

# Managed WLAN Services



## HSV and T-Mobile Team to Turn Imtech Arena into a Stable and Reliable Wi-Fi Wonderland

Imtech Arena is the municipal stadium of Hamburg, Germany and one of the prized possessions of Europe. Owned and operated by the Hamburger Sport Verein (HSV) soccer team, Imtech Arena is a massive, five-level, state-of-the-art sports and entertainment facility that seats more than 57,000.

Looking for a Wi-Fi system that could match the world-class elegance and simplicity of its stadium, HSV and partner Deutsche Telekom (DT) began looking for a solution that could provide the coverage, stability and performance expected from discerning press, VIPs and visitors.

“We really wanted something that was easy to deploy and manage but that would also provide the coverage and consistent performance that you just don’t get with conventional enterprise Wi-Fi systems,” said Steffen Becker, HSV’s IT manager.



Owned and operated by the HSV soccer club, ImTech Arena needed state-of-the-art Wi-Fi network for data offloading, reliable guest access and Internet access for the press to DT’s T-Mobile’s hotspot service.

The initial requirements were to provide reliable Wi-Fi access to DT’s T-Mobile’s Hotspot service for press and special guests at Imtech Arena. This included access around the field, in VIP suites and within the press facilities.



According to HSV, the new wireless LAN system needed to support high-speed 802.11n connectivity both indoors and outdoors with the ability to be managed as a single, unified system. Due to the size of the venue, dynamic nature of the events at the stadium and mass of crowds gathering for event, it was critical that the Wi-Fi system was able to provide reliable and adaptive meshing between outdoor Wi-Fi APs that frequently must be moved to different locations.

A big benefit of Wi-Fi within ImTech Arena would come from offloading data traffic destined to T-Mobile’s 3G network onto a higher capacity, higher speed Wi-Fi network. With an influx of dual-mode (Wi-Fi/GSM) smartphones entering the stadium, pushing messaging and other data traffic to Wi-Fi effectively improves the performance of the cellular voice network.

Other key requirements included: simplified Wi-Fi deployment and management, easy guest access pass generation, the ability to automatically steer dual-band (2.4GHz/5GHz) clients to the 5GHz band and dynamic beamforming and interference rejection to provide better signal coverage and more consistent performance to devices, such as smartphones, that frequently change their orientation. According to HSV, when large events take place at ImTech Arena, radio and television stations with an assortment of wireless equipment along with tens of thousands of visitors, can quickly saturate the RF spectrum causing major Wi-Fi problems.

### COMPANY OVERVIEW

Located in Hamburg, Germany, Imtech Arena is one of Europe’s premiere sports and entertainment venues, seating over 57,000 on people within a five-level complex.

### REQUIREMENTS

- Stable Wi-Fi connectivity for journalists, VIPs, internal staff and select visitors
- High-speed, indoor and outdoor 802.11n access points managed as a single system
- Support for large numbers of concurrent users per AP
- Automatic migration of 5GHz-capable devices to the 5GHz band (i.e. bandsteering)
- Reliable wireless meshing between nodes where Ethernet cabling is not available

### SOLUTION

- 7 ZoneFlex 7762 dual-band 802.11n outdoor Smart Wi-Fi APs
- 21 ZoneFlex 7962 dual-band Smart Wi-Fi indoor APs
- Redundant ZoneDirector 1050 Smart wireless LAN controllers

### BENEFITS

- Stable wireless connectivity
- 3G data traffic offloading
- Better utilization of the RF spectrum through beamforming, bandsteering and airtime fairness
- Support for multimedia streaming over Wi-Fi
- Lower overall total cost of ownership
- Simpler deployment and management of the Wi-Fi system
- The ability to add Wi-Fi capacity on demand with smart mesh networking



**Ruckus**  
WIRELESS



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*“Until now, carrier-class Wi-Fi services within public venues such as ours, just hasn’t been possible.*

*With the Ruckus ZoneFlex system, we’ve been able to quickly and cost-effectively deliver consistent wireless performance at range with the ability to offload data traffic from smartphone’s onto the T-Mobile hotspot service.*

**Steffen Becker**  
IT Manager  
HSV

“We found it extremely challenging to find a single wireless supplier that could support all the features and capabilities we needed within a system that was easy to use and cost effective,” said Becker.

DT and HSV finally settled on the Ruckus ZoneFlex 802.11n system for both indoor and outdoor Wi-Fi coverage.

“With the Ruckus gear we saw significant signal gains which reduced the number of APs we required,” said Becker. “But more important to us was the adaptive nature of the equipment to automatically determine the best signal path through what is a constantly changing Wi-Fi environment. This has given us a level of stability and service quality that carriers have long enjoyed within the licensed band.”

DT and HSV installed seven ZoneFlex 7762 dual-band 802.11n outdoor Smart Wi-Fi APs in a meshed configuration around the field and lower levels to provide wireless access to the T-Mobile hotspot service. This was augmented with 21 ZoneFlex 7962 dual-band, indoor APs within the press area, VIP suits and other strategic locations.

Through the HSV Wi-Fi network, T-Mobile provides a hotspot service where users are authenticated and billed as needed.

A single ZoneDirector provides centralized management and administration for the entire system providing advanced features such as per user

bandwidth thresholds, guest pass generation, client and AP statistics and role-based user policies. A second controller provides on-demand redundancy.

According to HSV, the system has performed beyond their expectations. “We’ve had hundreds and hundreds of simultaneous users on the Wi-Fi network with literally no performance problems,” said Becker. “The Wi-Fi system was remarkably simple to deploy. And the meshing, bandsteering and other advanced functions are either automatically enabled or enabled through a simple checkbox within the management system. It doesn’t get much easier than this.”

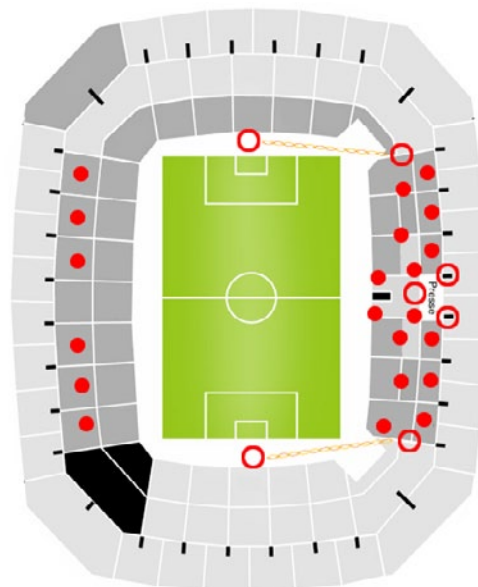
During the recent Euro League finals, HSV was able to provide Wi-Fi access to T-Mobile’s service without incident as over 500 concurrent users accessed online services. “One of the nice things about this system not only its ability to support a large number of concurrent users but its ability of manage the RF spectrum efficiently through capabilities such as bandsteering and airtime fairness.”

Unlike other wireless LAN systems, ZoneFlex was designed to provide carrier-grade Wi-Fi services through advanced radio technology that delivers longer range and more reliable connections. This is achieved through dynamic beamforming and beamsteering that automatically selects the best performing signal path on a per packet basis based on direct feedback from every client.

“With Ruckus, we now have a wireless utility that lets us focus on enhancing the guest experience and optimizing the operation of our facility,” said Becker.

**RIGHT:**

HSV deployed 7 ZoneFlex 7762 outdoor mesh APs and 21 ZoneFlex 7962 indoor mesh APs to provide reliable wireless connectivity to T-Mobile’s hotspot service for press, VIP guests, staff and other visitors coming to ImTech Arena in Hamburg, Germany.



○ Outdoor 802.11n APs ● Indoor 802.11n APs

### IMTECH ARENA

|                   |   |
|-------------------|---|
| Location:         | Hamburg, Germany                                |
| Originally built: | 1951-1953                                       |
| Opened:           | 12 July 1953                                    |
| Rebuilt:          | 1998  |
| Former names:     | Volksparkstadion, HSH Nordback Arena, AOL Arena |
| Capacity:         | 57,274  |
| Field:            | 105m x 68m                                      |
| Grounds:          | 50,000 sq/m                                     |
| Interior:         | 83,000 sq/m                                     |
| Roof height:      | 35m   |
| Annual visitors:  | 1 million +                                     |

