PIERO
BROADCAST

WORLD LEADING SPORTS GRAPHICS FOR BROADCASTERS

Piero is Ericsson's real time 3D sports graphics system, designed to enhance sports analysis on TV.
PIERO enhances the game using cutting edge graphics and tracking technology to tell a clearer and more compelling story, engaging the viewer even further.

PIERO is built upon a proprietary line and texture tracking algorithm, co-developed by BBC Research. The technology creates a seamless blend of graphics and video, maintaining perspective and keeping graphics tied to the pitch as the camera moves.

You can mark players, track player runs, add speed or distance. Show movement, formations, and groups. Creatively add a wide range of graphics to engage the audience, allowing more interesting or controversial views of the action.

PIERO’s virtual stadium allows broadcasters to create 3D replays to look at the play from new angles. The Multicam effect smoothly transitions from one camera to another. You can add data feed visualisations, touch screen control, or advanced renderers.

PIERO is fast. Clip creation time varies between 1 and 15 minutes from edit time to broadcast. Connect PIERO to your existing video hardware or use standard video files. Editing and presentation of sports clips can be done remotely.

REAL-TIME GRAPHICS
Piero uses an advanced line and texture tracking technology to follow the position of the camera.
This enables the graphics to be placed in perspective on the field of play, even when the camera is moving.

BETTER COMMENTARY
Piero provides a wide range of effects which help producers, presenters and commentators better analyze the incidents on the sports field.
Piero can also read data from various sources to generate impressive data visualisations.
PIERO provides a wide range of modes to support analysis, ranging from in-depth discussion to quick annotation.

**FITS YOUR WORKFLOW**

**POST ANALYSIS**
Highlights are created during the game and are then aired at half time, full time or later. Simple clips take seconds to prepare thanks to PIERO’s rapid workflow. Video can be sourced from external video hardware such as an EVS; or you can use video files in various formats.

**LIVE BROADCAST**
Free kick circle, offside lines, distance to goal and more can be added live on air during the game. This mode is often used when PIERO is at the game. The director communicates with the operator, who manually activates the graphics on request.

**EFFICIENCY**
PIERO is easy to deploy and use. The fast turnaround of clips guarantees high quality on-air results in time-constraint productions.

**QUALITY**
The simple workflow and good customer service make PIERO easy to work with. Its graphics are regularly praised by customers.

**GLOBAL REACH**
PIERO is the world-leader thanks to its large number of customers around the globe. PIERO can be seen in the coverage of high profile events such as World Cup and the Olympics.

**REVENUE**
PIERO offers additional sponsoring opportunities for broadcasters. And the effects can be customized to increase brand visibility.

**SCOPE**
Ericsson is continually investing in research and development of sports graphics to deliver groundbreaking analysis features.

**TRUSTED PARTNER**
Using PIERO is a collaborative process. We place the customer relationship at the centre of our business. And unlike our competitors, we focus purely on sports graphics.

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PIERO is a modular system and a number of optional features can be added. Our data module lets you generate graphics from game data supplied by third-party providers. You can choose to add touch screen and tablet control via our simplified user interface. For advanced 3D graphics, add the 3D renderer from Electronic Arts.

> **OPTA DATA FOR SOCCER**
PIERO can generate impressive data visualisations using on-line data feeds. Our OPTA module fetches the latest data available for the game and visualizes the information using PIERO graphics. Add the graphics to the footage, a virtual stadium, or the studio. The operator has access to years of global data and this is easily filtered by league, game and player.

> **STATS FOR BASEBALL**
STATS is the industry leading sports data feed for Major League Baseball. PIERO’s data module has full access to the STATS feed, and creates graphics such as ball spray charts and pitching charts. The data is easily filtered by date, game, and player, using our simple control interface. The operator can place the graphics in either real or virtual settings.

> **TOUCH SCREEN**
The touch interface provides a simplified and customizable way of using PIERO graphics by hand. Presenters can use an iPad, Microsoft Surface or touch screen to add graphics whilst on camera. This allows them to engage with their audience as they illustrate a point. More than one presenter can take control and multiple devices can be used.

> **EA SPORTS RENDERER**
PIERO has teamed up with Electronic Arts to use their cutting edge graphics, as seen in their award winning FIFA video games. Using a direct link, PIERO shares information with the EA renderer to create analysis sequences with the latest 3D player and stadium models. The operator simply has to select the team and stadium to add them to PIERO.
With over ten years of experience in sports graphics, we’ve crafted an unrivalled palette of effects to help you analyze the action. We work closely with our clients to develop new styles and customize existing effects. Effects can be placed in both real and virtual settings, and can blend seamlessly between the two. The images below show a selection of the effects available in PIERO.
PIERO covers all the main sports, and the list keeps growing. We can bundle as many sports as you need without the need for additional software. The images below show a selection of sports that we currently support.
PIERO operates on a single PC running Linux, and the software is licenced annually (verified by USB dongle). We provide the machine, software, dongle, and all necessary peripherals/cabling. The touch interface runs on any Windows platform or iPad (not supplied).

**SYSTEM**

<table>
<thead>
<tr>
<th>PC &amp; Monitor</th>
<th>PIERO dedicated HP Workstation PC with NVIDIA GTX graphics card and DVS video card. Typical life of hardware is 3-4 years. Warranty is 1 year, however extended warranties can be purchased.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piero Software</td>
<td>PIERO Sports Graphics engine with live and analysis operation interfaces. Requires licensed USB dongle to run.</td>
</tr>
<tr>
<td>Optional Modules</td>
<td>Data module, touch screen module, and EA renderer.</td>
</tr>
</tbody>
</table>

**SUPPORT & TRAINING**

<table>
<thead>
<tr>
<th>Training</th>
<th>Includes 3 days training for broadcasters’ operators. This is done on site and includes consultancy for system integration, and technical training for engineers.</th>
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</thead>
<tbody>
<tr>
<td>Updates</td>
<td>Periodic software updates with bug fixes and feature enhancements.</td>
</tr>
<tr>
<td>Support</td>
<td>Office hours support by our dedicated support team.</td>
</tr>
</tbody>
</table>

**FILE MODE**

<table>
<thead>
<tr>
<th>SDI MODE</th>
<th>iPad/Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD SDI to recording device (video server or other)</td>
<td>Touchscreen</td>
</tr>
<tr>
<td>HD SDI</td>
<td>-</td>
</tr>
<tr>
<td>422 remote control</td>
<td>-</td>
</tr>
</tbody>
</table>

**SDI MODE**

<table>
<thead>
<tr>
<th>Video Server</th>
<th>Data Feed</th>
</tr>
</thead>
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<tr>
<td>SDI MODE</td>
<td>iPad/Surface</td>
</tr>
<tr>
<td>HD264, XDCAM HD DVCPRD, MPEG</td>
<td>3G-SDI</td>
</tr>
</tbody>
</table>

**CONTACT US**

For more information email us at piersupport@ericsson.com