

Additional Endurance Certification

Criteria / Specifications

Endurance Timing Systems, Electronic Vet Gate Systems, Tracking Systems & Heart Rate Monitoring



**FÉDÉRATION
ÉQUESTRE
INTERNATIONALE**

This document describes the FEI requirements for the approval of:

- Electronic Endurance Timing and Vet Gate Systems
- Athlete and Horse Tracking Systems
- Electronic Horse Heart Rate Monitoring Systems

I. Endurance Infrastructure

1. Timing System

The company must use a professionally manufactured timing system together with timing chips and timing gates at the different timing points.

List of timing points:

- Departure
- Loop finish line(s)/Entrance of the cooling area(s)
- Exit of the cooling area(s)/Entrance of the Vet Gate area(s)
- Exit of the Vet Gate area(s)/Entrance of the rest/holding area(s)
- Loop start line(s)
- Finish line (for the last loop) – including “Photo finish” equipment
- Intermediate timing on loop (if requested by the FEI)

The timing chips must be securely fixed on the horse making sure the horse cannot be hurt by the equipment.

Timing chips must be sealed to prevent any opening of the chip or inappropriate usage.

On request, all the timing information must be provided to the FEI in a standard format approved by the FEI.

At the discretion of the FEI, the FEI can request that a timing system go through the approval process according to the steps described in the section II (Approval Process).

Elements that would be evaluated:

- Timing equipment specificities
- Timing chips
- Mounting and sealing of timing chips
- Timing gates for loop arrival(s) and departure(s)

2. Electronic Vet Gate System

The Vet Gate system is a core element to ensure a smooth competition and provide all the information to the Athletes, Grooms and the Officials.

Various equipment is required in the Vet Gate to ensure the delivery of an Electronic Vet Gate System, this includes:

- Screen(s) for line allocation
- Screens for heart rate display
- Tablet or laptop for electronic Vet Cards

All these elements should be potentially connected by cable allowing the use of no Wi-Fi or other wireless technology between these components.

a) Electronic Vet Card principles

All the Vet inspection information (pre-ride, after each loop and final inspection) must be recorded electronically for all Horses using an electronic Vet Card. The information must be captured via a computer, tablet or smartphone or any other appropriate device and stored in a central secure location.

On request, all the Vet Card information must be provided to the FEI in a standard format defined by the FEI.

In addition, a paper Vet Card must always be used as a backup to the electronic Vet Card for each Horse inspection.

The Vet Gate system should allow the printing of labels/paper/reports with the summary of the vet gate information, as well as relevant timing information such as restart time related to a given combination.

b) Automatic allocation of Vet Lines

The electronic Vet Card system must include an automated system to assign Horses to Vet Inspection lines. The system must include a display(s) to call the Athlete's bib number to an attributed line automatically.

The system should be able to manage a countdown for the presentation of the Horse to the Vet line, with the management of time penalties in case of late presentation.

The system must ensure a random attribution of the Vet line and should prevent that the same Horse presents several times to the same line (meaning presented to the same Vet).

In addition, the system must allow for the closure of a Vet line at any time and must ensure that, when requested, a Horse is not presented to a Vet line where the Vet is from the same country as the Athlete riding that Horse for the final inspection.

Elements that would be evaluated:

- Vet gate timing system
- Vet gate operators
- Electronic Vet Card system
- Call to the Vet line system
- Display on screen/big screen of the call to the line and heart rate information
- Stickers/papers/reports with summary information per Combination
- Backup paper Vet Card

3. Loop Arrival and Departure

An appropriate timing system should be setup at the loop arrival and loop departure, as well as at the in-gate of the Vet Gate. Together with these timing systems, screens should be available at the in-gate to display the countdown of the combination's presentation time and the countdown for the re-inspection time. A screen should also be at the departure to display the countdown for departure.

The screen located at departure should be big enough to be visible for Athletes mounted as well as for the Officials in charge of loop departure.

Elements that would be evaluated:

- Loop arrival control
- Loop departure control
- Departure time screen(s)
- In-gate countdown screen(s)

4. GPS Tracking System

a) GPS trackers on Athletes

Athletes should wear a GPS tracker; this tracker is used for security purposes only.

The tracker battery life should be at least 15 hours.

The GPS tracker must be securely fixed to the Athlete making sure it's not interfering with the Athlete's movement.

The GPS tracker must be a sealed equipment without any on/off switch available. We recommend that each tracker device includes an emergency button for the Athlete to use in a situation of distress.

This tracking information may only be used by the FEI Officials and Organising Committee of the Event as well as the Emergency Services where necessary.

b) GPS trackers on Horses

Horses should be equipped with a GPS tracker, this tracker is used to follow the Athlete and Horse combination on the different map outputs such as web, app, big screen and TV.

The tracker battery life should be at least 15 hours.

The GPS tracker must be securely fixed to the Horse making sure the equipment cannot hurt the Horse.

The GPS tracker must be a sealed equipment without any on/off switch available.

c) GPS Tracking infrastructure

FEI Officials should be able to access the GPS tracking data of both Athletes and Horses at any time and to review the history of all the previous positions from the beginning of each competition.

The timing system should be equipped with a feature to alert an operator if the combination of an Athlete and a Horse tracker are separated for more than 10 meters on a loop.

The GPS tracking data should be integrated into the overall time keeping and scoring system, ensuring any cross usage of the information and allowing the sharing of consolidated information for the use on the web/app, or in a data file (i.e. for TV Broadcast purposes).

Elements that would be evaluated:

- GPS tracker specificities
- GPS tracker sealing system
- GPS tracker mounting on Horses
- GPS tracker mounting on Athletes
- GPS tracking for Officials
- GPS tracking online/website
- GPS tracking for TV

5. Heart Rate Monitoring

The electronic heart rate monitoring system must measure heart rate as specified in the FEI Endurance Regulations currently applicable.

Electronic heart rate monitoring equipment can be wired or wireless equipment and must match the following requirements:

- Display the measured heart rate on the device itself, being easily readable by the Vet

- Display the measured heart rate on a LCD/LED display visible for all accompanying the Horse at the inspection and for the FEI Officials and Vets at the Vet gate
- Provide the measured heart rate to the central timing and scoring system to allow the broadcast of the heart rate on the different outputs used (scoreboard, big screen on site, TV, web, app).

Elements that would be evaluated:

- Heart Rate monitoring system specificities
- Heart Rate monitoring device connection technology and security
- Heart Rate displays for each vet inspection line
- Test of the heart rate device*

**Not applicable yet: The heart rate monitoring devices must be approved by the FEI, according to the approval process described in the section "Approval Process".*

II. TV Production and Broadcast

The system should be able to export in real time scoring, timing, vet gate and GPS data through a same source, to a third party in charge of producing TV content such as broadcast or streaming.

Elements that would be evaluated:

- Solution to provide live data
- Details of the data available
- Technology to make the data available
- Integration with the company providing TV graphics

III. Approval Process

1. Overall system evaluation (compulsory evaluation)

The overall system will be evaluated by the FEI at a FEI Endurance Event where the whole system is installed and operated.

The appropriate event chosen for approval will be mutually agreed on by the FEI and the applicant.

In addition to the standard approval fee described on the "Additional Endurance Certifications" page, the applicant will have to cover the cost of travel, accommodation and meals for one or two evaluators based on FEI Travel policies.

Following the visit and approval process, the FEI will provide the evaluation results within two weeks.

2. Heart rate monitoring system evaluation (compulsory evaluation) (Not applicable yet)

The heart rate monitoring devices will be approved by an independent laboratory chosen by the FEI.

The applicant must send two (or more) timing device equipment to the FEI together with a user guide clearly describing how the devices work and how to use them.

The cost for sending back and forth the equipment as well as the administrative cost for approval shall be borne by the applicant.

3. Data Protection

By submitting an application, the applicant confirms that it will comply with the relevant data protection legislation and shall at all times take all appropriate technical, operational, managerial, physical, organisational measures in accordance with prevailing practices of care, skill, professionalism and diligence to safeguard against unauthorised or unlawful processing of personal data and against any unauthorised or unlawful accidental loss, destruction of, or damage to, personal data and ensure the security of such personal data.

The applicant shall inform the FEI promptly and in any event within 48 hours if at any time there is a breach or suspected breach of this clause, or any personal data is or is suspected to be lost, corrupted, used or disclosed to a third party without the agreement of the FEI.

IV. Success and failure

In case of success in both the overall system evaluation and the Heart Rate monitoring system, the applicant will be granted with the title of (not available yet) "*FEI Certified Electronic Heart Rate Monitoring System*" and "*FEI Certified Endurance Timing System, Electronic Vet Gate & Tracking System*".

In case of failure in any of the evaluations, the applicant can resubmit an application according to the process set out in the "Terms & Conditions".