GÖTEBORGS UNIVERSITET

TV broadcasts from orienteering

TV broadcasts from orienteering sport in a exciting and understandable way - today and tomorrow

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This report is part of the
EVINN Eventbased Innovation project from
Interreg IVA

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Interreg IVA
ÖRESUND – KATTEGAT – SKAGERRAK

EUROPEISKA UNIONEN
Europeiska Regionala Utvecklingsfonden

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1 Abstract

The sport of orienteering is a very dynamic sport, where runners navigate from point to point out in the nature and it offers different challenges including map and compass work as well as moving at intense running-speed. With this setting, there is a big potential to produce an interesting and exciting TV broadcast. Producers from different nations have done TV productions from orienteering so far and made different experiences.

The purpose of this report is to describe a potential future TV production from an orienteering competition with individual start and middle distance character, since this is one of the most TV friendly and also common race-format, where all the challenges from the sport can be shown to spectators within a decent timeframe. The ambition is to create a production that will not only be attractive for orienteers but also for layman. The first part of the report will describe the key challenges of orienteering and the central aspects that can be communicated in an intense and exciting way for an audience. This will be done with a theoretical as well as a practical approach to “storytelling”.

In the second part technical and practical solutions will be discussed. These solutions are based on experiences out of previous TV broadcasts from orienteering. Reports from the productions as well as the Swedish Orienteering Federation (SOFT) TV Workshop February 2012 will be taken as references. Further guidelines from International Ski Federation (FIS) productions are used as examples.

In the last part, the report will discuss new ideas for further productions, both for internet streaming and TV live production.

The report concludes that orienteering is a complex sport with a great potential for exciting TV productions for a broad audience. A TV production is expensive, time-consuming and the most difficult part is to show the challenges of the orienteering sport in a understandable way for the layman. A clear story concept with focus on specific parts of the orienteering course and following constantly this concept during a production can support the understanding. Different

elements of the production such as GPS material, pre-produced material or graphics must be adapted to the story concept.

2 Description of orienteering

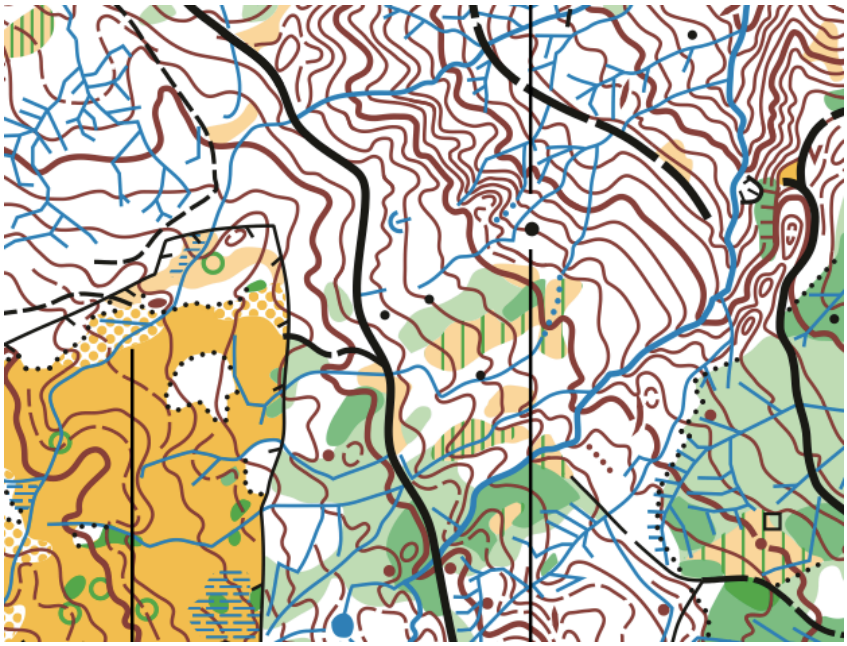
The goal in an orienteering competition is to run a course with defined control points as fast as possible. The route between the control points is not fixed and must be chosen by each runner. The only help an athlete has is a map as well as a compass. Other tools e.g. GPS are not allowed. Orienteering can take place either in forest areas or in urban areas (sprint orienteering). Sprint orienteering typically has shorter winning time (12-15 minutes) compared to forest orienteering (from 35 minutes and upwards).

The runners have no information about the completion course beforehand, except the length, number of controls and a short description of the terrain. They have a general idea of what the forest will look like, but usually the whole competition area is embargoed years before the race and entering this area leads to disqualification. The map is handed out to the runners after the start. The runner can not prepare any of their route choices before the start, and therefore needs to be concentrated from the first second onwards.

An orienteering map is very detailed compared to maps encountered by the public under other circumstances. The most common scale is 1:10’000, i.e. one centimeter on the map corresponds to 100 meters in the forest. In long distance races 1:15’000 scale maps are used, in sprint 1:4’000 scale. The smaller the scale, the more details are included on the map. Objects in the forest such as stones, cliffs, water elements, fallen trees or relief are shown if they are one meter big or larger. The relief is shown with brown lines with an equidistance of between 2 and 5 meters. The vegetation is shown in different signatures. The denser the forest, the darker the green used on the map. White on the map means very clean and fast forest; open fields are mapped with yellow.

Thin lines on the map show direction north. With using a compass the athlete can therefore hold the map exactly in direction north. This allows the runners to control their running direction.

Graphic 1 Map sample



(Scheidwald 1:10'000, OL Gruppe Bern)

Sport scientists see orienteering as a form of endurance running with micro pauses (Bird et al. 1993, Creagh and Reilly 1997). Orienteering is a kind of interval running where the runner has to slow down the pace to navigate or when the athlete is punching an electronic control. Another difference between orienteering and long distance running on tracks or streets is that the running is also done outside the tracks in areas were running can be very challenging. In forest orienteering, steep slopes, deep ground such as marsh, moss or sand, muddy and slippery surfaces as well as vegetation and fallen trees on the ground disturb the running. During the whole race the terrain may change a lot and this is reflected by a fluctuation of the heart rate and lactate values which reaches higher level during orienteering races compared to street races of similar length (Lundgren et al. 2015). Usually orienteers run in the aerobic/anaerobic zone, and muscular endurance and partly muscle power is of importance depending on the type of terrain (Larsson et al. 2002, Herbert-Loiser et al. 2014 and 2015). Additionally body mobility and coordination are of great importance. All these facts show that a smooth running style in the terrain is more important than the capacity to run fast on track (Jensen et al. 1999).

In addition to long and middle distance in the forest, there is a sprint discipline. Sprints are often held in urban areas such as city centers or parks. In that case the running style is more similar to track running, but a lot of direction changes and the mentioned pauses still demands specific physical abilities.

Beside the different type of running, the map reading is of high importance. One main part of the map reading is to understand the information on the map and produce a terrain model in the brain. Another big challenge is to find the best route choice to the next control point. Finally the runner needs to identify the objects in the terrain on the map, and must therefore be very precise in his map work. To be able to manage these challenges, good memory, fast thinking and good capacity of map interpretation are important. During the whole race a runner checks his position on the map and in the terrain regularly. This control as well as the planning of the route choices, the use of the compass and the very detailed map reading close to a control point must be done in a structured way. Otherwise an athlete looses too much time with the whole map work (see Swiss Orienteering 2009, Schweizerischer Orientierungslauf-Verband 2000).

Apart from the map work, specific mental work is a key challenge in orienteering. One of the biggest mental challenges is to stay focused and concentrated during the whole race, even if the body or mind starts getting tired. If a runner looses focus on the orienteering and looses "contact" with the map, the risk of making a navigational error and therefore losing time increases (Millet et al. 2010).

Individual start is used in many competitions. Therefore a runner has limited possibility to know how he is doing compared to other runners. Only if there is a spectator control close to the arena coaches might give him some information. At the same time there is limited possibility for spectators to support the runners. Being able to push himself during the race is therefore of high importance for an orienteer.

The running as well as the map reading and its focus work closely together. Fast running not always leads to the best result because the risk of doing a mistake is higher when running with high speed. If a runner needs to run extra meters because of non-optimal navigation, it needs more energy for the athlete's

physical performance. A similar relationship can be seen on route choices. The fastest route is not always the best with respect to the final result. If a runner looses too much energy by taking a route (e.g. straight over a steep hill) the athlete might looses more time later in the race due to this route choice. In general the optimal route choice is different for different runners, and must be made based on the runner's strengths and weaknesses. A fast road runner may prefer a different route to that chosen by a strong uphill runner (see Wikipedia, 2014 a).

3 Challenges and exciting aspects of orienteering

There are three major challenges in the orienteering sport: The physical aspect, the navigation and the mental part. Consequently these are also the main challenges to show in a TV production.

Running in the terrain is different than running on a street or path. Rocky or deep ground, steep uphill and downhill or dense vegetation cause a decrease in running speed. The runners may seem to be slow and tired in these terrain types, but this is not necessarily a disadvantage in an orienteering TV production. With good camera work it is possible to show how coordination and strength work together, and in this way show the properties, which are important for a high level orienteer. If the producer succeeds in showing the difficulty to run in the terrain, exciting pictures can be produced. Seeing a runner cruising trough the nature, run down slopes in a speed that nearly creates the feeling of danger and push up hills even if the athlete has already a high volume of lactate in his legs, can be impressive for a spectator. The free choice of routes and individual start times make it hard to show the physical part on TV. Nevertheless new ways of camera work can help to show closer pictures from the action in the forest.

When we speak about the map work, it helps to take an example from another sport. In Biathlon competitors pass the shooting-range several times during their competition and if they miss a shot, they will have to do an extra lap or get a time penalty. During an orienteering race the competitors pass endless situations similar to the shooting-range in biathlon. They can make a bad route choice decision, they can lose their way between two controls and they can miss the

control point. In all those situations, doing a mistake leads to a time loss similar to an extra lap or a time penalty in biathlon. The challenge is to explain when a runner comes to a critical situation ("shooting-range") and to make the spectator understand when a competitor loses time. To make the spectator understand this, good GPS material as well as understandable comments are essential. When a spectator understands this challenge, viewer will be excited every time a runner comes to the moment one can lose time or when the athlete is doing a mistake. Technical mistakes can have a big influence on a runner's performance. Anyway it is difficult to highlight all the important mistakes since they can appear random over a course with maybe 25 to 30 controls. If the storyboard of a production defines "shooting-ranges" it can be confusing to show mistakes happening in other parts of the course.

The mental part includes different challenges. The runner needs to be focused during the whole race, even if the body starts getting tired. The athlete needs to push during the whole race, even if there is no information of how the other competitors are doing and even the athlete starts getting tired. Other runners, spectators or unexpected situations can disturb the concentration. If an orienteer loses his/her focus the athlete will lose the "contact" with the map. This can lead to mistakes mentioned above. So the result of not managing the mental part will lead to the same result as not doing the map work properly. It is hard to explain this part of orienteering to the spectator, and it is difficult to explain why a runner made a mistake. But by sensitizing the spectators to critical situations where a competitor can lose the focus, commentators can create understanding and excitement for the spectators.

4 Storytelling; theoretical approach

To make the challenges of orienteering more understandable for a spectator, especially a layman, storytelling is needed. Storytelling means to transmit explicit but even more implied (implicit) knowledge by a metaphor. It reaches the costumer by listening. The listeners are involved in the story so that they easier understand the meaning of the story and start to think by themselves. This should affect that transmitted knowledge will be understood and taken easier (see Wikipedia, 2014 b).

Early during evolution complexes of figures with special structures (superstructures) were established to structure big texts (see Bentele, 1991, pp. 162). Well known are myth, rite but also text genres used by mass media (see Brooks, 1992, p. XII and p. 3). „Superstructures are schemata for conventional text forms; knowledge of these forms facilitates generating, remembering and reproducing macrostructures“ (Dijk, 1983, p. 54). Story schemas seem to be relatively easy for both comprehension and recall. People notice things more if they are on the same “eye height”. “For the sake of identification a feature needs a case”, means that TV-journalistic communication should be done by kind of a story (see Hansen, 2004, p. 233 / Wintsch, 2006, p. 171). Communication in that kind of story schema touches both emotional and rational parts of people, as far as they combine sustentative and informative tendencies. Often this is done in a personalized way as well as its instructional generalization (see Heussen, 1997, pp. 264 / Kerstan, 2000 / Wintsch, 2006, p. 173). To support that effect, the schemata of the story always has to be out of the listeners environment (see Wikipedia, 2014 b).

Media theorists see especially the narrative as a “dominant mode of representation and explanation”, as a “subset of the general language code” (see Brooks, 1992, p. XII and p. 3).
So to understand and categorize story schema we need narrative, because: “The main function of narrative is to help make sense of reports of experience” (McQuail, 2005, p. 381). That means narrative help us to give meaning and use to “fragmentary observations” by “provide the logic of human motive”. This is mostly done by already known main characters (often people), who try to solve a problem (see Hickethier, 2003, p. 135 / Brooks, 1992, p. XII).

To measure the value of narrative, different qualities are defined. As more of them can be found in a media product, the higher is the value of narrative. Those qualities are:

- recognizable schemata in the costumers view
- clearly visible lead actor and if necessary other, interactive characters
- emotional good and bad situation with clear sympathy or antipathy for the lead actor
- challenge or problem which is possible to handle for the audience "hermeneutic code" (Roland Barthes and Justin Lewis)
- "code of sequence", means chronological way of events
- credible narrator
- pithy end of the story
- overviewing prospect in consumers friendly way (in relation with consumers world) (see Köhler, 2009, pp. 71).

To explain something with narrative means to tell a story about something with known characters. Skip or emphasize parts of the story to create suspense or even excitement are typical characteristics. Audiovisual media … are telling their stories mostly with showing pictures and they speak about the things they don't show in pictures (see Hickethier, 2003, pp. 129). Human beings need for both, to use as well as to reflect pictures, linguistic help to explain and understand the connection between pictures and communicative acting (see Muckenhaupt, 1986, p. 157).

Later on in this report we will see, that storytelling can be used in different ways. Not only the commentator work but very different story telling elements can support the storytelling within a TV production.

4.1 Perceptive media

As mentioned earlier, to explain orienteering in an understandable way is a big challenge. Beside the traditional storytelling, perceptive media could help to simplify the difficulty to explain the main challenges of orienteering in an understandable way. "Perceptive Media, takes narrative back to something more aligned to a storyteller and a audience around a campfire using internet

technologies and sensibility to create something closer to a personal theatre experience in your living room." (BBC, 2014).

Perceptive Media adapts the story to the audience without them having to explicitly interact with it. It uses information about the audience to adapt the story within a scope defined by the storyteller. Once you start to see narrative as a set of variables it is easy to see many other opportunities. What Perceptive Media tries to do is to remove the broadcast technology barrier between the storyteller and the audience. It takes advantage of the implicit and explicit data we all generate, without triggering a privacy problem (see BBC, 2014).

During orienteering TV productions perceptive media has not been used so far. We will therefore not see this kind of storytelling while analyzing the broadcasts from the past. Nevertheless this relatively new way of media production could maybe be adapted in future orienteering broadcasts and will therefore be discussed in the last part of this report.

Since the writers interest is on the production itself and due to a lack of experience with the technical process of a TV production the theoretical focus is on storytelling. In general this report is more practice related than theoretical based.

5 Storytelling in orienteering; practical approach

To convert the theoretical approach into a practical approach, one needs to split the TV production from orienteering into different parts. The following parts can help identify the challenges in orienteering, again based on a race with individual start. The main goal of every part should be to support the storytelling from the whole event. In other words the production should be done in a way such that the viewer understands the whole competition as one story. Exciting facts of orienteering such as the possibility for outsiders to perform very well or a favorite doing mistakes and therefore showing up in the picture later then expected will be easier to understand if the main story (or challenge) is easy to follow.

While the opening sequence already introduces the course as a story, following the first shown runner during his whole race, while using all story telling

elements, can help the viewer understand the story and the entire story telling elements. If the different elements are not introduced with the first shown runner at the start, they must be placed very carefully during the whole production in a way where they support the storytelling.

5.1 Storytelling elements

5.1.1 Opening sequence

The first part of every production is the opening sequence. It should help the viewers to locate the competition area. It should also create excitement and during the course preview, which is part of the opening sequence, show the story schema viewers can relate to later on during the whole competition.

To give an orienteering TV production an identity the opening sequence should be of the same format in every race. The viewer shall realize that a World Cup race or World Championships race in orienteering is following and they will remember similar opening sequences from earlier productions.

The main part of the opening sequence is the course preview. The viewers will be shown the map, the course and the camera positions. The course preview will help the viewer understand the basis for the story to be told later on. Commentators should support the understanding of the story by properly explaining the course preview, and focusing on the defined decisive parts of the course.

5.1.2 Route choice preview

One of the big challenges in orienteering is to choose the “best” route choice. As runners have different strengths and weaknesses, they might prefer different route choices for one leg. The different route choices have different characters. While one route choice can be shorter but more off-road, another may be longer but more on paths and therefore “easier”. Easier may refer to easier running, easier navigation or both.

As soon as the final course setting is done, the course planner and the production team can define some decisive legs (“shooting-ranges”). For the

decisive legs on the course, route choice previews can be prepared. These route choice previews can be used to define these parts of the course as the “shooting-range” of the course, i.e. some of the main challenges for the competitors. The commentators need to explain the different choices to create the understanding of which kind of runner will prefer which route. Later during the competition these legs can be used to show GPS reviews. If the viewers have the differences between the routes as background knowledge, they will easier understand the GPS material.

5.1.3 PoV footage and pre-produced trailers

PoV footage (Point of View footage) is pre-recorded footage from a competitor perspective. In terms of story-telling elements, PoV footage is pre-produced trailers of varying length, which can be used during the competition sequence. There can be two different motivations for the use of PoV footage. It can be used to show the real action when running through the terrain, i.e. to show the challenges the runner has when running through the terrain from the runner’s perspective. In that case trailers where a runner was filmed from behind or the side while running trough terrain can also be used. Another goal can be to explain the challenge the orienteer experiences when navigating the map, i.e. to show the viewer how objects on the map look like in the terrain and how the athletes need to navigate and understand the map in high speed with the limited information

If the PoV footage is produced to a high quality it can both help to understand the orienteering as well as create excitement. The viewers will try to follow the picture and understand what is happening. They see themselves running at the moment and want to discover the forest and find the next control.

5.1.4 GPS-Tracking

Earlier in this report the parallels between biathlon and orienteering were mentioned. While it is easy to visualize that a biathlete missed a shot and therefore has to do an extra lap, explaining a mistake in orienteering is not as straightforward. Thanks to big developments in the handling of GPS data, it is

possible to use GPS to show mistakes in orienteering. To understand an “extra lap” of a runner based on GPS material, the viewers have to understand the challenge of the previously defined “shooting-ranges”.

It is important to show GPS sequences always in the same way and suited to the storytelling. If the “shooting-ranges” have been explained in a proper way earlier during the production, viewers will understand when commentators speak about a runner making a mistake and they will expect the runner to lose time.

Since for an inexperienced viewer it takes time to understand GPS material, not too many GPS sequences from different parts of the course should be shown. The sequences shall always follow the storytelling, covering the “shooting-ranges” and decisive mistakes during a race. They have to be long enough so that commentators can explain their part in the story. If the producer succeeds in using GPS in a way where the viewer understands how the orienteers abilities and choices decide the competition, GPS is a very good tool, which can make orienteering productions more attractive. Spectators will understand when runners are making mistakes and will therefore follow the whole story more closely and with heightened excitement.

5.1.5 Specific graphics

During a TV production graphics are used to support the understanding of the picture. The story telling element “specific graphics” described here refers to graphic elements in a live picture, for example a short bio on an athlete or split times.

It is important not to add too much extra information otherwise info graphics will not help to understand the picture and will not support the storytelling since people can not handle all the information. The information coming from the commentators shall explain both the picture and the info graphics and complete them.

5.1.6 Camera work

In the past we have seen two different philosophies about the storytelling with cameras. One is to put out cameras at as many different controls as possible, the

other is to focus with more then one camera towards one control or even follow the runners with different cameras from one control to the other. In the view of storytelling mentioned in this report it seems to be more practical to focus on few “shooting-ranges” to make the viewer understand the whole story of the race. To many camera position can therefore be confusing. In both cases one has to observe the following points:

Cameras cannot be situated directly at a control. The camerawork should be a kind of observation and not give the runners any help to find controls. One need to plan from which direction runners approach a camera position and in which direction they will leave. At the same time additional equipment (e.g. podium, tower) can improve the picture.

In general the amount of available equipment and manpower influences the production a lot. One has to have electricity close to camera positions and production room and the installation of wire can be very difficult. If there is no possibility to place cameras far away from the arena (production room), both the course setting and preparation of other elements of a broadcast (e.g. PoV footage, route choice previews, GPS material) can improve the production.

To improve the whole broadcast and to use the possible camera positions in the most efficient way suiting to the storytelling, the TV director must be in close contact with the course planners and has to visit the potential camera positions long before the competition takes place.

5.1.7 Comments

Orienteering is a complicated sport for a layman to understand. This makes the commentators work very important. In previous parts of this report it has been described how necessary it is to cut the action down and focus on defined parts of the race to be able to create an understandable story for the viewer. The comments should therefore focus on the same parts of the race ("shooting ranges"). During these “shooting-ranges” the challenges of orienteering can be explained in a way the viewer understands.

To be able to follow the storytelling from the whole production, commentators need to prepare for the race. The planned storytelling and the decisive sections should be shown on a storyboard to give the commentators an overview. It is also necessary that commentators can see pre-produced material such as course preview, PoV footage or route choice preview before the competition so they will be able to explain the picture in an understandable and narrative way.

The commentators not only need to explain orienteering. They should help the viewer to understand the whole story and also create excitement. To do this in a viewer friendly and understandable way they need to follow the narrative like for example create stereo types for runners.

During a TV broadcast there will always be at least one commentator. Since the commentator usually works as a professional for a TV station and therefore knows especially the linguistically aspects, an expert taking care of the technical aspects of orienteering can be useful. At the same time there can be a speaker for the audience in the arena. The voice of the arena-speaker as well as some potential music should not disturb the TV broadcast.

5.1.8 Closing Sequence

The production always ends with the closing sequence. The closing sequence should show the most important moments and athletes from the race and give the viewer an overview of the final results. If the race was part of a race series, spectators must also see the overall result of the whole series.

In previous orienteering productions the closing sequence has often been poorly structured. Sometimes one tried to wait for the flower ceremony but since the runners where not ready, the producer did not know what to do. The schedules from cross country ski or downhill ski could be adapted to orienteering production. In that case, runners have to understand that they need to be available for TV only until the production is finished.

In addition to what is common in other sports, one can also use GPS reviews from the race as part of the closing sequence. If spectators understand the storytelling and the GPS material during the race, they will also understand the

decisive moments shown on GPS review and the material will help to complete the whole review of the race.

6 Technical and practical solutions

After having a description of a practical approach, one can define a possible practical solution for each part of the production. The following solutions are based on personal experiences by the author of this report, previous national and international productions and reports from World Cup, European Champs and World Champs races as well as the discussions during the SOFT TV Workshop February 2012[1].

[1] Svenska Orienteringsförbundet SOFT TV Workshop February 2012, Stockholm

6.1 Storytelling elements

6.1.1 Opening sequence

The goal of an opening sequence is to give the viewers an overview of the venue as well as the competition itself. A main part of the opening sequence of an orienteering event is the course preview. By doing a well-structured and well-explained course preview, viewers can be given an understanding for the following story. They will build up a story schema and use it later on during the production. The course preview should be long enough to give this understanding, including a fact sheet in the beginning, a 3D (or 2D) flyover as main part and a time gap to make final comments in the end. While showing the course on a high quality 3D (or 2D) model, commentators can explain the different legs and characters of the course and create an excitement by defining the decisive parts of the course ("shooting-ranges"). It is important to select a number of critical sections, which are the focus both in the opening sequence and in the competition sequence (sequence between opening sequence and closing sequence) later on, otherwise viewers can get confused by having too many "shooting-ranges". While introducing the course, each camera position can be introduced so that the spectator knows the location when it is shown in the competition sequence. Info graphics with height profile and course length can help to understand the challenges.

The whole opening sequence in orienteering is in a way similar to the opening sequence in alpine downhill skiing since there is also a course preview in downhill skiing. In the FIS TV Production Guidelines[1] one can find a detailed time schedule for the time from start of the production to the start of the first runner. The following schedule is based on the FIS TV Production Guidelines and adapted for orienteering:

IN	OUT	DESCRIPTION	DURATION
0.00.00 –	0.02.00	Beauty shots and warming up	02.00
0.02.00 –	0.02.15	IOF Logo Animation	00.15
0.02.15 –	0.02.45	Beauty shots / Title event / TV director	00.30
0.02.45 –	0.04.15	Venue presentation + Animation map	01.30
0.04.15 –	0.06.30	Beauty shots / Title: IOF Foot Orienteering World Cup or Championship / IOF Overall World Cup Standing or similar representative list (e.g. qualification)	02.15
0.06.30 –	0.11.30	Course preview	05.00
0.11.30 –	0.11.45	IOF Logo Animation	00.15
0.11.45 –	0.12.15	Weather graphic	00.30
0.12.15 –	0.14.15	Starting list	02.00
0.14.15 –	0.15.45	Shot of warming up / 1st runner at start	01.30

Based on previous experiences and discussions, prepared material such as route choice decisions as well as video sequences (PoV footage) should not have a central part during the opening sequence. Viewers can get confused from having too much information. Prepared material can help viewers understanding the main challenges and in this case support the storytelling. It should therefore be used during the competition sequence and it should follow the storytelling of the production.

[1] FIS TV Production Guidelines for FIS World Cup / FIS World Championships, July 2005

Graphic 2 Extended weather graphic

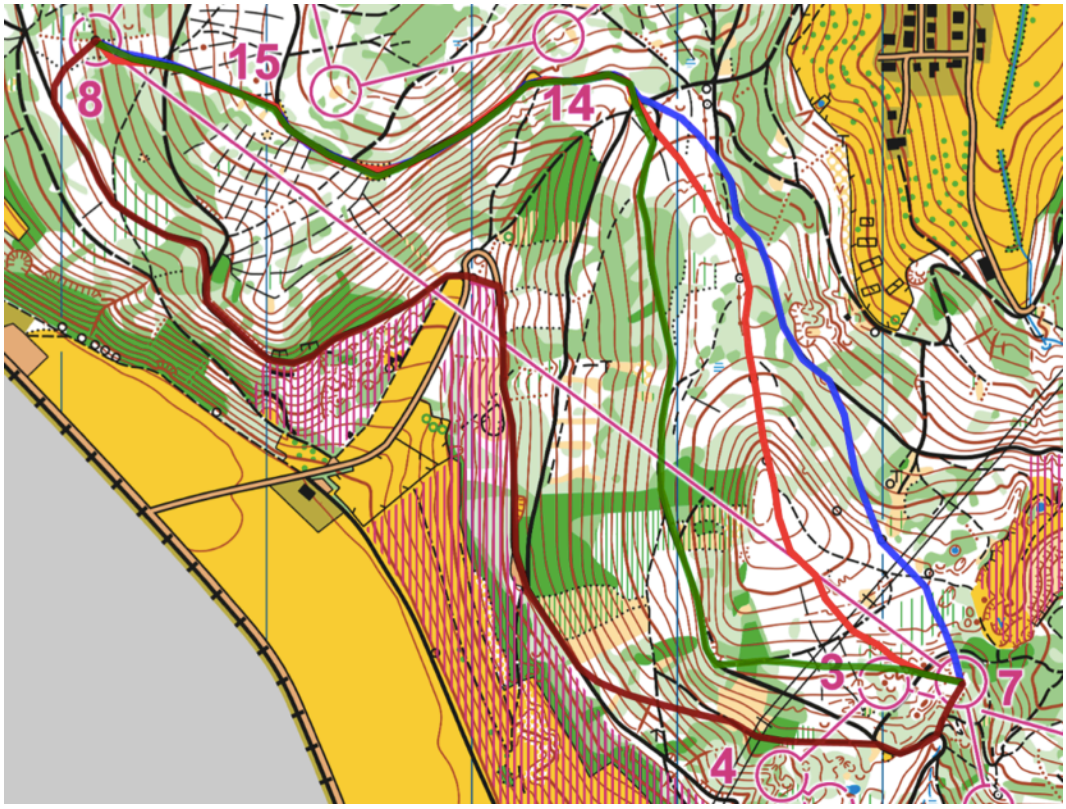
(EOC 2012 middle distance men, SVT)

6.1.2 Route choice preview

The route choice previews should be done in the same way as the course preview (part of the opening sequence). That means a 3D (or 2D) model with a virtual control symbol in the middle of each control point and a virtual camera symbol if it is a camera control.

The different routes can be shown in different colors. Commentators should give the routes a different character (e.g. direct route with dense forest, high risk / long route with lot of paths, low risk / hilly route, physically very demanding). In that way the storytelling will be supported. Preferable one color is used for always the same character (e.g. green for direct route / blue for track route and so on).

Graphic 3 Route choice preview



(World Cup Final 2014 middle distance men)

It is important to show route choice previews as a part of the storytelling. To support the storytelling this should happen before a runner/a runner's GPS approaches the same leg as the route choice preview. If for example at the end of the route choice there is a TV control, the route choice preview should be shown just before a runner (preferable the first runner who will be shown at this TV control) reaches this control. Route choice previews can also be overlaid over the GPS tracking.

Info graphic with height profile and length as well as the “characteristic” of each leg support the narrative. To do this in a proper way and to give the commentators enough time to explain the routes, enough time needs to be used for each route choice preview. This means the route animation must move slowly along the route(s) and the tale of the GPS animation should cover the whole leg. Every route choice can be repeated once or twice during the route choice preview. If it helps the storytelling, the whole route choice preview can also be shown again later on during the competition.

6.1.3 PoV footage and pre-produced trailers

One way to use PoV footage is to explain the navigational challenges and the correspondence between map and terrain. If the PoV footage is meant to explain the navigation challenges, it must be done in a different way than if the goal is to show the challenges and action when moving through the terrain. Different kind of graphical element can be used to explain the map and the objects in the terrain. Since this kind of PoV material was not used during productions so far, some new concepts will be described in the last part of this report.

In this part the focus is on PoV footage where the goal is to show the challenges and action when moving through the terrain. A steadicam or helm camera can be used and a map with synchronized position should be shown in a separate window. As previous experiences show, the viewer wants to have the same feeling as the runner and the picture should therefore not be stabilized. The synchronized map shall be prepared in the same way as it was used for both course preview and route choice preview. A short tail for the GPS can be used. Info graphic with speed and height profile can help to understand the picture.

Graphic 4 PoV footage

(WOC 2012 relay men, SRF)

Since the viewer only sees the perspective of the runner and not a person running, one can not assess how tough it is to run in the terrain. Therefore a

passage where fast running is possible should be used to give the viewer more excitement. Like route choice previews, PoV footage should be placed in a way it supports the storytelling. That means it shall cover a part of a decisive leg and must be shown at a suitable moment. In other words the prepared sequence should be used if a runner is on his way to run on the leg the PoV footage was prepared. In that case one can show the runner in picture or his GPS at the same place after the PoV footage. This will support the storytelling and not confuse the spectators too much. If the terrain offers the possibility to pre-produce a trailer with a drone or another moving camera showing a runner in the forest it can be a good alternative to PoV.

The viewer will see both map and objects in the terrain, so commentators can use the PoV footage to explain simple things from the map work. The main goal from the commentators should be to explain that a runner (who will be shown just after the PoV footage live or with GPS) experiences exactly the same situation as shown in the PoV footage this moment.

Since the spectators are not used to this kind of picture and they have to handle a lot of information at the same moment, using PoV footage during an individual start race can be confusing. During a first-to-finish race or relay competition it is a very good way to cover sequences with no camera coverage.

6.1.4 GPS-Tracking

GPS-Tracking sequences are included to aid the producer in the storytelling. The use of GPS must be well planned in order to achieve this. The focus should be on the previously defined decisive parts (“shooting-ranges”). Only if a top favorite or a runner currently placed in the top 3 is making a big mistake or taking a crucial route choice, GPS can be shown outside of the planned story. To support the storytelling GPS material should also only be shown before a runner comes to a TV split. In that case the viewer understands why an athlete will be late at the split or if the GPS shows that the runner did well so far, spectators are excited to view a new top split. If there is no other action going on, GPS can also be shown directly after a runner was shown at a TV control. To be able to suite the GPS material into the storytelling, the focus must be on showing the action at the

suitable moment. This can lead to the situation that mistakes or GPS material in general will not be shown live when the action happens but maybe some time later when the runner will come to the TV control.

To not overload the production with GPS sequences one should use it only if a new top-3-time is expected at either a TV split or the finish. It is the responsibility of the GPS team to follow the race situation and to recognize a new top-3-split appearing. A concept of a GPS-tracking software, which in future might help to recognize these situations is described later in chapter 7.1.

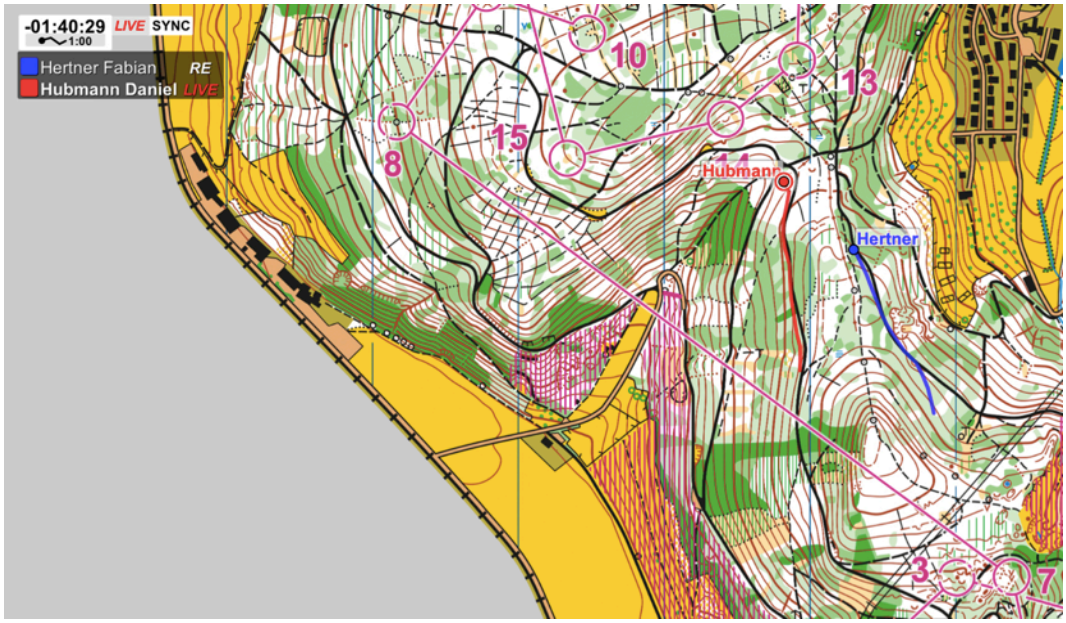
Important for the understanding of GPS material is to show it always with the same visible settings. A map shown in 2D can help to also show small mistakes, which can lead to big time losses (whereas 3D produces a less detailed picture). There should always be at least two (and maximum four) different GPS routes shown together; e.g. The GPS from the runner, who is coming to the TV-split, as well as other GPS routes which support the story (e.g. current leader at this TV-split). The GPS shall always be shown in replay-to-live sync mode[1] (expression used for GPS-seuranta[2]). If it helps the storytelling it can also be cut before coming into live. As soon as live sync[3] mode is used, one should always show which runner is live (e.g. a small red ring around the dot of the runner in question). Tails and info graphic “time behind” can support the understanding of the GPS tracking sequence.

[1] In the replay-to-live sync mode different GPS tracks from athletes who all passed the shown part of the course are used. It starts in a replay mode and is speeded up in a way that at the end of the replay there is one runner live and the GPS of the runners who started earlier are shown in relation to the athlete running live. If there is a mass start race, replay-to-live mode can be used and there is no need for synchronization.

[2] GPS-seuranta is the most used software to show live GPS in orienteering.

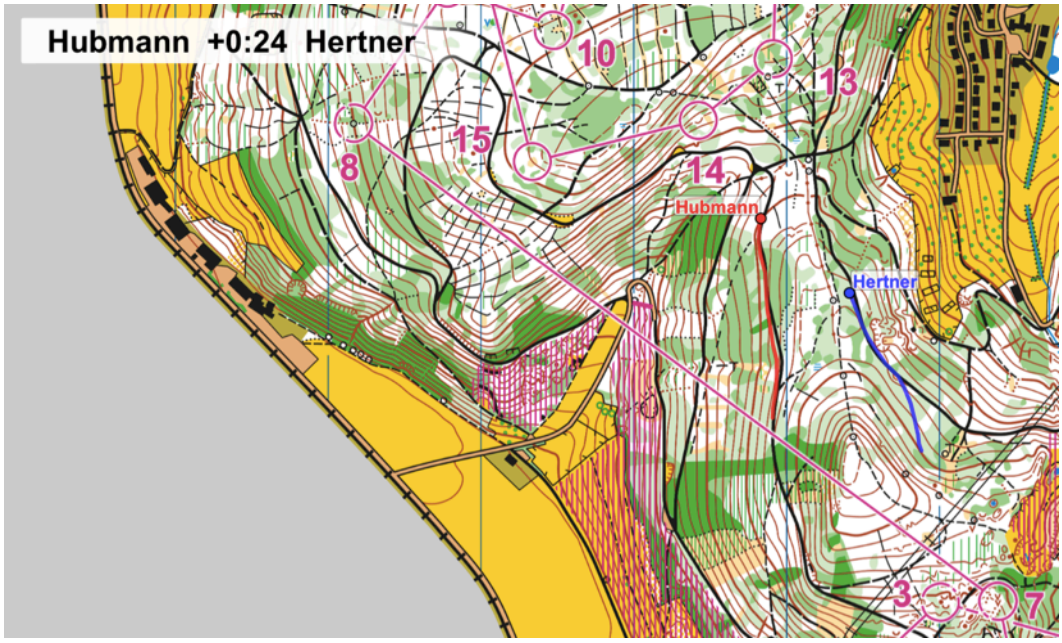
[3] Live sync means that one GPS track form a runner is shown live and tracks from runners, who passed the shown part of the course earlier are synchronized in relation to the live GPS.

Graphic 5 GPS live sync mode



(World Cup Final 2014 middle distance men)

Graphic 6 GPS time behind



(World Cup Final 2014 middle distance men)

During a competition, the number of attractive situations changes. While in the beginning and in the end of the race there is “less action” (because there are less people running on the whole course, favorites did not start yet or are already in the finish) in the middle of the production there are a lot of interesting and

decisive moments. The amount of GPS-Tracking sequences must be adapted to the action going on. If a lot of camera material can be used, the amount of GPS-Tracking needs to be reduced.

6.1.5 Specific graphics

To be able to tell a story, main characters are needed. The viewer must be able to identify with somebody. Therefore a short bio of an athlete waiting at the start is useful. Basic information like age, country, club and previous result but also some personal information like favorite terrain, strength and weaknesses or even more private details can be shown. This will give a character to each runner.

Graphic 7 Runners Bio

(EOC 2012 middle men, SVT)

The most used specific graphic is the split graphic at a TV control. Like every part of the production this graphic should be done in the same way for every race and also during each race. In previous productions very different ways and layouts have been used. A good reference can be cross country ski races where producers use more or less the same kind of graphic every time. One shall see the running time for the runner in picture; the time they are already behind or still ahead until they punch the control; the split time and name of the current leader (at this split) as well as the split time for the three runners who can be beaten by the runner in picture (e.g. if the runner in picture will set a new best time, the

names and splits of the current first four runners are shown. If the runner in picture already is too late to make the first six split times, the name and splits from the current leader as well as current number seven, eight and nine are shown). The split time graphic can be shown even if the expected runner is not in picture yet. This makes it more exciting for viewers to “search” for them in the picture and to guess if they will beat a certain runner (more about that in the “camera work” part). In latest productions from biathlon, cross country skiing, nordic combined and downhill skiing some new elements of split times graphics were introduced. More about similar opportunities for orienteering productions are discussed in the last part of this report.

Graphic 8 Split time graphics

(WOC 2012 long men, SRF)

From time to time current standing from TV controls as well as from finish shall be shown. They should stand on a neutral background such as landscape or similar.

Additional info graphic on a live picture (e.g. “current leader”, “world champion”) can help to understand a picture or to identify a person.

If something else than a live picture is shown, like GPS, PoV footage, replay of a scene or similar, a flash logo should be used to let the viewer know that the live picture will be interrupted by something else. The viewer will also easier

recognize when the live picture is back. This supports the storytelling and helps to avoid making the viewer confused.

In some earlier productions different windows were used to show two runners at the same time or a runner as well as GPS material. As mentioned earlier during this report, following the storytelling is more important than to show everything live or at the moment it is happening. Therefore it is usually not necessary to show more than one picture at one moment.

The focus on the information mentioned in this section is on the race format of individual start in a middle distance race or similar. In special competition formats such as first-to-finish races or relays other info graphics can be useful.

6.1.6 Camera work

The camera positions and work has to be very well planned. Material has to be tested. Enough electricity and different kind of technical aspects are main criteria for every production.

So far, very different kinds of cameras have been used. A secure way with high quality is to use fiver. Using fiver allows placing cameras far away from the arena (not like with e.g. SDI or HDMI). In that case an electricity point, where enough power for all the cameras can be generated, has to be installed.

To show the dynamic of an athlete running in the terrain, the distance of the camera matters a lot. In general one can say that the closer a camera is placed and as more from downside up is filmed, the faster the action will feel. Seeing a runner for a long time running down a slope with having a big distance can also be attractive. Beside the distance, the angle of vision matters – again small difference in distance can lead to big difference in the picture (personal communication Heinrich Buchegger, 2014).

Using a crane or a drone can support the production with dynamic pictures. To use these elements, different kind of problems has to be solved. One need space, electricity or batteries and a way to transmit the pictures live. At the same time runners should not be disturbed and the cameras should not help the athletes to navigate. A speed cam can also be very attractive. The use in the

terrain is very difficult since one can hardly plan the way the athletes run. In sports like Cross Country Skiing it is much easier to follow runners since they compete on a prepared track. This situation can only be found on a compulsory route (e.g. spectator passage) during an orienteering competition (personal communication Heinrich Buchegger, 2014).

The sound is a very important detail as well. On the cameras used in the terrain, directional microphone should be placed. A ball in arena helps to transmit the ambiance (personal communication Heinrich Buchegger, 2014).

A way to produce excitement is to wait for a runner at a TV control. Therefore it is possible to use a camera position even if there is no runner in the picture yet. Split time graphic for the expected runner can support the picture. In this way, viewers are excited to see if the runner “shows up” with a good split time.

6.1.7 Comments

To be able to follow the planned storytelling, commentators need a storyboard. On the storyboard one should see the planned story concept with all the details. That means a picture from the camera at the start, camera at TV splits and finish, potential live GPS sessions, route choice previews as well as where pre-produced material is prepared. Commentators should see the course preview as well as prepared route choice preview and PoV material before the competition to get an impression of the moving pictures as well as the length of each session. At the same time commentators will get used to the defined “shooting-ranges”.

The commentator should receive a map with the whole course and comments from the course setter ahead of the race. A screen where they can follow the live GPS on a 2D map will help them having the overview over the whole race.

The main focus from the comments should be on the explanation of orienteering and its challenges. To do this in an understandable way, commentators need to follow the storytelling of the whole production. Beside they shall create excitement. An extended start list with bio and historical results from each runner must be prepared. Commentators will use the information to define the main actors of the race and give each of them a character.

Since organizers try to give the runners not more than the necessary information before a race, they avoid showing the map and courses to many persons. Therefore it is more difficult for commentators in foreign countries to prepare for the race, because they will not have the possibility to see any map material long time before the production. To enable foreign commentators to understand the planned story, they should at least get the storyboard before the race.

6.1.8 Closing sequence

The goal of the closing sequence is to give an overview of the final results as well as to show the decisive moments and pictures from the main characters. Since this is the same goal as for closing sequences in most other sports, one can take well working schedules as a reference and adapt them to the orienteering sport. In the FIS TV Production Guidelines[1] (downhill ski) one can find a schedule for the time the last runner is in the finish to the very end of the production. The following schedule is based on the FIS TV Production Guidelines and adapted to the orienteering sport:

IN	OUT	DESCRIPTION	DURATION
0.00.00 –	0.02.00	Final standing + IOF World Cup standings	02.00
0.02.00 –	0.05.00	3, 2, 1 (GPS and picture for each runner)	03.00
0.05.00 –	0.05.30	Emotions of winner/coaches in finish	00.30
0.05.30 –	0.07.30	Interview in English with winner	02.00
0.07.30 –	0.08.00	Beauty shots (spectators waiting for flower ceremony)	00.30
0.08.00 –	0.12.00	Flower ceremony	04.00
0.12.00 –	0.13.00	Highlights clip	01.00
0.13.00 –	0.13.15	IOF Logo Animation END of transmission	00.15

To support the storytelling, pictures shown during the “3, 2, 1” should follow the main storytelling by using material from the start first and then go trough the different “shooting ranges”.

[1] FIS TV Production Guidelines for FIS World Cup / FIS World Championships, July 2005

In most sport event productions it is nowadays standard to have an interview in English with the winner just after the race. Therefore the winner has to be available for TV only after his or her race until the production is finished. During the interview GPS material or pictures from the race can be shown if they help supporting the storytelling and fitting the interviewers question. A “leaders chair” for the current leader can support the availability of the winner for the interview after the race and at the same time it can give nice emotions to film at times when nothing is happening.

If one decided to wait for the flower ceremony, top runners must be available for TV until the production is finished. To make sure athletes will be ready for interviews or the flower ceremony, top runners have to stay in a separated zone where only persons from the production team have access until the production is finished.

The focus on the information mentioned in this chapter is on the race format of individual start in a middle distance race or similar. In special competition formats such as first-to-finish races or relays the schedule for the closing sequence may be adapted and other things can be more important. If the men and women races finish at the same time, every part of the closing sequence will take more time.

7 New ideas practical approach

7.1 TV

Since there are different kinds of disciplines, race durations vary. Sometimes there are a limited number of runners qualified for the final race. For a long distance race or a competition with a lot of participants one needs to shorten the production in some way. If the production only starts during the last part of a competition, a highlight clip whit the most important moments so far should be done after the opening sequence. The story within this clip should follow the main storytelling using the defined “shooting-ranges”.

In chapter 4.1. perceptive media was mentioned. This way of involving the daily environment from the viewers into the production can be used more in future broadcasts. To explain map work and challenges of orienteering in general one

can for example prepare sequences where visual walks in a 3D surrounding show map details. As a support to the storytelling, this can be done in an area, which should be known for the viewers, like famous parks or similar. The same kind of thinking – taking information from the viewers and create a story in situation they know already – can help to describe a mistake from a runner.

Elements, which appear in every production, so called cliffhangers, can create the feeling of something familiar. Especially in series format like the world cup, the same graphic elements, sounds and also commentators should be used.

Different kind of new graphic elements, like there are already used in sports like downhill or cross-country skiing can support the picture. With using GPS data for graphic elements, very interesting information can be given for the viewers. For examples see appendicies 1.2.

Graphic 9 Graphic element based on GPS

(Jan Kocbach, 2013)

Directly produced interviews with the current leader can be used in different ways. First of all, interviews can be shown especially during the first and last part of the competition, where the amount of decisive moments is lower. Further the runner can describe how he was acting during one of the “shooting-ranges” and why the action maybe was leading to a mistake. This can help explaining

mistakes to the audience. Additionally the commentators can use such information when next runners pass this “shooting-range”.

During replay of downhill skiing sometime a “ghost” of a previous athlete is used to compare an interesting part of the course. If producers have the necessary equipment, this can also be done for “shooting-ranges” in orienteering. It would create an interesting one to one situation, where the spectator can see when a runner looses time by e.g. reading the map, punching a control or taking a different micro route choice.

Slow motion or super slow motion can be used more often during broadcasts from orienteering. In a super slow motion the power of a runner pushing trough heavy terrain will be visible for the spectators. These pictures should not be disturbed by additional info graphic.

Since the technology develops all the time, live head camera from cameramen or even an athlete can be used in the future. It is a very interesting element for the spectators both during an individual race but also during a mass start race (for example, relay race).

Sound makes most of the picture. Running in forest produces a lot of sound. Therefore microphones along the course can transform the action to the viewer. Additionally hearing branches snapping while waiting for a runner to appear in the picture can produce excitement.

In many orienteering productions so far the commentators have been quite “defensive”. Having an expert, who can explain the difficulties of orienteering in an easily understandable way is helpful. The commentator can therefore be quite “offensive” and make enthusiastic comments. This doesn’t mean that the commentator has to take favor with runners from one nationality. It should be more like in golf, for example, where commentators make a big spectacle out of an, in general, not very dynamic sport.

To support the producers a GPS-tracking software, which can automatically recognize a “shooting-range” situation and creates a “playlist” can be very helpful.

As a last idea for future TV production, there is a suggestion for the course setting. With having loops (don't have to be forked) from a common control more pictures can be produced by having cameras at only one part of the course. At the same time the quality of the course will not be disturbed in many places due to producers' wishes. Such a course setting has to be explained to the viewers to let them understand the storytelling.

7.2 Internet

New forms of media are creating new ways for people to record, express, and consume stories. Tools for asynchronous group communication can provide an environment for individuals to reframe or recast individual stories into group stories (see Wikipedia, 2014 b). One example for such a situation can be, that there is a live-chat parallel to the broadcast. People can draw in their route choice for an interesting leg (should be a "shooting-range") and the route choice suggestions can directly be used when showing live GPS. One can even take this a step further and announce a prize for the viewer who was closest to the fastest route choice taken by the athletes. Additionally commentators can use information posted in the chat to improve their comments.

Like in a TV production, perceptive media can also be very interesting for an Internet production. While collecting information from the viewers, one can create an example for explaining a map or other things, which can be hard to understand for non-experts. Software like the orienteering game "catching features" can be used to explain map details by e.g. walking around in a forest close to where most of the viewers live.

"Catching features" can also be used in other ways. As soon as GPS tracks are online during a competition, the course can also be presented free to use on the game. Spectators will then run their own race and maybe make comments in the chat due to their own experiences.

Finally broadcasts should always be presented in the same stream format, collected on one platform. Viewers will then easily find the stream when a race is going on and have the general information about the event. The IOF LiveCenter is going into this direction.

Since this report focuses on TV broadcasts, only the most interesting ideas for Internet production in the writers view are presented here.

8 Acknowledgement

I would like to express my very great appreciation to Klavs Madsen for supervising me and for his valuable and constructive suggestions during the planning and development of this research work. I would like to offer my special thanks to Jan Kocbach for his advice and offering me different kind of resources. My grateful thanks are also extended to Beat Zumstein, Armin Fankhauser, Heinrich Buchegger, Karel Jonak and Sven Rüegg for their help.

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1 Appendicies

1.1 Overview Elements TV-broadcasts until 2013

1.1.1 Opening sequence

WOC 2008/Sprint: Trailer of city, live picture of city and zooming in to arena / info graphic (location, weather and course information…)

WOC 2008 Middle: Trailer of the region (also birds view), birds view arena, live picture of the arena / info graphic (location, weather and course information…)

WOC 2008 Long: Trailer of the region (also birds view), live picture of the arena / info graphic (location, weather and course information…)

WOC 2008 Relay: Trailer of the region (also birds view), live picture of the arena / info graphic (location, weather and course information…)

WOC 2010 Long: Trailer of city, some live picture from Arena / commentator in studio with arena behind / short replay of best Norwegian result in women race / trailer of WOC long victory of current team leader in Norwegian team with live interview with him just after the trailer / pictures out of the forest from the three Norwegian runners (broadcast was not live, therefore already pictures of the race going on at the moment) / funny trailer showing the problem of making to sport tv-friendly but also runners-friendly

WOC 2010 Middle: Trailer with pictures of city and earlier races this WOC (focus on home runners) / trailer of medals of Norwegian runners in further times with live interview in studio just afterwards / presentation of favorites with comment of further champion in studio / short trailer with runners from Norwegian team while their free time

WOC 2010 Relay: Trailer with pictures of city and earlier races this WOC / discussion in studio with commentator and expert about the teams / showing forking system with replay of first leg runners

NORT 2010/2: Runners presentation

NORT 2011/2: Runners presentation

WC 2011/1 and 2 Liberec: Zoom in from surrounding to arena / info graphic (location, weather …) / Review of women race before men start (only day 1)

EOC 2012 Middle: Vignette / clip from the city / info graphic (location, weather and course information…)

EOC 2012 Sprint: Vignette / clip from the city / info graphic (location, weather and course information…)

WOC 2012 Sprint: Course preview with route choice suggestion and picture of pre-runner from time to time (at the same position as route-choice-dot on the map) / pictures from quarantine / live pictures from arena

WOC 2012 Relay: Trailer of city with some orienteering elements (flags with logo)

-> Trailer of the region, trailer of action happening so far, live picture from arena (maybe with commentators in studio), info graphic, runners presentation (older pictures, pictures from qualification, quarantine ...)

Course preview

WOC 2008 Sprint: Google Earth overflow with course and on longer legs prepared route choices / closer overview with map and graphic details (distance, height profile and split position) / Map view with some controls with detailed information (height profile, split position) while waiting for runners during the race

WOC 2008 Middle: 3D overflow / closer overview with map and graphic details (distance, height profile and split position)

WOC 2008 Long: 3D overflow with prepared route choices in different colors / closer overview with map and graphic details (distance, height profile and split position)

WOC 2008 Relay: 3D overflow / closer overview with map and graphic details (distance, height profile and split position)

WOC 2009 Middle: 3D overflow

WOC 2009 Sprint: 3D overflow

WOC 2010 Long: 3D overflow with comments to route choices from commentator

WOC 2010 Middle: 3D overflow with detailed information for some of the controls

NORT 2010/2: Course preview (just overview) / Map view while waiting for runners during the race

NORT 2010/3: Course preview with optimal route choice (only for women)

WC 2011/1 Liberec: 3D preview before start as well as closer overview (with more graphic details; distance, height profile and split position – reduced map, unimportant elements removed)

WC 2011/2 Liberec: 3D preview before start (butterflies shown twice during presentation)

EOC 2012 Middle: 3D preview with control symbols and camera symbols at camera position / 2D overview with graphic details; distance, height profile and split position

EOC 2012 Sprint: 3D preview with control symbols and camera symbols at camera position / 2D overview with graphic details; distance, height profile and split position

EOC 2012 Relay: 3D preview with control symbols and camera symbols at camera position

WOC 2012 Sprint: 2D overflow with route choice suggestion running and short film sequences with runner running the course at the point, where the route choice suggestion dot is (helicopter and head cam view)

WOC 2012 Relay: 3D overflow with route choice suggestion and pictures of camera controls as well as info graphic with course length and climbing (total)

-> Coming in to course on google earth, 3D overflow with all the information like split position, camera view, arena (storytelling), closer 2D overview with height profile and prepared route choices (different height profile for every route choice, discussion about this route choices later on in the course again) – should be after runners presentation and should be done in slow speed (takes time to understand/think about it)

1.1.2 Route choice preview

WOC 2008 Long: Replay of different route choices taken by the runners

WOC 2010 Long: while showing live sync GPS with current leader and some others, map with expected best route choice by course setter in background

NORT 2011/2: preview / live with runners taking different route choices

WC 2011/1 and 2 Liberec: prepared different route choices in different colors during race / different route choices taken by runners during race (replay or replay to live)

WC 2011/2 Liberec: prepared different route choices in different colors in background, taken routes from runners in the forest as a replay on the map with prepared choices as background

EOC 2012 Middle: 2D with three different route choices in different colors, showing twice per sequence

EOC 2012 Sprint: 2D with two or three different route choices in different colors, showing twice per sequence (showing before and during the race)

EOC 2012 Relay: while showing live sync GPS with many teams, three prepared route choice in different colours in background

WOC 2012 Sprint: different prepared route choices in different colors with information about length

-> prepared route choices in different colors and information (height profile, how much path, how much slow ...) to show in the course preview as well as during the race (give them a character like hill choice, marsh choice, risk choice ... -> storytelling), show different taken route choices with at least the best route choice (to be decided by the course setter) in back ground (replay, replay to live or live) – take enough time and show it in a slow way to make it understandable

1.1.3 PoV footage and pre-produced trailers

WOC 2008 Middle: Head cam trailer before race start

WOC 2008 Long: Head cam trailer before race start (same trailer as in Middle)

WOC 2008 Relay: Head cam trailer during race

WOC 2010 Long: Interview with Norwegian runners prepared to show during race

NORT 2011/3: steadicam (headcam like) shown at same position of runners current position / with runner punching control

WC 2011/1 and 2 Liberec: steadicam (headcam like) with runner in front shown before competition

EOC 2012 Middle: headcam with runner in front (showing before the race)

EOC 2012 Sprint: headcam with runner in front and GPS window on the right side (showing before the race)

EOC 2012 Relay: headcam with runner in front and GPS window on the right side as well as info graphic "Eva Jurenikova, Head camera footage" (showing before and during the race)

WOC 2012 Relay: steadicam window with map and GPS in background (showing when runners are at the same area during race)

-> steadicam without runner in front, map with GPS position in window, info graphics with speed and height profile – should be prepared in really good quality, should be shown only suiting to storytelling means when runner in focus is running in this place at the moment (best use during relay)

other prepared material: runners presentation (visiting him at home), side stories (typical orienteering, rumors, myth …), course planers in the terrain, staff working for the event, interview with runners after qualification

1.1.4 GPS-Tracking

WOC 2008 Middle: Live with one or more runners / replay of mistake (sometimes with other runner to compare / replay current leaders (both still out in the forest)

WOC 2008 Long: Replay of mistake (one or more runners) / replay of part of the course with the three best runners (towards the end of the race)

WOC 2008 Relay: Live with many runners with flags (showing all the forking) / replay of mistakes

WOC 2009 Middle: Live mode with many runners

WOC 2010 Long: Replay with selected runners (long session over some controls with different route choices) / live sync with current leader and next fastest runners / live with one runner and very long tail to see the how he did in butterfly / replay to live with fastest runners so far / replay to live with different runners sync to show different route choices / replay of mistake / replay to live sync with two runners to see how butterfly worked / live of one runner with tail of current leader in background

WOC 2010 Middle: replay of mistake with one other runner to compare / replay of runners taking different route choices / sync live with current leader and other runner(s) / showing mistake of runner just before split to explain why he lost time / live with very long tail to see how the runner did so far / live from fastest runner with route from leader in the finish in the background / replay sync of last loupe with all the three (in this case four) fastest runners

WOC 2010 Relay: replay of mistakes and different route choices of first two legs (starting with replay of two first legs, coming in live during 3th leg) / live from leading runners

NORT 2010/1: Mistakes, Live 3 Runners, Sync Live or replay

NORT 2010/3: Live 6 and more Runners (Chasing start) / Route choices / Mistakes from leader / long tails and many runners in butterfly (to see, where they have been) / replay to live to show spreading effect butterfly / replay of decisive part after finish / explain with GPS why runner is late at TV-Split

WOC 2011 Sprint: showing runner who forgets control

WOC 2011 Relay: showing "mistake" on a white background / live with many runners on white map and late in the race with normal map

NORT 2011/2: Live all runners (Knock-out sprint) / long sequences / live route choices

NORT 2011/3: long clip replay to live / live with difference between runners (in graphic below the GPS)

WC 2011/1 Liberec: Mistakes, sometimes in compare to one other runner / leader sync to next fastest or other route choices / replay whole course leader and second while waiting for last starters in finish / live two runners (one nearby caught the other)

WC 2011/2 Liberec: Showing GPS for first two controls before bringing picture at first control (TV-control) / replay of different runners in butterfly on a normal map and when coming to a long leg, prepared route choices in background / replay of butterfly to see how it split the leading group (chasing start) / showing GPS of what happened in picture just some seconds ago

EOC 2012 Middle: replay of mistake which could be seen in pictures just some seconds ago / replay sync to live with fastest runners so far / replay to live from one runner before tv split / replay to show different route choices / live sync with fastest runners so far to wait for one of those runners coming to tv split

EOC 2012 Sprint: live of one runner with tail / live sync with current leader and next fast runner before he comes to the tv control / replay to live after runner has past tv control

EOC 2012 Relay: replay sync to live with many teams before showing the on tv control / live with many runners / live with many teams, three prepared route choice in different colors in background / replay of mistake with many runners

WOC 2012 Sprint: sync live with to fastest runners at first split / replay of runners taking different route choice (with name and flag)

WOC 2012 Relay: live with many runners, info graphic "leading group" as well as info graphic with name of runners (dots marked with national code) / using time behind info graphic / replay to live to show mistake / replay of mistake

-> replay of mistake (should fit in the story telling – to explain why somebody was or will be late at split), live with one or more runner (depends on storytelling) with tail 1min, if more then one runners info about time behind (info graphic), live sync with current leader and other fast runners, replay of part where runners made a difference (needs the comment of commentators, why one runner was faster then the other; stronger uphill runner, easier route choice, mistake of other runner …), replay to live sync with best runners - in relay forking

should be marked with flags and runners GPS at the same time should have flag as well, GPS should always fit in the storytelling (bring somebody to a control, explain why she/he is late, was caught by an other runner, why she/he was running away of someone, if she/he did a god race so far, explain a butterfly, follow him after he was in the picture …), GPS should be shown in slow speed and in a easy way (not too many runners and information) to make it understandable

1.1.5 Specific graphics

WOC 2008 Sprint: Two screens with showing one runner live at control and one other waiting at start (with split window below)

WOC 2008 Middle: Two screens with showing runner on the right side (and also his slow motion) and his GPS live (with him and other runners) on left side as well as split window below / two screens with two runners live / current standing (small window) from time to time with audience in the background

WOC 2009 Middle: Showing current leader in the finish with graphic "current leader"

WOC 2009 Sprint: Showing winner in the finish with graphic "world champion"

WOC 2011 Relay: Showing name of runners and nationality at splits

WC 2011/1 Liberec: second screen in picture with other runner arriving at finish or waiting at start / information about further results when runner is waiting at start

WC 2011/2 Liberec: three different list for different controls in butterfly / showing GPS live on main screen and second screen (smaller) with live picture of runners coming to a control (where the people on GPS already passed by) and in addition splits on the bottom / letting split window in the picture after passing of the first runners for a long time (chasing start) / showing GPS on the big screen, having two small screen on the left with runners they are also live on the GPS (and sometimes info graphic about which runner is at which control in addition) / live GPS with window last split control

EOC 2012 Middle: window with short bio of runner while he is waiting in start gate / two info graphic in picture at tv control – one from tv control split and one from finish with leaders as well as running time of next runner expected to punch

EOC 2012 Relay: Showing runners name and name of all three runners while showing first leg runner on start line / info graphic when GPS is not working "GPS malfunction"

WOC 2012 Sprint: Using always logo-flash before showing replay to make understandable that it is not live

WOC 2012 Relay: flags at the control when forking / live GPS with many runners, info graphic "leading group" as well as info graphic with name of runners (dots marked with national code) / using time behind info graphic

-> bio for runner waiting at start, different windows can be handled but should be explained by the commentators, info graphics usually help the viewer to understand the picture (current leader, world champion, leading group, time behind, GPS malfunction …), current standing (first split, second split, finish…) on "neutral background" from time to time, split graphics or

running time for next expected runner can be on the screen for a long time, at splits you should see the running time of the runner in picture; the time he is already behind or still ahead; the time and name of current leader at this split as well as some of the next runners to guess where he will be (make it exciting for viewers), always use the same flash logo before starting a sequence which is not live to make it understandable for viewers

1.1.6 Camera work

WOC 2008 Sprint: slow motion of crash by a runner during the race / often coming from an object in the city down to the runner

WOC 2008 Middle: subjective camera of technical things like si-unit, control description

WOC 2008 Long: subjective camera of technical things like si-printer / slow motion of crash by a runner during the race / following a runner in a dense area (manual cam)

WOC 2008 Relay: Lot of slow motion and sometimes following the runners (manual cam)

WOC 2010 Middle: Always showing public (spectators, audience) before changing to an other runner

WOC 2010 Relay: Showing two first leg runners watching and discussing GPS of last leg

WC 2011/1 Liberec: following the runner on the side and behind / focus pictures before start (for example someone holding the map with the course towards the camera / control description) / often going out of a session by focus on an object in forest / slow motion of runner crashing / slow motion of top runners in finish

WC 2011/2 Liberec: picture of runner who stopped his race (reading out in finish)

EOC 2012 Middle: Showing replay slow motion of runner doing a mistake

WOC 2012 Sprint: Helicopter in Arena / showing leader on leaders chair

WOC 2012 Relay: Helicopter in Arena / replay of missed pictures (using always logo-flash before showing replay to make understandable that it is not live)

-> normal camera which is able to move an a podium and zoom to "search" the runner, manual camera in forest and arena, helicopter, stabilized stadicam, slow motion, replay of picture produced while an other interesting thing was shown live (with logo flash), "using" people in the finish (runners as well as coaches, family ...) - it is very exciting for the viewers to wait for a runner so camera should not only show the runner when he is already there; running time and comments from commentator help to make it more exciting, things around the runner should be shown (his view to the start clock, control description, compass, map, si-unit ...), following a runner (and moving cameras in general) especially on a low level with camera produces dynamics

1.1.7 Comments

WOC 2010 Relay: While showing the live action of last leg, the two first leg runners stay in the studio and answer questions from the commentator

WOC 2012 Relay: Norwegian commentator explaining PoV movie (runners view+GPS) / Norwegian commentator explains also why time keeping is not working after a runner punched with having misspunch "on his batch"

-> commentators should (beside there normal guidelines) focus on explaining every thing which is a bit more difficult in a picture; therefore a lot of their work is to explain and make it understandable for everybody (for example what a person could have thought while doing a mistake; "explain the mistake"), they should always following the storytelling from the whole production, information/comments from runners in the finish may be used

1.1.8 Closing sequence

WOC 2008 Sprint: replay of running pictures from winner (whole race), run in to the finish from the best 3, result list, while waiting for prize giving

WOC 2010 Long: Interview with winner while showing GPS and pictures of his race / trailer with pictures of three best runners

WOC 2010 Middle: Interview with winner while showing GPS and pictures of his race / trailer with pictures of three best runners / trailer with best pictures of the day

WC 2011/1 Liberec: using GPS replay, run in from first three runners, interview and result list while waiting for price giving / zoom out in the same way as opening sequence

WC 2011/2 Liberec: interview with best Czech woman after 6 person in finish, overview final results / zoom out in the same way as opening sequence

EOC 2012 Middle: GPS replay of top3 / trailer with pictures of three best runners

EOC 2012 Sprint: GPS replay of four fastest runners / interview

WOC 2012 Sprint: trailer of three best runners / live interview with winner

WOC 2012 Relay: Showing replay slow motion of run in first three teams / replay with best pictures of whole race (tell the story) / interview with the winners

WOC 2010 Long: interview in finish with current leader (and Norwegian runner later on), showing a mistake of him and asking about what he was thinking and doing at the moment of the mistake / interview with Norwegian woman runner in the studio during men race

WOC 2010 Middle: trailer of Norwegian victory in middle distance and interview with this runner in the studio just afterwards during the race / trailer with French runner living in Trondheim to prepare for WOC (and showing his GPS just afterwards) / interview with father waiting in the finish for his son / interview in studio with current leader during race (and letting him comment his GPS)

WOC 2010 Relay: live interview with runners from first two legs during race of last runner

WOC 2011 Relay: Norwegian TV showing pre-produced interview with runner just before she is running out in the woods

WC 2011/2 Liberec: long race (chasing start) was not live, so times with no pictures could be avoid by showing GPS of the part without camera and waiting then at the next tv-control for the leaders.

EOC 2012: often story GPS so far, coming to live GPS and then waiting for runner at the control to make a good storytelling

EOC 2012 Relay: showing PoV headcam session just after runners have past this place on GPS

WOC 2012 Relay (as well as other events): using always the same music while showing GPS

-> final result list (as well as overall standing in a more day competition), replay with pictures and GPS (storytelling) of best three runners, if possible interview with winner (showing pictures of his race at the same time), maybe prize giving, comment/picture of commentators, trailer with best pictures of the day – the closing sequence should not be too long, there should not be a "waiting" for anything (like interview or prize giving); therefore it should be secured that the best three runners are available only for the tv producer/broadcasting the first 5min after the race was decided, closing sequence should tell the story of the race and show the sport in a dynamic way

1.2 New specific graphic elements

1. Introduce split times from earlier splits

- Make it easier for commentator and viewers by taking element from alpine skiing (show earlier splits – GPS not required)
- Probably have to do comparison to ”current leader” to avoid confusion with respect to race development
- (mostly useful for interval start races)

2. More split times = more knowledge

- Increase usefulness by including more splits. Can either be from extra split time stations (probably best) or GPS split times
- Gives viewer increased knowledge about race development without making it too complicated – can give those ”wow”-moments about great achievements which today are ”hidden”

3. Analysis screen

- Show statistics based on GPS-data (e.g. in slow motion repeat)
  This design is not ideal – but should give general idea
- For mass start this could be statistics about who is in front of group etc. (should also be possible to get from GPS-data?)

4. Alternative visulization (1)

- Use bars to make it easier to understand the development without reading the numbers (this design is not ideal – but should give general idea)

5. Alternative visulization (2)

- Skip the numbers – more bars
- Would give interesting information – the suggested visualization does however not work. Need something which is easier to understand

1.3 FIS TV Production Guidelines for FIS World Cup / FIS World Championships

FIS TV PRODUCTION GUIDELINES FOR FIS WORLD CUP / FIS WORLD CHAMPIONSHIPS

INTERNATIONAL SKI FEDERATION

FIS TV Production Guidelines

CONTENT

International Ski Federation
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FIS website: www.fis-ski.com
Contact person: Christian Knauth, Marketing/Communication Director

GENERAL

Co-operation and Quality

The International Ski Federation and the national ski associations are interested in a close co-operation with the TV stations, especially with the respective host broadcaster and warrant the corresponding support.

Quality in sport, but specially also in TV production is the interest of all. The FIS Marketing has worked out these "FIS TV Standards" per discipline and the "TV Co-operation Guidelines" in co-operation with TV experts from different counties, which have been approved by the FIS.

These guidelines are binding and have to be observed, especially by the HBC in their planning and realisation.

Please don't hesitate to contact us if you have further questions and please also send us your amendments and proposals in written.

We look forward to a good co-operation and a qualitative high level realisation.

Christian Knauth
Marketing/Communication Director

1. Advertising / TV Planning

1.1 General to the binding TV regulations

TV is a very important publicity tool for sports and an essential part of the marketing concept. The host broadcaster (HBC) is responsible for a good TV production in close collaboration with the Organisers and the FIS.

1.2 FIS Advertising Rules

The actual “FIS Advertising Rules” are the basis for advertising possibilities in the competition area respectively TV area.

The guidelines contain general advertising principles and points for all FIS disciplines and an exact description of the advertising possibilities for each individual discipline.

The organisers assigned to carry out an event by the International Ski Federation (FIS) and their National Ski Association is responsible for the observance of these advertising rules. Objections and complaints can be made to the respective National Ski Associations or to the International Ski Federation and in case of offences the organisers are fully liable against the FIS Council as well as the respective National Ski Association.

1.3 Agreements per venue

1.3.1 OC meeting/ TV inspection

In good time – if possible in summer - prior to the event a *discussion on the organisation with the FIS Chief Race Director* must be held, preferably with representatives of the HBC and the marketing agency, in order to determine camera positions and eventual special wishes for exceptional TV layouts, start intervals etc.

The FIS Chief Race Director respectively FIS Race Director must be invited to this official TV inspection or absolutely receive the minutes of this inspection.

1.3.2 Check of advertising

Base regarding the advertising possibilities are the FIS advertising rules on one side and the sport security aspects on the other side.

This refers especially to camera positions, the installation of advertising spaces and special advertising elements, e.g. inflatable in the competition area.

The organiser together with the HBC and the marketing agency must clear in a final check prior to the first training and at the course-setting for FIS Alpine World Cup events in Downhill and Super-G, Slalom and Giant Slalom *all matter related to advertising.*

In Ski-Jumping, Cross-country, Freestyle and Snowboard competitions this final check must take place 24 hours before the competitions.

1.4 Competition area (especially for Alpine and Snowboard)

1.4.1 Placement of advertising banners

The Organiser is obliged to and the marketing agency must ensure that advertising banners along the course are fixed on easily breakable frames or plastic poles made of shatterproof material towering 150 cm from the snow.

Wherever advertising banners are fixed in the competition area they must be fixed with rubber cords and the banners must have eyes.

1.4.2 Inflatable

- is not allowed in safety zones and between them;
- may only be placed at least 8-12m from the competition site;
- may only be placed in consultation with the FIS Chief Race Director, FIS Race Director or FIS Marketing responsible as well as the host-broadcaster and the Organiser;
- must be placed before the competition day to enable joint acceptance.

At downhill races, advertising elements must be placed before the first training, in the course is prepared for the race, for all other disciplines prior to the inspection of the course (see regulations for inflatables).

Furthermore it must be considered that:

- any advertising on A Net safety systems must be fixed on the evening before the race.
- advertising material along the course must be placed prior to the inspection.
- advertising personnel is not allowed to leave their position along the course after the official inspection i.e. approx. one hour before the start.

1.5 Lighting installation (1000-1200 Lux)

For event sites organising evening/night races the complete competition area as well as the areas significant for the TV transmission must be lighted with at least 1000 Lux. Co-ordination/test with the HBC has to be made on time.

2. Corporate Identity

2.1 Design

Under the auspices of the FIS a TV graphic design for data-/timing Info-inserts will be developed. This data- and timing service

- shall be inserted by TV stations in their TV transmissions
- will be available from the FIS partner free of charge,
- will be inserted with his name/logo free of charge by the TV stations. See description in a separate appendix to the advertising guidelines.

2.2 Replay

Since the beginning of the transmission of the FIS World Cup is provided by an international television signal and an international television programme, indications at the beginning of a replay transmission may relate only to the FIS Logo and the name „FIS World Cup“ or „FIS Snowboard World Cup“. Any other replay announcements elements are not allowed respectively need the permission from FIS.

3. TV Design

3.1 General

TV agreements, based on the current FIS TV rules, with an agency or TV company must consider the observance of the FIS TV guidelines regarding production quality and TV transmission of ski and snowboard events considered in the FIS calendar, for the FIS World Cup in particular.

3.2 TV production

- Top quality and optimal production of TV signals featuring sport as the centrepiece;
- Adequate consideration and presence of advertising respectively event sponsors;
- Production of the whole event for a live-transmission (a world feed) showing all competitors, considering national market conditions and importance of the discipline and the competition series;

3.3 TV transmission

- Best possible and most extensive publicity.
- Widest possible transmission range and TV channels with large audiences;
- Guaranteed TV live-transmissions at least in the country where the FIS World Cup event takes place and most interested other countries;
- Live transmissions must include the official FIS logo, time inserts, data-tables and results as well as graphics and international sound.

4. Co-operation / Organisation

4.1 Course-setting

In SL, GS, SG and DH the presence of the TV director of the HBC at the course-setting is essential, in order to determine optimal camera positions, which consider also the security aspects. He has to be invited by the OC.

4.2 Test

The last training run in downhill and ski-jumping should be
- used as camera tests for TV transmissions
- either as summaries or News, considering national aspects.

For an attractive TV production, specially for Super G, where we have no training, we should absolutely create the possibility between FIS, TV and OC, to introduce “forerunners” as in Giant Slalom, that means the day before the race 5 forerunners should ski the course to offer a “real test” to the TV production (cameras, cut, intermediate and finish times, technical functions, etc.)

4.3 Backup Program

In case of bad weather or weather forecast the FIS Chief Race Director, in consultation with all concerned (OC and TV in particular – HBC as well as other important TV stations with live transmissions) shall establish a „Backup“ program as early as possible (e.g. after cancellation of a training). There is no standard proceeding as case by case decisions are to be taken considering existing circumstances.

<u>Changes of Starting times</u>
In general s*tarting times may change shortly* (e.g. 5 minutes later, because of problems with a forerunner) while *due to bad weather the may be deferred up to e.g. 30 or 60 minutes.*

In case of such changes information shall be given 15 minutes (eventual. 30 minutes) before the new starting time whether the new starting time will in fact be kept or if there is another delay of e.g. again half an hour.

<u>Last possible starting time</u>
In case of backup programs the FIS Chief Race Director in consultation with the concerned (OC and TV in particular) will determine the last possible starting time.

Flexibility
Under these circumstances all parties involved must show flexibility and comprehension for the particularities of ski sport

4.4 Co-ordination / Information

After training or in case a race is cancelled the FIS Race Director together with the OC, FIS TD, FIS Marketing Director, HBC and the NSA shall meet to agree the program. Thereafter a respective co-ordination and agreement has to be realised with the significant TV stations that have live transmissions.

There should be a short meeting between the FIS Chief Race Director, Jury and the TV producer 15 minutes before the team captains meeting – depending on the actual situation, do discuss some points before the final fixation of the programme.

The TV director/producer of the HBC shall be present at team captains meetings.

At the TV briefing the HBC informs TV channels about production and the "running order". A written agenda should preferably include the "backup program". The HBC respectively the booking office is responsible for information of all TV stations.

4.5 Contact: TV –FIS

Between the FIS (Chief Race Director, Marketing & Communication Director) and the TV direction/producer and the main right holder a direct connection during the entire length of the race shall be ensured in order to co-ordinate special incidents with the TV production. Contact persons shall be assigned per event.

The HBC being responsible for *TV direction and production* shall have a radio with the Jury channel in order to continuously follow development and progression of the competition from the Jury's viewpoint.

In special cases another radio may be provided to the producer / liaison person of the TV (reporter cabins, booking office or TV channels with live links in the finish area) to also follow the events on the Jury channel.

In case of urgency and special the TV direction/production only can pass on such information to the FIS Chief Race Director via radio centre.

4.6 Speaker / moderator /sound

Speaker and moderator must be informed in detail in which way the competition will be transmitted, and they cannot report on events at the loudspeaker which will be shown on TV a bit later due to short-term belated inserts.
Mainly in case of delayed start inserts followed by the live picture.
Sound both along the course and in the finish area must be co-ordinated between the OC and the HBC.

4.7 Programme

Aside of TV-Production the different TV rights-holders per country shall plan and ensure in good time

- in which way advertising for ski-sports transmissions prior to the airings shall be made;
- airing of attractive magazines and summaries after live-transmission of the event.

4.8 Reporter boxes

Depending on contractual agreements reporter boxes for TV and radio stations of the National Ski Association or the HBC must be set up, considering:

- Positioning: in such a way that the competition site (e.g. finish area and the last part of the course) are visible;
- Noise protected and totally separated
- Sufficient space for commentator, co-commentator and an interview partner;
- Sufficient desk for documents and to write down notes;
- Heated and 2-3 coat hooks;
- Technical installation with TV picture and data monitor.

5. TV Production

5.1 Starting area

Only one camera of the HBC may be placed in the starting area and, in case there is sufficient space in the start house a hand camera may be used.

Other TV cameras may be placed outside this warm-up area, provided that a specific authorisation by the FIS Chief Race Director and an approval by the host-broadcaster have been obtained.

The start of the athlete must be shown in any case in all disciplines.

5.2 Starting Time

In the course of the FIS season planning, a starting time planning has to be made after the ratification of the FIS World Cup Calendar under the control of the FIS Marketing Direction and in agreement with the TV networks respectively TV rights-holders and organisers. The fixed times are binding for the organisers and must in any case be observed.

The published starting time on the FIS Starting time list is the time when the athlete with the number 1 will start.

Short term advancements of the starting time are impossible except when agreed upon with the TV channels.

5.3 Information on venue / region

The producing network (HBC) must present the competition venue/city/region in an attractive 1 - 2 minutes trailer. This is a non-compulsory offer, a recommendation to the transmitting TV networks.

At events lasting several days (e.g. FIS WSC) the information about the site/region should be different each day and contain actual spirit pictures of the previous day.

In the opening and closing sequences the FIS World Cup sponsor and the title of the event must in any case be shown on screen, clearly visible for 5 seconds and with the original logos. Presence of sponsors depends on the respective national legislation and on special arrangements with each TV network transmitting the events.

5.4 Presentation

of Athletes
For the presentation there is a possibility to
- take details of the official draw, showing the athletes with their clearly visible starting bibs;
- present the athletes in competition suits and gear.

of TV Production/course
When presenting the course (graphic, runs) expensive TV production (e.g. crane-camera) may be featured.

5.5 FIS World Cup logo

Shortly before the start of the first athlete the official FIS World Cup title, the FIS logo with the addition “World Cup” must be inserted to the live picture.

5.6 Start intervals

Principles:
- 20 or 25 seconds longer than the leading competitor is shown on the picture.
- Maximum start interval is 2 minutes.

During the FIS inspection in summer the intervals shall be determined with the FIS Chief Race Director thus leading to determination of camera positions for the whole course.
Start intervals are decisive for the presence of sponsors and advertising as well as TV (slow-motion etc).
Preferably the TV director or project manager will be present at this OC meeting/inspection where requests of the HBC may be submitted to the FIS and the OC.

5.7 Timing / data

Intermediate times shall be co-ordinated with the TV direction and the FIS Chief Race Director. Respective installations must be set up prior the first training in downhill in particular. In case of special requests of the TV on certain courses their representatives must be present at the inspection in summer or arrive in due time prior to the event.
The timing- and data sponsor must inform TV channels timely about planned data- and timing service.

5.8 Sound

”Sound is half of the TV picture”, i.e. original sound may strongly support the atmosphere. The host-broadcaster shall install an appropriate number of microphones.

5.9 Leader of the race

The leader of the race should stay in the action sector after the exit gate to facilitate currently by TV cameras of the HBC.

5.10 “TV Info pauses” (approx. 2 minutes)

The pauses introduced in Alpine and Ski Jumping FIS World Cups shall be used for

- Interviews with athletes in the finish area
- Background information
- Comments
- Inserts of advertising spots

The respective separate FIS regulations for TV Info pauses must be observed.

5.11 TV Interviews during live transmissions of the event

In order to follow the whole race, the interviews shall be taken from “dedicated live camera position” during breaks or between two runs, but preferably not in the field of the first 30 competitors. If by special reasons an interview must be made during the race it can only be shown within the on-going event as “small window” with sound.
Such interviews shall only be unilateral and not inserted as multilateral interviews.

When presenting the athletes, their faces and equipment must be shown, thus emphasising their personality.

5.12 Moderation positions

OCs must, if needed, assist TV companies and arrange for an attractive moderator position near reporter cabin and the mixed zone, thus enabling a more interesting and exciting presentation of the event.

5.13 Interview service / corridors

Corridors for the different TV companies shall be provided at the finish in the action sector and a TV corridor with a podium for the winner's presentation with a unilateral interview wall shall be set up by the Organiser in consultation with the host-broadcaster.

The access to this area should be limited and only for TV stations; neither radio nor people for the press should be allowed therein. A special entry therefore, must always been designed for TV, separated from the entry for radio and press.

The Organiser must make sure that the first, second and third placed athletes and eventually even more national athletes can be brought to this corridor.

5.14 Winner’s award ceremony / Winner’s presentation / Winner’s interview

At the end of the live TV transmission – 2 - 4 minutes after the finish of the last competitor - the presentation of the three first shall take place in front of the podium with back-wall, on which the advertising of the site/region and the official FIS World Cup title advertising is shown.

The athletes have to present themselves immediately after the end of the competition respectively at a time determined by the FIS Jury/OC and the host-broadcaster for the awards ceremony on the podium with their competition suit and gear and clearly visible starting bib.

TV short interviews after the race and before the winners presentation may not be taken in the finish area but in the therefore designated TV platforms respectively TV corridor.

5.15 Procedure at the end of competition (for SL and GS in particular)

The following order must be observed:

- last competitor at the finish;
- first atmospheric shots of the successful athletes in the finish area
- Athletes are going to the winner's presentation, in the meantime TV graphics with results will be inserted;
- 2 – 4 minutes after the end of the race the winner's presentation is taking place;
- Flash interviews with the first, second and third placed with the HBC and then with their respective national TV station at their platforms
- Other TV channels can make interviews only after the winners presentation
- Athletes go to the material- and doping control;
- Winner’s press conference at the press centre

5.16 Technique for interviews

Version 1:
One Live camera of the HBC (co-ordinated by the Liaison Officer) will be provided to the interested TV stations, if the segments have been booked following the in advance communicated deadline.

Version 2:
A camera (cable, RF or ENG, according to special production agreements) must be available for TV companies prior, during and after the race.
For these "post multi unilateral" interviews agreements are needed between the HBC and the TV channels. The respective booking and conduction deadlines have to be adhered by the respective TV channels.

Two types of interviews are possible depending on the system:

1. *„Live" fed in interviews*
   Recorded with directional or cable-camera
   Recordings if circuits are already open

2. *Recorded interviews*
   With directional or cable-camera
   Recordings if circuits are not available yet (so that interview partners must not wait)
   Fed in at the end of the race or the first run

Interviews <u>prior or after</u> the race may either be taken „live" or as a back-up.
Those <u>during</u> the race may only be backed up unless the TV company has booked or installed the needed transmission devices in advance.

5.17 Organisational matter

During the inspection of the venue: placement of the podium and the unilateral TV interview corridor within the finish area must be carefully planned in order to reach eventually needed special agreements.

Co-operation with the FIS, the FIS World Cup title sponsor service team, respectively is essential for co-ordination of interviews with the ceremony on the winner's podium and to lead the athlete to the unilateral interview-wall.

To support the TV stations and for assistance at the realisation of the FIS TV Standards the TV right holder respectively FIS can nominate a TV co-ordinator/ liaison man.

6. Co-operation

6.1 TV ratings

At the end of the season in April of the current year, the TV rights-holders, the host-broadcaster, respectively the EBU and its member TV companies inform on the ratings of skiing event transmissions.

The FIS respectively the National Ski Association will receive, free of charge, a review on the TV ratings for the transmission of skiing events and the connected networks.

If possible this information will be reported using the FIS TV rating form.

FIS TV Production Guidelines
FIS TV Production Standards FIS Alpine Ski World Cup

1. General Binding TV regulations

The detailed minimal FIS TV standards as listed below must be observed by TV right-holders and HBC in all FIS World Cup productions.

2. Inspection

Immediately after announcement of the competition site, there should be an inspection by the HBC.

Attendants:

HBC:	TV director/producer, as well as further persons to be nominated by the HBC, e.g. camera man, sound director, production-, up-link and radio technicians, etc.
Organiser:	Chief of race, chief of course, etc.
FIS:	FIS Chief Race Director respectively FIS Race Director

At this inspection the camera positions must be determined.
Caution: A start alternative (bad weather conditions) must also be planned.
If possible a camera should be planned on the opposite slope to show the course.
The HBC shall make a report (minutes) on this inspection.
All camera positions shall already be determined in this report.

3. Technical Setup of the HBC

For FIS Downhill / Super G least 5 days prior to the start of transmissions the FIS and the Organiser shall jointly check the existing inspection report.
Changes of the course shall immediately be considered.
Snow conditions and safety requirements shall be checked.
Control of camera-towers in regard to stability, view on the course.
Safety approval by the FIS Chief Race Director or FIS Race Director.

4. TV Production

4.1 Slalom

- Number of cameras: 8 - 11
- Super slow-motion and slow-motion from different perspectives should be possible.
- The entire slope must be within shooting range of cameras.
  Each competitor must be shown from the start to the finish.
- One portable camera at the start (for the start preparation)
- One portable camera at the finish (for the reactions of the competitors)

- For night slaloms an optimal lighting (at least 1000 lux and suitable for slow-motion) is essential in the start and finish area; it must be tested by the host-broadcaster in good time).

4.2 Giant Slalom

- Number of cameras: 9 - 12
- The entire slope must be within range of cameras.
- Each competitor must be shown from the start to the finish (especially in the second run).
- Start intervals must be determined together with the Race Director in such a way that there will be enough time between stoppings, reaction of the racer and the start of the next one.

- The day before the competition, 5 forerunners shall run the course in the determined start interval to enable the director and cameramen to make a test.

4.3 Super G

- Number of cameras: 12 – 16, depending on the course
- If possible, the entire course shall be within camera range (maximum start interval 2 minutes).
- The first 30 competitors must be shown during the entire run from the start to the
  finish.
- The start must be shown after the first 30.
- The other aspects of transmission quality are the same as for Giant Slalom.

- The day before the competition, 5 forerunners shall run the course in the determined start interval to enable the director and cameramen to make a test.

4.4 Downhill

- Number of cameras: at least 14 – 20, depending on the course
- The start, interesting parts of the course and the in-run at the finish must be shown in any case.
- Training runs shall be test-runs for the live transmission.
- The day before the race, training runs respectively the last training shall be started at the starting time and as a test for the cameramen and the director.
- Last changes of camera positions because of e.g. light in ones eye or invisibility
- of a part of the course are possible after the training.
- The produced TV signal of the last training shall also be offered to international TV companies respectively. EBU.
- The provisional start interval for training runs shall be finally determined after this test.
- If training runs are not transmitted, the EBU shall be provided with summaries or EVN reports (3-5 minutes) especially of men's downhill races.

5. Summary for the Production

The TV director or the TV producer of the HBC shall always attend the team captains meeting. Changes of the program shall be communicated immediately to the EBU and to linked networks.

6. Camera Forerunner

These wishes have to be discussed with the FIS Chief Race director and the HBC at good time, which means at least 24 hours prior to the start.
The approved start will take place 10 minutes prior to the original starting time.

7. Coverage

Speed and technique are the essentials at alpine FIS World Cups. Therefore, the following points determine camera positions:

- The viewer shall be shown speed and technique of the competitors;
- He also shall see the characteristics of the course, e.g. extreme inclinations;
- Turns, line, the way the athlete masters his skis and interesting jumps must be shown.

All this must be part of certain continuity the enable comparison with the runner before.
Slow-motion shall only be inserted in case of indeed interesting sequences and incidents.

Transmissions must be up to international standards.

This means:
- Minimum number of cameras must be kept.
- Telescope cameras (at least 55-fold), heatable must be used.
- Super slow-motion pictures e.g. in SL from key positions.
- Slow-motion pictures of falls should be shown repeatedly from different perspectives, e.g. from the opposite slope. Not until the athlete is ok.
- Start shall be shown in all disciplines with original sound, especially in DH.
- If there is a key position in the upper part of the course, this key position shall also be shown in a second airing.
- The competitor must be shown live from start to finish with time inserts.

- **Important: Original sound appropriate to the picture.**
- Microphones shall be positioned along the course.
- Early co-ordination between TV and OC in regard to placement of loudspeakers at
  the finish area in particular.
- All competitors shall be shown in an optimal way. The current leader must be shown in the finish.
- During the race the international signal may not be damaged by the direction in regard to a dramatic featuring of the competition.
- It is absolutely unacceptable to insert interviews by the host-broadcaster (- not to
  mention without sound -) in the international signal are not allowed. A national direction must be planned to make interviews.
- Photographer's positions must be cleared in good time between the photographer's co-ordinator and the HBC.
- Timing/data/TV graphic service must be near the TV compound.

8.1 BASIC TIME SCHEDULE SYSTEM FOR FIS WORLD CUPS (DH, SG, 1ST RUN SL, GS)

IN	*OUT*	*DESCRIPTION*	*SOURCE*	*DURATION*
(sample)				
9.45.00	9.50.00	Beauty shots and warming up	live	05.00
9.50.00	9.50.15	FIS & HBC Logo Animation	tape	00.15
9.50.15	9.50.45	Beauty shots / title event / TV director	live + Swatch	00.30
9.50.45	9.52.15	Venue presentation + Animation map	tape + Swatch	01.30
9.52.15	9.54.30	Beauty shots + Title: Audi FIS Ski World Cup + FIS Overall World Cup Standing or Public Draw report	live + Swatch	02.15
9.54.30	9.55.45	Presentation course with helmet-cam or hand-cam or graphics	live	01.15
9.55.45	9.56.00	FIS Logo Animation	live	00.15
9.56.00	9.56.15	Weather graphic	live	00.15
9.56.15	9.58.15	Starting list	live + Swatch	02.00
9.58.15	10.00.00	Shot of warming up + 1st runner at start	live	01.45

10.00.00	***RACE***	live
◆	**Break after racer ...** Standings – current leader racer close up in the finish area and background pictures Race analyses	
◆	***END*** **At the end of the first run** Replay of best racer and slow motion Standing of the first run Replay of best racer End of transmission **At the end of the race** Final standing and FIS World Cup Standings Flash Interviews (1.,2.,3. competitor) Winners‘ presentation Replay of the best racer FIS Logo Animation End of transmission	

8.2 BASIC TIME SCHEDULE SYSTEM FOR FIS WORLD CUPS (2nd RUN SL, GS)

(sample)

IN	*OUT*	*DESCRIPTION*	*SOURCE*	*DURATION*
12.30.00	12.35.00	Beauty shots and warming up	live	05.00
12.35.00	12.35.15	FIS & HBC Logo Animation	tape	00.15
12.35.15	12.36.30	Beauty shots / title event / TV director	live + Swatch	01.15
12.36.30	12.37.30	Venue presentation + Animation map	live + Swatch	01.00
12.37.30	12.39.30	Beauty shots + Title: Audi FIS Ski World Cup + Overall FIS World Cup Standing 1st run	live + Swatch	02.00
12.39.30	12.41.30	Replay of the winner of 1st run	tape	02.00
12.41.30	12.41.45	FIS Logo Animation	tape	00.15
12.41.45	12.42.00	Beauty shots	live	00.15
12.42.00	12.43.30	Starting list	live + Swatch	01.30
12.43.30	12.45.00	Shot of warming up + 1st runner at start	live	01.30

12.45.00	***RACE***	live	19.00
◆	**Break after racer ...** Standings – current leader racer close up in the finish area and background pictures Race analyses	live + tape + Swatch	02.00
◆	***END*** **At the end of the race** Final standing and World Cup Standing Flash Interviews (1.,2.,3. competitor) Winners‘ presentation Replay of the best racer FIS Logo Animation End of transmission		

9. Transmission

9.1 Start of transmission

International begin of transmission is 10 minutes before the first racer, at speed events 15 minutes.
The running order shall always be the same.

9.2 TV start

- FIS signal respectively logo of the host-broadcaster
- Title of the event
- World Cup review / map, competition site
- Caption of the resort/region (2 – 3 minutes)
- World Cup leaders per discipline and overall
- Presentation of the course with subjective cameras (helmet-and hand camera, helicopter-camera
- Presentation of the whole course (graphic, opposite slope camera)
- Ev. winner of the last race on this course
- Ev. Interview with the course-setter
- Presentation of competitors in the best positions of the FIS World Cup list with sports gear and clearly visible starting bib (if possible, with pictures of the start number draw)
- Start/warm-up area
- Meteorological graphic
- FIS World Cup signal (1 minute prior to start number 1 / length: 15 seconds)
- Start competitor number 1

9.3 Continuously:

- Reaction of athletes at the finish
- Start phase live and as an insert
- Atmospheric pictures of athletes and the leader from the finish area
- Background information continuously: mini-statistic
- Slow-motion inserts of faults, e.g. missed gates
- Actual super slow-motion pictures of athletes and their reactions

9.4 Before the second run:

- Presentation of the course / technical data
- Run of the leaders of the first run
- Special incidents of the first run
- Short interview with the leader of the first run
- Start list for the second run
- Start / warm-up area
- Start of the first racer of the second run.

9.5 TV End

- Emotional pictures of the winner in the finish area
- Overview of race results (2 minutes)
- FIS World Cup standings / Nations standings (2 minutes)
- Winner's presentation on the podium (2 minutes)
- International interview with the winner in English
- Picture of the winner / surroundings
- Highlights / impressions of the competition (1 minute)
- FIS signal

10. Information- and preparation pauses from the sporting point of view

10.1 General

- No athlete shall be negatively affected by such pauses.
- During pauses, a forerunner may eventually run while the international signal shows background information / attractive sequences of the race.
- Information pauses shall always conform to the principle of staging a sporting and dramatic event.
- A general guideline will be established by the FIS prior to the competition season. The last decision in regard to carrying out the event - e.g. due to meteorological conditions - will be made by the Jury or the FIS Race Director.
- As in other sports a uniform way of TV presentation shall be realised with all TV companies involved.
- <u>No direct interference with sport reports</u> shall result from advertising spots during a race. This FIS regulation shall enable TV companies to finance the considerably higher TV rights fees by means of inserting advertising spots in a uniform way.

10.2 Sequences

Timing

- Downhill/ Super G — between the 15. and the 16. starter
  between the 22. and the 23. Starter
  short break after number 30.

- Giant Slalom / Slalom
  1. Run: — between the 15. and the 16. starter
  between the 22. and the 23. starter

  2. Run: — between the 15. and the 16. Starter
  (after the 16th placed of the 1st run)
  (1. - 30.) — between the 22. and the 23. Starter
  (after the 9th placed of the 1st run)

10.3 Length of pauses

Duration of Information pauses is
- at least 1 minute and 50 seconds
- conform to the starting interval determined, that means double start interval

10.4 Interval-order

- Decision on and implementation of interval order is made by the FIS Chief Race Director.
- Pauses for information / precision shall be announced in good time prior to the competition together with all intervals - as usual - and they must be included in the race schedule of the day.
- For all intervals - as usual - the following applies to these special information intervals also: If needed and possible a forerunner shall run.
- In case of meteorological problems the FIS Chief Race Director may shorten or even cancel completely these special intervals. This has to be discussed absolutely with the HBC (TV director/producer).

10.5 TV design:

Division

10 % for intermediate results
80 % for information / interviews / advertising
10 % for intermediate results

Interviews

For interviews during a race the following must be taken into account:

- Live picture (3/4). interviews (1/4)
- Preferably no interviews during the race before start number 30

FIS TV Production Guidelines
FIS TV Production Standards FIS World Cup Cross-country

1. General Binding TV production regulations

TV coverage of FIS cross country events should bring all essentials to the audience, featuring athletes, atmosphere, drama and human aspects of the event, thus giving the audience the feeling of "being there".
The following TV standards for FIS World Cup productions must be observed by the TV rights-holder and the HBC.

2. General points/Camera configuration

Stadium
In each stadium a wide-angle shot should be positioned, so that the stadium as such is marked and distances can be determined clearly through top shot. In many stadiums the course is so wide, that a skidoo could be used (particularly because the technical infrastructure referring wireless cameras is very close to the TV Compound).

At the finish line a photo-finish camera for the first positions is essential. One overview camera and at least two close settings have to be warranted here, for the winner, the second and third placed.

Course
For an optimal production 3 cameras have to be positioned per intermediate time,
- one camera recording the athlete while approaching the intermediate time,
- one camera showing the overview settings of the intermediate time and
- one camera showing the close-up of the athlete approaching the intermediate time. This camera must pivot.

At races with mass start one skidoo should be used. The position should be selected so, that the way can be used by the outward and return journey.

To provide an overall view to the spectators it is necessary to show the course/trace. This should be done by a wide angle shot (section of the course – important by long courses if different sections are shown).

To demonstrate the dynamic of the sport we have the possibility to use a crane. Frequently it is only through a crane possible to visualise the situation correct in respect of content.

A super-slow-motion camera should be used for the overall course. Pictures will be generated, which will be used to fill sections of the course, which are not covered with a camera. These sections must be agreed and fixed with FIS (often certain sections are not covered and important things for the course happen there).

The total number of cameras should be adapted. The concept should be: the stadium is the focus and we have always the same number of cameras. On the

course we have to respond dynamic on the respective race. The course should be covered as good as possible with perspectives. If this is not possible, in advance defined sections (which are unimportant) will be left without cameras and for this transmission gab a concept must be provided (slow-motion, start replays, overhauls, crashes, …)

2.1 Camera configurations

2.1.1 Start area

Camera 1
On a platform approx. 30 meters after the start, lens with wide focal distance

Camera 2
On a platform approx. 100 meters after the start, lens with wide focal distance

Camera 3 (portable)
Approx. 1 meter after the start, wide-angle lens

Camera 4 (portable)
Behind the start line (for preparations of the athletes

2.1.2 Finish area (should always be identical if possible)

Camera 1 and 2 (also as super slow-motion)
On a platform in the so called „Head-on Position“, lens with large focal distance

Camera 3 (portable)
Behind the finish line with wide-angle lens

Camera 4
On a platform approx. 100 meters before the finish line in a 90° angle to the course, lens with large focal distance.

Camera 5 Photo finish, (unmanned)
Fix installed on the finish line (remote-camera)

Camera 6 (speed cam)
On rails approx. 100 meters long parallel to the finish, with wide-angle lens. This camera technique should be used at big events with several competitions.

2.1.3 Special

For the transmission of the signal from the course, the fix camera positions depend on the topography and usually 2 skidoos with steadicams and wireless technique are required. For a lap of 1 km 2-3 cameras are necessary, at intermediate time measurements ideally 3 cameras.

At pursuit competitions: the changing zone must be installed so, that the actions can be recorded through the start respectively finish cameras.

At “hill climb competitions” 3-4 skidoos are advantageous, as it is a “single start”.

2.2. An inspection of the course is absolutely necessary fort he production.
At this inspection the camera positions and the height of the platforms must be fixed, this counts also for the use of wireless techniques.

2.3 The filming areas by the timing points should present the viewer different techniques of skiing. A clear, over and over repeated cutting pattern at the timing point should enable the viewer make his estimations of the athletes placing.

The main coverage of each passing point should be concentrated on the athletes approach to the passing point, not after.
Coverage after passing points and close-ups shall show the viewer characteristics of the venue and the spectators.

The HBC shall establish the production plan working closely with the FIS Race Director, the TD, the organiser and the marketing staff. A survey must be made in order to find solutions to various questions which might arise.

The key issues are:

- To decide early about camera positions in the stadium and along the course.

- To agree on arrangements for protection of filming angles. The organiser should place guards to keep these angles clear. Also the fencing and the access of the public to the filming area must be decided and controlled.

- Venue drawings should be available before rigging and must be signed by all parties concerned to avoid later discussions.

- Placement of advertising boards in compliance with the rules.

- A pre-timing system exclusively for the host-broadcaster, 400 - 600 m before each official passing point and finish line. The timing company is responsible for cabling, testing and full data support to the HBC’s production unit.
- To define, together with the timing company, the passing points and pre-timing points. These points must be marked in a proper way within shooting range of

the main camera at the intermediate time point. The system should be carefully tested before the start of the events.

- To decide the best possible positions for the commentators, which enable them to see both start, finish, the last 200 m before finish, passing point, scoreboard, mixed zone and the winner's presentation/award ceremony. Each box shall be equipped with an updated CIS of the FIS partner.

- To agree with the Organiser the pre-cabling needed for a sufficient spotter system. (A head spotter and five spotters are the minimum, three works along the course, and two in the stadium).

- To avoid, together with the organiser, representatives of the federation and the Race Director, that the "Red Group" starts before group 2.

- If light is needed, the placement of platforms supporting the lamps must be decided.

- To decide on the cabling with representatives of the Organiser.

- To make sure that the Organisers have a prepared zone-system (accreditation system) that protects the host-broadcaster's working conditions and approves to layout and functionality in the mixed zone.

- To reach agreement between TV, FIS and OC on the final schedule of events, in order to concede to the host-broadcaster enough time to reposition the cameras between two successive events.

3. Specials to the single start forms

3.1. Staggered starts: Sprints (5 km ladies, 10 km men)

<u>Stadium: 8 cameras</u>
Positions must enable the director to cover simultaneous activities. During the race starts (lapping) and crossings of the finish line occur at the same time.
To get an optimal use of stadium cameras, it is sometimes necessary to adjust the layout of a venue to achieve a better coverage.

<u>Course: 3 (5) cameras</u>
At least one intermediate time point must be set up at a reasonable distance (2,3-2,7 km at 5 km ladies and 5,0-6,0 km at 10 km men). It would be advisable to add, for 10 km men, an early timing point at 1,8-2,0 km. This would require ideally 3 cameras (per intermediate time). For the direction it is important, that these cameras are placed near the main direction unit.

3.2. Staggered starts: medium and long distances (15 km ladies, 30 km ladies/men, 50 km men)

Stadium: 8 cameras
As for Sprints

Course: 6 cameras
The "Red Group" (30 start numbers) is cue of 15 minutes. This means that a timing point should be established every 5 to 6 km. Thus the minimum numbers of timing points would be: 15 km ladies 2, 30 km ladies 4 and 50 km men 6.
To avoid dull repetition of too few timing points, at least (in addition to the stadium) two different filming areas on the course should be established. As for sprints it would preferable to have an early timing point at 1,8 – 2,0 km on the first lap

Preferable loops for these events are:

5 km ladies:	1 x 5 km
10 km men:	1 x 10 km
15 km ladies:	1 x 15 km or 10 km + 5 km or 2 x 7,5 km
30 km ladies and men:	3 x 10 km or 2 x 15 km
50 km men:	3 x 16,7 km, or 4 x 12,5 km or 2 x 15 + 10 km

Summary:
Depending on the events, a minimum number of cameras in the staggered start events are 12 – 14.

3.3. Pursuits, Relays, Special Sprints, Nordic Combined and Mass Starts

In these events the advisable length of the racing track would be 5 km. (Of course for relays, two separate tracks, one for the classical style and one for the free style, are needed). For mass starts (15 km ladies and 30 km men), though, a 5 km loop might be too short due to rapidly growing time differences.

Stadium
A minimum of 8 cameras, two of these preferably wireless.

Course
When moving 2 cameras from the stadium to the course, it should be possible to cover the 5 km track with 10 cameras.

Summary
16 cameras are the practical minimum to cover any combinations of FIS World Cup events.

The philosophy of the coverage of “group events” of course differs from the staggered start events. The main concept at the early stage of the race is to establish timing gates in order to film the change of the time differences and to alleviate those athletes (with large starting numbers) who are catching the leading athletes. At some point later “the race for victory” is beginning and then camera positions should provide the viewer a continuous coverage to the finish line. This should be clearly understood by the broadcaster when positioning the cameras along the course. The HBC must refrain from preferential treatment to specific nations or athletes.

The working together with the company providing the onscreen timing and graphics is crucial when trying to cover a World Cup event in the best possible way and to promote the sport of Nordic events. The keyboard operators must understand the language used in the production. Close relation between producer, head spotter, vision mixer and VTR replay co-ordinator is a vital factor in any transmission of Nordic events. Because the keyboard operators are part of this circuit, they should, by understanding the native language used in the production, be able to react quickly to all situations.

FIS TV Production Guidelines
FIS TV Production Standards FIS World Cup Ski Jumping / Ski Flying

1. General Binding TV Regulations

Ski Jumping increased world-wide immense and became a big media happening with event character. For the TV production of a FIS World Cup 10 – 12 manned cameras are needed. At the FIS WSC in Oberstdorf we have seen approved and new innovative camera angles, which have to be scheduled for special transmissions. Due to the different topographical directions of the hills it is necessary to make a technical inspection.

The dramaturgy of Ski Jumping shows the top athletes at the end of a run and then only for approx. 1 minute. A view behind the scenes is a welcome change for the TV consumer.

At FIS World Cups, the following detailed minimum FIS TV standards shall be strictly observed by TV right-holders and HBC.

2. The functions of the Host-Broadcasters (HBC)

The HBC has to provide appropriate separate records to the right holders, who overtake a TV production of a FIS World Cup.
The procedure of a FIS World Cup/WSC has to be shown true to reality. This includes: pictures from the start (portrait with advertising board in the background), coaches in action, start, flight, landing, reaction. Thereto comes the actual leader, the winner's presentation/ceremony and the environment.
Flash at the beginning of the transmission:
FIS caption, weather information, names of the judges and jury, profile of the hill and the starting list.

Host-broadcaster, FIS and organiser are responsible for the layout, functionality, priorities and working conditions for the right-holders in the mixed zone.

3. Camera configuration

<u>Camera 1</u>
Close-up view and preparation of the athlete.
At the start, sitting position of the athlete in front of the advertising board, wide angle lens.
Camera-man must have the possibility to follow all the way to take-off without any visual disturbances in between. Ideal: hand-camera or remotely controlled camera.

<u>Camera 2</u>
Position: sideways to the take-off, approx. 5 – 7 meters away, on a podium, which is at least 50 cm above the take-off. The take-off with skis and boots and the athlete in full size must be recognised. The camera man must follow the athletes from the start to the take-off – including the jump, whereby a close-up of the athlete – concentration phase –

would be preferable. The on time hoisting must be warranted. Change to camera 3 after the stretch phase! Lens: wide focal distance, preferably times 70!

Camera 3 (main camera respectively leading camera)
Position: about 2/3 of the distance after the jump and K point. Distance to the Jumping hill between 12 to 20 meters. The lens (wide focal distance times 55) of the camera must be on the level which the athlete will have during the flight at this position, thus 3 to 4 meters in a 90 degree angle.
The camera man sways with the athlete from the take-off, which he sees only from below, after the stretch phase till the landing and further to the end of the fall zone. Thereby is to see, that the display window at the landing is total, that all markings on the snow are visible. Each live jump must be shown from this camera at the transmission. Recognition effect for the viewer, who wants to guess the distance.

Camera 4 (preferably mounted on a crane – 9 to 11 m arm)
Position: after the falling zone in the plain part of the outrun. Lens: normal to wide angel. Shows the athlete from the landing till end of the outrun (important for the slow motion: emotions after the landing)

Camera 5 (Hand camera, portable)
Position: in the outrun, shows the athlete by slowing down and his reaction after the result. Lens: wide angle.

Camera 6 (Hand camera, portable)
Position: Exit-Gate, supports the function of camera 5, as well as the atmosphere in the mixed zone and the reaction of the leader by then

Camera 7
Position: on the podium opposite the coaches stand. Lens: wide focal distance times 70.Shows the function of the coach before the start and the reaction (slow motion) of his athlete after the landing.

Camera 8 (Superslomo)
Position: like camera 2, must follow the athlete from the take-off over the stretch phase till the landing. This picture shows the precise jump, initial corrections after the stretch phase. Additionally it is a cinematic pleasure, to see the athlete floating above the spectators.

Camera 9 (Superslomo)
Position: landing hill, at ground level, podium only for ground adjustment approx. 3 meters before the jury width. Lens: wide focal distance, times 70. The camera shows the athlete in the last third of his jump till the landing.
Records of camera 8 and 9 can be shown synchronised, that means Superslomo from the take-off till one third of the flight, afterwards camera 9 till the landing. Further sway of camera 9 till the end of the falling zone is preferable.

Camera 10 (on riser – height between 60 to 8o meters)

Position: alternative: behind the jumping tower, whereby the basket of the riser must be at least 20 meters above the tower.
This picture shows the athlete from behind after the start, take-off, flight and landing. The landing from this view is very spectacular. Additionally gorgeous Beauty Shots.
2. Position: would be in an angle of 180 degree opposite the jumping tower. This picture shows the above mentioned views from the front. Lens: wide focal distance, times 70 or 84.

Camera 11 und 12 (hand camera, portable)
Positions: waxing area, lift entry/exit, athletes lounge.
Lens: wide focal. Recordings of this camera must absolutely be taped, as good sequences mostly can't be shown live, because the activity in the stadium doesn't allow it. (Replay not in slow-motion, real speed!)

Please assume that all camera pictures – except camera 1 – have to be taped.

4. Specials to the procedure

General
This camera configuration offers the possibility of a sporty, enjoyable and diversified transmission of a FIS World Cup. It is the skill of the TV director to write the story of the athlete. Pre-conditions are an optimal co-operation with the FIS race director and the organiser.

Increments: trailed camera, fly-cam, speed-cam sideways to the in-run, mini cameras on the in-run (early contact with the FIS race director)

Date inserts:
- At the start: name of the athlete with time information
- After the stretch phase: in-run speed
- 2 – 3 Seconds after the landing: distance
- After a slow-motion replay the complete dates with the athlete
- No date inserts on slow-motions, because the viewers will be detracted from enjoying the flight.

Start interval
The start interval is approx. 45 seconds. For the top athletes 55 seconds would be preferable.

5. Running Order Ski Jumping

1. Run:

11:00 – 10:00	Countdown
10:00 – 09:30	Euro – caption
09:30 – 08:00	live pictures from the stadium
08:00 – 07:55	FIS-Caption
07:55 – 07:40	Insert: title of the event
07:40 – 06:00	live pictures with inserts Judges and Jury
06:00 – 05:30	Weather information
05:30 – 04:00	Athletes before the start (Waxing Area, Lift, lounge)
04:00 – 02:00	Start list 1. run
02.00 – 01.30	Profile of the hill
01:30 – 00:30	live pictures from the stadium
00:30 – 00:00	Start preparations Start of the 1. run

End of the 1. run after approx. 45 minutes
Results of the 1. run

2. run:

15:00 – 12:00	live pictures from the stadium
12:00 – 10:30	Replay of the best 3 jumps from the 1. run
10:30 – 09.00	Start list 2. run
09:00 – 04:30	live pictures from the stadium
04:30 – 04:00	profile of the hill
04:00 – 03:30	Title of the event (2. run)
03:30 – 00:00	Athletes before the start Start of the 2. run

End of the 2. run after approx. 30 minutes

00:00 – 01:00	FIS World Cup result
01:00 – 02:30	the best 3 jumps
02:30 – 03:30	FIS World Cup Standing
03:30 – 05:00	Live pictures from the stadium
05:00 – 08:00	Winners presentation/- ceremony
08:00 – 09:00	live pictures from the stadium
09:00 – 09:25	Name of the TV director, etc.
09:25 – 09:30	FIS-Caption
09:30 – 10:00	Euro-Caption

6. Sequences to be covered

- Take-off
- Flight
- Landing
- Impression of the Jumper
- Video time-measuring fade-ins
- Slow-motion of the jump
- Fade-in of the score with presentation of the athlete and his reaction in the background
- Information: name, score, length, ranking. For the second jump length of the first jump, total score, ranking
- Start interval should be 45” approximately
- Order of information and pictures after take-off must be discussed to ensure enough time for backups of good jumps.

7. Transmissions

7.1 Start of transmission
International begin of transmission is at least 10 to 15 minutes before the first jumper.
The running order shall always be the same.

7.2 TV start

- FIS signal respectively logo of the host-broadcaster
- Title of the event
- FIS World Cup review / map, competition site
- Caption of the resort/region (2 – 3 minutes)
- Presentation of the hill with subjective cameras (helmet-and hand camera, helicopter-camera
- Ev. winner of the last event on this hill
- Start/warm-up area
- Meteorological graphic
- FIS World Cup signal (1 minute prior to start number 1 / length: 15 seconds)
- Start competitor number 1

7.3 Continuously:

- Ski-jumps from in-run to outrun
- Slow motion of very interesting jumps
- Video distance-measuring fade ins of very interesting jumps
- Jumper in the outrun
- Distance and points – fade in over the jumper
- Reaction of the jumper

7.4 Pause:
- Excerpts of side events
- Report of another FIS World Cup event (e.g. Nordic Combined)
- Background information

7.5 Before 2nd run:
- Profile of the jumping-hill
- Best jump of the 1st run
- Short interview with the leader of the 1st run
- Start list of the 2nd run

7.6 TV end
- Last jumper (jump and reaction)
- Impressions of the successful jumpers
- Results of the competition
- FIS World Cup standings / nations standing (Tournament standing)
- Replay of the winner's jump / flight
- Short interview with the winner
- Winner's award ceremony / presentation
- Highlights / impressions of the competition
- FIS Signation

8. Information- and preparation pauses from the sporting point of view

8.1 General
- No athlete shall be negatively affected by such pauses.
- During pauses, a forerunner may eventually run while the international signal shows background information / attractive sequences of the race.
- Information pauses shall always conform to the principle of staging a sporting and dramatic event.
- A general guideline will be established by the FIS prior to the competition season. The last decision in regard to carrying out the event - e.g. due to meteorological conditions - will be made by the Jury or the FIS Race Director.
- As in other sports a uniform way of TV presentation shall be realised with all TV companies involved.
- <u>No direct interference with sport reports</u> shall result from advertising spots during a race. This FIS regulation shall enable TV companies to finance the considerably higher TV rights fees by means of inserting advertising spots in a uniform way.

8.2 Sequences

8.2.1 Date/Time

Usual system	1. run	between 25. and 26.
KO system		between the 12. and 13. couple i.e. between the 24. and 25. athlete
usual and KO system	2. run (1.-30.)	between 10. and 11. between 20. and 21.
Team system	1. & 2. Run	after the first group After the second group After the third group

8.2.2 Length of pauses

Duration of Information pauses is

- at least 1 minute, usually approx. 1 minute 30
- conform to the starting interval determined

8.2.3 Interval-order

- Decision on and implementation of interval order is made by the FIS Chief Race Director.
- Pauses for information / precision shall be announced in good time prior to the competition together with all intervals - as usual - and they must be included in the race schedule of the day.
- For all intervals - as usual - the following applies to these special information intervals also:
  If needed and possible, a forerunner shall run. In case of meteorological problems the FIS Chief Race Director may shorten or even cancel completely these special intervals.

8.3 TV Aspects:

8.3.1 Division

10 % for intermediate results
80 % for information / interviews / advertising
for intermediate results

8.3.2 Interviews

For interviews during a race the following must be taken into account:

- Live picture (3/4). interviews (1/4)
- Preferably no interviews during the competition, except during info-pauses

FIS TV Production Guidelines
FIS TV Production Standards Snowboard FIS World Cup

1. General Binding TV regulations

The detailed required minimum FIS TV standards as listed below must be observed by TV rights-holders and host broadcasters in all FIS World Cup competitions.

2. Inspection

Immediately after the official FIS World Cup Calendar is published, a site inspection with the host broadcaster must take place. The set up has to be determined as follows

- TV cameras' positions
- Parking space and/or containers for TV technical facilities / TV compound
- Poles for the cables
- Platforms/scaffoldings
- Phone Lines
- Commentary's cabins
- Equipment and/or personnel transportation
- Electricity
- Security
- Volunteers

2.1 Attendants

HBC	TV Director, Production Manager, Producer, Video Technician, Chief Engineer
OC	Chief of Race, Ski Club technical officials
FIS	FIS Snowboard Co-ordinator or FIS Race Director

3. TV Production

As to grant an optimum TV production and distribution of the Snowboard disciplines on television (including good pictures for magazines, news and delayed broadcast programs the following technical equipment (cameras) are to be considered:

3.1 PGS

Length of course approx. 600 m

Start	1 Camera
Course	3-5 cameras
	1 superslomo
Finish	2 cameras in the finish area
Special	1 “lipstick” camera in the finish area (optional)

3.2 PSL

Length of course approx. 400 m.

Start	1 camera
Course	3-4 cameras
	1 superslomo
Finish	2 cameras in the finish area
Special	1 “lipstick” camera in the finish area (optional)

3.3 Big Air

Start	1 camera
Jump	2 cameras
	1 superslomo
Finish	2 cameras in the finish area
Special	1 Pole cam / jump (possibly)

3.4 HP

Start	1 camera
Course	4 cameras
	1 superslomo
	1 radio camera in the pipe (optional)
Finish	1 camera in the finish area
Special	1 pole cam (optional)

3.5 SBX

Length of course approx. 600 m.

Start	1 camera
Course	4-5 cameras
	1 superslomo
Finish	2 cameras in the finish area
Special	1 Chip camera in the jump (optional)

3.6 For all the above disciplines the OB VAN facilities should include:

- 1 live slow-motion system (EVS) with at least 4 channels
- 5 VTR beta SP machine 75 for PGM clean/dirty and slomos
- 1 mixer Video with linear Key
- 1 mixer audio
- 1 intercom system three channels
- 1 wireless microphone for interviews

3.7 Special requirements upon request

- Camera Crane
- Mini digital camera
- Splitscreen with live slomo at a parallel slalom
- Camera in the service area
- Parallel rope over the head of the Wescamhead
- Subjective camera ride with Snowboard
- Pole cam
- 1 VTR Beta 75 dedicated to FIS for 'video control'

3.8 Special requirements for night events

- The light level should have a minimum Lux of 1000-1200
- In BA and HP events also the airtime must be lightened according to the above mentioned requirements
- At "dark" night events either day- or artificial light can be used
- Sowlight is possible but only after consultation (no replacement for the basic illumination)

Uplink SNK for events and or news, highlights satellite transmission

4. Television coverage

- The transmissions must fulfil international FIS TV standards
- The qualifications (if on competition days) should be covered in full.
- The entire competition course should be within the shooting range of the cameras
- All competitors must be shown from the start to the finish
- Super slow-motion pictures from key positions
- At least some slow-motion pictures to be repeatedly shown from different perspectives
- One portable camera at the start should show the start preparation
- One portable camera at the finish area should show the reactions of the competitors as well as the winners' ceremony and the winners' interviews
- No interviews shall be inserted by the host broadcaster to the international signal during the competition. (exception: TV info interruptions)
- Live interviews during the competition are only allowed after approval by the FIS Coordinator if the Channel only takes the Live-signal.
- The entire competition must be shown with original sound and, if necessary microphones shall be positioned along the course

5. Requirements for a better television coverage

- Early coordination between TV and OC in regard to placement of loudspeakers at the finish area in particular
- Start intervals must be determined together with the FIS Snowboard Coordinator or the FIS Race Director. The TV director or a representative of the host broadcaster should always attend the team captains meeting the day before each competition.
- Timing/data/TV graphic service must be close to the TV compound
- Photographers positions to be determined between the FIS Snowboard Coordinator (or the FIS Race Director) and the local press/photo coordinator in good time before the competition's start
- Identification with numbers of photographers, TV-persons, Course workers etc.
- In case that the Host Broadcaster is also the only TV network that broadcasts the programme live, then there is the possibility to have interviews during the competition.

6. Basic time schedule system for the Snowboard FIS World Cup

DESCRIPTION	*CE*	**DURATION**
"BEFORE THE EVENT": FIS WORLD CUP LOGO AND FIS WORLD CUP OPENING SPOT (ANIMATION)	TAPE	00.15
BEAUTY SHOTS/TITLE EVENT/DIRECTOR/TV PRODUCTION	LIVE+SWATCH	00.45
VENUE PRESENTATION	TAPE (OR LIVE)	01.30
BEAUTY SHOTS/TITLE:…FIS WORLD CUP +FIS OVERALL CUP STANDING	LIVE+SWATCH	00.45
WEATHER STANDINGS	LIVE+SWATCH	00.15
STARTING LIST	LIVE+SWATCH	01.00
SHOTS OF WARMING UP/START AREA	LIVE	00.30
EVENT'S START	LIVE	
AT THE END OF EACH RACE SLOW-MOTIONS ATHLETES'REACTIONS STANDING	TAPE + SWATCH	03.00
AFTER EVENT'S END		
BEAUTY SHOTS+WINNERS'REACTIONS	LIVE	00.30
FINAL STANDING+FIS OVERALL CUP STANDING	LIVE+SWATCH	01.30
WINNERS'SHOTS/REPLAY OF BEST RACER (OR RACERS)	LIVE+TAPE	01.30
FIS LOGO ANIMATION + BEAUTY SHOTS	LIVE+TAPE	00.30
WINNERS'PRIZE CEREMONY	LIVE	
FLASH INTERVIEWS	LIVE	

7. TV Distribution

The following formats up should be available on site for FIS and/or MEDIA PARTNERS for worldwide TV distribution:

7.1 Competition

- Live coverage of event's races
- 1 Beta Sp tapes 'CLEAN' copies of each of the event's races
- 2 Beta Sp tapes 'DIRTY' copies of each of the event's races
- 2 VHS tapes or DVD copies of each of the event's races
- Flash interviews to be realised with on site eng., or cabled camera at the finish area immediately at the end of each race
- To be realised by the host broadcasters and/or TV production companies under the co-ordination and/or supervision of FIS and/or MEDIA PARTNERS assigned on site

7.2 News

- A 3 minutes news-block per each M+W race featuring the most important races actions and winner's podium plus flash interviews
- To be realised with on site editing facilities (including editor) by the HBC and/or TV production company immediately at the end of each race
- To be aired on site after the conclusion of each event's day EBU by satellite (co-ordination and/or supervision of FIS and/or MEDIA PARTNERS assigned on site)

7.3 Highlights (In case of interest from TV stations)

- A 5 minutes highlights-block per each M+W race featuring the most important races actions, winners' podium and top 3 M/W athletes interviews (or customised interviews)
- To be realised with on site editing facilities (including editor) by HBC and/or TV production Company
- Available on site by tape for delivery and/or satellite transmission under the co-ordination and/or supervision of FIS and/or MEDIA PARTNERS assigned on site

7.4 Notes

Races and/or news/highlights satellite transmissions to be previously coordinated between right holders and/or host broadcasters together with FIS and/or MEDIA PARTNERS

FIS TV Production Guidelines
FIS TV Production Standards Freestyle FIS World Cup

1. General

For a perfect TV production and presentation of the Freestyle on TV the following technical equipment are to be considered in the camera range.

Thereby an optimum live production shall be guaranteed and a very good picture material for Magazines and News as well as delayed broadcast productions will be possible.

2. Positions of the different cameras

2.1 Moguls / Dual Moguls

Length of course approx. 200 - 250m

Start:	1 camera
Course:	2-3 cameras
	1 super slow-motion
Finish:	Outside finish centre line of course
	1 camera in the finish area

2.2 Aerial

Length of course approx. 100m

Start:	1 camera
In-run:	1 camera
Table	1 camera
	1 super slow-motion
Judges	1 camera
Finish:	1 camera in the finish area

2.3 HP

Start:	1 camera
Course:	3-4 cameras
	1 super slow-motion
	1 radio camera in the Pipe
Special:	1 Pole-cam on the wall

2.4 SX

Length of course ca 600m

Start:	1 camera
Course:	4-5 cameras
	1 super slow-motion
Finish:	1-2 cameras
Special:	1 Chip-camera in the Jump

2.5 Possible specials:

- Camera crane on Knoll or start of moguls
- Mini digital camera, (e.g. on the course and behind the air-bump)
- Split-screen with Live slow-motion at a Dual Moguls
- Pencil camera on lip of jump
- Camera in the service area
- Parallel-rope over the head of the Wescamhead
- Subjective camera ride with Skier or Aerialist

Further profile/ideas for the TV transmissions / TV production

1. Targets of the further measures

- attractive, dramatic and international presentation
- consider the media specific actual requirements even more
- Beside the “plain” sport it is also very important to show backgrounds, environment, reactions, emotions and feelings of the athletes.
- Uniform TV standards
- More intensive co-operation between FIS/OC and the producing TV station, respectively the FIS Marketing.

2. Course routing

- These points are very important for the TV direction and are discussed at the FIS inspection in summer. This is a very important part of the pre meetings with the OC, as the preparation and security arrangements are in connection with it. Only by the same course routing, annual events on site and the newest standard of the security arrangements this inspection can case by case fail.

- At camera towers built on time only additional security fences will be installed, if the line or the conditions change seriously during the training runs and make additional security measures necessary. Such a procedure is an exception.

- „Low positions“ of the cameras are in many cases in principle no problem and preferable, especially in GS and SL. But also in this point the on time presence of the director is required, for technical disciplines, but also for SG, at latest at the course setting. Through a close co-operation between the course setter, who represents primary the sporty side, and the TV director, who represents primary the TV side, a balanced consideration of both areas should take place.

3. TV transmission

At the beginning of the TV transmission
- An attractive „Count-Down“ with spirit, information and positive stimulation (presentation of the ski region and course, the sort of TV format, material-text/preparation, statement, ...)

More background information about:
- Start preparation
- Coaches on course
- Atmosphere in the finish
- Highlights (as end of the live transmission)

Further profile/ideas for the TV transmissions / TV production

4. Information

Intermediate times
In this matter an on time consultation between the FIS chief race director, TV HBC and the FIS data/timing company is necessary. Therewith it should be possible, to combine the sporty interests and the TV dramatic interests.

Interesting information
On one side there should not be an overwhelm with information, on the other side interesting dates, e.g. grade of the slope, interim times, speed, length of the jump, etc., should be on the screen for the audience,

It is not necessary to show this dates for each racer, but only if the sporty effort and attractiveness of the technical information seem to be necessary.

The leader of the competition has to be available in the action area at any time for the live camera.

In this area the following points have to be verified:
- Uniform TV design / information and data transfer
- „Slow separater“ in a uniform design: FIS Logo, World Cup, site
- delayed transmissions with a uniform effect

5. Camera helicopter

The low noise camera helicopter should in principle stay in position above the middle part of the course during the transmission, only in reasonable height and absolutely not hinder at rescues, to go “live on air” at any time.

Low noise helicopters have to be used. Therewith it is warranted, that the racers, visitors and TV transmission is not disturbed through unnecessary noise.
Helicopters operating in low height above the competition site are generally not allowed, through to security reasons. It is not only the bothering noise, but also the possible shadow of the aircraft, especially when it appears immediately in front of the athlete, who is moving with high speed and could be disturbed.

6. Camera Service

We should think about a common camera service etc. for overseas tournaments, to give the possibility to TV stations due to cost reasons, to film “background” stories, special interviews, etc., which will be used for sport programmes of the single TV stations.

7. Video control Alpine

Through the fast and clear handling of the video control of gate faults by a member of the Jury, certain corrections of the results list could be realised faster.

8. A future vision: Live helmet cameras

All helmets are standardised and equal.
By the TV selected racers have a “live” camera integrated in their helmet. The other racers have a dummy in the helmet – and therewith the same conditions. The security of the racers may not be affected through the helmet, camera, relay and batteries (ultra light equipment). In this area new developments and research work as well as tests are necessary.