24 HOURS **AT THE AIRPORT**

INTELLIGENT COMMUNICATION SOLUTIONS DESIGNED TO
STREAMLINE ESSENTIAL PROCESSES, INCREASE PRODUCTIVITY
AND KEEP STAFF SAFE

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APPLICATIONS
TERMINALS
SYSTEMS

The Sepura Group is a global leader in the design, manufacture and supply of digital radio products, systems and applications for business and critical communications.

A market leader in over 30 countries, we're at the forefront of digital radio technology, and trusted by globally recognised entities such as FIFA, CERN, Disney, Audi and Shell, as well as some of the world's most prestigious public safety organisations.

From TETRA and DMR to P25 and LTE, our solutions encompass rugged and reliable radios; a network that's solid, powerful and easy to deploy; applications to boost organisational efficiency; and one of the broadest ranges of support tools and accessories on the market.

The Sepura Group comprises Portalify, Fylde Micro and, now, the advanced systems capabilities of Teltronic and PowerTrunk.

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Moving passengers quickly, efficiently and safely is a daily challenge. Reliable, secure communication is essential and, as accountability for timeliness, staff safety and compliance with ever-more stringent regulations increases, asset monitoring becomes an increasingly prominent part of daily operations.

Already deployed in numerous airports worldwide, our complete communications infrastructure and specialist solutions boost efficiency, while enhancing both customer service and customer safety.

With Intrinsically Safe options meeting IECEx/ATEX standards, our powerful voice and data networks can automate and streamline essential processes, such as allocation of personnel and provision of real time passenger information (RTPI).

This document examines the role an integrated voice and data solution may play in a typical 24-hour period at a busy airport.

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APPLICATIONS
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06:45 MIGUEL, CLEANER

Miguel is just starting his 12 hour shift, he needs to look at his task schedule which he accesses straight from his radio by pressing his * key. After a couple of seconds a form is displayed on his radio screen which shows him his next task – the bathrooms at the eastern end of the departure hall. He accepts the task by selected the accept button his screen and heads off to his task.

HOW DOES IT WORK?

An SDA (Short Data Application) installed on the Sepura radio allows the user to interact with the resource management server via Sepura's Query application. Tasks can be accepted or declined and an ETA can be given, along with any other relevant information.
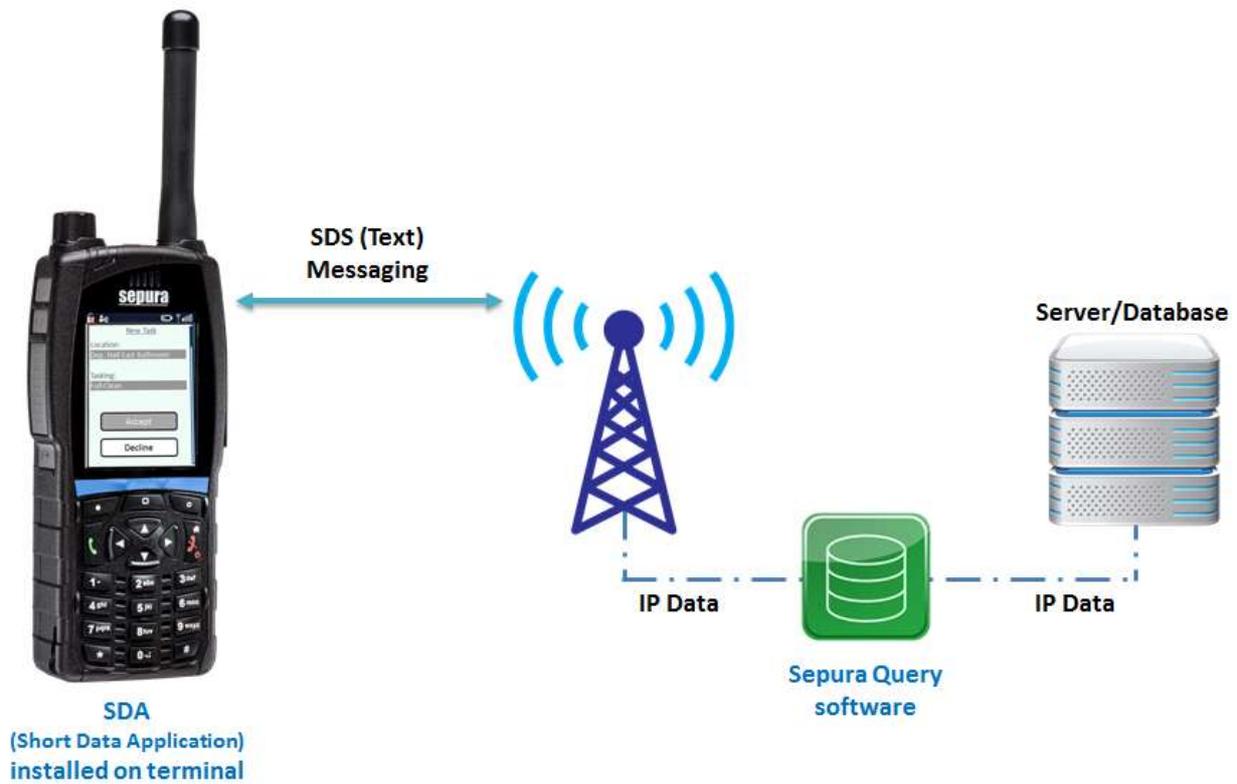
07:00 DAVID, FLIGHT OPERATIONS OFFICER

David has just arrived at his remote desk airside, near the departure gates. He picks up the nearest radio from its charger stand, switches it on and enters his ID number on the form that appears on his screen. His management talk-group appears on the screen and his audio profile is changed automatically for him. David makes a call to his manager to ask him what time the meeting starts.

After his call he presses his * key and, after a couple of seconds, a list of flights is presented to him on the screen. He selects the first flight number and a second form is displayed with details of the flight, airline, aircraft, flight timings and current status of each task for the flight. He presses the 'Activate' button on his screen and his talk-group is automatically changed to that being used by staff allocated to this flight. David advises staff that he will be available after 7:30 and leaves to attend his meeting.

HOW DOES IT WORK?

An SDA (Short Data Application) installed on the Sepura radio allows the user to interact with the flight management server via Sepura's Query application. Each staff member has a unique ID tied to their job role; the database holds all the radio IDs. Every radio is generic, meaning anyone can mould a radio to his or her role simply by entering their ID.

The database also stores the list of talk-groups related to each role and those allocated to each flight. Utilising some advanced features of Sepura's radios, it is possible to remotely control the talk-group, audio profile and even screen display of a user's radio. This takes the burden of radio configuration and set-up out of the user's hands and places it with the central server.

SDS (Text) Messaging

Flight Server   Resource Server

IP Data   IP Data

Sepura Query software

SDA
(Short Data Application)
installed on terminal

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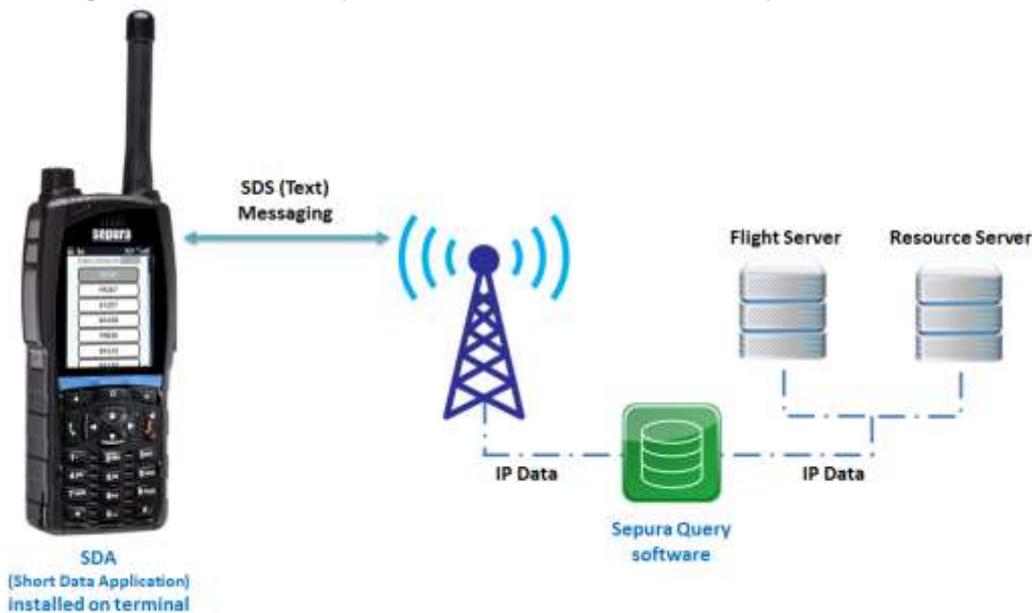
APPLICATIONS
TERMINALS
SYSTEMS

07:30 REBECCA, AIRLINE CUSTOMER SERVICE AGENT

The first flight of the day has been announced. Rebecca is performing a pre-check on each passenger's boarding pass before they join the queue for bag drop-off. She uses a Bluetooth barcode reader to scan the barcode on the boarding pass. Her radio then beeps to let her know that the passenger is correctly checked in with no issues. If she hears three beeps, she checks her radio screen which details the problem with the boarding card.

HOW DOES IT WORK?

An SDA (Short Data Application) installed on the Sepura radio allows the user to interact with the flight passenger database (AFIDS). A message is sent as each card is checked which runs a query on the database and sends the result back to the radio as a text message. If the result is positive the radio sounds an audible alert to confirm. If the result is negative, the radio sounds the alert three times and a form is displayed showing the passenger details, which flight they are booked on and the issue reported.


SDS (Text) Messaging

Flight Server   **Passenger Server**

IP Data   **IP Data**

SDA
(Short Data Application)
installed on terminal

Sepura Query software

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APPLICATIONS
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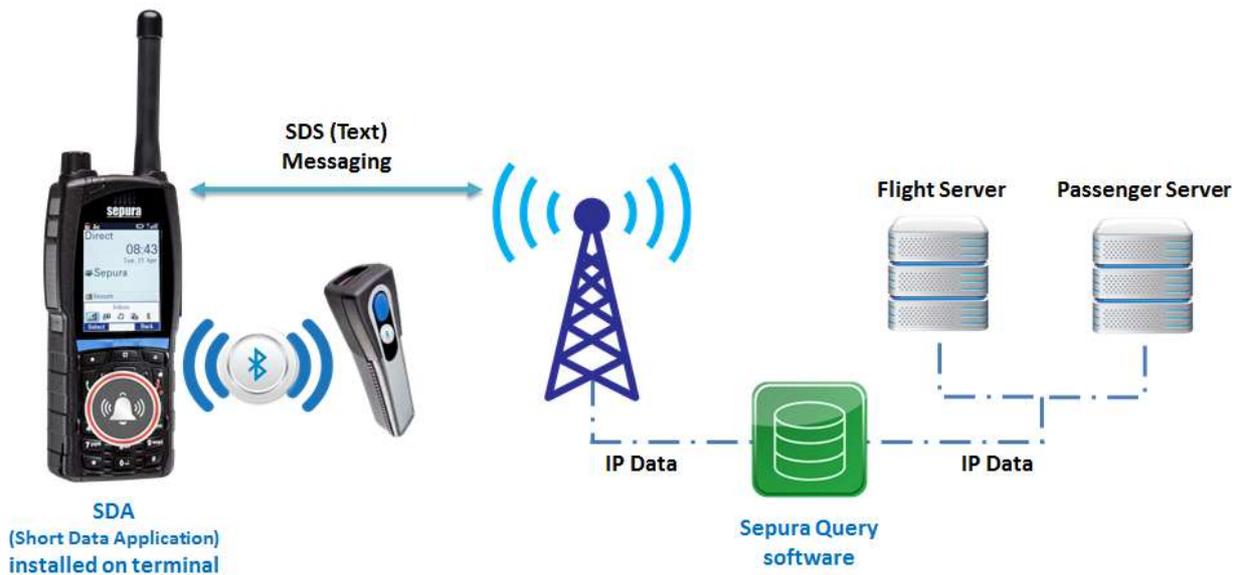
07:45 PETER, SECURITY GUARD

Peter is at the airport's main security gate. He is checking passes as workers enter and leave the site. A car stops and an employee says he has forgotten his ID badge. Peter asks him his ID number. He then presses the * key on his radio; a form is displayed and he enters the ID. He then presses the search button. After a few seconds, an image is displayed of the employee with his ID details and his access permissions, his shift time plus a keyword. Peter asks for the keyword; the employee responds correctly and is allowed onto the site.

HOW DOES IT WORK?

An SDA (Short Data Application) installed on the Sepura radio allows the user to interact with the staff information databases. The user enters an ID into a form and an SDA message is sent to the Sepura Query application which runs a search on the staff database and the shift database. This information, containing an image of the staff member and details including their shift for the day, is sent back in a set of concatenated text messages to the Sepura radio. The radio compiles the messages into a single form which can either be displayed on the radio immediately or delivered to their inbox.

SDS (Text) Messaging

IP Data

Staff database

Shift database

IP Data

Sepura Query & Image software

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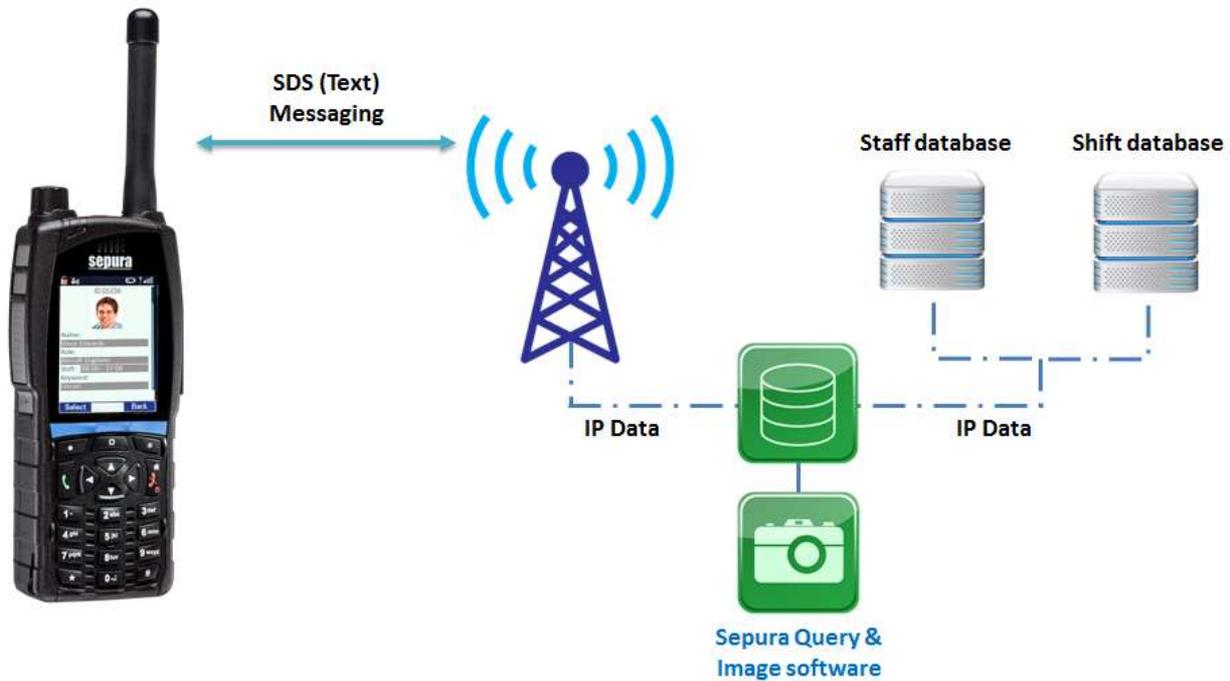
08:30 ALISON, AIRPORT CUSTOMER INFORMATION OFFICIAL

A passenger has come to the information desk to report a missing child. Alison asks the woman for a picture of her child, a description of what she was wearing and where she was last seen. The woman has a picture of a little girl on her smartphone; Alison asks her to email it to an address she gives her, and calls the security control room to report the child missing.

The control room already have the email from the woman and the operator sends the image out, using PC software, to all floor staff in the terminal. The CCTV operatives start looking for the little girl. Each member of floor staff receives the image and details of the little girl and simultaneously begin to search.

After ten minutes, Miguel, the cleaner, calls to say that he has found the girl near the restrooms at the eastern end of the departure hall and is looking after her. The control room operator asks him to bring her to the information desk where her parents are waiting.

HOW DOES IT WORK?

Sepura's IMAGE application has the ability to take a picture from any available source, such as email, CCTV, Facebook™ or Twitter™. The image can be sent in its entirety or a certain section – for example, a face from a CCTV image – can be extracted; the image is then processed and sent via several SDS messages. The messages are group addressed, i.e. sent to the whole group of users simultaneously. This is both very fast and extremely network-efficient.


SDS (Text) Messaging

IP Data

Sepura Image software

Email

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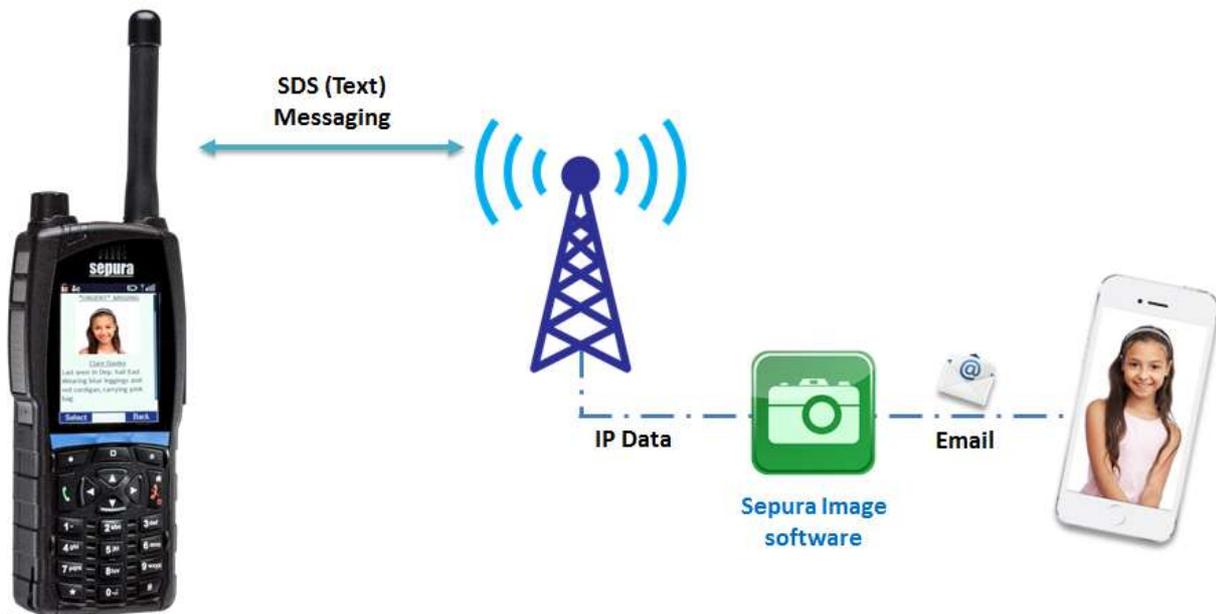
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10:30 RICHARD, AIRPORT MAINTENANCE ENGINEER

Richard is busy replacing some faulty bulbs in the check-in area when he receives an alert on his radio terminal which he knows is as urgent tasking. He looks at his radio screen and sees the form with the details: the revolving entrance doors at the western end of the arrivals hall have jammed and a passenger's bag is stuck. He accepts the job and responds with his ETA of five minutes.

HOW DOES IT WORK?

An SDA (Short Data Application) installed on the Sepura radio allows different types of messages to be presented to the user in different ways. In this example, a specific alert is tied to an urgent tasking sent from the resource management server via Sepura's Query application. The user accepts the urgent task; the form requires an ETA to be selected from a list. The information is then sent back to the server via SDS message.


SDS (Text) Messaging

IP Data

Sepura Query software

IP Data

Server/Database

SDA
(Short Data Application)
installed on terminal

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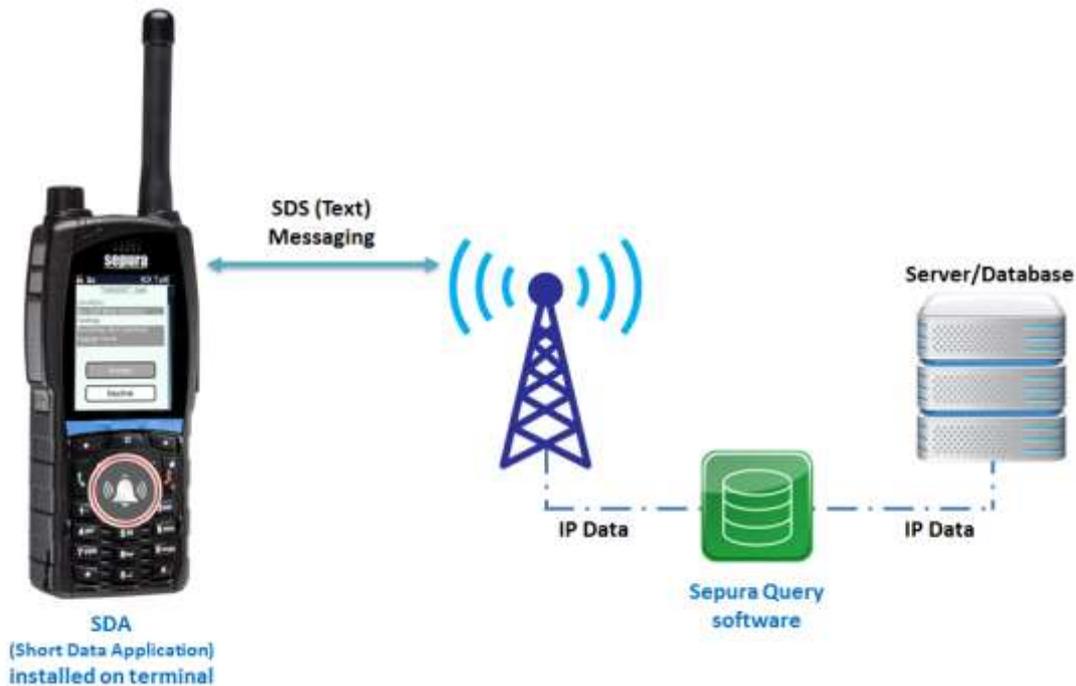
12:00 AMANDA, RETAIL STORE ASSISTANT

Amanda is tidying up the racks of clothing when she spots a passport on the floor. Using her radio, she accesses the urgent call application on her radio. In the form, she keys in the name, passport number and her ID number and then presses the send call button. The duty operator in the control room sees the alert arrive with details of the passenger and also Amanda's location. She selects the correct contact and makes an announcement over the airport PA system.

HOW DOES IT WORK?

An SDA (Short Data Application) installed on the Sepura radio allows a user to send information to a dispatcher console integrated using Sepura's Query application.
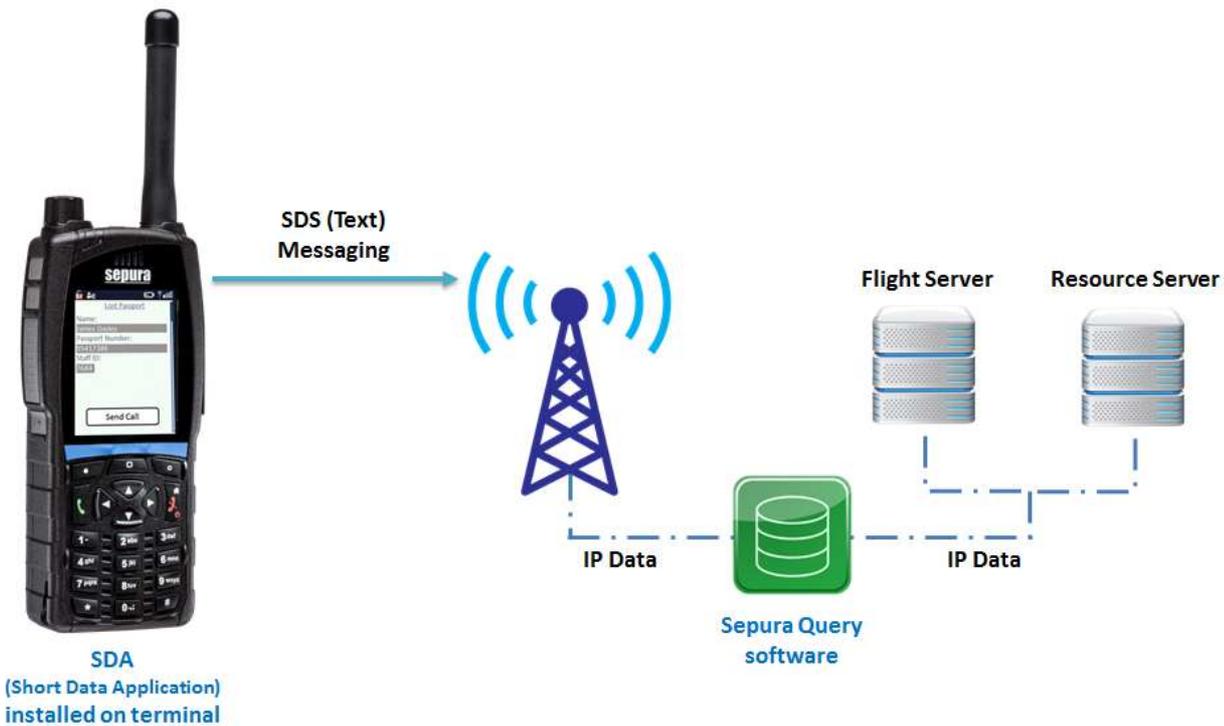

SDS (Text) Messaging

Flight Server **Resource Server**

IP Data **IP Data**

Sepura Query software

SDA
(Short Data Application)
installed on terminal

The dispatcher is able to make a direct call to the airport PA system, simply by selecting the appropriate contact on the display. (See next page.)

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Sepura Query software

Dispatcher console

Airport PA System
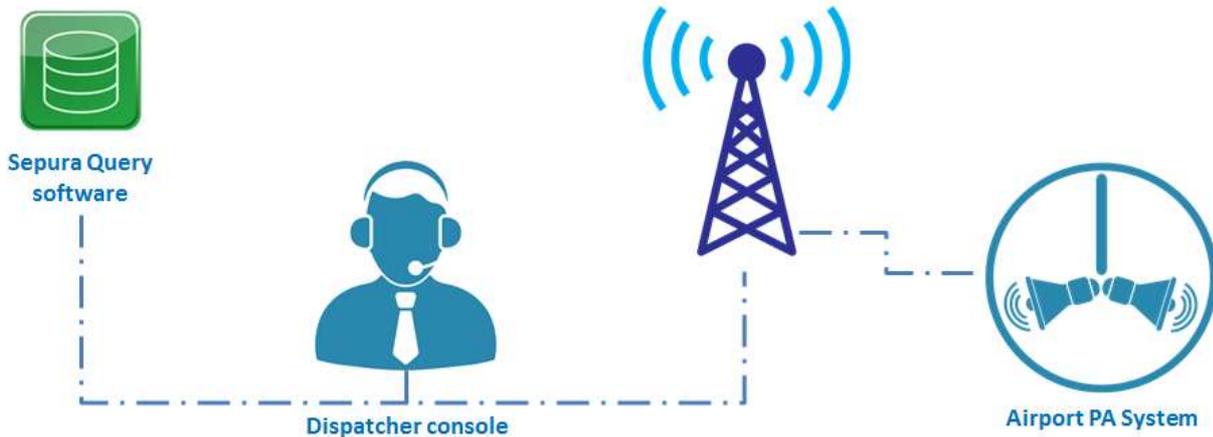
14:00 MIGUEL, CLEANER

Miguel is polishing floors near the main duty free shopping area when he spots an unattended bag. He waits for a minute, but no one collects it. He quickly presses the '9' key on his radio which alerts the dispatcher for emergency call-back. The dispatcher, Ruth, calls him back within seconds and Miguel explains the situation. Ruth listens carefully and checks her map to confirm Miguel's location; she checks emergency procedures, telling him to move away from the area. Ruth then makes a call to the airport police describing exactly where the bag is.

The police arrive within a few seconds and begin evacuating people from the area. Ruth selects a predefined group on her screen which calls all of the retailers and staff in the area, instructing them to proceed to the exits or adjacent terminal area. Ruth then uses CCTV to zoom in and take an image of the bag, which she sends to all of the airport police radios. She also makes an announcement over the airport terminal PA system.

The police begin asking passengers if they have lost a bag. One woman comes forward; she correctly describes the bag and its location, and police take her to the secure location where the bag has now been placed. Ruth sends an email message informing all the evacuated staff that it is now safe to return. The police release the cordon and the public spaces are again opened.

HOW DOES IT WORK?

An emergency status message has been programmed into every radio which will automatically be sent to the dispatcher when a user holds down the '9' key. This will cause a screen to appear on the dispatcher's console screen with the ID of the user. Each radio is equipped with Sepura's

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indoor positioning system, STProtect, allowing the dispatcher to see a building floor plan with every user marked on it in real time. The dispatcher console has been programmed with pre-defined groups which allow specific groups of users to be contacted, regardless of their own activity.
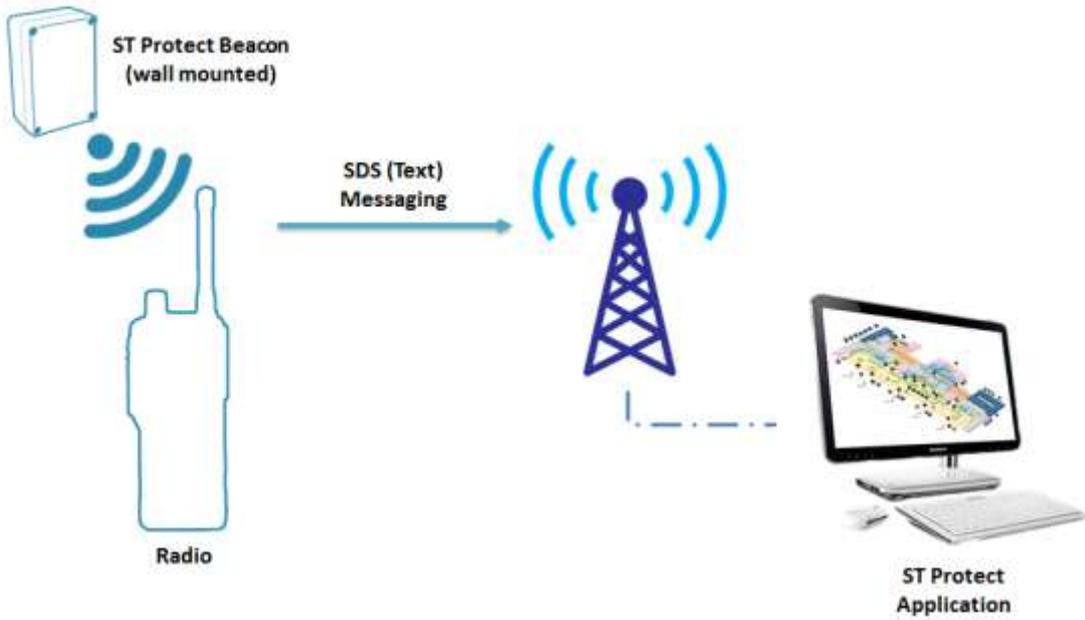

Utilising Sepura IMAGE application, a section of an image from a video feed can be captured and distributed to a group of users within a few seconds. The dispatcher is able to make a direct call to the airport PA system simply by selecting the appropriate contact on the display.

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The email message that the dispatcher sends is distributed to all users, including those who have company mobile phones. This functionality uses Sepura's [Message](#) application which allows inter-network messages to be sent – for example, from email to TETRA SDS (text) message or vice versa. This ensures that information is received regardless of the end user device or bearer.
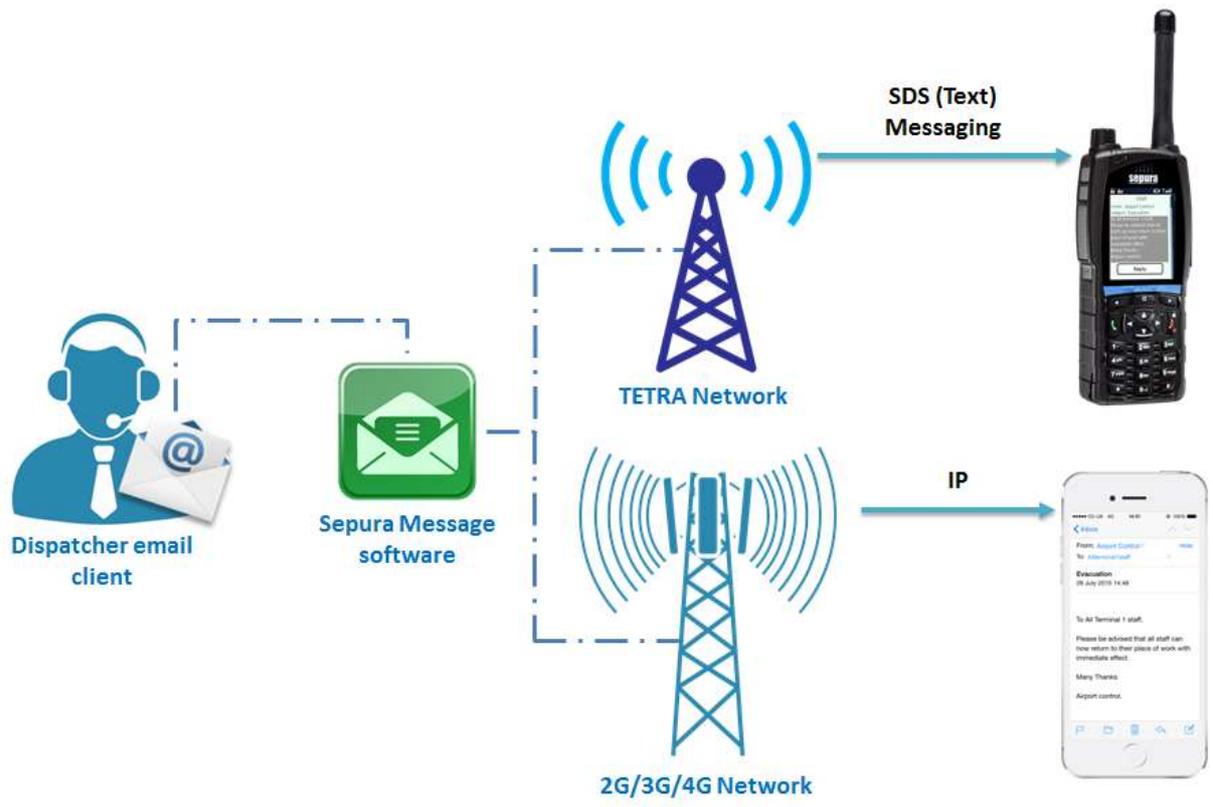

17:00 RUTH, AIRPORT CONTROL OPERATOR

Ruth receives a call from David, the Flight Operations Officer. He asks if it is possible to speak with the contractors responsible for maintenance work being carried out on the door systems in the gate area. Ruth confirms this is possible and asks him to hold for a moment while she makes the link. After a few seconds, Ruth informs David he can now has a link group on his radio screen with which he can now talk to the contractors.

HOW DOES IT WORK?

The Command & Control application (CeCoCo) allows the operator to dynamically link two groups from different wireless technologies. In this example, a TETRA group is patched to an analogue trunked radio system channel. The users can now talk freely between networks.

TETRA Network

CeCoCo Command & Control software

Analogue Network
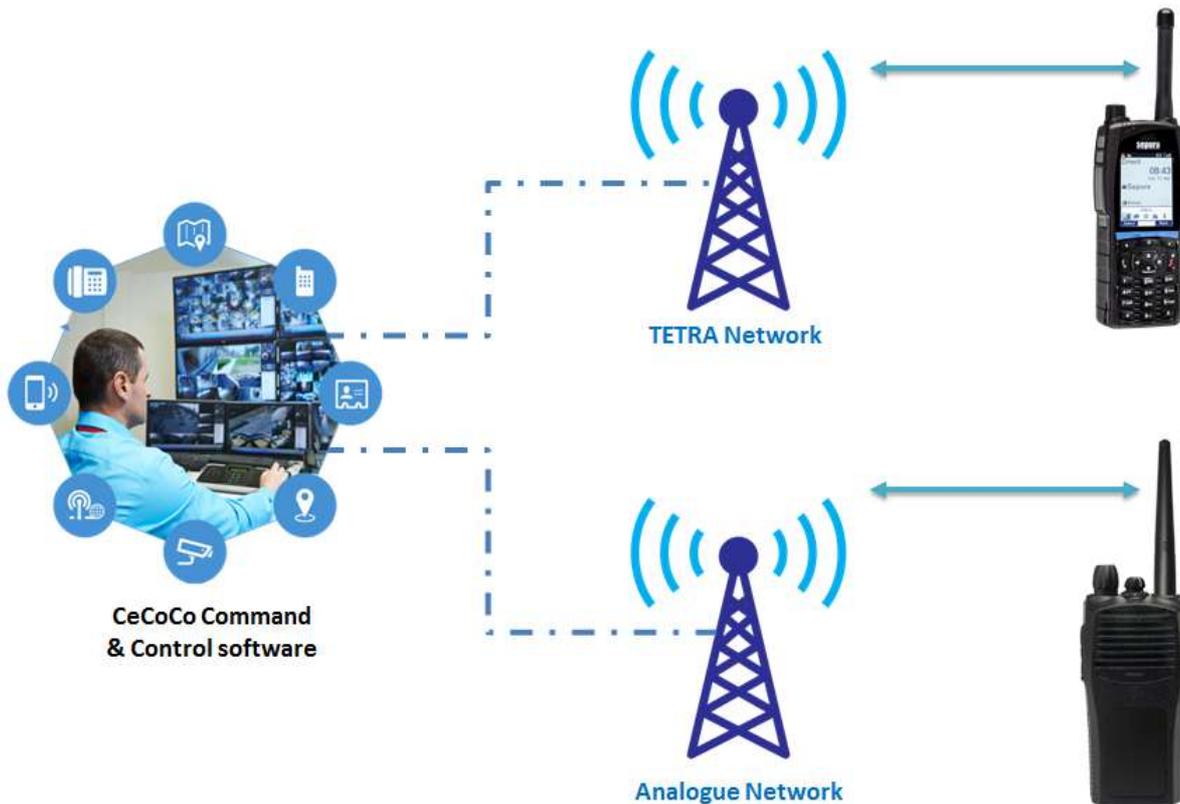
19:00 MIGUEL, CLEANER

Miguel has just finished his shift and logs off from his radio with a single key press. He then places it back in its charging station for the next user.

HOW DOES IT WORK?

A pre-defined status message is assigned to one of the keys on the user's radio. When pressed, the status message is sent to the back-end server, logging the user off.

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21:00 JAMES, SECURITY GUARD

James is patrolling the airport perimeter. He is a lone worker so, every two minutes, his radio beeps and he presses a key to acknowledge it. As he is focussing on a particular piece of fencing, he trips over a piece of ducting, falls over and bangs his head on the concrete fence post, rendering himself unconscious. After 20 seconds, his radio makes a loud beep, which repeats a few times. When he fails to acknowledge it, his radio emits a piercing alert.

In the control room, an emergency alert appears on the operator's screen with the details of the emergency and the user's location. The operator immediately tries to call James on his radio. He doesn't respond and his radio continues to report its GPS position. The operator directs emergency services to the location, where they home in on the alert sound from James's radio.

HOW DOES IT WORK?

Lone worker is a feature included on every radio as standard. If configured, it allows a user and control room to be 'linked' by the action of the reminder alert and button press to confirm. If a user does not press a key before the time expires, the radio automatically makes an emergency call or alert to a predefined address.

In addition, the Man-Down feature can be enabled. This is a combination of a hardware accelerometer and a software feature which detects motion (or lack of) and inclination (tilt). If a user falls over and the radio tips past a predefined angle, or the user stops moving for a defined period, a very loud alert will sound. If no user interaction occurs, an emergency call/alert is also made. Used in conjunction with GPS and STProtect indoor positioning, a control room can monitor the safety of the users in real time, even if they are alone.
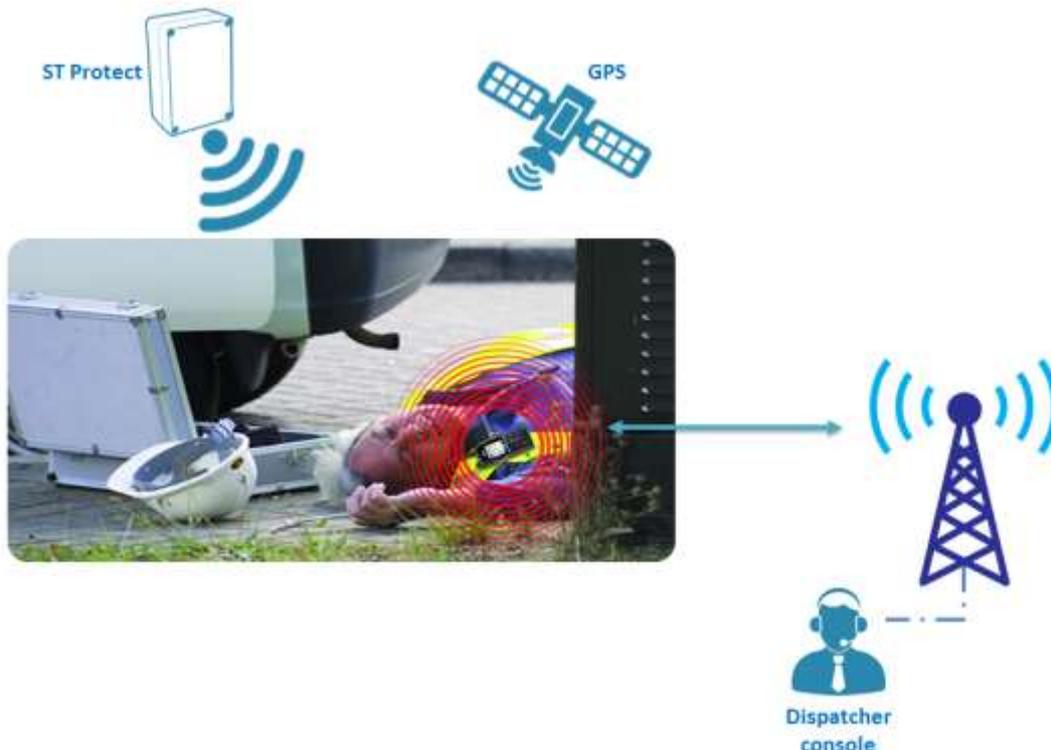
23:00 - 06:00

The airport is closed and security staff members continue to monitor the perimeter until the next shift begins. Using the control room video surveillance software, all areas of the airport – including on-board vehicles – can be monitored from one station:

> Landing strips and connecting roads
> Galleries, corridors and waiting areas
> Parking and entrances

HOW DOES IT WORK?

The CeCoCo Command And Control application also integrates Sepura's video surveillance technology, allowing the operator to monitor CCTV and other video feeds from the same interface. This includes vehicles using the OBVR (on-board video recorder) which uses wireless technologies, such as Wi-Fi and LTE, to transmit data.

CCTV

CeCoCo Command
& Control software

OBVR

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To learn more about how Sepura can provide a tailor-made solution for your organisation, get in touch with your local representative or visit www.sepura.com

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