



INTERNATIONAL TRENDS

Optimising performance with IoT

IoT has revolutionised many of our smart devices, and is also driving exciting developments in the equestrian world, writes **JESSICA MORTON**.

Internet of Things technologies (IoT) are already widely used to improve the care and health of our horses, and their success has led to the creation of innovative devices with the potential to revolutionise equine training.

Thanks to advanced analytics and wearable sensors, trainers and owners can now collect and process vast amounts of data to obtain real-time metrics on their horse's athletic efficiency

and performance, helping them to develop improved exercise and training programs. The Alogo Move Pro is one of many exciting IoT technologies able to analyse a horse's athletic behavior by measuring and tracking various aspects of their training and health.

The back story

Specially created and developed by a team of Swiss riders and engineers, the Move Pro is an innovative wearable

sensor with an integrated GPS that can either be attached directly to your horse's girth with the holder provided or used with a specially designed girth. Without distracting either you or your horse, the sensor detects every unique movement in a 3D environment with an accuracy of four centimetres.

No longer do you need to invest in expensive cameras and mirrors to evaluate a horse's form, nor is it necessary to have a trainer physically present, since they are able to remotely evaluate performance data in real-time.

Information collected can reveal subtle changes in a horse's performance, possibly from injury, changes in feed, or external stressors that may previously have gone unnoticed due to a lack of quantifiable data. The sensor can even be used to analyse how a new saddle affects a horse's stride and behaviour, a feature Swiss saddler Peter Menet, CEO of Amerigo Saddles, finds invaluable when fitting horses and riders with his saddles.

IoT technology represents a real opportunity for coaches and riders to optimise a horse's training strategy and general wellbeing through micro-electromechanical advancements.

Designed by riders for riders

The sensor is the brainchild of David Deillon, a former professional show jumper who created the device with the help of a team of equestrian professionals. Deillon founded Alogo Analysis, a start-up specialising in high-tech motion analysis, in 2016 after noticing that equestrian sports lagged behind other disciplines when it came to collecting reliable, precise statistics and performance related data.

The start-up first released Alogo Live, which gathers real-time statistics from equestrian sporting events, followed by their latest offering, the Move Pro.

With more than 36 functions recorded and interpreted in real-time, the Move Pro sensor allows riders to analyse the trajectory of their jumping course, as well as the exact GPS track of their last training session.

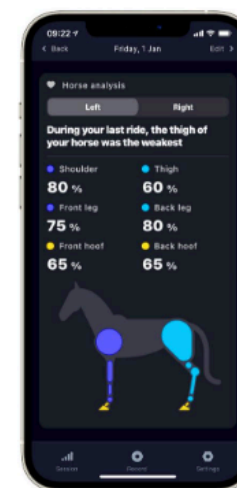
Driven by AI algorithms, machine learning and proprietary hardware normally found in the aeronautics industries, the sensors have a built-in GPS chip able to be used with or without a smartphone to record sessions. Data from each session is delivered in real-time via Bluetooth to a smart device where it is processed to provide invaluable feedback. Training data collected includes:

- Distance covered
- Duration of workout and energy consumption
- Time spent working at each pace
- Rhythm and speed
- Number of obstacles jumped

Additional data includes a 3D trajectory analysing the number of strides taken between each jump, information invaluable for improving both the speed and accuracy of each round.

Optimising athletic performance

Monitoring a horse's performance during a workout helps track their progress over time and assists with achieving long term goals. Insights such as the



rider's lateral balance, and the horse's straightness on take-off and landing, along with length of stride, the height and angle of the jump, and strike power can help identify any anomalies that need improvement.

Specific patterns that might suggest injury or disease can also be extracted from the data, giving owners and trainers an early diagnostic warning and potentially preventing issues from worsening.

Through IoT enabled devices like the Move Pro, equestrians are now able to prepare for competition faster and more efficiently. Data that would have otherwise been lost can now be analysed instantly. Real-time collection puts concrete numbers in the hands of riders and trainers, giving them the opportunity to make welfare-critical decisions instantly if the horse demonstrates abnormalities in their data. For example, thanks to the unique data collected and the accuracy of Alogo's revolutionary algorithm, Move Pro will warn the rider when an irregularity in their horse's movement occurs.

Scientifically validated by the Department of Equine Sports Medicine in Zürich, the innovative technology of the Move Pro is ground-breaking. From shaping workout strategy to analysing possible injuries, this technology is ushering in the next frontier of data-driven insights for equestrians.

FACING PAGE: The Alogo Move Pro is an innovative wearable sensor with integrated GPS.

TOP: The Move Pro will detect and warn the rider if there's an irregularity in their horse's movement.

BELOW: Data from each session is delivered in real-time via Bluetooth to a smart device.

