

CASE STUDY

ARUBA DELIVERS GOLD STANDARD WI-FI CONNECTIVITY FOR ASHGABAT OLYMPIC COMPLEX IN TURKMENISTAN



With a workforce of over 10,000 employees across 5 countries, Polimeks is among the top contractors in the world. Driven by the desire to answer the diverse needs of society, the company has successfully delivered large scale projects for tourism and urban transformation.

This proven track record won the company the contract for construction of the Ashgabat Olympic Complex, a mega-facility comprised of a 45,000-person capacity stadium, 19 sport venues, 2 hotels and 22 sports apartments. Providing secure high-speed Wi-Fi connectivity for the diverse group of users who visit and operate within the Complex was a top priority for Ahmet Ecevit, Electrical Coordinator, Polimeks Holding.

HIGH-SPEED HIGH-DENSITY WI-FI AN ESSENTIAL SERVICE

“Spectators want to be constantly connected for social sharing, media crews need high-speed connectivity to stream quality coverage and our contractors need VoIP and other internet services to operate efficiently. In short, Wi-Fi is essential in every way for the smooth operation of this gigantic facility,” said Ecevit.

NEED FOR A PROVEN MARKET LEADER

A withdrawal from the Wi-Fi business by its incumbent vendor left Polimeks with an outdated infrastructure no longer eligible for technical support. After this system failed to meet expectations at smaller events with crowds far below projected maximums, Ecevit knew it was time to mitigate the business risk and deploy an alternative.



OBJECTIVES

- Reliable high-speed Wi-Fi connectivity with seamless roaming across 1.4 million sq m complex
- Strong authentication and secure connectivity for diverse user profiles
- Capture of key connectivity metrics to feed custom designed Billing Reporting tool

SOLUTION

- Aruba 802.11ac Indoor & Outdoor APs
- Aruba 7200 Series Mobility Controllers
- Aruba ClearPass for access control
- Aruba AirWave for network management

OUTCOMES

- Support for 11,000+ simultaneous connections and utilization spikes during events
- Real-time monitoring of RF health and interference and detection of rogue APs
- Centralized management of 3660 APs saves IT team 40 hours per week
- Billing reporting platform fully integrated with ClearPass for secure operation

“Aruba’s Wi-Fi solution, in conjunction with AirWave and ClearPass has provided us with a robust platform that has consistently proved its abilities. It has not just met the unique challenges of scale, volume and diversity of users that the Olympic Complex raises, but surpassed user expectations while doing so.”

AHMET ECEVIT
ELECTRICAL COORDINATOR, POLIMEKS HOLDING

Eager to avoid similar challenges in the future, Polimeks selected Aruba. “We were aware of Aruba’s Wi-Fi heritage and leadership. The vendor was also able to meet all our technical and user experience related criteria and assure performance even at the extremely high-densities unique to our project,” explained Ecevit.

A HOST OF CUTTING-EDGE SOLUTIONS

Given the 1.4 million sq m expanse, multitude of indoor and outdoor facilities and the need for seamless roaming across the entire complex, Polimeks installed 3,660 Aruba 802.11ac indoor and outdoor access points.

The team deployed 7200-Series Aruba Mobility Controllers which facilitated centralized monitoring as well as auto-configuration and updates of all these Access Points (APs), significantly cutting down the duration and complexity of implementation.

A clear path for robust authentication

In addition to deploying AirWave for comprehensive management of the network, Aruba ClearPass Policy Manager and ClearPass Guest were selected to address the unique authentication and security requirements of the facility.

These allow guests to be authenticated based on surname and accreditation numbers and corporate users based on domain username and password. The solutions also enable policy enforcement such as specifying the maximum number of devices and bandwidth per user.



“With its mix of spectators, visitors, corporate guests, broadcasters and third-party contractors, the Olympic Complex caters to extremely diverse groups, each with their specific needs and expectations. ClearPass enables us to define and assign roles to each set, ensuring the right access and privileges which is critical to smooth operations,” said Ecevit.

ARUBA LIVES UP TO ITS PROVEN TRACK RECORD

Polimeks rigorously tested its new Wi-Fi system over a six-month period that culminated in its ‘moment of truth’ at the 5th Asian Indoor and Martial Arts Games (AIMAG) during which nearly 11,000 users connected to the network simultaneously.

“Despite high volume and each user on average consuming 250MB of data per session, the system never dropped performance,” said Ecevit. “Furthermore, the built-in failover mechanism designed on the controller and ClearPass clusters gave us complete assurance against down-time.”

Comprehensive monitoring across the entire network

Utilizing AirWave has given Ecevit and his team powerful monitoring and troubleshooting abilities. They now monitor traffic utilization in real-time and track users’ consumption patterns which enables them to deliver key insight to Polimeks’ business units.

By constantly monitoring RF health and scanning for interference, the team has been able to ensure consistent quality of connectivity

across the entire expanse of the complex. “Because everything is centralized and so easily accessible, even with the host of new capabilities, our IT team now saves up to 40 hours per week,” said Ecevit.

“Thanks to Aruba’s licensing structure, we even pay less than we did before. So, in all senses, we are getting far more from our investment,” he added.

Simple and secure sign-on

This efficiency is also demonstrated by ClearPass which has dramatically simplified user authentication. “When dealing with 11,000 simultaneous connections, ease of sign-on takes utmost priority,” explained Ecevit. “Our ClearPass solution not only handles this volume with ease, it is capable of authenticating up to ten times this number.”

Polimeks has fully integrated its ‘Airsight Smart Analytics Platform’ with ClearPass using Aruba’s convenient Simple Network Management Protocol (SNMP). This custom billing reporting tool which was developed and deployed by AirMind Networks, Aruba’s implementation partner, draws on a host of metrics generated by ClearPass including user data consumption, and location, to accurately and transparently charge corporate customers for their Wi-Fi usage.

A BRIGHT FUTURE AHEAD

Following this success, the team at Polimeks is now working with AirMind Networks to deploy the Aruba Location Engine (ALE), thereby introducing location-based services for the enhancement of visitors’ experience.

“Aruba’s Mobile First Architecture, in conjunction with AirWave and ClearPass has provided us with a robust platform that has consistently proved its abilities. It has not just met the unique challenges of scale, volume and diversity of users that the Olympic Complex raises, but surpassed user expectations while doing so,” concluded Ecevit.

