SPORTident EWS Timing Guide

Prepared for the Enduro World Series 2017.
Last updated February 27, 2017.

Table of Contents

1. Introduction

SPORTident provides the timing hardware and timing service for all Enduro World Series 2017 (EWS) races. SPORTident collaborates closely with the organisers of each race during the preparation and execution of the race. For a successful event, close and detailed coordination between organisers, the staff on-site and SPORTident is necessary.

This document gives a brief overview of the SPORTident timing hardware, outlines the race setup and procedures (where related to timing), and lists the equipment and concrete services provided by SPORTident and what support and requirements have to be provided by the organiser. The goal of the document is to establish a shared understanding of timing at EWS and being as detailed as possible without being specific to any one location or organiser.

2. Hardware

SPORTident AIR+ is used at the EWS. The main components are the SPORTident Active Card (SIAC) and the SPORTident stations (BS11-BL, BS11-BS, BSF7). SIACs are carried by each rider and record the rider's times as he passes SPORTident stations. Timing is contactless which means that it is sufficient for the rider to pass within the proximity of a SPORTident station to record a time to his SIACs. Consequently, the main distinguishing characteristics of the different SPORTident stations are their proximity range, listed in the table below. Finally, mobile connectivity for live results is provided by the SPORTident Connector. All SPORTident hardware is battery-powered, easy to set up and use and fits in a standard backpack.

Each rider carries two SIACs, one on each wrist, where the second SIAC provides backup in case of loss or a crash. The SIACs will be handed over to the riders before the start of the race by SPORTident staff.

SIAC

BS11-BS

BS11-BL

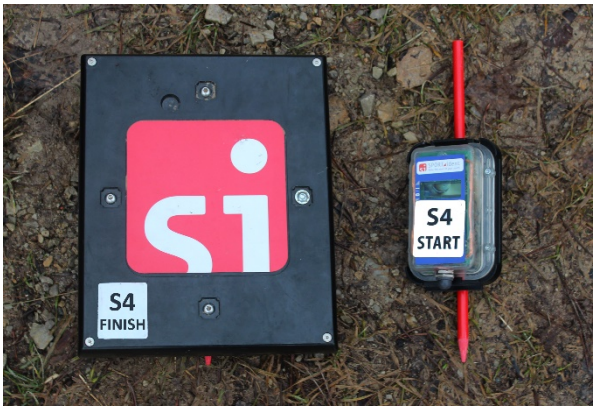
Connector

BSF7

Unit	Timing locations	Proximity range	Weight
BSF7	Stage Check-In	0.3m	150g
BSF11-BS	Stage Start, Transmission Point	1.8m	150g
BS11-BL	Stage Finish	3.5m	950g
Connector	Stage Check-In, Transmission Point	-	1.5kg

Marshals will be trained by SPORTident to activate, deactivate, and test the timing units one day before the first race day. In non-English speaking countries, the timing coordinator has to translate if needed.

All units will be handed over with a mounting plate and a 20cm fiberglass pole to fix with a cable tie to a non-metal pole in the height of the bike's handlebar. The timing unit needs to be positioned with the front of the unit parallel to the trail and on the right-hand side of the trail.



Timing stations labelled for Stage 4


Mounting plate and fiberglass pole

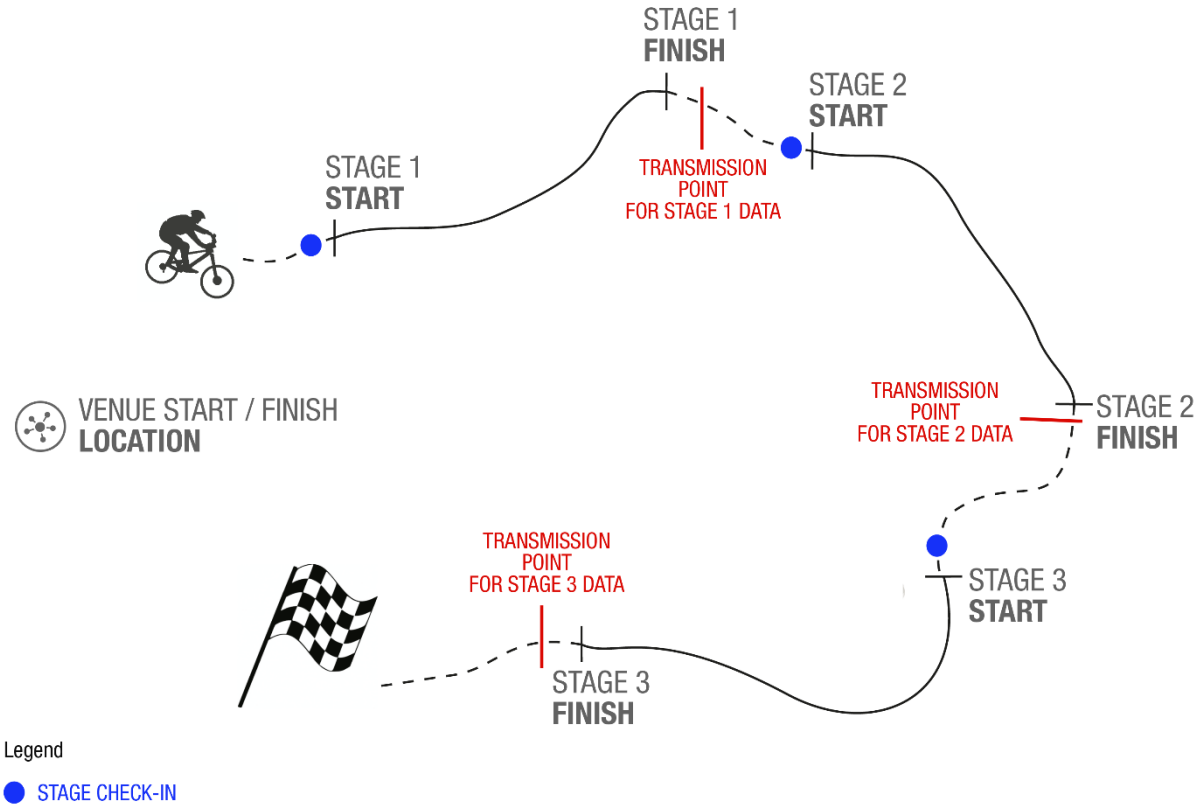
3. Timing Office

As the central timing and race bureau, SPORTident will use the Timing Office for monitoring the timing system, preparing equipment and creating results.

Requirements:

- Dedicated area/room/tent, lights for working at night time
- 4 tables (= space for one computer each) with chairs
- Room or area must be possible to lock or must be secured by security personnel
- If locked, SPORTident needs a separate key to lock/unlock at any time
- Dedicated (24/7) 230V AC / 16A power supply
- Dedicated (24/7) internet connection (at least 12 Mbps down, 2 Mbps up), via Wi-Fi or cabled (if required, a router should be supplied, no data volume limitation, no firewall filtering or proxy server)
- Dedicated office laser printer with USB or Ethernet connection with at least 500 sheets of DIN A4 office paper for start lists, result lists

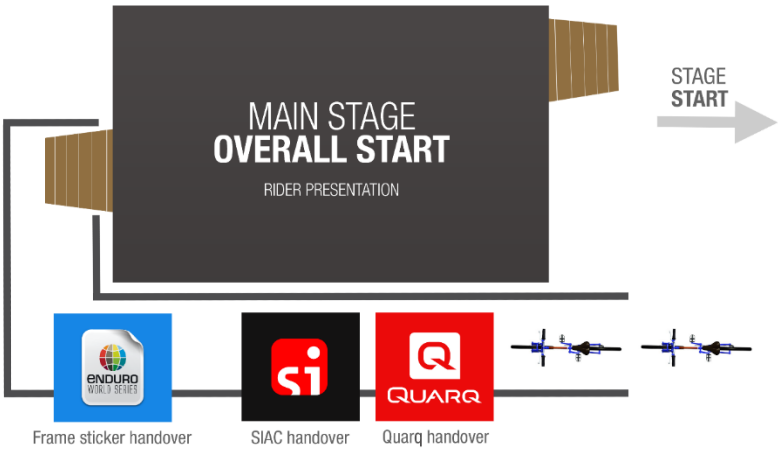
4. Timing Locations



a. Venue Start Location

Riders check in for the race day to get their SIACs handed out. For a two-day race, riders keep their SIACs after the first day and will check in on the second day to get their SIACs checked and activated. The venue pre-start is located right before the starting stage and collocated with Quarq GPS tracker and frame sticker hand-out.

SPORTident provides software and a laptop for a start clock shown on a big screen for the starting area.



Requirements for the venue pre-start:

- Table to place equipment and laptop
- Weather protected by tent or comparable
- Power supply 230V AC / 16A for 3 devices
- 1 Gbit Ethernet cable connection from this laptop to the race office, dedicated network

Requirements for start clock at the venue start:

- Some space for a laptop to put, should be protected from weather, sun, and stepping on it
- Power supply 230V AC / 16A for laptop
  1 Gbit Ethernet cable connection from this laptop to the race office, dedicated network
  Large TV, size depends on needs and availability, SPORTident recommends 47" or larger
  VGA or HDMI port on TV to connect laptop

b. Stage Check-In

The start check-in unit BSF7 is a SPORTident station with a range of 30cm. Riders check in to record their time of arrival at the stage start so that delays in the start procedure will not lead to rider penalties. The rider has to bring one SIAC (attached to the wrist with an elastic band) to within the range of the station. The SIAC gives an optical and acoustic feedback on receiving the time record.

A SPORTident Connector is mounted on the same pole as the SPORTident station. Both need to be mounted and then activated by a marshal with a service chip. The marshals will be trained and instructed by SPORTident prior to the race.

The SPORTident Connector automatically receives and transmits a rider's previous time records when the rider checks in with the SPORTident station.

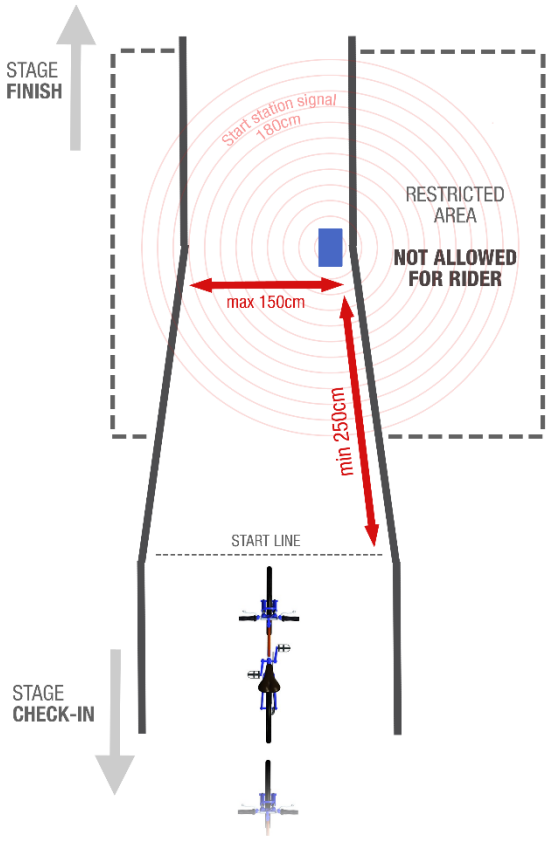
SPORTident provides	Organiser provides
SI station (BSF7) with mounting holder and 20cm fiberglass pole SI Connector with 20cm fiberglass pole Sign "Check-In" with 20cm fiberglass pole	Pole to mount SI station and Connector (not metal) Cable ties

c. Stage Start

SPORTident timing equipment works as a flying start. The visible start line where the riders are positioned needs to be placed at least 2.50m in front of the SPORTident start unit BS11-BS (blue box in the picture). This device creates a spherical field with a radius of 1.80m. The marshals need to ensure that no rider can enter this restricted area by accident.

If a rider enters the station's field (restricted area) accidentally, he will obtain an incorrect start time. If that happens, the rider needs to wait at least one minute before proceeding with his proper start. Marshals need to report such an incident to the timing coordinator who in turn reports it to SPORTident.

The start corridor where riders cross the BS11-BS timing unit must not be wider than 1.50m.

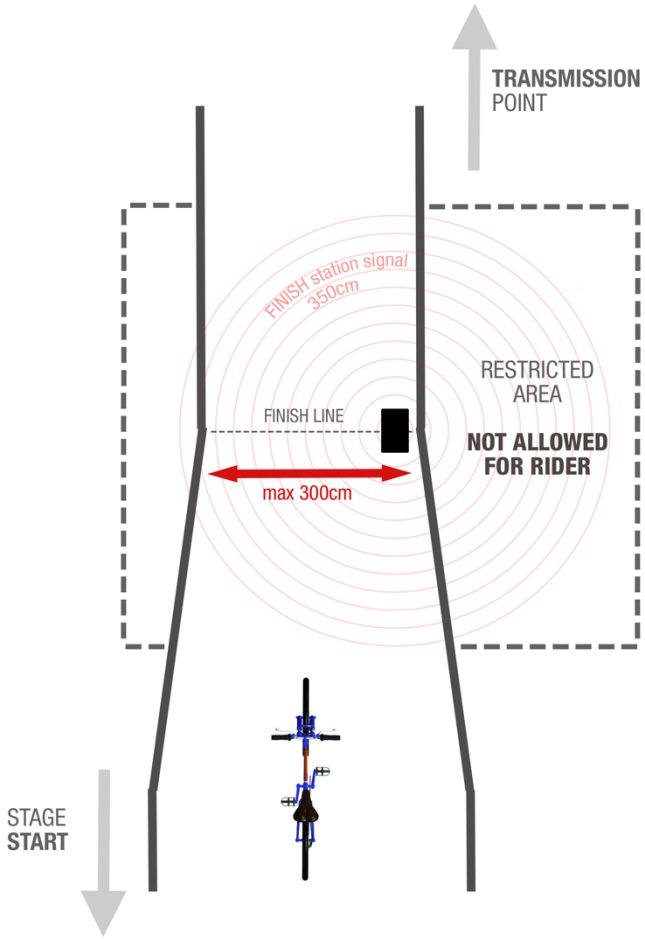


SPORTident provides	Organiser provides
SI station (BS11-BS) with mounting holder and 20cm fiberglass pole 13" tablet with start clock app Sign "Stage Start" with 20cm fiberglass pole	Poles to mount SI station (not metal) and tablet Poles and tape to mark the starting area and restricted area Cable ties

d. Stage Finish

The SPORTident unit BS11-BL (black box in the picture) needs to be placed directly on the finish line with a maximum corridor width of 3.00m. This device creates a spherical field with a radius of 3.50m. The maximum passing speed of the unit is 60 km/h.

After a rider crosses the finish line he must not be able to re-enter the restricted area. The marshal has the responsibility to secure this area. If a rider re-enters this area, he will obtain a second finish time. Marshals need to report such an incident to the timing coordinator who in turn reports it to SPORTident.

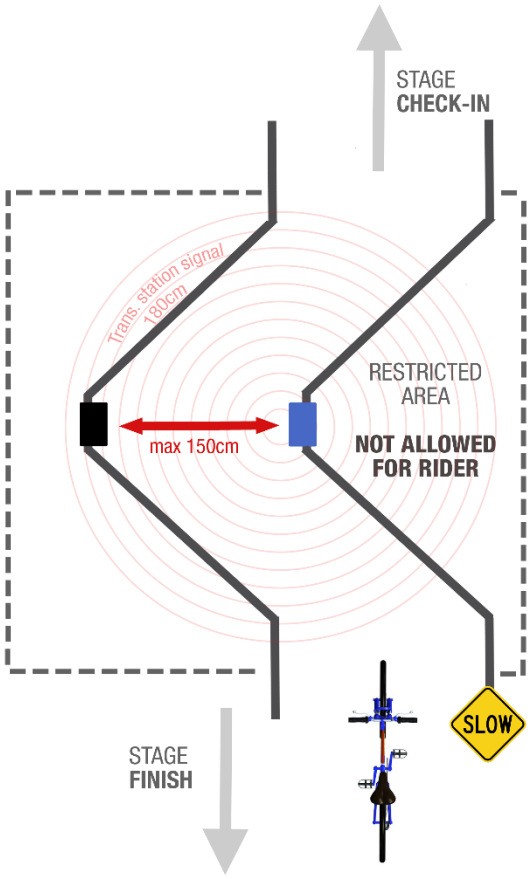


SPORTident provides	Organiser provides
SI station (BS11-BL) with 20cm fiberglass pole Sign “Stage Finish” with 20cm fiberglass pole	Poles to mount SI station (not metal) Poles and tape to mark the finishing area and restricted area Cable ties

e. Transmission Point

At the transmission point, timing records from the stages are uploaded to the internet. The transmission point's BS11-BS (blue box in the picture) and Connector (black box in the picture) must be positioned at least 10m after the stage finish. If there is no mobile coverage close to the stage finish then the transmission point must be placed at an appropriate location before the next stage where 2G, 3G, or 4G is available.

It is important that the passing rider is slowed down by the marshal at the transmission point to guarantee proper data transmission. The rider does not need to stop. As indicated in the drawing, the transmission point must be taped like an S-curve.



SPORTident provides	Organiser provides
SI station (BS11-BS) with mounting holder and 20cm fiberglass pole SI Connector with 20cm fiberglass pole Sign "Slow" with 20cm fiberglass pole	Poles to mount SI station and Connector (not metal) Poles and tape to mark transmission point and the restricted area Cable ties

f. Venue Finish Location

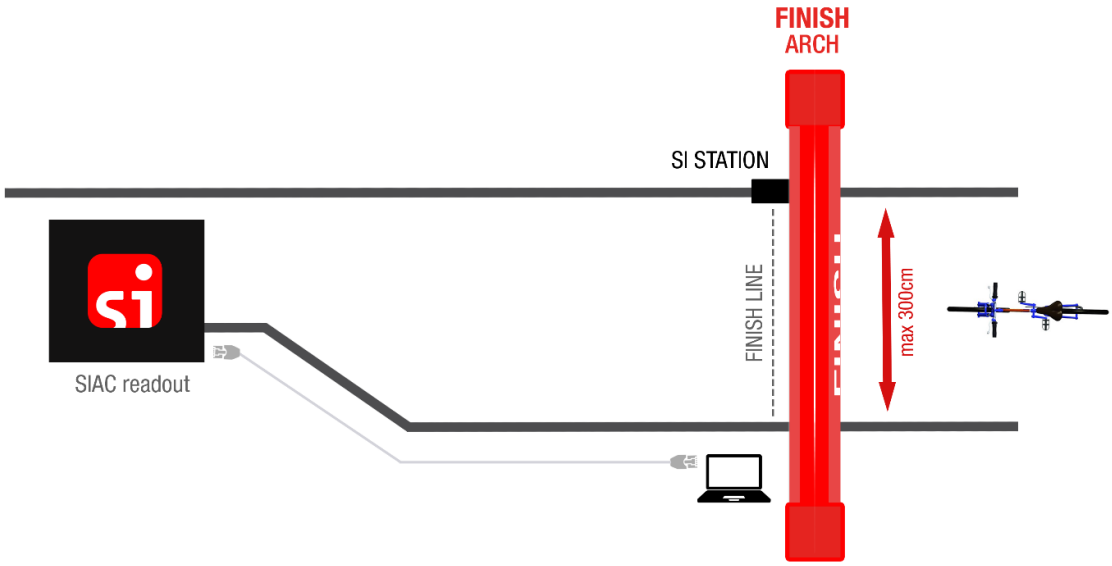
We distinguish between two different types of overall event finishes. In the first case, the last stage of the race day ends directly in the event venue like, for example, in La Thuile 2016. In the second case, the last stage of the race day will not end in the event venue like, for example, in Finale Ligure 2016 and the riders have to do a transfer after the last stage into the event venue. In both cases, the riders' SIACs are read out as the riders arrive back at the venue. Here, the SIACs are also collected from the riders at the last day of a multi-day race.

Requirements for the SIAC readout:

- Table to place equipment and laptop
- Weather protected by tent or comparable
- Power supply 230V AC / 16A for 3 devices
- 1 Gbit Ethernet cable connection from this laptop to the race office, dedicated network

Last stage ends at the venue

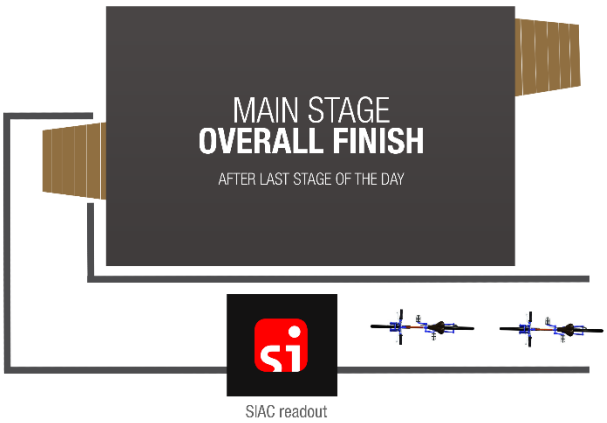
If the race day ends with the last stage directly into the venue, the setup of the finish is like a normal stage finish with a maximum corridor width of 3.00m. At least 10m after the finish line the organiser has to set up a tent where SPORTident staff will read out the data of the SIACs. Directly next to the finish arch SPORTident needs a water secured case for a laptop that reads the SIAC data of the last stage on the fly for live results. The laptop needs a power outlet and a cabled network connection to the SIAC readout tent.



Example: Enduro World Series La Thuile 2016: 3.00m corridor on the finish line

Last stage does not end at the venue

If the last stage of the race day does not end at the event venue and the riders need to do a transfer back, then another transmission point is required after this last stage. Additionally, all riders need to come back to the SIAC readout tent to make sure that all data records from the course are obtained.



The SIAC readout should be next to the main stage. Most likely, the tent and setup for the venue pre-start can be reused for the SIAC readout. Each rider's result is announced as he climbs up the main stage with individual race time and position automatically appearing on the commentary screens.

Commentary

SPORTident provides one laptop for the speaker, displaying live race results and information about arriving riders. Typically, the location of the speaker would be after the finish arch or on the main stage.

In addition, a minimum of one large TV screen is used to display live results for riders and the audience. Possibly, the venue start clock screen can be reused.

Requirements for commentary:

- Some space for a laptop to put, should be protected from weather, sun, and stepping on it
- Power supply 230V AC / 16A for laptop
- 1 Gbit Ethernet cable connection from this laptop to the race office, dedicated network

Requirements for each live results screen location:

- Some space for a laptop to put, should be protected from weather, sun, and stepping on it
- Power supply 230V AC / 16A for laptop
- 1 Gbit Ethernet cable connection from this laptop to the race office, dedicated network
- One or more large TVs, size depends on needs and availability, SPORTident recommends 47" or larger
- VGA or HDMI port on TVs to connect laptop

5. Staff

a. SPORTident

SPORTident will be present with three operators during the whole race weekend. The operators have the following responsibilities:

- Hand-out of the SIACs to the riders on the race days
- Readout of the SIACs at the overall finish
- Print-out of start time stickers, start lists and result lists
- Administration of the timing units
- Train the gate directors and marshals who are responsible to set up the timing units
- Evaluation of the results during and after the race

- Administration of live results (includes web service, commentary monitor, and live results screen)
- Direct contact to national bike federations (e.g. UCI directors)

b. Organiser

Timing Coordinator

The Timing Coordinator is one dedicated person to help at any relevant timing position or task. He must be available at all times and ideally should be familiar with SPORTident equipment. The coordinator has the following responsibilities:

- Communicator between timing team and marshals during the race
- Translator (in non-English speaking countries)
- Correct setup of the start and finish corridors
- Organise required equipment, cables, networking, problem solving at venue

Timing Marshals

Each stage is operated by at least three marshals and each transition point by at least one. SPORTident suggests two persons at stage check-in and stage start, one person at the stage finish, and one person at each transition point. These operators have the following responsibilities:

Stage Check-In (one marshal only to mount the units)

- Mounting and unmounting of the stage check-in unit (BSF7) and modem (Connector)
- Activation and testing of the units
- Controls the correct handling during the race
- Deactivation of the units after the stage is closed

Stage Start (two marshals)

- Mounting and unmounting of the start unit (BS11-BS) and tablet start clock
- Activation and testing of the start unit and tablet
- Secure restricted areas
- Sorting of the riders before the start
- Doing the starting procedure of all riders with start list and start clock
- Deactivation of the units after the stage is closed

Stage Finish (one marshal)

- Mounting and unmounting of the finish unit (BS11-BL)
- Activation and testing of the finish unit
- Secure restricted areas
- Deactivation of the unit after the stage is closed

Transmission Point (one marshal)

Mounting and unmounting of the transmission unit (BS11-BS) and modem (Connector)

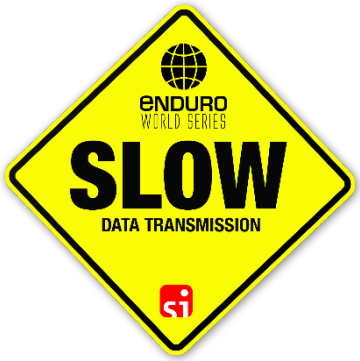
- Activation and testing of the units
- Secure restricted areas
- Slow down the riders
- Deactivation of the units after the last rider passed

6. Signs


ENDURO
WORLD SERIES
CHECK-IN


ENDURO
WORLD SERIES
START
STAGE 1


ENDURO
WORLD SERIES
FINISH
STAGE 1


ENDURO
WORLD SERIES
SLOW
DATA TRANSMISSION


ENDURO
WORLD SERIES
READOUT
GET YOUR RESULTS