About Samsung
Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions. For the latest news, please visit the Samsung Newsroom at http://news.samsung.com.

For more information
For more information about Samsung SMART Signage, visit www.samsung.com/business or www.samsung.com/displaysolutions

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Samsung Electronics Co., Ltd.
416, Maetan 3-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-772, Korea
2019-04
www.samsung.com
Dynamically transforming fan engagement and viewing experience for any sport

Sports facilities must focus more than ever on creating a modern, immersive experience. The end-to-end capabilities of Samsung's sports display solutions ensure businesses everything they need, from LED displays to signage, interactive software and facility management.

Samsung’s sports display solutions offer businesses everything they need to create an immersive experience

**Entertainment**

One of the most important elements at any sports facility is creating an immersive, engaging experience. Samsung's sports display solutions ensure that every visitor feels a part of the game like never before by offering an optimum view from anywhere, while in-seat ordering means spectators never have to miss a minute of the action.

**Revenue maximization**

Samsung's sports display solutions create a great customer experience, while also maximizing the opportunity to influence purchasing decisions and ultimately increase revenue. Dynamic displays throughout the sports facility provide visitors and fans with interactive information, touch screen ticket machines, food menus, directions to the shop and accompany them throughout their journey, from the entrance right to their seat.

**Effective management**

Efficient and effective operation is just as critical to provide a first-class customer experience. A control center with multiple monitors and videowalls helps to increase efficiency by broadcasting live information to the home team, ensuring complete and centralized visibility across the facility. A network operation center (NOC) also provides 24/7 support, recognizing and diagnosing issues before they impact customers.

*State Farm Arena, Home of the Atlanta Hawks, Atlanta, Georgia, USA*
What Samsung Offers

Samsung’s end-to-end sports display capabilities offer a comprehensive portfolio of solutions that make an impressive statement, command attention from visitors throughout any facility and create a unique experience through state-of-the-art technology. From large displays through to intelligent software, Samsung gives users the capability to provide interactive information, special offers and facility information, supported by operational efficiency and analytical insights.

Ticketing / Way-finding
Intuitive touch screen displays and ticket kiosks make it easy for visitors to navigate a wide range of content seamlessly, increasing customer engagement and the chance of higher ticket sales.

Scoreboard / Perimeter display (Outdoor)
Samsung provides high-visibility and reflection reduction to ensure every spectator can easily view the action and stay engaged, creating a more impactful and immersive experience within the stadium.

Scoreboard / Ribbon display (Indoor)
Scoreboards and ribbon displays build the atmosphere, increase engagement and maximize the opportunities for sponsors to attract customers.

Parking lot / Entrance / Exterior
High-impact displays showing dynamic content help to create a memorable welcome for visitors, starting engagement before they even enter a venue, building anticipation for what is to come. Outdoor/Semi-outdoor signage and interactive displays can be utilized to provide information such as parking information, directions and special promotions, making the spectators’ experience easier and more enjoyable.

F&B / Shopping
Ultra and full HD standalone displays in shops and museums increase engagement, give customers an immersive experience and help to generate sales.

VIP suite
Samsung’s LED and QLED displays ensure that the VIP suite remains the most exclusive and unique experience in the facility, providing unparalleled picture quality and simple maintenance.

Control center & Management solution
Samsung’s solutions are all supported by a fully functioning control center, including MagicINFO content management software, maintaining the 24/7 efficient operation of every digital display.
Outdoor signage: OHF/OHN/OHN-D series

All-in-one outdoor solution

Samsung’s outdoor signage series outdoor signage delivers an all-inclusive engagement solution that is completely equipped for virtually any outdoor environment. Along with the added convenience of an embedded power box, the outdoor signage series displays ensure durability, flexibility and 24/7 performance even in extreme temperatures. Additionally, the outdoor signage displays leverage a filter-less self-cooling system for easy maintenance and reduced TCO.

Semi-outdoor signage: OMN/OMN-D series

Foster brilliant presentation for all

Unlike conventional digital signage, the OMN Series delivers outstanding content, regardless of outdoor elements. Featuring 4,000nit brightness and a high contrast ratio of 5,000:1, the OMN Series’ display remains bright and clear, delivering an uncompromised picture that will capture the attention of potential customers – even under the scrutiny of direct sunlight. In addition, blindness is removed when looking at the sign with polarized sunglasses.

Parking lot / Entrance / Exterior

Capturing customer attention with impactful welcome

Vibrant digital signage welcomes every visitor to the facility, entertaining and informing with dynamic content and promotions. Visually engaging content from multiple brands, encourages interactions and purchases once they get into the facility.

Ticketing / Way-finding

Delivering highly engaging and informative content

Samsung’s digital displays can be positioned in high-traffic areas to ensure customers receive an efficient and engaging service, directing them to find ticket kiosks, their seats, food and drink, or a shopping experience.

Interactive display: PMF-BC series

Comfortable, multi-point capacitive touch communication

Through capacitive touch technology and a user-friendly design, Samsung’s PMF-BC displays foster a comfortable, easy-to-navigate digital writing experience. The interactive displays can accommodate 10 Unique touch points* while maintaining the smooth, familiar feel of analog board or pen-and-paper writing.

*The number of available touch points varies depending on configuration. Connected external pcs provide the PMF-BC display with 10 touch points, while the embedded operating system supports two additional touch points.

High reliability & convenient management

Samsung’s PMF-BC displays are resilient and require little maintenance, yet are dependable and deliver content effortlessly. This display withstood extensive testing to validate its durability against dust, dirt, vandalism and other factors as these displays are typically used at transportation stations. Users are able to control the display, no matter their location, using infrared receivers, for continuous content.
Scoreboard & Perimeter display (Outdoor)

Superior image quality regardless of conditions

Samsung’s digital scoreboard and perimeter displays provide high visibility and brightness, reflection reduction and long-life durability regardless of weather conditions, guaranteeing an immersive experience for every spectator.

Outdoor LED signage: XPS series

Superior image quality regardless of conditions

Samsung’s XPS series LED signage delivers excellent image quality that captures audience eyes even in challenging environments. Through two-step in-depth calibration, enhanced image processing and an industry-best contrast ratio, the displays deliver accurate and consistent color quality content with a high refresh rate. The XPS series also is equipped to deter light interference, and produce bright images regardless of conditions.

Perimeter display: VRR series

Clear picture quality for improved viewing on and off the field

The VRR Series delivers brightness levels up to 6,000nits and an ultra-wide viewing angle to give spectators, in the stadium or at home, a clear and visible picture in any weather condition, day and night. The high 3840Hz refresh rate prevents distortion and waves, ideal for live broadcast cameras.

Scoreboard & Ribbon display (Indoor)

Captivating display and complete visibility

Samsung’s indoor display solutions mean fans never miss a second of the action. Customizable scoreboards and ribbon displays build the atmosphere, increase engagement and maximize the opportunities for sponsors to attract customers with superior picture quality.

Indoor LED signage: IF-DL series

Stand out visibility

Samsung’s IF-DL series maintains optimal visibility in bright and dark environments alike. High brightness of up to 3,400 nits* and a low reflection technology prevent interference from surrounding lights to allow for brilliant presentation in settings with constantly changing lighting conditions.

Clearly refined visuals

Samsung’s LED HDR technology leverages advanced refinement methods for clear, true-to-life picture presentation. Dynamic peaking and inverse tone mapping enhance content to optimum peak brightness levels, while in-depth grayscale and color management ensure accurate expression of colors and detail.
VIP suite
Creating an exclusive customer experience
VIP guests are looking for an elevated experience. Live broadcast video walls and beautifully crafted frame design screens provide a unique experience like no other, while ensuring guests are informed of the latest updates, information and promotions.

Indoor LED signage: IF series
Showcase brilliant true-to-life imagery
Through in-depth color management, Samsung’s IF series has the ability to preserve constant graduation of images, ensuring pictures are true-to-life. The display uses technology that is nearly twice as high as the standard LED, showcasing information and advertisement brilliantly. The IF series contains dynamic peaking technology that elevates images while removing interference from natural lighting.

QLED 8K signage: QPR-8K series
Spectacular 33-million-pixel resolution
Samsung QLED 8K offers groundbreaking, super-high resolution, 4 times higher than 4K UHD content and 16 times higher than FHD. With more than 33 million pixels, QLED 8K provides exceptional depth and detail, resulting in a spectacularly immersive viewing experience in any business environment.

UHD signage: QMR/QBR series
Intelligent UHD upscaling
Samsung’s cutting-edge intelligent UHD upscaling technology performs edge restoration and noise reduction to deliver perfect UHD picture quality, even with lower resolution content. This “future-proof” solution ensures best-in-class picture quality regardless of the original content resolution.

F&B / Shopping
Driving customer engagement and purchases
There are multiple touchpoints in a sports facility throughout the customer journey that present a selling opportunity. Samsung signage entices visitors to interact and can drive customers to a specific store or location to make a purchase, capitalizing on strong customer engagement.

FHD signage: PHF-P series
Clear content delivery with slim design
Samsung’s TIZEN-powered FHD standalone displays achieve peak performance all while maintaining a stylish and captivating design. The PHF and PMH series leverage elevated brightness and refined image sharpness to ensure a consistently clear presentation even in settings with variable lighting. Uninterrupted, 24/7 content delivery is always assured regardless of surrounding conditions.

*Note: Here, “Conventional LED Display” refers to displays that do not contain dynamic peaking technology. In both conventional and advanced models, peak brightness and standard brightness can vary depending on composition and usage.

Max brightness : 1200 nit
Peak brightness : 2400 nit

Max brightness : 2400 nit

Max brightness : 1200 nit

Max brightness : 2400 nit

Max brightness : 1200 nit

Max brightness : 1200 nit

Max brightness : 1200 nit

Max brightness : 1200 nit

Max brightness : 1200 nit

Max brightness : 1200 nit
**Control center / Management solution**

**Convenient management and efficient control**

A robust, reliable control center is critical for any sports facility to ensure efficiencies while capitalizing on revenue opportunities. Samsung allows sports facilities to do this 24/7, using video wall, monitor and MagicINFO content management software, configured to the site's architectural needs.

**Video wall display signage: UHF-E, VMR-U, UHF5 series**

**Deeper visual impact with thin bezel**

Extreme narrow bezel video wall which Samsung created helps facility controllers to monitor situations around the facility without visual interference. The wall has a 1.7mm bezel-to-bezel width that yields a seamless picture across multiple screens, and is configured to the monitoring needs. Samsung’s video wall is a non-glare display that distributes light through the screen, while preserving the vivid pictures and original information.

**Monitor: High resolution monitor**

**Amplified visual details**

Samsung professional business monitors bring even the most minor visual details to the forefront, better enabling users to do their tasks accurately and in less time. Samsung UHD monitors in particular features a quantum dot composition and a resolution nearly four times higher than that of standard FHD displays, enabling clear and colorful visibility of multiple windows, images and text without extensive scrolling or zooming.

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**Management solution: MagicINFO & SSSP solution**

**MagicINFO solution**

Samsung’s comprehensive MagicINFO platform can remotely manage both hardware and software through one single-point management system. With this solution, users can create, schedule and deploy content across its entire digital signage network. The platform is compatible with a host of display types, ensuring the delivery of compelling content regardless of the operational framework.

**SSSSP solution**

The Samsung Smart Signage Platform (SSSP) is an open-source all-in-one solution that is embedded in Samsung’s SMART signage and doesn’t require any additional devices to communicate with the server and play digital media. SSSP gives partners the freedom to create software on their Samsung displays, resulting in an integrated media player.

**Remote management solution**

Thanks to Samsung MagicINFO Remote Management Solution, a SSSP Partner that has its own CMS solution can perform in-depth remote monitoring of the digital devices and eliminate the need for site visits or service calls.
### Specification

#### LED signage

<table>
<thead>
<tr>
<th>Project</th>
<th>Screen Size</th>
<th>Resolution</th>
<th>Brightness</th>
<th>Contrast Ratio</th>
<th>Operation Time</th>
<th>IP Rating</th>
<th>Security</th>
<th>SoC</th>
<th>S/W</th>
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<tbody>
<tr>
<td>Indoor</td>
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<td>400 nits</td>
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<tr>
<td>Indoor</td>
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<td>24/7</td>
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<td>Indoor</td>
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<tr>
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#### Video wall display

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#### Interactive display

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### UHD signage

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<td>QHD-7</td>
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### QLED 8K signage

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### FHD signage

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<td>1920 x 1080</td>
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<td>PHF-2</td>
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### Business monitor

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<th>Aspect Ratio</th>
<th>Resolution</th>
<th>Brightness</th>
<th>Viewable Angle</th>
<th>Eye Saver</th>
<th>Screen Mode</th>
<th>Space</th>
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<tr>
<td>Ultra Wide</td>
<td>C28</td>
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<td>3840 x 2160</td>
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<td>178°(H)/178°(V)</td>
<td>DP1.2(1), HDMI(2.0 x 1, 1.4 x 1), USB Hub 3.0</td>
<td>Simple</td>
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<td>-</td>
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<td></td>
</tr>
<tr>
<td>C28S</td>
<td>49”</td>
<td>Curved</td>
<td>16:9</td>
<td>3840 x 2160</td>
<td>600 nits</td>
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<td>DP1.2(1), HDMI(2.0 x 1, 1.4 x 1), USB Hub 3.0</td>
<td>Simple</td>
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<td>DP1.2(1), HDMI(2.0 x 1, 1.4 x 1), USB Hub 3.0</td>
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<td>C24S</td>
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<td>DP1.2(1), HDMI(2.0 x 1, 1.4 x 1), USB Hub 3.0</td>
<td>Simple</td>
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<td>-</td>
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</tr>
</tbody>
</table>

### MagicINFO solution

**Number of Displays connecting to MagicINFO Server**

- **Max:** 4
- **Min:** 1

**OS**

- Windows Server 2008 / 2012 / 2016

**CPU**

- Intel Core i3-3520m or better
- Intel Core i5-3430s or better
- Intel Core i5-3430 or better
- Intel Core i7-3680 or better

**RAM**

- 4 GB or more
- 8 GB or more
- 16 GB or more
- 32 GB or more

**HDD**

- Available/USB (GD: basic setup, operating system and server application) (A) is dependent on the type of control data shared on the server
- All (GD: all PCs, servers)
- All (GD: all PCs, servers)
- All (GD: all PCs, servers)

**Network Bandwidth**

- 10 Gbps or more
- 100 Gbps or more
- 1 Gbps or more
- 10 Gbps or more

**Number of Servers**

- 1
- 2
- 3 or more, dependent on scenario