**Proposal for the FIE’s Grand Prix Series, Senior World Championships for in-venue displays, results, video arbitrage & live streaming service, TV Graphics System**

**Introduction**

* The FIE opens a tender to select a supplier of the services for in-venue displays, results, video arbitrage & live streaming service, TV Graphics System. The supplier will be selected for a minimum of two seasons for the services at nine Grand Prix events and one World Championship per season.

**Tender opening date: 20 October 2021**

**Tender closing date: 30 November 2021**

**Tender committee:**

|  |  |
| --- | --- |
| Tsukhlo Evgeny | FIE Sports and Technical Director |
| Krasnokoutskaya Svetlana | FIE CMTV Department |
| Gestsson Gudjon Ingi | FIE SEMI Commission |
| Muller Tristan | FIE Technical expert |

**The tender committee will consider the following criteria in assessing the offers:**

1. The quality of the services provided (technology, software graphics production).
2. The equipment to be used for the events (quality, performance).
3. The headcount and qualifications of the workforce involved.
4. The costs breakdown of the services as well as total offer.
5. Experience in servicing fencing events.
6. References from other clients.

Proposals must contain full information in accordance with the criteria mentioned above. Proposals must be sent no later midnight (Lausanne time) on 30 November 2021 to the next recipient: [**evgeny.tsoukhlo@fie.ch**](mailto:evgeny.tsoukhlo@fie.ch)

The Tender committee will review the offers received and will provide the FIE Executive Committee with a detailed assessment and recommendations. The final decision will be made by the Executive Committee 15 days after all the information has been submitted to the executive committee.

**The following services are needed for FIE Grand Prix Series and Senior World Championships (based on the calendar FIE 2021-2024):**

* TV Production and TV Graphics
* In-Venue Displays
* Results Service, Live Results
* Video Arbitrage
* Video Live Streaming of T64-Finals Session / WCHT32- Finals Session

**Requirements for TV (Graphics System)**

For consistency of the services, it is recommended to have a core team working at each event. The core team can be reinforced by additional staff as well as by the local team on the ground if necessary.

* TV Graphics System to produce online TV graphics for the Grand Prix Series & World Championships
* TV Graphics (English***)***
* Cameras x 5
* EVS (slow motion capture)
* Graphics
* Audio
* Commentary
* Satellite and Distribution
* FIE social media
* Olympic Channel
* Other broadcasters
* Local Partner

# **In-Venue displays**

*According to the FIE Handbooks this expense is shared between Local Organizing Committee (LOC) and the Service provider company (the handbook of regulations is available for each event at FIE web site). The current event scenario includes In-venue displays (Quadrant screens) as part of the tech supplier’s scope of services.*

*Nowadays the technology has progressed, and the display of the results on the screens is to be managed and provided by the competition software service providers.*

**TV LED** – Suspended above each piste **(Example)**



Quadrant Screens/public scoreboards are required only for World Championships.

**Example**: Tree Scoreboards – Suspended at the end of each piste



* Live Results
* Scoring system integration
* Live online results
* FIE Grand Prix: FIE GP - max 55” (8 pistes) T64
* WCH: 55” (add 4 pistes) +2.8x3.2(4 color pistes) T64
* WCH: 2.80x3.20 (4 color pistes) T32
  + Grand Prix - to manage the 8 color pistes and finals podium (Cyrano and screens) accounting for one setup day plus one day of competition (T32-Final)
  + World Championship (8 color pistes and finals podium - to manage the pistes/Cyrano and screens (taking into account one day for set up and six days of competition)
* Example for new competition framework: [**https://drive.google.com/file/d/185NEbfqVPqGP\_cW4cPHTNdQ\_bXH25zMB/view?usp=sharing**](https://drive.google.com/file/d/185NEbfqVPqGP_cW4cPHTNdQ_bXH25zMB/view?usp=sharing)

**Video Arbitrage**

Legal Procedure

* Any video refereeing system (and its components) used for the FIE competitions must pass the homologation by the FIE homologation followed by the FIE SEMI Commission and be approved by the FIE.
* The FIE has the right to issue and withdraw a permit of using the system in official FIE competitions for the technical or organizational reason.
* Each Video replay system which has a valid FIE certificate can be applied in any country and any competition and does not require additional certification of the national federation. The installation regulations are to be performed according to national regulations for electrical and telecommunications requirements, as applicable.
* Every video arbitrage system in use for official FIE competitions must satisfy a Quality Control process specified by SEMI commission. The requirements for this Quality Control process are included in this document in sections Technical Requirements for Video/Audio. Any system failing the Quality Control process will not get permission to be used for official competition.
* Please ensure you are using the current version of this document, available at: <http://www.fie.org/fie/documents/handbooks>

**Basic Technical Requirements - Video**

* Recording of complete fights in high definition. Minimum resolution of incoming frames 1280x720p. Recommended resolution 1920x1080p and higher in an aspect ratio of 16:9 Widescreen. EBU R118 is used to assess the suitability of cameras for HD use. The HD format is fully specified in ITU-R BT.709-5 Part 2.
* Recording frame rate minimum 25 frames per second (50 fields) interlaced - 1080i/25.
* Color sub-sampled at a ratio of 4:2:2.
* The cameras need to be aligned to ensure that they can cover the entire Fencing piste at any time. Due to different conditions at the indoor arenas and to keep a clear Field of Play.
* The uncompressed or compressed video standards used for transmission from camera to recording device need to support the recommended resolutions and frame rates. Recommended transmission interfaces are HDV, HDMI, 3G SDI, of course higher standards like 6G and 12G SDI are highly appreciated.
* 2 Channel audio recording.
* Possible camera distance should be possible to set up from 5 to 80m away from the fencing piste. Camera jibs and wide-angle lenses might be necessary.
* Using the video system must not imply any disadvantages, delays or hindrance to the athletes and common processes of the entire competition.
* Direct connection of the video replay system to the FIE approved scoring apparatuses by serial connection or via IP protocols.

**Remark:** The goal of the FIE is to increase the quality and system reliability constantly in terms of definition and recorded frames per second.

**Sound Quality**

* The audio must be free of spurious signals such as clicks, noise, clipping, hum and any analogue distortion.
* Audio levels must be appropriate to the venue conditions. Consider using directional microphones if the cameras positions are in spectator areas.

**Technical Requirements Audio**

* Stereo tracks must carry sound in the A/B (Left/Right) format.
* Sound of the replay must be available in real-time speed and in each slow-motion speed if requested by the referee/technical delegates. Consider using headphones for this.
* The relative timing of sound to vision should not exhibit any perceptible error. Sound must not lead or lag the vision by more than 30ms.

**Video Arbitrage feed on public scoreboards or screens**

* Flat panel monitors are used as support for the referee/audience should have the same aspect ratio and minimum the same resolution as main video arbitrage computer at this piste. Panel size should be at least 19”. All monitors should be intended for professional use. Larger monitors (size about 50”) should have full HD resolution (1.920x1080 pixels). Smaller monitors (about 32”) should have WXGA resolution (minimum 1.280 x 768 pixels). The monitors should support HDTV in 720p and 1080p

**Remark:**

* GPs require one technician
* WCH require two technicians

**Video Live Streaming**

The provision of live feeds is an important part of the success of an event and logically related to the video arbitrage system because it is using the same camera feeds. It is not the intention to describe all that can be done in this area, but to suggest what is possible, as well as to define which technical features are mandatory or minimally required. In all cases, the FIE should approve the proposed solution for World Championships and Grand Prix competitions & WCH

* Live streaming of the feeds should be possible including all fight-relevant data as graphics or data feed. The streaming solution should support real-time streaming and local recordings.
* World Championships Live stream setup means 8-pistes plus podium streaming including caption overlays for each feed.
* Position to be determined at OC checkout and FIE to decide where commentators will be placed
* Use of arbitration cameras as well as one or two additional cameras for conferences.
* Sharing commentator(s) with TV Production
* Sharing commentator(s)/positions with Host Broadcasters
* 1 technician
* 5-9 feeds including captions, provision of two commentary positions
* The script for the daily broadcast should be approved by the FIE according to the script developed
* Provision of dedicated live streams of each of the 8 colored pistes and finale podium plus a commentator feed featuring action from one of the colored
* At least one Project Managers (service provide) at each Grand Prix to manage all elements of the service and act as a single point of contact for the FIE
* One or two present Project Managers (service provide) must be present at each World Championships to manage all elements of the service and act as a single point of contact for the FIE.