



Turning digital displays into profit centres:

A game plan for sports venues



The state of play

Commercial teams at stadiums and sports arenas are under constant pressure to attract more customers and ultimately increase spend from visiting fans. And with technology at the heart of the modern fan experience, it can often feel like you're in competition for the best kit. But technology is expensive, and it evolves and develops so rapidly – how do you avoid falling into a cycle of constantly spending money just to keep up – especially when so many venues are working with a more restricted budget than they were a couple of years ago?

When you invest in technology for your venue, you need to do it strategically, methodically, intelligently, and in such a way that it ensures you'll get a healthy and prompt return on your investment. In this e-book, we share how stadium managers, commercial directors, and executive teams at venues of any size can use digital displays to reduce spend and maximise profit in the short and long term.



It's not just about investing in new technology – it's about using it to your advantage.

What's included

Part 1 – Using digital displays to reduce stadium costs

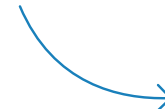
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Next: Create an efficient display network



Part 1: Reducing stadium costs

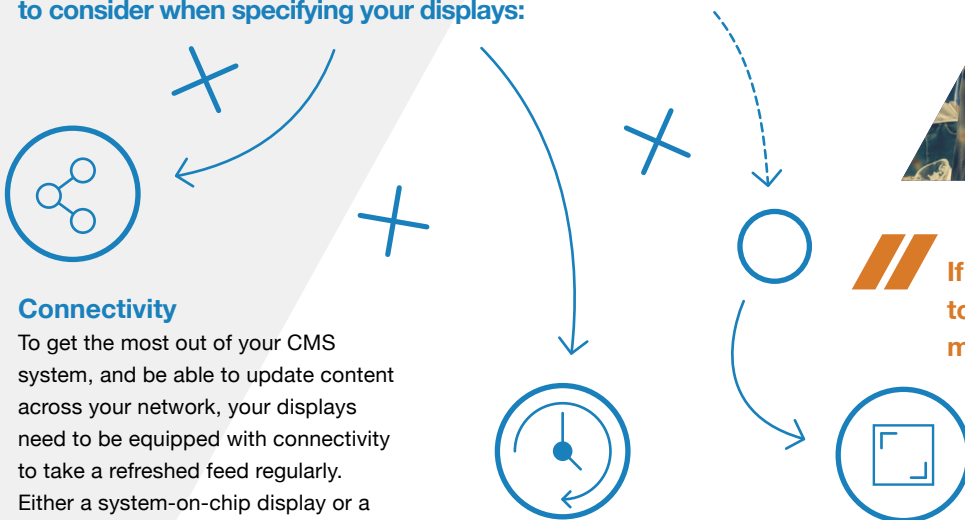
Create an efficient display network

We know that Wembley Stadium, Old Trafford and Celtic Park aren't representative of the average UK sports venue's digital display technology or infrastructure, and that many of you still plug pen drives into individual screens to display PowerPoint presentations on a loop.

But, while manually updating each screen's content may seem like a cost-effective (if inefficient) process, it's actually costing you more than just the time it takes to save and reload the pen drives.

Manually managing the content on individual screens means that each display in your venue can only be used for a single purpose - so you need separate displays for wayfinding, advertising, concessions etc. Investing in a good CMS, however, will allow you to create a multipurpose network of connected, but independent displays which give you the freedom to share any message, on almost any combination of screens at any time. You also reduce the total number of displays needed, because the screen that displays wayfinding messaging for fans arriving at your venue can become a repeater screen during the game and show social distancing messages at halftime. If ever there was a time to invest in a content management system, it's now.

You can further reduce costs by making wise decisions about what technology to include in your display network. Here are some pointers to consider when specifying your displays:



Connectivity

To get the most out of your CMS system, and be able to update content across your network, your displays need to be equipped with connectivity to take a refreshed feed regularly. Either a system-on-chip display or a screen with a separate set-top box can provide this functionality, but each option has their own pros and cons. The set-top box's external memory provides the ability to continue playback even if the system loses connectivity, while the system-on-chip display generally only buffers the last image shown. Any issues with the system-on-chip display will mean a complete replacement, whereas you only need to replace the faulty component in a set-top box solution. However, the lower price point of the system-on-chip screen does mitigate some of these drawbacks and may make it a preferable solution in some instances.

Operational Time

If all your displays aren't running 24/7, then they probably don't all need to be commercial grade screens. Repeater screens in hospitality suites that are only used for eight hours on a match day don't need to meet the same specifications as displays that are used throughout the day for wayfinding, promotions and visitor messaging. Venues can save money by specifying and integrating the appropriate technology for each use case and only using commercial grade displays where necessary - using traditional "TV screens" in some areas can result in as much as a 20% saving.

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Resolution

Think about what content you're going to display on each screen before spending money on ultra-high definition displays. Even multipurpose display networks have screens that are predominantly used for one purpose or another and there's simply no need to buy a 4K screen if it's only ever going to be used for wayfinding.

Next: Stop spending on printing

Stop spending on printing

Reprinting static posters every time you want to change your messaging is expensive, takes time and creates paper waste. By contrast, updating digital content doesn't cost anything and creates zero waste.

We're not going to pretend that integrating digital displays doesn't require an (often substantial) upfront investment or that there aren't costs associated with running a display network, but the revenue-earning potential of digital displays generally exceeds any of these expenses

The environmental and cost implications of digital systems can also be reduced even further by taking the following steps:

Avoiding over-engineered systems

There's a fine balance between future-proofing and over-engineering. Adding unnecessary outputs and functionality not only increases the purchase price of AV equipment, but can also add to your everyday running costs. The same applies when it comes to implementing solutions that aren't fit for purpose – like using fine pixel pitch LED when the closest audience member is over 10 metres away and won't notice the difference in resolution, or using outdoor displays which produce 5000 nits of light in an indoor environment where only 1000 nits are necessary.

There's a fine balance between future-proofing and over-engineering.

Choosing efficient products

A system-on-chip display uses less power than a display with a separate set-top box does. While the difference in power consumption for one unit may not be substantial, if you're deploying a large number of new displays, the system you choose can make a big difference to your overall energy efficiency and costs. Similarly, simply mounting your display in a recess can also increase energy and other costs. Because digital displays generate heat, if they're mounted in a way that restricts the airflow around the system they can create "hot spots" which have to be corrected with increased air-conditioning. When planning a new AV installation, we recommend interfacing with your building management system and using a BIM model to overlay your AV plans against your architectural drawings. This will paint a clear picture of your predicted power consumption, heat demand and heatmaps, and help you figure out where you'll need air conditioning to counteract the heat created by your AV technology.

Switching your displays off when they're not in use

This sounds like such an obvious thing to do, but sometimes the manual process of switching systems on and off can become so time and labour intensive that it costs almost as much as leaving the systems running 24/7. Using motion sensors to control when AV systems switch on and off is a more efficient way of managing your display uptime.

Following the three R's

Reuse, reduce and recycle wherever possible. One way to do this is by using standard-size LED cabinets so that, when it's time to upgrade your display, you can replace the individual modules but not the cabinet. Other options include using eco-friendly materials (like FSC certified sustainable timber or recyclable aluminium) for building mounts and recycling the heat from your HVAC system to create power. Finally, instead of running new copper cables to supply power and network connections to your AV systems, consider using wireless devices and distributing content and data using AV over IP.



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Cut down on system management overheads

It takes a whole host of systems to run a venue. Stadium control rooms generally include anything from PA systems to AV control, audio routing, IPTV/CMS and broadcast systems, and it can take a team of different people to operate each of them independently.

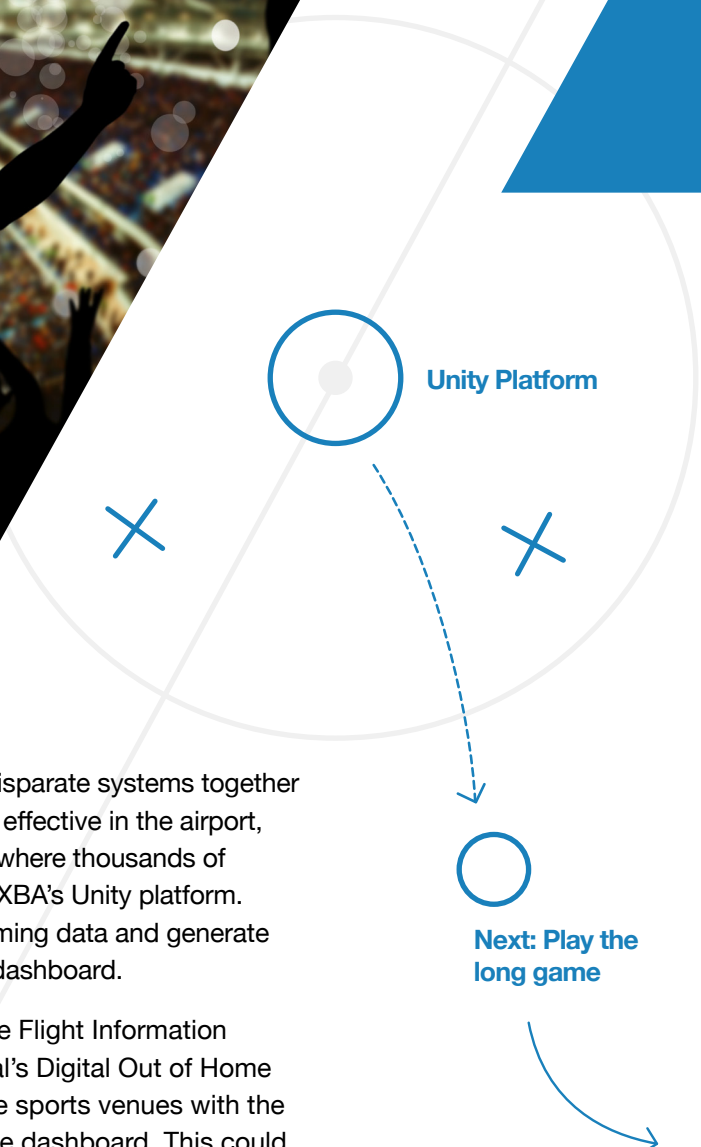
Using separate tools and specialist operators for mission critical operations can spread the risk of system failure, but it isn't an efficient use of resources and can make it difficult to co-ordinate activities. Ideally, sports venues should aim to either reduce the number of people or the number of different systems required for these operations.



It takes a whole host of systems to run a venue.

One way to achieve this might be to use APIs to bring disparate systems together under one management tool. This approach has proven effective in the airport, digital out of home and telecommunications industries, where thousands of devices are remotely monitored and managed using ADXBA's Unity platform. The system also provides the ability to analyse the incoming data and generate reports and system diagnoses – all in one user-friendly dashboard.

In the same way that this system is used to manage the Flight Information Display System at Gatwick Airport, or to monitor Global's Digital Out of Home estate, a similar solution could be developed to provide sports venues with the ability to monitor and control stadium systems from one dashboard. This could reduce the manpower needed, enable off-site monitoring and maintenance and cut down on costs.



Play the long game

Great deals can be tempting, especially when times are hard. But often, even if these deals deliver in the short term, they end up either costing money or reducing your ability to earn revenue in the long term – which really amounts to the same thing. The old adage “if something seems too good to be true, it probably is” is particularly appropriate when it comes to cheap equipment and negotiating revenue splits.

The digital display market has exploded in recent years, and the industry has been flooded with a raft of new LED and LCD manufacturers. Technology developments and increased competition have pushed the price of displays down, which is great news on one hand as it's meant that many venues that may previously not have been able to afford jumbo screens and similar solutions are now able to. But venues should be wary of knock-down prices from new brands that haven't proven their worth, as any savings made on the initial purchase can quickly be spent on repairs, replacements and lost advertising revenue due to equipment failures. The reason why Daktronics remains one of the top providers in the industry, despite their products being amongst the most expensive, is because their displays deliver quality and reliability.

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Venues can also be tempted by package deals that exchange the cost of equipment and integration for a share of the advertising revenue earned from these displays. Unfortunately, less scrupulous suppliers have been known to tie venues into extended contracts on this basis and then provide sub-standard technology that costs a fraction of the advertising earnings they're taking from the venue and has to be replaced before the end of the contract term. Often, you're better off finding a way to finance the displays and keeping the advertising revenue for your venue.



Part 2: Increasing Profits

Create a safe environment for fans

Stadium safety is of key importance to the industry. This includes managing people security, reducing anti-social behaviour, and implementing crowd control to avoid people getting crushed in confined spaces or potential clashes between rival club supporters. Filling stadium seats isn't the only consideration for venue operators – you also need to make sure fans feel safe when they attend live events at the stadium or arena, so they keep coming back every match day. Digital displays are effective tools for this purpose.

One of the biggest challenges for any sport venue is to avoid congestion and overcrowding at the entrances and exits, concession stands, toilets, and merchandise outlets. In the same way that package holiday reps direct tourists in increments from the arrivals gate to the airport exit and then to the coach before depositing them at the resort; digital displays can show wayfinding messages, creating a continuous pathway that guides fans. They can be used to lead fans from the turnstile to their seat, the toilet, concession and merchandise stands and back out of the venue without areas getting congested and

people getting stuck in queues. These measures can help prevent a poor or disappointing fan experience, which might otherwise lead to fans leaving early or spending less money at the venue. In simple terms, if fans and supporters can easily enter, move around, and exit the venue whilst enjoying the event, it has a surprising impact on the amount they spend, their perception of the venue, and how likely they are to return or pass on recommendations to others.

When digital displays are combined with monitoring tools and a powerful content management software system, their true potential can be realised. By using ground footfall sensors, mobile phone beacon technology, and similar dwell location and proximity tools to gather data, you can better understand the number of people in various locations around the stadium. Then, by sending live message updates on digital displays via the CMS, venue operators can create an intelligent, responsive system that directs fans away from bottlenecks and reduces the risks of overcrowding. A good quality content management software system can allow this data and content to be updated



on the fly, and as a result, cut down on the number of marshals you'll need to manage crowd control. This gives venues a better understanding of where people congregate throughout an event and allows the staff available to be more effective in locations where human presence is essential.

These crowd management systems allow venues to create a better atmosphere for fans, moving them along so they can enjoy celebrating their team – not spend hours in the queue waiting for a well-earned pint. Intelligent queue management and directing people to less busy till locations is an effective and simple way to increase fans' spend by guiding them efficiently between merchandising and concession stands, and reducing overall queuing time.



Digital displays are a powerful – often underutilised – tool for effective crowd management.

Develop lifetime supporters

Sports venues and stadia are key parts of communities; family traditions are often built around attending local games. These fans aren't only coming to watch the game, though, the entire match day experience is (almost) as important as their team's performance on the pitch. To capture fans at a young age and keep them coming back, sports venues need to be part of the community and create events that are memorable and pain-free.

Here are some of the ways that digital displays could be used to achieve these objectives:



Support the local community

It's in your best interests for your community to be prosperous. The better off the local businesses and residents are, the more likely they are to sponsor your team, pay for advertising and buy tickets to your games. This is particularly true for smaller venues with a club in the lower tiers but, even Premier League Clubs that benefit from big-brand advertising still need live audiences to deliver a return on advertising investment and generate income. Sports venues can support their communities by offering discounted digital display advertising packages to local businesses, exchanging display ads for goods and services provided from local suppliers or by running joint promotional campaigns.

There's also nothing quite like seeing your face on the big screen.



Fan engagement

Part of becoming a lifetime supporter is learning about the club history, the players of the past and the heroes of today. In the US, fan zones often feature what can be described as a miniature museum or hall of fame on site, providing fans with an opportunity to look at memorabilia and learn more about their team and the sport. Digital displays and technology provide the capability to make these fan zones much more interactive and engaging – replacing glass cabinets and posters with things like augmented reality photo booths that let you take a virtual selfie with your favourite player, AR “mirror” screens that add the latest team shirt, cap or jacket to your reflection and interactive merchandise kiosks that deliver your purchases directly to your home. There's also nothing quite like seeing your face on the big screen and no fan will ever forget being caught on the kiss cam, seeing their selfie on the stadium screen or being featured with AR filters on the jumbotron.



A pain-free experience

Aside from your team's performance, the biggest stress points around any match day are getting into the stadium, buying food and drink without missing too much of the match, and getting out again. As we explained in previous sections, digital displays are highly effective tools for both wayfinding and reducing congestion – especially when combined with a CMS system and monitoring technology.

Digital displays are highly effective tools for both wayfinding and reducing congestion.



Next: Increase advertising and sponsorship revenue

Increase advertising and sponsorship revenue

Arguably the most lucrative way that digital displays can be used in any sports venue is to show advertising and sponsorship messages – both to on-site spectators and (where the match is being broadcast) to television viewers. Whether you rely on an external media agency to manage your advertising sales or have an internal team that takes care of this, sports venue operators should understand how digital displays can be used to earn money from advertising and explore ways to maximise this income in 2021.

Pitch-side advertising is sold in units, called faces, each of which equates to 20 seconds of playback on a single display. This means that, over the course of a 90-minute game, each screen has the earning potential of 270 “faces.” Multiply this by 135 (the number of displays needed to surround three sides of a football field with perimeter boards) and you have 36,450 advertising faces or slots to sell per match – and that’s before you factor in advertising on the big screen or any other displays.

The good news is that your advertising earning potential doesn’t have to be limited by how many displays you have in your stadium or the number of faces at your disposal. Consider the following technology solutions to increase advertising income at your venue:

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Virtual overlays for digital perimeter boarding

Thanks to new perimeter display technology, it’s now possible to customise the content shown on perimeter displays when broadcasting to different geographies or markets. So, English broadcast audiences watching a football game taking place at Wembley Stadium might see an ad for HSBC on the perimeter displays, while German audiences watching the same game might see an ad for Deutsche Bank on the same displays. Using virtual overlays to run multiple advertising streams on perimeter LED boards provides a fantastic opportunity to increase advertising income for sports venues.



Installing double-sided perimeter boarding

Traditionally, perimeter displays follow the TV arc, and the content displayed on them is intended primarily for the TV audience. But double-sided perimeter displays provide your venue with screens that face both the field and the seating – so stadiums can advertise to the TV audience as well as the 40,000+ spectators at the match without a big increase in technology or integration costs.



Maximise the advertising potential of your existing digital real estate

We’ve spoken before about the benefits of creating a multipurpose display network, underpinned by a content management system that allows you to use almost any display in your venue to deliver any content. One of the benefits of this approach is that it creates additional advertising opportunities, for example: displays that showed wayfinding information when fans arrive can be used for advertising during halftime. Another option is to split your digital real estate so that wayfinding content sits alongside sponsored messaging on one screen. Both of these options help digital displays not only pay for themselves but provide a return on investment from advertising income.



Leverage the potential of AI

Integrating the Internet of Things into your AV system allows venue operators to collect and understand information about your visitors. This data is a goldmine for advertisers.

One IOT approach that is growing in popularity for DOOH applications, and which is already prevalent in airport spaces, relies on camera tracking and facial recognition software combined with digital displays. The system uses 3D cameras, mounted on displays, to capture detailed images of people interacting with your content. These images are fed into sophisticated facial recognition software which examines skeletal features to identify people's gender, approximate age and other demographic information. Finally, this data is then used by your CMS to identify and serve up the most appropriate advertising content for that audience.

Other popular techniques include using simple systems like footfall counters, noise sensors and Wi-Fi hotspots to create heatmaps that show where large crowds have gathered so that they can either be dispersed or targeted with relevant digital messaging. Near Field Communications (NFC) and Beacons can be used to both gather information from, and send messages directly to, your audience's mobile devices based on their proximity to displays or specific locations.

When the data collected from these IOT systems is combined with the information that stadiums already have access to via ticketing platforms, stadium apps and social media interactions, they create a deep and detailed picture of your visitors. These insights can then be used to ensure that you show the right advertising to the right people at the right time – which can only result in increased sales.

Next: Ready for kickoff?



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Ready for kick-off?

Anyone can buy technology – and new ideas and exciting technologies are constantly being developed. What makes a venue stand out is the intelligent application and implementation of the technology, so that it achieves the desired result for venues and fans alike.

Creating a good fan experience relies on a comprehensive technical solution that can stand the test of time. For ADXBA, the touch point isn't just the display – it's the IT, software, services, and ongoing technical support, all of which can help take your fan experience to the next level.

We understand that Rome wasn't built in a day – we can help with everything from timescales to costing, helping ensure you spend smartly and maximise your ROI. We provide a consultative approach and the complete turnkey solution to meet your requirements, whilst also considering your budget. Futureproofing technology can sometimes seem a little overwhelming, but we're here to act as your advisor – we know the technology inside out, from concept through to implementation and ongoing support.

Hopefully this e-book has provided inspiration and information that will not only help your sports venue to save money, but to thrive and turn a healthy profit for many years to come.



About the Authors

ADXBA provides much more than digital displays and giant screens for stadia, event venues and arenas. We design and deliver complete digital signage solutions that will wow your audiences, enhance the visitor experience and deliver financial returns.

We're large-format display specialists and the preferred digital solution provider to some of the biggest DOOH advertisers and transport hubs in the world. Now, we're applying our AV integration capability, technical development skills and commercial expertise to sports, exhibition and entertainment venues.