**(())** CORENET FORA

At CoreNet UK Chapter, we understand that the workplace should be there to support everyone, not just visually but across all the senses. This research paper explores one dimension which is often overlooked: sound. It's a subject I care deeply about, not only as a workplace professional, but also personally, having seen how sound environments impact neurodiverse family and friends. From the all-too-familiar 'loud colleague' moment, a heated contractor call echoing across the office, or the challenge of multiple overlapping Teams calls in hybrid settings, we've all experienced how sound can disrupt focus, privacy, and wellbeing.

But what if sound could do more than distract? What if, used intentionally, it could enhance concentration, foster connection, and even improve productivity?

This report brings together insights from across the real estate and design industries, drawing on expert interviews, academic research, and real-world case studies. It reframes sound not as a technical fix, but as a strategic design element that shapes how we feel, think, and interact at work. From curated soundscapes and acoustic zoning to neuroinclusive design and sonic branding, the findings reveal a growing recognition that sound matters. It matters to how we work, how we feel, and how we belong.

As hybrid working continues to evolve, so should our approach to workplace acoustics. This research highlights the importance of choice, movement, and inclusivity, demonstrating how different people experience sound in profoundly different ways. It also asks important questions: How can we design spaces that support both collaboration and focus? What role does culture play in shaping acoustic etiquette? And where are organisations already doing this well?

With around 500 members, including a third who are corporate occupiers, the CoreNet UK Chapter is proud to be a leading voice for the occupier community in the real estate industry. We aim to be the place where challenges are met with thoughtful dialogue, practical support, and a strong network of peers. This report is part of that mission, and we're incredibly grateful to everyone who contributed their time, expertise, and perspectives.

If you have ideas, experiences, or innovations to share on this topic, we'd love to hear from you. Let's continue to evolve the knowledge landscape together and make sound a central part of how we design for wellness, performance, and inclusion.

G. Marshall,

President CoreNet UK (Director, Turner & Townsend)

# But what if sound could do more than distract?

### Workplace design has lonnnnng prioritised the visual.

Layouts, lighting, colours, and materials—yet sound exerts just as powerful an influence on how people feel, think, and interact. It is not merely background noise but a fundamental driver of concentration, mood, and social connection.

Unmanaged noise consistently ranks among the biggest sources of dissatisfaction in offices, with evidence linking it to stress, fatigue, and lower productivity. As hybrid and remote working have become common, sensitivity to noise has sharpened.

Many people have grown used to quieter, more controllable home environments, making the return to busy, open-plan offices all the more jarring.

Perception of sound is highly subjective. Some employees thrive in lively, bustling environments, while others—particularly neurodivergent colleagues or those with heightened sensory sensitivity—find them draining and disruptive. Research suggests that only a fraction of the impact of noise can be explained by measurable conditions such as decibel levels; most depends on perception, context, and culture. This makes one-size-fits-all solutions ineffective and points instead toward workplaces that offer variety and inclusivity. Open-plan offices, for example, remain popular for their flexibility and opportunities for collaboration, but they also create acoustic tensions. Speech intelligibility enables connection yet becomes one of the biggest sources of distraction when overheard, undermining tasks that require focus, memory, or problem-solving. Employees increasingly expect access to quiet rooms, pods, or acoustic retreat spaces, and while these may not always be heavily used, their presence alone can boost satisfaction and reduce complaints.

The challenge is not only physical but also cultural. The acoustic character of a workplace emerges as much from behaviour as from design. Norms such as whether phone calls are taken at desks, how loudly people talk, or how social activity spills into work areas collectively shape the atmosphere. In some contexts, employees may even feel unable to use alternative spaces if it conflicts with expectations—such as cultures of

presenteeism that demand visibility at desks. For this reason, workplace etiquette and cultural permission to move between spaces are as important as the provision of the spaces themselves.

Design decisions also play a central role in how sound is experienced. Acoustic quality is determined by material choices, spatial layout, and how spaces are built. Integrating acoustic considerations from the outset—such as effective separation between rooms and avoiding lightweight partitions—creates environments that support privacy, comfort, and focus. When treated as a core design priority rather than an add-on, acoustics contribute to a holistic approach that combines performance, wellbeing, and sustainability.

Technology provides further opportunities to enhance comfort and privacy. Adaptive noise-masking systems can smooth unpredictable spikes, while curated or bespoke soundscapes help support different modes of work. These interventions must be context-sensitive: generic background sound risks undermining the character of a space, whereas soundscapes aligned with organisational culture and brand can enrich identity and belonging. Increasingly, sound is being recognised as part of brand expression, just as colour or graphics communicate values. To remain effective, however, soundscapes need to be dynamic; without variety, even beneficial sounds risk becoming monotonous or fatiguing.

While regulations and standards establish minimum thresholds, **organisations that excel go further by listening to employees.** 

Surveys, post-occupancy evaluations, and continuous data gathering capture the lived experience of sound, complementing technical measures such as decibel levels. This combination of measurement and feedback provides the insight needed for refinement and improvement over time.

The evidence across research and practice is clear: sound cannot be treated as a secondary technical fix or an afterthought. It must be integrated into workplace design with the same care as light, air quality, and materiality. Organisations that succeed will be those that shift from reactive noise control to proactive soundscaping, curating environments that support wellbeing, productivity, and cultural identity. To support this shift, our Toolkit for Sonic Wellness in the Workplace provides practical, actionable guidelines for employers, designers, and decisionmakers. It emphasises early integration of acoustics in design, the creation of diverse and inclusive settings, the importance of culture and etiquette, robust performance standards, the creative use of technology, and continuous evaluation. By adopting these principles, workplaces can move beyond managing noise as a problem and instead cultivate soundscapes that enhance both individual experience and organisational performance.

Excerpt from Reimagining the Relationship Between Sound and Space, in Feel the Sound exhibition catalogue, by Paul Gulati, Universal Design Studio, published by the Barbican. "Sound does not exist without space, and no space is ever truly silent. Our perceptions of sound and space are inherently intertwined - each shaping how we experience the other. The acoustics of space influence how we hear, just as sound alters our understanding of the space around us."

### Sonic Wellness in the Workplace

Workplace design has long been dominated by the visual: layouts, lighting, colour, and materials. Yet the non-visual senses—particularly hearing play a profound role in shaping how we think, feel, and perform. Central to our experience of the workplace, sound is not simply a backdrop; it shapes our experience of space, supports or disrupts concentration, and influences our sense of connection with others. Despite this, workplaces continue to overlook sound as a design priority. The result is widespread dissatisfaction with noise levels,1 alongside a growing body of evidence linking noise-related stress to serious health impacts—from sleep disturbances and elevated blood pressure to increased sickness absence—underscoring the need to treat sound as integral to workplace wellbeing and performance.2

The move toward more dispersed and hybrid working patterns has sharpened the awareness of how sound shapes our ability to focus, collaborate, and feel at ease. Many people have grown accustomed to quieter, more controlled, and personalised environments while working from home or in flexible settings. Returning to traditional offices often heightens sensitivity to background noise, interruptions, and the absence of acoustic privacy. These contrasts are fuelling a more nuanced conversation about what makes an acoustic environment genuinely supportive. In response, architects and designers are beginning to treat the sonic dimension of space as a critical element of the workplace experience rather than an afterthought.

Our perception of sound is highly subjective. Some people are "sensory seekers" who thrive on stimulation, while others—particularly those who are hypersensitive or neurodivergent—may find noise overwhelming and draining. Traditional office environments often default to extroverted, stimulus-rich conditions: open-plan layouts, constant background chatter, and a general layering of visual and auditory busyness. But this doesn't suit everyone.

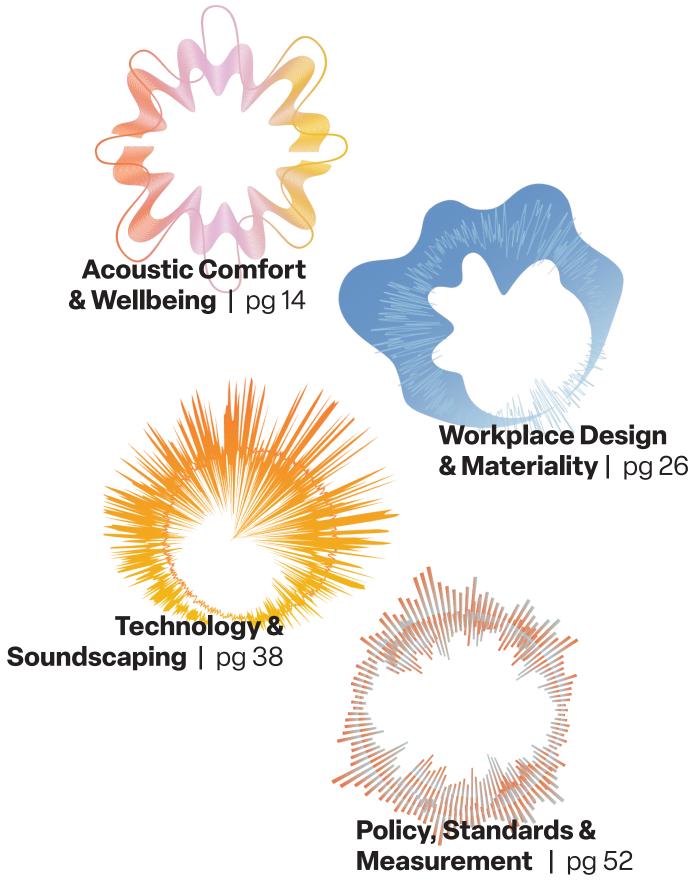
Recent surveys reveal that nearly two-thirds of workers feel office noise undermines their performance, while only a small minority report positive effect.<sup>3</sup> Despite this, open-plan workplaces remain the dominant model—and they are likely to persist. This reality makes it all the more important to design them more thoughtfully, with a nuanced and inclusive approach to sound and acoustics. Different modes of work call for different sonic conditions: quiet or consistent background soundscapes for deep focus, lively but controlled environments for collaboration, and calm spaces that offer moments of restoration and reset.

Interest is growing in the use of ambient soundscapes—curated, unobtrusive audio environments designed not for active listening but to subtly influence atmosphere and support cognitive work. Some forward-thinking organisations are now commissioning bespoke soundscapes as part of their brand identity and employee experience strategies, treating sound not only as a practical consideration but as a cultural and emotional design element. Whether nature-based and restorative or rhythmic and energising, these compositions can be tuned to align with circadian and cognitive rhythms, supporting better focus and productivity.

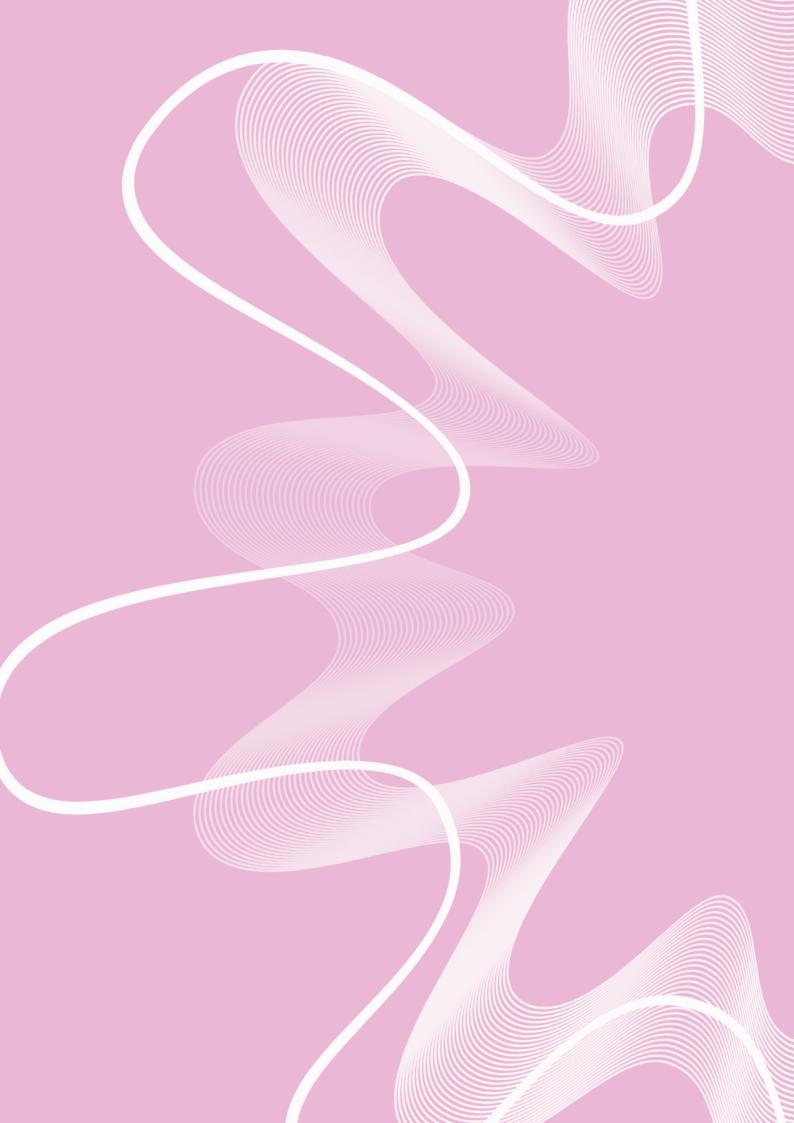
Sound affects people in profoundly different ways and as office design continues to evolve, acoustics must be recognised not as a secondary technical fix but as a fundamental driver of the workplace experience. By engaging with this complexity and embedding sound into the very fabric of the design, we can create workplaces that are not only more inclusive and equitable but also more adaptable, resilient, and high-performing.

This research draws on expert interviews, academic literature, and case studies to reframe sound as an integral element of workplace design rather than a peripheral concern. Central to the project is a Toolkit for Sonic Wellness—a set of practical guidelines for employers, designers, and decision-makers. The toolkit translates research into clear, actionable guidelines for employers, designers, and decision-makers. Its purpose is to bring acoustics, noise, and sound into sharper focus within workplace design, offering strategies that are practical, evidence-informed, and adaptable to different organisational contexts and priorities.

### **Themes Covered in This Report:**



# Acoustic Comfort & Wellbeing



## The Subjectivity of Sound

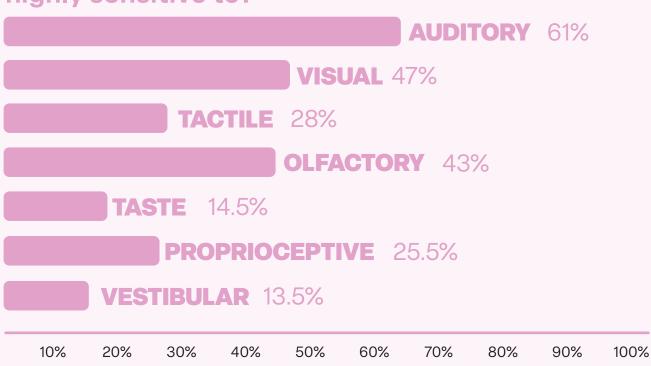
Sound exerts a direct influence on how we feel—physiologically, emotionally, and cognitively. From the perspective of psychoacoustics, hearing is more than simply detecting sound; it is about how the brain perceives, processes, and responds to it. This adds a layer of complexity, as the experience of sound and noise is highly subjective: research suggests that only around a quarter of the impact can be attributed to measurable acoustic conditions, while as much as three-quarters depends on individual perception, context, and interpretation.<sup>4</sup>

Different types and levels of sound can significantly alter cognitive load, shaping our ability to focus, retain information, and manage complex tasks. Central to this is the recognition that sensitivity to noise varies widely. While some individuals thrive in lively, bustling settings, others may find even moderate sound levels overwhelming. Understanding these differences is key to designing environments that support wellness and acoustic comfort for all.

A study by global design and architecture firm HOK found that 61 per cent of people who identify as neurodivergent are hypersensitive to sound, with 11 per cent experiencing acute sensitivity. Sensitivity also varies across gender: 59 per cent of men report heightened sensitivity to acoustics, compared with 73 per cent of women and 63 per cent of non-binary individuals.

However, while only 5 per cent of men experience hypersensitivity, women and non-binary individuals are five times more likely to do so. As Kay Sargent, HOK's Director of Thought Leadership, Interiors, explains: "When we look at the key factors that are impacting individuals, sound is the number one thing. It beats temperature, lighting, density, everything else. And 66 per cent of individuals who are neurodivergent say they have some heightened sensitivity to sound — but mixed neurotype groups do as well. This isn't just bothering people who are neurodivergent. Neurotypicals are being impacted too, just to a slightly lesser degree."

### What sensory inputs are neurodivergent individuals highly sensitive to?



↑ Data from HOK.

Elaine Du Preez, Director of Workplace Design at Salesforce, also observed how remote working during the pandemic heightened the sensitivity to noise. "For two years, people had grown used to hearing only their own voices and families in the background, without the distractions of office chatter. People wanted quiet rooms or breakout spaces to work or speak in private." Kay Sargent agrees: "Hybrid working means we are going between the quiet of home offices and buzzy workplaces, so we are having to constantly recalibrate and adjust between those two extremes, which is a challenge for a lot of people."

**Data Above:** Sargent, K. (2025) Designing Neuroinclusive Workplaces: Advancing Sensory Processing and Cognitive Well-being in the Built Environment. 1st Ed. Wiley. https://www. inclusiveworkplace.design/

### Open Plan Tension

Not all noise is created equal, and its effect on performance depends on both context and what kind of work is being done.

For instance, the kind of sound environment that might enhance open-ended creative thinking can be highly disruptive to analytical or memory-intensive work.7 In practice, this means that the sonic environment must be carefully calibrated to the activity being carried out. The tension between collaboration and concentration is particularly pronounced in open-plan settings, where speech intelligibility can enable social connection but often comes at the cost of distraction. Here, a distinction emerges between unwanted interruptions (like a nearby loud conversation) and ambient sounds (such as background masking noise or soft music), which can actually help focus by reducing the audibility of more disruptive stimuli.8

The concept of openness in workplace design presents both opportunities and challenges. Open environments can foster transparency, collaboration, and the spontaneous exchange of ideas. They can play a crucial role in many cases, notes Kay Sargent of HOK: "In law enforcement, it was discovered that cases could be solved faster simply because people could overhear other conversations in shared spaces. When teams are engaged

in highly synergistic work, those moments of overhearing key information can be vital—enabling quicker connections, faster problemsolving, and more effective collaboration."

Yet, open plans also introduce significant acoustic complexity. If not designed well or spatially zoned for activities with varying acoustic needs, noise can be a challenge.

Hard, reflective materials such as glass and stainless steel can cause sound to bounce and reverberate, creating environments that are visually impressive but acoustically uncomfortable. When openness is prioritised without careful material or spatial consideration, the result can be a workspace that looks dynamic yet undermines focus and wellbeing.

In response, contemporary workplace design increasingly seeks to balance openness with sensory comfort. Natural materials, biophilic elements, and human-centred layouts—often informed by detailed acoustic studies—help to create spaces that are flexible, comfortable, and attuned to wellbeing. This shift reflects a broader understanding that productivity depends as much on acoustic and emotional balance as on visibility and connectivity.

# and we need the right level for the activity

People often complain that open environments are too loud, but in some cases, the opposite can be the problem. Spaces with no background sounds that are sparsely populated can be too quiet, which can result in overhearing other conversations with extreme clarity. That tends to be more distracting then being in a space with a general "hum" or "buzz".

"Not all sound is noise, and we need to make sure the right level is provided for the activity at hand. Focus spaces should be quieter, common work areas should have a bit of hum, and you should be able to laugh out loud in social spaces. Yet many workplaces have one consistent acoustic level across the entire space and therein lays the problem," says Sargent. Organisational culture also plays a defining role in how openness is experienced. The challenge lies in balancing the needs of groups with radically different working styles. In environments that value accessibility and constant communication, there can be a persistent hum of activity and limited opportunities for retreat. Designing for such cultures requires nuanced spatial and acoustic strategies that support diverse sensory needs.

### Noisy, buzzy, and quiet spaces all need to co-exist across an office landscape.

Effective approaches to manage sonic ecosystems include the use of soundabsorbing finishes, planting, and strategically placed glazed partitions that maintain visual openness while reducing noise transmission. Dedicated quiet areas, "recharge" spaces, and focus-oriented furniture such as high-backed seating offer restorative balance—allowing social interaction and concentration to coexist within the same environment.

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Elaine Du Preez of Salesforce notes that some employees can be reluctant to take calls in open-plan environments. In response, the company has added more pods, retreat areas, and focus spaces to support privacy and reduce noise spillover. "If you're having a confidential conversation, collaborating on a task or doing the majority of the talking on a virtual call, that should be in a room. We're instilling that etiquette with our employees."

Kay Sargent of HOK highlights how workplace design only works if people feel empowered to use it. She recalls visiting a major bank in London with ten floors of activity-based working. "It was busy and humming with energy, just a great vibe. But on one floor, nobody was using the alternative spaces and the vibe was flat—it turned out that it was the only floor with assigned desks.

The second you assign someone a desk it's like they grow roots. Their ability to move is

diminished, so they don't take advantage of the other spaces that are provided. Typically, desk-based working is more challenging from a sensory standpoint, because everyone is trying to do it all from one place—from taking virtual calls to trying to concentrate. Therefore, clashes are common."

Open-plan layouts continue to be favoured by many organisations for their ease of interaction, knowledge sharing, and collaboration, as well as the "buzzing" atmosphere they create. Yet research consistently shows that productivity in these spaces is often reduced by noise distraction and speech privacy issues. Multi-talker environments with irrelevant but intelligible background speech are especially challenging: they degrade cognitive performance in tasks requiring memory, problem-solving, or sustained attention, even at moderate sound levels. 10

### **Hyper**sensitive

Sensory Avoiders

### **Neuro**typical

Sensory Neutral

### **Hypo**sensitive

Sensory Seekers

Prefer less sensory stimuli
Organic, simple patterns
Light, neutral colours
Clean, orderly spaces
Little to no background noise

Personal space boundaries

Prefer more sensory stimuli

Layering of textures and planes

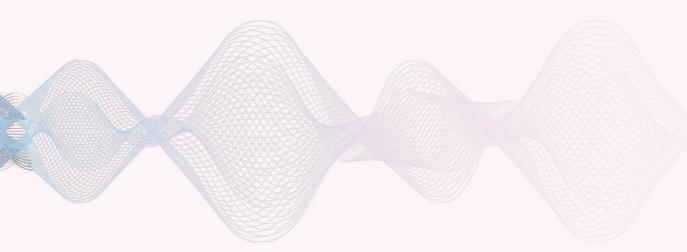
Saturated, contrasting colours

Plenty of visual interest

Background chatter and/or music

Space to move/fidget

# Individual Sensitivity & Inclusivity



These effects are not experienced equally across the workforce. Individuals who are more sensitive to noise—including older or neurodivergent colleagues, introverts, and those with heightened sensory processing—tend to experience poorer concentration, greater annoyance, and reduced wellbeing in noisy environments.<sup>11</sup>

Saskia Lorrison, Director and Head of Occupier Business Development at NBC Universal in the UK, highlights the importance of offering different settings to suit different needs: "People need space to focus, but at the other end of the spectrum are people who need noise to be productive. On our 10th floor, we have a big café with sofas, chairs and a TV playing the news—that's somewhere I'll go if I need to focus. We also have quiet booths that offer acoustic privacy. The common understanding is that it's okay to move around depending on what suits you, and you don't have to come in and sit at a desk."

Her example points to a broader shift: workplaces that support choice and movement empower employees to manage their own acoustic comfort. By normalising flexibility—whether retreating to a quiet booth or seeking the energy of a busy café—organisations can better accommodate the wide spectrum of sensitivities and working styles that coexist within the same environment.

Conversely, employees with lower sensitivity, or those working on more routine tasks, may be less affected, or may even draw energy from a lively atmosphere. The highly subjective experience of workplace soundscapes suggests that 'one-size-fits-all' designs, usually open plan layouts, are likely to be misaligned with the needs of many occupants.

Crucially, it is not just the volume of sound but its quality and meaning that shape our experience. Predictable, steady sounds (such as the hum of ventilation) are generally less disturbing than irregular or sudden noise.<sup>12</sup> Likewise, sound that is perceived as beneficial or meaningful—such as background music chosen by employees, or natural sounds like birdsong or water—is often tolerated, or even enjoyed, compared to random, irrelevant noise.<sup>13</sup> The degree of control and choice also matters: when people feel able to influence their sound environment (for instance, by moving to a quieter area or adjusting noise-masking systems), their tolerance and comfort increase.<sup>14</sup> People who hot-desk, with the ability to choose where they work, therefore tend to fare better.<sup>15</sup>

**Data on the left page:** Sargent, K. (2025)
Designing Neuroinclusive Workplaces: Advancing
Sensory Processing and Cognitive Well-being in
the Built Environment. 1st Ed. Wiley. https://www.
inclusiveworkplace.design/

## Designing for Choice and Movement

Designing with inclusivity in mind means not only providing acoustic choice through quiet rooms and sensory-friendly zones but also establishing behavioural expectations that acknowledge diversity. Clear norms around noise, paired with flexible design, help ensure that all employees can feel comfortable, respected, and supported in the spaces where they work.

Providing quiet, heads-down spaces for focus has become important. "People want the option of a quiet space," says Du Preez. Interestingly, utilisation of these spaces remains relatively low—less than 20 per cent—yet their presence has had a significant impact on our employee satisfaction.

Taken together, these insights point towards the need for greater diversity in workplace acoustic design. Just as lighting or furniture is often tailored to different activities, soundscapes too should be deliberately designed to reflect the nature of the task and the preferences of the individual. This could mean providing a range of zones within a workplace. One strategy is to provide contained areas for noisy activities—such as meeting pods, meeting rooms, cubicles, and high-back seating—and provide quiet spaces where people can avoid distractions.<sup>16</sup>

Workplaces need layered and tailored solutions, starting with basic sound treatment and absorption, activity-based zoning, and workplace etiquette. By embedding flexibility and choice into workplace design, organisations can ensure that their employees are better able to select environments that meet their needs in the moment. This approach acknowledges the subjectivity of sound perception and creates workplaces that are not only more productive but also healthier and more inclusive.<sup>17 18</sup>



# Workplace Design & Materiality



## Sound as a Design Material

Design plays a powerful role in shaping how sound moves through space and how we experience it. Acoustic qualities are not incidental: they emerge directly from material choices, spatial configurations, and the way surfaces absorb, reflect, or diffuse sound. This makes design decisions as crucial to sonic comfort as they are to light or ventilation.<sup>19</sup>

"Sound is difficult to capture and communicate during the design process, because it's ephemeral," says Paul Gulati, Director at Universal Design Studio. "We foreground the visual, using the language embedded in our vocabulary. We create images and visuals, we use words and ideas to communicate concepts. But what we're working towards is not just a concept—it's a finished project where people come together, collaborate, or maybe have an exceptional individual experience."

For Gulati, the starting point is to reframe sound not as a problem to be managed but as a creative design material. "Sound is often seen as a problem, particularly in the workspace. It's all about how we can create privacy and stop reverberation. If not well-considered, it completely changes the experience—for example, a business lunch in a restaurant where the acoustics are poor, and you're having to lean in a bit too close to someone you don't know very well." He argues for more imaginative approaches: "Why don't we let the sound reverberate a bit in some spaces, if it works—like when you walk into a cathedral and it amplifies the spiritual experience."

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 Paul Gulati, Director at Universal Design Studio

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The physical characteristics of a space—its scale, proportions, and finishes—set the foundation for how sound is experienced.

# Balancing Inherent & Additive Qualities

Every element, from footsteps on a floor to voices in a room, contributes to an evolving acoustic environment. The reverberation of a church or the muffled intimacy of a small library illustrates how space itself can create powerful auditory atmospheres without the need for intervention. In workplaces, this natural acoustic character can be complemented by carefully chosen additive layers to enhance specific experiences, such as soundscapes or branded environments where sound reinforces a story or identity.

The most effective designs strike a balance between the inherent acoustics of the architecture and the intentional addition of sound, treating both as opportunities to shape how people feel and interact. Gulati's team designs for a gradient of workplace experiences, from private to open. Rather than adding acoustic fixes later, the studio looks at material choices from the outset. "Hard surfaces that reflect light also tend to reflect sound," Gulati explains, pointing to the correlation between visual and auditory qualities.

Designing with this relationship in mind allows for a range of acoustic experiences across a workplace, rather than a one-size-fits-all solution.

At times, this balance can be deliberately adjusted, Gulati explains.

"A space might be made visually reflective—through shiny, specular materials—but acoustically softened through hidden treatments in ceilings or walls.

Again, this is all about dealing with a problem, but when it's done creatively, it becomes about exploring the opportunities."

## Materials & Surfaces

Material specification is one of the most powerful determinants of workplace acoustics, extending beyond absorption values in technical datasheets.

Overuse of soft finishes can result in "acoustically dead" spaces that impair speech clarity and reduce atmosphere, while excessive hard surfaces amplify reverberation and distraction. <sup>20</sup> A calibrated mix of absorptive, reflective, and diffusive surfaces—such as wood slats with acoustic backing, microperforated panels, or hybrid composites—offer a more nuanced approach.

Meeting rooms remain a critical weak point.

"Generally speaking, the biggest issue with acoustics in offices is from meeting rooms," says Saskia Lorrison of NBC Universal.

"Whenever we're building out a new office, we build meeting room walls properly, slab to slab... Too often acoustics are value-engineered out, and then you have to retrofit when problems arise. The better and more cost-effective approach is to do it well in the first place."

Material choices also link to sustainability and wellbeing. Acoustic materials such as recycled PET felt, cork, hemp, and cellulose-based panels are now specified for their circularity and low embodied carbon as much as for their performance, while planting and green walls scatter sound and improve air quality.<sup>21</sup> In this way, acoustic performance is increasingly integrated with aesthetics, sustainability, and the multisensory experience.

### Workplace Layout, Zoning, & Acoustic Separation



Spatial configuration is equally decisive. The dominance of open-plan offices, while valuable for flexibility and interaction, heightens challenges of speech intelligibility and privacy. It is often not noise level but the clarity of overheard speech that disrupts concentration.<sup>22 23</sup>

Zoning creates acoustic gradients across workplaces. Transition zones—cafés, corridors, lounges—mediate between extremes. The use of architectural cues such as partitions, ceiling height changes, or furniture systems not only buffer sound but can also signal expected behaviour, supporting both acoustic function and user perception.<sup>24</sup>

"The number one thing to think about when designing workplace acoustics is understanding what people are actually doing in the space," says Kay Sargent of HOK. Their research defines six key work modalities: deep concentration, contemplation, group work, creative work, congregating, and socialising

— each demanding a different acoustic environment. This also means designing for both hypersensitive and hyposensitive individuals: those who need to block out sound versus those who thrive on energy and background buzz.

The real challenge, Sargent explains, is spatial sequencing. "The problem in most spaces, which is why 90 per cent of open environments aren't meeting people's needs, is that quiet spaces and gathering spaces are immediately adjacent to one another. You might have the right kit of parts, but they're mashed together in the same space, so they both lose the integrity of their intended use." Instead, workplaces need a gradient of zones. Quiet areas should support focus with subdued lighting and calmer colours, while collaborative zones should allow for a comfortable hum and more vibrancy. Social spaces, by contrast, should encourage laughter, boldness, and even music. Placing

### of open environments aren't meeting people's needs — Kay Sargent, HOK

these side by side, Sargent warns, undermines both focus and collaboration.

"We need to design spaces with different levels of noise across the workplace to support different activities," says Bernard Noel, Workplace Strategy Manager at Haleon. Their approach focuses on three primary zones: focus spaces that are calm and acoustically supported for concentration; collaboration spaces where higher background sound is expected but carefully contained; and community hubs designed for social connection and interaction.

At Salesforce, the number one value is trust, so privacy and confidentiality are embedded in their workplace standards. Partitioning is consistently built slab-to-slab to minimise cross-transfer of noise between rooms. "Good acoustic separation is a baseline in our design," says Elaine Du Preez, "which I don't think you find that often in the industry."

Du Preez notes that there's a quality drop when they go into a sublease location, and employees notice immediately when the standard is not met. In acquisition or subleased spaces without slab-to-slab construction, "our employees feel a stark difference compared to our full standard locations," Du Preez explains. To mitigate this, acoustic seals are added above ceilings and below floors. While these leave some weak spots, they still provide significant absorption.

Salesforce's design standards specify acoustic ratings for every space type, from pods and conference rooms to customer-facing areas with higher confidentiality demands. Audiovisual systems are also considered part of the acoustic strategy. "The AV in the room is a particular consideration—someone dialling in and speaking over microphones can really transfer," says Du Preez. Crosstalk attenuators are therefore installed within ducting to reduce leakage between rooms.

## Designing for Inclusivity

Inclusivity is central to any workplace acoustic strategy. "A neurodivergent person needs somewhere quiet," explains Bernard Noel of Haleon. Focus rooms are therefore designed with sealed ceilings, floors, and walls at the newly refurbished Haleon global office at London Bankside to ensure confidentiality and eliminate sound leakage, often using recyclable materials such as cork to enhance acoustic performance. Across the open plan, unbookable pods offer refuge for calls, reading, or focused work, while plants and dividing furniture provides visual separation and a softened acoustic experience.

"We are looking to ensure that the noise level is controlled, because that impacts productivity, wellbeing, and how tired you are at the end of the day," Noel notes. 25 "It also impacts your willingness to come to the office." Unlike home working—where individuals can adapt their environment—office life often involves unavoidable distractions: "If you have ten people passing behind your back when you try to focus, or a noisy coffee machine constantly whirring, it's hard to feel productive."

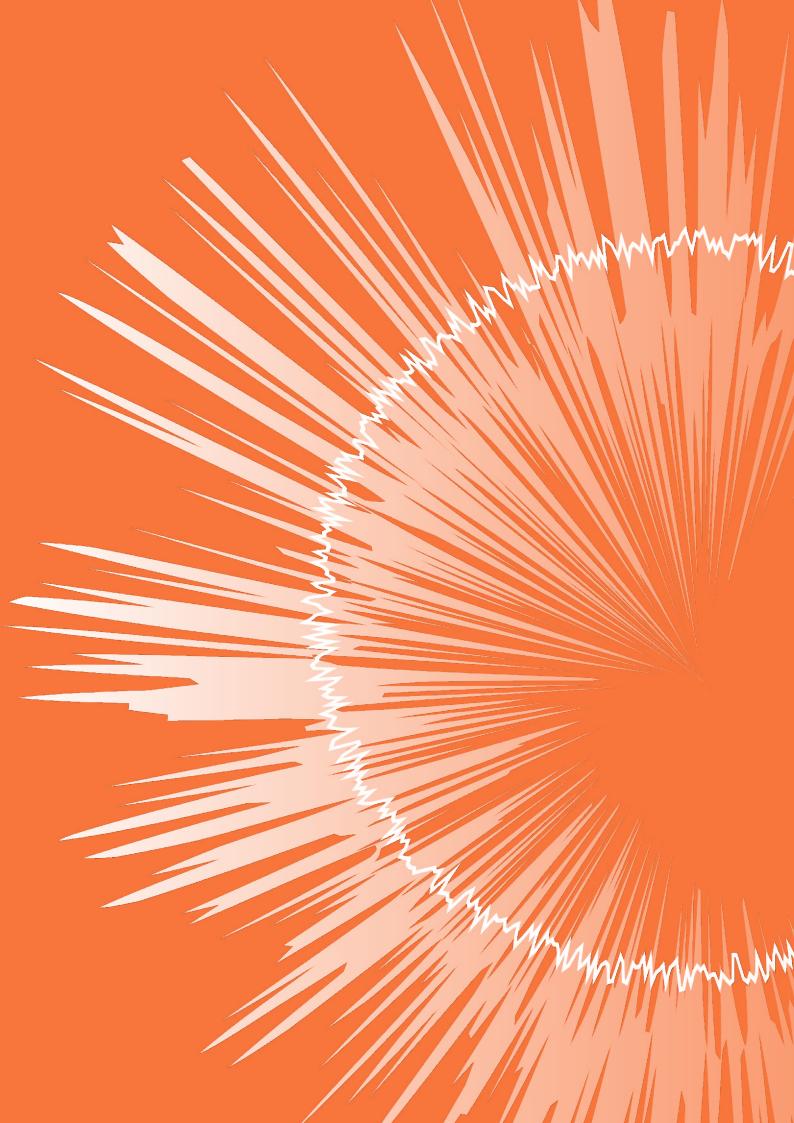
This reality challenges the growing idea of the office as solely a collaboration hub. "More than 89 per cent of people working in an office do focused tasks," Noel notes. "If we just provide a nice-looking space that is not acoustically well-considered, it affects people's wellbeing and they don't feel supported, valued, or recognised." Acoustic diversity—not silence—enables employees to choose environments that align with their tasks and preferences.



More than 89 per cent of people working in an office do focused tasks

- Bernard Noel, Haleon

## Technology & Soundscaping



# Sound Masking & Privacy

Advances in technology are transforming the way workplaces can control, curate, and personalise soundscapes, shifting acoustic comfort from something fixed into something dynamic and adaptive. For Jett Glozier, Global Head of Infrastructure at Sound Diplomacy, the key lies in both quality and context: "The quality of the sound is really important to consumers' sonic wellness, as well as knowing when it should be quiet—which can sometimes be forgotten. The programming of an office space must reflect users, moods, and how people interact with space and sound.

The workplace is diversifying, so sound will not be the same every day or at all times of the day." In other words, sonic programming must be responsive not only to tasks but also to the rhythms of daily work and social life.

One of the most established strategies is the use of noise-masking systems, which introduce carefully calibrated background sound-typically white, pink or brown noiseto reduce the intelligibility of distracting conversations. Unlike the crude hum of older systems, newer approaches employ adaptive algorithms that respond in real time to occupancy levels and fluctuating noise conditions, maintaining a consistent sense of acoustic privacy without oversaturating the environment. The value of such systems is particularly evident in openplan offices, where unpredictability is often the biggest source of stress: sudden spikes of conversation or background chatter are levelled out, ensuring a smoother auditory environment.26

Salesforce installs white noise systems as a baseline across all their offices. These are subdivided into regions, allowing volume to be adjusted by users to give flexibility across different neighbourhoods within the open plan. "You don't really hear the white noise," explains Elaine Du Preez. "It's more like a subtle airflow or hum that runs through the office, helping to mask conversations so you're not distracted by what others are saying."

Many resort to sound masking to resolve acoustic challenges. As Kay Sargent of HOK notes, "Our research shows that sound masking gives about 10 per cent of the population headaches as many are highly sensitive to it. So just blanketly putting in sound masking is not the answer."

For Ollie Humphreys, Founder of SoundScape Agency, conversational privacy remains one of the biggest pain points. "In the workplace, everybody wants privacy during calls, and with lots of people around it can be unbelievably annoying," he explains. Current masking systems reduce audibility but often cannot guarantee true discretion, particularly in busy, open-plan settings. This has spurred exploration of new directions. Humphreys anticipates a future where masking technologies move beyond cocoon-like pods toward more open and fluid solutions: "I think in the next few years we'll see products that are less about cocooning and more about using sound itself to create zones of privacy. The idea is that conversations become harder to overhear, so you feel a greater sense of privacy even in open settings. It's still early days, but several products and services are already exploring this direction."

## Curated & Bespoke Soundscapes

Alongside noise masking, organisations are showing growing interest in curated soundscapes—audio environments designed not to capture attention but to support specific modes of work. Subtle, low-intensity soundscapes, ambient music, or unobtrusive natural sounds can help sustain focus in otherwise silent rooms. Increasingly, these are delivered through integrated workplace platforms that give employees greater choice and agency over their environment.

Yet the wrong approach can undermine these benefits. In its most generic form, background sound risks becoming the auditory equivalent of muzak—an impersonal layer that flattens the carefully considered design of a space. As Paul Gulati of Universal Design Studio observes, "You wouldn't put a piece of artwork in a space that isn't bespoke, because that would undermine all the individual decisions you've made about design and material. You don't want to do that with sound either." If sound is to function as an intentional design layer—much like lighting that shifts ambience throughout the day—it must respond to context, place, culture, and user needs.

# We must bring sound sound -Ollie Humphreys, Founder of SoundScape Agency forefront?

This is where bespoke commissioning becomes critical. Jett Glozier of Sound Diplomacy argues that "commissioning individual pieces of work rather than using stock is important... Where we've seen the most success is when clients champion local artists to create something unique to the place. There's no one-size-fits-all. Don't assume what worked in London will work in Manchester. All places have their unique stories and people, and we experience sound differently." Sounds, therefore, can become a tool for cultural expression as well as acoustic comfort.

To achieve this, however, sound must be embedded into the design process from the very beginning. Glozier cautions that "in many developments, the audio experience is one of the last aspects to be considered. If you design it wrong, it's very difficult to redesign."

### Understanding materiality, movement, and how people perceive space with their ears as much as their eyes is essential.

For him, the challenge is bridging disciplines: "When you think about acoustics, you have your traditional acoustician, who understands spaces, materials, vibration, etc. But that's about noise, not necessarily sound. The trick is to work with individuals who understand the crossover between acoustics, sound, and design."

Humphreys echoes this concern: "The biggest issue we face is being brought in too late—when cabling has been run, ceilings plastered, and design decisions already locked. At that stage, acoustic solutions risk becoming costly retrofits or compromises." His plea is simple: "We must bring sound to the forefront—by involving specialists at the beginning of projects rather than treating it as an afterthought."

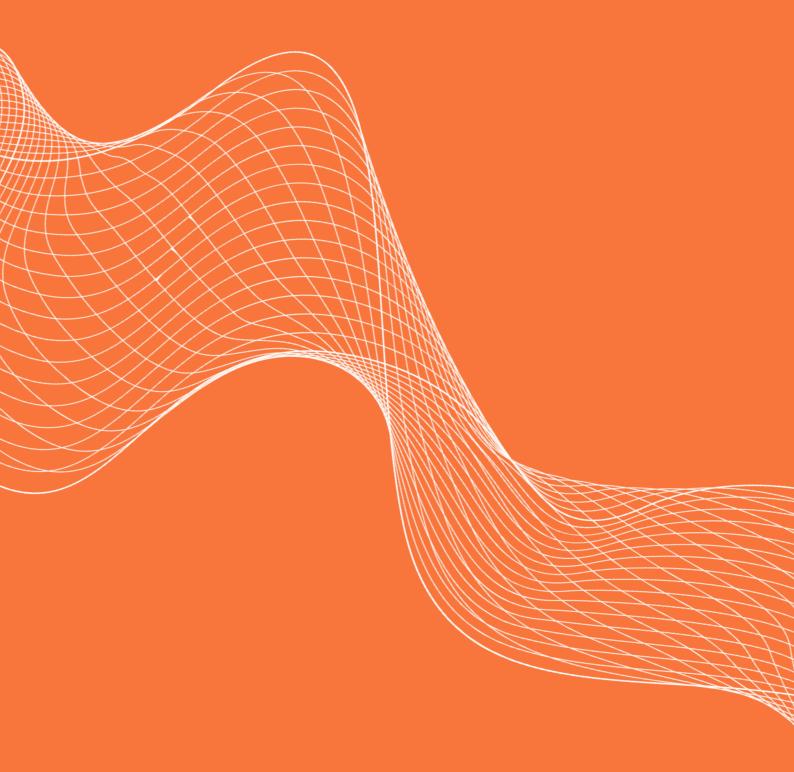
## Sonic Pathways to Cognitive Health

Emerging tools such as virtual reality (VR) and auralisation software now allow architects and designers to model and "pre-experience" soundscapes at the design stage. These simulations make it possible to test how zoning, material choices, and masking systems will affect user experience before construction begins, bridging the gap between acoustic modelling and real life.<sup>27</sup>

SoundScape has explored this frontier through a research project with Bose, funded by hotel brand Citizen M. "We came to them with an idea around how to use sound to help people arrive at cognitive states more efficiently, specifically looking at focus for work," explains Humphreys. He drew on research by music, mind, and brain scientist David Baker, who had conducted a two-year study revealing that certain frequencies and oscillations can help people reach cognitive states. "What if we can mimic those frequencies, and have people listen to them when they're trying to activate that state?"

To test this, SoundScape worked with Baker and record label Erased Tapes to embed the frequencies into bespoke music compositions—coined Brainwaves—which were then evaluated in an independent study at Goldsmiths University. Participants were placed in anxious states using VR, and their recovery times measured under three conditions: silence, their own music playlists, and the Brainwaves compositions. The results were striking: on average, it took 12 minutes to return to baseline with no music, compared to just three and a half minutes with Brainwaves.

Humphreys sees enormous potential to bring this research into the workplace. "We're now looking at how we can create zones and areas with music designed by science to help people focus and work more efficiently."



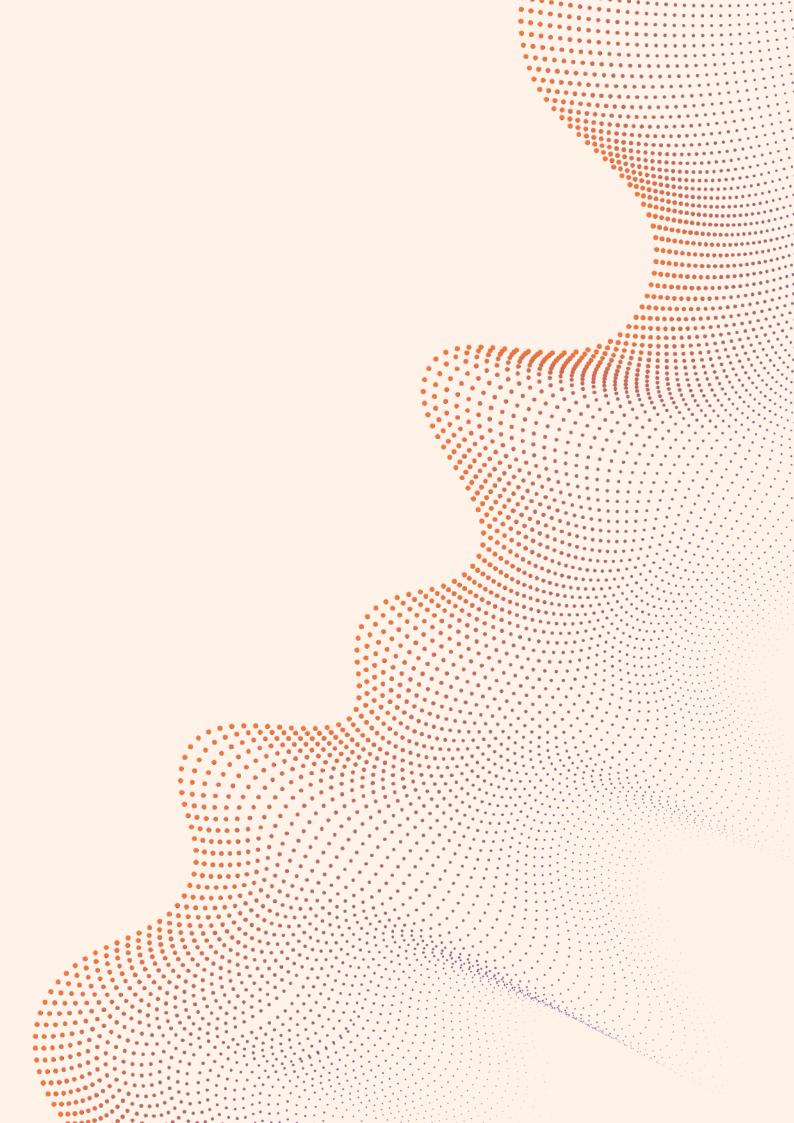
## Preventing Sound Fatigue

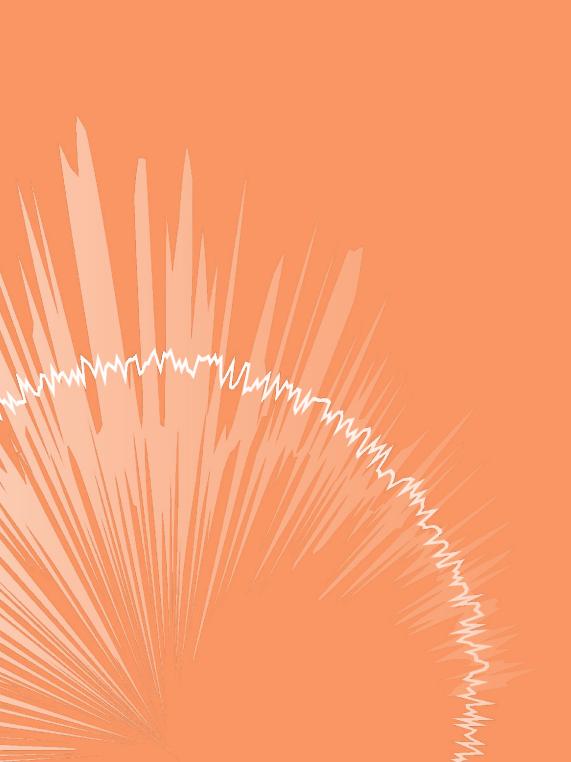
Sound shouldn't be everywhere—in fact, a workplace needs silence in a lot of places. By mapping zones deliberately, organisations can ensure that sound and silence are used purposefully rather than layered indiscriminately.

Paul Gulati of Universal Design Studio observes that all sensory stimuli—whether spatial, materiality, or sound related—can act as triggers. "In general terms, if you've got the size, scale, budget, and possibility to create choice, you can do things that aren't neutral. You can provide people with the agency to decide what works for them," he explains. "What works for someone one day may not work the next. Everyone experiences sound differently, whether they fall within the typical or atypical spectrum. Even people who don't usually struggle with sound can respond in completely opposite ways—two individuals who seem very similar may react differently, with one loving a sound that the other finds intolerable. Sound can be surprisingly divisive."

When music is used, variety matters. Standard profiles need to feel cyclical and refreshed, otherwise employees quickly tune out. "From one month to the next, the sound needs to be fresh," notes Humphreys. Bespoke compositions can be resource-intensive, which is why AI is becoming a valuable tool—able to generate new variants of original content without requiring a composer to reinvent the score every few months. This approach is already being trialled to create adaptive, evolving soundscapes that remain engaging over time.

Gulati sees parallels with lighting design, where programmes shift ambience across the day to align with circadian rhythms. Instead of a single playlist looping endlessly, soundscapes can cycle between different atmospheres—lighter and more energetic during peak hours, softer and calmer in the evening. Algorithms and programmed sequences make it possible to create these changing auditory environments, offering a time-based experience that avoids monotony and supports different energy levels throughout the day or even across seasons.





## Spatial Adaptability

Adaptability in workplace soundscapes can be achieved through spatial flexibility—the ability for employees to move between different environments depending on their needs. This offers agency: those who feel overstimulated can step away into quieter zones, while others can seek out more social or energetic settings.

In open-plan offices, the strategy often depends on client priorities: some spaces lean toward silence, others toward carefully managed sound. Humphreys likens curated sound in these settings to "wallpaper"—something subtle and seamless, designed to blend in rather than stand out.

"Soundscapes in an open-plan space must feel seamless and not jarring. The goal is sound that create a subtle, warm, and inviting atmosphere, with careful attention to volume so it supports focus rather than becoming intrusive." Combined with zoning, functionality, and user control, these principles generate environments that are flexible, adaptive, and inclusive of different working styles.

However, Gulati points out that not every space can—or should—be for everyone. "Can one space be a Swiss army knife?" he asks. "It can if it's able to transform itself, but then you will experience it in different ways at different times." By definition, no single environment can meet every need simultaneously. Instead, Gulati argues, designers must make deliberate choices: "You have to commit to what is the most significant and important material, aesthetic, or even spiritual experience you want to foreground."

Increasingly, workplaces are recognising that acoustic design is part of their brand narrative, communicating culture, values, and mood through curated soundscapes and auditory cues.

## Sonic Branding & Cultural Identity

Just as colour palettes, materials, and graphics create a visual identity, sound can form a parallel acoustic identity, shaping how employee and visitor experience. Curated soundscapes and ambient design allow organisations to set the tone in ways that reinforce brand values.

Humphreys established SoundScape to place music and sound at the heart of brand experience. "Our first step with the client is to understand their current sonic ecosystem," he explains. "What always surprises us is how little brand managers know about their sound experience. They'll spend hours and hundreds of thousands on typography—so why not treat audio identity with the same importance? That's what SoundScape does."

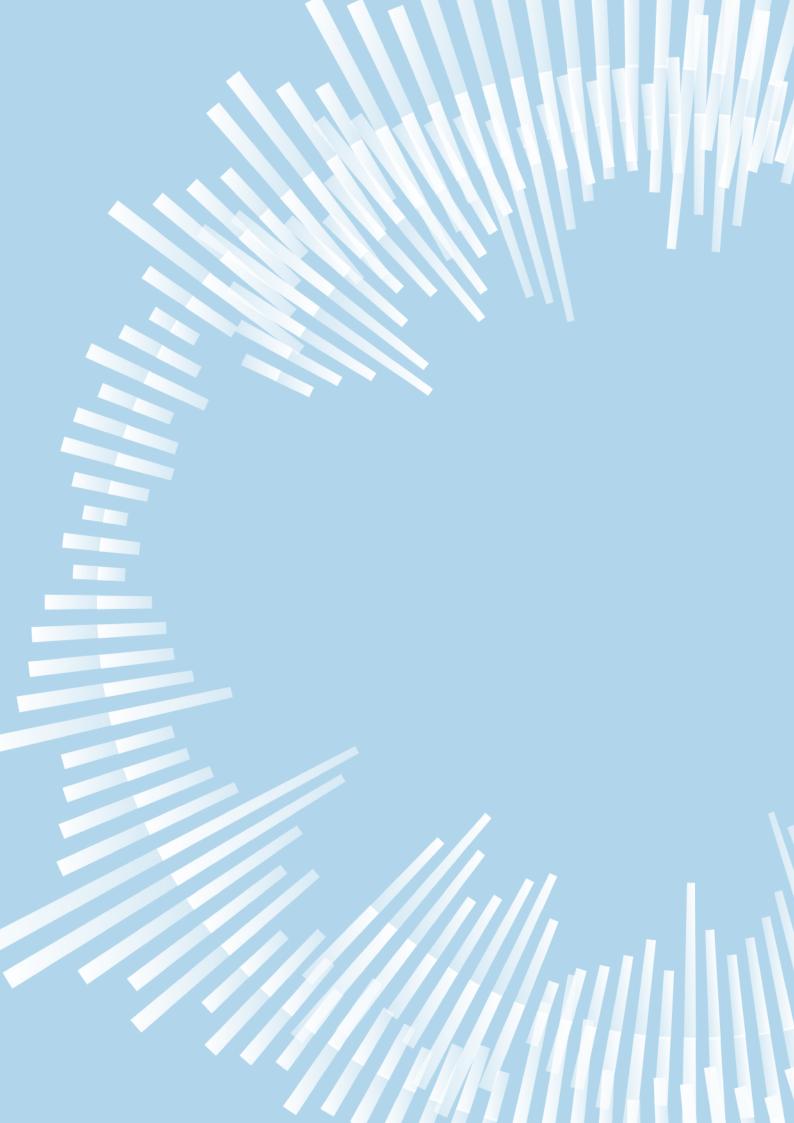
The challenge, he notes, is often execution: the technical aspects of speaker design, installation, and integration across settings. Much of SoundScape's work has been with lifestyle brands keen to engage customers through experience, both online and in person.

"Music is a powerful tool to connect with an audience," says Humphreys, "but too often organisations only see it through the lens of cost, rather than what sound could actually do for them." Beyond signalling values, sound also shapes belonging and psychological safety. Workplaces that align their acoustic atmosphere with employee expectations create environments where people feel "at home." Those from collaborative, socially oriented settings may find silence unsettling, while colleagues in contemplative or research-driven roles may need quiet zones to feel supported.

Some organisations take this further into branded audio elements, drawing from the field of sonic branding: subtle auditory logos, curated playlists that define rituals like morning energisers or end-of-week wind-downs, or brand-consistent sonic textures in waiting areas, lifts, or digital platforms. Research shows that consistent auditory cues strengthen recognition and emotional connection.<sup>28</sup> Applied sensitively, these elements extend beyond marketing to enrich the employee experience, embedding culture in everyday sensory touchpoints.

Ultimately, designing workplaces with sound as part of the brand toolkit bridges the gap between identity and lived experience. Rather than treating acoustics purely as a functional or comfort issue, organisations can embrace sound as a medium of expression—one that amplifies values, fosters belonging, and creates resonance between people and place.

### Policy, Standards & Measurement



# What gets measured gets managed.

## Regulations & Standards

Acoustics, like air quality or lighting, requires clear frameworks and accountability if it is to be prioritised in workplace design. Traditionally, regulations have focused on minimum thresholds—ensuring noise exposure does not exceed harmful decibel levels, or that reverberation times remain within acceptable limits for speech clarity. Standards such as ISO 3382-3 (2012) on speech privacy in open-plan offices and BS 8233:2014 on guidance for sound insulation and noise reduction in buildings provide technical benchmarks. These documents establish the floor, but not the ceiling, of what a healthy acoustic environment should achieve.

### In recent years, emerging standards for healthy buildings have begun to elevate acoustics from compliance to wellbeing.

Certification frameworks such as the WELL Building Standard (v2) and Fitwel explicitly address sound as a component of occupant health, linking design strategies (e.g. noise masking, zoning, and material specification) to broader goals of mental health, comfort, and productivity. The WELL standard, for example, includes features on sound mapping, decibel thresholds, and the provision of restorative quiet zones, framing acoustics as a determinant of both physical and psychological wellbeing.

## **Employee Experience**

Knowing and understanding the people who work in an organisation will help inform a conscious approach to soundscape design. Post-occupancy evaluations and regular employee surveys are essential tools for capturing the lived experience of sound and acoustics in workplaces. While technical measures like decibel levels and reverberation times remain important, surveys, interviews, and sensor-based monitoring reveal how employees actually interpret and respond to their acoustic environment. The British Council for Offices (BCO), for instance, has promoted post-occupancy evaluation frameworks that integrate acoustic comfort into broader performance reviews, encouraging organisations to adjust layouts, behaviours, or sound systems over time.

At Haleon, a global consumer healthcare company with 25,000 employees across 130 locations, this principle is embedded into strategy and operations. "Our offices are shaped by so many different cultures and expectations while still offering a recognisable Haleon experience," says Bernard Noel. To achieve this balance, the company conducts annual surveys to capture how employees feel about their workplace and what they expect from it. "It's about learning from the positives and improving the negatives," Noel explains.

Noise consistently emerges as a global theme. "What we see is that no matter the culture, no matter the space, across our sites the majority struggle with noise," says Noel. The

annual survey findings directly shape Haleon's workplace solution guidelines, ensuring that all global locations meet a minimum acoustic standard while still allowing for local adaptation. For example, in Brazil, community is valued more than collaboration, so spaces are designed to include generous coffee zones with freshly made coffee that bring people together. In London, by contrast, employees prioritise calm and focus. "People want to grab that coffee from the barista, but then be able to work in peace," Noel explains, which has led to the majority of the office being designed as quiet, focused space.

The key is responsiveness: every Haleon site is required to act on survey findings and improve year on year. As Noel puts it, "We can't become complacent and say 'well, we did a refurb two years ago and it was nice so it's fine for now.'" This continuous feedback loop ensures that Haleon's workplaces remain adaptable, culturally sensitive, and attentive to the lived experience of sound.

Salesforce combines user surveys with observational studies, sensor data, batch data, and AV data to build a comprehensive picture of how spaces are used and what employees need. This evidence directly informs the planning, construction, and design of new workplaces. "The data forms part of our initial briefs as we go into designs," explains Du Preez. "Noise and acoustics rarely receive positive feedback but people notice immediately when it's bad. Too often it gets

value-engineered out. When acoustic design is considered from the onset of a project, the cost does not have to be astronomical to achieve good acoustics in a space. The impact however will be lasting."

Kay Sargent of HOK emphasises that design must start with people: "As design professionals, we need to understand how individuals are being affected by our decisions. We have to lean into the science of design and do more research to create evidence-based solutions. If we rely on artificial intelligence to take shortcuts without considering how a human will actually function in that space — we're done."

She points to Arup's Birmingham office, designed to be neuro-inclusive, as an example. Acoustic strategies there included thoughtful materiality, finishes, sound dampening, and selective use of sound masking, developed in close collaboration with their team. The result is an award-winning workplace with higher attendance than any other Arup office.

By grounding design in measurable outcomes—linking acoustic performance to both compliance and human experience—organisations can position sound as a core component of workplace wellbeing and productivity. In this way, acoustics becomes part of a continuous feedback loop: designed, tested, experienced, and refined, ensuring that workplaces remain responsive to both regulatory standards and evolving workplace needs.



## **A Toolkit** for Sonic Wellness in the Workplace

The workplace of the future demands that sound is understood and curated with the same care and creativity as other design dimensions. Sound should be treated as a fundamental element, on par with light, materiality, air quality, and spatial configuration. Soundscapes directly shape how people feel, concentrate, and interact. Yet, in practice, acoustics are too often an afterthought—addressed reactively through noise mitigation rather than proactively as part of a holistic design strategy.

Taking sound seriously means moving beyond compliance with building regulations and toward intentional soundscapes that align with organisational culture, patterns of work, and wellbeing goals. Doing so can improve productivity, reduce stress, and enhance the overall experience of being in the workplace.

Crucially, sound is not only a technical issue but also a human and cultural one. Research shows that only a fraction of the impact of noise can be explained by measurable acoustic conditions; most of it depends on perception, context, and behaviour. This underscores why sound cannot be solved through engineering alone—it must be approached through both scientific understanding and human-centred design. Workplace culture, behavioural norms, and individual differences all play a decisive role in how sound is experienced and managed.

Designing for sound therefore requires recognising the interplay between physical acoustics and psychological perception.

Organisations that succeed will be those that see sound not as a problem to suppress but as an asset to shape—curating environments that actively support wellbeing, focus, creativity, and positive social interaction.

This toolkit translates insights from research into a set of clear, actionable guidelines for employers, designers, and decision-makers. Its purpose is to bring acoustics, noise, and sound into sharper focus within workplace design, offering strategies that are practical, evidence-informed, and adaptable to different organisational contexts and priorities.

# Integrate sound from the start Bring acoustic expertise into the early design process to avoid retrofits and ensure soundscapes are part of the workplace concept, not an afterthought.

# Design a range of acoustic settings Provide quiet zones, collaboration areas, and social hubs with clear acoustic qualities. Use zoning, partitions, and materiality to manage transitions and reduce conflict between tasks.

3.	Shape culture and etiquette
	Establish simple, shared norms around noise, calls, and use of pods or focus spaces.
	Encourage movement between spaces so employees feel permission to choose what works for them.



# Enhance and curate with technology Use adaptive noise masking, bespoke soundscapes, and well-designed AV to improve comfort and privacy. Refresh and adapt soundscapes over time to prevent fatigue and align with daily or seasonal rhythms.

# Measure and continuously improve Combine technical measures with employee feedback and post-occupancy evaluations. Treat sound as a living element of workplace culture—review and refine regularly to ensure evolving needs are met.

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