



LOCATION TRACKING CASE STUDY

Head of the Hooch Race

Using Utility Scale, Industrial Strength Wireless M2M Communications Solutions for Head of the Hooch Rowing Race

Chattanooga, TN – Every November, approximately 2,000 rowing crews gather in downtown Chattanooga to compete in the Head of the Hooch Race. This 5,000 meter (3.1 miles) race is the second largest of its kind in the U.S. To begin, individual crews go up river to a turnaround point where the start is located. As they row across the start point, a clock begins. Each crew begins individually, which eliminates the crowding of each boat starting at the same time. In the early years of this popular race, stopwatches were used to time the race. The manual process for timing an increasingly large number of boats became inefficient and subject to human error.

FreeWave Usage and Applications

Bob Kerr is a 30-year member of the Atlanta Rowing Club, which organizes the race. Kerr works for Georgia Tech Research Institute (GTRI) where FreeWave Technologies' wireless M2M communication solutions were being used for a research project. About 14 years ago, when race organizers were looking into options more reliable than a stopwatch, Kerr borrowed the FreeWave wireless M2M communication solutions from a colleague and successfully used them for timing the race.

The FreeWave wireless M2M communication

solutions are used in conjunction with the same type of timing system used in downhill skiing races. The system allows timing of each boat to 1/10th second accuracy. As a crew crosses the start line, a button is pressed and its boat number is entered into the timing system. Then as it crosses the finish line, another button is pressed and its number is entered again. Each crew's accumulated time over the course is captured in the timing system database. They also capture a midpoint time for further accuracy. In addition, there is a clock that calculates the total time.

Upon original installation, the Rowing Club needed a good way to coordinate the start and finish clocks. FreeWave's wireless M2M communication solutions were able to synchronize both timers at each end of the racecourse. When installing the wireless M2M communication devices, they came across an issue with a bend in the river, which blocked line-of-sight between the start and finish. In order to resolve this issue, three wireless M2M devices were deployed – one at the start, one at the bend and one at the finish line.

Outcomes

For the first installation fourteen years ago, the wireless M2M communications solutions that Kerr borrowed from GTRI were FreeWave's earliest

models. Recently, however, they were replaced with a newer model, the FGR2-PE 900 MHz radio. Although this device is ideal for utility scale SCADA applications, it has performed above and beyond expectations for the Head of the Hooch race.

Some races over the past several years have been conducted in cold, rainy, cloudy and/or windy weather. The FGR2-PE's are industrially hardened and there have been no performance issues with the radios despite the years with adverse weather conditions.

Another benefit of the FGR2-PE is that it offers improved noise rejection and additional performance enhancements that allow it to maintain reliable wireless serial or Ethernet communication over long distances or in congested RF environments – which is critical in a race that covers a few miles and is located downtown Chattanooga, with many opportunities for interference. The industrial grade, small and rugged enclosure offers mounting and installation versatility, which made it easy to set up on the boats and school for the Head of the Hooch race.

HIGHLIGHTS

- > FreeWave's solutions were proven to work in even the harshest of weather conditions
- > Extremely reliable and accurate time recording achieved by FreeWave's M2M wireless communications
- > Consistent and reliable wireless data communications over long distances (racecourse is 3+ miles long)
- > Easily able to overcome the line-of-sight issue with the bend in the river / racecourse
- > Versatile and durable M2M communications devices helps enable the ongoing success of one of Tennessee's most renowned races



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