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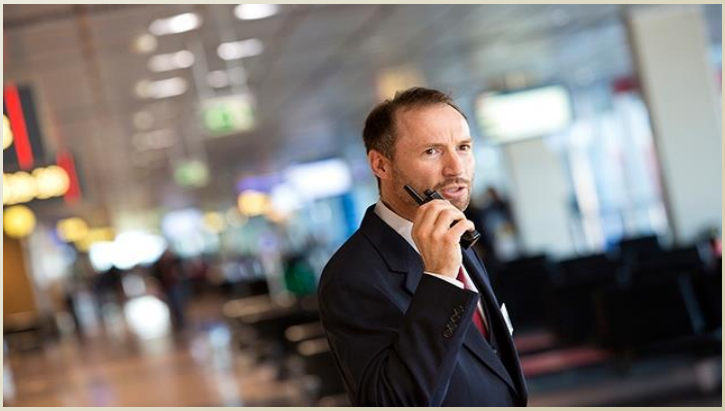

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TABLA DE CONTENIDO

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Paris airports and TETRA radios

Airbus TETRA helps secure Europe’s largest air-traffic area

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Paris airports and TETRA radios

Airbus TETRA helps secure Europe’s largest air-traffic area

Thousands of PMR users at Paris airports are using the Airbus TETRA platform, benefiting not only from the latest digital radio technology, but also from the wide variety of voice and data services. And all at the low cost that shared infrastructure brings.

Aéroports de Paris (ADP) manages the largest air-traffic zone in Europe, a 6,500-hectare (16,000-acre) area that encompasses all the civil airports and aerodromes within a 50-kilometre radius of Paris, including Roissy, Charles de Gaulle, Orly, and le Bourget.

The ADP TETRA network is a regional shared system, allowing ADP to serve a diverse range of users from several sectors, including public safety and security, airlines, hotels, and private and public services.

Meeting the needs

ADP Telecom, provides secure IT and telephony services for Paris’ airports and has built up extensive telecommunications skills as well as a great knowledge of the needs of professional airport users, who demand high reliability and security from their radio communication – even a half-hour break could cause immense disruption.

Security was one of the main reasons behind ADP’s choice of the Airbus TETRA system to replace its analogue system. The Airbus TETRA solution provides security functions that include guaranteed instant communications, emergency call, built in redundancy, fall back mode and fast group messaging.

Virtual Private Networks are the key

Virtual Private Network (VPN) solutions are vital to ADP Telecom, which provides complete VPN services to organizations operating in its area, including PMR, fixed telephony and IP WLAN services. A VPN gives an airline access to unlimited voice and messaging communications, while still maintaining its privacy – not only are its communications secure, but the company can also manage its subscribers and groups using its own dispatching solution.

Convenient flight-specific group calls

An airline may manage hundreds of flights each day, with each flight requiring a number of employees to communicate with each other. These employees may be assigned to one flight at a time, or may serve several flights.

The over-the-air groups function provided by Airbus TETRA makes it possible to create one talk group per flight and include all the appropriate people in that group. The new group definition is sent to the terminals over the air, in real time, allowing people to talk to each other simply by keying the push-to-talk button on their radio terminal. The name of this temporary flight-specific group can be an acronym which includes the flight number. If a person serves several flights, the priority scanning feature makes it possible for him to follow the communication in several flight-specific groups simultaneously.

Accurate positioning

Accurate positioning in real time is another valuable potential application where different vehicles share the tarmac with aircraft. For example, if the de-icing vehicles were equipped with a TETRA terminal connected to GPS positioning equipment, their position would always be known.

Serving thousands of individual users over a large area with a number of major airports, ADP is a demanding customer, providing a big challenge to any PMR system. ADP's choice shows that the Airbus TETRA solution is more than equal to it.

Digital radio communications can help airports streamline operations, manage flights, save money and improve security.

The Paris airports operator ADP has set up a radio network that serves thousands of users over a large area with a number of major airports. This would be a big challenge to any PMR system. ADP's choice shows that the Airbus TETRA solution is more than equal to it.

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Virtual teams keep Düsseldorf airport running smoothly

Case study

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Virtual teams keep Düsseldorf airport running smoothly

Sometimes it’s not important to know the name of the person you’re talking to. Instead you just need to get in touch with whoever’s doing a particular job. That’s how the teams at Düsseldorf airport work on the in- and outbound flights, thanks to the dynamic, role oriented communication system set up in their TETR A radios.

“This is me,” says Marianne Schmitz as she points to her radio display, where there is an icon resembling a lady in a service uniform. By selecting the icon she opens her agenda for the day and her radio lists all the flights she will be handling during her shift. When a flight is ready for preparation, she "inputs" the flight number and the radio automatically connects her with the rest of the team via a virtual talk group. Now the team can talk to each other simply by pressing the PTT. And if Ms. Schmitz needs to call an individual team member, she can pick them from the phonebook list without necessarily knowing their name. It’s enough to know that it’s the person who is working at the gate, for example.

Ms. Schmitz is the operations manager for Aviation Handling Services (AHS) at Düsseldorf airport. AHS provides diverse airport services including passenger and ramp services and cargo handling, among others. AHS is one of the 20 user organisations that rely on the shared TETRA network, which is operated by SITA Airport IT. The system has been up and running for a year.

Focus on roles

Creating a role-oriented communication system was one of the key criteria for choosing the new system. The various user organisations needed to be able to communicate seamlessly within teams that change "on the fly". Fixed talk groups with fixed subscriber numbers were out of the question.

The TETRA radios from Airbus Defence and Space feature a Java platform. Together with the innovative ROCS solution from Mentura Group, this presented a completely new way of building a virtual, role-oriented communication system. The solution is based on dynamically changeable user roles and rights, as well as on tactical numbers.

“Ensuring quick flight turnarounds is our main task,” says Manuel Wenders, operations manager for Düsseldorf Ground Handling. “With the previous analogue radio network it was a challenge to coordinate several flight operations with teams mixed up on the same radio channel. The main benefit of the new solution is that it provides a dedicated communication group for each team.”

An easy transition

As the service provider, SITA Airport IT was looking for a system that is flexible and easy to adapt for the different user organisations. “With so many different players involved, taking a new system into use is a challenge in itself,” says Joachim Brandt, senior project manager from SITA. “So it is mandatory that the system is as easy to use as possible to ensure a smooth introduction.”

This was not an issue, according to Mr. Wenders: “Since the radios are so similar to cellular phones, users had no problem switching to TETRA.”

Thanks to the radios from Airbus and ROCS, the implementation of the system was easy. The icons available with the Java™ application on the radio display help users understand the logic behind the system. Today, the system serves several airlines, airport service operators and other related parties in the airport. In total there are 1200 THR880i and TMR880i radios from Airbus Defence and Space in use in the TETRA system.

Düsseldorf deals with an average of 586 flights and almost 50,000 passengers daily. This alone keeps airport personnel busy, but the new radio system has also helped them cope under extra pressure. Exceptionally heavy snowfalls last winter could have caused some real headaches, for instance. Any delay caused by de-icing the planes or ploughing the runways has the potential to accumulate into significant hold-ups. Dynamic and coordinated communication between the various airport teams successfully helped maintain smooth operations and minimize disruptions.

Role-playing radios promote flexible working

High-pressure environments such as airports and mass transport systems at rush hour demand a flexible workforce who can step into a variety of roles. Role-oriented profiles let their communication systems to do the same. Setting up communication profiles that can be downloaded automatically to the right radio promotes flexible working in a variety of ways.

Pooled radios. Users can share a common pool of radios, since each person’s communication profile can be downloaded to whichever terminal they are using.

Spare radios spring into action. Since the right profile can be downloaded instantly, spare radios can be brought into use very quickly.

Temporary profiles. Specific communication rights can be introduced into radios as needed, and removed afterwards. This means that radios can also be assigned to temporary workers or users from partner organisations without compromising security.

Create a role-based numbering plan. It is possible to define tactical numbers that will reach whoever is in a certain role. There is no need to know who this person is or which radio he/she is carrying. Similarly, the presence and status of people working in different roles is visible to the rest of the team.

Connect a team working on a certain task. The people working on a certain task will automatically be in the correct talk groups, which makes it fast and simple to reach them.

You can work with roles with the help of the Role Oriented Communications Server (ROCS), an advanced solution from Mentura Group.

Digital radio communications can keep airport operations down to earth. The right radio communications system can help airports streamline operations, manage flights, save money and improve security.

The TETRA solution from Airbus Defence and Space meets the needs of airport operators and professionals. This solution has proven its fit-for-purpose in real operations and in exacting environments.

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Going digital clears the airwaves at Beijing Capital International Airport

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Going digital clears the airwaves at Beijing airport

Ma Biao, solution manager in China, explains how digital communications support the smooth-running of one of the world's busiest airports and are increasingly helping to co-ordinate air operations throughout China.

With around 1,500 flights each day, Beijing is among the busiest airports in the world. Before the implementation of the airport's digital TETRA communication system, airport and airline personnel had to manage the entire operation using analogue radios that operated over just 15 channels. This poor use of the available frequency resources created capacity constraints that led to a significant bottleneck in the smooth running of airport operations. In contrast, the airport's replacement digital TETRA system now serves around 7,000 users with improved coverage, voice quality, advanced services and a massive reduction in queuing.

The analogue radio system was 12 years old, but the prospect of the summer games in Beijing in 2008 meant that the Civil Aviation Administration of China (CAAC) decided that a rapid switch to digital was needed. CAAC therefore contracted Airbus to implement a dedicated TETRA network, including a digital exchange and eight base stations, as quickly as possible in the run-up to the event.

110,000 calls per day, no problem

At its peak during the games, the airport's TETRA system from Airbus Defence and Space dealt successfully with nearly 110,000 calls per day with no failures. "The high degree of security and reliability of the Airbus TETRA system guaranteed the success of the flight punctuality and high efficiency of airport operations. It also ensured smooth cargo transportation and the daily movement of visitors," said the network's owner, the North China Regional Air Traffic Management Bureau of Civil Aviation of China, in a thank you letter after the Beijing Olympics.

Today, professionals from across the airport use the new system, including ground staff, airline personnel, air traffic controllers, security officers, shuttle bus drivers, food service suppliers and so on.

Linking up airports nationwide

The development of the network at Beijing was part of a wider programme to build a nationwide communication system covering all the major airports across China. EADS (now Airbus Defence and Space) signed a cooperative agreement with the Air Traffic Management Bureau (ATMB) to deliver a digital trunking system across China's airports in August 2007.

So far, Airbus Defence and Space has installed TETRA switches in four key airports, including Guangzhou, Shanghai and Chengdu, in addition to Beijing. The four systems are linked to form a nationwide network, enabling subscribers to roam and communicate between different airports. Further airports are also set to join the network, including Jinan, Zhengzhou, Linyi, Tianjin and Guiyang, among others.

China's giant airport - Highly secure, very reliable

China's Beijing Capital International is the ninth busiest airport in the world under normal circumstances, but the Olympics in 2008 brought an extra 20,0000 athletes and organisers pouring through its terminals for the main Beijing Games, followed by a further 4,000 for the Paralympic Games. A specially-designed TETRA network supplied by Airbus Defence and Space ensured flawless logistics and the safe arrivals and departures of all passengers throughout the hectic summer schedule.

The airport network comprises one DXT switch, five base stations and corresponding dispatcher work stations. Coverage extends from the exterior of the airport to the interior of Terminals 1, 2 and 3, as well as major office buildings. Important end users include Beijing Capital International Airport Co. Ltd, North China Air Administration, Air China and China Southern Airlines, among others.

"[The system] provides high quality command and dispatch services for nearly 6,000 customers from various Chinese and foreign aviation companies, ground services, fuel, air food and public security departments. The high degree of security and reliability of Airbus TETRA system guaranteed the success of flight punctuality and high efficiency of airport operations. It also ensured smooth cargo transportation and the daily transportation of visitors," says the Chinese Bureau of Civil Aviation. "Thanks again to the Airbus TETRA system and the outstanding contribution that your service team has made."

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Sri Lanka improves airport security

Secure from eavesdropping with Claricor® TETRA system

AIRBUS
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Sri Lanka improves airport security with Claricor®

Sri Lanka's Bandaranaike International Airport (BIA) is enjoying improved security and more efficient co-operation between different departments thanks to its new digital communications system, which is based on the Claricor TETRA system for small to medium-sized networks.

The Bandaranaike International Airport BIA is based in Sri Lanka's largest city, Colombo, and is the country's only international airport. It is operated by Airport and Aviation Services (Sri Lanka) (AASL), which is a government-owned company that manages and develops civil airports. The capacity at BIA is expected to double within the next five years, according to AASL, and the necessary construction work is expected to start in the near future.

The airport previously relied on analogue radios, but AASL decided these were not sufficiently secure and opted last year to commission a digital system using Claricor from Airbus Defence and Space. Based on a single switch and base station site, the new network provides 100% coverage, both indoors and out, throughout the main BIA site and all the peripheral AASL facilities within a 25 km radius of the airport. Fully operational since March 2012, the new network is already delivering the promised benefits, according to users.

"An analogue system is vulnerable to intrusion. The new TETRA system is much more secure, with its air interface encryption and authentication. It makes it impossible to eavesdrop," says Mr. Wipula Wimalshanthi, Head of Electronics & Aeronautical Engineering of AASL. "The quality of voice and coverage offered by TETRA is vastly superior to the analogue system, and additional functionalities are a huge plus."

Versatile functions

These additional functions include automatic vehicle location (AVL), short data messages (SDS), status messages and a network management system. The system also enables individual and group calls. Ground staff and security personnel are the main user groups and the ability to organise different communication groups for different tasks has enabled greater co-operation within the organisation.

According to Mr. Wimalshanthi, this versatility and ability to add new functionality in future will be crucial to the long-term success of the new system: "The new system is IP-based, which is a most important characteristic."

The system currently includes 135 handheld TETRA radios and 71 mobile TMR880i radios from Airbus Defence and Space. To get the airport staff up to speed with their new communication capabilities, Airbus Defence and Space initially brought seven users over to its training centre in Europe. This was following by two onsite training programmes back in Sri Lanka, which were delivered during the commissioning process.

Future plans

The planned capacity expansion at BIA is not the only major aviation project currently in the pipeline for the Sri Lankan authorities. Construction is expected to start soon on a second international airport in the Hambantota District, known as the Southern International Airport at Mattala. The BIA digital communications project has been so successful that AASL has already asked Airbus Defence and Space to commission a TETRA communication network for the planned airport at Mattala.

Designed to meet the needs of airports and for use in the industry and transport sectors, Claricor offers many of the advanced functions of larger networks, including secure voice and data services, individual calls, group calls and dispatcher functionalities. In addition, Claricor can easily expand, from covering a small group of users served by a single site to becoming a fully-fledged network addressing the needs of a few thousand subscribers.

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