dect
wireless technology

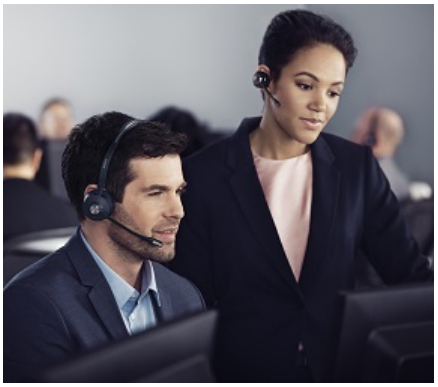
For Professional Applications

DECT today supports the most diverse range of professional use cases of any wireless technology. From high-quality corporate conferencing to professional intercom, from critical healthcare communication & monitoring to emergency support for the elderly and disabled, DECT for years has been the technology of choice, due to its unequalled quality and reliability. More than 135 million DECT devices are sold every year, with professional DECT representing the fastest growing segment.

Recent evolution in the technology has pushed the boundaries and further extended the already impressive range of use cases that DECT can support. With lower *fixed* latency, three-times higher user densities, and an impressive Quality of Service, more manufacturers and their customers are moving to DECT to meet critical local-area wireless audio and voice communication needs. Every year at the Integrated Systems Europe (ISE) and Infocom trade shows, the list of manufacturers exhibiting new DECT products grows, as does the market penetration.

In the future, and in the 5G-enabled world, DECT's professional applications will help 5G service providers solve one of the biggest and fastest-growing challenges facing the communications industry's quest for URLLC (ultra-reliable, low-latency communication): ***how to provide a wireless local-area solution for very high densities of extremely robust, high-quality, low-latency voice and low-medium data-rate communication.***

The original DECT technology was built for voice, but it has been evolving to meet the demands of its expanding market potential.



- **Very high densities of users:** In call centres, corporate conferencing, and enterprise communication, DECT is the technology of choice for wireless headsets, microphone systems, and handset/pagers, as no other technology can support such a high density of live users without drop-outs or interference. Recently, higher-level modulation support has tripled the already high density of users. User density with live, independent audio can reach one user per two square meters!

- **Robustness & Security:** Due to its highly regulated license-free band, available in more than 100 countries at around 1.9 GHz, DECT is the choice for intercom systems – many of which require very high levels of reliability for **secure & safety-critical** use cases. Also, DECT is unique in its ability to support complex hierarchies of call groups – essential for clear and precise intra-team and inter-team communication such as in PMSE (shown opposite), rescue, and oil and gas. DECT-enabled intercom types have a wide range of uses, but a common requirement unites them all **- the '*high-stakes*' communication where failure is not an option.**

- **High Audio Quality:** Since 2010, DECT has enabled networked conferencing microphone solutions providing 'Super-wide-band' audio (CD quality 50Hz–20kHz). Using DECT's built-in QoS features, these systems can avoid other in-band DECT interferers before any audio artefacts result, giving **a communication quality experience unparalleled by any other wireless technology.**

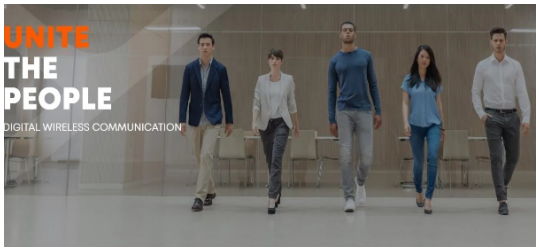
- **Low / Fixed Latency:** DECT provides a low-latency wireless audio streaming performance further enhanced by the consistency of its TDMA structure. This attribute is attractive to live voice and live audio streaming use cases, where end-to-end acoustic/RF latency has been driven down toward five milliseconds.

- **Total in-building/campus/outdoor range:** DECT's band at 1.9 GHz can provide 300m range Line Of Sight (LOS), while its multi-cell capability enables total campus coverage, regardless of size. Compared with frequencies of 5GHz and greater, which suffer from through-wall propagation losses, DECT provides the perfect balance of range and data rate, enabling comprehensive enterprise capability. Typical installations include; hospitals, TV and radio broadcasting studios, supermarkets & drive-thru outlets, manufacturing plants, power stations, R&D facilities, large commercial office buildings, conference centres, hotels, penitentiaries, schools and university campuses.

The future of DECT: It is often said by users that **"DECT is the next best thing to a wire."** In the next evolution, (**DECT-5G**), DECT will drive the above five primary user benefits even further. With the advent of DECT-5G, DECT's professional applications will become even more unique in their ability to collaborate and support **5G's URLLC** goals. The latest performance projections show that DECT will continue to be the technology of choice for its current wide range of users, and in addition, important new use cases will be enabled by DECT-5G's URLLC performance, combined with its proven unique high-density enterprise capabilities. These new use cases include:

- **PMSE** (Program Making and Special Events): By reducing acoustic/RF latency to 2-3 milliseconds for more than ten coexisting channels and keeping DECT's extremely high QoS performance, DECT is poised to deliver a viable supplement to UHF Band wireless microphones, where the available TV spectrum is gradually being reduced.

- **Industry 4.0 (next generation factory automation):** The unparalleled robustness of DECT combined with DECT-5G's over-the-air ***fixed*** digital latency of less than one millisecond will make DECT the only wireless control and sensing solution fast enough and reliable enough for semi-autonomous vehicles working in the Industry 4.0 "Factories of the Future."



- **Seamless Collaboration:** As organisations of all shapes and sizes seek ways to globalise and become as responsive, effective, and agile as customers increasingly demand — and at the same time strive toward a carbon-neutral future — the need to be highly effective and secure collaborators in the real world *and* in cyberspace will become one of the biggest challenges they will face in the decades to come. The challenge will become a universal one, as **more traditional face-to-face interactions become virtual interactions**. Such collaboration can only be effective when, regardless of location, or type of collaboration, **communication and information sharing becomes a seamless experience for individuals and teams**.

DECT's professional applications hold promise to *further* eradicate the dual frustrations of a) lack of integration and b) a lack of 'inclusiveness' still faced by those with disabilities, both of which can be addressed with the use of remote collaboration tools. In fact, as highlighted by the challenging environment of the global Covid-19 Lockdown, companies in the Unified Communications market, using DECT have *already* shown how collaboration can be improved dramatically, meeting the real hitherto unmet needs of working teams. Furthermore, as we look to the future, the DECT industry clearly has the experience and capability to *collaborate* with companies in the emerging 5G ecosystem to deliver seamless collaboration solutions. Please follow these link1 to see real world examples. Link2.