



Intelligent Venues

Impress Your Audience and
Monetise Your IT

The Aruba logo consists of the word 'aruba' in a white, lowercase, sans-serif font. The 'a' is stylized with a dot above it. The logo is positioned in the bottom left corner of the page.

aruba

a Hewlett Packard
Enterprise company

Sports Events
Conferences
Concerts
Theatres
Festivals
Stadia

➤ Intelligent Venue Wi-Fi Solutions

Within the last couple of years there has been a sizeable shift in the way consumers interact with Wi-Fi. Most people expect wireless services to be readily available, work quickly and be supplied free of charge at major public venues and events.

Providing this service incurs direct overheads, not only regarding your consumers, but also delivering it to retailers and corporate sponsors.

The ability to monetise Wi-Fi can provide a return on investment in several areas, which given the right technology and implementation, can help recover these costs, provide better customer satisfaction and potentially even allow the service to become a revenue generator.

Designing and deploying a large event network is a major operation. It must be implemented in a repeatable, non-disruptive, carefully planned manner to guarantee optimal performance and eliminate risk.

We recognise that whilst process, methodology, change boards and governance are critical in complex programmes; a flexible, proactive and innovative approach is needed to accommodate change in event types with multiple third parties.

A software layer can adapt and evolve to collect huge quantities of data, which is pivotal to understanding consumer trends and building digital roadmaps that can provide a real value beyond standard wireless services.

➤ About Ultima

Our Mission Statement:

“To become the trusted long-term IT partner of UK businesses by providing robust and flexible solutions which bring real business benefit.”

As a modern infrastructure and automation services provider, we maintain relationships with a wide range of strategic and disruptive vendors.

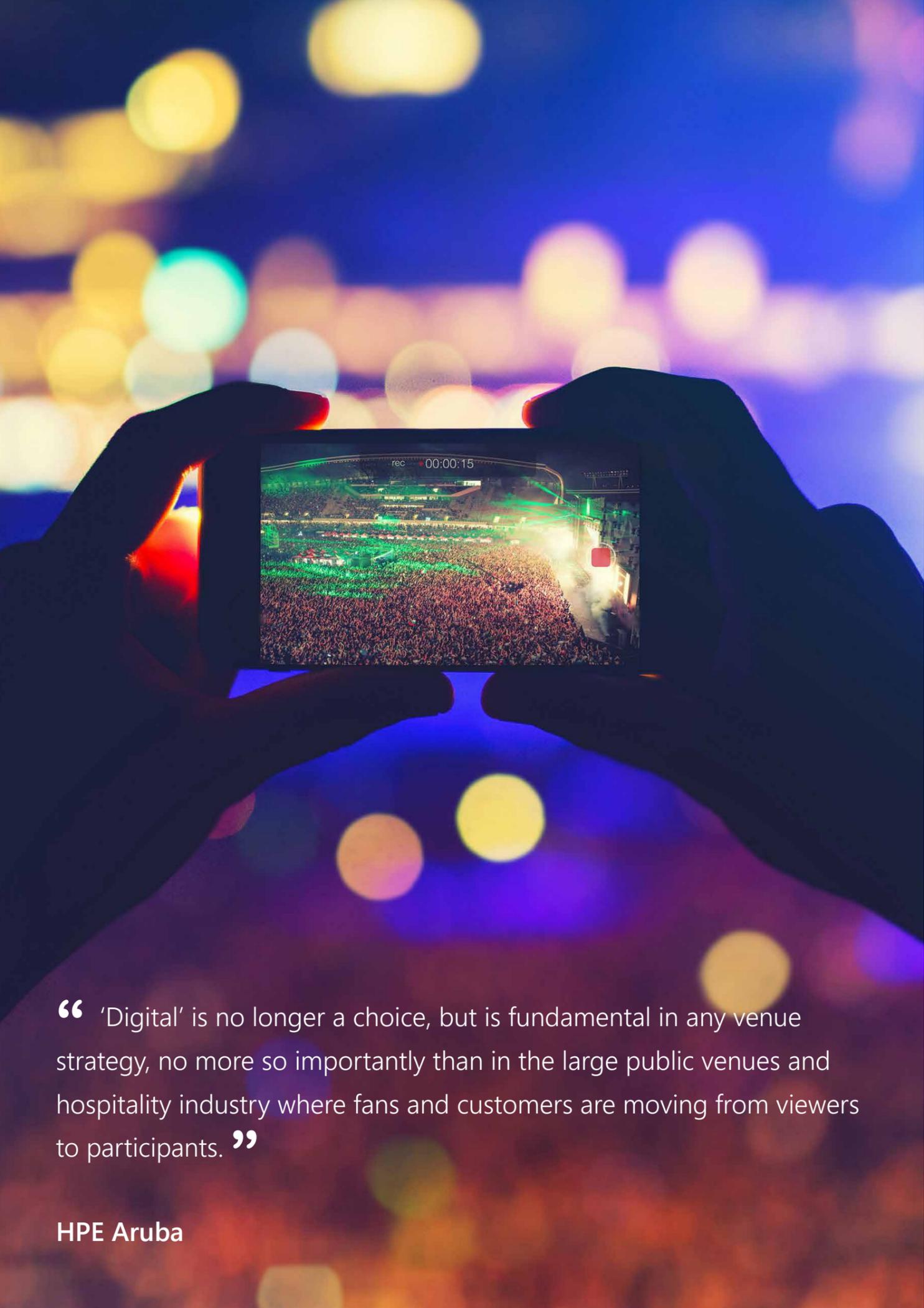
These long-standing partnerships allow us to provide impartial best practice advice, product fulfilment support and bespoke solutions, all backed by 24x7 managed service support.

No matter where you are on your IT journey, we can provide the assistance you need to make technology a positive asset, aligned with the emerging goals of your organisation.

This could include; mitigating risks associated with changes in compliance, optimising infrastructure to improve efficiency or modernising legacy systems for the cloud.

In summary, we deliver better business outcomes at a commercial, strategic, operational and technical level.





“ ‘Digital’ is no longer a choice, but is fundamental in any venue strategy, no more so importantly than in the large public venues and hospitality industry where fans and customers are moving from viewers to participants. ”

➤ Value Proposition

Mobile technology is at the heart of engaging with consumers and offering a better level of involvement, leading to higher loyalty, new revenue streams and an increased digital profile of the event for sponsors.

First and foremost, we are proposing a secure, robust and reliable layer of connectivity - which is flawless both indoors and outdoors. We can leverage this to provide a host of additional services consumers expect, including instant access to maps and the ability to order products and services on smart phone devices, as well as having a constant channel of communication with online communities to share their experiences.

With improved participation, enhanced data on how consumers behave and the ability to analyse trends in both sentiment and behaviour at events, providers can tailor services to attract new, and better serve, existing customers. Digital innovation is no longer a choice for public venues if they want to stay relevant to the consumers of tomorrow.



Single Pane of Glass for Management

Single pane of glass for real time monitoring and management.



Secure, Scalable and Modular Design

Re-purpose the design to deliver different event classifications as required.



Mature Wired and Wireless Technology

Supports all types of events, backed by proven security, scalability and availability metrics.



Managed Engagement

Support underpinned by a robust eight stage, phased approach to delivery.



Highly Performant Solution

Backed by industry-leading technology taking a vendor agnostic approach to wired and wireless LAN.



Personalised Services

Enable personalised mapping, navigation and proximity notifications.



Access to Deep Analytics

Through the implementation of Wi-Fi analytics and Sentiment (facial analytics and motion intelligence).



Effective Delivery Partner

Delivered by event specialists, with a track record in large event deployments.

➤ Monetisation of IT Services



Concession Placement

Location services can provide a footfall map of where people go throughout the day, which routes they take and how long they stand in particular locations. Using the event branded mobile map within the application, you can also direct people through certain routes to promote footfall and increase revenue for those retailers.

By providing dynamic retail hotspots, premiums can be charged in certain locations for fixed stands. Mobile stands and concessions can also be placed in areas of time-related footfall, where traffic increases at certain points throughout the day.

Food and Beverage Ordering

In-application ordering can be provided to retailers at a premium, or by taking a slice of the revenue. Retailers can opt in to this service which will promote their offerings above others and provide a better consumer experience.

Retailers can upload menu items and even change pricing on demand as trends or stock levels dictate. This can assist with clearing stock and provide a more predictable supply and demand model.

Proximity alerts can be sent direct to the customer's mobile phone when passing by targeted locations.

Premium Wi-Fi Services

Premium Wi-Fi services can be provided to consumers and concessions above the standard level of service.

This premium offering can be enabled via a payment portal (or delivered via VIP tokens) and can provide additional services such as guaranteed bandwidth, private secure across site virtual networks and access to specialised digital content.

Advertising

The mobile application can provide generic advertising opportunities, including notification of localised products and services - such as restaurants, taxis and evening events throughout the area. Targeted advertising can also be offered as the application can capture information throughout the day and build a profile based upon consumer trends or actions.

Push notifications can also be enabled when specified events occur; these could include actions such as a customer returning to a certain location or concession.

Future Event Offers

Offers and advertising for future events can be provided to the application users. These adverts could link directly through to ticket ordering portals and will help promote other activities or events.

Sentiment Based Analytics

Billboards and static advertising can be dynamically adjusted depending on the mood of the audience. Cameras can be placed on billboards and mobile advertising areas which read consumer facial expressions and decide whether a person's mood changes while reading an advert.

Understanding which adverts the consumer likes, and their subsequent movements or actions, allows retailers to change, update or roll out content specific to those people.

Standard Event Functionality

Wayfinding

Provides turn-by-turn navigation from home to the consumer's seat, including alerts to help avoid queues. Waypoints allow directions to key facilities (e.g. toilets, bars, exits, event locations and concessions).

Security

Location awareness services provide added value when tracking individuals, assets and suspicious activity. Understand crowd behaviour and unusual activity at your event.

Guest Wi-Fi Experience

Customers and guests can join the secure Wi-Fi using unique logins, such as ticket or third party authentication sources via Facebook or Twitter.

Asset Tagging

Track, monitor and alert on high value assets and personnel in real-time. Validate business processes leveraging location-aware services, such as cleaning schedules, security placements and staff rotation.

Campaigns

Target visitors with offers and cross selling opportunities based on profile, location and time. Deliver campaigns that reward members and VIPs with additional content and benefits.

Event Operations

Understand who is interacting with your venue, when and where they are going. Use this information for dynamic route guidance and for planning concessions, expansion of facilities and optimisation of services.

Other Intelligent Venue Use Cases

Digital Signage

Deliver feature rich digital signage including dual video and TV; trigger changes based on visitor density. Provide native Internet Protocol TV (IPTV) solutions, along with content management systems and interactive touchscreens.

Food and Beverage

Order in-app, to be either collected from the nearest outlet, to the consumer's room or via follow-me delivery. Guests can see proximity-based availability across restaurants to aid with booking.

Location-Based Add-Ons

Mobile app users can locate their family and friends. Give users access to live location information detailing where their band or sports star is at the event. Track mobile items and send alerts when people or items arrive, move or leave.

Deep Consumer Insight

Analyse contextual data and visitor flow. Compare the behaviour of consumer groups to make decisions on advertising placement and drive increased revenue from concessions.

Digital Concierge

Allow consumers to check in and access facilities using their own device. Customise recommendations for food, attractions and environmental conditions based on historical preferences.

Digital Content

Access to live event streaming, HD video on demand and fan forums, as well as detailed event statistics and team data. Deliver an immersive social media experience in real-time.



Conceptual Customer Journey

Our customer journey plans out an example event day your customer could adopt. This concept involves a visitor to an outdoor golfing event, offering a brief view of their potential experiences and the use cases provided.

1. Wi-Fi & Application

I connect to Wi-Fi and download an application which gives me a personalised set of options as to which players I am supporting and want to follow.

A course map directs me to the tented village to explore and grab breakfast. Coffee is the order of the day, which is ideal because as I walk into the village my phones tells me I can have 25% off any large hot drink. I'll take that, even though the wait is eight minutes.

2. Navigation

My app is now telling me that my favourite players' first tee off is in 25 minutes and I'm a 15-minute walk away, so I should leave soon to catch it. It shows me the fastest route and directs me to a stand that has spare capacity.

My app will help me follow the players around the course and provide me with great statistics, along with the score cards of all the groups.



3. Real-Time Updates & Food Ordering

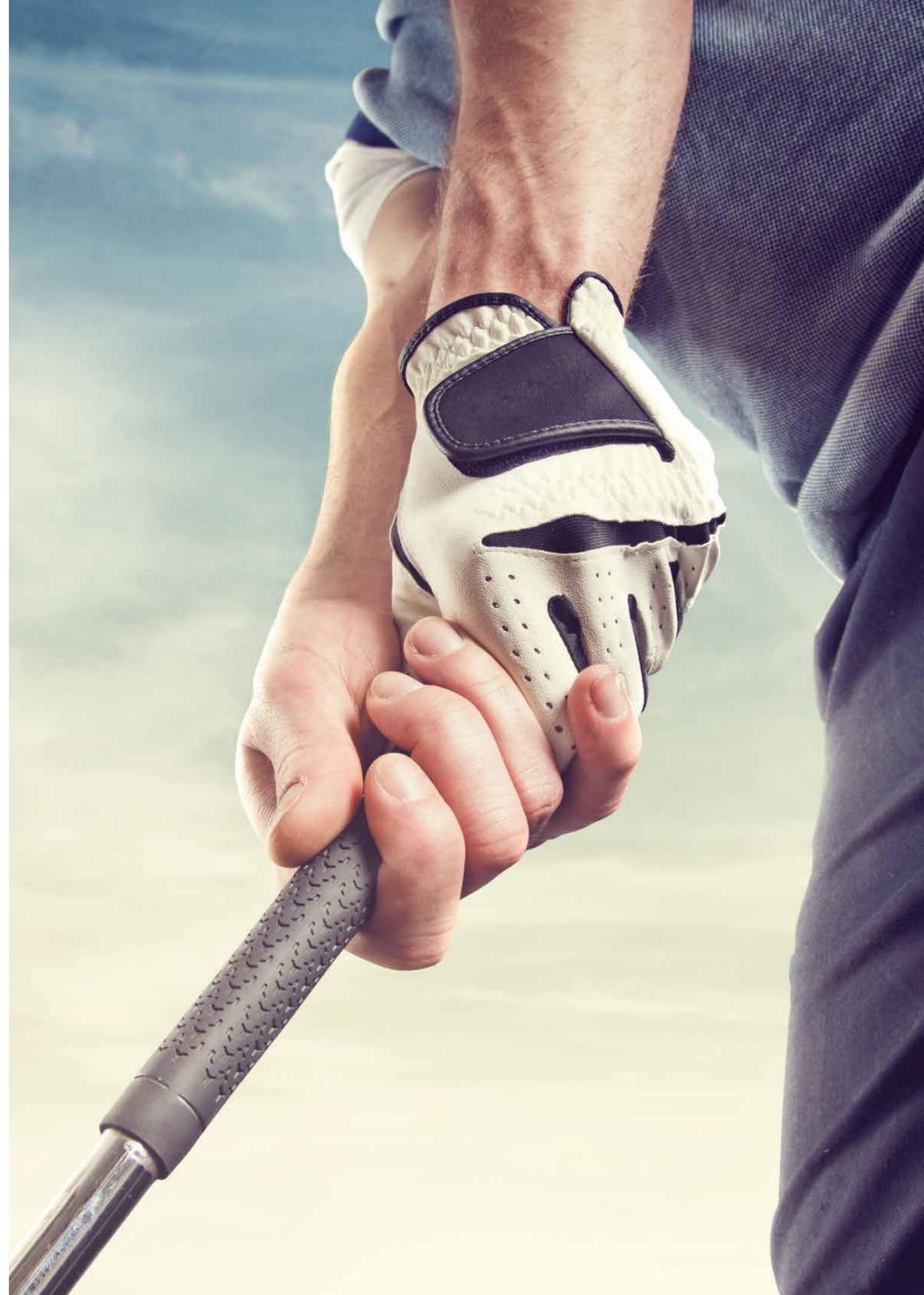
Whilst I'm sat down, I might as well watch all the tee offs. My highlight reel provides real-time updates that I can watch back on my phone straight away. I can also check out all social media information, including players, sponsors and what other guests are posting.

I look at the food options on my phone and select a hot dog and fries. I order directly on my phone and it guides me to pick up my food from a collection point. As I arrive, I show my order number and collect my meal; no need to queue or wait.

4. Offers & Highlights Reel

It's getting late in the day now. Several end-of-day deals are available in the offers section of my app. The app tells me there is a band playing in the tented village after the final match and directs the quickest route there.

Afterwards, I tell the app I'm ready to go and it directs me towards the buses and informs me there is a 45-minute wait for the bus. I think I'll grab one more drink before I go, let the queue die down. I'll watch the highlights of the day on my phone on the journey back.



▶ Ultima Next Step Offerings

Ultima Intelligent Venue Demo

Located within our Reading head office, you can experience the power and capabilities of the Intelligent Venue platform. This demo will take you through a personalised tour of some of the capabilities and start conversations on how the technology can be deployed and monetised for your event.

On-Site Proof of Concept (PoC)

A customised deployment of the Aruba technology, along with hardware and installation services, can be delivered to your location or offices that demonstrates the features and capabilities of the location-based awareness services. This PoC can be tailored to your environment and give you great insights into the potential experience the platform can provide.

Managed Services

Our Technical Service Centre (TSC) can provide tailored monitoring, support and management of your large public event Wi-Fi and LAN services.

We can monitor and maintain the infrastructure and provide on-site technical support for hardware swap-outs. Application updates for the mobile experience can be maintained and supported allowing you to concentrate on delivering a successful event.

Our managed services team can supply event support to understand crowd flows, track high value assets and provide you with a virtual Network Operations Centre (NOC). Dashboards can be enabled allowing yourself and/or your contractors visibility into the live operations viewpoint.



▶ 2018 Ryder Cup Reference



▶ European Tour - 2018 Ryder Cup

The Ryder Cup partnered with HPE on the strength and depth of its wireless and mobility solution portfolio from Aruba, to provide centrally managed, modular and secure course-wide wireless connectivity at the 2018 Ryder Cup. This was a joint effort between HPE, Aruba and Ultima, as the consulting, design and implementation partner.

The network architecture was based on a Core, Access and Edge Topology, supporting over 51,000 spectators every day. Over 650 Aruba Wi-Fi access points, 130 Aruba Distribution and Edge Switches were deployed, alongside dual-resilient data centres with HPE DC core switches and a HPE VMware virtual compute platform. The digital engagement experience was enabled by the deployment of Aruba Bluetooth Beacons. The network delivered a significant amount of useful data points back to the Ryder Cup data analytics and reporting platform, via the Aruba Analytics and Location Engine (ALE).

The benefits for the audience included:

- **Live streaming** - providing spectators and fans with access to live streams, replays and highlights
- **Interactive maps** - fans could find their way around the event with maps based on geo-location, directing users to where they wanted to be via the fastest route
- **Targeted merchandising** - location-based offers, directing spectators to relevant content based on event analytics
- **Player locations** - spectators were able to find where a player is on the course; they were also able to follow the player and plan their own movements on the course
- **Operational efficiency** - location data helped identify peak times and locations, so that staffing could be adjusted accordingly allowing for more efficient operations

➤ Large Public Venue References



➤ Birmingham Repertory Theatre

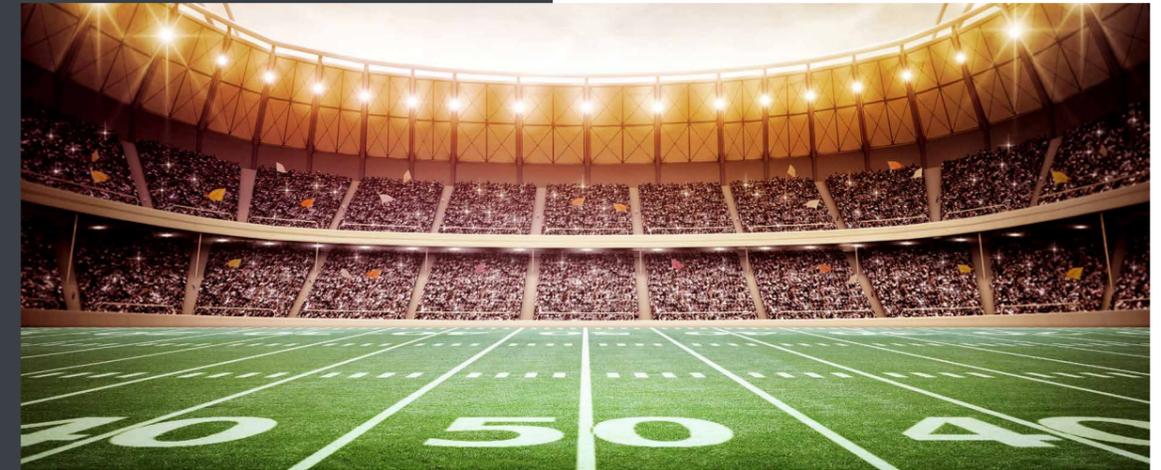
When Birmingham Repertory Theatre planned to move back into its home after a two-year refurbishment, it needed an up-to-date Wi-Fi network. Its communications team also knew that the public has come to expect free Wi-Fi in venues such as this, especially as the Rep shares its building with Birmingham's central library. HPE Aruba implemented a Wi-Fi infrastructure that could be used both internally by theatre staff, and by suitably authenticated guests of various kinds.



➤ Tottenham Hotspur

Tottenham Hotspur selected HPE Aruba as its IT networking and wireless infrastructure partner. The club is currently building a world-class stadium in London. Set to open in 2018, it will be one of the most technologically advanced stadia delivering an enhanced event day experience for all visitors. The state-of-the-art venue will be the largest football club stadium in London, with a capacity of 61,559.

➤ Large Public Venue References



➤ Super Bowl 50

In 2016, Aruba delivered wireless services for the Super Bowl, shattering Wi-Fi records at Levi's Stadium and enabling mobile engagement. It was the first Super Bowl to deliver indoor navigation, and a total of 10TB+ of data was transferred over the network - 60% more than the previous event. The solution delivered 3GBPS over four hours of continuous Wi-Fi bandwidth and 27,000 unique users (38% of attendees) accessed the network, with 20,300 concurrency.



➤ UNESCO

The first wireless network infrastructure was installed at UNESCO in 2004 to provide internet access to visitors in public areas. The installed configuration has evolved several times since 2004, and currently includes 110 Aruba AP-225 access points, managed by a 7210 controller. Completely satisfied with Aruba's technology, UNESCO decided to equip its 65 offices around the world with a Wi-Fi network to provide internet access to visitors, again with Aruba equipment, in this case IAP-205 access points.



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