

Communication Without the Cables

Beaufort House, a business centre housing up to 25 businesses and based in London's busy city, has recently installed an Ascotel ISDN telephone system with 18 DECT cordless handsets. DECT was a critical part of this telephone system installed carried out by one of Ascom's dealers, Actimax plc. Since installation, customer service and relationships have improved dramatically. Key members of staff are now readily contactable and can respond to customer queries promptly, thus facilitating an efficient communications process.



Digital enhanced cordless telecommunications

Mobile communication has revolutionised the way we do business today. More and more business people and private individuals use cordless technology to access their communication services. The future clearly points to maintaining this momentum by extending communications mobility to people within their working or home environments.

DECT, (Digitally Enhanced Cordless Telecommunications) is the key ingredient in the latest mobile communications development offering greater choice to business users in this arena. The DECT standard was conceived in the mid-1980s as a pan-European cordless phone standard, using new digital radio technology to deliver high speech quality, high security against eavesdropping and high immunity from radio interference. Hence, what began as a purely European initiative to develop a unified digital radio standard for cordless phones has attracted worldwide attention and is being applied to a wide range of telecommunications applications for the home and office. Since 1993, DECT has been a mandatory standard in the member countries of the European Union, with radio frequencies in the 1.88 – 1.9GHz bracket freed-up from DECT systems. Countries outside the EU have also adopted the DECT standard, making it the most widely-used digital standard for cordless communications.

Unlike the cordless phones you may have in your home and office, DECT is a digital wireless telephone technology that is expected to make cordless phones much more common in both businesses and homes in the future. Like another important wireless standard, GSM, DECT uses time division multiple access (TDMA) to transmit radio signals to phones. Whereas GSM is optimised for mobile travel over large areas, DECT is designed especially for a smaller area with a large number of users, such as in cities and corporate complexes. A user can have a telephone equipped for both GSM and DECT (this is known as a dual-mode phone) and they can operate seamlessly.



The applications

Since its inception, the scope of the DECT standard, finalised in 1992, has broadened beyond domestic cordless phones to include two additional application areas. The first was business cordless telephones (cordless PBX or wireless PBX) and the second was as a cordless access system for subscribers to public telecom networks. DECT is also deployed as a radio alternative to wired subscriber access in public fixed telecom networks, known as Wireless Local Loop (WLL) system where each subscriber is equipped with a DECT transceiver unit into which a standard telephone, fax machines and data modems can be plugged. A further development of this public network access concept is to equip subscribers with DECT digital cordless phones, to provide a limited degree of mobility in a local area. This solution is known as Cordless Terminal Mobility (CTM).



The benefits and the users

DECT-based systems for cordless business applications dominate the cordless PBX market. The update of DECT in the business communications sector has been so rapid because the high-quality, cordless access to the company PBX is something that delivers measurable business benefits. The standard meets the communications challenge in being able to provide measurable business benefits in the form of flexibility and spectrum efficiency, optimised to support the high densities of users found in office buildings.

The Ascotel DECT phone system was chosen because of its ability to support a high number of mobile users in office environments. Users can make and receive calls when in range of a radio base station. They can make and receive calls anywhere on site subject to being within range of the DECT base stations. Thanks to a seamless hand-over facility that is part of the standard, users can move between base stations during a call without being cut off.



“We see cordless communications as an essential business tool to deliver increased efficiency, productivity and customer service. Regardless of where members of staff are, incoming calls are routed to them on their cordless phones. By diverting all calls to the cordless system, all members of staff, and myself included, are contactable for 24 hours of each day. This not only improves our communications efficiency, but also significantly reduce our call costs by diminishing the need to return calls; hence the flow of information is speeded up. The cost of deploying a DECT business cordless communication system at Beaufort House is negligible in comparison to the benefits,” said Mr. Oke, premises manager Beaufort House.

Once a DECT cordless system is up and running, the use of cordless phones grows rapidly. This can be achieved at a minimum cost, because once the radio network infrastructure is in place to serve employees, extra cordless users can be added at minimal extra cost and the need to rewire or renumber extensions is obviated. Also, if the user moves to another office on the site, no changes to the cordless phone or radio network are required.



The future

By combining the strengths of DECT and GSM, another digital wireless interface that provides continuous wireless access for users who may be travelling large distances and at a high speed, users will benefit from a seamless service delivery both indoors and outdoors. The dual-mode phones that would allow this to happen have already been developed.

Part of the DECT standard describes how it can interact with the GSM standard so that users can be free to move with a telephone from the outdoors (and GSM signals) into an indoor environment (and a DECT system). It is expected that many GSM service providers may want to extend their service to support DECT signals inside buildings. A dual-mode phone would automatically search first for a DECT connection, then for a GSM connection if DECT was not available.

The Ascom Group is an internationally successful telecommunications, networking and service automation company with a turnover in excess of £1.3 billion. Ascom currently employs over 12,000 staff and operates in more than 40 countries worldwide.

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