



**NEWAVE**®  
Sensor Solutions

## Cycling & Racing Events

Racing events and associations are utilizing RFID technology to provide an overall better experience for event participants, race organizers, and racing fans. Real time features enabled by RFID technology include ranking and performance data queries, as well as significantly reduced processing times and staffing compared to legacy timing solutions. Racing participants can easily track their own times and performance.

### Primary Drivers

- Race results accuracy.
- Ease of time taking.
- Low tag costs.
- Ease of use for race participants.

### How can NeWave help?

NeWave's unique Wave® antenna provides superior data accuracy over traditional patch antennas that radiate a beam in a single direction. The Wave antenna is specifically designed to illuminate a volume of space, like a wide-angle photo lens. The Wave antenna is designed for UHF systems only, which allow the race organizer to use tags that are dramatically smaller, weigh less, are disposable, and less costly than Active RFID systems. In summary: better performance at a lower total cost.

## Case Study

### Overview



Tenspeeds Production is an event services company that provides resources necessary to organize cycling and racing events. Collecting timing and placement data using typical RFID systems presented many drawbacks. Using NeWave technology eliminated all of those challenges of: accuracy, tag expense, labor costs to disperse and collect RFID tags,

and tag unreliability.

## Their Problem

One such challenge is providing accurate times of the racers. Tenspeeds Production found that the type of RFID antenna typically used did not provide accurate data due to the racer improperly positioning the tag or switching equipment (tag orientation problem commonly seen).

The tags that were being used were battery powered "active tags". Batteries failed and often caused no result/reading. These active tags cost anywhere from \$35 to \$110 per tag and therefore, were not cost effective for racers to dispose of after a race. This resulted in time and labor of collecting tags following the race.

## The NeWave Solution

NeWave Sensor Solutions created an antenna specifically with RFID in mind. Because of this J. Baumeister of Tenspeeds Productions found a solution to his most difficult racing issues.

The NeWave antenna combated Tenspeeds issues by:

- Providing more cost effective passive UHF tags that reduced cost by approximately 95%.
- Maximizing time and labor savings by utilizing a "passive" tag that is disposable.
- Eliminating tag orientation issues by developing an antenna with built-in polarization and beam diversity to overcome fading and polarization mismatches.
- Increasing timing accuracy by eliminating confusion on a racers tag placement
- Increasing system ease of use by enabling racers to switch equipment without any confusion.



## Conclusion

J. Baumeister stated that the three words he would use to describe NeWave Sensor Solutions are: Efficient, Dependable, and Reliable. J. Baumeister expressed that NeWave doesn't just give you all the answers but they have you test the product and learn how to find the answers as well. Thus, allowing you to truly understand the product and solution in your environment.