PC or Laptop

How It Works

1. The WTSLP Wireless Custom Stainless Steel Load Pin replaces the standard structural pin of the ferris wheel gondola hanger arm. As the amusement ride operates, the WTSLP's capture force data.
2. Force results are wirelessly transmitted directly to engineers PC's for analysis with supplied Log100 software using the WTS-BS-4 USB Industrial Base Station. Or, it can also be transmitted to the WTS-HK-S Next-Generation Wireless Handheld.