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WIRELESS DATA IN PUBLIC SERVICE: NO ROOM FOR ERRORS

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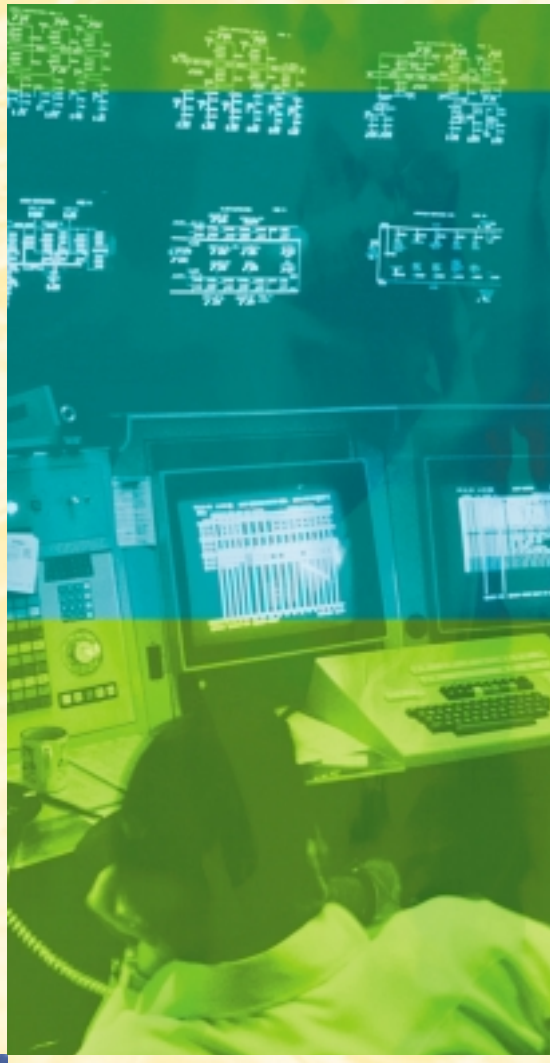

WIRELESS DATA IN PUBLIC SERVICE

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IN THE PUBLIC SERVICE

Public safety, security and government services are a large and growing market in which Mobitex continues to thrive. We simply used to call it public safety, but as we began to prepare this issue on a classic appliaction area, it became apparent that Mobitex technology is being used in new and innovative applications and expanding into new sectors.

It is apparent that making greater use of the potential of wireless data brings many benefits for public authorities. Sending patient data from the ambulance while en route to the hospital, which is now routine in Australia, the UK, Sweden and other countries where Mobitex is used in ambulance services, saves lives and significantly improves emergency care. Being able to perform spot checks on persons and vehicles over Mobitex in a matter of seconds not only helps police officers on patrol, but also a wide range of security officials protecting airports and other public places. Wireless email and interactive messaging meeting the high security standards of the US Department of Defense yet operating over a public network are clearly finding application across a wide range of government agencies.

This issue of Mobile Data News brings you news from all continents, with feature articles from the US, the UK and Australia. Developments are particularly exciting in Australia, where Mobitex has achieved a major breakthrough in New South Wales, the country's most populous state, with Sydney and the nation's capital Canberra. Following the successful Mobitex deployments by public authorities in Queensland, the government of New South Wales also selected Mobitex.

In New South Wales, Mobitex will initially be used by the Ambulance Service. This is a breakthrough order, however, because Mobitex is set to play a major role in the digitalization of the Government Radio Network where it has the potential to serve more than 10,000 users in some 40 government agencies. With this order, Mobitex achieves critical mass in Australia and is well on the way to becoming the de facto standard for wireless data communications in government.

In an important development, the Mobitex Operators Association (MOA) recently adopted a uniform test procedure for verifying compliance with the Mobitex Interface Specification (MIS) and appointed Ericsson to conduct these tests on behalf of the operators. This is a prestigious assignment for us, and a development that will significantly shorten time to market for new Mobitex devices.

New devices announced in this issue include Good Technology's G100 wireless handheld, TouchStar's BackPack, a new modem and the Hammerhead XRT from Walkabout. Needless to say, the availability of so many devices for Mobitex not only significantly increases market potential. It is also a clear vote of confidence from manufacturers who anticipate sales volumes that will justify their substantial investments. Furthermore, the uniform test procedure for MIS-compliance has encouraged several of these manufacturers to announce products for all Mobitex frequencies.

At this year's WAVE conference, MOA held a well-attended presentation on Mobitex in a 3G world. The advent of new technologies has unquestionably increased interest in wireless data. As MOA pointed out, Mobitex subscribers have tripled in number, while traffic has quintupled in volume, since the introduction of 2.5G services. As interest in wireless data continues to mount, Mobitex is thriving like never before.

Anders Baaz

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WIRELESS DATA IMPROVES EFFICIENCY

The Queensland Ambulance Service has been using a Mobitex system for communication since November 2000. Mobile Data Magazine spoke to Wayne Gale, communications manager for the Radio and Electronics Section of the Queensland Ambulance Service to get his views on the importance of wireless data for the service.

What forms of mobile communications are currently being used by public safety services in Queensland?

Queensland Ambulance Service (QAS) uses the Mobitex System with vehicle based mobile data terminals. Queensland Police Service (QPS) have a GSM based data application with hand portable computer terminals.

What is the role of communications in public safety services?

The roles of communications systems are for mobile and portable voice communications in response to emergencies. QAS uses data communications for dispatch messaging to vehicles; for vehicle position location identification to determine the most suitable vehicle to dispatch to an incident; and for providing vehicle status updates while in the field such as on-scene, departed scene etc.

Is there an increasing need for data communications among mobile users?

Yes, data communications is an increasing requirement to reduce the reliance on voice traffic and for transmitting some messages that may already be stored in a computer, such as case details and database queries. Increasing the efficiency and availability of operational staff is possible by reducing the need to relay and re-write messages such as case details passed by radio etc. There is always a growth in demand for services over time and gaining more resources to handle the workload is challenging. Data communications can assist in improving efficiency and reducing the need for more resources.

Is capacity on existing communications channels sufficient?

Capacity on the QAS data network is sufficient in normal operation. Additional coverage has recently been added in the Brisbane central business district, which has reduced the occasional throughput delays from traffic peaks at shift change log on times. Vehicles also converge on the business district to main hospitals causing increased data traffic. Outside this area, the network has capacity for additional users.

What are your requirements in terms of availability, reliability and security?

Operational staff prefer the network to be available at all times of course. Round trip message delivery and acknowledge times of 10 seconds are adequate for operational network response. Reliability of delivery is important and preferred, but procedures for emergency operations are used where issues such as coverage shortfalls may delay delivery. Security from eavesdropping is important for privacy purposes and can assist in reducing convergence at accidents by people that need not be there. There needs to be a balance between cost and security level provided.

Are suppliers receptive to these requirements or can they do more to address your needs?

Yes, I believe that our suppliers are providing the service level we require. Costs for changes to large systems are always an issue. This is one of the benefits of buying a stable technology, as most of the required features are probably available. Data network performance monitoring and reporting in terms of measuring the key response time aspects are areas in which more work is needed.

Are public safety applications used by police, fire and ambulances inherently voice-centric or is the use of voice more bound by tradition?

Voice communications is a critical emergency service capability that will remain a core requirement for emergency services. Voice communications can pass critical messages effectively in a short two-way exchange. Typing such messages into a data terminal may be time consuming and difficult on a portable device.

Are private networks a necessity for public safety services or can public networks be used for communications?

Public networks can be suitable for public safety communications as long as performance aspects can be achieved. This implies a need for controlling capacity and performance so emergency requirements are maintained to adequate levels. Generally emergency services will desire service access guarantees as would be expected given that their ability to function effectively is wholly dependent on the available communications system.

Which communication channels are more suitable and which are less suitable for ambulance services?

As far as QAS is concerned voice communication remains essential and handheld use is preferred. Data communication is highly desirable for process efficiency enhancements.

How do you assess the efficiency of public safety services?

Response time is a primary pre-hospital care efficiency measure for QAS.

How do you assess public satisfaction with these services?

Public satisfaction is surveyed regularly.

How will the Queensland authorities improve public safety in the future and what role can wireless data play?

We expect to see an increase in the collection and processing of computerized case data using the wireless data network. Network coverage requirements for portable devices will remain an important issue. ■

MOBILE BUSINESS NEWS

TELIA MOBITEX BECOMES MULTICOM SECURITY

Multicom Security AB recently acquired the Swedish Mobitex network owned and operated by Telia Mobitel AB. This first-generation Mobitex network was the world's first commercial Mobitex network and currently provides coverage of 99.5 percent of the Swedish population and more than 90 percent of the country's total land area.

Multicom Security AB is Sweden's leading provider of monitored security services and supplier of security products with more than 30,000 installed monitoring units and 300 alert centers throughout the country. Through its mobile data expertise and highly professional customer support organization, the Mobitex group will work to develop Multicom's wireless offerings. The Mobitex network will complement the company's fixed Multicom network allowing Multicom to continue to serve existing Mobitex customers while extending its business to new groups of mobile users and new types of services. ■

NY FIRE DEPARTMENT SELECTS CONSILIENT

The New York City Fire Department (NYFD) recently completed the first stage of its deployment of RIM's BlackBerry wireless e-mail platform and Consilient MX software to enable its staff members to access the department's Novell GroupWise e-mail system over the Cingular Wireless Mobitex network. NYFD will also use Nextel devices.

"This past year, there has been a sense of urgency to implement secure, reliable, wireless communication technology that enables us to easily get information to NYFD staff during emergency situations," says Chief of Operations Sal Cassano.

Consilient MX (Mail eXtension) client software and the WEx (Wireless eXtension) gateway from Consilient Technologies is used to create a connection between the FDNY's Novell® GroupWise email server and the BlackBerry Enterprise Server so that department headquarters can communicate securely with the mobile workforce using wireless handhelds.

Consilient Technologies is a provider of mobile business solutions developing and integrating products for mobile workers. The MX mail extension for Groupwise was developed by Consilient through the BlackBerry ISV Alliance Program.

The initial deployment comprises the Office of the Fire Commissioner, the Chief of Department, the Chief of Operations and their staffs. Phase two of the FDNY deployment will involve a rollout to a broader user group at the headquarters' administrative level.

The BlackBerry platform is popular in government organizations because of its always-on utility, true push functionality and advanced security, including end-to-end Triple DES encryption, FIPS 140-1 certification and optional support for the S/MIME security standard.

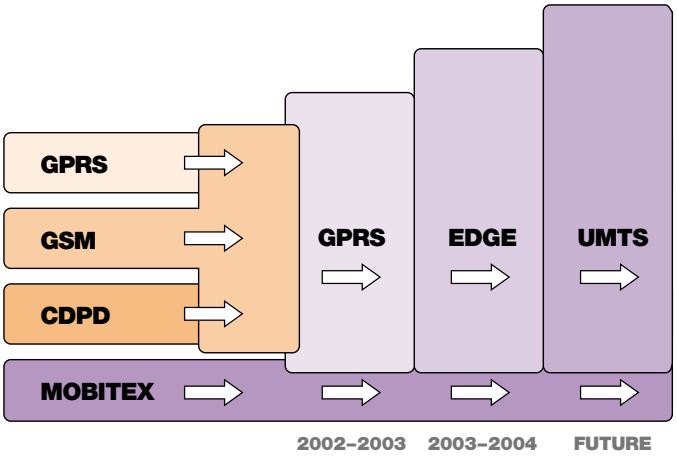
"Wirelessly extending in-house information systems to mobile workers on handheld computers is our core business, and we are very pleased to wirelessly enable the FDNY," says Trevor Adey, president of Consilient Technologies. ■

SKY NETWORKS FORMS JOINT VENTURE

Chinese Mobitex operator Sky Networks Communication Group recently announced a joint venture with Shanghai Lujiazui Development Co. Ltd., a business group authorized and supported by the People's Municipal Government of Shanghai. This company's primary tasks are property development and business coordination in the Lujiazui Finance and Trade Zone. The company has 54 fully invested companies and its business covers real estate, finance, insurance and technology industries.

"This is a milestone for Lujiazui Development and Sky Networks and marks that start of a close partnership in which we will grow and develop together. It is also Lujiazui Development's first step in entering the hi-tech field," said Kang Huijun, managing director of Shanghai Lujiazui Development Co. Ltd. speaking at the signing ceremony for the joint venture. ■

MOBITEX STEALS THE SHOW



WAVE 2003, the Wireless Alliance and Vision Exchange event that keeps getting bigger, was held this year in Las Vegas from February 10 to 12. Despite being held earlier than in previous years during a period when the shimmering metropolis in the Nevada desert is somewhat cooler, the frenetic activity and sheer energy of the participants, exhibiters and presenters at WAVE 2003 quickly created a charged atmosphere in which no one could fail to notice that wireless data in general and Mobitex in particular are hotter than ever.

Speaking in his keynote address, newly appointed Cingular Wireless Chief Operating Officer Mark Feidler reaffirmed the operator's commitment to Mobitex, which he described as "a powerhouse and America's premier two-way narrowband wireless data service." Cingular Wireless added 400,000 new subscribers to its Mobitex network during 2002 and experienced a 50 percent increase in traffic. "There is no better wireless data network than Mobitex for our data customers," noted Mark Feidler, adding that Cingular Wireless continues to expand its Mobitex network and will continue to do so for the foreseeable future.

Among the more exciting events at WAVE 2003 was the official launch of the G100 wireless handheld from Good Technologies packaged with Cingular Wireless' Express Mail GoodLink Edition. Features that make this product a complete mobile information for the enterprise include zero desktop install, since the software is entirely server based, and wireless two-way synchronization of all services, including email, calendar, contacts, tasks and notes. In addition, the G100 supports secure attachment viewing of Word, Excel and Powerpoint documents, as well as HTML, PDF and RTF files.

Since the company launched its service less than eight months ago, Good has seen phenomenal market momentum for its products, with more than 500 companies adopting its GoodLink wireless corporate messaging system. CML Microcircuits has been involved from the beginning in the development of the G100 handheld for Mobitex, which uses and supports CML's market leading CMX909B GMSK Packet Data Modem IC.

Although Cingular Wireless has ambitious plans for 2.5G and 3G services, WAVE 2003 was also very much a Mobitex event. The Mobitex Operators Association (MOA) was once again a sponsor, and MOA executive director Jack Barse and MOA's president Andrew Fitton jointly held a well-attended presentation under the title "Mobitex in a 3G world" in which they pointed out that growth has been exceptional throughout the world, with new networks in several countries, a quintupling of traffic and more than a tripling of the subscriber base during the last years.

Andrew described several contracts recently completed by Mobitex operators around the world and what factors had influenced customers to choose Mobitex over other 2.5G technologies.

As always, there was a strong focus on developers at WAVE 2003. Cingular Wireless' Application Developer Program continues to expand, with a doubling of membership since last year's event. The first day of the conference consisted of developer workshops held by Ericsson mobility world, RIM, Sun and Nokia. RIM introduced a new browser product with functionality that makes it easier to write applications for accessing corporate intranet. The new product solves security and encryption issues and supports both Mobitex and other technologies. ■

Industry leaders and analysts presented their views on wireless data trends at WAVE 2003.

RIDERS AND DRIVERS LOVE WIRELESS POS

Last autumn, Crown Taxi of Toronto, Canada completed installation of wireless POS (Point of sale) terminals operating on Rogers AT&T Wireless' Mobitex network in its entire fleet of cabs. Since then, the company has seen a tenfold increase in credit card transactions, and both riders and drivers love the added convenience.

"Customers really appreciate the convenience of paying by credit or debit card. It is actually faster than paying with cash and eliminates the need for drivers and customers to fumble for the right change. We think it has given us a real competitive advantage in the market," says Bob Donaldson, president of Fareport Capital Inc., which owns Crown Taxi.

The wireless POS terminals were supplied by eXcape Business Transactions Inc. as part of its fleetX wireless credit and debit solution for fleet markets. The fleetX POS terminal, which is available in both vehicle-mounted and handheld versions, includes a built-in printer and is easy to operate, requiring only that the driver key in the fare amount and an ID number. Behind the scenes, the accounts and reports components of the solution running on the back-office system take care of the details of verifying the transaction and producing accounting records and sales reports. An alerts component is also available, offering drivers a panic button in case of emergency that uses GPS positioning to report the vehicles location to the dispatcher along with the alert.

"The taxi industry has remained one of the last cash businesses in North America. Crown has taken the lead in providing passengers the same convenience in paying for a ride the same way people pay for most purchases today, by credit or debit card," says Dan Carriere, senior vice president and director of eXcape Business Transactions Inc. ■

UNIQUE CRASH RECOVERY SYSTEM (CRS)

In a serious auto accident, the difference between life and death, or between full recovery or permanent disability, may be a matter of seconds. Fire fighters, who are the rescue workers dispatched to the scene in most countries, are highly trained paramedics and have the tools to quickly cut open a car as easily as a tin can to remove injured occupants. Typically, there are also ambulances standing by to rush the most seriously injured to hospital as soon as the victims are removed from the car.

With literally thousands of makes and models of cars on the roads, where to start when passengers need to be removed from a car may pose a problem. The problem may be compounded by the need to turn off the ignition to prevent fire or explosion or to disable airbags before extracting the car's occupants.

When Jan Mooij became aware of this problem a few years ago after reading some newspaper articles, he believed he saw a solution. Being director of Moditech IT Solutions B.V., a company specializing in computerized measurement systems for frame alignment that has been working in the collision repair industry for over ten years, Jan knew that his company had the data in its databases that fire fighters needed at the accident scene. Now, with the assistance of RAM Mobile Data Nederland and the Utrecht Fire Department, Moditech's Crash Recovery System (CRS) is ready for launch.

"We tried to make the application as simple as possible," says Jan Mooij. "Using a wireless handheld PC at the accident scene, rescue workers simply enter the vehicle's registration number. CRS then retrieves the make and model of the car from the motor vehicle registry and instantly displays this information along with drawings generated from our database showing top and side views of the car with the best locations for cutting clearly marked. If necessary, advanced levels of information can be accessed, showing details of the components of the Safety Restraint System (SRS) and where these components are located in the car."

In developing CRS, Moditech found an enthusiastic supporter in Gerard Wiebes, senior commander and instructor at the Utrecht Fire Department, who contributed invaluable knowledge and experience during the design and testing phases. After successful field trials in Utrecht, Moditech and RAM Mobile Data are introducing CRS in the Dutch market, and Moditech is eager to launch the product elsewhere in Europe and in other markets. ■

REPORT FROM MOA CONFERENCE IN SEOUL

Nearly one hundred persons from 14 countries attended the 38th MOA meeting held in Seoul, Korea on October 20 to 23, 2002. The meeting was superbly arranged by the host Real Telecom (formerly Intec Telecom). As always at MOA meetings, there was a strong focus on applications, which for this occasion were dubbed new Seoulutions.

Presentations by several Mobitex operators underscored that the business models pursued by successful Mobitex operators are very well-conceived and will result in profitable businesses. At the same time, it was also apparent that market prerequisites vary in different parts of the world and that there is no standard recipe for success.

All participants had the opportunity to try out the features of the new TWMK from CNI. Shown here is Jonas Ahlström from Ericsson and Wouter Levenbach from RAM Netherlands.

"Our business model for new services is to move beyond messaging," says Won Baek, who is quick to add that the company has no intention of abandoning its successful Micess wireless Internet and messaging service. Key ingredients in Real Telecom's strategy are to view Mobitex as a wireless replacement for low-speed leased line and fixed PSTN and ISDN connections and to exploit the paging network as a medium for wireless data broadcasting.

Lee Rudolph, MOA executive board member and Chief Technology Officer for Mobitex at Cingular Wireless provided a gripping presentation of Mobitex's performance and the US operator's response following the terrorist attack on the World Trade Center. As a result of this experience, there is an increased focus within Cingular and among customers on such service attributes such as security, encryption, redundancy, emergency preparedness plans.

In a presentation entitled Mobitex in the Met, Tony Waddington, divisional sales manager at APD Communications in the UK, explained key functionality provided by Inca and Mobitex. Mobile access to remote databases, automatic vehicle location and incident dispatch and reporting will be fully implemented for local authorities. In a presentation on alarms over Mobitex, Kieran McDonnell, operations manager at ADT Wireless in Australia, provided another perspective on the reliability of Mobitex networks. "At ADT Wireless, we believe that the fire monitoring and security services that we provide over Mobitex are mission critical defined. The Mobitex network allows us to provide the very highest level of security as expected by public fire and ambulance services and the most demanding private customers," concludes Kieran McDonnell.

The next MOA meeting will be held in London, starting on September 15. ■

PALM i705 LAUNCHED IN BRAZIL

Brazilian Mobitex operator UNT (Universal Network Technologies) has signed a master services and distribution agreement with Palm Inc. to commercialize its innovative Palm i705 with mobile Internet access and wireless data applications.

According to the terms of this agreement, UNT will commercialize the i705 and provide an exclusive distribution channel for Brazil, which will also include Palm.net connection services for both business customers and consumers.

"The agreement with Palm Inc. offers an opportunity for potential partners to create new and innovative services for customers in Brazil who wish to integrate wireless data into their IT systems and deploy such applications as sales force automation, and content services", says UNT president Julio Figueroa.

In addition to these applications, UNT will be offering mobile Internet access and will also showcase Palm features, such as the Documents to Go software package that includes Microsoft Word, Excel and Powerpoint. ■

NO ROOM FOR ERRORS

Mobitex has established its strong position in the public safety, security and government sector. This is because it offers a highly reliable and efficient communications channel for data for public services in which communications must never fail and where security is paramount. Mobitex has also proven to be an excellent performer during crises, such as the terror attacks of September, during which the Mobitex network remained available and accessible at all times.

Contributing to more recent successes in the public safety sector are also network enhancements that allow public and private Mobitex networks, as well as external networks, to interwork seamlessly and the concerted efforts among business partners in the Mobitex community to develop better applications with enhanced functionality and to deliver end-to-end solutions that are closely matched to the requirements of public authorities.

A STRONG CASE FOR GREATER EFFICIENCY

The list of Mobitex customers in the public safety and government sector is impressive. In the United States, which is the world's largest market, Mobitex continues to gain in popularity among public authorities. A wireless handheld application for law enforcement from Aether's Mobile Government division, Pocket-blue, extends real-time data access and silent communication to out-of-vehicle personnel, including detectives and officers on foot, bike and mounted patrols. This application and other public safety applications currently have more than 70,000 users, of which a large number run on the Cingular Wireless Mobitex network.

The US House of Representatives recently equipped all of its members with wireless handhelds running on Mobitex. Other users in the US include the Department of Defense and numerous federal, county and municipal offices throughout the country.

Market positions in several European countries are also strong. In the United Kingdom, for example, Mobitex is used by 26 police forces, seven fire brigades and eleven ambulance services and is offered to public authorities through a Home Office Framework Agreement. UK Mobitex operator Transcomm UK Ltd is also currently running a pilot with the police in Yorkshire on Grapevine handhelds. The situation in the Netherlands is similar. Currently more than 20 of the country's 26 police forces use Mobitex, which is also used by seven ambulance services and two fire departments. In Austria, authorities in six cities have been using Mobitex since mid-1990s. In Sweden both Mowic and Multicom Security run applications for public safety and governmental customers.

Australia is another example of a country where Mobitex is setting the standard for wireless data communications for government customers. As new markets begin to open in Asia and South America, there is every indication that Mobitex will repeat its success in the public safety and government sectors.

GREATER FUNCTIONALITY FOR PUBLIC AUTHORITIES

While highly reliable and secure communication is an important reason for this success, the case for Mobitex is made stronger by the many applications and end-to-end solutions that are available from a large number of suppliers. Mobitex is a mature technology, and both operators and solution providers recognize that most customers want complete applications and systems that are exactly matched to their requirements. In the Mobitex community, suppliers routinely work together as partners to provide total solutions for customers that are based on many years of experience in wireless data.

"Because we have so many strong partners, we are able to work as an application service provider for many government agencies in the Netherlands," notes Joachim Kaarsgaren, managing director at RAM Mobile Data Netherlands. "Our Mobile Office offering for public safety and government applications is gaining new customers all the time and functionality it constantly being expanded. Today, most of the police traffic for vehicle location, for example, is sent over Mobitex, which is also used for emergency functions, status messages, mobile workplaces and tracking hazardous goods in Rotterdam. In the North of Holland, a pilot is starting with GIS (Geographic Information Systems) in the vehicle that will allow police officers to have the same information in the car as the dispatchers at headquarters. Fire brigades also have emergency plans in their vehicles that are updated continuously over Mobitex and are now being offered a new Crash Rescue Service that shows great promise."

REDUNDANCY WITH DATA AND VOICE SEPARATE

Although Mobitex supports rich functionality and provides many efficiency-enhancing applications for public authorities, it is a data only network and does not provide voice services. As Wayne Gale from the Queensland Ambulance Service points out in this issue's Guest Profile, voice communication is a critical emergency service capability that will remain a core requirement for emergency services. Voice is also the most natural means of communication in certain circumstances.

For organizations already using voice over radio, data communication can complement and enhance their services and provide completely new methods for making better use of resources, thereby increasing efficiency. It is important to note, that in many instances data can be a significantly more efficient means of communication than voice. Dispatching an ambulance or a police patrol, for example, is accomplished more quickly and with fewer errors when the order is sent as data. Data also facilitates coordination in responding to emergencies. If required, the same message may be sent to many vehicles simultaneously.

"Applications in the public safety, security and government sectors consistently show that advanced data functionality allows customers to expand support for mobile users and add new capabilities as demands on the organization change," notes Per-Erik Sundström, manager after sales at Ericsson.

For these and other reasons, more and more public authorities around the world are discovering that wireless data communications are an indispensable tool. A completely separate, data-only network provides a highly desirable redundancy in communications while adding new capabilities for coordinating and efficiently deploying resources.

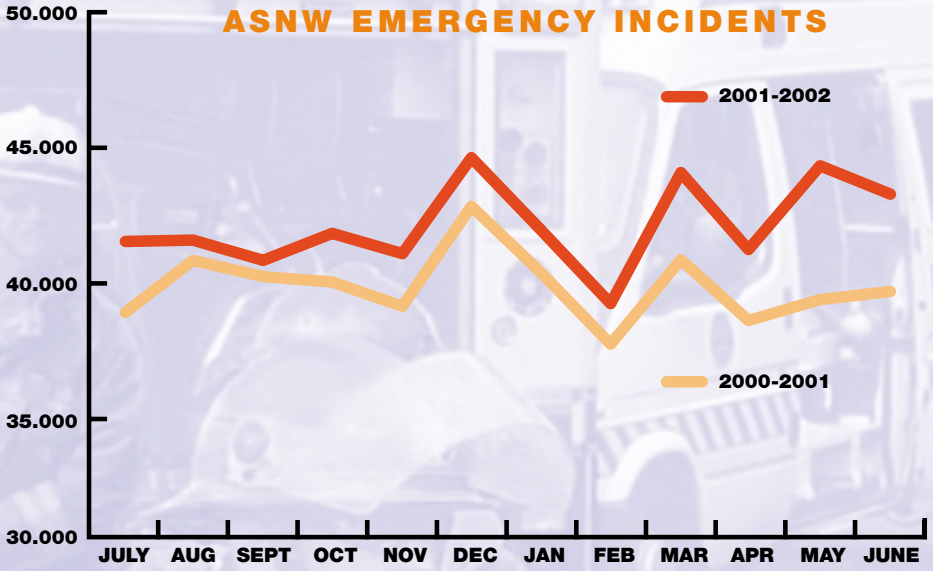
In a time where public concern for safety and security is high, wireless data applications deliver benefits in performance, efficiency and coordination that instill trust. Public authorities would therefore do well to leverage the benefits of Mobitex technology to provide public safety services that are highly cost-effective yet achieve high levels of customer satisfaction. By doing so, both citizens and public officials stand to gain. ■

"Wireless data deliver benefits in performance, efficiency and coordination that instills trust."

WORLD-CLASS EMERGENCY CARE

Building on its established position in the public safety sector in Australia, Mobitex was recently selected in a very competitive tender process by the authorities in State of New South Wales for a wireless data network that will initially be used by the ambulance service and later by most public safety services in the State. The initial application in the State Government's new wireless data network will be similar to that already deployed for the Queensland Ambulance Service.

The New South Wales network, which will cover Sydney and surrounding areas, will be the second private network in Australia, joining that already operated by the Ambulance Services in Queensland. The public Australian



Response time is a key factor for ambulance services in ensuring a successful outcome in life-threatening cases. The new Mobitex system will be able to support up to 8,500 vehicles within about three years and supplement a voice network that is already overloaded.

Mobitex network is operated by ADT Wireless, which will also take responsibility for operation and management of the New South Wales Network.

"This is a huge win for both our company and for the people of New South Wales. The mobile data radio service is already being used by the Queensland Ambulance Service, where it has proven to be a lifesaver," says Bill Delaney, CEO of Technisyst Pty Ltd, which is the prime contractor for the five-year contract.

The new Mobitex network will augment the Government Radio Network (GNR), which is primarily an analog voice network that has been operating in New South Wales since 1993. As of April 2001, the latest date for which officially published statistics were available, the GNR had over 12,000 users from 40 agencies and handled an average of 12 million calls a month. Increasing demand for not only voice, but also data applications has resulted in an increased demand for data capacity that the government is meeting by building a new network to be used initially by the NSW Ambulance Service.

Technisyst is providing mobile data terminals based on its TC-Connect embedded mobile computing platform. Picture shows TC connect box.

"The new system will also overcome radio black spot problems," says Robert Gray, corporate services general manager for the New South Wales Ambulance Service.

TURNKEY SYSTEM

The New South Wales authorities wanted a network that would be built from the ground up and that would have the capacity to handle government communications in the future. A three-stage tender process was initiated in which demands on data security, performance and scalability were extremely high.

"The government demanded that no data would be lost and that round-trip message times would be less than ten seconds at all times under all traffic conditions. In addition, the requirements called for scaling the system from a single agency with a few hundred terminals to multiple agencies with thousands of users," recalls Bill Delaney.

Furthermore, the government wanted a turnkey system and a single supplier, who would be able to build the network, supply the terminals, implement gateways and take responsibility for systems integration. Technisyst was able to fulfill this requirement by teaming up with Ericsson and Australian Mobitex operator ADT Wireless, two companies with which Technisyst already had a well established partnership.

KEY CONNECTIVITY REQUIREMENTS

Technisyst thus assumed much more than a systems integrator role in the New South Wales project. While partners Ericsson and ADT Wireless are largely responsible for planning and building the network, Technisyst is providing mobile data terminals based on its TC-Connect embedded mobile computing platform, and a sophisticated Message Management Facility which includes Technisyst's TC-Gateway product. ▶

TC-Gateway allows simultaneous connection to multiple networks and hosts, application and systems software.

"Supporting multiple networks and multiple hosts was a key customer requirement," notes Bill Delaney. "While the Mobitex system meets all the requirements for communications in public safety services, the customer wanted connectivity options to other networks, such as GPRS and CDMA-1xRTT. We also allow connection to the public Mobitex network in disaster circumstances."

Interconnection to other networks was not simply a matter of convenience, however. Because communication is the lifeline of public safety services and must never fail, there always has to be an alternative when a unit is out of coverage, for example. In critical situations when many units must respond at once and their actions must be coordinated centrally, it is also essential to have a gateway to public networks. Technisyst was able to provide these and other capabilities using its TC-Gateway product, which is an intelligent software switch that provides simultaneous connectivity to multiple host systems, simultaneous connectivity to multiple wireless and fixed networks and simultaneous support for multiple remote clients.

REAL-TIME PERFORMANCE MONITORING

Performance monitoring was another key customer requirement. New South Wales did not just want historical statistics and log files documenting network performance over time. The customer demanded a system that would allow real-time monitoring of packet transmission and application performance. The government tender also included two contracts, one for building the network and another that is a five-year management contract based on service levels defined by the customer on the basis of performance data.

"While the basic functionality was available in the network, Technisyst engineers faced a formidable challenge to integrate performance measurements from the network, linking infrastructure, and the application. We were fortunate in that the TC-Connect embedded computing platform used in this application provides many connectivity options and supports a wide variety of devices, including mobile data terminals, radio modems, GPS devices, various sensors and other equipment, such as patient care systems," notes Bill Delaney. TC-Connect provided the computing capacity within the mobile vehicle to initiate and monitor network performance measurements even when the vehicle was outside network coverage.

The performance monitoring system interacts with the network management system, operated by ADT Wireless, the Australian public Mobitex operator, and the IP router-based linking infrastructure. More importantly, there is also a web-based interface that allows the customer to monitor actual performance at all times.

Security was a particularly important consideration in designing this interface, since it was absolutely essential that only authorized persons would be able to access this data. Both host and mobile access is only granted to authorized parties. Data sent over the network may also be protected by a variety of compression and encryption algorithms at both the communications and application layers. Finally, each wireless modem is uniquely identifiable, so that each modem's access to the network and to particular host systems can be managed individually and permanently disabled if the modem is lost or stolen.

WORLD-CLASS CARE

Build-out of the New South Wales network is now proceeding at a rapid pace. Field testing will begin shortly, and when the first stage of the new network is completed later this year, it will consist of some 35 base stations and serve more than 300 ambulances.

"Work on the system has already begun, and it is expected to be operational before the end of 2003," reports a spokesperson for New South Wales' Information Technology Minister Kim Yeadon, adding that "other agencies are expected to use the data system as soon as the Ambulance Service has confirmed its performance."

Judging from the performance of the same Mobitex application in Queensland, this should not take long. Residents of New South Wales should also quickly notice a significant improvement in emergency care.

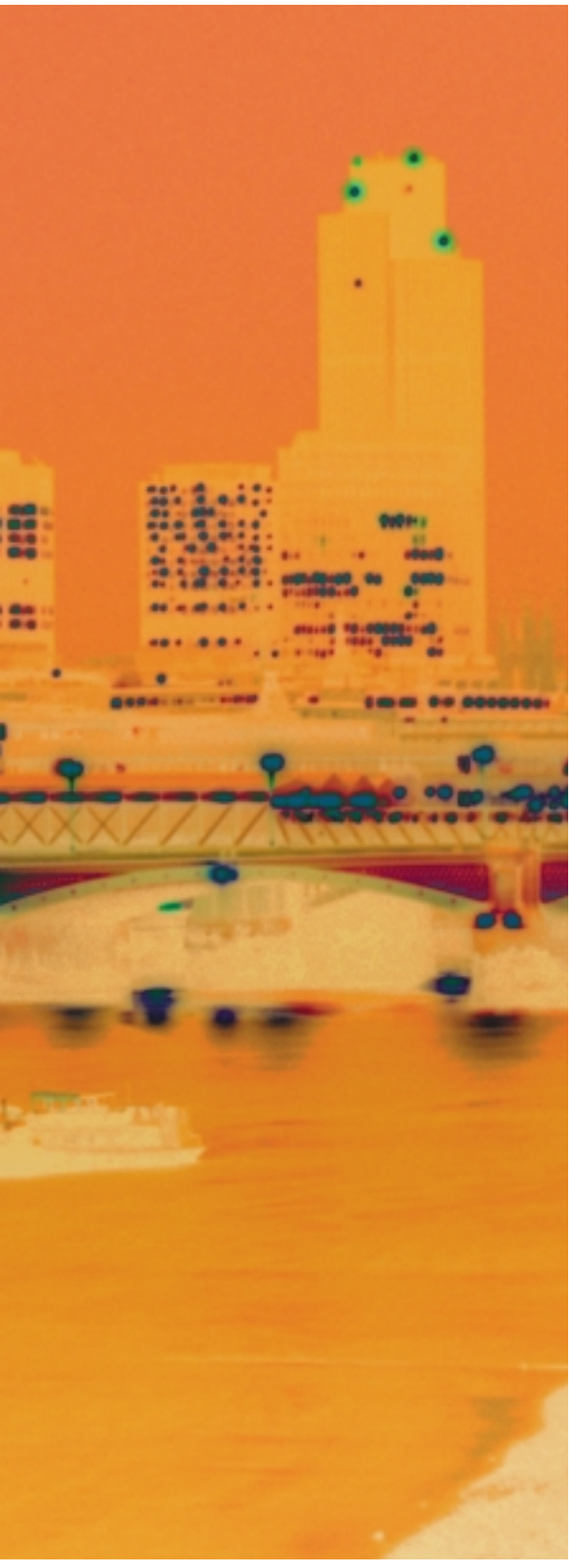
"The Queensland Ambulance Service leads the country in clinical care and paramedic training and is among the best in the world in providing state-of-the-art emergency care," states Mike Reynolds, Member of Parliament and Minister for Emergency Services, adding that ministry statistics show that the Queensland Ambulance Service attends to more patients per 1,000 population than any other service in the nation; achieving results 19.7% above the national average. ■

"The government wanted a turnkey system and a single supplier."

The system is expected to be the basis for a whole-of-government mobile data network.

WORKING FOR A SAFER LONDON

London's Metropolitan Police Service (MPS), popularly known as the Met and headquartered in New Scotland Yard, is one of the world's oldest police forces and responsible for protecting one of the world's largest cities. Like many metropolitan police forces, the MPS faces new challenges.



"Our vision is to make London the safest major city in the world," writes Metropolitan Police Commissioner Sir John Stevens in a foreword to "Towards the safest city – Delivering policing for Londoners", a presentation of a three-year program for the years 2002 to 2005 published by the Metropolitan Police Authority.

"Much has changed within the Metropolitan Police Service, and we have made significant progress on our agenda for action. Facing new challenges with new thinking, we have provided visible reassurance to Londoners in the height of an increased terrorist threat and are reducing street crime by redirecting resources," continues Sir John Stevens.

NEW COMMAND AND CONTROL FUNCTIONS

An important part of the program is the C3i (Command, Control, Communications and Information) project. This is the largest and most radical project that the MPS has ever undertaken. It aims to maximize the effective use of police and essential support staff time and resources and will completely replace the MPS's command and control functions with a new call handling system. Key objectives of the C3i project are to provide an efficient and effective telephone-handling service, to ensure that police deployments are appropriate and effectively prioritized and to free police resources so that they can be concentrated on policing priorities.

Metropolitan London consists of 32 boroughs policed by the MPS and each served by a Borough Operational Command Unit. For a city with a population of 7.2 million that makes more than two million emergency calls each year, this is an increasingly inefficient command and control structure. One of the most important C3i initiatives is therefore to centralize call handling to three new centers that will provide emergency and non-emergency call handling and dispatch functions.

UK Mobitex operator Transcomm UK Ltd and APD Communications Ltd., a mobile IT solutions provider to the emergency services, public sector and service management markets, developed applications within the C3i framework to support mobile access to remote databases, automatic vehicle location and incident dispatch and update. APD was responsible for the systems architecture, applications and gateway development, third-party integration, installation and support. As the UK Mobitex

> "C3i aims to maximize the effective use of police and support staff time and resources."

operator, Transcomm's role was network service provisioning within the context of the Home Office Framework Agreement (HOFA), including providing access to the Police National Computer (PNC) system, identifying the location of police vehicles and secure messaging for computer aided dispatch and reporting in real-time.

"The mobile data applications are designed to help the officer do the job with minimal training," says Tony Waddington, divisional sales manager at APD Communications . "The APD applications for police vehicles are therefore based on simple touch-screen navigation and focused on necessary information only, thus making the screens easy to read and the application easy to use."

In the solution developed for the MPS, however, the mobile data terminals installed in the vehicles to provide real-time data access via the Transcomm Network and the applications used by police officers are only the proverbial tip of the iceberg. Equipment installed in the vehicle includes a touch-screen, an onboard computer, APD's Inca GPS controller and a radio modem. An agent-based application in the vehicle implements interfaces linking mobile police officers to the PNC and other intelligent databases, command and control functions in the command unit, status and text messaging services and an AVL (Automatic Vehicle Location) system. The back-end system includes gateways developed by APD that provide access to these networks and services.

In addition to the GPS receiver, the Inca GPS controller contains a DSP processor and onboard processing that not only tracks the vehicle's location in real time and relays this information back to the control center, but also records vehicle details and driving history, thus providing black-box functionality for accident investigation. Police supervisors are naturally able to track the vehicle's locations at all times without driver intervention.

Officers in their vehicles see only a touch screen with clearly labeled buttons and the minimum amount of information relevant for the task at hand is displayed at any one time. There are screens for incident dispatch and update, activity-based reporting and database queries,

for example. A map is available at all times to show the vehicle's current location or the location of an address to which the vehicle has been dispatched. When data is to be entered by the officer, a Qwerty keyboard is displayed on the screen, along with the fields in which data will be entered.

PERFECT FIT FOR LONDON POLICING

"Providing our officers with mobile access to the PNC allows them to obtain information on stolen cars, wanted and missing persons, previous convictions and bail conditions at the touch of a button," explains Paul Glaister, communications program manager at the MPS. "The nature of police work in the UK requires a completely reliable solution to transfer mission-critical data to officers on patrol. By transferring information in data format rather than by voice over radio, there is less room for error and misunderstanding. As an always-on wireless data network which offers fast, reliable and secure transfer of information, without any contention with voice traffic, the Transcomm Network is the perfect fit for our vision of the future of London policing."

The PNC service operating over the Transcomm Network provides three core applications: PNC vehicle inquiries, PNC name inquiries and secure messaging. The data contained in the PNC databases provides information on vehicle licensing, theft reports and personal details, including description, convictions, custodial history, details of offences and methods and disqualified driver records. The service, which was developed in cooperation with Transcomm and APD, eliminates systems integration work by giving police forces direct access to the PNC without having to pass through local force systems.

The simply packaged service is available as an option under HOFA. It is approved as a national service by the Association of Chief Police Officers and the Police Information Technology Organisation and links to a central gateway at the Police Hendon Data Center. The gateway consists of a PNC interface connected locally to the Police National Network and an intelligent wireless data interface linked to the Transcomm Network, allowing the PNC to be accessed from mobile or portable data terminals from any location in the country within radio coverage of the Transcomm Network. Currently Transcomm's services are used by 26 police forces across the UK with very positive results.

"We are very pleased to be chosen by the Metropolitan Police Service for this visionary project," comments Andrew Carver, chief executive officer of Transcomm. "C3I clearly demonstrates the benefits of using wireless data services to optimize valuable police resources. By employing a mobile data solution, the MPS supervisors are no longer restricted to a control room or desk as they can now receive information on the move, enabling them to supervise an incident away from the scene and to deliver a more effective service to the public regardless of where they may be. The Transcomm Network continues to be chosen above all others when the highest levels of service are required in demanding and critical environments. More than 55 percent of the police forces in England and Wales rely on the Transcomm Network for their mobile data needs, confirming our position as the network of choice for mission-critical data transfer."

The Inca AVL tracking and management solution and the PNC service developed by APD and Transcomm are now being deployed throughout London and are having a major impact on the C3i project. ■

"Providing our officers with mobile access allows them to obtain information on stolen cars, wanted and missing persons at the touch of a button."

CREATING SITUATIONAL AWARENESS

In an increasingly security-conscious society, wireless messaging devices operating on the Mobitex network have become a top priority for US government officials. The most popular among these devices – and the one that originally fueled the explosive growth of Mobitex in the US and other markets – is the RIM 957 handheld, which when packaged with an e-mail service is called BlackBerry.

In the days and months following the terror attacks of September 11, US Mobitex operator Cingular Wireless noted a dramatic increase in interest for its wireless messaging and email services. The Mobitex network remained operational and fully functional both through the attacks and during the resulting surge in traffic. Cingular also provided a large number of BlackBerry devices to rescue workers from the New York Police Department and other authorities, allowing them to communicate when other networks were down or overloaded.

With this new awareness of the importance of reliable communications in times of crisis, several US authorities began equipping their staffs with wireless handhelds running on Cingular's Mobitex network. New customers have included local police and fire departments, as well as federal authorities. In a widely publicized contract, the US House of Representatives also decided to equip all of its members with BlackBerries.

"Interest from the government sector in wireless messaging is at an all time high," comments Charles Nelson, president of Cingular Interactive. "There is growing recognition that messaging expedites critical communications and improves decision support. Plus, there's considerable confidence in the BlackBerry and in Cingular's Mobitex network, because they've proven to be rugged, reliable and secure under extremely demanding conditions."

One of the more interesting deployments of wireless handhelds has been in the US Department of Defense (DoD) and the National Security Agency (NSA), where a secure version of the BlackBerry is being used.

"We currently have about 1,100 users, and the number is growing daily," reports Robert Nowak of ACS Defense who is manager of the Secure BlackBerry program at the NSA.

For this deployment, RIM developed a DoD-compliant S/MIME version of the BlackBerry. The Secure MIME (Multipurpose Internet Mail Extensions) version of BlackBerry ensures that not only the message, but also message attachments, are encrypted using public-key encryption algorithms that comply with DoD standards.

"We were very happy to be able to provide this flexibility to staff members on the move while extending the security of the desktop," relates Nowak, adding that the S/MIME version of the BlackBerry was introduced in September 2002 and that it has been a runaway success since then.

> "People are always aware of the current situation because the secure messaging service allows them to share information that is sensitive"

Within the Department of Defense, the BlackBerry is used as a conventional but secure email client on a Microsoft Exchange-based system. Typically, messages are exchanged within workgroups or among ad hoc groups of users focused on a particular issue. Naturally, given the nature of the wireless messaging device, this has led to extensive interactive use.

The true push functionality that enables interactive and instant messaging was also a key feature for the NSA in its decision to purchase the S/MIME version of BlackBerry. Another key feature was the fact that Mobitex supports device-to-device communications, meaning that email is always delivered immediately, even if the server is unavailable. Because Mobitex allows users to be always available and always interactive, it creates what Nowak calls situational awareness.

FREEDOM TO SHARE

"People are always aware of the current situation because the secure messaging service allows them to share information that is sensitive but not classified as secret or top-secret," explains Nowak. "The S/MIME implementation is particularly important in this regard. Without the encryption that it provides the communication among a group of individuals would be like a mosaic from which an eavesdropper could get a pretty good picture of what's going on."

The ability to freely exchange sensitive information among trusted staff members and the situational awareness that it creates are highly desirable to military planners and strategists. Being able to interact with peers while maintaining a high level of security gives Defense Department staff members more freedom and allows them to work more efficiently.

"People have almost come to regard the Secure BlackBerry as a cell phone for email," observes Nowak. "It also creates considerable envy. When one person in a unit, perhaps a more senior officer, becomes a wireless user, everyone else wants a wireless handheld, too."

Deployment of the Secure BlackBerry has gone extremely smoothly. "There really have been no problems. It's an extremely reliable application," reports Nowak. "In fact, the only real problem we've had is what has been called the Crackberry effect. It's like a drug. Once people start using it, they won't give it up. ■

FACTORS INFLUENCING MOBITEX PERFORMANCE DURING CRISIS

- **Independence from general consumer traffic**
- **Connectionless nature of packet network**
- **Overlapping coverage**
- **Various telco connectivity options**
- **Flexible and rapid deployment options**

MANGO TANGO FRENZY

On October 18 at a gala event in Hong Kong, Telecom Digital Ltd. (TDL) officially launched Mango, the world's newest public Mobitex network and wireless data service.

As the movie produced for the launch opens, the beating of the drums is fast and insistent and animated figures come alive, seeming to imbue the city with new life. Slowly the figures morph into real-life users empowered with new wireless data communication services for email, WAP and instant messaging, as well as applications for banking and finance, transport, logistics, emergency and security services and public safety.

"Mango is an exciting new service based on a platform for unified communications developed by our subsidiary Silicon Creation and a wireless PDA that we have branded as Tango. The Mango Tango is immediately available through Telecom Digital's retail outlets throughout Hong Kong where the film produced for the launch will be running continuously. Our customers will enjoy instant communication, total reliability and maximum efficiency from the start," says Alex Cheung, managing director at Telecom Digital.

"The Mango launch was an event unlike anything seen so far in the Mobitex community. Telecom Digital is targeting a new generation of highly mobile users who will undoubtedly find the unified communications platform and the interactive lifestyle that it enables irresistible. The new operator also has a broad customer base with many corporate accounts for which the new service and the powerful applications that it supports will be very attractive. I can't imagine a better start and wish Telecom Digital success," says Iris Ödman, director after sales at Mobitex, Ericsson.

"Mango is an exciting new service based on a platform for unified communications."

DAZZLING OFFERING

Telecom Digital is extremely well positioned to jump-start its new network and quickly load it with subscribers. The operator has been offering paging services for more than 30 years and is currently Hong Kong's largest paging operator with 160,000 subscribers. It also began offering mobile telephone service as virtual network operator five years ago and now has more than 150, 000 subscribers and 6,000 corporate accounts. The company has 30 retail outlets throughout Hong Kong and a broad distribution network.

As configured for Mango, the Tango PDA, which is manufactured by CNI in Korea, offers English and Chinese email and messaging, WAP browsing, instant messaging and ICQ, SMS, messaging to fax, and a mobile secretarial service via Telecom Digital's call center. In addition to PIM applications such as Address, Calendar, Memo and Calculator, the Mango Tango features several games, an electronic book application and support for both English and Chinese interfaces.

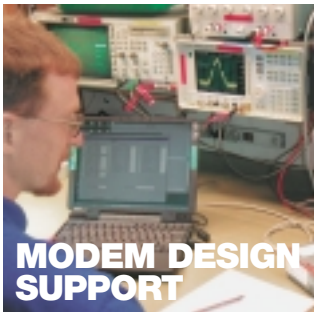
The dazzling array of Mango services and applications will undoubtedly have immediate appeal, not only among young and mobile consumers, but among Telecom Digital's corporate customers and other mobile professionals, as well. The new Mobitex operator is also welcoming all application and solution providers to become partners and is targeting a number of vertical markets. The initial focus will be on workforce management, fleet management, telemetry, security and POS applications.

LIKELY TO START A FRENZY

Telecom Digital has ambitious plans for its new Mobitex service, which include launching a wireless PDA of its own design with a built-in pager and further enhancements of its unified communications platform. With a service priced at USD 25 for unlimited usage and a slick marketing campaign rooted in 30 years of experience as a retailer of wireless services, Telecom Digital may well find that the Mango Tango starts a frenzy and that subscribers will be coming online. ■

MOBILE MARKET NEWS

PROGRAM FOR MODEM AND TERMINAL VALIDATION



In addition to the new service for MIS compliance testing, Ericsson continues to offer modem design support. This is a completely separate unit with its own lab that can assist designers at all stages of product development. By definition, MIS compliance entails testing a product that is in volume production, while the modem design support team is involved at an early stage.

"We like to get involved while the product is still on the drawing board," says Reinhold Reul, project manager for modem design support at Mobitex, Ericsson. "Naturally, we are happy to assist customers at any stage, but letting us conduct a design review before development work starts in earnest is most efficient in reducing cost and time to market. Getting it right from the start is always the best strategy."

The modem design support unit can evaluate designs at all stages of development and perform measurements and testing all the way up to the prototype and pre-production stages. All of this work is naturally performed with strict confidentiality and under non-disclosure agreements as required by the modem developer. ■

For more information about the program contact: karl-johan.sjoborg@erv.ericsson.se

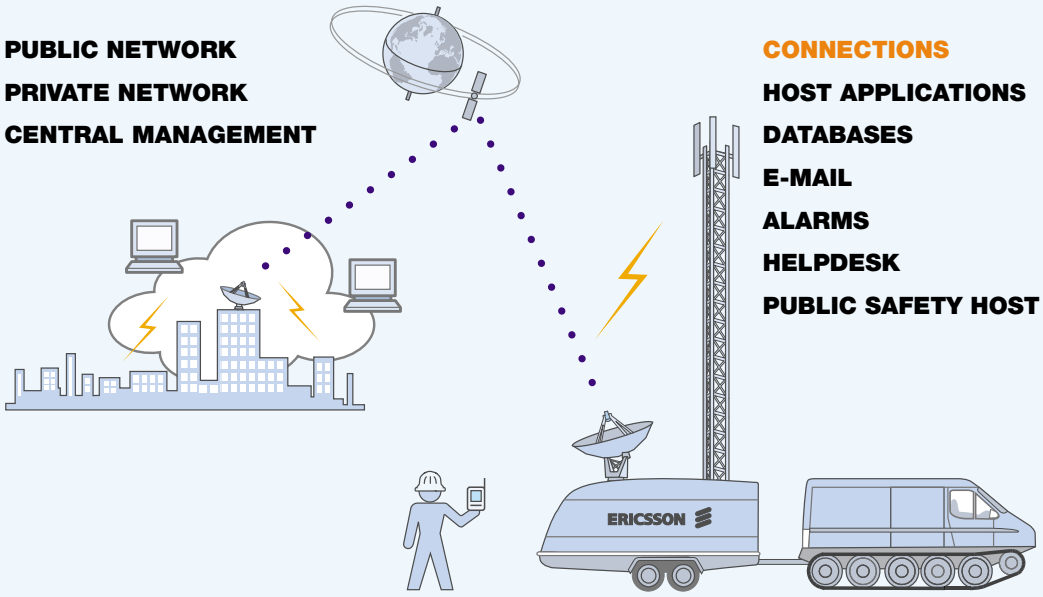
Devices designed to operate on a Mobitex network must comply with MIS, the Mobitex Interface Specification administered by the Mobitex Operators Association. Although only a few relatively simple protocols and interfaces are used in the Mobitex system, to validate that radio modems and other Mobitex terminal products comply with a detailed technical specification consisting of hundreds of pages of documentation can be a daunting task. Compounding the complexity of this task, it was previously necessary to verify compliance on each network on which the product was designed to operate.

Following extensive work in MOA's Technical Guidance Council, a uniform procedure for validation testing of the most critical functions in the MIS. To further simplify the process, MOA recently appointed Ericsson to carry out the new standardized testing procedure. Ericsson has now established a new service offering to test MIS compliance of mobiles and terminals. Manufacturers can then present the results to Mobitex operators, who can use them to streamline their individual testing procedures and shorten the product's time to market.

"Ericsson is committed to providing this service and providing results within two weeks from the start of the validation process. A dedicated lab has been built for the service to guarantee the quality of the test results and the promised deadline for delivery of results," says Folke Bergqvist, head of technology at Mobitex, Ericsson.

The program for modem and terminal certification will encompass all major aspects of MIS-compliance testing. Mobitex functionality evaluated during verification includes ESN and MSN formats, correct handling and formatting of frames and MASC commands, handling of roaming parameters and traffic handling during roaming, system parameters stored during power on/off, battery-saving protocol, traffic handling during signal strength and temperature variation, the device interface on the serial port, radio performance, MARE handling, FBI and Live/Die functionality. ■

CONCEPT FOR: TEMPORARY WIRELESS COMMUNICATIONS



Cell-on-Wheels units have become indispensable for emergency communications and disaster relief and are often called into service for road shows and exhibitions. The basic concept is simple. Put everything needed for a complete cell site into a trailer, and communications can be provided in virtually any location on short notice.

The Mobitex Cell-on-Wheels provides temporary wireless data communications in emergencies and contains a complete system in a fully mobile unit. Consisting of a compact BRU3 base station for 400, 800 or 900 MHz, a diesel-fueled generator, a battery back-up, telescope antennas and a satellite link (VSAT or others available), the Mobitex Cell-on-Wheels is ready to be put into service, whether the emergency is a fire, an earthquake, flooding or a medical crisis.

The Mobitex Cell-on-Wheels can function either autonomously with its own identity or be connected to an existing Mobitex network. In that case, satellite connection is possible. Designed for worldwide operation, the Mobitex Cell-on-Wheels is ideal for strengthening coverage and capacity for reliable emergency communication, temporary coverage at events or in remote areas for tactical networks.

"A Mobitex Cell-on-Wheels provides temporary wireless communications in places not normally covered or extended coverage at peak or emergency times. The system requires minimal setup time, and the transportation cost is low." says Tomas Lundkvist, sales director at Mobitex, Ericsson. ■

NEW WEB SITE

With the publication of this issue of Mobile Data News on the Mobitex website, the site will be re-launched with a brand-new design and even more content. In addition to the wealth of information on Mobitex products and solutions and the product brochures and technical presentations that you are used to finding on the Mobitex website, there will be new sections for professional users with references to current projects and solutions. ■

UPCOMING MOA MEETING IN LONDON 15-17 SEPT.

CASIO SCOUT RUGGED PDA SPORTS BACK PACK

TouchStar Pacific recently announced the availability of its new Mobitex BackPack product, which is designed to fully integrate the Casio Scout EG-800 ruggedized PDA. The newest addition to TouchStar's range of wireless communications products, the Mobitex BackPack employs a durable and rugged design, enabling it to cope with the stresses of use in field environments. Combined with the Casio Scout 800, it supports most field force data transfer operations requiring efficient and cost-effective end-to-end data transfer.

The rugged Casio Scout 800 is shock-resistant and splash proof and will operate with the TouchStar Mobitex BackPack for an entire day without charging. It runs the Microsoft Pocket PC operating system and comes complete with email, calendar and address book functions, as well as the standard Windows CE 3.0 applications. The TocuhStar Mobitex BackPack has been approved for use in Australia, Europe and the US, meaning that it will be available in 400 and 900 MHz versions with an 800 MHz version expected at a later date.

With more than 20 years experience in the design, development and implementation of ruggedized mobile computer solutions, TouchStar is a global company active in solutions for energy distribution, mine site and fuel management, van and route trade, sales, merchandising and service sectors. The TouchStar Mobitex BackPack will be distributed both directly to end customers and through TouchStar's recognized business partners. TouchStar has offices in Australia, the US and the UK and regional centers in continental Europe, New Zealand and South Africa. ■

COMPLETE AMR SOLUTION WITH NEW MOBIX MODEM

Mobix Wireless AMR is a complete automatic meter reading solution incorporating the Israeli company's new MBX9 OEM modem. The Mobix Wireless AMR solution is based on a concentrator device that collects data from multiple meters and transmits it over the Mobitex network to the Mobix Management Server, which is installed in the utility's central office.

Mobix Wireless Solutions Ltd. specializes in applications for telemetry, vending, parking and other systems involving wireless machine-to-machine communications and has extensive experience of AMR projects. In 1999, when Schlumberger and Swedish Mobitex operator Mowic developed an AMR system for Birka Energy (formerly Stockholm Energi), Mobix Wireless Solutions provided the Mobitex software for both the meters and the central host. Since then, this system has grown to include more than 8,000 concentration points in houses and commercial properties around the city.

The MBX9 OEM modem is a completely new product that is now being launched for 900 and 800 MHz Mobitex networks.

BASED ON NEW MODEM

The MBX9 OEM modem on which the Mobix Wireless AMR solution is based is a completely new device developed for 900 and 800 MHz Mobitex networks. The OEM modem is offered in two form factors, a Regular model measuring 52×72×7 mm and a Small model measuring just 35×35×9 mm. This ultra-compact size, together with light weigh and minimal power requirements, make the MBX9 ideal for such applications as AMR, vending machines and POS (Point of Sale) terminals. While the MBX9 is a core component in the Mobix Wireless AMR solution, it will also be made available to OEM customers.

"We are specialists in embedded applications and have developed a detailed ROI (Return on Investment) model for utilities and distributors. Mobix is planning to market the MBX9 at a very competitive price to systems integrators and manufacturers and to explore operator channels in various markets," says Mobix CEO Shai Hemli. ■

WALKABOUT COMPUTERS INTRODUCES HAMMERHEAD XRT RUGGED TABLET PC

WalkAbout Computers has been providing durable, mobile computing solutions to the utility, telecommunications, transportation, warehousing and public safety market sectors since 1989. The company is a leading designer and manufacturer of highly rugged pen tablets for workers in demanding environments. The Hammerhead 3 has been tested and approved for use on Mobitex Networks.

The Hammerhead 3 is milled from aircraft grade aluminium and is fully sealed (vacuum tested), moisture and dust proof. It is rugged enough to handle shock, vibration, weather, dirt, humidity, liquid spills and damaging chemicals

The unit delivers the performance of a laptop with the mobility found only in a tablet, hosts an array of communications options and wireless connectivity which means that users are never out of touch. It comes with the powerful Intel Pentium III 400 MHz Processor and MS Windows 98 Operating System (Windows 2000 available).

INTRODUCING THE XRT

Walkabout's newest edition is the Hammerhead XRT, which will also run over Mobitex 900MHz and 400MHz networks with an integrated RIM or CNI modem. In support of Microsoft's Tablet PC initiative, Walkabout's Hammerhead XRT Tablet PC will run the Microsoft Windows XP Tablet PC Edition, enabling users to run full Windows-based applications.

With its lightweight design, built-in wireless connectivity, onscreen keyboard and hot-docking support, the Hammerhead XRT brings the power of the Tablet PC into places where other computers do not dare to go. It performs flawlessly in freezing temperatures, pouring rain and other demanding situations – whether it's behind a desk, on the road or out in the field.

The Hammerhead XRT features fully sealed, vacuum-tested rugged aluminium housing, 256/512 MB RAM, 20/40 GB hard drive, legacy dock compatibility and dual hot-swappable batteries for seamless operations and improved productivity. ■

FIRST MENTOR INSTALLATION IN UK

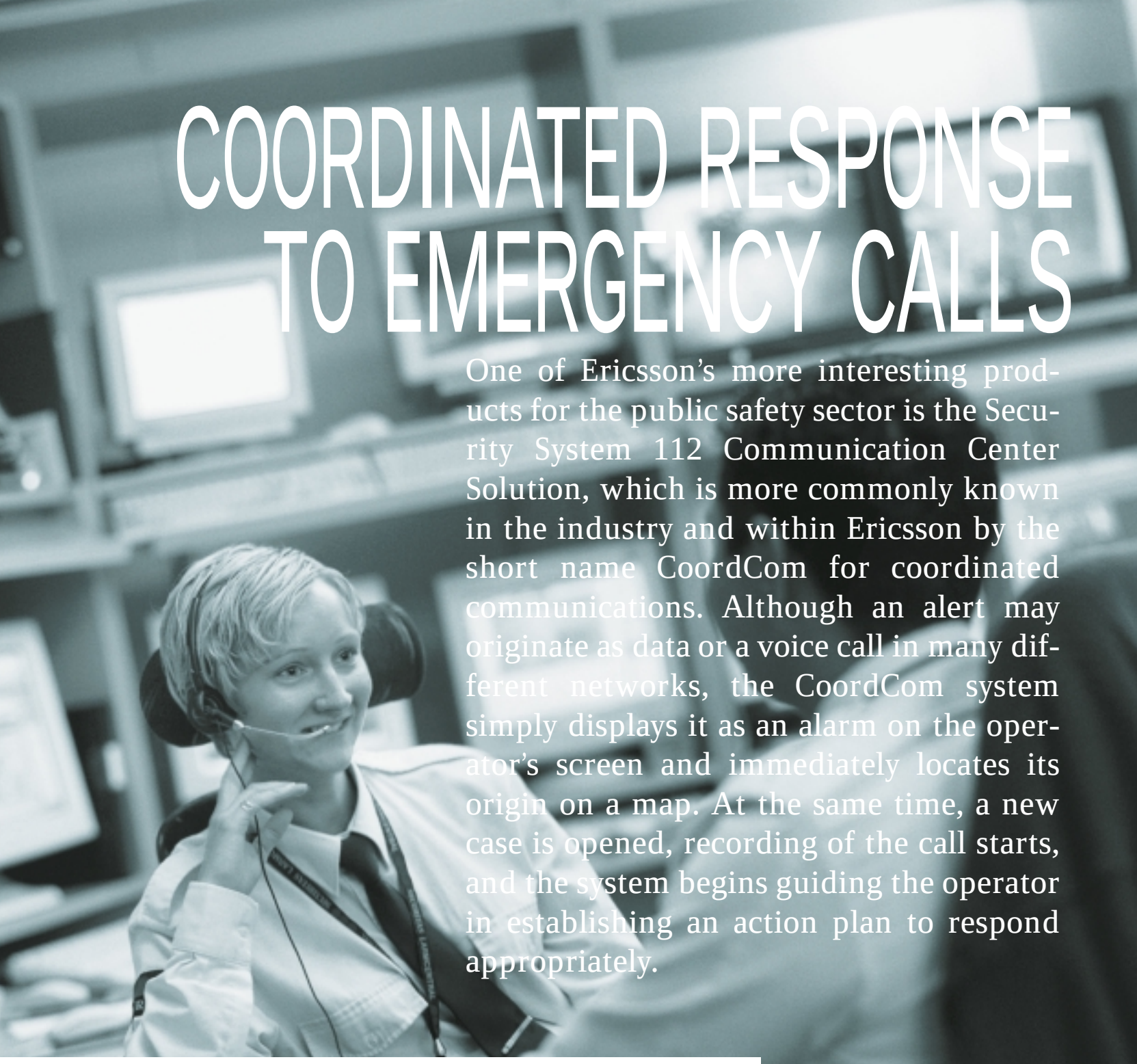
Treble Twenty Cars and Courier, based in Brentwood, Essex, is equipping its fleet of 50 cars with Mentor's mobile data computers and has selected Transcomm's Mobitex network as the communications link. This is Canadian company Mentor's first UK installation to take advantage of Transcomm's Mobitex network.

Treble Twenty is replacing its old mobile data system with fully integrated mobile data computers featuring internal GPS, a taximeter, credit-card authorization and a Maxon Mobitex modem. This is the first private-hire installation in the UK to incorporate all of these functions in a single in-vehicle devices.

Treble Twenty chose Mentor's preferred software partner, Cantect International, to supply and implement the host dispatch, scheduling, mapping and payment application for the back-office system.

"The Treble Twenty system is unique in the UK and will serve as a showcase for Transcomm, Mentor and Cantech in the private hire and taxi industry," says Tamara Porter, Mentor business development manager for the UK and Europe. ■

COORDINATED RESPONSE TO EMERGENCY CALLS



One of Ericsson's more interesting products for the public safety sector is the Security System 112 Communication Center Solution, which is more commonly known in the industry and within Ericsson by the short name CoordCom for coordinated communications. Although an alert may originate as data or a voice call in many different networks, the CoordCom system simply displays it as an alarm on the operator's screen and immediately locates its origin on a map. At the same time, a new case is opened, recording of the call starts, and the system begins guiding the operator in establishing an action plan to respond appropriately.

To provide another perspective on communications in government, public safety and civil defense, Mobile Data Magazine talked to Robert Borgström, president of Ericsson Security Systems AB, which is now preparing to launch CoordCom 5.0.

What is CoordCom?

The new CoordCom G5 now being readied for release is a state-of-the-art system solution for emergency call centers based on more than 20 years of experience and incorporating the latest technology.

Where is CoordCom used?

The primary application is call taking and dispatching for public service answering points. These are typically centers for handling emergency calls to the 112 number used in Europe or 911 in North America. In most cases, however, several other types of alarms and alerts are also fed into the system, such as alarm buttons for disabled persons living in service buildings.

Are customers primarily public authorities or are there private applications, as well?

We address both the public and the private safety markets, although the public sector is naturally the largest. The private sector is also relatively fragmented, but this is changing with the emergence of large security companies that provide security services for thousands of private customers over a large area.

Our primary business is the development of complex communications and information systems for applications where 24-hour accessibility and reliability are absolutely essential. The CoordCom products have a well-deserved reputation as state-of-the-art systems for communication centers.

Could you describe the CoordCom architecture? What are the key components?

CoordCom is a client/server system based on an open architecture with standard hardware that fully leverages the latest Microsoft .NET platform. The solution is based on an IP network for both voice and data communication with a distributed SQL database. At the core, there is an IP-based software switch that handles switching for all types of communications and integrates radio, telephony, wireless data and several other sources of alarms. Above the switch, there are modules for Telephony, IVR (Interactive Voice Response) and ACD (Automatic Call Distribution). Above this, there are various database managers at the service layer, as well as an application layer and an agent interaction layer that provides the interface for the operator.

How does the operator see the system?

Great effort has been devoted to employing the latest interface design techniques and to create a workstation that adheres to the EPSS (Electronic Personal Support System) standard. The Call Taker provides a very intuitive interface and guides the operator at all times. An efficient 112 Communication System Solution must support the operator in a stressful work situation and provide tools that guide the operator in the interview process.

There is a methodology built into the system that supports the operator at each step, once a call has been identified as a true emergency. The system proposes measures and structures the interview process. Behind the scenes, the system is also controlling the flow of the case management process so that nothing is left to chance, and all available information is at the operator's disposal. In many cases, the CoordCom system functions so that the fire department, for example, is on its way to the scene before the interview is completed.

To assist operators and reduce costs in introducing a new system, CoordCom also includes a training manager. This simplifies planning of education because trainees can take the initiative. Real cases are recoded and can be used in lessons in which a real emergency situation is simulated.

Do systems need to be configured differently to meet different national regulations?

Generally they do not need to be configured to specific regulations, but rather to customer requirements. Emergency services work in much the same manner throughout the world, and there are few requirements that are not based on experience and practical considerations. In fact, here in Europe, for example, the only real requirement that the EU places on member countries with respect to emergency call centers is that there must be a single 112 number used throughout Europe.

Are all emergency services coordinated through the same communications center?

That would be the ideal case. While police, fire and ambulance services are all normally connected to the system, there are strong forces in many countries protecting department or territorial interests. Police authorities tend to operate their own communications systems. How well regional authorities cooperate in establishing coordinated communication centers also varies.

In Europe, Finland, Spain and Rumania take a somewhat different approach and lead the way in coordinating public safety services. In Spain, for example, the Guardia Civil has been a driving force in implementing a coordinated and comprehensive communications system.

> "Behind the scenes, the system is also controlling the flow of the case management process."

What are the major markets for CoordCom?

Our major markets are Europe and North America. The US market has been the largest, but growth is strong in Europe. We have high hopes for the new EU member states and have noted considerable interest in those countries. There are signs that the new EU members will be more ambitious in their efforts to adapt to the rest of Europe and that they will be able to make a fresh start in establishing state-of-the-art emergency communications centers.

How has heightened public awareness of security affected Ericsson Security Systems?

Interest is greater in all markets and in both the public and private security sectors. There is a great emphasis on civil defense and coordination in all aspects of government activities. This is naturally most evident in the US, but the EU is not far behind. Demand for new products and functions is increasing, and our company can take advantage of many synergy effects with defense units within Ericsson. ■

Where is Wanda?

Equipping my car with a wireless tracking device seemed relatively harmless at the time. I really didn't believe that anyone was going to steal an ageing car that was starting to rust, but I didn't see any point in offending the client who had offered to let me try it out. While I'm not sure that it provided the significant enhancement of my personal security that my client had promised, it didn't cause me any trouble, either. In fact, I doubt that it would ever have caused me any trouble, if only I had remembered it when I traded in my car.

"Wanda! What on earth are you doing in Miami?" demanded my mother, barking into my cell phone the moment I pushed the key to answer. My sense of unreality was not lessened by the sight of the blue Pacific outside the hotel room window. I was supposed to be in New York on an assignment, not meeting an old friend in California to go to a music festival to see a group that my mother had hated when I was in high school.

"Mother! I am not in Miami. I am in New York on an assignment!" I said, trying to sound as convincing as possible. My assignment in New York would begin on Monday. In the meantime, I was using some frequent flier miles for a weekend escape to California. Suddenly, I felt as foolish and as guilty as I had in high school, when trying to convince my mother that we had been at my girl friend's all evening and definitely not out with any boys.

"Are you lying to me, Wanda? I know that's where you supposed to be, but how can you be in New York when your car is in Miami?" asked my mother in the suspicious tone of voice that always made me uneasy. Although I still did not feel comfortable about lying to my mother, the reference to my car had at least made me realize what had gone wrong. After the wireless tracking device had been installed in my car, my enterprising but sometimes overly ambitious nephew David had created an application that matched the movements of my car against my calendar and posted regular updates about my activities to my mother. Again, it had seemed relatively harmless at the time, since it did cut down on the number of calls that she made to ask where I was and what I was doing.

Unfortunately, figuring out what had gone wrong was the easy part. Putting it straight was a little more difficult. A phone call to the car dealer to find out who had bought my car so that I could contact the person and disable the tracking device revealed that my car had been stolen from the dealer's lot.

"How can you know where the car is if you don't know who stole it? If you know where it is, you must be in on this," said the car dealer, asking a perfectly reasonable question and drawing what he obviously regarded as a logical conclusion. I was about to start explaining the situation, but quickly realized that it would be futile.

"I'll get back to you," I said, hanging up the phone and turning to my friend, who had worked in law enforcement before starting his own business as a security consultant. I quickly brought up a map on my laptop on which I could follow the movements of my old car, while my friend began making phone calls. Apparently he still had some powerful connections because he was soon patched through on my cell phone to officers in a patrol car just blocks away from the stolen car.

Watching the movements of my old car on the laptop screen and listening to my friend talking to the police officers in hot pursuit soon had my adrenaline flowing. Not only were the Miami police about to apprehend a car thief while we directed them from a hotel room in California. The thief was leading them directly to a major drug dealer. As always when I solved a problem and achieved success, I felt an urge to phone my mother. Because my friend was still using my cell phone, I reached for the hotel phone. Just as I heard the click signifying that a connection had been established, I realized my mistake. My mother naturally had caller ID, and she was now seeing a California area code as she picked up the phone.