# In-Running Data and Horseracing Timing Technology

Using the latest GNSS / GPS positioning technology, designed and developed in Cambridge, TPD's Race Pace positioning data streams live, in race, real time positions within fractions of a second. Speed, stride length, distance and split time calculations are transmitted while the race is in progress.

# TPD Live GPS Data and Gruss Betting Assistant

**Profiting from Live GPS data with Gruss Betting Assistant**

**TPD Zone Customer Services**         **2023**         **Version 1-0**

# TPD Live GPS Data and Gruss Betting Assistant

## Introduction

This Guide will provide an insight into how TPD (Total Performance Data) have used the latest technology to deliver live, in-running data direct from the horses' saddle to your PC, in fractions of a second.

The GPS data quantifies racing efficiency in real-time, the skilful interpretation of such aiding your decisions to bet early into races, laying short priced horses running with the choke out, and backing horses at good prices and who are running efficiently.

In order to view the live GPS data through the Gruss platform you will need a subscription to TPD Zone; **Subscribe**
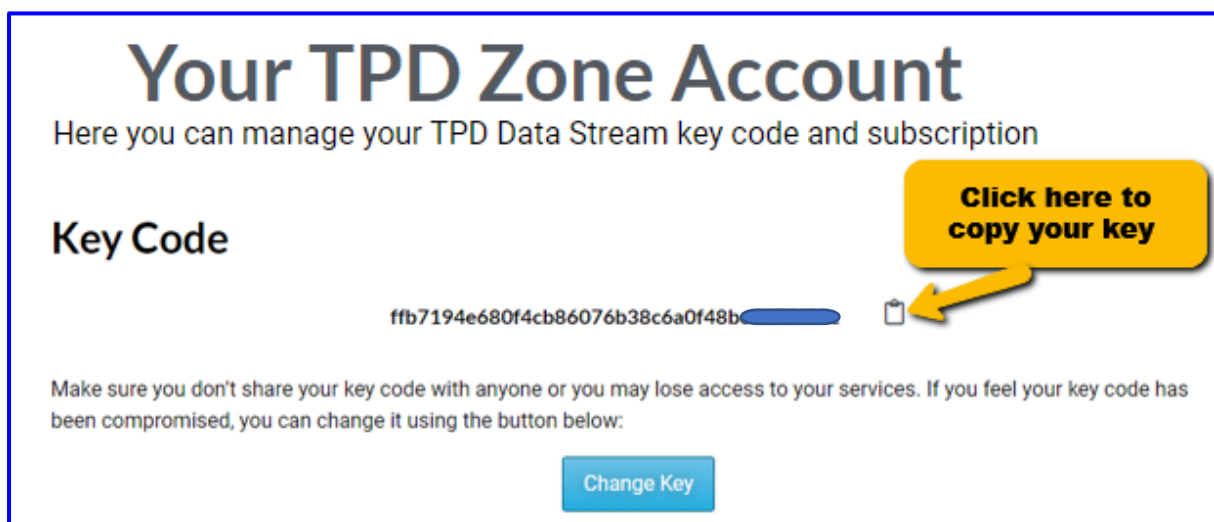
Subscriptions start at a very affordable £10 per month, which will give you access to 20 races of your choosing, with live GPS data,  by which to give the service a try.

## TPD Zone Subscription Portal

The subscription portal was created to facilitate the purchasing of a licence key which enables the purchaser to use the key in Gruss and other platforms, via which live GPS data can be consumed.

Obtaining a licence key is relatively simple;

❖   Register for a free TPD Zone account; **Register**

❖   Subscribe to the monthly subscription appropriate to your needs; **Subscribe**

❖   Your licence key will appear in your TPD Zone account page.



It is highlighted that you subscription is recurring - **renewal will automatically occur every 30 days** from the date of you first subscribing. However, cancelling is very easy with just two clicks of your mouse from within your TPD Zone account page. (Click "Manage Subscription" and then "Cancel Plan"). See below for further details regarding managing your subscription.

Total
Performance
Data

## Managing Your TPD Data Subscription

In your TPD Zone Account page click "Manage Subscription".

### Your subscription:

**TPD Data Stream Trialist**

£10.00 per month

| | |
|---|---|
| Started: | Fri Oct 15 2021 |
| Renews on: | Mon Nov 15 2021 |
| Races used this period: | 0 |
| Races available: | 20 |

Use the button below to upgrade your subscription
plan and view payment information:

[Manage Subscription]

Click "Manage Subscription"

The following screen will be presented:

CURRENT PLAN

**TPD Data Stream** ⬛
£⬛ per month
Your plan renews on 25 December 2021.

PAYMENT METHOD

No payment method.

+ Add payment method

Click "Add payment method" to add a new card or amend the details of an existing one.

BILLING INFORMATION

Email            alan.burandt@totalperformancedata.com

✏ Update information

Click "Update information" to change your email address.

# TPD Live GPS Data and Gruss Betting Assistant

**Upgrade / Downgrade / Cancel Your Data Subscription Plan**

To the top right of your TPD Zone Account page you will see these two Buttons;

Update plan

Cancel plan
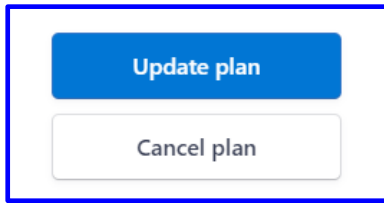
Click "Update Plan" to upgrade to a different subscription plan or likewise to down grade.
On clicking the "Update Plan" button you will be taken to this screen;

**TPD Data Stream Trialist**
£10.00 per month
Continue

**TPD Data Stream Lite**
£25.00 per month
Continue

**TPD Data Stream Intermediate**
£40.00 per month
Continue

**TPD Data Stream Standard**
£60.00 per month
Continue

**TPD Data Stream High**
£100.00 per month
Continue

**TPD Data Stream Expert**
£250.00 per month
Continue

**TPD Data Strream PRO**
£450.00 per month
Continue

Click "Continue" on the plan of your choosing. You will see a pro-rata credit for the unused portion of your current subscription which will be automatically applied to your new subscription.

Click "Cancel Plan" to cease your subscription at the end of your current subsciption period.

## Viewing the GPS Data via Gruss

Once you have your TPD licence key, you can copy the key into the appropriate field in Gruss which will enable the TPD data.

From the Gruss menu bar select Options / Preferences and further select the TPD tab. Here you can enter your TPD key. After entering the key click the checkbox to view and accept the terms.
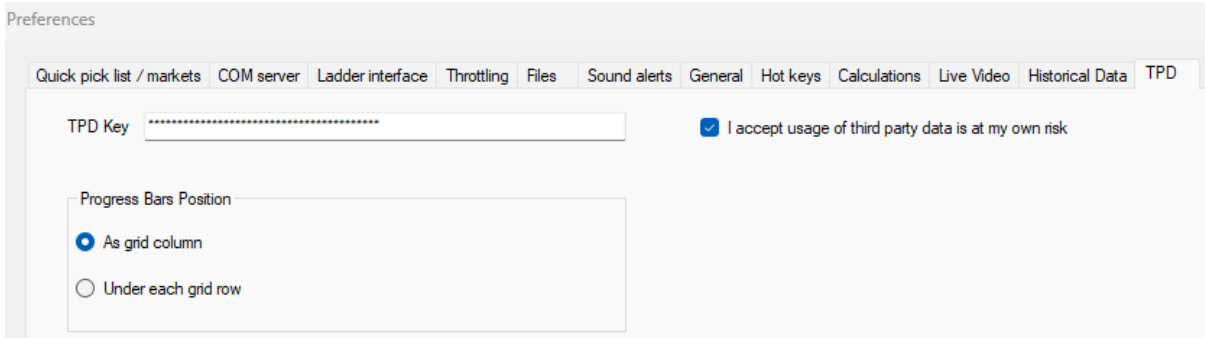


If a race benefits from live TPD data the TPD logo will appear as shown below. Click on the logo and Gruss will connect to the live data. The TPD logo will have a green border when a successful connection is made. Please note that as soon as a connection is made the system will record the race as having been consumed and your monthly race allocation will be reduced accordingly.
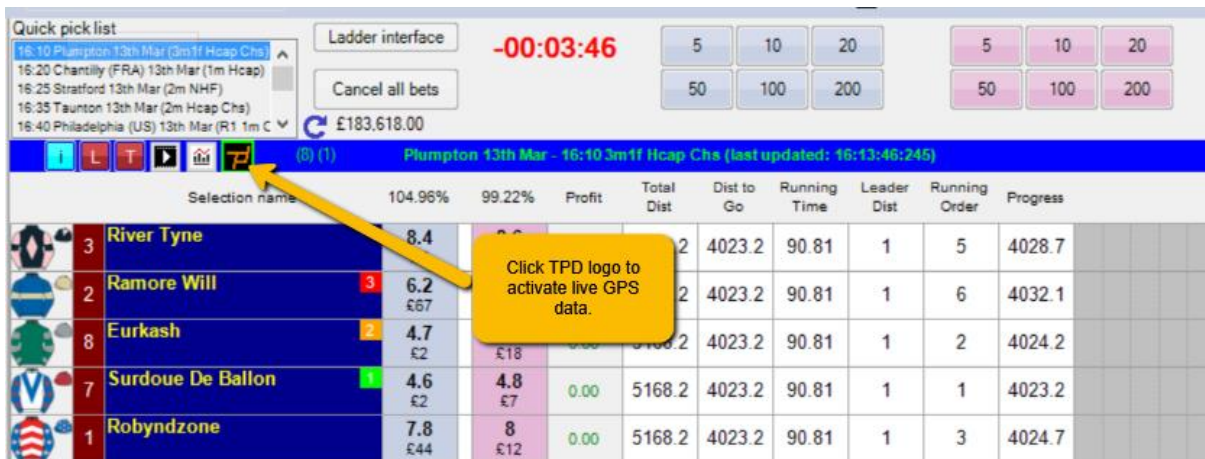
## The GPS Data – Delivered to PC and Mobile Devices
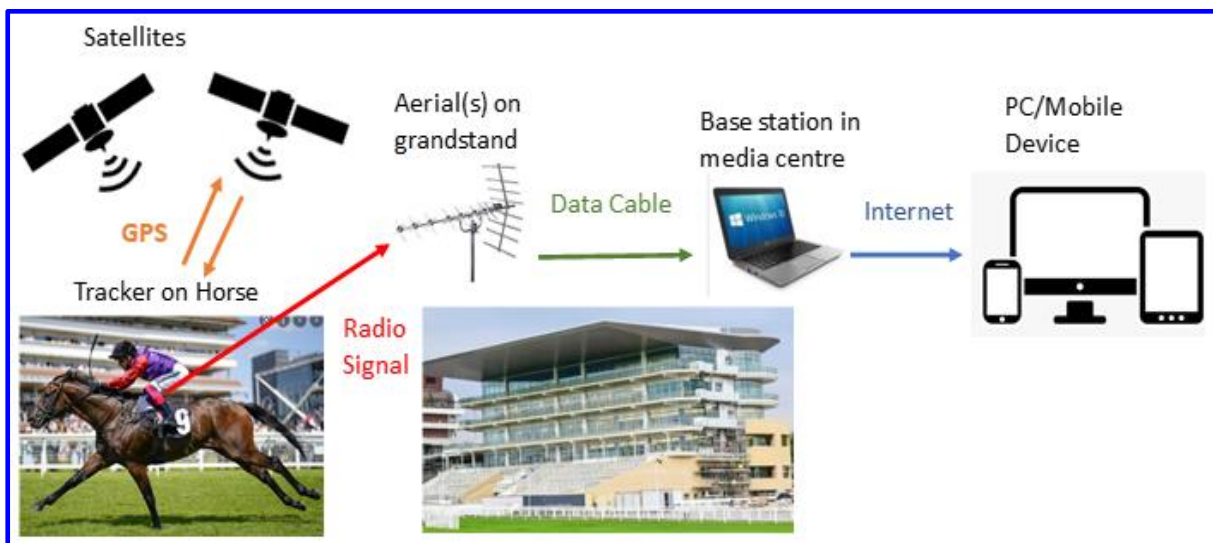


Live in-play data including speeds, positions and GPS co-ordinates are collected in real time, with trackers in the horse's saddle cloths, then transmitted to your chosen betting platform, via TPD servers, for you to bet and trade against.

Using the latest GNSS / GPS positioning technology, designed and developed in Cambridge, TPD's Race Pace positioning data, streams live, in race, real time positions within fractions of a second. Speed, stride length, distance and split time calculations are all transmitted while the race is in progress.

## GPS Data Accuracy

To provide a graphical representation and some context around data accuracy:

❖ 1 horse length is 167ms so an average error in the chart below (purple of 50ms) means there is an average positional error of a head.

❖ BUT, two errors of that size in opposite directions means an error of half a length. The error is random, each positional update is independent of the last.
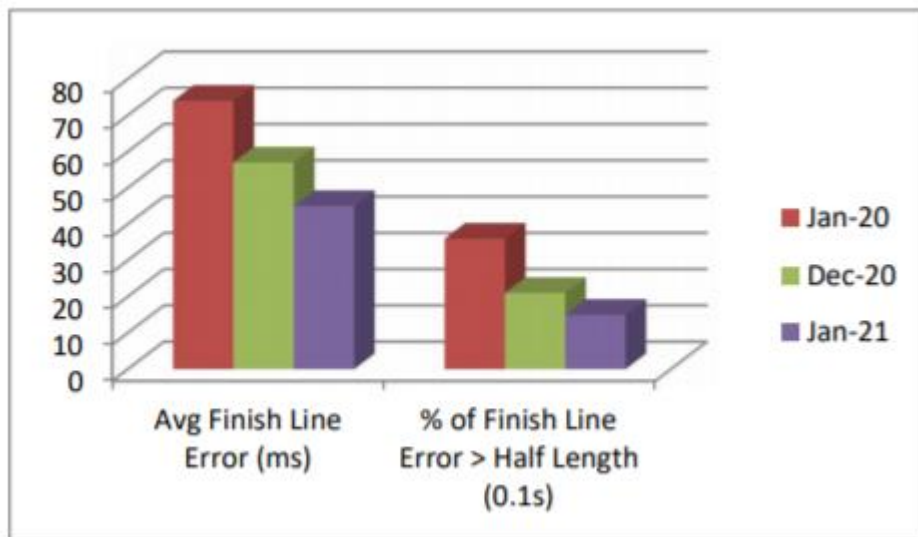


Whilst glitches do occasionally occur, we can report that 85% of the GPS tracked horses are reported to an accuracy of within 1m – the accuracy is often to within centimetres.

## Stride Data
### Overview

A brief explanation of why stride data is considered useful in evaluating a horse's performance;

❖ A horse's speed in getting from A to B is a product of its stride, which consists of stride length and stride frequency

❖ During each stride, the horse takes one breath.

❖ For each stride taken, metabolic energy is expended for both breathing and moving the limbs

❖ Horses, like humans, have a certain amount of energy to deploy, thus stride characteristics are a good indicator of the optimum racing distance for each horse.

❖ The best striding horses cover more ground than average striding horses per unit of effort.

### Stride Length

❖ Stride length is the distance travelled per stride.

❖ A horses limb length broadly correlates to stride length. The taller the horse, the longer the stride length (with exceptions such as Stradivarius).

❖ Long but infrequent strides defines the characteristics of long distance flat horses or jumpers.

❖ Stride length is heavily affected by both surface speed and course topography.

❖ Slower going and uphill sections will shorten a horse's stride, faster ground and downhill section will do the opposite.

### Stride Frequency (Cadence)

❖ Stride frequency, otherwise known as cadence, represents the number of strides (and therefore breaths) per second.

❖ Sprinters over 5f generally have a higher stride frequency than horses who run over 1 mile or further (with exceptions such as Kachy).

❖ To accelerate in races, elite horses tend to use both stride length and frequency in a linear fashion.

❖ Less talented horses use stride frequency over length to quicken but that comes at a higher metabolic cost, so they tire more quickly.

❖ The expected stride frequency decreases as the race distance increases.

❖ Note that some observers like to consider the average stride frequency over a whole race while others prefer to assess the peak.

It is highly recommended that you take a look at this link which provides a great insight to cadence from ATR's Andy Rowlands;
**Cadence Analysis**

## Par Times and Their Calculation

❖ Thousands of races enable TPD to calculate the expected speed second by second.

❖ Winners can win by running efficiently or by running less inefficiently than their competitors.

❖ Some horses will only win if pace suits their style of running as only exceptional horses can win when the pace doesn't suit their profile.

❖ Jockeys will try to set or follow the pace that best suits their horse on that day.

To quote the TPD CEO;
"Very few horses have the natural ability to allow them to win races regardless of how the race pace pans out.

Frankel, eventually, could win from the front the middle or the back of the field.

Elite thoroughbreds can accelerate 3 times in the race, good horses can do that twice and modest horses have a single burst of acceleration. So, watching the speeds relative to the par speed can help predict which horses will benefit from the pace on the race. Galloping (one paced) horses win from

races run at a very fast pace. Smaller (often) horses with a good turn of foot (acceleration) will be suited by race pace that is slower, below par, followed by a mad increase in the pace late on.

Conversely, if a sprint has taken place (above par) early in the race, this will negatively affect those horses who set or were closest to this (wasteful) pace. For chapter and verse on this fascinating area of race pace understanding, please consult the writings of Simon Rowlands."

**Tracks with TPD Live GPS Data**

| UK | US | France |
|---|---|---|
| Ascot | Aqueduct | Aix-Les-Bains |
| Bangor-on-Dee | Canterbury Park | Amiens |
| Bath | Colonial Downs | Angers |
| Brighton | Del Mar | Argentan |
| Chepstow | Golden Gate Fields | Auteuil |
| Chester | Gulfstream Park | Bordeaux Le Bouscat |
| Doncaster | Hoosier Park (will be available as soon as Betfair start listing the track on the Exchange) | Cagnes Sur Mer |
| Fakenham | Horseshoe Indianapolis | Chantilly |
| Fontwell Park | Kentucky Downs | Compiegne |
| Hereford | Laurel Park | Craon |
| Ffos Las | Lone Star Park | Clarefontaine |
| Hexham | Mahoning Valley | Dax |
| Lingfield Park | Monmouth Park | Deauville |
| Newcastle | Meadowlands | Dieppe |
| Newton Abbot | Oaklawn Park | La Teste De Buch |
| Plumpton | Pimlico | Le Croise-Laroche |
| Ripon | Sam Houston | Le Lion D'anger |
| Sedgefield | Santa Anita Park | Le Mans |
| Southwell | Tampa Bay Downs | les sables d'olonne |
| Uttoxeter | Woodbine | Lyon-La-Soie |
| Windsor | | Lyon-Parilly |
| Wolverhampton | | Marseille |
| Worcester | | Marseille-borely |
| Yarmouth | | Moulins |
| | | Nancy |
| | | Nantes |
| | | ParisLongchamp |
| | | Pau |
| | | Pornichet-La Baule |
| | | Sain-Cloud |
| | | Saint-Malo |
| | | Salon De Provence |
| | | Strasbourg |
| | | Tarbes |
| | | Toulouse |
| | | Vichy |

## French Racing

A few observations regarding French racing, which whilst still a 'work in progress', to all intents and purposes the available data is useable. However, due to a number of factors there is no pars data and consequently no VP, VE or CE metrics. This will obviously be resolved in the fullness of time, but external suppliers are involved so difficult to put an estimated date on this.

## TPD Zone Status Page

A status page is maintained in real time; **Status Page**

| TIME | VENUE | OK | JUMPS | PARS | STRIDE | LIVE | NOTES |
|------|-------|-----|-------|------|--------|------|-------|
| 29/11/22 11:40 | Lingfield Park | ✓ | | ✓ | ✓ | | |
| 29/11/22 12:05 | Deauville | ✓ | | ✗ | | | No Pars - Insufficient Data |
| 29/11/22 12:10 | Lingfield Park | ✓ | | ✓ | ✓ | | |
| 29/11/22 12:25 | Southwell | ✓ | ✓ | ✓ | ✓ | | |
| 29/11/22 12:45 | Lingfield Park | ✓ | | ✓ | ✓ | | |
| 29/11/22 12:50 | Deauville | ✓ | | ✗ | | | No Pars - Insufficient Data |
| 29/11/22 13:00 | Southwell | ✓ | ✓ | ✓ | ✓ | | |
| 29/11/22 13:20 | Lingfield Park | ✓ | | ✓ | ✓ | | |
| 29/11/22 13:25 | Deauville | ✓ | | ✗ | | | No Pars - Insufficient Data |
| 29/11/22 13:35 | Southwell | ✓ | ✓ | ✓ | ✓ | | |
| 29/11/22 13:50 | Lingfield Park | ✓ | | ✓ | ✓ | | |
| 29/11/22 14:00 | Deauville | ✓ | | ✗ | | | No Pars - Insufficient Data |
| 29/11/22 14:05 | Southwell | ✓ | | ✓ | ✓ | | |
| 29/11/22 14:20 | Lingfield Park | ✓ | | ✓ | ✓ | ✓ | |
| 29/11/22 14:35 | Southwell | ✓ | ✓ | ✓ | ✓ | | |
| 29/11/22 14:35 | Deauville | ✓ | | ✗ | | | No Pars - Insufficient Data |
| 29/11/22 14:45 | Wolverhampton | ✓ | | ✓ | ✓ | ✓ | |
| 29/11/22 14:50 | Lingfield Park | ✓ | | ✓ | ✓ | | |
| 29/11/22 15:05 | Southwell | ✓ | ✓ | ✓ | ✓ | | |
| 29/11/22 15:10 | Deauville | ✓ | | ✗ | | | No Pars - Insufficient Data |

## Glossary

Hovering your cursor over each column header will provide a description of the data within that column. A summary of such is as follows;

❖ **Time:** Race date and time in UK time zone.

❖ **Venue:** Course Name.

❖ **OK:** A green tick confirms that an Operator is in attendance at the course and ready to transmit data. A green clock indicates that an Operator is expected at the course but has not yet arrived. A red cross signifies that the race will not be tracked live.

❖ **Jumps:** A green tick confirms that the position of jumps is able to be listed. A green clock indicates that these are not yet available but are expected. A red cross denotes that jumps information will not be available for this particular race.

❖ **Pars:** A green tick confirms that pars for the race are available on the feed. A green clock highlights that pars are expected but not yet available. A red cross means that pars will not be available. It is emphasised that pars are based upon prior observations of that race distance,

class, surface and horses age at that track. Typically, when these are not available it is because we don't have sufficient past data from this specific type of race.

❖ **Stride:** A green tick indicates that stride data is expected for this race.
❖ **Live:** This is the status of the live feed, with a green tick indicating that data is flowing.
❖ **Notes:** Other useful information regarding the race.

## TPD Zone User Forums on the Telegram Platform

TPD Zone users can share strategies and ideas and generally chat to other Zone users in the TPD Zone Forum which is hosted on the Telegram platform;
**Telegram Forum**

Also on the Telegram platform there is a "TPD Zone News" Channel.
A Telegram Channel differs from a Telegram Group in that only posts from Administrators are allowed - i.e. no chat. It has been determined that this is the best way to convey important announcements which may get "lost" in this very active Forum.

Only important announcements are posted and whilst everything is replicated in the Telegram Forum it might be an idea to set a notification for the News Channel - that way you will not miss anything important.
**Telegram News Channel**

## Additional Support, Advice and Guidance

### YouTube Video Channel

You can find the TPD video channel here;
**TPD YouTube Channel**

Of particular interest may be the videos which describe the TPD metrics, and how to generate a profit, by the skilful interpretation of such.

The videos describe the metrics as they are presented within the Bet Mover web app. Bet Mover was the original platform by which TPD live data was made available to the general betting public. However an understanding of the tactics used within the videos can enable you to translate such into Gruss.

You may wish to consider hitting the "Subscribe" button so that you do not miss any future videos.

### TPD Zone Workshops and Webinars

A Workshop was held at Southwell racecourse, Monday 9th May 2022. The event was very well received and a second workshop is planned for early summer 2023. Keep an eye on our social media channels, or drop an email to **support@tpd.zone** to express your interest in reserving a place.

A very successful Webinar was held in the summer of 2002, in which the TPD Zone data metrics were described and demonstrated in live markets, with questions being encouraged and answered throughout the session.

A recording of the whole webinar can be found here; **Webinar Recording**

# TPD Live GPS Data and Gruss Betting Assistant

The recording is of 1h 10m duration.
Should you wish to view the pertinent bits of the webinar in byte sized chunks then the following links will be of interest;

**Webinar - Detailed Explanation of VE VF and CE Metrics 3m 34s**
Nigel (Bet Mover creator and TPD Lead Developer) explains in some detail the Velocity Frequency (VF), Velocity Error (VE) and Cadence Error (CE) metrics.
**Efficiency Metrics**

**Webinar - How to Profit from a 2m Jumps Race 6m 21s**
Nigel demonstrates how to use Bet Mover and the Velocity Frequency and Velocity Efficiency ratings to lay horses, at the front of the market, but which have a very good chance of NOT getting home first.
**Profiting from a Jumps Race**

**Webinar - How to Profit from a Flat Race 2m 10s**
Nigel demonstrates how to use Bet Mover and the Cadence Error rating to lay a horse, towards the front of the market, but which has a very good chance of NOT getting home first.
**Profiting from a Flat Race**

There is no need to join Vimeo if you do not wish to do so. You may be invited to do so but just click the 'X' on the invite pop-up and you will be good to go.

The above are focussed on Bet Mover, however they may be of interest to you, even if you are consuming the data via Gruss, as the exact same metrics are available, around which you can construct strategies and even automate such via the Excel interface.

**FAQs**
TPD have a web page dedicated to FAQs; **Frequently Asked Questions**

Of particular interest to a lot of users is the accuracy of the GPS data and there are a number of questions in the FAQs dedicated to such.

**Contacting Support**
There is a dedicated email address via which support can be contacted; **support@tpd.zone**
Customer Support aim to answer emails within 24 hours, during week days, with a response being provided to the vast majority of queries very much sooner.

## Terms and Conditions
The TPD Zone terms and conditions can be found here; **T.s & C.s**
Please note that by purchasing a licence key and consuming the live GPS data you are accepting and undertaking to abide by the terms and conditions.