

# Wireless & Mobility



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## Introduction

This section goes to prove that yet again, as we did with wired technology, Ericsson means business in the wireless and mobility arena. Because in everything we do, and in everywhere we are, it is business that profits from our steadfast quality and reliability. Without doubt, wireless and mobility communications based on IP constitute the nucleus of our third-generation systems.

## Wireless and Mobility

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## Wireless and Mobility

### MD110 Mobility

*The MD110 is the world's first PBX with a fully scalable integrated DECT Business Cordless System. It supports both physical and functional integration of DECT in a fully modular and distributed system that is able to serve up to 20,000 cordless users with integrated roaming and seamless handover. Together with the Business Cordless Telephone system, the MD110 is the market's most advanced cordless PBX capable of providing flexible and extensible mobility support.*



#### Most Important Features

*Up to 20,000 users are able to be supported across multiple locations on a single system.*

*It features integrated functions for easily managing cordless extensions.*

*The system is capable of supporting up to 640 cordless extensions and 120 base stations per LIM.*

*Digital DECT standard delivers superior voice quality.*

*The system supports Personal Number with flexible user profiles. Personal Number and advanced computer-telephony applications can also be extended to mobile users.*

*Business Cordless telephones support all the features that users have come to expect from wired desk phones.*



#### Main Benefits

- The integrated mobility support in the MD110 PBX system lets people work productively with phone in hand, making and taking calls while moving about the workplace – even if it spans several buildings or locations.
- Employees avoid wasting time and money chasing missed calls and are in full control of their communi-

cations, available and ready to communicate with others wherever the job takes them.

- Employees can provide better service to customers by being able to respond directly.
- Mobility is an essential element in effective business communications. The integrated mobility features offered with the new MD110 meet this challenge by delivering cordless telephony with the highest quality on-site coverage available.
- As a result of staff members being able to be reached anywhere, more calls get through the first time and fewer calls need to be returned. This alone can cut phone bills by up to 30 percent.



## BusinessPhone Mobility

*BusinessPhone Cordless is a cost-effective, integrated cordless communications solution for small and medium-sized companies. It is based on Ericsson's proven DECT system, and brings personal mobility to staff who do not work from a fixed location, work away from their desk, or must be contactable at all times.*

*BusinessPhone Mobility meets the needs of next-generation flexible offices, where hot-desking and part-time hours are often the rule, rather than the exception.*

### Most Important Features

*By conforming to the DECT Generic Access Protocol (GAP) air interface standard, BusinessPhone Cordless allows the same cordless phones to be used with other GAP-compliant systems – at home or in the office.*

*The DECT GAP standard also enables BusinessPhone Cordless to provide advanced network services like Calling Line Identity Presentation (CLIP), Connected Line Identity Presentation (COLP) and Redirected Line Identity Presentation (RLIP).*

*DECT-based digital radio communication with encryption has the added advantage of fixed-line quality and ensures a high level of call security.*

*BusinessPhone Cordless supports dual-mode GSM/DECT phones, so that users outside the DECT coverage can continue to use the same handset as a mobile phone in the GSM network, with calls automatically diverted to the external GSM number.*

*The BusinessPhone Cordless solution consists of portable handsets, Radio Base Stations, and control and switching units located in the BusinessPhone central system cabinets. It supports up to 210 portable handset extensions and up to 60 radio base stations.*

*BusinessPhone systems come with mobility-enhancing features built in. Incoming calls can be forwarded either to an external phone number or to another extension. The status of the extension line is displayed on the*

cordless phone, so the user is always aware of the diversion or information activated. Users that have a desktop phone and a cordless phone can have them operating in tandem with the same extension number. You can pick up calls and make outgoing calls using either phone.

Cordless users who use the integrated voice mail unit are made aware of the arrival of new messages on their cordless phone. And they can use their cordless phone to record a short voice message even when they are not at their desk, using the dictaphone function.

*BusinessPhone offers ISDN capabilities.* So videoconferencing and real-time application and information sharing between the office and a remote location can become a reality.

*Access to BusinessPhone's advanced communications facilities* does not stop when the user is off-site. Facilities like password-protected Direct Inward System Access (DISA) enables users to dial into the office phone system and use it as if they are sitting at a desk – and calls are charged to the organization.

*Rugged cordless phones provide workers in demanding environments with a real-time communication solution.* Ranging from warehouses to chemical plants, workers are provided with a range of shock-, dust-, soil- and waterproof phones that can fulfill their needs. An intrinsically safe phone is available for working conditions where risk of explosions exists.

Cordless messaging applications enhance the use of BusinessPhone cordless and directly benefit your business process. For instance, it is possible to alert service staff to a broken-down machine, or medical personnel to a patient who needs help. People working alone on company premises are better protected when using the personal security application.

## Main Benefits

- BusinessPhone Mobility makes it easier for callers to contact staff and thereby enhances customer services and reduces the time and money spent on returned calls.
- You can add BusinessPhone Cordless to your system, and expand it – up to 210 cordless extensions – at any time. Cordless extensions integrate completely into the BusinessPhone system, both physically and functionally.
- Cordless extensions avoid many of the problems and costs associated with moves and changes.
- BusinessPhone Cordless meets the international DECT standard. This provides users with high voice quality and seamless handover, together with the added advantage of high call security.
- BusinessPhone portable handsets are designed to be easy to use and fit conveniently into a pocket. In fact these cordless phones are among the smallest on the market.
- The BusinessPhone cordless messaging applications and rugged cordless phones provide an excellent solution for industrial, hospital and warehouse use.

## Radio Access Technology

**Digital Enhanced Cordless Telecommunications (DECT) is a radio access technology that can be connected to any telecommunications system.**

*The DECT standard describes the radio interface between the fixed and portable parts of a telecommunication system.*

It can be used for single-cell systems like for example, home cordless phones, as well as for multi-cell systems like business cordless systems.

The DECT standard is based on multi-carrier TDMA technology. This is the same technology used in the main digital cellular standards, but the central difference is that cellular systems were developed for wide-area coverage, whereas the DECT standard was optimized for local coverage, with high densities of users.

**Generic Access Profile (GAP) is the most important of all access profiles.**

*It assures the basic interoperability of cordless phones and fixed parts (radio exchange and base stations) from different vendors and between DECT application areas.*

GAP specifies the minimum functionality that is required in order to support basic telephony services.

There is no mandatory requirement for installed base DECT systems to be upgraded to GAP, and it is not expected that such a requirement will come in the future.



## DCT1800-GAP R2.0

The DCT1800-GAP R2.0 is a cordless telephone system that integrates smoothly with the existing PBX. It employs future-proof technology and it can be easily expanded to grow with the customer's needs.

Each DCT1800-GAP R2.0 system has a capacity for up to 600 users and 120 base stations, which makes it suitable for medium to large operations.

It supports short messaging functionality, which means that priority messages can get through even when people are busy with a call. The same message can quickly be sent to a group of people. Integrated voice and short messaging allows staff to move around with one handset. This saves money and adds flexibility to the customer's business communication.

The system supports a full range of cordless phones including Ericsson's TH688 GSM/DECT Dual Mode Phones, which enables users to be reached even when they are not on the premises.

The DCT1800-GAP R2.0 is based on the DECT/GAP standard. That means whatever improvements we make in the future, the products we sell today will keep pace with tomorrow's technology. And the system's modular architecture means that solutions can be added as needs change.

### Main Benefits

- Integrated voice and short messaging allows staff to move around with one handset. This saves money and adds flexibility to your business communications.
- The DCT1800-GAP R2.0 employs future-proof technology and can be easily expanded to grow with evolving needs.
- Providing staff mobility and reachability will boost efficiency. People can be reached anywhere across the site, and even outside it. So customers will be able to always contact them directly with urgent questions and colleagues can get hold of them for important consultation.
- The DCT1800-GAP R2.0 will protect the customer's initial investment by way of complementing your wire-line system.

## DCT1800-S

The DCT1800-S is the cordless system specifically designed for small to medium-sized businesses.

The DCT1800-S is designed for easy installation, eliminating the need for highly-trained engineers, and it is easy to configure with a Windows-based system manager.

Depending on the size of your workforce and site configuration, you can choose up to 8 base stations and 40 lines.

The DCT1800-S will allow you to benefit from high-quality cordless voice communication at an affordable price.

The DCT1800-S will maintain the value of your previous investment in telecommunications because it smoothly adds on to your existing PBX.

The DCT1800-S is based on DECT-GAP standard, which ensures that it will keep pace with technological changes.

### Main Benefits

- The DCT1800-S extends your capability by keeping staff always in reach and productive.
- By integrating the DCT1800-S into your telecommunications infrastructure, you ensure that your people can be reached at all times, even when they are on the move.
- Customers can call your staff directly with urgent questions, and colleagues can get hold of them quickly. You end up saving on lost calls and missed business opportunities.



## BS330 Base Stations

The BS330 is the DECT Base Station for the DCT1800 system. It provides high-quality DECT radio coverage and is optimized for indoor use. It is easy to install and to maintain. The BS330 is fully software-upgradable as well as GAP-compatible. Two software versions available – the A/B and GAP protocol. Internal antennas decrease the space needed for installation and enhance the durability of the base station. The BS330's radio performance is also greatly improved. The BS330 is capable of exhibiting directional preference, which means that coverage and capacity can be more precisely dimensioned.

### Main Benefits

- The new modern design of the BS330 makes it both lightweight and compact, enabling it to be easily mounted in almost any location. It comes with mounting clip for mounting on walls, ceiling, poles etc.
- The BS330 features reduced power consumption, increasing the maximum distance between the Base Station and the central equipment with central powering. This reduces the additional costs for main adapters and the installation of main outlets.

## Business Cordless Telephones

see Section 8: Telephones & Terminals

## Wireless Local Area Network (LAN)

*Wireless LAN provides transparent mobility, security and performance to business professionals who want to access their company networks while on the move. These professionals are allowed to work in new ways and different environments, all without breaking a connection or worrying about cables, plugs or network settings.*



*The Wireless LAN family is a complete line of plug-and-play Ethernet products.*

### Most Important Features

*WLAN features a log on process with authentication and encryption.*

*It is a plug-and-play application that needs no specific adaptation and is easy to install.*

*A unique feature is the possibility to have a hand-over and maintain the encrypted session.*

### Main Benefits

- Wireless LAN steps up mobility within and outside the office. It feels and performs just like a wired LAN, whilst providing access to the company network from public locations.
- Wireless LAN also provides easy and fast BroadBand Datacom access to your company's Internet and intranet from public Hot Spots like airports, hotels, conference centers.
- This fast and easy access to company resources, regardless of where you are, will help heighten performance and sharpen a company's competitive edge.
- It also provides flexibility at the workplace, with the freedom to move around and still be connected. It even makes moving office an effortless, less time-consuming process.
- Strong end-to-end security with encryption process and authentication is available, making it that much safer to work anytime, anywhere.

- With wireless LAN technology, the access rate for users is increased significantly compared to dial-up access via PSTN or ISDN. A user may get up to about 3 Mbit/s of bandwidth.
- Wireless LAN is a plug-and-play application that needs no specific adaptation.
- The application is scalable and is built to cover any area and any number of users, whilst maintaining low power dissipation.
- Wireless LAN enables office moves to be effortless. It also enables offices to keep up with the fast evolution path of Broadband Datacom products.



## WLAN Access Point A11

WLAN Access Point A11 is the mobile computer user's access point to a wired Ethernet backbone. It is the device that actually makes the connection with an existing company LAN and creates a plug-and-play Ethernet system in your office. This in turn enables a truly flexible work environment. The Access Point A11 works in a unique security solution together with the WLAN Guard.

### Most Important Features

- Access Point A11 has a wide coverage area that extends up to 300 meters in an open space and can handle up to 11 Mbps in the air.
- Access Point A3 is fully IEEE 802.11b compliant.

### Main Benefits

- The Access Point A3 is a compact unit that can be easily installed on a ceiling or wall.
- No operational licenses are needed as the Access Point A3 uses the unlicensed 2.4 GHz ISM band.
- The Access Point A3 is extremely robust and able to coexist with other wireless networks. It is also able to provide reliable interference avoidance.

## WLAN Guards

The WLAN Guard is the security link in a wireless network. It safeguards the mobile computer user's communication over wireless networks and ensures that no unauthorized users enter the LAN through the wireless access point.

In other words, the Guard is the watchdog located between the Wireless LAN and the LAN. This peace-of-mind that this level of security provides allows a truly flexible work environment, free from the worry of unauthorized network access or eavesdropping. The WLAN Guard works in a unique security solution together with the Access Point A11 and the Card C11.

### Most Important Features

The WLAN Guard security solution employs the well known IKE and IPSec protocols.

The WLAN Guard also uses pre-shared keys for user authentication and the Diffie-Hellman algorithm for negotiating per-session user keys, ensuring the integrity of user data.

Encryption with 128-bit keys is presently supported, however, the permissible key size varies depending on local laws and export regulations.

The Guard control database retains records of all authorized users and their required keys.

### Main Benefits

- The security level that the WLAN Guard establishes is at least equal to that of working in your office with a wired network. This is significantly higher than that provided by the IEEE 802.11 standard's WEP (Wired Equivalent Privacy).
- The WLAN Guard provides a unique security solution that guarantees confidentiality over-the-air, as well as protects the wired LAN from intrusion.



## WLAN Card C11

The WLAN Card C11 is the adapter that actually transmits and receives information from a laptop, making the Ethernet connection with an existing company LAN possible.

In turn, this connection enables a truly flexible work environment. The Card C11 works in a unique security solution together with the WLAN Guard.

### Most Important Features

- The Card C11 works with a simple plug-and-play installation and is configured for Windows 95/98/2000 and NT 4.0.
- It can handle data rates of up to 11 Mbps in a wide coverage area.
- It uses the 2.4 GHz ISM band, which means that no operational licenses are needed.
- It's robust construction means that interference is limited.
- The Card C11 is fully IEEE 802.11 compliant.

### Main Benefits

- The Card C11 is a low profile, credit card sized adapter that easily fits into one of your mobile computer's standard PCMCIA type II card slots.
- The Card C11's low power consumption allows continuous use while maximizing your mobile computer's battery life.
- With the High Security function installed, the Card C11 ensures confidentiality and integrity for wireless data transfers from the wired network.

## WLAN Bias-T

WLAN Bias-T allows the connection of a single cable to the WLAN Access Point A11 that provides both the power supply and the connection to the Ethernet Backbone.

The system provides low voltage DC power to an Access Point A11 through the Ethernet cable infrastructure. This eliminates the need to install power outlets by each Access Point A11 module.

## WLAN Power Supply

The WLAN Power Supply is a switched universal system designed primarily for Access Point A11.

## WLAN Antennas

The WLAN Antennas extend the outdoor and indoor range of a wireless network. Therefore different office buildings can be connected through the use of an appropriate antenna. In this way the coverage area of the WLAN will be extended. This in turn enables a truly flexible work environment allowing users to move their laptops from building to building or from room to room.

### WLAN Omni-1 and Omni-3 Antennas

The Omni Antennas can be used for both indoors and outdoors and are easily mounted on a wall or ceiling. They are especially effective in large industrial or retail environments.

#### Omni-1 Antenna

- Connects to WLAN Access Point A11 w. BNC connector.
- Features antenna gain of 1 dBi.

#### Omni-3 Antenna

- Connects to WLAN Access Point A11 w. BNC connector.
- Features antenna gain of 3 dBi.



### WLAN Direct-4 Antenna

The Direct-4 Antenna can be used both indoors and outdoors and is easily mounted on any flat surface that faces the desired area of coverage, thus providing 75° coverage with a directional beam.

- Connects to WLAN Access Point A11 w. BNC connector.
- Features antenna gain of 4 dBi.

### WLAN Yagi-9 Antenna

The Yagi-9 Antenna is intended for outdoor use and is easily mounted on a wall or to a pole or mast with a U-bolt. It is ideal for outdoor, point-to-point links over longer distances.

- For point-to-point links.
- Connects to WLAN Access Point A11 w. BNC connector.

*Features antenna gain of 9 dBi.*

# EVO

*EVO is an enabler software providing better performance for mobile business professionals using standard office applications. It provides all regular office facilities, even when the EVO user is not at the office. EVO also enables large geographic coverage.*

*EVO is made for mobile business professionals who require fast, reliable and total secure access to corporate networks. The EVO user can access e-mail and enterprise information on the Intranet as well as on the Internet, irrespective of wireless or wireline networks.*

## Most Important Features

*Easy log-on, increased speed and improved security makes EVO a natural complement to traditional workplaces.*

*GPRS access. Easy log-on processes and security in combination with speed makes EVO a valuable complement to future GPRS access solutions.*

## Main Benefits

- EVO increase the possibilities to access the corporate network as if actually being at the office, from virtually anywhere.
- EVO makes it possible to view an e-mail header without downloading the actual e-mail. EVO also makes it possible to read e-mail without downloading attachments. Yet another advantage is the possibility of redirecting large attachments and files without downloading them first. E-mail notification, performed manually, automatically or via SMS to the mobile phone, eliminates the risk of missing any important messages.
- EVO is safe and easy to use which makes it easy to create highly secure wireless and wireline network access solutions. All data transmitted between the EVO user and the corporate network is automatically encrypted. EVO also matches the most stringent corporate security demands.

- EVO exploits advanced new technology to speed up the connection to the corporate network, e.g. by § data compression.
- EVO reduces the connection time when using wire less access. Furthermore, the transmission through the mobile network makes web browsing faster. The use of EVO within mobile networks increases personnel efficiency at the same time as considerable savings can be made on airtime costs.
- EVO works with a wide variety of software and platforms making it extremely easy to install, learn and use.

