



Images courtesy of Yas Marina Circuit

The race behind the race

Solacom helps secure the Abu Dhabi F1 Grand Prix

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Mohamed Almutawa
Head, Electronic Security Division,
Atlas Telecom

Abu Dhabi is home to the world's newest and perhaps most technically advanced motor racing facility – the Yas Marina Circuit, site of the emirate's inaugural Etihad Airways Formula One World Championship Grand Prix from October 20 through November 1, 2009.

Located on the east coast of the Arabian Peninsula, approximately forty miles south of Dubai, Abu Dhabi is the capital city of the United Arab Emirates. The name Abu Dhabi itself can be traced to the Arabic Abu zabi – meaning Father of gazelle – so it's no wonder the emirate has an innate passion for speed.

What is amazing is that within a mere two years, the barren sands of Yas Island have given way to a carpet of dazzling structures, including a marina adjacent to a state-of-the-art motor raceway that is itself straddled by a 5-star hotel and bordered by covered grandstand seating for 50,000 spectators at strategic vistas around the track.

Think Las Vegas meets NASCAR... on steroids.

Eight weeks before the checkered flag

With race-day fast approaching, the F1 Higher Security Committee, comprised of the Abu Dhabi police as well as a number of government agencies including the emirate's armed forces, contacted UAE based Atlas Telecom for a video surveillance solution.

Atlas brought in VDG Security, a Netherlands-based company, to install more than 250 cameras throughout the Yas Marina Circuit property. The cameras fed into a video management system and a wall of monitors at a server center. That building was in turn linked by WAN connection to the Command Operations Center, as well as a redundant center at a remote location.

What was missing was a means to integrate seven mobile command centers, including a tethered dirigible floating high over the site. For this, Mohamed Al Mutawa, head of the Electronic Security Division at Atlas, turned to Solacom Technologies.

Headquartered in Gatineau, Quebec, with operations in Chicago, Solacom had already deployed systems in the Middle East and other environments as rugged as the remote McMurdo Station in the Antarctic – earning a reputation for reliable critical communications systems that combined voice, video and data into a common operating picture for both asset protection and command purposes.

But can they integrate a mobile scenario?

“When we started the project many had questions regarding the ability to provide an integrated video system involving mobile and static environments,” said Al Mutawa. Undaunted, the engineers back at the Solacom lab relentlessly set about the task, often working around the clock. “We had all the bits and pieces, including the ability to bring radio into a common operating picture, but the biggest challenge was making it all mobile in a Voice over IP environment over an unknown wireless network,” said Franz Plangger, CEO of Solacom.

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*Mike Walker
System Specialist,
Solacom Technologies*

A month before the race, Solacom system specialist Mike Walker arrived on Yas Island to begin installation and testing of the LibertyCOMMAND solution. “There are a number of growing pains inherent in engineering and deploying innovative equipment, and we had to overcome difficulties with the wireless mesh network, but managed to get it firing on all cylinders” commented Walker.

Now, do it all in the dark

The inaugural Abu Dhabi race witnessed a number of firsts – including the first ever day into night Formula One Grand Prix. Thus, for night operations, the mobile command centers were equipped with high resolution day/night vision cameras, as well as radars.



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All cameras and radars fed into Bosch encoders, and each centre, except for the dirigible, also had an IP phone supplied by Solacom.

The encoded video and the VoIP calls were transported over a wireless mesh network to the LibertyCOMMAND workstation at the server center. The Command Operations Center and the remote backup center were likewise each equipped with a LibertyCOMMAND workstation and an IP phone.

Operators at the prime and the redundant Command Operations Center were able to select and view the video feeds from any of the mobile command centers, and instantly communicate by voice or conference with security agents in the vehicles, or anywhere else, for rapid response to any developing threats. Security agents within the mobile command centers were able to communicate by VoIP to other mobile agents, to the Command Operations Center, or to both.

“All were impressed with how we moved video from multiple mobile cameras into one coherent picture with no issues regarding latency or integration,” said Al Mutawa. “Without exception the ability to show anyone a view at any point and at any time as to what was happening, made a great difference in making everyone comfortable with the security arrangements at the event.”

Performance to spare

In fact, the LibertyCOMMAND system was engineered to integrate over 250 mobile and static cameras into one Common Operating Picture with remote camera

control for all cameras. The system can also record and time stamp all video and imagery, as well as interface with database applications for facial, license plate and object movement recognition.

For increased mobility throughout the perimeter, the Yas deployment could have extended actionable situational awareness to portables like smart phones or PDAs, with video, data and voice connectivity to the Command Operations Center. Other features such as SMS text messaging, group calling and

networking, hot button customization and direct Public Announcing access from phone networks could also play a role in event security.

Once the F1 Grand Prix ended, the Abu Dhabi military Signals group at the remote Command Operations Center quickly placed dibs on the LibertyCOMMAND equipment. "They immediately saw the potential of a platform where radio, satellite and any other type of land line can be integrated with video, sensors and other sorts of data and then shared between fixed and remote operators," commented Plangger.

Solacom technology also caught the eye of neighboring Saudi Arabia, where the Royal Saudi Navy is set to deploy multiple LibertyCOMMAND systems later this year. Meanwhile, the 50,000 spectators of Abu Dhabi's first F1 Grand Prix probably never even knew that a small team of engineers somewhere north of New York, had

played such a pivotal role in ensuring their safety – and that's just the way security operations should be.



About Solacom

Solacom Technologies, Inc. has acquired close to 30 years of knowledge and experience engineering some of the world's most reliable critical communication systems. With the structure and broad expertise to execute customized solutions into a powerful set of communication tools, Solacom enables interoperability for emergency communications, homeland security, military C4ISR, marine communications and other mission-critical applications. For more information, visit www.solacom.com



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