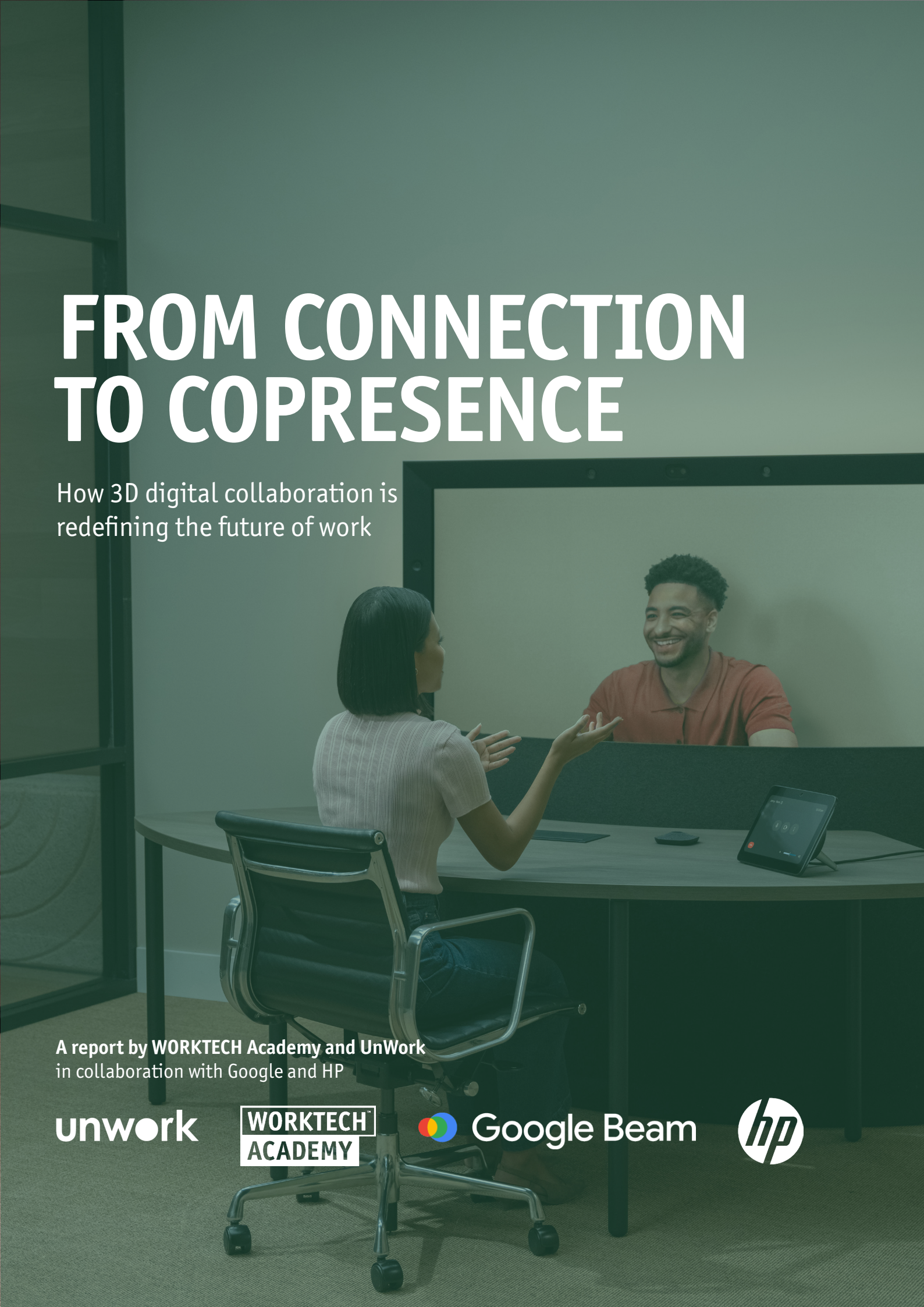
FROM CONNECTION TO COPRESENCE

How 3D digital collaboration is redefining the future of work



A report by WORKTECH Academy and UnWork
in collaboration with Google and HP

unwork

WORKTECH ACADEMY

Google Beam

hp

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EXECUTIVE SUMMARY

After several years of rapid adoption, hybrid work is entering a new phase. Despite the continuous improvement of collaboration technology, it has not overcome persistent organizational challenges that include declining employee engagement, widening cultural gaps, and reduced trust. A growing body of academic and industry research indicates that the limitations of current video-based collaboration tools are contributing to reduced engagement, increased cognitive strain and weaker collaboration quality in distributed organizations.

Research from Stanford University has shown that prolonged use of 2D video conferencing increases cognitive load and fatigue by constraining natural movement and suppressing non-verbal cues that people rely on to interpret intent and emotion. Leeman's global workplace data consistently ranks virtual collaboration among the lowest-rated aspects of employee experience, particularly in relation to focus, connection and wellbeing.

Together, these findings point to a core limitation of traditional video collaboration. Flattening depth, scale and non-verbal behavior reduces the emotional and behavioral bandwidth needed for effective human interaction.

Hybrid work has also exposed a growing parity gap between those physically present and those joining remotely. Studies from Cornell University show that remote participants are more likely to disengage during longer meetings, contribute less frequently in complex discussion, and struggle to read group dynamics. These effects compound over time, with implications for digital equity, inclusion and visibility.

As these challenges become more visible to organizations, an opportunity emerges for more immersive forms of communication that better approximate the behavioral and emotional qualities of in-person interaction.
In parallel, leadership visibility has emerged as a critical pressure point. Gallup research shows declining engagement among managers globally, while Deloitte's Human Capital Trends highlights weakened trust and connection between leaders and employees in distributed organizations. These findings suggest that leadership presence is no longer only about frequency of communication, but about the quality and emotional fidelity of that communication in digital environments.

In this context, Google Beam represents a significant advance in digital collaboration. Powered by Google's leadership in AI, computer vision and spatial perception, Beam uses advanced stereo imaging, spatial audio and life-size rendering to restore depth, eye contact and non-verbal cues of an in-person conversation. Beam is designed for high-value, high-impact interactions where trust, attentiveness and emotional clarity are essential.

To bring this capability to market, Google partnered with HP to deliver HP Dimension with Google Beam which is a purpose-built hardware and software solution engineered to support presence-rich collaboration. HP Dimension with Google Beam is a true-to-life video communication solution that replicates the power of in-person interactions for distributed teams. Google Beam is the platform that integrates into existing enterprise collaboration ecosystems such as Meet and Zoom.

This whitepaper synthesises research conducted by WORKTECH Academy and UnWork in collaboration with Google and HP, drawing on individual industry interviews, a roundtable with industry leaders, input from the HP leadership team and a workshop with Google Beam's senior leaders to explore the impact of Beam on the future of the workplace. The findings highlight five strategic trends shaping the future of collaboration:

- The structural limitations of existing video highlight the importance of maintaining engagement, wellbeing and collaboration quality in hybrid work.
- Organizations are shifting from meeting tools to presence-led collaboration environments designed around trust and human connection.
- AI-enabled 3D, spatial and immersive technologies are emerging as the next frontier of enterprise technology.
- Digital equity and inclusion are becoming critical design considerations for global and distributed teams.
- Leadership visibility and cultural cohesion increasingly depend on richer forms of digital presence.

This whitepaper highlights a range of high-impact enterprise use cases for HP Dimension with Google Beam, including:

- Executive communication
- Strengthening cultural cohesion
- Access to specialist knowledge
- Equitable connection across different spaces
- Working within business cycles in a more intentional way

Across interviews and roundtable discussion, these use cases consistently centered on moments where traditional video struggles, although there are many other use case possibilities for this technology.

Across the scenarios, evidence from academic research, HP, and Google indicates that presence-rich environments can improve attentiveness, behavioral engagement and perceived conversation quality. For organizations navigating the complexity of hybrid work, this whitepaper outlines how HP Dimension with Google Beam can support a shift from basic connection towards copresence - enabling more human, equitable and effective collaboration across increasingly distributed workforces.

THE TRENDS SHAPING FUTURE COLLABORATION

After several years of hybrid experimentation, academic research and workplace studies increasingly point to the limitations of traditional videoconferencing in supporting the complexity, emotional nuance and cultural demands of distributed work. Studies from Stanford University, Cornell University and Leesman highlight persistent challenges including increased cognitive fatigue, reduced non-verbal cues and lower perceived quality of interaction in virtual meetings.

These findings do not suggest that videoconferencing is ineffective, but that it was never designed to carry the full behavioral and emotional load now placed upon it across hybrid firms. As hybrid work has shifted to the default operating model for many global organizations, the limitations of exisiting video communication solutions have become more visible, particularly across areas such as trust-building, inclusions, leadership presence and collaborative decision making.

In this context, there is an opportunity to reimagine what 'good' digital collaboration looks like. Organizations are experimenting with improved room design, better acoustics, spatial layouts, AI-enhanced meeting tools and immersive technologies in an effort to restore attention, equity and emotional clarity to hybrid interaction. However, these approaches often address symptoms in isolation, rather than the underlying limitations of existing video conferencing solutions as a whole.

This invites the possibility of an industry-wide shift from simply maintaining connection between colleagues to enhancing digital 'copresence'. Copresence is the ability to communicate remotely with the richness, trust and attention of an in-person encounter. At the center of this emerging trajectory sits HP Dimension with Google Beam – a true-to-life 3D video communication system, powered by Google AI system that renders remote participants as if they were physically 'copresent'.

HP Dimension with Google Beam delivers a form of digital co-presence that allows people in different locations to interact without wearing virtual-reality headsets. By presenting participants at life-size scale and enabling direct eye contact, the experience closely mirrors the feeling of sitting across the table from someone, supporting natural, in-person conversation.

This report highlights the latest industry research, key findings from expert interviews, roundtables and workshops, and HP and Google's own empirical research, to reveal several emerging trends shaping the future of work.

The rise of 'hybrid malaise'

According to Gallup's global workplace report, employee engagement fell two points to 21% in 2025, the lowest level since the pandemic. This message is amplified by HP's Work Relationship Index report which found that just 20% of knowledge workers say that they have a healthy relationship with work.

Gallup's research estimates that the productivity lost to disengagement costs the global economy an estimated US $438 billion annually as disengaged employees reportedly communicate less, contribute less, and struggle to build trust or cohesion in hybrid settings.

Leaders play a decisive role in shaping these outcomes, accounting for 70% of the variance in team engagement. When managers thrive, their teams report higher productivity, lower absenteeism and stronger customer relationships. Yet Gallup's data shows that manager engagement has dropped from 30% to 27% globally, with the steepest declines among younger and female managers. As managerial capacity erodes, so too does the quality of hybrid communication they mediate.

These pressures are mirrored in the insights gathered through a roundtable that WORKTECH Academy and UnWork conducted with senior industry leaders in New York City. Participants described a growing sense of 'hybrid malaise', which is the knock-on effect of when one participant joins a meeting virtually, others increasingly opt out of attending in-person.

This results in fragmented experiences and disengaged remote participants. Many workplace leaders now identify the hybrid meeting experience as the weakest link in their workplace strategy, citing a persistent misalignment between room design, technology integration, and the behavioral needs of distributed teams. One leader in the roundtable discussion noted that while current videoconferencing technology is effective, it promotes a 'one at a time mentality', the same social cues as in person don't apply – as a result, there are more long pauses and awkward transitions between people speaking than in person. It's difficult to navigate in larger groups.

Digital presence as a strategic organizational metric

Employee satisfaction, trust and innovation are dominant predictors of individual, team and organizational performance, according to research by WORKTECH Academy and ACCO Brands. The challenge is that current digital tools do not provide enough behavioral or emotional bandwidth to support psychological safety or authentic rapport across hybrid teams and organizations – and this has a negative impact on all three metrics of performance.

This shift was reflected in interviews and the roundtable, where senior leaders pointed to the growing importance of high-trust digital environments. Organizations are seeking ways to restore the nonverbal signals such as eye contact, gesture and emotional expressiveness that make collaboration feel natural and human in digital environments. The implication is that digital presence is a cultural and strategic requirement that existing videoconferencing struggles to deliver.

Enhancing collaboration through spatial computing

Analyst firm Gartner highlights spatial computing - technologies that enable people to interact with digital information in 3D - as a key enabler of real-time, interactive 3D experiences that will transform remote collaboration and decision

making. There is increasing interest in exploring tools that offer visual depth, natural-scale representation, and spatial audio, which are core components of copresence.

HP Dimension with Google Beam is at the forefront of this movement. Research by Google suggests that Beam meaningfully improves human interaction, increasing eye contact by up to 14%, hand gestures by 43%, and information recall by 28% compared with existing videoconferencing solutions. In nine months of real-world usage across corporate sites, 87% of users rated Beam better than traditional videoconferencing across factors such as presence, attentiveness, quality of human connection and ease of reading reactions. The mainstreaming of spatial collaboration tools signals a major technological inflection point for the industry.

AI-enhanced meeting productivity

AI is increasingly embedded into hybrid-work tools, streamlining the coordination of meetings through transcription, translation, scheduling and automated follow-up. AI within traditional video conferencing is also used to automatically frame participants, remove background noise, and apply smart layouts which has made significant improvements to connection and engagement across digital meetings. But while these capabilities reduce friction and improve the collaborative experience, moments for genuine connection are still lost. The next opportunity for AI is not just to make meetings more efficient, but to restore emotional bandwidth by rebuilding the nonverbal signals, attentiveness and conversational flow that help people feel understood, aligned and trusted.

HP's Work Relationship Index report highlights that when knowledge workers are given the right tools and technology, their relationship with work increases significantly. The research finds that the more frequently Al is used, the better their relationship score is with their work. While technology alone cannot drive a company forward, it can empower the full potential of employees and drastically improve their work experience.

This is where high-presence platforms such as Beam point to a new direction. By combining AI with true-to-life 3D rendering, spatial audio and natural eye contact, Beam can help reintroduce the behavioural cues that 2D video flattens. In turn, this makes remote interaction feel less transactional and more human, and enables the kind of presence that hybrid teams need for mentoring, decision-making and culture-building.

High-presence digital environments

A growing body of research points to a 'connection gap' at the heart of hybrid work. During the roundtable discussion, senior leaders discussed patterns of emotional distancing between 'weak' and 'strong' ties in the workforce. Distributed work was seen to have strengthened ties with colleagues that were already close but further distanced those who individuals do not have regular interaction with. In tandem, remote employees are feeling more distanced from their organizations and it is impacting the sense of belonging people feel within their company.

Deloitte's 2025 Global Human Capital Trends report argues that the central challenge for organizations is navigating tensions in the worker-organization relationship in ways that unleash human performance rather than simply optimize processes. This includes deliberately designing work, leadership and technology to support wellbeing, purpose and human connection, not just efficiency.

In this context, high-presence culture is emerging as a new aspiration. The ability to create interactions that feel emotionally rich, even when

people are geographically apart, is becoming a core part of culture strategy.

HP Dimension with Google Beam directly supports this shift by reinstating natural eye contact, true-to-life 3D, subtle facial expressions and fluid conversational dynamics like more natural turn-taking and gestures. Together, these cues help rebuild the cultural foundations that are otherwise being worn away by low-bandwidth digital communication. This helps to re-humanize leadership interactions, mentoring, onboarding and cross-site collaboration.

The rise of copresence

Hybrid work is now the default configuration for knowledge work for most organizations globally, but hybrid connection remains fundamentally broken.

This has significant implications for collaboration. Research from the Gensler Research Institute shows that 71% of meetings in the most innovative companies are hybrid, while 88% of employees collaborate across multiple time zones. On average, knowledge workers spend 41% of their time collaborating with others. Occupancy data from XY Sense reinforces just how central collaboration is, showing that collaboration spaces are used 46% of the time, for an average of 4.1 hours per day. When collaboration is this critical but hybrid environments fail to support it effectively, organizations risk undermining the very conditions innovation depends on.

Layered on top of this is a growing recognition in academic and industry literature that emotional bandwidth and human presence are essential to performance, culture and wellbeing in distributed teams. Studies of hybrid meetings suggest that complex problem-solving, conflict resolution and relationship-building are consistently rated more effective when they approximate face-to-face conditions, including rich nonverbal cues and a strong sense of 'being there' together.

Taken together, these strands point toward copresence as the next organizing concept for hybrid workplace design. Research conducted by Google through user studies and pilots show that when people interact using Beam, they feel more connected and attentive; behave more naturally, with increased gestures, eye contact and expressiveness; remember more of what was discussed; and perceive conversations as higher quality. Specifically, the research found that there was 39% more non-verbal behavior displayed, 14% more focus on the meeting partner, 28% increase in information retention and 37% more turn-taking.

In this sense, HP Dimension with Beam is at the vanguard of the future hybrid workplace, where collaboration environments are designed to support copresence. As enterprises re-evaluate their portfolios and invest in premium real estate, immersive collaboration suites and telepresence hubs are likely to become a defining feature of high-performing, human-centered organizations.

CREATING ENTERPRISE VALUE

Across industries, HP Dimension with Google Beam is emerging as an important tool in a wider hybrid ecosystem of collaboration technologies. It is engineered for the moments where trust, nuance, emotional clarity and human presence matter most. Therefore, its value lies in elevating the quality of high-stakes, high-touch and high-impact interactions across large organizations.

The pressures of hybrid working are forcing organizations to rethink how they design their collaboration environments and to adopt technologies that restore the emotional bandwidth lost in virtual work. The workshop, roundtable and interviews conducted highlighted emerging use cases of the most impactful use cases of HP Dimension with Google Beam across large organizations.

1: Executive Presence Anywhere

Strengthening leadership visibility, trust and cultural cohesion across distributed organizations

2: Global Culture Connector

Reinforcing belonging, equity and relationship-building across dispersed teams

3: Expert Access and Specialist Knowledge Transfer

Unlocking rapid access to specialists without travel or bottlenecks

4: Telepresence-as-a-Service

Creating premium, differentiated collaboration experiences in flexible and client-centric spaces

5: Cadence-based Collaboration

Embedding Beam into core business rhythms and high-value workflows

USE CASE 1:

EXECUTIVE PRESENCE ANYWHERE

Purpose: *Strengthening leadership visibility, trust and cultural cohesion across distributed organizations*

The trend toward high-presence culture places new demands on leaders to show up frequently, consistently and authentically across geographically dispersed teams. HP Dimension with Google Beam enables leaders to do exactly this, providing a life-size, emotionally rich presence that restores the eye contact, body language and gestures essential for building trust.

The research findings emphasized the ability of Beam to democratize access to leadership and reduce the cultural hierarchy between headquarters and satellite offices. Some organizations envision executive-grade Beam suites integrated directly into leadership floors to support rapid, high-presence communication.

To support this use case, Beam needs to become part of the everyday rhythm of executive communication. In this use case, suites create a predictable environment, allowing leaders to conduct high-stakes conversations, investor briefings, performance discussions and crisis updates without the distortion or emotional flattening of traditional video.

High-value scenarios include:

- CEO town halls and cross-site leadership updates
- Quarterly business reviews and strategic briefings between senior leaders
- Sensitive conversations requiring empathy and nuance
- Board and investor communications
- Crisis response or organizational announcements at a high level

Spatial typologies required:

- Executive collaboration suite on leadership floors
- Small, acoustically optimized rooms for 1–2 people
- Controlled lighting (soft, indirect, 2:1 lighting ratio)
- A neutral, minimal backdrop to support facial clarity
- High-privacy sound insulation for confidential briefings
- Integrated spatial audio setup

Behavior and policies:

- Leaders commit to using Beam for important updates to other leaders to conduct quarterly reviews and alignment meetings
- Leaders encouraged to schedule monthly Beam drop-ins with regional leaders to democratize access
- Certain categories of travel replaced with Beam, for example, monthly executive updates, 1:1 coaching, investor pre-meetings

USE CASE 2:

GLOBAL CULTURE CONNECTOR

Purpose: *Reinforcing belonging, equity and relationship-building across dispersed teams*

One of the most pressing issues identified in the roundtable discussion with senior leaders was the erosion of intentional interactions and relationship-building. Workers reported widening cultural divides between offices and decreasing scale of networks within their organization. Leaders noted that HP Dimension with Google Beam could address these divides by creating global cohesion, reducing isolation in satellite locations, and re-humanizing remote-first teams by enabling richer emotional connection.

To leverage this value, organizations can introduce spaces to enhance culture and mentoring opportunities which encourage relationship building. These spaces are deliberately intimate, and positioned near HR, training or team neighborhoods.

These spaces can be reinforced by clear policies around onboarding, mentoring and cross-site rituals in which Beam is used to help new hires form deeper bonds with managers and peers. This aligns closely with the broader trend towards prioritizing psychological safety, emotional intelligence and cultural cohesion as strategic levers of organizational performance.

High-value scenarios include:

- Distributed team relationship-building
- Cross-regional collaboration sessions
- Mentoring, coaching and career development conversations
- Onboarding experiences for new hires

Spatial typologies required:

- Culture Rooms / Team Pods
- Onboarding and mentoring spaces
- Soft lighting and a welcoming environment to reduce anxiety for new hires

Behavior and policies:

- Every new hire receives a Beam-based welcome session from their manager or site leader
- Mentors encouraged to use Beam for first and second mentoring sessions to establish trust before shifting to other formats
- Remote team members should have equal access to leadership or support via Beam as those physically onsite

USE CASE 3:

EXPERT ACCESS AND SPECIALIST KNOWLEDGE TRANSFER

Purpose: *Unlocking rapid access to specialists without travel or bottlenecks*

The shift toward spatial collaboration technologies reflects a growing recognition that existing videoconferencing solutions alone cannot enhance trust, clarity and speed in complex discussions. In industries such as legal, healthcare, financial services and engineering, the quality of communication can significantly affect outcomes. Beam's lifelike rendering, spatial audio and natural conversational flow make it uniquely suitable for expert consultations, design critiques, clinical case reviews and high-stakes client engagements.

This use case is typically supported by expert review rooms or learning rooms, often located in proximity to specialist teams or in regional hubs where access to expertise could be limited. These rooms are acoustically isolated, equipped to clearly share presentations, and designed to optimize clarity and learning.

Organizations may formalize policies whereby routine updates remain on standard video platforms, but any interaction involving specialist judgement, nuance or potential conflict defaults to Beam.

High-value scenarios include:

- Legal partnerships, depositions and high-stakes client meetings
- Clinical consultations, specialist reviews and multi-disciplinary case discussions
- Engineering design critiques and technical troubleshooting
- Financial risk assessments and portfolio reviews
- Procurement, compliance or regulatory discussions

Spatial typologies required:

- Expert review rooms,decision rooms or learning spaces
- Adjustable lighting to support clarity for technical reviews
- Dual-display option to optimise speaker and shared content
- High-level privacy for sensitive discussions
- Satellite office Beam hubs installed in regional or lower-density sites where expert access is limited

Behavior and policies:

- Certain advisory interactions are delivered via Beam as standard
- Clear protocols around privacy, NDAs and Beam room booking for sensitive cases
- Complex decisions requiring emotional nuance or detailed interpretation default to Beam rather than 2D video

USE CASE 4:

TELEPRESENCE-AS-A-SERVICE

***Purpose**: Creating premium, differentiated collaboration experiences in flexible and client-centric spaces*

Organizations are increasingly investing in premium collaboration infrastructure that elevates both employee and client experience. Coworking providers and landlords are facing rising demand for high-quality hybrid facilities, offering an opportunity to integrate HP Dimension with Google Beam as a differentiator that attracts distributed teams, high-value clients and global project groups. In these environments, Beam functions less as an internal communication tool and more as a revenue-generating amenity and a symbol of high-touch, high-performance collaboration.

Spaces that support this model could take the form of presence pods which are compact, carefully soundproofed rooms. Or, they could be client hospitality suites, where HP Dimension with Google Beam is integrated with concierge-style services.

Coworking operators should establish clear booking protocols, premium membership tiers and staff training to ensure a seamless Beam experience. This aligns with the trend towards next-generation collaboration spaces that are as much about experience and differentiation as they are about utility.

High-value scenarios include:

- Client briefings and advisory sessions
- Remote consulting engagements
- Innovation sprint rooms and project war rooms
- Executive suite offerings for enterprise tenants

Spatial typologies required:

- Modular design to fit into coworking campuses
- Focus on acoustic separation to preserve privacy in shared environments
- Beam studio combined with premium hospitality services
- Multi-surface lighting and high-end finishes to signal quality
- Integrated booking system to monetize usage

Behavior and policies:

- Hourly or subscription-based access for premium customers
- Staff trained to onboard clients quickly, set expectations, and manage seamless Beam experiences
- Incorporate Beam access into enterprise membership tiers
- Ensure Beam suites are treated with the same prestige as boardrooms or event spaces

USE CASE 5:

CADENCE-BASED COLLABORATION

***Purpose**: Embedding Beam into core business rhythms and high-value workflows*

HP Dimension with Google Beam's strongest behavioral impacts center around higher attentiveness, more natural turn-taking, increased nonverbal expression and enhanced memory recall which make it ideal for recurring interactions where clarity, trust and alignment are crucial. There is an opportunity in this landscape to adopt Beam to sync with the cadence of high impact moments that occur throughout the organizational calendar such as performance reviews, financial and budget reviews, coaching conversations, design critiques, project milestones and transformation checkpoints.

This use case highlights the importance of high-engagement interactions as these meetings often require visual reviews, content sharing and workshopping. Beam prioritizes the human experience in a digital collaborative setting, allowing participants to actively engage across the distance.

Policies should specify Beam for emotionally sensitive conversations (such as first-round performance discussions), complex decision-making rituals, or cross-functional reviews. This can align with periods of high impact decision making within the business.

High-value scenarios include:

- Quarterly performance reviews
- Annual or quarterly planning cycles
- Transformation program checkpoints
- Training, coaching and leadership development
- Customer success and retention discussions
- Design reviews and agile rituals

Spatial typologies required:

- Creative and design review studios
- Optimized for content sharing to review documents
- Whiteboard or digital canvas integration
- Transformation war rooms
- Spaces for multi-week project cycles
- Regular cadence-based Beam sessions between distributed teams

Behavior and policies:

- Beam embedded into quarterly or monthly rituals, e.g. sprint reviews, OKR checkpoints
- Strong encouragement of uninterrupted, distraction-free Beam time

FRAMEWORK FOR EVALUATING IMPACT

As organizations incorporate high-presence digital collaboration alongside existing videoconferencing solutions at scale, traditional metrics such as utilization rates or travel savings need to be complemented by more experiential and human measurements to understand the true return on investment. This requires a new generation of indicators that capture the quality of human interaction.

A new measurement framework is required to capture and quantify the impact of copresence with the same rigor that enterprises apply to physical workplace design or workplace strategy initiatives. As immersive collaboration technologies like HP Dimension with Google Beam enter the market, new KPIs that capture the quality of connection are increasingly needed.

The following framework consolidates the research alongside broader workplace trends into a structured approach for assessing Beam's value across four metrics: human experience, behavioral quality, organizational performance, and operational efficiency.

Human experience metrics

Measuring presence, emotional connection and cognitive engagement

Beam's most significant impact lies in how people feel and behave during virtual interactions, which are variables that are largely absent from traditional collaboration metrics. Google's research shows that Beam dramatically increases visual attentiveness, nonverbal expression, and memory recall.

These changes indicate higher emotional investment in the conversation. organizations can operationalize these insights through metrics such as 'presence and connection' scores. This includes post-meeting pulse checks to understand impact on trust and rapport, ease of reading reactions and sense of being in the same room. These measures can be benchmarked against traditional videoconferencing to quantify the uplift Beam provides.

Studies show that 2D video increases cognitive load by forcing the brain to compensate for missing cues. Beam reduces this burden by reinstating depth, synchronicity and natural eye contact. Presence and connection scores can also include employees self-reporting on factors such as mental effort, distraction levels, ability to remain focused, and meeting fatigue. This is supported by a Google-conducted study on meeting fatigue, which found that participants reported 31% less video-meeting fatigue when using Beam, alongside faster reaction times on cognitive tasks compared with traditional videoconferencing.

Behavioral quality metrics

Evaluating the richness, equity and flow of interaction

Google's research highlights measurable behavioral shifts in Beam interactions, including improved turn-taking, smoother conversational

rhythm, and more natural expression. Organizations can translate these into actionable metrics by tracking who is speaking, interruptions, facial expressiveness and micro-reactions. These factors can be observed manually or by leveraging existing AI-supported tools that can track these small behaviors on a granular level.

These signals are critical for empathy, influence, understanding and alignment, yet they are mostly ignored or suppressed in 2D video.

Organizational performance metrics

Linking presence to outcomes and culture

Research shows that trust, belonging and emotional intelligence are critical drivers of engagement and performance. Beam can support these variables by enabling more natural, high-presence communication.

Performance and productivity have traditionally been measured by presence and efficiency - leading to the term 'presenteeism'. In a hybrid era, the metrics for productivity are shifting and the definition of presence is being reimagined. Now, organizations can measure the impact of digital presence through qualitative and quantitative markers such as fewer rounds of clarification required, improved cross-functional alignment, and greater accuracy in complex decisions. And productivity is increasingly measured through output such as speed of delivery, decision-making and idea generation.

Metrics for leadership visibility might include the number of cross-site Beam interactions initiated by leaders, employee perception of leadership presence, and culture and belonging scores in engagement surveys.

Operational and efficiency metrics

Quantifying the direct organizational and financial benefits

Operational metrics remain important for ROI analysis, especially during pilot phases of new technologies. In this regard, metrics such as travel reduction and carbon savings, utilization rates and cost factors still play a critical part. Factors to track include the amount of inter-office flights, time lost to travel, booking rates for Beam rooms via occupancy sensors or booking analytics, the volume of rescheduled meetings, and managing deadlines for project work across hybrid teams.

The Impact Framework

By bringing these insights together, organizations can evaluate Beam across four interlocking metrics: experience, behavior, performance and efficiency.

The most successful organizations will treat this as an initial pilot framework and an ongoing review mechanism to ensure that HP Dimension with Google Beam continues to support evolving hybrid work patterns and business objectives.

FUTURE SCENARIOS:

THE EVOLUTION OF COPRESENCE

The integration of high-presence digital communication will not happen overnight at scale. It will unfold in phases as technology matures, organizational practices evolve, and expectations for hybrid work shift.

Today, HP Dimension with Google Beam is optimised for interactions where emotional fidelity, trust and conversational nuance matter most. Over the next five years, however, the broader collaboration landscape will evolve rapidly, driven by advances in AI, spatial computing and networked workplace infrastructure.

There are three horizons emerging as we look to the future: now, near and next. Each horizon builds upon the last, moving from early use cases to broader organizational integration and, eventually, to new spatial and digital infrastructures for collaborative work.

Now:
Establishing high-presence foundations

In the immediate term, organizations are adopting HP Dimension with Google Beam to solve today's most urgent hybrid challenges such as fatigue from 2D video, cultural drift, declining engagement, and the difficulty with building trust remotely. Google's user research highlights that Beam participants reported 31% less video fatigue and had 22% faster reaction times on cognitive tasks after Beam meetings compared to existing videoconferencing solutions .

In this phase, Beam is deployed selectively to enhance high-value, high-impact interactions where trust, attentiveness and emotional clarity are essential.

Early metrics are moving beyond utilization to connection quality, attentiveness and conversational flow, in response to trends around hybrid challenges and loss of spontaneous interactions. In this scenario, workplace designers are beginning to replace underperforming meeting rooms with purpose-built presence spaces, responding to the mismatch between existing room layouts and the behavioral needs of hybrid teams.

Beam's immediate impact lies in rebuilding trust, clarity and emotional connection which have been disrupted by hybrid work.

Near (3-5 Years):
Expanding presence across networks

Within the next five years, HP Dimension with Google Beam will evolve from a specialist experience into an integrated layer within a wider AI-enabled ecosystem. Its use becomes embedded in business cadence, talent development and cross-site collaboration infrastructures.

Collaboration spaces will become connected through intelligent systems that support communication, coordination, flow and inclusion. AI will increasingly operate in the background of Beam-enabled spaces by supporting real-time transcription and translation, generating contextual summaries, and helping participants navigate complex group dynamics through subtle cues that improve conversational balance, attentiveness and clarity.

Beyond that, Agentic AI will become a physical presence. AI is increasingly taking on a physical form inside the workplace, as organizations invest in dedicated environments where employees can see, test and interact with AI together. AI becomes a fellow collaborator, present in team meetings. Leading firms are already developing AI studios, labs and experience spaces that allow employees to engage with intelligent systems in real time. In this context, AI usage will shift from an individual activity to a shared organizational capability – bringing all facets of the workforce into one collaborative learning space.

In the next three to five years, organizations will establish a network of Beam rooms across multiple offices, ensuring equitable access between headquarters or larger offices and satellite locations.

Copresence will be integrated into design principles, with the rise of Beam-enabled project rooms for distributed teams. This will also include hybrid learning studios for leadership development. Policies will start to shift towards 'Beam-first' interactions for workflows where presence improves outcomes such as business reviews and cross-functional decision forums.

During this phase, the hybrid workplace transitions from a fractured set of tools to a connected presence ecosystem, enabling smoother rhythms of work across time zones and geographies.

Next (5+ Years):
The rise of multi-nodal, collaboration networks

During the next decade embodied communication will become the norm for high-value collaboration, much like videoconferencing was by the early 2020s. organizations will move from episodic presence to continuous, spatially linked collaboration networks. In this scenario, Beam will evolve workplaces into immersive, spatially synchronized, organization-wide collaboration environments.

High-presence collaboration will be shaped by the convergence of spatial environments and AI-driven communication intelligence. Multi-person, multi-location presence rooms will be supported by systems capable of orchestrating group interaction which dynamically manage audio focus, visual attention, turn-taking and cultural nuance across locations. AI will increasingly act as a facilitator, helping distributed teams collaborate with the fluidity, equity and emotional intelligence of co-located groups.

In this horizon, telepresence merges with ambient work platforms to create ‘portals’ between offices and enable corridor-like spontaneous interactions, addressing the challenge of lost informality and spontaneity in remote or hybrid settings.

In the next five years, the hybrid workplace will evolve from simply connecting people digitally to creating shared spatial experiences that make distance nearly irrelevant across large enterprises.

NOW | Today

Defined by trust, clarity and human connection

- Beam use to build trust and relationships across hybrid workforces
- Executive presence suites, mentoring pods and expert-review rooms
- Early policies for performance reviews, onboarding and leadership updates
- Measurement shifts from utilization to quality (presence, trust, flow)
- Collaboration spaces begin shifting from generic to purpose built

NEAR | 3-5 years

Defined by rhythm, integration and intelligence

- Presence-first rooms replace underperforming meeting spaces
- 'Beam-first' standards for design reviews, governance forums and cross-site rituals
- Beam integrated with AI for transcription, summarization and hybrid etiquette cues
- Presence becomes part of organizational cadence for monthly, quarterly and annual events
- 'Beam-as-a-Service' introduced in coworking and client hubs

NEXT | 5+ years

Defined by immersion, synchronicity, and ubiquity

- Multi-person, multi-location Beam rooms become standard
- Distributed teams collaborate as though co-located
- 'Portals' link offices to revive spontaneous interactions
- AI will increasingly act as a facilitator, helping distributed teams collaborate
- Copresence becomes the default for collaborating across distributed teams and global companies

FUTURE USE CASE

SHARED PRESENCE NETWORK

Purpose: *A future roadmap to a strategic network of digital presence*

Looking ahead, the foundation for next-generation collaboration environments will shift towards multi-node, synchronized collaboration labs or workshops which will be heavily enabled by AI. In these future spaces hybrid workshop studios, multi-site innovation rooms and cross-location leadership hubs are designed around the principles of shared experiences in group scenarios.

As the gap closes between digital and physical environments, connected environments, where emotional bandwidth, human presence and spatial fidelity replace transactional videoconferencing, will become the default mode of high-performance collaboration.

These shared presence networks will become a defining feature of distributed organizations over the next five years, supporting high-presence, emotionally intelligent, multisensory collaboration at scale.

High-value scenarios include:

- Cross-functional leadership summits
- Distributed workshops and innovation labs
- Group design critiques
- Multi-site training experiences

Spatial typologies required:

- Shared environmental cues across sites
- Hybrid workshop studios
- Flexible furniture solutions

Behavior and policies:

- Guidelines on conversational turn-taking, gesture visibility and maintaining presence
- Facilitators trained in running distributed sessions where presence and equality are preserved
- Shared rituals or visual anchors across locations to create unity (lighting, placement, signage)

THE ERA OF EMBODIED COLLABORATION

Hybrid work has reached an inflection point. After years of incremental improvement, the limitations of existing videoconferencing solutions and the rising cost of disconnection have highlighted the need for new collaboration tools.

HP Dimension with Google Beam signals a decisive shift in this landscape. By reintroducing the depth cues, spatial fidelity and behavioral signals that define in-person interaction, Beam provides a new foundation for high-value communication at distance.

The research conducted for this report highlights a future of collaboration that will be integrated and emotionally intelligent. Organisations are already moving from general-purpose video rooms to specialist Beam rooms. Over the next five to eight years, this trajectory points toward multi-node spatial collaboration, AI-supported behavioral intelligence, and persistent portals that make distance almost irrelevant.

The organizations that will lead in this new era are those that leverage digital tools, creating a culture to promote copresence that accelerates decision-making and strengthens human connections.

Beam is the first technology to demonstrate, with empirical and behavioral evidence, that digital collaboration can preserve the authenticity ofhuman communication. As organizations navigate the turbulence of hybrid work, Beam offers a blueprint for the next era of distributed collaboration which enables multisensory, human-centered and spatially intelligent connection.


Google Beam
Google Beam

APPENDIX

With thanks to our contributors:

Roundtable participants:

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Individual interviews with Google Beam users:

We interviewed 10 individuals after they experienced a demo of Google Beam at the WORKTECH Google Connect conference on 6th October 2025. Individuals ranged from decision makers in global organizations of more than 25,000 employees to influencers in the industry. They represented industries across publishing, real estate, media, healthcare, smart technology and energy.

List of sources:

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About UnWork

London | New York | Paris | Sydney

UnWork is a management consultancy and innovation advisory business focused on the future of work and the workplace. Its sits at the collision between people, place and technology and provides insight to its customers on all aspects of smart workplace, from vision and the business case to technology enablers, case studies and success stories.

Founded in 2004, UnWork has worked globally and helped create some of the world's leading office buildings and workplaces.

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About WORKTECH Academy

WORKTECH Academy is the leading global research platform and member network exploring how we'll work tomorrow. We look at innovation in the world of work and workplace through five key streams: people, place, technology, design and culture.

We engage with our powerful network of over 14,000 individual subscribers and more than 90 corporate, design and technology organizations around the world to deliver content on the latest trends, research and best practice in work and workplace.

www.worktechacademy.com

About Google Beam

Google Beam is a true-to-life 3D video communication platform that brings conversations to life like never before. Powered by advanced Google AI, realistic 3D imaging, and immersive spatial audio, Beam enables natural eye contact and the ability to read subtle non-verbal cues as if participants were in the same room. By transforming remote interactions into deeply authentic, face-to-face moments, Beam helps teams connect, collaborate, and communicate more effectively. With Beam, distance simply fades away, allowing you to just be, together.

About HP Dimension

HP Inc. is a global technology leader committed to designing solutions that help IT leaders shape the future of work. By delivering intelligent, secure, and scalable technologies, HP empowers organizations to create exceptional employee experiences that drive productivity, engagement, and business growth. Operating in more than 170 countries, HP continues to innovate with purpose, helping businesses adapt and thrive in a rapidly evolving digital landscape.

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