COMPETITION SYSTEM - INTERNATIONAL LEVEL

Overview

SWISS TIMING's know-how has been supporting Ski Jumping athletes and Organizers since 1993 and made Ski Jumping events safer and more attractive. SWISS TIMING deploys high-tech systems to provide smooth data and results services for an average of 80 FIS World Cup events per year.

Our service range includes speed and wind measurement, start time control, video distance measurement, result and data services up to the complete competition management including judges scoring.

We trigger a signal to the Ski Jumper indicating the optimal moment to leave the gate, measure the inrun speed and present the results even before the athletes take off their skis.

SOFTWARE FEATURES

- Competition management
- Creation of start lists, input data and results
- Gathering and processing external data (speed, distance, judges score)
- Calculation of results (standings, ranking, cup rankings)
- Provision of distances, points and results to real time displays like scoreboards
- Provision of live results to TV graphics, information systems and internet
- List printing

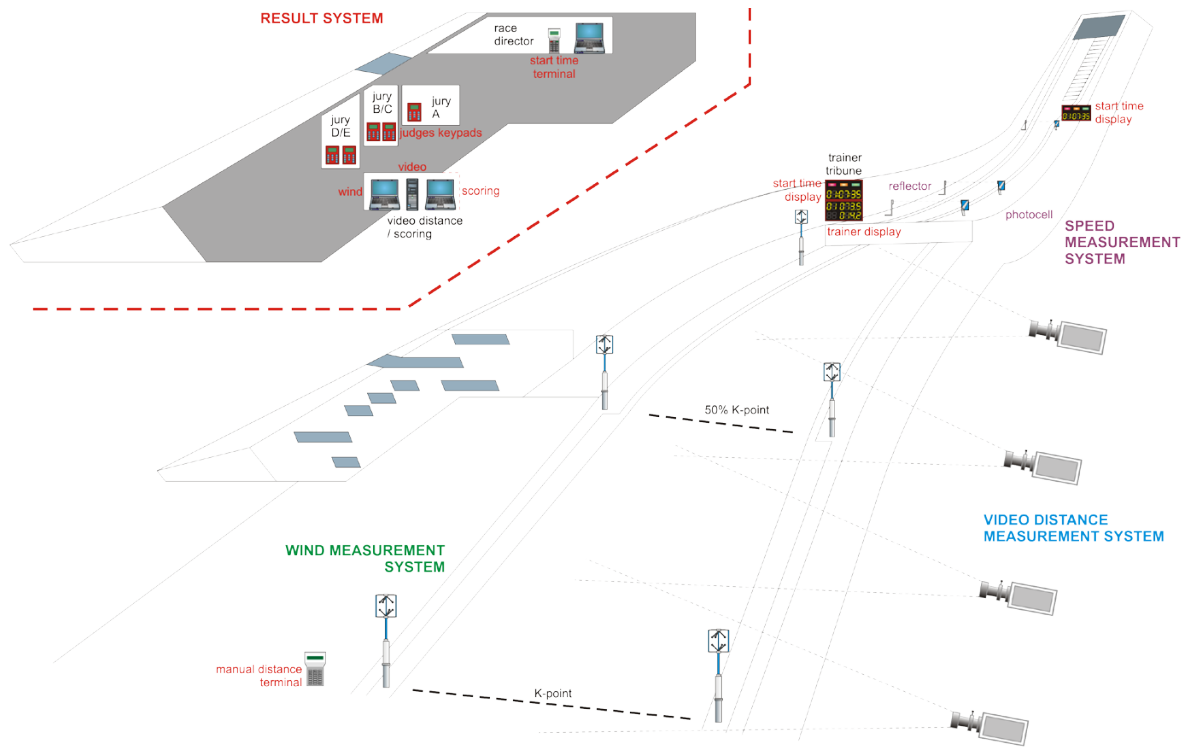Ski Jumping Arena in Klingenthal

Gorney Gigant in Almaty
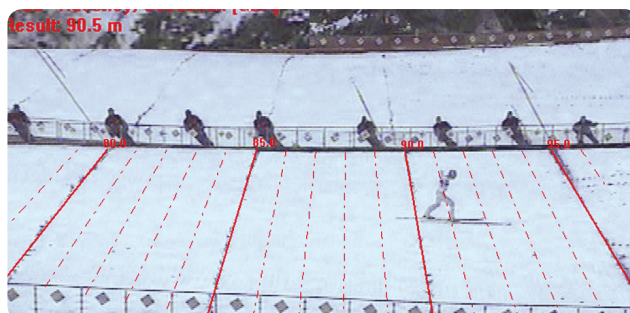
Video Distance Measurement

SYSTEM SCHEME

START TIME CONTROL

The Start Time Terminal provides a quick access to all important settings concerning the start time cycle. Additionally, the operator can choose between an automatic and a manual mode for initiating start sequences.

Specifications:
- Dimensions: 215x100x25mm (280g)
- Display: 4x16 character LCD (size 25x60mm)
- Power Supply: 12VDC

The Start Time Display is mounted at the inrun and provides the athlete with all necessary timing information. For each phase, the countdown time is indicated in a separate area on the display. The starting sequence is additionally indicated by a triple-coloured light, seamlessly integrated into the display component.

Specifications:
- Dimensions: 210x660x85mm (4.3kg)
- Display: 6 LED digits, height: 10cm
- Power Supply: 100 – 240VAC

SPEED MEASUREMENT

Our proven Speed Module can evaluate inrun speeds on up to two speed measuring sections using four NPN light barriers. An additional light barrier channel is provided for performing special functions, such as an inrun gong.

Specifications:
- Dimensions: 19 inch, 3U plug-in
- Display: 2x8 character numerical LED
- Power Supply: 100 – 200VAC

TRAINER SCOREBOARD

The Trainer Scoreboard presents the most important athlete data on its double-spaced 12-digits-display. The first row indicates the Bib as well as the inrun speed and the distance value after the jump. The second row indicates rank and scoring points for the current athlete. A triple coloured light is also included.

Specifications:
- Dimensions: 300x660x85mm (5.7kg)
- Display: 2x6 LED digits, height: 10cm
- Power Supply: 100 – 240VDC

WIND MONITORING

All critical wind data like speed, direction and turbulence are monitored using modern 3-dimensional wind technology. The provided anemometers match our dedicated wind monitoring software perfectly (see page 4).

Specifications:
- Dimensions: 750x240mm (1kg)
- Sample Rate: 4Hz
- Resolution: 0.01m/s (speed), 0.1° (direction)
- Accuracy: <1.5% RMS @12m/s (Speed), 2° @12m/s (direction)
- Power Supply: 24VDC

JUDGING SYSTEM

Easy installation, flexible positioning and straightforward operation are key features of our FIS approved Judges Keypads. Apart from just gathering the deduction points from the judges, the keypads can also display the name and the Bib of the current jumper.

Specifications:
- Dimensions: 182x128x105mm (560g)
- Display: 25x60mm backlit LCD
- Power Supply: 12VDC

MANUAL DISTANCE TERMINAL

The Manual Distance Terminal is used to enter manually measured jumping distances and then transferring them to the operator's PC over a serial connection.

Specifications:
- Dimensions: 215x100x25mm (280g)
- Display: 4x16 character LCD (size 25x60mm)
- Power Supply: 12VDC

OPTIONAL VIDEO DISTANCE MEASUREMENT

By using a calibrated array of four HD cameras for recording the landing phase and a dedicated software to process these visual data, the operator is easily enabled to review each landing and in a frame-wise manner and evaluate the distance of a jump. The VDMS is optionally available as a legacy system or in a flight case version.

Components:

- A PC system with pre-installed video processing hardware
- 2 – 4 Full-HD video camera incl. power supplies and weatherproof cases
- A software application for processing video data and measuring distances
- All necessary periphery components

The VDMS is optionally available as a legacy system or in a flight case version

OPTIONAL SPEED DISPLAY

The Speed Display is a compact-sized 4-digits-display, used for indicating the inrun speed and including one decimal place.


Specifications:

- Dimensions: 220x940x85mm
- Display: 4 LED digits, height: 10cm
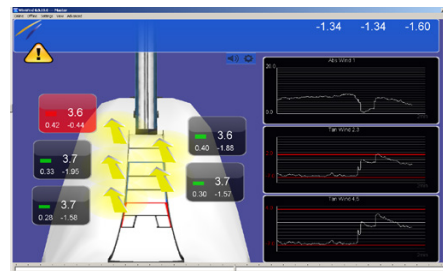- Power Supply: 100 – 240VAC

SCORING & MANAGEMENT APPLICATION

Derived from our comprehensive sports competition management software, the Scoring & Management application for Ski Jumping offers all relevant functions to prepare, manage and run Ski Jumping events and competitions. Apart from creating, organizing and exporting start and result lists, the application provides the operator with a complete data interface to almost all of the provided hardware components such as Speed Module, Start Control, Distance Measurement and Judges System. By using such a highly integrated data central, running Ski Jumping competitions is a breeze.
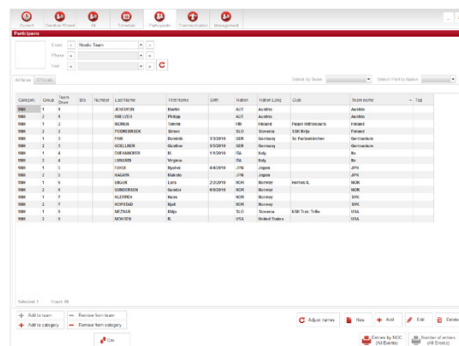
WIND APPLICATION

As wind is a critical factor in Ski Jumping competitions a dedicated wind-measurement system is crucial. The Wind application comprises all features needed for Ski Jumping competitions with sophisticated monitoring and alerting mechanisms. This includes the real-time 3d-visualization of wind speed and direction for all installed anemometers and customizable alerting thresholds for exceeding wind speeds and turbulences. Of course the calculated values are suitable to be used with the FIS Wind/Gate Compensation System.

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