

What does it take to hear and
be heard in the new workplace?
Applying audio technology and
best practices to enable better
collaboration.

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Introduction



Noise has always had the potential to distract people from the task at hand. Today, changes in the workplace have introduced new levels of noise that were absent just a few years ago. Effective noise management is now a business imperative that extends from inside the office walls to anywhere work happens.

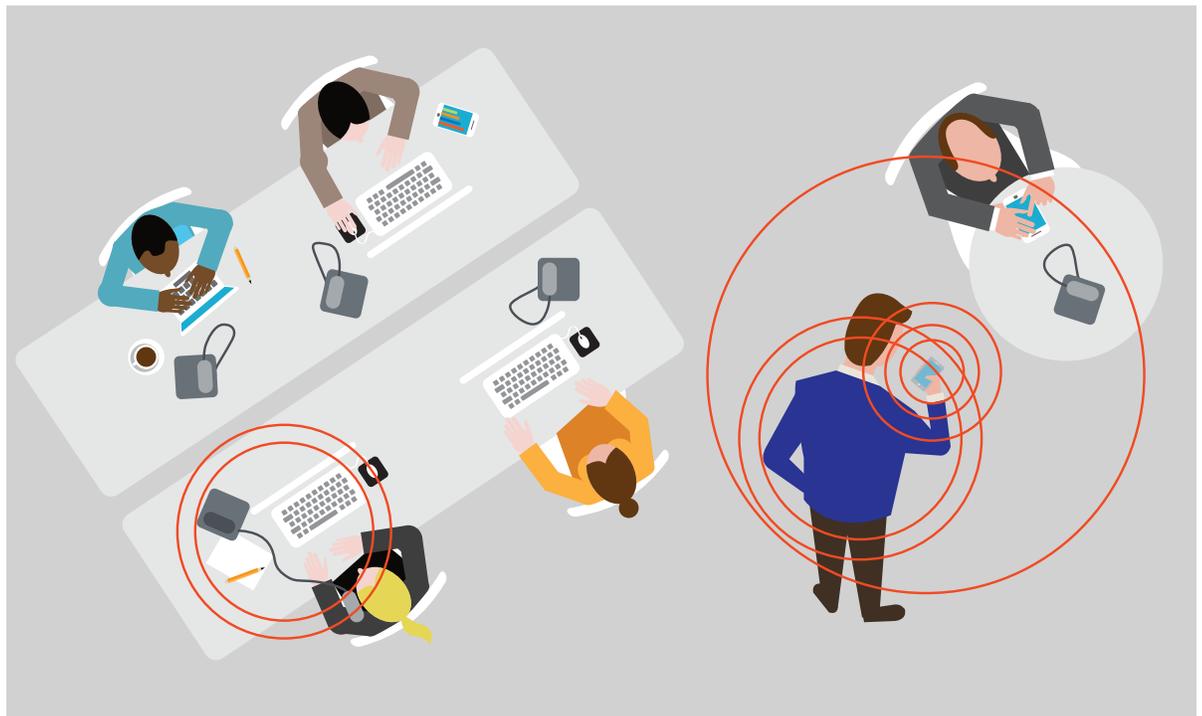
Current industry trends are driving the need for improved noise management. For people in the office, noise is becoming a growing concern due to more open working environments that promote collaboration but can make focus more difficult. Flexible work styles require quality voice and video collaboration using desktop appliances, smartphones and softphones.

Mobile workers need the tools to connect effectively and sound professional. More people are relying on conference calls to stay in touch, but one person in a noisy environment on a conference call can disrupt everyone's ability to hear and be heard. What's more, mobile workers struggle to have a seat at the table, especially when part of the team is meeting in person.

This paper explains how advanced audio technology and communication best practices can help organizations overcome the noise challenges driven by each of these business trends and create better communication experiences that boost productivity.

Noise challenges of open-plan offices

Rising costs have put pressure on organizations to consolidate their office space. At the same time, companies in many industries have realized that increased collaboration, both planned and spontaneous, contributes to innovation. These changes have led to the rise of the open office—but also rising dissatisfaction, with 53 percent of employees reporting that they are disturbed by others when trying to focus.¹



EFFECTS ON EMPLOYEE PERFORMANCE

In an open-office environment, people must compete to hear and be heard. Noise and lack of privacy are the top complaints. And it isn't just noise, but the type of noise: the human voice is the most distracting of all. The effects of background speech range from reduced verbal task performance to decreased concentration and impaired memory recall.² Productivity can drop by as much as 40 percent as people struggle to tune out unwanted speech.³



Common sense might suggest making an open office as quiet as a library. But if it is that quiet, then workers are more likely to hear people talking—and more likely to understand and therefore be distracted by nearby conversations. Recent studies show that it is the intelligibility of speech, rather than the level or even the content of the speech, that most affects performance.⁴ Organizations seeking to make their workplace more productive must take all of these factors into consideration.

Challenges of employee mobility and flexible work styles

With the rise of the mobile employee and flexible working policies, additional noise challenges have emerged both inside and outside the office.

INSIDE THE OFFICE

Many flexible workers spend most of their time in an office but also work from other locations, and may rely on their smartphones or softphones. They use a range of audio and video collaboration technologies, often moving fluidly between meetings, one-to-one collaboration and focus time as they work to get their jobs done. Flexible workers need tools that make this experience effortless. They also need the best audio quality so they feel like they have a voice in meetings or alternatively can listen to music to help them focus.

Employees without a fixed location often use PC softphones and mobile phones with wideband telephony to send or receive voice and video. Wideband transmits at a range more in line with the human voice and takes in more audio samples per second than a standard call, providing voice quality that more closely replicates natural speech. Employees need the ability to take advantage of this quality voice communication—something not possible with most consumer-grade headsets or PC speakers.

Lastly, flexible work styles can boost productivity by enabling workers to go mobile with a call, make calls in meeting rooms and choose whatever workspace suits the task. Every day is fluid, whether that means an impromptu meeting or an unexpected call that requires privacy. Workers require technology that gives them the freedom to get up and move the call to a different space without breaking off communication.

When people are working while in motion, they have less control over their environment and noises can be loud and unexpected. This underlines the need to ensure that noise is not transmitted into the conversation, but is blocked from the mobile user's ears.

OUTSIDE THE OFFICE



Mobile workers also need to tune out noise and tune in to work. Wireless technology enables telecommuters and professionals doing business on the road to work in environments ranging from home offices to hotel rooms and from cafés to cars. In one survey, 90 percent of employees noted spending at least some time working off site.⁵ These workers rely in large part on mobile devices, web conferencing, conference calls, IM, Unified Communications (UC) applications and softphones to stay in touch, collaborate and conduct business.

Whether speaking one-to-one or participating in a conference call with others, poorly performing audio devices or background noise from even one party's environment can be highly disruptive. A recent survey of 2,000 knowledge workers around the world revealed that they are "concerned about appearing unprofessional by transmitting the background of their noisy environments."⁶ Miscommunication or a poor business presentation can have serious consequences for any organization.

Solutions for meeting today's noise management needs

Plantronics addresses noise challenges stemming from open offices, employee mobility and flexible work styles by applying best practices and technology.

BEST PRACTICES

Noise management in the office begins with acoustics. The first step is to look over the workplace to determine what can be done acoustically to improve the environment. Consider where different groups of workers are sited, and assess whether each group's communications needs are helped or hindered by their specific location. Where noise is a problem, the following best practices can enhance acoustic performance, whatever the office environment:

- Specialized materials on floors, walls and ceilings minimize noise. For example, covering bare floors with carpeting is an essential step for reducing noise.
- Vertical barriers limit sound travel across an open-plan office. Consider placing divider panels between affected areas.
- Computer-generated sounds mask unwanted noise. Many companies pipe in background noise, or allow people to listen to music to block sound. Water noise is considered to be among the most effective masking sounds.
- Introduce headsets to block out background noise wherever it occurs and help users enjoy high-quality communications. Plantronics headset technologies build on the noise protection provided by other acoustic best practices.

TECHNOLOGY

Plantronics headsets are backed by extensive development and testing facilities and over 50 years of audio engineering experience and innovation. Plantronics uses a variety of headset technologies, including:

- **Noise cancellation:** Plantronics achieves optimum results using active and passive noise cancellation at both the transmission point (what you hear) and reception point (how you sound).
- **Digital signal processing (DSP):** DSP in Plantronics headsets produces a more natural voice sound by applying specialized algorithms to digitized voice signals.
- **Sidetone:** This feature provides out-of-band feedback in real time to let people know how they sound to the listener or listeners on a call.
- **Microphone array:** Using multiple microphones in a single device delivers exceptional sound clarity.
- **Hearing protection:** Plantronics SoundGuard technology ensures loud tones are quickly reduced to more comfortable levels, using a sophisticated three-stage process to protect users from sudden increases in sound levels.

Plantronics applies advanced technologies to its products to ensure every worker can hear and be heard. For example, one unique application of headset technology for the office is the Plantronics Blackwire 725. This USB headset combines active noise-canceling technology, a noise-canceling mic and hi-fi stereo performance to minimize external noises while ensuring PC-based calls and multimedia come through clearly.



BENEFITS OF PLANTRONICS SOLUTIONS

By managing noise and enhancing the intelligibility of desired speech, Plantronics headsets improve peoples' ability to hear conversations clearly. The listener hears more of the speaker's voice in relation to surrounding background noise.

State-of-the-art audio engineering also helps workers enjoy a superior PC wideband telephony experience compared to a traditional handset. Workers can experience higher-quality, more natural-sounding voice communications, increasing comprehension. They can choose any source for phone calls—desk phone, PC or smartphone—and move from their desks to a more private area without interrupting a call.

Ergonomic headset design ensures all-day comfort as workers spend more time on calls to maintain collaboration. Beyond headsets, Plantronics speakerphones enable workers to instantly create a virtual conference room with their PC or personal device for impromptu audio conferencing.



Summary: Ensuring workplace changes are working for you

It's an exciting time of workplace transformation. The open office makes collaboration easier, fostering innovation. Flexible working styles and mobility help workers stay productive wherever they are.

But are these changes working for your organization? One thing that often is forgotten is the increasing importance of high-quality voice communications. Better collaboration is not just about availability; it is also about effective interactions. Strategies to facilitate collaboration prove ineffective if the ability to focus is not also considered.

As a thought-leader in understanding these challenges and a practice-leader in managing workplace noise, Plantronics is a reliable partner that can help develop solutions specific to smarter working and open offices. Plantronics enables customers to deploy powerful, reliable and comfortable solutions to address acoustic issues in today's work environments and improve productivity across the organization. What's more, Plantronics deploys these strategies in its own offices in Santa Cruz, California; Tijuana, Mexico; Swindon, UK; and Hoopdorf, the Netherlands. You can learn more about how Plantronics manages noise [here](#).

About Plantronics

Plantronics has been an innovator for over 50 years. The company pioneered the lightweight headset, the mobile headset, noise-cancelling technology and the personal speakerphone, always driven by a single goal: remove the barriers to simply smarter communications. Plantronics products are used by everyone from pilots, astronauts and emergency workers to 100 percent of the Fortune 100. Headquartered in Santa Cruz, California with offices in 20 countries, Plantronics sells and supports its products through a worldwide network of partners, including resellers, systems integrators, retailers and mobile carriers.

For more information

To learn more, visit: plantronics.com/us/solutions/unified-communications

^{1,5} Gensler, 2013 US Workplace Survey. July, 2013.

^{2,3,6} Benway, Effects of Office Acoustic Environments. 2012.

⁴ Hongisto, Model predicting the effect of speech of varying intelligibility on work performance. 2005.