DELTA-live

Virtual graphics for live coverage

Add virtual graphics on the live feed and generate augmented replays within few seconds

DELTA-live is dedicated to soccer and rugby live games. **DELTA-live** uses a revolutionary image processing technology to superimpose virtual graphics tied to the pitch **without any sensors** required on the production cameras**.** Once placed on the pitch**,** the graphics remain tied to their position regardless of the camera moves.

DELTA-live offers two types of features: live and replay.

DELTA-live allows to add on a live camera feed graphics such as animated 2D/3D logos (teams flags or advertisement), statistical data , score, 9m15 free kick circle, distance measurement to the goal... In replay mode, **DELTA-live** allows the production of clips within seconds including offside lines or ball speed measurement. In addition to the classical generation of offside lines, **DELTA-live** offers the unique capability to build augmented replay sequences for near-live game analysis, using a wide variety of augmented objects.

The system also includes special features dedicated to sponsorship in order to generate additional revenue for broadcaster.

DELTA-live is cut to suit live operation needs. Typically, an operator can calibrate the system within a few minutes prior to the kick-off of a game. Our solution includes an automatic camera calibration feature in order to speed-up the process. The very precise and robust tracking and calibration technologies implemented allow the system to be used in any type of arenas (from the smallest to the biggest). **DELTA-live** also includes an adaptive chromakeyer that automatically takes lightning or weather conditions changes into account.

DELTA-live is a stand-alone solution including internal video recording and replay capabilities avoiding the need to connect to an external video server. The setup of the system, simply and only requires to obtain the camera feeds (typically the two 16m cameras and the main camera).

Enhancements

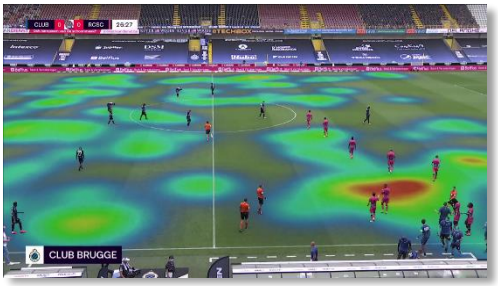
DELTA-live allows the very fast generation of replay sequences with:

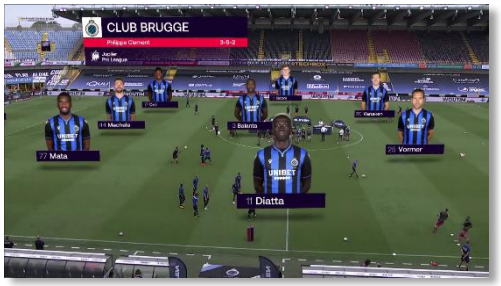
- ✓ Offside lines
- ✓ Speed measurements
- ✓ Magnifier (to zoom to the action)
- ✓ Super clips (short analysis clips broadcasted just after event happens or at half-time and end of the game)

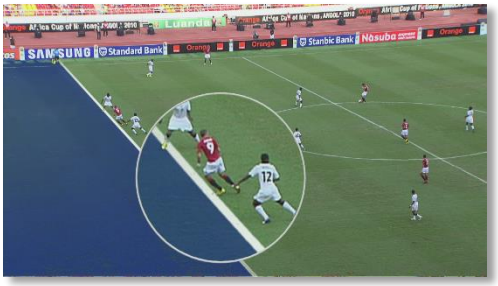
DELTA-live adds in real-time the following graphics to a live stream:

- ✓ Teams line-up
- ✓ Statistical data (if connection to external provider is possible)
  - Activity heatmaps
  - Penalty / Free-kick maps
  - Events localization (fouls, tackles…)
  - Mean recuperation line
  - Corner zones
  - Distribution of attacks
  - …

- ✓ 9m15 circle, distance to the goal and real distance of the defender wall for soccer free kick
- ✓ Animated 2D and 3D logos (such as team logos or advertisement material)
- ✓ Scores
- ✓ Virtual giant screen
- ✓ Live team progress for rugby
- ✓ Angle and distance for rugby penalty and conversion kick





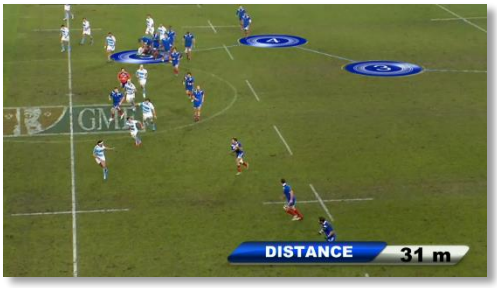


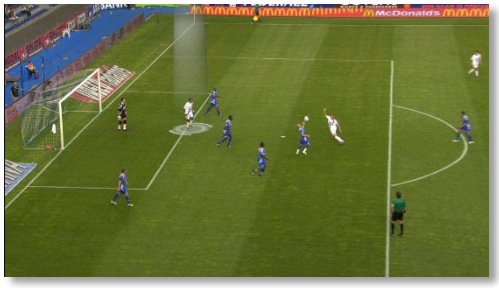
J. URONEN

RSCL 1 0 CLUB 19:31
1 - 0
Baloise
0%
23%
74%

Genk

ANGLE
6°

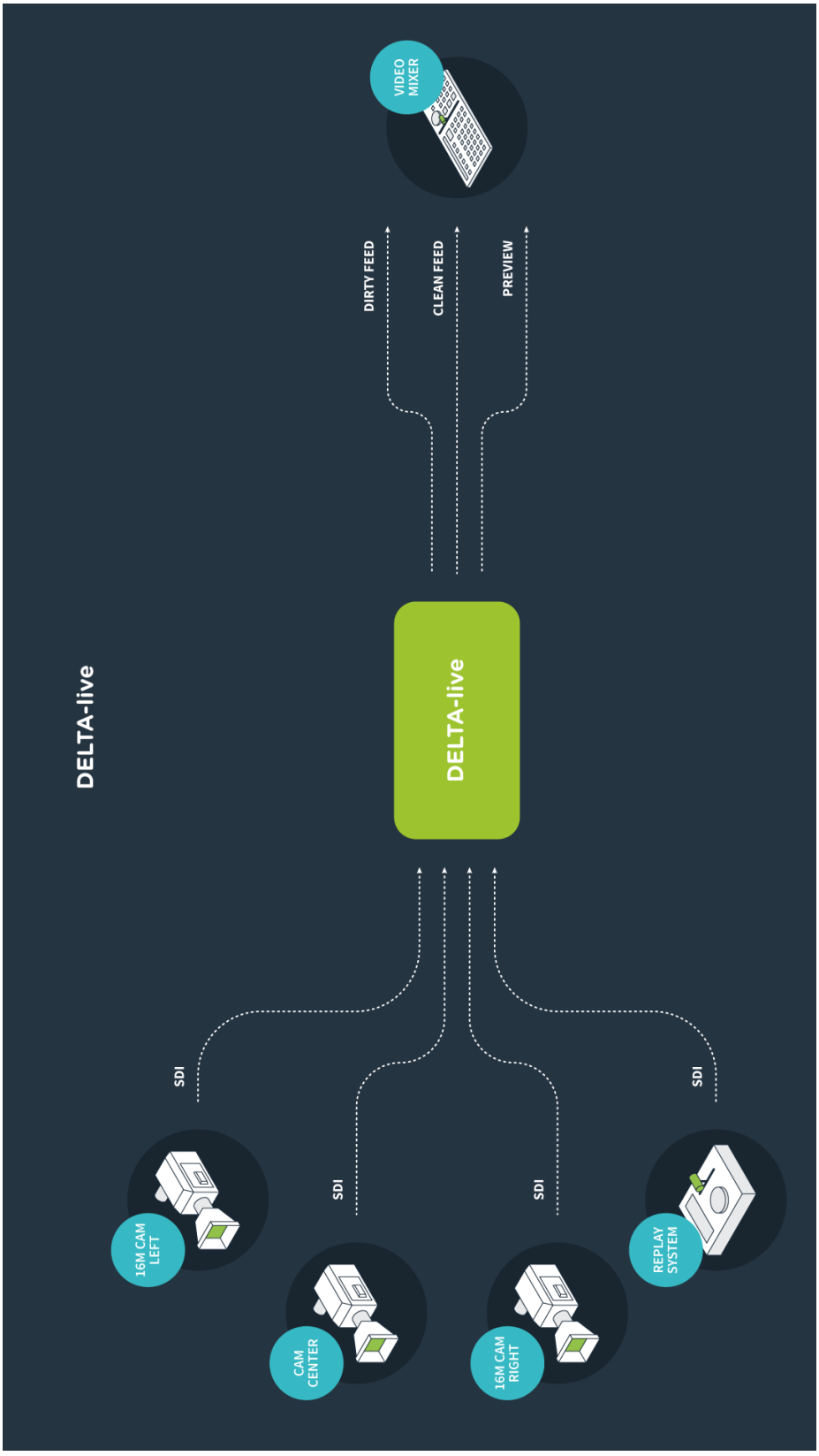

DISTANCE
31 m



RSCA 0 0 CLUB 62:13
11%
5%

STA 0 0 CLUB 26:31
48%
30%
Recuperation line

Worflow


DELTA-live
VIDEO MIXER
DIRTY FEED
CLEAN FEED
PREVIEW
DELTA-live
SDI
SDI
SDI
SDI
16M CAM LEFT
CAM CENTER
16M CAM RIGHT
REPLAY SYSTEM

Technical specifications

DELTA-live SDI supported formats:

- ✓ HD 1080i-50, 1080i-60, 720p50, 720p60
- ✓ SD (4:3 and 16:9 anamorphic PAL/NTSC)

Genlock:

- ✓ Black Burst
- ✓ Tri-Level

Inputs (up to 3 cameras):

- ✓ Cam 1 (typically main camera)
- ✓ Cam 2 (typically left 16m camera)
- ✓ Cam 3 (typically right 16m camera)
- ✓ Internal video recorder input or virtual giant screen input

Outputs:

- ✓ Augmented output (cam feed + virtual graphics)
- ✓ Clean feed
- ✓ Offside line preview

4U 19'' rack

Ergonomic Storm Case (option)

Optional

DELTACAST can also provide a one-box hardware solution. Easy to take in your luggage, it offers a highly flexible and cost effective solution for travelling operators.

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