

This issue: Noise and its impact on productivity, importance of variety in open plan spaces and Plantronics' "Soundscape" building

100,000 lessons in what matters most



As Leesman passes another milestone, our data starts to mount pressure on workplace design and management professionals to understand what matters most.

The wrapping to this issue is an unapologetic celebration of a major data milestone – the receipt of our 100,000th Leesman Office response.

Significant also is that the 100,000th respondent was based in Shanghai, responding to a survey commissioned in Sweden. With 58% of our data from outside the UK, Leesman is increasingly establishing itself as the international workplace effectiveness standard.

But with this accelerating international reach, despite much video and audio conferencing, comes much travel. And with much travel, come too many nights in distant hotels.

There are many Facility Management advisers who tell us to take lessons from hoteliers and the hospitality business who they say provide rich learning for the development of a more hospitality oriented FM. They are right of course. The hospitality experience of most hotel front desks shames that received at most corporate receptions.

A recent report by

accountants Grant Thornton concluded that trust, reliability and other 'non-technical' skills matter most in building successful outsourcing partnerships, so clearly the outward persona that front facing FM staff exhibit is critical.

But I wonder how many of those 'observers' have experienced the hotel rooms beyond the hotel lobby? The hotel hospitality counts for a lot in rating a hotel 'experience', but I'm sorry, a good night's sleep counts for a whole lot more.

At this point, my team's eyes are rolling. When it comes to booking me a hotel room I am near impossible to please, apparently. I consider this wholly unfair. My list of key criteria for a hotel room are not complex, picky, or lavish. A comfortable bed. A pillow not stuffed with cubes of foam, a clean bathroom, curtains that keep the light out and walls that keep the noise out. Tick those boxes and I'm a good way to being happy. Is that really so demanding?

If I wanted to get picky, I might suggest a desk comes

in handy. And if a desk is provided, a chair that you can pull up to the desk to work seems reasonable. I could add ease of WiFi access, or the proximity of a power socket to the bed so I don't have to leap up to silence the morning alarm on my charging phone. Somewhere to hang a suit is good and something to press a shirt with is appreciated. Simple really.

But based on the recent crop of hotel stays, I started to wonder if the hospitality industry was experimenting on my patience or my sleep deprivation limits. Thankfully though I bumped into DTZ's James Maddock in New York, the morning after he'd checked into a hotel and checked out two hours later, accepting that the noise levels reverberating through his room meant he stood no chance of a night's sleep. I am not the only one!

In James's extreme action is a lesson. A hotel room has a basic series of functional requirements it must surely fulfil. If it falls on one of the primary requirements it fails on the whole. I don't want

mood lighting or a chocolate on my pillow. I want to wake up rested. But here's the key point for the FM observers

considered key assets in organisational performance, their workplace colleagues'

If the basic requirements are not met the value-adds are pointless, frivolous, 'chocolate on pillow' hollow design gestures.

using hoteliers as a case study; if a hotel experience is not to my liking, I don't come back - or like James, you can bail immediately. An employee is rarely afforded that choice.

A workplace has a more complex series of basic requirements, but the rules of engagement are the same; if those basic requirements are not met, the value-adds are pointless, frivolous, 'chocolate on pillow' hollow design gestures.

We believe that it is this failure to deliver a generally consistent fit for purpose basic product that has led workplaces, in the majority of organisations, to be seen as inflexible, burdensome liabilities.

So whilst HR and IT directors sit at boardroom

budget expenditure requests are seen as nothing more than a drain on profits.

Business continuity plans the world over recognise the importance of place, so why can't we project that into daily business? We appraise employees annually. How often do you appraise the infrastructure that accommodates them?

We have to change this. We have to find a way to position workplace as a key component in competitive advantage - as a tool in organisational performance. We have to commit to provide employees with a basic fit for purpose product that meets with their needs. Or risk those employees bailing. ■

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Our performance

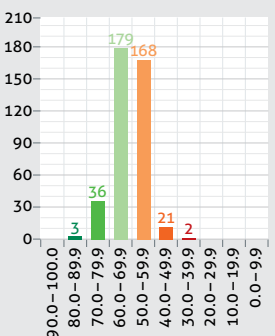
- 102,786 respondents
- 3.3 million sqm surveyed
- 836 properties
- 63% av response rate
- 11 min av response time

Economic indicators

54.7%
The design of my workplace enables me to work productively

49.0%
My office is a place I'm proud to bring visitors to

Lmi Location spectrum



Distribution of properties surveyed with 50 respondents or more by Lmi banding.

Data rise and fall

Top 5 Activities, Features and Facilities by importance, with satisfaction / support rankings.

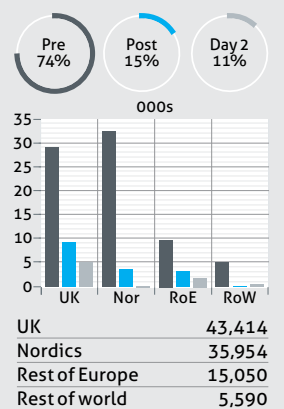
Activities:	Ranking
Individual focused work, desk based	77%
Planned meetings	77%
Telephone conversations	64%
Informal, unplanned meetings	63%
Collaborating on focused work	73%

Features:	Ranking
Desk	73%
Chair	68%
Computing equipment, fixed	66%
Printing / copying / scanning equipment	67%
Telephone equipment	69%

Facilities:	Ranking
Tea, coffee and other refreshment facilities	65%
General cleanliness	59%
Toilets / W.C.	48%
Restaurant / canteen	50%
General tidiness	57%

See more on pages 6-7...

Data distribution



Colin Rawlings

Noise remains a common challenge in the open plan office. Colin Rawlings reviews the impact on employees.

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Paige Hodsman

Businesses are losing 86 minutes a day due to distraction. Paige Hodsman looks at the role of the design community in reducing noise.

Page 3



Peggie Rothe

Are flexible workspaces without variety to blame for agile working cynicism? Peggie Rothe explores the impact of choice.

Page 4



Designing the Acoustic Office



Opinion | Colin Rawlings

Much has been written on the subject over the years but in reality very little has changed and certainly the science of sound has not.

By explaining that noise is just unwanted sound you have a good premise to look at what will really work acoustically. By creating quiet you end up with a library, a place where you can hear a pin drop, when someone coughs it shatters the silence, if someone dare speak everyone is listening whether interested or not in the content of the conversation. You know the office is too quiet when people leave the office to make phone calls and this is a common occurrence. As a business, vast amounts of money have been spent on the office fit out, furniture, the premises and of course the staff, only for them to then leave all that expense behind to make the very calls you pay them to make.

Open plan offices have been the norm for many businesses since the 50s and they are unlikely to disappear anytime soon. Of course home working is more viable now but many of us prefer to interact with colleagues, psychologically we like to “go” to work. From a business perspective the interaction is vital, information is shared, mistakes averted, and opportunities maximised.

So if you can have all that, why would you not? It just needs some consideration and planning, some collaboration between the designers, business, space-planners and of course someone who

understands office acoustics.

Thankfully over the last 12 years we have seen an increase in our involvement at the early stages of projects and the most successful projects have undoubtedly been where all the elements are duly considered and integrated. Many of those have in fact started with a Leesman survey to understand what the business needs and what the staff need.

The second challenge we face is budget. We can put a lot of time into the design and making our recommendations, then plans are drawn, specifications written and contractors engaged, but at the 12th hour there is the inevitable squeeze on budget. It seems that everyone needs desks and chairs, computers, giant LCD screens, air conditioning; the list goes on but out go the acoustic elements. Seen as a “nice to have” but not essential; however the office will now not function as it was designed. Hence the studies that show productivity reduced by 10 – 15%. Recently I heard from a colleague of productivity losses reaching 66%! Studies also show that poor acoustics is still in the top two complaints made by staff concerning their working environment. So it seems unwise to remove the acoustic elements and often they are installed with

hindsight, post occupation, and at greater expense. What are the challenges of good acoustic design? They largely fall into two categories; concentration and productivity in open plan or speech privacy and intelligibility in meeting rooms - the latter seems

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What are the challenges of good acoustic design? They largely fall into two categories; concentration and productivity in open plan or speech privacy and intelligibility in meeting rooms - the latter seems

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a contradiction in terms but hopefully the following will explain.

The needs vary depending on the business and the role of each person but the principles remain the same. A large proportion of a person’s day is spent on focused individual work that is probably at a desk using a computer. As humans we are susceptible to interruptions both visual and auditory.

The distraction may or may not concern that individual, they may or may not be interested in the content, but the loss of concentration has cost 10 -15 minutes of concentrated work. This is noise. Unwanted sound. Primarily speech, but it could be a banging door, an unfamiliar voice, someone making coffee.

Preventing unwanted sound in open plan offices is about reducing the distance at which intelligible noise can be understood; typically 15 metres or more in an untreated office.

Reflective surfaces such as windows, walls, floor, and ceiling allow sound

to travel significantly further by reflecting them. By carpeting the floor and using a non reflecting ceiling the distance is reduced. Windows are a compromise – difficult to do without, - but walls can be treated. Installing vertical barriers, whether that be desk screens,

free standing screens or strategically placed furniture; these barriers stop the direct path of sound providing they are sufficiently high, i.e. 1,200 – 1,400 mm from the floor.

Increasing the background sound in the office; not with music or recognisable sounds as that can add distraction and be perceived as noise. Sound masking systems are now in common use to artificially raise background sound using speakers; the technology, often referred to (incorrectly) as pink or white noise, now uses very high quality speakers emitting a random sound similar to rushing air.

Space planning can have a big influence, e.g. desk

locations, printer locations, walkways, breakout areas.

Of course etiquette is important, training staff to use areas of the office considerately and effectively; this has been shown to have a big influence on satisfaction. Holding meetings away from desks, choice of phone ringtones etc., an often overlooked element of good acoustics.

For meeting rooms’ speech intelligibility is paramount within the room to avoid misunderstandings and hearing strain. Four glass walls will have a predictable effect on sound even without calculation. Any sound is simply bounced around the room becoming more and more distorted. Four plasterboard walls will have a similar effect; sound needs

‘With poor acoustic design a business could risk losing completely the productivity of at least one generation.’

to be absorbed preferably before it is reflected. In designing a meeting room the correct amount of absorbing material must be included and placed correctly. Spending good money on better

microphones and speakers for tele/video conferencing will never be cost effective.

Equally, stopping the intelligible speech leaving the room is important both for confidentiality and distracting others. By absorbing the sound in the room there is less to escape but most problems arise through poor door soundproofing and gaps in ceilings; sound travels below the floor or above the ceiling. Sound masking can again help by artificially raising the background sound outside the room, thus reducing the amount of intelligible speech heard by an eavesdropper.

Lastly, a challenge we will all face is the changing demographic within the office. Before long there could well be five generations of staff using one space. Each generation

with its own view of open plan working and each with its own issues such as hearing loss. With poor acoustic design a business could risk losing completely the productivity of at least one generation. ■

Colin Rawlings MIOA | Acoustician | Acoustics By Design

Colin Rawlings is an acoustician specialising in office acoustics. Over the last twelve years he has worked on a wide range of projects both in sector and size throughout Europe. Colin regularly briefs private and public companies on acoustics as well as giving CPD presentations to architects and designers. His company, Acoustics By Design, offers consultancy and solutions to prevent or solve issues and he is considered an expert in sound masking.

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Sound design: How good acoustics supports growth



Opinion | Paige Hodsman

When American architect Frank Lloyd Wright designed the Johnson Wax Building in 1936, which to this day remains one of the most iconic open plan offices in the world, he faced considerable acoustic challenges.

With its soaring “lily pad” (dendriiform) columns, the extensive use of stone and brick, and its vast open spaces, it was clear that acoustic design would be demanding.

Lloyd Wright added cork to the underside of the balconies, installed rubber floors, and separated noisy office equipment from the open plan to address the problem.

Acoustics was a growing concern in the years that followed. By the 1950’s and 60’s we saw more and more technical manuals dealing with acoustics appearing on the market. In fact, four key words were routinely used when working with interior environments: sound, light, air and layout.

Yet nearly 80 years on from the Johnson Wax Building, it does seem like we haven’t learned much.

Productivity hit

Open plan offices, designed to make us more productive at work, are often not fit for purpose; largely due to poor acoustic design. Less than a third (28%) of those who work in them are satisfied with the acoustic conditions, according to the Leesman Index (2014). This finding echoes extensive international research from IPSOS and the Workspace Futures Team of Steelcase, which found that 85% of workers are dissatisfied with

the working environment and have difficulty concentrating.

Only 41% could work privately in an open plan office, yet 95% said privacy was important to them. More than a third said they had to leave the office to get work done.

The IPSOS survey of more than 10,000 workers also found that office workers are losing 86 minutes a day due to distractions, and that they are unmotivated, unproductive and overly stressed. Creativity is affected too, with limited ability to think creatively and constructively.*

All of this is particularly problematic when eight out of 10 of us work in open plan offices, even when doing tasks that require deep concentration for several hours a day.

Comprehensive solutions

We have long known about room acoustics and how to physically improve the conditions in open plan spaces. Wallace Clement Sabine effectively founded the field of room acoustics when he formally defined the reverberation time in the late 19th century.

Acousticians are exceptionally good at providing the right physical solutions. And these days, in addition to physical room acoustic solutions, we also consider how people perceive sound, how this impacts performance,

and how it affects productivity in the workplace.

When psychological and physiological (psychoacoustics) factors are taken into account, we can assess what acoustics means to an organisation as a whole. Only then can we come up with comprehensive solutions.

Distracting factors

Sound affects us all the time. Our hearing is the only sense that is “on” 24/7 and is reliable even when we sleep. We may think we are filtering out unwanted sounds, but our ears are still listening and our brains are still assessing what we hear.

Listening can be difficult to control, especially if the sound can be understood and it conveys something that is relevant to us. Speech is particularly disturbing when we can understand it but it isn’t relevant to us. This is because our ears are particularly tuned to the speech frequencies. It has been this way ever since humans began using speech for communication some 100,000 years ago.

In the office, there are a number of factors that can affect how we perceive noise. Sound affects us differently when we are writing an email than when we are reading a report, so what we are doing determines our response.

Whether or not we feel in control of the situation and whether the sounds are predictable also affect our perceptions, as do the context of the message and our attitude at the time. A further consideration is our personality type. Introverts may have more difficulty concentrating in noisy open-plan environments than extroverts.

Acoustic investment

With so many aspects to consider, it may seem daunting to tackle acoustic challenges, but there is clear evidence that the efforts will pay off. This is because we are addressing workers’ health and wellbeing, and thereby, ultimately, productivity and profitability.

Acoustics account for about 2% of performance, according to research by Oseland & Burton (2012) who were able to show that the effects of environmental conditions on office workers can be measured. This may not sound like a lot; but considering 80-90% of an organisation’s operating costs are associated with people and performance, it becomes obvious that small percentage increases in health, well-being and productivity can have a significant impact on an organisation’s performance.

The British Council for Offices (Richards et al, 2014) suggest that a 1% improvement in productivity may represent a saving of as much as £50 per square metre of office space per year. So a 2% increase from good acoustics would mean £100 per square metre per year. The impact may be even greater. Research from the Swedish Stress Institute is showing direct correlations between speech distractions

A holistic understanding of the science; physical measurements, as well as the

in offices and cognitive stress, this can result in increased illness related absenteeism and lower productivity.

Inclusive design

For sound design to be good, those designing, building and occupying a space must consider acoustics a priority and in the early planning stages. This is not always the case. Consequently,

‘The right office acoustic solution is about creating a space specific to the people within it, the activities taking place and the physical space itself.’

good intentions and solutions are often left on the cutting room floor at the 11th hour, only to be addressed post-occupancy, when solving the problems can be more complicated and costly. The more people understand about acoustics, the more they treat it seriously. Once they know poor acoustics can damage health and harm profitability, they also come to realise that investing in good acoustics quickly pays off as productivity increases.

A holistic understanding of the science; physical measurements, as well as the

physiological and psychological sciences, enable us to design sound solutions that benefit the organisation as a whole. The right office acoustic solution is about creating a space specific to the people within it, the activities taking place and the physical space itself.

An activity-based design approach lends itself nicely to a good acoustic solution because people can move about the

space and be supported acoustically depending on their needs. With a good understanding of exactly who is using the space we can create a design template that improves worker satisfaction and performance. Ultimately, this will deliver the sort of well-rounded, inclusive office design that is required in an age where technological developments and changes to organisational cultures have set workers free to work where they want.

The big challenge now is to create spaces that people will actually choose to work in. ■

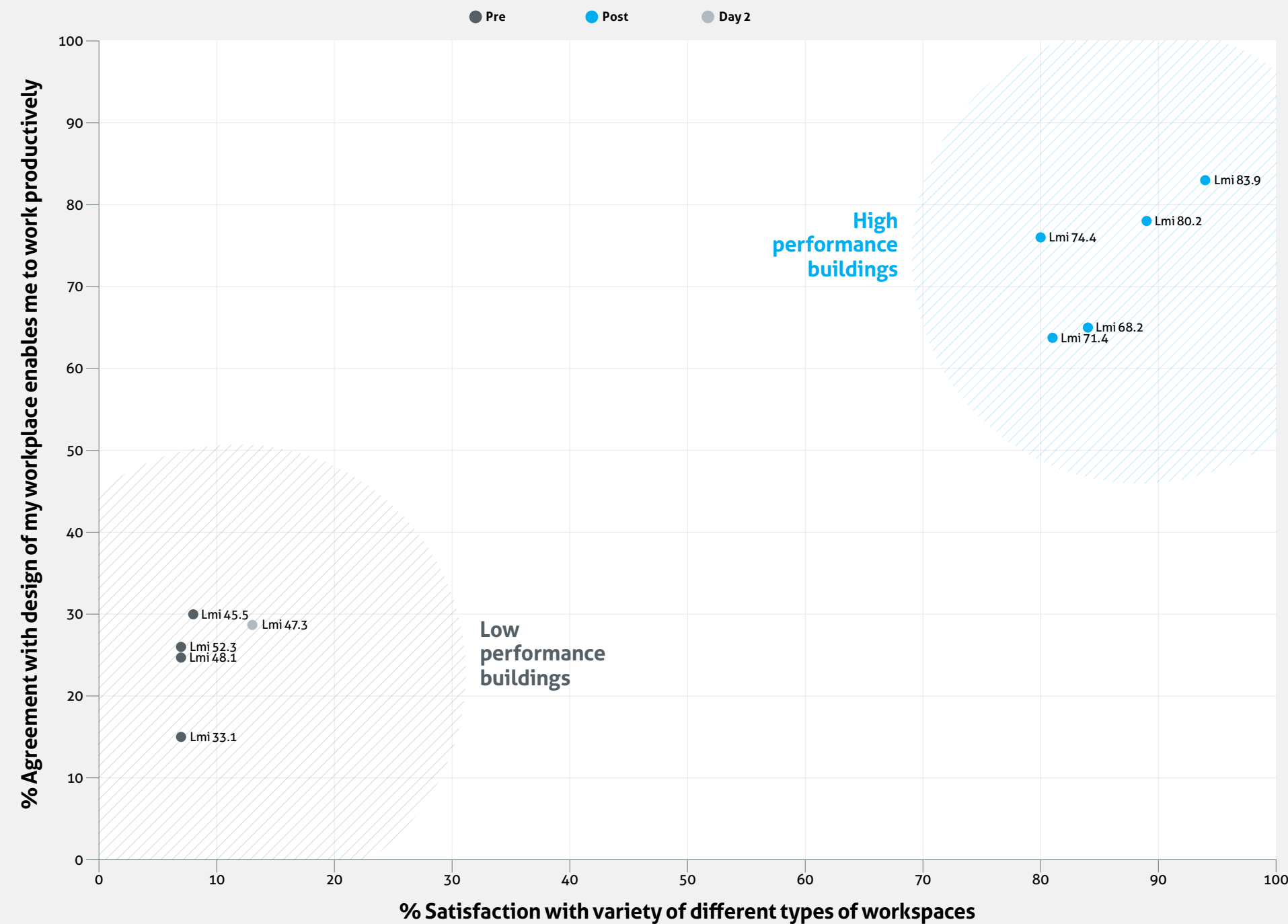
Paige Hodsman | Concept Development Manager | Saint-Gobain Ecophon

Paige Hodsman is the Concept Developer for Offices, UK and Ireland, for Saint-Gobain Ecophon. She has 16 years of experience in office interior and sustainable design applications and holds a PGDip in Environmental Management and a BA in Interior Design from the University Of Akron, Ohio, USA. As Concept Developer for Offices she works to raise awareness on the importance of good office acoustics for worker health, well-being and performance.

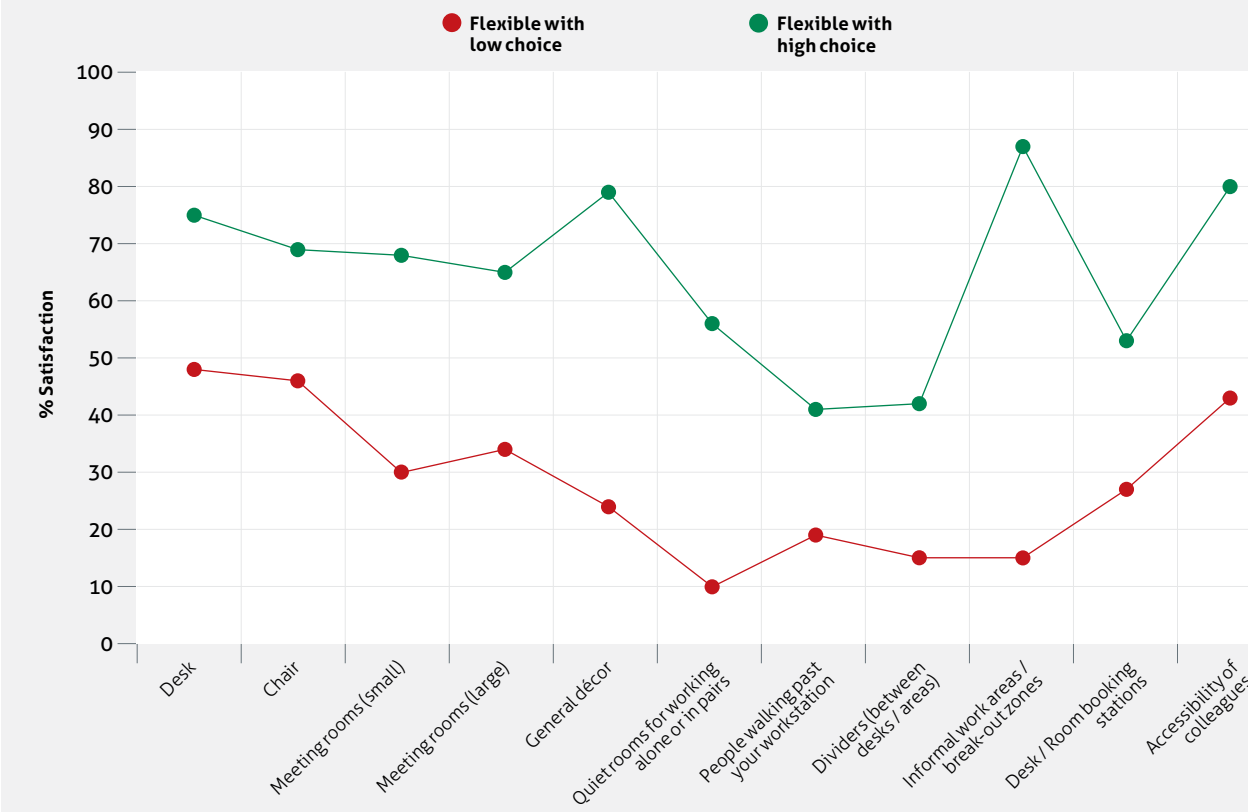
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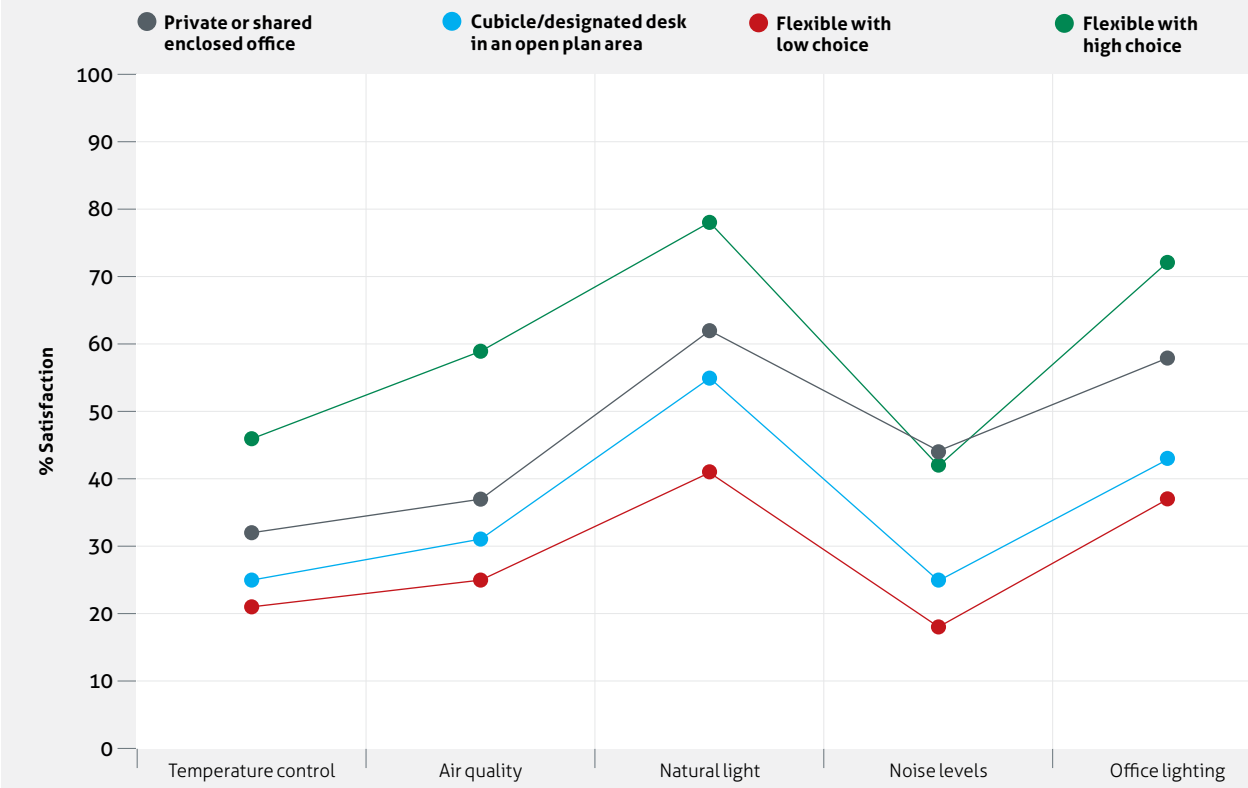
Are flexible workspaces without variety to blame for agile working cynicism?



Physical features



Indoor environment quality features



Time to take a stand: Workplace health matters

You may have heard of the emerging science showing the dangers of prolonged sitting - and the significant health benefits associated with breaking up and reducing "Sitting Time" with increased standing or basic movement on a daily basis. Get Britain Standing is a dynamic campaign run by Active Working C.I.C to educate the public and employers on the health risks (heart disease, diabetes (type 2), mental health and cancer), and the multiple benefits of reducing sitting time at the office.

Global media attention was given to the recent study published by the British Journal of Sports Medicine which strongly suggests office workers make an effort to stay out of their seats for at least two hours every workday, and eventually plan to spend at least four hours on their feet in some capacity. The study was written by a panel of experts and commissioned by Active Working C.I.C with the help of Public Health England. The recommendations are based on an analysis of more than 60 existing studies on sedentary behaviour and health outcomes.

'Physical activity for an hour or so per day can't undo the negative effects of sitting for eight hours; any more than running a mile can't erase the damage caused by a smoking habit.'

Gavin Bradley, Founder of Active Working and Campaign Director of the Get Britain Standing campaign which has now gone international, explains: "Multiple researches show that prolonged and excessive sitting at work is impacting health, wellbeing and productivity of employees." "Sitting is such an important ball that we have dropped. We've known more or less for 50 years that sitting has had an impact on health. What's more physical activity exercise for an hour or so per day can't undo the negative effects of sitting for eight hours; any more than running a mile can't erase the damage caused by a smoking habit. It's a matter of seeing standing as your default position as opposed to sitting as your default position."

Gavin is very clear on what needs to be done: "The primary focus has to be reducing our sitting time - especially at work. It all starts with assessing your Sitting Calculator - just as you assess your daily calories, weekly exercise and alcohol consumption. The benefits are huge and business is now learning more about the amazing benefits of something that is relatively simple."

Active Working are now assisting an increasing number of companies plan their journey in this direction. It is vital that each member of staff is correctly educated and trained. Strong leadership is essential to promote cultural change within every office; unfortunately behaviour change is not as simple as just putting in a new sit-stand desk.

For more info visit:

www.activeworking.com



Report | Peggie Rothe

Increasingly organisations are favouring open plan environments for their employees but this is often met with cynicism; it is simply a fad or a way of reducing desk numbers. However, as Peggie Rothe explores, is the failure of open plan environments down to a lack of variety?

Like it or not, workplaces are increasingly becoming more open, agile and flexible. Walls, doors, private offices and designated desks are all out, in favour of low-enclosure, higher density open landscapes, with little opportunity for personalising the workplace, creating anonymous environments to which nobody has any form of place attachment.

But that damning diagnosis of the new wave of workplace is not entirely fair. In a small crop of examples, we are seeing one vital component where the possibility to personalise has not been removed - it's just offered in a different way. And has made a huge difference to the success of those spaces.

In theory, in a flexible environment, instead of having the ability to personalise your workstation, you have the ability to

personalise the way in which you use the work environment. You can choose how and where you work and select the kind of environment you prefer to be in for the particular activity you are undertaking. Because you can move from one setting to another, you are exercising control of your indoor environment, personalising your working day.

So the best flexible environments provide a much bigger palette of customisable features than a single workstation with a picture of your kids can ever do.

But there are two species of flexible workplace: lets call them 'high choice' and 'low choice'. The lowest choice way of doing it is simply deciding that workstations are no longer designated to individuals and expecting employees to perform all their

tasks at the non-allocated desk that they have occupied that particular day, without offering any alternative settings. There's not much flexibility or agility in that. We rarely see these spaces deliver high effectiveness or productivity scores.

The highest choice way, is offering the widest variety of different work settings to choose between. And the wider the variety the better. This gives the employee a sense of control of the surroundings available to choose from and is highly likely to result in higher satisfaction with the workplace in general.

And the difference between a high choice and low choice workplace can be significant. Unfortunately though, the difference between the good and the bad solutions are not widely understood and it tends to be the experiences

'Noise levels is the only indoor environment feature where the private and shared enclosed offices have a slightly higher satisfaction score than the 'good' flexible workplaces. The satisfaction is 44% compared to 42%.'

from poorly implemented flex environments that create the high profile news stories.

So how big is the difference? We took the respondents in our database who work flexibly within their workplace and divided them into two groups based on their positive or negative satisfaction with "variety of different types of workspace."

The satisfaction levels of various physical features support the assumption, as satisfaction with e.g. "informal work areas" is 87% in the 'good' compared to 15% in the

'bad,' is 56% compared to 10% for "quiet rooms for working alone or in pairs" and 68% compared to 30% for "small meeting rooms."

Looking then at satisfaction with the indoor environment quality features, the numbers reveal more intriguing results. Let's take "temperature control," for example, which is one of those things that constantly deliver low satisfaction. A shocking 27% of the respondents in our entire database are satisfied with "temperature control." But an even smaller proportion (21%)

of those who work flexibly who are dissatisfied with the "variety of different types of workspace" are satisfied with temperature control. For those who work flexibly who are satisfied with the "variety of different types of workspace," satisfaction with temperature control more than doubles to 46%.

Most intriguingly, this is higher than the satisfaction among those who work in a cubicle or have a designated desk in an open plan (25%). This is also higher than the satisfaction among those who work in a private or shared enclosed office (32%), further supporting the notion that having the possibility to choose and customise one's location, increases satisfaction across multiple factors.

The same trend repeats itself for other indoor environment quality features: natural light,

office lighting and air quality. Noise levels is the only indoor environment feature where the private and shared enclosed offices have a slightly higher satisfaction score than the 'high choice' flexible workplaces. The satisfaction is 44% compared to 42%.

So are there drawbacks? The respondents from the best flexible environments do report a lower satisfaction (34%) with the ability to personalise their workstation,

compared to the respondents with designated desks (59% for private and shared offices and 45% for cubicles and open plan). But perhaps this is a fair trade off for the ability to positively influence a lot of other aspects of the workplace.

The implications are quite straightforward. Flexible environments can go terribly wrong, but when done well, high satisfaction scores can be achieved. However, just taking away the designated

desk and going 'agile' does not automatically support personalisation in its wider meaning. Variety is key and seemingly the more the better.

The most flexible thing in the workplace is the user, but only if you enable them to be flexible. This requires a wide variety of work settings, technology tools that enable flexible working and a management culture that is supportive of a new mobile working mind-set. ■

Peggie Rothe | Development Director | Leesman

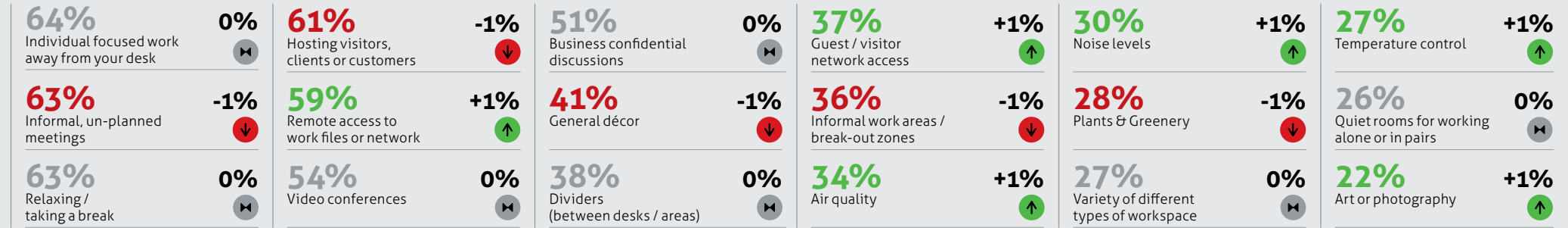
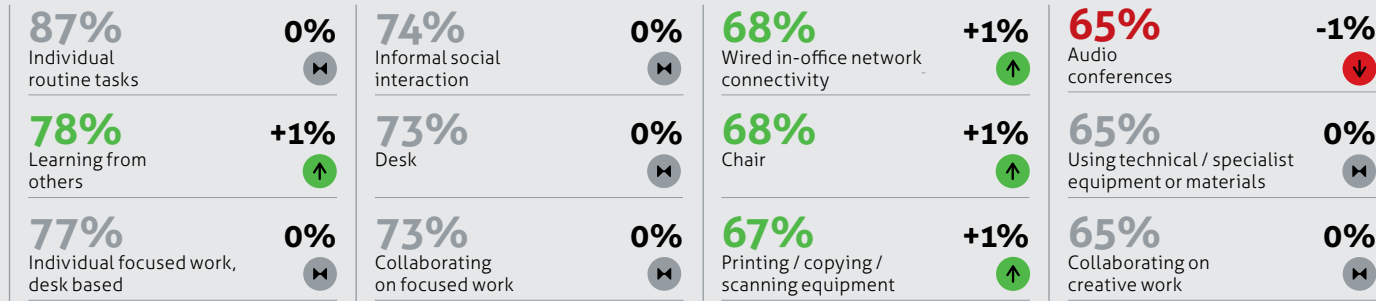
Peggie is Leesman's resident academic. Before joining the team in September 2014, she worked as a researcher at Aalto University (Finland) with a focus on corporate real estate and workplace management. In her research she looked at topics such as usability of work environments, office occupiers' workplace preferences and short-distance office relocations, and she has published her findings in several peer-reviewed academic journals.

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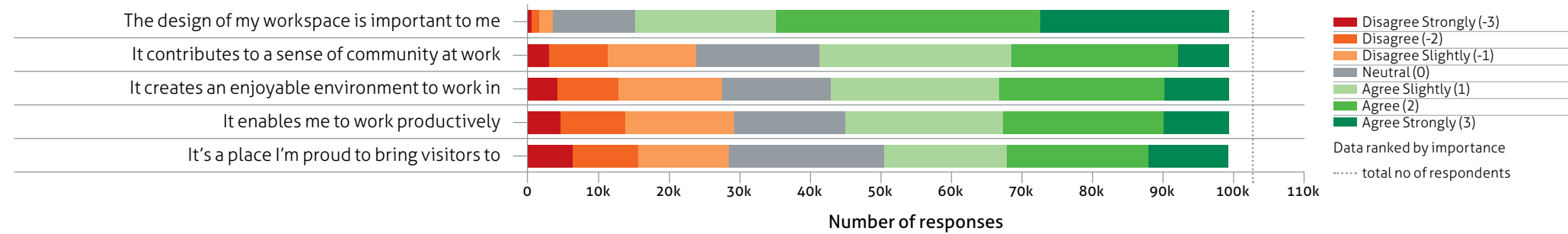


2015 Q2 Data Summary Lmi 60.1

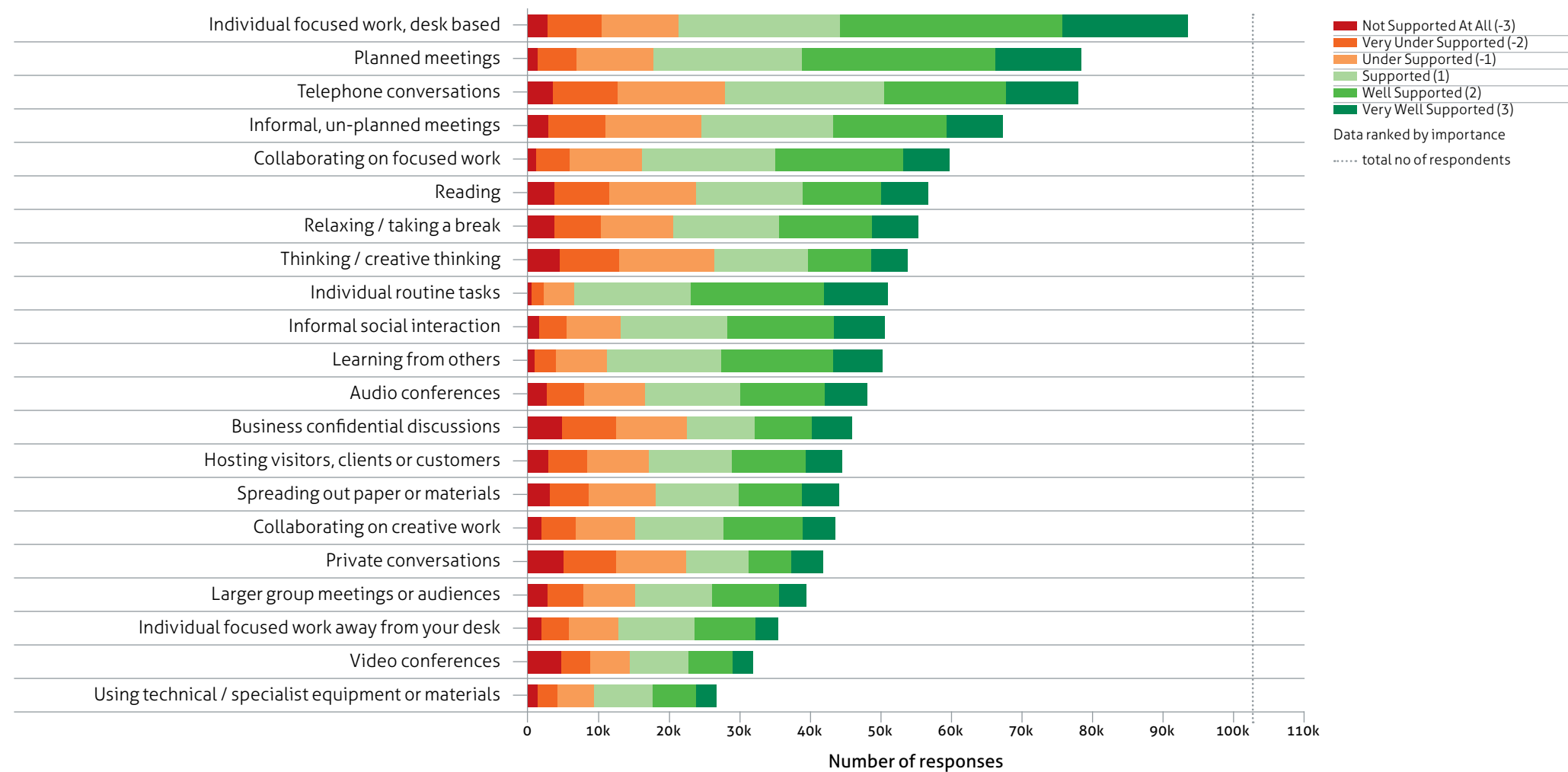
Ratings reported from 102,786 respondents surveyed to 30th June 2015. Variance shown from 2015 Q1. Figures represent combined 'supported, well supported, very well supported' activities and 'satisfied, highly satisfied' facilities and features listed.



Q.1 How much do you agree or disagree with the following statements about the design of your organisation's office?



Q.2 Which activities do you feel are important in your work?

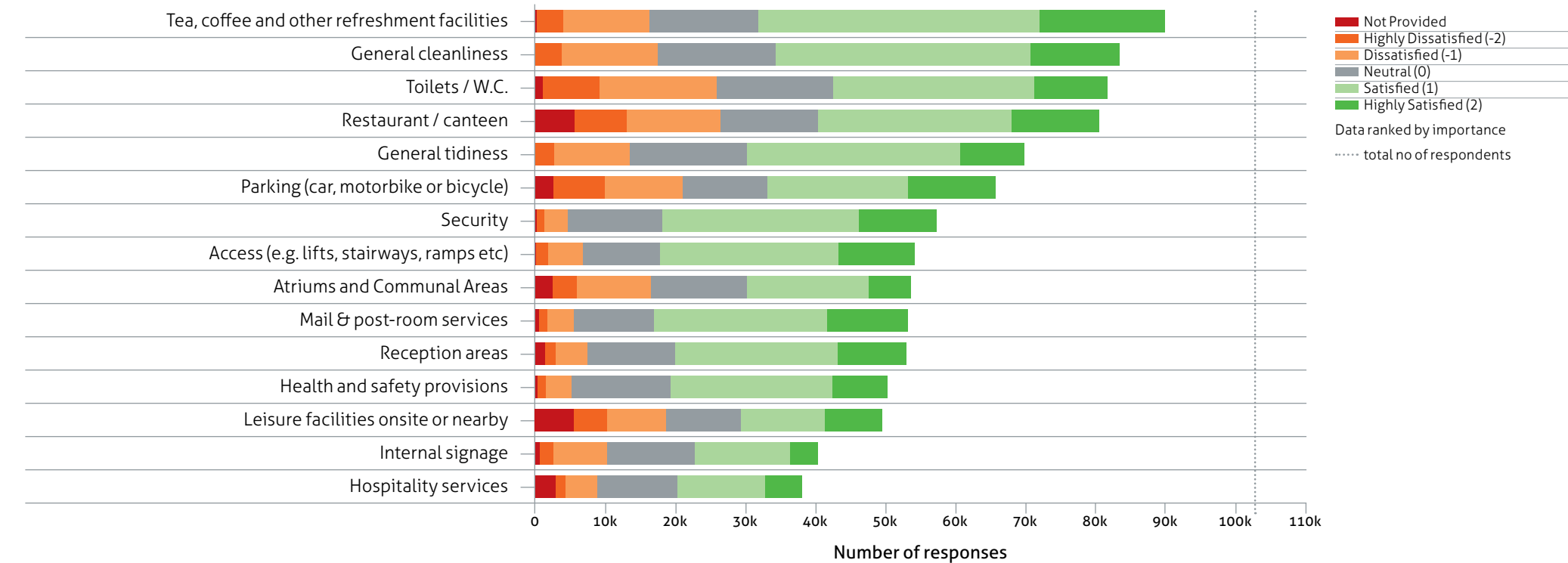


Data review
The data reported above shows highlights from the aggregated results across the 102,786 individual respondents received at 30th June 2015. These results are provided through the Leesman Index employee workplace satisfaction e-survey, which has been conducted across a range of pre and post occupancy workplace projects as shown.

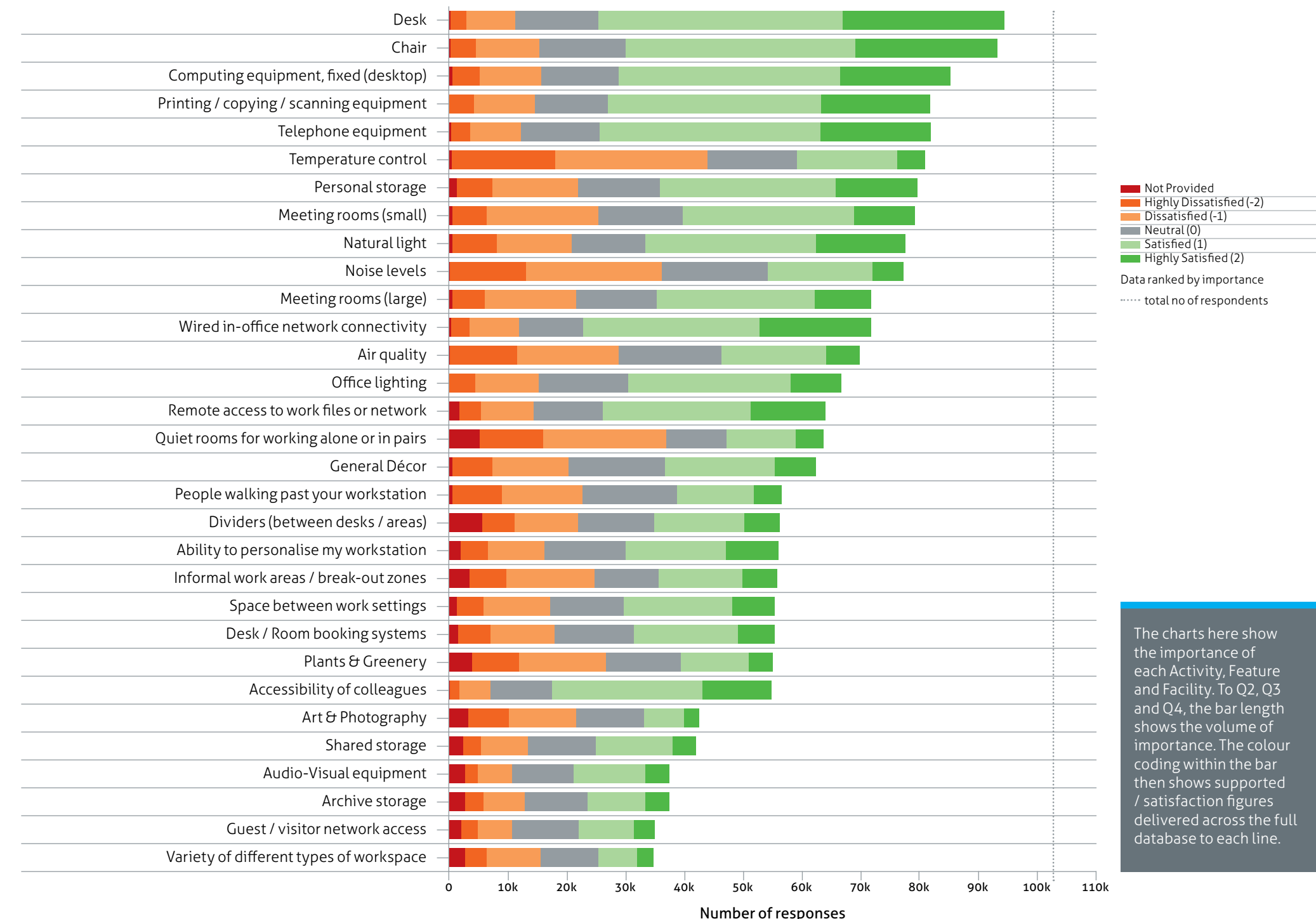
The survey is based around a fixed core module in which the questions asked do not vary. This provides us with an unrivalled ability to report and benchmark consistently across that data and offer valuable insight into differences between any number of variables, including industry type, location, gender, age or length of service.

- 836 locations across 48 countries
- 74% pre-project, 15% post-project, 11% other
- 63% average response rate
- 11 minute average response time

Q.3 Which facilities do you consider to be an important part of an effective office?



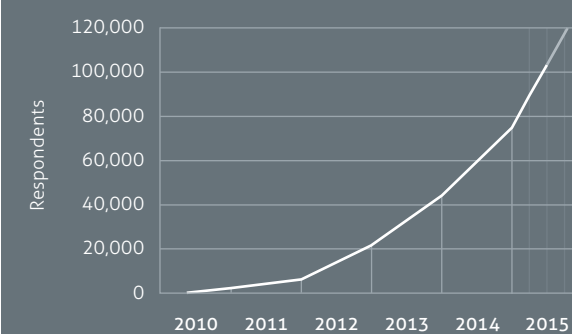
Q.4 Which features do you consider to be an important part of an effective workspace?



The charts here show the importance of each Activity, Feature and Facility. To Q2, Q3 and Q4, the bar length shows the volume of importance. The colour coding within the bar then shows supported / satisfaction figures delivered across the full database to each line.

Leesman Index Q+A

Standardised Workplace Effectiveness Measurement



Europe's largest resource of contemporary workplace performance data

- Who are Leesman?** Europe's leading and fastest growing independent workplace effectiveness measurement experts.
- What makes Leesman 'independent'?** Leesman offer no consultancy services – just standardised effectiveness measurement tools.
- What is the Leesman Index?** Leesman's standardised effectiveness measurement benchmark that calculates an 'Lmi score' for each workplace.
- What is the Lmi measuring?** The activities people are doing and how the physical features and facilities services provided support them in their work.
- Are the responses confidential?** Yes, completely anonymous. No response can ever be linked back to an individual respondent.
- So what will that data show?** Exactly and very graphically how well your real estate is supporting the work of your teams in your spaces.
- And does this measure staff productivity?** Not directly, but it does ask whether the design of the workplace enables staff to 'work productively.'
- What types of organisations are using Leesman?** Anyone with staff occupying a workplace ranging from motor manufacturers, legal practices, financial services, Higher Education institutes, aviation, broadcast media and more.
- When is best to do a Leesman survey?** In truth at any time. But certainly as early as possible in planning a capital project.
- Can it then be used after a project is complete?** Yes, this is a perfect way of measuring the improvements achieved if a survey was also done prior.
- How many people should be invited to participate?** Leesman will help you get as many respondents as possible – it has no bearing on the cost.

Audio comfort boosts productivity in offices



Case study | Stacey Temprell

With almost half of all office workers dissatisfied with noise levels in their working environment,¹ Stacey Temprell, Residential Sector Director at Saint-Gobain UK, explains how audio comfort in buildings can affect health and wellbeing.

For years, it has been known that the relationship between the design of a commercial building such as an office impacts on the health, wellbeing and productivity of its occupants. In fact, we now spend up to 90% of our time indoors – either in buildings or vehicles – whether at work, home, or in our spare time. Yet few people think, and really challenge, how our buildings are actually performing and how they affect our health and wellbeing.

Saint-Gobain, world leader in the sustainable habitat and construction markets, has identified five key elements that contribute to our comfort levels in buildings; visual, indoor air quality, audio, thermal and economic comfort.

Through research and development of these five qualities, Saint-Gobain has created and recently launched ‘My Comfort’ – the Multi-Comfort building concept that delivers benefits for occupant wellbeing and the environment.

The Multi-Comfort concept and ‘My Comfort’ starts from the central premise that all buildings can be designed to:

- Provide the highest levels of all-round comfort for their users;
- Genuinely and positively contribute to our health and wellbeing;
- Deliver the highest levels of efficiency, saving bill payers money;
- Achieve the Passivhaus standard of energy efficiency.

The four factors of thermal, audio, visual, and indoor air comfort are better understood today than ever before. When designing and constructing buildings, a holistic approach is the best way to guarantee user comfort.

Why build for productivity

For employers, a happy, healthy workforce is vital for maximum productivity, leading to a successful business that survives in the long term. Employees are often the biggest expense to a company, so it is in the business’ best interests to look after them. According to a UKGBC report, staff costs, including salaries and benefits, account for around 90% of a company’s operating costs. Although energy reduction should be emphasised as a general

culture change in everything we do, for a company, energy costs account for just 1% of their typical operating costs.² Though employee absence due to ill health may seem insignificant, it can cost UK employers billions every year through lost production, recruitment and absence, so it’s important that they care for their employees.

Audio Matters

Today’s world is often noisy. To create an acoustically comfortable environment, we want to amplify some sounds, such as speech, but also minimise others, such as background noise and traffic outside. This balance is achieved by the absence, or reduction, of unwanted sounds combined with adequate levels and quality of desired sounds.

A study in 2005 found that 99% of people surveyed reported that their concentration was impaired by office noise such as unanswered phones and background speech. This can be directly linked to levels of stress in the workplace, as well as a reduction in employee productivity.³

Other consequences of noise exposure have been identified, including cardiovascular disease, high blood pressure, headaches, hormonal changes, psychosomatic illnesses, sleep disorders, reduction in physical and mental performance, stress reactions, aggression, constant feelings of displeasure and reduction in general wellbeing. To improve wellbeing through audio comfort, we need to understand where sound disturbances are coming from.

There are two ways of assessing the effects of audio comfort: by looking at the way good acoustics can make living indoors easier, and by explaining the far-reaching consequences of noise on our bodies and minds.

The quality of sound in an indoor space is determined firstly by the sources of sound or noise (indoors and outdoors). Four types of sounds may be experienced within a building: exterior noise, mainly from transportation; interior noise; impact noise, such as footsteps; and equipment noise, from appliances and ventilation systems.

These noises can either be transmitted through the air

or through the building fabric. With the latter, they may be transmitted from the outside inwards through the envelope, vertically from floor to floor, or laterally through internal partitions.

The way sound behaves within the space will depend on levels of reverberation and absorption within the building. The acceptance of a given sound depends on many

The facts

The evidence to support the effects of improved audio is clear:

- Research has proven that well-designed sound environments in offices favour concentration and facilitate communication, so having a positive effect on the interaction and behaviour of people within such buildings.

When designing for acoustic comfort today, we must first understand the needs of the building’s occupants, taking into account the activities to be performed.

factors, which vary according to the type of building and the type of activity performed.

When designing for acoustic comfort today, we must first understand the needs of the building’s occupants, taking into account the activities to be performed. The variety of external and architectural factors will need to be considered in terms of what types of noise need to be managed from external spaces and inside the building. The spectrum of noise frequency levels will have an impact on the design requirements.

For new build projects, the Multi-Comfort standard sets out four criteria for achieving audio comfort, including acoustic sound insulation, acoustic absorption, speech clarity and intelligibility and harmonious resonance.

Audio comfort in a building is dependent on the acoustic characteristics of the building fabric in regard to acoustic transmission and absorption. Materials that provide sound insulation by having a low acoustic transmission, such as glass in windows and facades, will help protect building occupants from outside noise.⁴

Absorbing materials, such as Isover’s Acoustic Partition Roll (APR1200) mineral wool, will also help reduce airborne and impact noises inside the building, meeting the highest building regulation standards.

- Not only is noise a clear distraction that hinders office workers carrying out their work accurately and efficiently, it can also have a detrimental impact on health and levels of stress.³
- A study in 1998 found that there was up to a 66% drop in performance for a ‘memory for prose’ task when participants were exposed to different types of background noise.⁵

The importance of wellbeing

Wellbeing is increasingly being acknowledged as a valid yardstick in public policy. The UK government began to collect data on ‘national wellbeing’ in 2011 to complement existing financial and economic measures of the nation’s progress.

Taking a holistic approach to the importance of comfort, health and wellbeing in buildings is the way forward. By carefully considering all the different areas of comfort that a building can – and indeed should – provide, we are able to improve people’s wellbeing within buildings, regardless of the types of buildings and the specific activities taking place inside them.

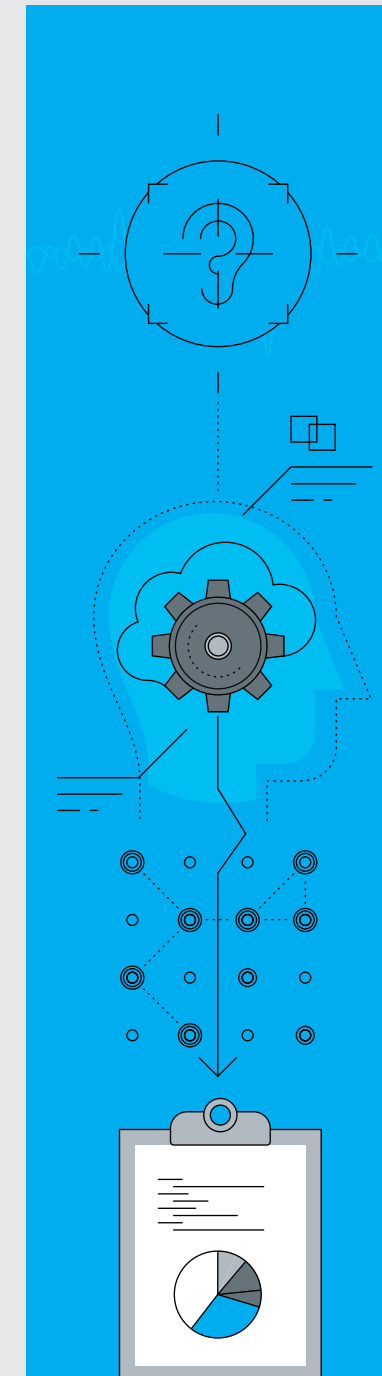
At Saint-Gobain, we believe that sustainable habitat is within our reach, and by providing sustainable products and solutions, this vision can be made a reality. ■

Read more about Multi-Comfort here:

www.multicomfort.co.uk

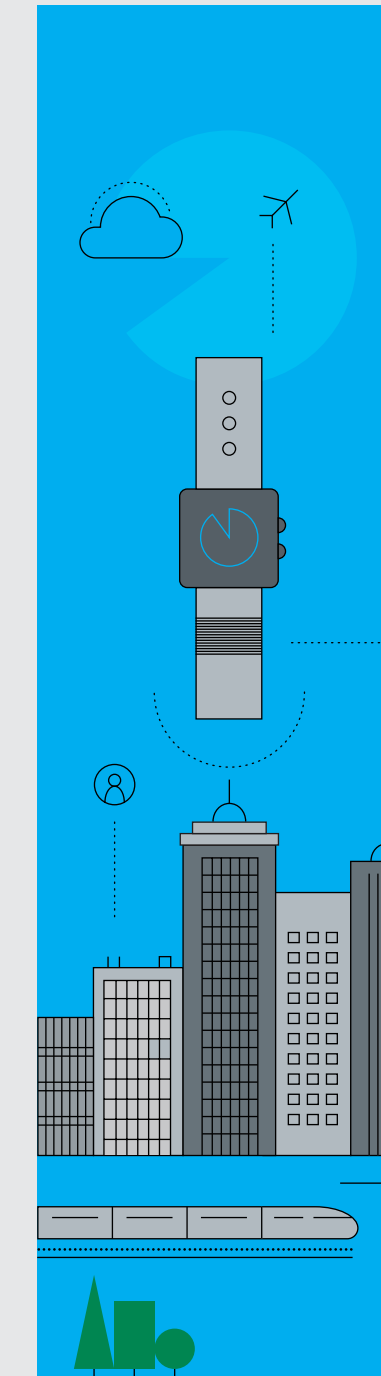
If you have a specific project that would benefit from the My Comfort approach, please contact us:

sgukcomms@saint-gobain.com



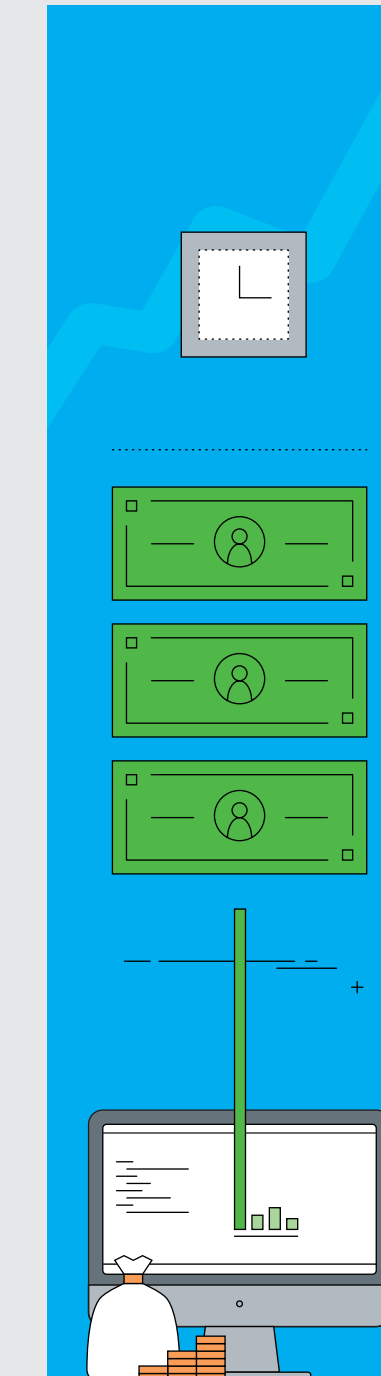
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66%



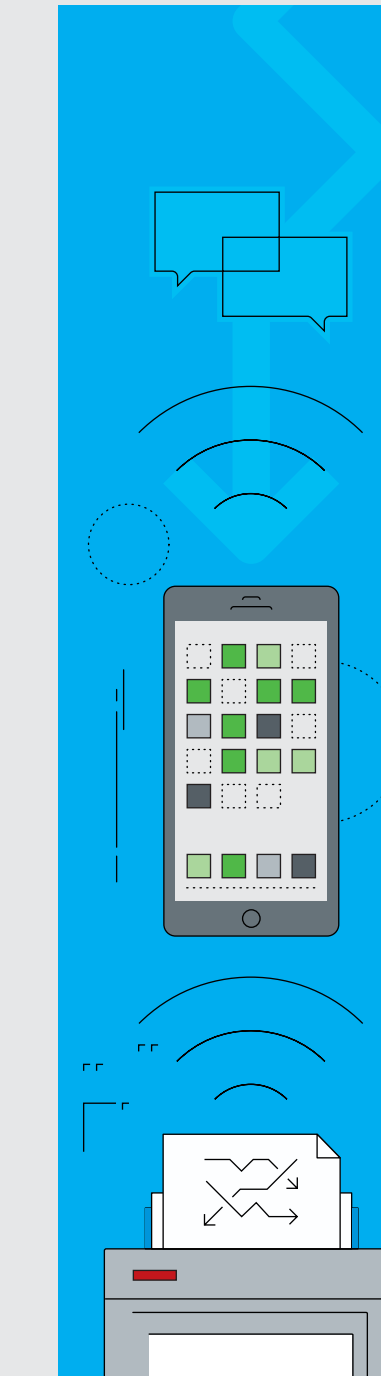
We now spend up to 90% of our time indoors – either in buildings or vehicles – whether at work, home, or in our spare time.

90%



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90%



A study in 2005 found that 99% of people surveyed reported that their concentration was impaired by office noise such as unanswered phones and background speech.

99%

¹ Leesman Review, 2014
² UKGBC Report, ‘Health, Wellbeing and Productivity in Offices: the next chapter for green building’, 24 September 2014.
³ Banbury SP and Berry DC, (2005) Office noise and employee concentration: identifying causes of disruption and potential improvements. Ergonomics 48:1, pp. 25-37.
⁴ Shepherd D, Welch D, Dirks KN and McBride D. (2013) Do Quiet Areas Afford
⁵ Banbury SP and Berry DC, (1998) Disruption of office-related tasks by speech and office noise. British Journal of Psychology 89:3, pp. 199-517



Soundscape: building an acoustic workplace from ground up



Report | Amy Carswell

A new building offers many new opportunities – but for Plantronics, creating an outstanding acoustic environment is the most important. We joined Philip Vanhoutte and the Plantronics team for a one-day summit looking at the importance of indoor environment design.

20 years ago, Plantronics moved its European headquarters from Switzerland to Hoofddorp in the Netherlands. In the time since, its business has tripled in size and last year the decision was taken to find a new home. And for Philip Vanhoutte, Senior VP and Managing Director of Europe & Africa for Plantronics, this means an unrivalled opportunity to build a smarter working reality show.

Philip is a vocal advocate for new ways of working and over the past few years has researched and implemented radical new office changes globally to support the growing trend in agile working. His book, “The Smarter Working Manifesto” is a definitive guide on how to build the best workplace, both on and off premises, for the 21st century organisation.

Plantronics was Leesman’s first live survey in summer 2010 and the findings were used extensively in the refurbishment of their UK centre in Royal Wootton Bassett. The data later informed subsequent projects in Cologne, Madrid, Hoofddorp and Paris.

But for the first time outside the US, Plantronics has decided to create a

‘We are building a soundscape – a business environment that celebrates the presence of sound but acknowledges the destructive nature of noise.’

workplace from the ground up and has chosen to work with Dutch developers Delta to create a new building on their Park 20|20 in Hoofddorp. The building will be called “Soundscape.” The building’s architectural shell is presently being designed by D-dock.

Park 20|20 is seeking to set a new standard of sustainability, with a human centered design approach, geared to energise and empower employees through inspiring ergonomic architecture, integrated landscaping and a high level of facilities to accommodate the combination of professional and private life, so sits well with Plantronics’ desire for staff to have the freedom to work where and when works best for them and help employers identify the right working environment for their teams.

Philip Vanhoutte: “We have become increasingly vocal about the topic of working environments, not just for ourselves but for our customers. So Soundscape should be ‘an experience’.

We want to synthesize the knowledge we have amassed through our recent property projects and from the world’s leading experts and make sure this building is a major focal point for customers to understand the Plantronics passion and see our products in action.”

Vanhoutte is clear – Soundscape will deliver the best possible working

Just 29.7% of employees in the Leesman database are satisfied with noise levels in their workplace and a dissatisfaction with noise is statistically the strongest likely indicator of poor perceived productivity.

environment for his colleagues, but in doing so, will also be the best possible advertisement for everything they believe in. So whilst Plantronics employees are free to choose the best location (home or office) for the task they are undertaking at that time, he wants Soundscape to be a magnet: “If we get this right, they



won’t want to work anywhere else – and I intend to get this very right.”

But at the epicentre of Vanhoutte’s thinking, is a determination to address the issues of workplace noise.

destructive nature of noise. That’s a fine line. But a line I expect this building to test. It is increasingly important for companies to understand how sound affects its bottom line and to take appropriate action to soundscape their workplace.”

Not so easy when around half of the associates in Soundscape are in a technical contact centre, talking to clients and colleagues on phones. So Leesman helped Plantronics by facilitating a knowledge exchange with a number of internationally recognized sector experts. They were asked to share their thoughts on the potential for Soundscape to act as the first “live lab” on the role of sound and noise in offices. Below are a series of sound-bites from that day. And the Leesman Review will keep readers updated on the progress of design and construction. ■

Just 29.7% of employees in the Leesman database are satisfied with noise levels in their workplace and a dissatisfaction with noise is statistically the strongest likely indicator of poor perceived productivity. “We are building a soundscape – a business environment that celebrates the presence of sound but acknowledges the

Thoughts of the expert panel

Suvi Nenonen – Research Manager at Aalto University

- Lets first acknowledge that “place” is a “space” we experience. And personalisation makes a space a place.
- Usability of workplaces – use the user journey as the logic. But the experience starts at home. The whole journey needs to be considered.
- Virtual Place – digital capabilities, behaviour and practices. We are well aware of different user profiles at the office, but what are our virtual work profiles? Where are they connected? Communication via emails/chat – office life is decreasing hierarchy of the organisations. The youngsters do have a lot of power.
- Restorative environment insights – in nature we feel like we are away, having a break, can we bring this inside?

Colin Rawlings – Director at Acoustics By Design

- Creating the right environment for employees to work. Acoustics is all about maths!
- Sound is everything that you hear – can all hear a range of sounds from different frequencies. At age of 18 lose ability to hear high frequencies, adults only hear up to 20,000hz.
- Sound and noise are two different words. Have to keep the definition of sound and noise clear. Noise is the distracting element.
- Speech privacy issue – ability to have conversation with various levels of confidentiality.
- Concentration issue – ability to concentrate and be productive either individually or as a collaboration.
- Principles – reduce reflection of noise and the distance noise can travel uninterrupted



Louis Lhoest – Managing Partner at Veldhoen + Company

- Have a clear understanding of what is the space intended for? How will the user use it?
- Make work more effective and efficient but also more enjoyable for both the organisation and the employee.
- This involves not only the building and physical environment, but IT, leadership style etc. the building is merely an enabler for change.
- Easy to talk about trust and empowerment, but how is it expressed in our daily lives. To what extent are people really able to make their own decisions?
- The foremost element of analysis is the “activity.” What do employees do in their roles? Where do they spend their time?
- Then what’s the best guess we can make with the data at hand about the future functional requirements and the variety of settings that are needed.

Simon Hewitt – Service Operations Director at Molex

- What supports all the work in the background?
- Biggest emerging trends in the world are that more and more things are running on IP. Eg Lighting, traffic counters
- The building blocks of a functional building are driven from the IP infrastructure.
- IP infrastructure definition – wired, wireless – anything with an IP address (internet protocol) more and more devices have IP, not just phones and computers. All have about 10/15 devices personally.
- The physical cabling infrastructure is an integral part – highway where everything transmits.
- All increase the demand on your network.
- Is fixed cabling dead? Definitely not – a wireless transmitter has a wire in the back – but it is changing!

Business leaders, listen up. Noise is an issue.

Comment | Philip Vanhoutte

In July 2010 I was interviewed for the first Leesman Review, having just accepted the position as chair of the Leesman Advisory Board. I was quoted then as saying that I thought "this is perhaps the first opportunity for business leaders like myself to have a clear statistical picture of how employees are engaging with the work places we provide for them."



I don't think at that stage we ever discussed at what pace the database would grow. Issue One of the Leesman Review featured the results from just 227 respondents. Issue Two in March 2011 featured 1,636 respondents and by summer 2011,

5,131 respondents. Hardly a clear statistical picture or compelling evidence then.

But now at 100,000+ respondents and we – business leaders – have to pay attention. And we have to accept that if a mass of respondents that big tell us something isn't working, it isn't working!

77% of employees list "noise levels" as an important workplace feature, yet 46% of them are dissatisfied with noise levels in their workplace. It's not the worst performing line in the database. In bottom place "Quiet rooms for working alone or in pairs" is listed as important by 63% of employees, yet here 49% are dissatisfied.

Statistically, dissatisfaction with noise levels is the strongest indicator of perceived poor productivity. So business leaders be aware – noise is an issue. And it is costing you dearly. As more and more workplaces move to lower enclosure (decellularised) workplace solutions, the issue is going to get bigger and employee dissatisfaction louder.

So worth clarifying that noise is a classification of sound. It means any unwanted sound. And sounds that disturb people or make it difficult to hear wanted sounds in the

workplace must surely be unproductive. And the attritional cumulative impact of the inefficiency it creates over time, almost impossible to quantify financially in lowered productivity.

But this is the power in the Leesman database. The workplace world cannot ignore that 46,000+ employees have an issue with noise. So the question then I guess is who will champion this cause?

'The workplace world cannot ignore that 46,000+ employees have an issue with noise.'

Plantronics will try and do its bit with the development of "Soundscape," the new Plantronics European corporate centre in Hoofddorp, Amsterdam. We are creating a new building from the ground up with a deep understanding of sound / noise as the bedrock for the project.

But beyond my domain, who professionally is going to champion this cause? Architects / interior designers have long since struggled with the fact that the materials they favour exacerbate problems with noise (glass, concrete, ceramics, metal) and lead to accusations of "designing

for the eyes not the ears" from sound experts like Julian Treasure.

So where is the HR community in this debate? They have a professional responsibility for protecting the wellbeing of the employees in their organisations. Should they not also be the defender of their acoustic welfare?

The latest issue of the Harvard Business Review (HBR) calls for the HR

productivity is understood.

Within the data amassed by Leesman to date, is the knowledge that in the right hands will create the highest performance workplaces. I have set about understanding it, evangelising it and ensuring that our new Soundscape building is the highest performing building in our portfolio, perhaps even in the Leesman database.

But if you are reading this journal, there is a chance you are in a position where you can influence a workplace. And so I challenge you to do the same. To focus on noise. Armed with the knowledge that issues with noise are statistically the most likely to undermine the effectiveness of those workplaces you influence. ■



Philip Vanhoutte,
Sr VP & MD EMEA of
Plantronics and chair of
Leesman's Advisory Board

pvh@leesmanindex.com

A deep dive into the data

Following the success of our one-day summit, with contributions from HR thought leader Perry Timms, senior lecturer at Sheffield Hallam Ian Ellison and Sevil Peach, we will be hosting an event that will explore the data

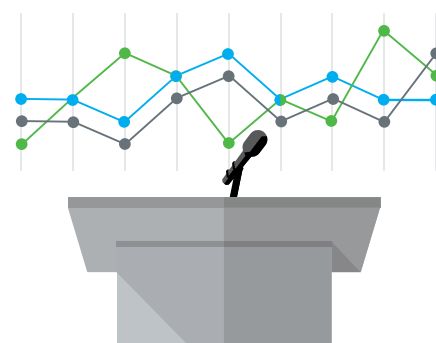
within the Index in much more depth.

As we move past the 100,000 responses milestone we will outline the insights that our Index has uncovered in that time. Having reached data stability at approximately 70,000 responses we can be

confident that the picture emerging is a robust reflection of what is, and isn't, working in modern workplaces.

If you would like to receive more information about this event then please email

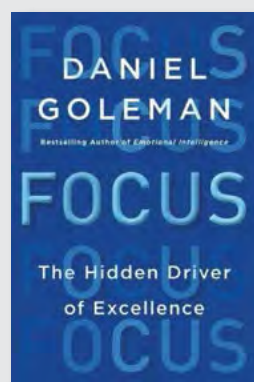
events@leesmanindex.com



Worth a closer look

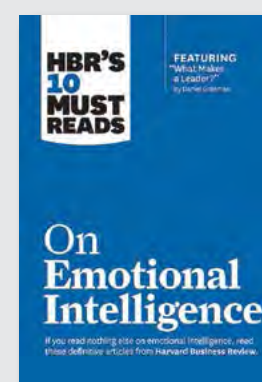
Focus – The Hidden Driver of Excellence
Daniel Goleman, *Publisher*

In Focus, Goleman delves into the science of attention, presenting a long overdue discussion of this little noticed mental asset that matters for how we navigate life. Those who excel rely on what Goleman calls Smart Practices that help them improve habits, add new skills, and sustain excellence.



On Emotional Intelligence
Daniel Goleman, *Harvard Business Review*

In his defining work on emotional intelligence, Daniel Goleman found that it is twice as important as other competencies in determining outstanding leadership. This is a concept that is still unknown by many yet any deficiencies in learning can be resolved. A book like this can focus your mind and lead you on to the right path.



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www.acousticsbydesign.com
www.activeworking.com
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www.ecophon.com
www.molex.com
www.plantronics.com
www.saint-gobain.co.uk
www.veldhoencompany.com

Next issue

Workplaces aren't working. Only 54% of those we have surveyed since 2010 agree that their workplace design allows them to work productively.

Issue 18 of the Leesman Review will explore the different themes emerging from the Index, as it passes 100,000 responses, to see what impact they are having on workplace productivity.

We are starting to see clear correlations between different aspects of the data and high performing workplaces.

Dissatisfaction with noise, high satisfaction with social cohesion and the provision of a high variety in choice of working environments all have a huge impact on the effectiveness of workplaces and we can point toward statistically robust data that will build the business case internally to move the workplace from a liability to an asset in competitive advantage.

Whether you are responsible for property, the people within it or the overall performance of the organisation, it's crucial that you understand what can be done to increase productivity, even by a couple of percentage points as the cumulative impact on the bottom line can be significant. There are many factors affecting performance but we need to start ensuring that our working environments are not preventing employees from delivering their best.

Subscribe

As we pass our 100,000 respondent milestone, you can stay in touch with our data and the debate around it by subscribing to the Leesman Review digitally or in print at

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