

A wireframe illustration of a large stadium, viewed from an elevated position looking down at the field. The seating tiers and the roof structure are depicted as a complex network of white lines on a teal background.

Smart Event Complex brings Sports & Entertainment facilities management into the future

Trusted partner for your **Digital Journey**

Atos

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Event complex managers have to make a balance act between efficiency and profitability

Sports & Entertainment complexes composed of several venues are a multi-billion investment for its host cities and local governments that extends far beyond its construction. They serve also as landmarks and beacons of the future, where sustainability, security and safety are of the utmost relevance.

The building and operation of such complex is not an easy endeavor. From the inception of the project to the management of the events taking place on it, several stakeholders participate during its lifecycle. Security, Building and Energy Management, ICT, Multimedia, Business Operation, Spectator Services and Event Management, all has to be considered.

On top of that, once the facilities are in place, event complex managers face a mounting pressure to operate efficiently their facilities limiting the OPEX and at the same time provide an engaging experience for fans and visitors that motivates them to come to the events and spend more, while providing a safe environment.

Technology is the key enabler of state of the art Event Complex

We believe that technology is the key enabler to ensure that a complex will be successful in the long run. A smart complex requires a future proof IT architecture which comprises wired and wireless networks with enough capacity to provide real-time data to facilities' managers and operators, but also information around the events in progress, and process all the contents generated for and by the fans during the experience.

Therefore, we take a comprehensive approach regarding IT, ensuring that all the main services are integrated and work together in a seamless manner. By considering simultaneously facilities and energy management, IT infrastructure, security and services in one integrated solution, we can ensure by aggregating and sharing all the data across the systems, that the whole operation of the complex will be efficient and flexible, capable of evolving at all levels, as technology improvements occur and new services are created to enrich the experience of fans and organizers, whilst keeping the OPEX at optimal levels.



Solution overview

Operating in a connected environment to maximize security and operational efficiency

Leveraging on Atos experience as Master IT integrator, and Siemens solutions portfolio on Security, Building and Energy Management, we have developed the Smart Event Complex.

By facilitating a comprehensive IT architecture at the complex and connecting it to the cloud, and taking advantage of IoT and data analytics solutions possibilities, complex operational managers can perform true 360 real-time operations monitoring and condition based maintenance. They can easily "ramp-up" or "ramp-down" the services to fit the dynamic nature of sports & entertainment venues hosting multiple event type with different services/support level needs.

Connectivity

The backbone of the IT infrastructure is based on the wireless solutions and a single multipurpose data network that connects all systems in the complex. Appropriate security features ensure the separation of different logical networks and the integrity of the overall system.

Sustainability

Energy management is at the core of sustainability. The solution allows balancing on-site and off-site green energy generation with energy demand curves during events, making a de facto micro private energy grid for the complex that can produce a CO2 neutral environment for non-event days. This task is not achieved by a single system, but with a holistic approach involving all energy producing, distributing and consuming elements in each venue and facility. Existing standards as LEED and BREEAM can help to achieve this goal.

Security and safety

Security importance cannot be understated. The right approach must be based in a combination of physical measures with algorithms that analyze the data obtained throughout the complex IoT devices and sensors, which combined with accreditation, identification and ticketing systems can help not only detect safety issues and security breaches, but also prevent them before they occur.

Moreover security does not refer only to physical facilities, but to data and information. The security design provides protection for data storage rooms, servers and communications.

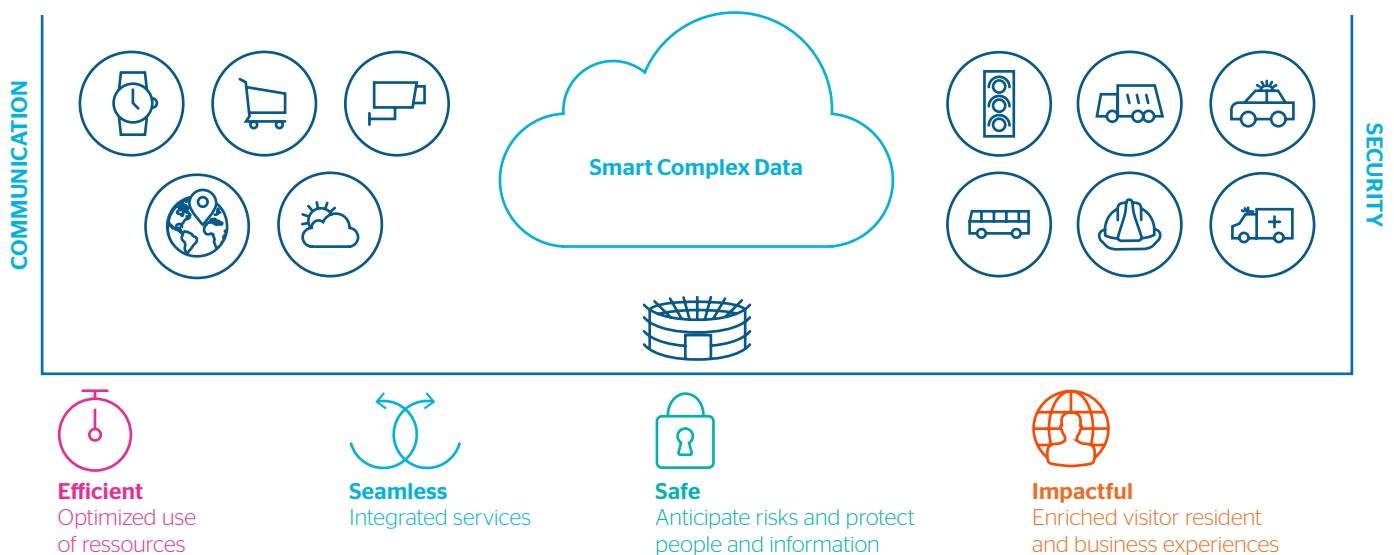
Lighting and media technologies

Lighting, video and audio requirements for complexes are as demanding as they can be. Fans and visitors have high expectations and their experience depends on these technologies. Our solution relies on partners such as Osram or Panasonic to provide state

of the art equipment, and allows different operational business models that ensure that the equipment will be maintained and updated as new technologies arrive.

Data exploitation

Aggregating all the information produced by the operation of the complex, help us analyze and optimize the use of resources, and anticipate risks to protect people, brands and information. This integration can extend out of the physical facilities of the complex, to interact with other city services like traffic management, emergency services or police.



Solution overview

Enriching the fan experience to generate new revenue streams

The success of an events complex depends also on its capacity to engage the fans and generate new sources of revenue by monetizing their experience and deepening commercial and investment partners with quantifiable tracking and new data assets. We acknowledge this reality and therefore our solution is not only aimed at the building and IT operation, but it also provides the foundation to create enriched experiences for fans, visitors, partners and event organizers.

In the age of Digital Transformation, we provide all the capabilities to engage with the fans at a different level, providing frictionless and contextualized services through their whole journey, since they start to consider going to the event until long after the event has finished. Such services involve:

- Making the visit as convenient as possible, by easing their way in and out, and moving around the complex to their desired services or locations and by speeding up the booking and purchasing processes, before, during and after the event.
- Creating a truly engaging entertainment experience, with access to special contents, state of the art multimedia environments and ultimate connectivity for sharing their own contents.
- Providing a personalized experience with contents specific for each user depending on its preferences, interests and even location and moment during the event.

At the core of these services are the mobility, connectivity and personalization, which are fueled by the information generated and obtained from the fans. Their visit to the complex is the perfect opportunity to increase the level of interaction and understanding of their necessities and desires. Having access to it in real time, and connecting it to the systems and the underlying complex management solutions, ensures that the fans have a truly immersive experience.



Smart Event Complex in action: Ashgabat Olympic Complex

Challenge

Ashgabat Olympic Complex is a facility of 26 sport venues which also includes training facilities, restaurants, 2 hotels and a business center. With such a large environment, and more than 30 different systems covering all the operation, the main challenge was to design and integrate the systems and equipment of dozens of providers to work together while fulfilling the functional, technical and business requirements of the organization, and run real sports events to demonstrate its operational capacity.

Our Solution

Atos experience and capabilities, allowed us to work jointly with our global and local partners and the complex management organization, to design and deploy the IT architecture and infrastructures required to offer a robust and comprehensive IT environment that will help operate the complex in an efficient manner and incorporate new services for fans and organizers in the years to come. The scope of the project included:

Building management and ICT infrastructure

- The communication network and the underlying IT and power infrastructure and managing systems, which included 2 data centers and more than 100 servers as well as the provision of the network and end user equipment, from laptops to IT Telephony.

Multimedia and broadcasting

- The multimedia environment which included indoor and outdoor led displays, PA system, and the IPTV infrastructure and associated management systems.
- The broadcast infrastructure including all the cabinets and wiring necessary for the broadcasters. Additionally, Atos equipped the venues with beamers, audio systems and press conference rooms.

Security

- Security, access control and CCTV managed through Siemens and local providers, with three different security levels control rooms

Business management systems and monetization

- Booking system for hotels and integration with POS in the complex facilities and venues
- Ticketing solution for sports events.

Event management systems

- Accreditation, Workforce, Transportation, Medical, Event Planning, OVR (On Venue Results System), T&S (Timing & Scoring) Equipment for 15 sports, Media Extranet, Scoreboard Control, Results distribution and CIS (Commentator Information System)



Smart Event Complex in action: Ashgabat Olympic Complex

Results

Ashgabat Olympic Complex has already hosted several successful regional and international events.

Dates	Event	Event context
26-30 May 2016	2016 asian SAMBO Championship	30 countries, 500 athletes
22-27 Jun 2016	Asian Wrestling Championship	11 countries, 175 athletes
16-25 Sep 2016	ITF Juniors 18 & Under of Turkmenistan Tennis Championship	15 countries, 100 athletes
23-26 Sep 2016	International Indoor Athletics Tournament	8 countries, 80 athletes
04-07 Nov 2016	International Basketball Tournament 3x3	12 countries, 100 athletes
07-12 Dec 2016	Asian Ju-Jitsu Tournament	25 countries, 350 athletes
23-29 Apr 2017	Asian Weightlifting Championships	27 countries, 144 athletes
24-30 Apr 2017	Asian Kickboxing Championships	15 countries, 323 athletes
26-27 Apr 2017	Invitational Short Course of Swimming	7 countries, 60 athletes
17-27 Sep 2017	5th Asian Indoor and Martial Arts Games	63 countries, 4012 athletes

Once the venues had been tested with individual events, the first multisport event with several simultaneous competitions took place in 2017: **the 5th Asian Indoor and Martial Arts Games, 22 sports operated by a team of 117 people, which also managed:**

- The organization workforce composed by more than 10.000 people, including 7.000 volunteers
- The accreditation of 85.000 people, including more than 4.000 athletes and 5.000 delegates
- 500.000 tickets handled and more than 650.000 access control verifications

With all the sports event equipment installed, and the whole complex management systems fully operational, the Ashgabat Complex organization is now prepared to host more events in a state-of-the-art sports complex.



About Atos

Atos is a global leader in digital transformation with approximately 100,000 employees in 72 countries and annual revenue of around € 12 billion. European number one in Big Data, Cybersecurity, High Performance Computing and Digital Workplace, the Group provides Cloud services, Infrastructure & Data Management, Business & Platform solutions, as well as transactional services through Worldline, the European leader in the payment industry. With its cutting-edge technologies, digital expertise and industry knowledge, Atos supports the digital transformation of its clients across various business sectors: Defense, Financial Services, Health, Manufacturing, Media, Energy & Utilities, Public sector, Retail, Telecommunications and Transportation. The Group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and operates under the brands Atos, Atos Consulting, Atos Worldgrid, Bull, Canopy, Unify and Worldline. Atos SE (Societas Europaea) is listed on the CAC40 Paris stock index.

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