

**CUSTOMER**

Fairyhouse  
Racecourse

**PROJECT**

Accurate section times/  
furlong measurement

**SOLUTION**

Trimble Catalyst and  
K-MATIC software suite

# Fairyhouse Racecourse clears timing hurdle

**Fairyhouse Racecourse leads the way in consistent, centimetre accurate, sectional timing data with IHRB approved low-cost, ground-breaking Trimble GPS system.**

There have been longstanding concerns about the accuracy of sectional times in Irish race-meetings particularly following some high-profile queries on race distances. However, Irish racing is addressing the problem and leading the way is Fairyhouse Racecourse, one of the country's premier horse racing venues and home of the Irish Grand National.

In the world of horse racing, where comparisons related to pace, ground conditions and distance are paramount for form-study, the accuracy of furlong distance measurement is of utmost importance. Equally crucial is ensuring that the furlong measurements align with the timings displayed on television broadcasts.

Fairyhouse has proactively addressed this issue with the adoption of a centimetre accurate GPS solution that they have customised for the production of highly accurate maps of every course circuit for each of its twenty-one annual meetings. Under the guidance of Fairyhouse General Manager, Peter Roe and Track Foreman, Richard Stapleton, the course has rigorously tested, implemented, and secured approval from both the IHRB and CourseTrack (tasked with introducing sectional timing by 01/24) for its new Trimble Catalyst GPS system.

The system was purchased from Trimble distributor and geospatial specialists, KOREC.

Peter Roe is especially aware of the racing industry's increasing demand for precise data, numbers, and information for assessing a horse's form correctly. "Unfortunately, traditional survey methods that rely on measuring wheels have proved inadequate in delivering accurate furlong measurements to the extent that we've had races where all seven runners appeared to break the track record. Subsequent checks revealed that the race was run over a shorter distance than initially advertised. Extensive testing by Fairyhouse of wheel measurements compared to our new survey level Trimble GPS have revealed discrepancies as high as 32m over an 8-furlong race."

## Easy to use, low cost and consistent centimetre accuracy

As the first racecourse to independently look at the technology that could assist with accurate furlong measurement for sectional timing data, both Peter and Richard were keen to implement a system that not only worked for them, but would be easily usable by other interested racecourses. Their three demands of any new system were that it was easy to use, especially for courses where staff were less technical; it had to produce reliable centimetre positions and it had to be affordable:-



Richard Stapleton with the Trimble Catalyst system

### Key benefits of the Trimble Catalyst GPS system for Fairyhouse

- Reliable centimetre positions
- Ability to customise the software to simplify use
- Low-cost hardware and 'on demand' subscription model
- Excellent support from KOREC
- Potential for the system to be further customised



Accurate data shown on TV



Collected data is downloaded onto the K-MATIC Portal for a visual check of the map

**Achieving cm accuracy:** Whilst the survey industry offers many centimetre accurate GPS systems, these tend to be designed for professional surveyors and therefore come with an extensive range of features designed for survey workflows and can cost in excess of €30,000. However, through farming contacts, Peter was aware of an alternative system, called Trimble Catalyst, that worked on an entirely different subscription-based model.

The Trimble Catalyst business model has been developed for people exactly like Peter and Richard who wish to pay only when they use the system because they require centimetre positions to supplement their primary area of work rather than all day, everyday.

The Trimble Catalyst hardware comprises a simple, low cost, lightweight Trimble DA2 GNSS receiver which offers survey-quality (cm) positioning, even in challenging GPS environments including near and among trees and buildings. The receiver is easily connected to an Android or iOS device. Fairyhouse selected a handheld Nautiz X6 ultra rugged Android phablet as being the most suitable handheld to work with their Catalyst system. The field software running on board the Nautiz X6 was KOREC's in-house suite of customisable software, K-MATIC, including K-CAPTURE field software. The K-MATIC suite also includes the highly secure, KLEARVIEW360 cloud-based Portal for analysing, viewing and sharing the collected information.

**Low cost:** The cost of the Trimble Catalyst DA2 receiver part of the system has been kept at less than €500 per unit and comes with an 'on demand' subscription pricing model so users can select the accuracy they need, 1cm, 10cm, 30cm or 60cm. Richard opted for a 1cm accuracy subscription, optioned in hourly bundles, which he knew from testing, would give him sufficient time to measure the course circuit at a brisk pace to keep it within the hour.

"The aim was always for Fairyhouse to be 100% accurate.

Our extensive testing of wheel measurements compared to our new survey level Trimble GPS have revealed discrepancies as high as 32m over an 8-furlong race."

**Peter Roe,  
General Manager**

“ The Trimble Catalyst system is a game changer and we've got plans to customise it further...It could be an amazing tool for the industry.”

**Peter Roe, General Manager, Fairyhouse**



2m 4f 110y Bet Responsibly At Novibet Maiden Hurdle 02/10/2023 15:30:00									
Runner	Pos	Start-F17	F18	F19	F20	F21	Total	Last 4 F times	Last 4 F %
Skradin	1	264.00	15.03	14.39	14.33	15.55	5m 23.30s	59.30	106.39%
Shannon Royale	2	264.52	14.89	14.27	14.93	16.19	5m 24.80s	60.28	105.13%
Cedar Wood	3	265.11	14.83	14.55	15.55	16.45	5m 26.50s	61.39	103.78%
Hunts Grove	4	264.93	15.05	14.86	15.44	16.92	5m 27.20s	62.27	102.52%
Something Small	5	265.37	15.26	15.74	16.33	17.80	5m 30.50s	65.13	99.01%
The Flying Donkey	6	268.87	16.32	16.73	18.66	18.82	5m 39.40s	70.53	93.89%
No Turn Unstoned	7	265.46	16.66	17.71	19.30	21.87	5m 41.00s	75.54	88.08%

Times accurate to +/- 0.2s or more excluding the location accuracy +/-0.5m (approximately 0.03s).  
One horse length is run in approximately 0.167 seconds on good or firmer ground, 0.18 seconds on good to soft ground and 0.2 seconds or more on soft.

sectionals@racingtv.com

Accurate furlong measurement is vital for timing data

**Ease of use:** Whilst Richard acknowledges that he is obsessed with accuracy and good with numbers he is also aware that for any system to be widely taken up it has to be easy to use and understandable with a single days training. He therefore worked closely with the KOREC software team to develop a stripped back data entry form that was based exactly on the information that the UK media company required. This included the auto recording of the race line as it was walked by Richard and the ability to stop and mark each furlong and then continue the measurement of the race line.

Richard said, “Ease of use has been a key concern for us in working with KOREC to create a system that’s going to be useful for other courses, some of whom would only be using it four times a year. Whilst we have customised the software, I think it can still be simplified further. The attraction of a wheel is that it requires no training whatsoever and whilst we’re never going to achieve that, our Catalyst system has been simplified with customised features specifically for furlong measurement.”

## Using the system

Although the Trimble Catalyst system is very light and highly portable over long distances, Richard has opted to use it in a backpack to keep his hands free for positioning furlong markers etc. In preparation for races, the rail has to be positioned as early as possible and then Richard will walk the track, measuring one metre out from the rail. The reliability of the system is key to its success particularly when races are run over three days, such as the Easter Festival, which can see him marking out six race lines. This has to be completed in plenty of time to supply the information to CourseTrack in England.

For each circuit, Richard establishes vital reference points on the track which allow him to accurately position the start and the finish lines.



Richard on the course with Trimble Catalyst

Once the data is collected, it is downloaded onto the Portal for a visual check of the map and to ensure that all furlong markers and bends are correct. It is then emailed to all those who require the course information. On race days the information is used by CourseTrack to link up with trackers that each horse carries in its saddle cloth to provide accurate timing data.

## Future plans

While Peter emphasises the solution’s standout benefit of delivering reliable centimetre positions, he also acknowledges the vital role of KOREC’s support in the system’s successful adoption.

“Unfortunately, traditional survey methods that rely on measuring wheels have proved inadequate in delivering accurate furlong measurements to the extent that we’ve had races where all seven runners appeared to break the track record.”

**Peter Roe,**  
General Manager



“The CourseTrack system relies on accurate measurement of race distances and track layout in order to deliver sectional timing for each individual race.

The team at KOREC has worked closely with Fairyhouse and other tracks in Ireland to create a bespoke product for those racecourses which the system suits, and we have high levels of confidence that the KOREC/Trimble Catalyst data can support accurate live and post-race data.”

**Chris Murtagh, Director of Operations, CourseTrack**

“Our aim was always for Fairyhouse to be 100% accurate and I think that we’ve achieved that. KOREC has been extremely loyal to Fairyhouse on this project. We invited them to come on a journey with us that may or may not work out and they’ve supported us throughout and now we’re both being rewarded. The Catalyst system is a game changer and we’ve got plans to customise it further by adding in fences and distances to create some really nice visuals for social media. It could be an amazing tool for the industry.”

Richard concludes, “KOREC’s customer service and technical support have been brilliant and I feel that we didn’t just buy a tool but also a team!”

Several other tracks have recognised the system’s value and the dedicated efforts of Peter and Richard in securing its approval, leading to further adoption across Irish courses.

**“Ease of use has been a key concern for us in working with KOREC to create a system that’s going to be useful for other courses, some of whom would only be using it around four times a year.**

**KOREC’s customer service and technical support have been brilliant - we didn’t just buy a tool but also a team!”**

**Richard Stapleton, Track Foreman, Fairyhouse**

## CONTACT US

Please do get in touch for further information on any of the products or services mentioned in this case study, a demonstration, support or just a chat about your requirements.

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