INTENTIONAL SPACES: THE POWER OF PLACE

international arts+ mind LAB
THE CENTER FOR APPLIED NEUROAESTHETICS
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ROADMAP

CONTENTS

We shape our buildings; thereafter they shape us.

Winston Churchill

The mission of an architect is to help people understand how to make life more beautiful, the world a better one for living in, and to give reason, rhyme, and meaning to life.

Frank Lloyd Wright

I call architecture frozen music.

Johann Wolfgang von Goethe

It's the science and art of building, both of these things. But, it's more than mere construction or mere building or the technical putting together of things.

Fay Jones

Most of us think of ourselves as thinking creatures that feel, but we are actually feeling creatures that think.

Jill Bolte Taylor

EXECUTIVE SUMMARY: ADVANCING HUMAN POTENTIAL WITH INTENTION

The *Intentional Spaces Roadmap (Roadmap)* is a call to action to build a new interdisciplinary field focused on envisioning, designing, and creating environments—both physical and virtual—that intentionally support human health, connection, creativity, learning, and well-being. While this movement embraces insights from neuroarchitecture, it extends beyond it to incorporate diverse perspectives from psychology, sociology, environmental design, public health, and cultural studies—creating a holistic approach to shaping spaces that truly serve people and communities.

We navigate through a variety of environments every day including our homes, schools, offices, hospitals, parks, and countless other spaces. Yet we rarely stop to consider the quiet but powerful influence these surroundings exert on our minds, our bodies, and our sense of self. Every color, sound, texture, and spatial arrangement shapes how we feel, how we interact, and even how we heal.

When environments are designed with intention, guided by insights from psychology, neuroscience, and human-centered research, they can become active agents of well-being. A thoughtfully lit classroom can sharpen focus and support emotional regulation. A welcoming public park can foster community and encourage physical activity. A hospital room that incorporates natural light and calming materials can measurably reduce recovery times. These are not just aesthetic preferences; they are design decisions with real human consequences.

Despite growing evidence, many built environments continue to follow outdated conventions or prioritize visual appeal over lived experience. We often see spaces that are beautiful but cold, efficient but alienating, functional but deeply disconnected from the people who use them. This gap between what we know and what we build is not just a missed opportunity, it can actively harm.

To move forward, we must treat design not as decoration, but as a form of care. Our environments should reflect not just form and function, but empathy, access, and a deep understanding of human needs. When we build with intention, we do not just create spaces—we shape experiences, and ultimately, we shape lives.

The *Roadmap* builds on the foundational work of the NeuroArts Blueprint, a seminal framework for the broader field of neuroarts of which Intentional Spaces is a subfield. The *Roadmap* outlines a focused strategy for applying neuroarchitecture, neuroaesthetics, and intentional design to guide architects, designers, researchers, artists, policymakers, funders, and community members in creating spaces that not only serve practical needs but also support human flourishing. It is a living document that will grow and change as the neuroarts field embraces its core principles.

In November 2023, the pivotal Intentional Spaces Summit convened by the International Arts + Mind Lab Center for Applied Neuroaesthetics at Johns Hopkins School of Medicine and the Academy of Neuroscience for Architecture brought together over 300 leaders to align research, design, and community voices around this vision. A subsequent field survey gathered additional information. These insights shape a set of clear, actionable recommendations to help advance the field of neuroarchitecture:

→ Enhance Basic and Translational Research and Diverse Ways of Knowing

- → Establish Career Pathways that Incorporate New Knowledge
- → Expand Methods and Technology to Advance Intentional Spaces
- → Strengthen Messaging and Communication for Multiple Stakeholders
- → Generate Economic and Impact Evidence
- → Advance Policies that Encourage Intentional Space Design
- → Build Capacity, Leadership, and Inclusion

The *Roadmap* was co-created with the Intentional Spaces community, reflecting a shared commitment to developing further a field that honors culture, identity, and belonging through collaboration across disciplines and lived experiences. By centering community voice and inclusion, this plan aims to close the gap between research and real-world practice. The intention is for the *Roadmap* to model the integrated, inclusive approaches needed to build and sustain this emerging field.

While challenges remain, such as perceived costs, limited standards, and the complexity of measuring impact, short-term wins are possible as the long-term efforts continue. Intentional Spaces is, at its heart, a generative movement requiring new models of collaboration. We are at an inflection point. Advances in neuroscience, design, and public engagement now make it possible to design with intention and impact.

SETTING THE STAGE FOR THE INTENTIONAL SPACES MOVEMENT

In 2020, the Intentional Spaces Initiative was launched under the umbrella of the International Arts + Mind Lab Center for Applied Neuroaesthetics (IAM Lab), a program at the Johns Hopkins School of Medicine, which promotes evidence-based innovation at the intersection of arts, aesthetics, and technology.

Intentional Spaces is a distinct and interconnected area within the broader emerging field of neuroarts, which itself is rooted in the study of neuroaesthetics and other ways of knowing. Neuroaesthetics is defined as the transdisciplinary study of how the arts and aesthetic experiences measurably change the body, brain, and behavior, and how this knowledge is translated into specific practices that advance health and well-being.

Intentional spaces are multidimensional ecosystems, encompassing interior and exterior architecture, landscape design, furnishings, lighting, acoustics, and materiality. Each component plays a distinct yet interconnected role in guiding emotional and cognitive states and, when thoughtfully integrated, they create environments that are not only "beautiful" but also deeply functional and often therapeutic. This field thrives on collaboration and inclusivity, drawing together a wide network of architects, interior designers, landscape architects, contractors, manufacturers, researchers, and healing practitioners. As intentional space design continues to evolve, it underscores a fundamental truth: transformative experiences are not accidental—they are cultivated, supported, and sustained through deliberate choices in our built and natural environments.

The Intentional Spaces Initiative draws from both quantitative and qualitative research to inform design, impact, and evolution. Quantitative methods—such as biometrics, neuroimaging, environmental psychology assessments, physiological measures (e.g., heart rate variability, cortisol levels), and spatial analytics—offer measurable insights into how environments influence brain activity, stress responses, and overall well-being.

At the same time, qualitative approaches—including ethnographic observation, user interviews, participatory design, somatic feedback, and narrative inquiry—capture the rich, lived experiences of individuals and communities interacting with these spaces. Together, these methodologies provide a holistic understanding of how space can shape emotional, cognitive, and social outcomes. By integrating diverse forms of evidence, intentional space design becomes not only evidence-informed but also deeply empathetic, responsive, and inclusive of multiple ways of knowing.

MULTIPLE WAYS OF KNOWING

A foundational concept is the acknowledgment of multiple ways of knowing: the recognition that people perceive and experience the world through diverse lenses. Drawing on the framework developed by Elissa Sloane Perry and Aja Couchois Duncan , these spaces embody:

- Practical Knowing in how they translate theory into design practice;
- Generalized Knowing through their grounding in research, patterns, and evidence;
- Artistic Knowing by engaging the senses and emotions through visual, auditory, and spatial storytelling; and
- Foundational Knowing by honoring lived experience, ancestral wisdom, and the natural world. (Perry & Duncan, 2017)

Many of these approaches, regardless of how the knowledge is acquired, are grounded in rigorous inquiry and offer valuable insights for shaping healing environments. Together, these ways of knowing reflect a holistic approach to creating environments that are not just built, but deeply felt and purposefully lived in: spaces that support healing, connection, and transformation.

ADVANCES IN TECHNOLOGY

The momentum for neuroarts has also been driven in part by the development of innovative tools and technology such as Functional Magnetic Resonance Imaging (fMRI), Electroencephalography (EEG), and Magnetoencephalography (MEG) that reveal and measure the complex neural mechanisms involved when we are exposed to art in any form. Increasingly, we understand how art stimulates brain systems that engage with reward, motor activity, perception, and the senses in ways unmatched by anything else.

As the field matures, interdisciplinary teams are working together to increasingly translate insights into real-world applications. For example, evidence now shows that music can enhance cognitive function and alleviate trauma, dance can reduce symptoms of Parkinson's disease, and poetry can support clinicians in navigating end-of-life care (Aspen Institute/IAM Lab, 2021). Similar patterns are emerging in the study of the built environment. A growing body of research demonstrates that when architecture, interior design, and urban planning are intentionally applied, they can foster healing in clinical settings, reduce provider burnout, improve workplace well-being, and encourage physical activity at the community level (Golden et al., 2024).

FIELD-BUILDING

Efforts to nurture Intentional Spaces growth have been deeply shaped by the NeuroArts Blueprint Initiative, a collaboration developed by the IAM Lab and Aspen Institute's Health, Medicine and Society Program in 2019. Guided by a groundbreaking document, *The NeuroArts Blueprint: Advancing the Science of Arts, Health, and Wellbeing* (Aspen Institute/IAM Lab, 2021), the NeuroArts Blueprint Initiative breaks new ground at the crossroads of science, the arts, and technology. Its mission is to cultivate neuroarts as a fully recognized field of research and practice, with educational and training pathways, dedicated funding, supportive public sector and private sector policies, effective leadership, well-crafted communications strategies, and infrastructure capacity.

A diverse and growing community of organizations and professionals has been instrumental in advancing the field of intentional spaces and neuroarchitecture. Groups like the Academy of Neuroscience for Architecture (ANFA), the American Society of Landscape Architects (ASLA), the Environmental Design Research Association (EDRA), The Centre for Conscious Design, the Building Brains Coalition, the Humanise Campaign, and the Centre for NeuroArchitecture and NeuroDesign–as well as academic initiatives from numerous institutions–have been instrumental in advancing the field of intentional spaces. These organizations, along with countless individuals, companies, and community-led initiatives, are bridging science and design: fostering dialogue, generating evidence, and pushing the boundaries of interdisciplinary innovation. This collective effort reflects an inclusive and evolving movement: one grounded in curiosity, compassion, and a shared commitment to creating spaces that are not just built but intentionally crafted to enhance human experience.

SET & SETTING

While the *Intentional Spaces Roadmap* incorporates traditional interdisciplinary frameworks and organizations, it also actively engages with complementary approaches and sectors, such as the principles of set and setting, to expand the understanding of how environments can support transformative human experiences. The concept of set and setting, originally rooted in the plant-based medicine community, refers to the internal mindset (*set*) and the external environment (*setting*) that together shape the outcome of transformative experiences. While it emerged as a framework for safe and meaningful psychedelic experiences, this model is increasingly relevant in the design of intentional spaces aimed at supporting personal transformation, healing, and well-being.

The insights from this work suggest that environments are not neutral backdrops but active participants in shaping how we experience change, integrate insights, and sustain well-being. Whether addressing trauma, fostering learning, or supporting community health, the principles of set and setting offer a valuable foundation for creating environments that support whole-person healing—regardless of the root causes driving the need for care.

Through the components of set and setting—preparation, induction, the core experience, and post-experience integration—architecture and design play a vital role in creating conditions that foster psychological openness, safety, and introspection. A rapid scoping review on Set & Setting by the IAM Lab highlights how spatial design elements such as lighting, acoustics, and form can influence emotional states and therapeutic outcomes (Golden et al., 2022). This aligns with research from other labs exploring the intersection of environment and consciousness. Set & Setting is contributing knowledge about the arc of transformation in places and spaces, from preparation through post-integration, which is invaluable to the Intentional Spaces field.

ECONOMIC BENEFITS

A growing body of research has demonstrated the significant economic value of well-designed environments, showing that intentional investments in physical spaces can yield measurable returns across sectors. In education, for example, studies have linked improved classroom design—including lighting, acoustics, and spatial layout—to better student performance and reduced absenteeism. In healthcare, evidence shows that healing-centered design can shorten hospital stays, reduce medical errors, and improve staff retention—translating directly into cost savings. Commercial and workplace environments designed with employee well-being in mind have been shown to increase productivity, reduce turnover, and enhance innovation. In public spaces, thoughtfully designed parks, transit hubs, and streetscapes contribute to increased property values and local economic activity. Together, these findings make a compelling economic case: investing in human-centered environments is not just a social good—it is a smart financial strategy.

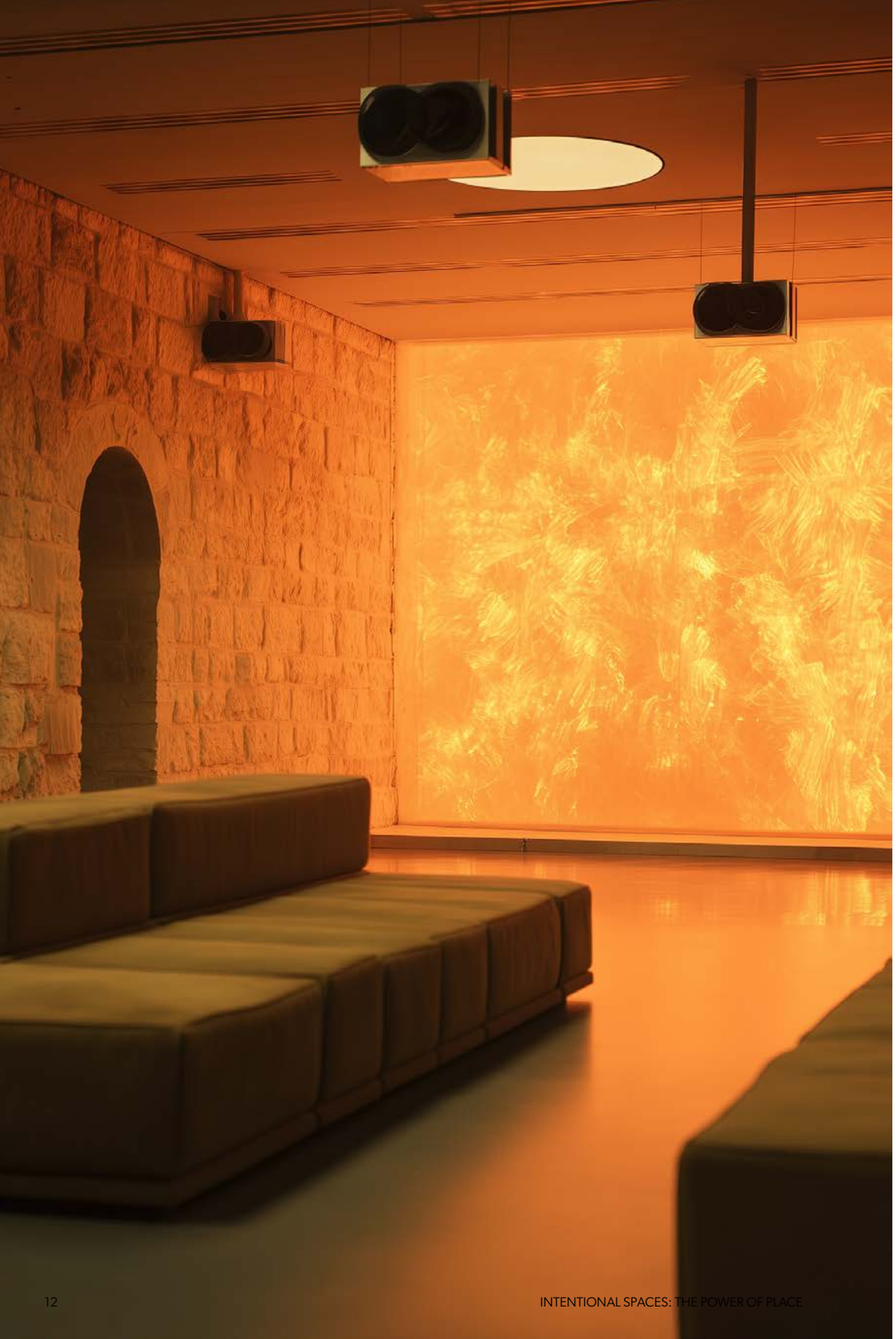
POTENTIAL CHALLENGES

Researchers and practitioners often operate in distinct silos, speaking different professional languages and using varied methods to conduct studies, share findings, and describe their work. As a result, the pathways from research to practice are poorly paved, with few effective strategies for integrating evidence, standards, and approaches across disciplines and sectors.

Compounding this disconnect is the fact that the value proposition of a science-informed approach, its potential to improve outcomes, elevate design, and serve communities more effectively, is not yet fully or convincingly articulated in ways that can shift mindsets or influence industry-wide change.

INVESTING IN THE FIELD

The Pedersen Foundation has played a pivotal role in advancing the field of Intentional Spaces and neuroarchitecture through a thoughtful and strategic funding approach. By supporting initiatives that bridge neuroscience, design, and real-world application, the foundation has helped catalyze interdisciplinary collaboration and knowledge translation. Their investment strategy focuses on amplifying field development: funding research, convenings, and platforms that bring together scientists, architects, and practitioners to explore how



built environments can positively impact human well-being. Through this sustained commitment, the Pedersen Foundation is fostering a growing ecosystem of innovation and impact at the intersection of brain science and the built world.

All these components and more present extraordinary opportunities to support Intentional Spaces as the field of neuroarts gains traction. Although the body of data documenting the effects of the built environment on health and well-being is compelling, real-world applications of the evidence that links design and sensory impacts remain limited. The involvement of many disciplines is a potential strength, but it also presents challenges related to methods, translation, concepts, structure, and communication.

THE ROADMAP

The overarching goal of the *Intentional Spaces Roadmap* is to share a co-created strategy that meets today's challenges and actively shapes a new future for how we design the spaces around us. By weaving together the knowledge, tools, and insights from across fields—architecture, neuroscience, public health, design, education, the arts, and beyond—we can move from siloed efforts to collective action. This is not just a shift in practice, but also a paradigm shift in how we imagine and build our cities, communities, institutions, and homes. Recognizing both the emerging nature of the field and the growing momentum behind it, the *Roadmap* offers practical recommendations, shared principles, and pathways for action. It invites all stakeholders to participate in creating environments that are not only functional, but deeply supportive of human flourishing for individuals, communities, and future generations.

DEVELOPING THE INTENTIONAL SPACES ROADMAP

Creating the *Intentional Spaces Roadmap* required a collaborative, cross-sector approach that brought together voices from across the design, architecture, neuroscience, and research communities. To deeply understand the current state of the field, we engaged with practitioners, researchers, educators, industry leaders, and community stakeholders through interviews, surveys, roundtables, and workshops. This inclusive process allowed us to bring to light both emerging practices and persistent challenges, mapping where innovation is happening and where further support is needed. The following outlines the data collected, offering a snapshot of a field in motion, rich with potential and shaped by diverse perspectives.

INTENTIONAL SPACES ADVISORS

Over the course of several years, we engaged advisors from around the world to review and consult on the development of the *Roadmap*, drawing on their diverse perspectives and expertise to inform and enrich the process. Their insights played a critical role in shaping the vision and implementation of these environments. A list of these valued contributors can be found in the Appendix. We are deeply grateful for their support and guidance throughout this journey.

FOCUS GROUPS

The Intentional Spaces Initiative began with level-setting activities that gave us insights about the state of the field and the needs of those who are engaged or interested in it. In 2022, we conducted a series of three focus groups and one guided interview with international thought leaders working at the intersection of health and the built environment. This resulted in a paper titled *"Intentional Spaces": Thought Leaders on Intersections of Health, Architecture, and Design* (Golden et al., 2024), which explores the critical interrelationship between the built environment and humans, offering insights from experts across disciplines. By emphasizing intentionality in spatial design, the paper highlights how architecture can go beyond aesthetics or functionality to actively promote physical, mental, and emotional health.

INTEGRATIVE DESIGN

This work is especially important in the emerging field of integrative design. Integrative design is a collaborative, systems-based approach to creating built environments that align environmental, social, and human well-being goals. Unlike conventional design processes, which often segment planning, engineering, architecture, and user input into disconnected phases, integrative design brings together diverse stakeholders from the outset. This inclusive and iterative approach fosters deeper understanding of context, co-creates more effective solutions, and uncovers opportunities for synergy across disciplines.

In practice, integrative design has been shown to produce buildings and spaces that are not only more sustainable and cost-effective, but also more responsive to human needs. Its principles are rooted in fields such as biomimicry (Benyus, 1997), regenerative design (Mang & Reed, 2012), and human-centered design (IDEO.org, 2015), and it has been widely advanced by organizations like the Rocky Mountain Institute, which advocates for integrative design as essential for high-performance buildings and climate resilience (Lovins et al., 2018). By centering collaboration, systems thinking, and purpose-driven outcomes, integrative design offers a powerful model for reimagining how we shape the environments that shape us. It provides a compelling framework for rethinking how spaces, whether hospitals, schools, workplaces, or public areas, can be deliberately crafted to support healing, connection, equity, and resilience.

THE 2023 INTENTIONAL SPACES SUMMIT

Early groundwork conducted by the IAM Lab research team, including the focus groups, national practitioner survey, and literature review of the growing body of interdisciplinary research, confirmed that the time was right to convene stakeholders invested in advancing intentional spaces. Interest in how the built environment influences health and well-being had steadily grown, offering both a mandate and a moment. Yet the field's unrealized potential made it clear that additional efforts were needed to translate this momentum into lasting progress.

These insights inspired a groundbreaking event: the Intentional Spaces Summit, held in November 2023 at the Johns Hopkins University Bloomberg Center in Washington, DC. The Summit was co-hosted by the IAM Lab and Academy of Neuroscience for Architecture (ANFA), whose mission is to advance research that links neuroscience with our understanding of human responses to the built environment.

Over the span of the two-day Summit, more than 300 leaders from architecture, design, neuroscience, cognitive science, environmental psychology, and technology convened to engage in rich dialogue, strategic thinking, and collaborative learning. Participants heard from renowned experts whose thought-provoking insights inspired both reflection and action. Together, they explored the application of emerging knowledge across healthcare, education, workplace, and civic environments. The gathering fostered new cross-disciplinary collaborations, grounded in translational research and practice, and marked the beginning of a shared effort to develop a unified framework that aligns research and design in support of human flourishing.

The Summit's interactive structure offered participants opportunities to participate in hands-on working sessions, which reflected our commitment to ensuring that the field's recommendations and action steps are co-created by its members, for its members.

At the Summit, many speakers explored the built environment through the expansive lens of neuroarts and several key themes emerged that can shape the future of architecture and design. Videos of these dynamic talks are available online, offering a chance to revisit or discover the inspiring ideas and innovations that defined the Summit and serve as a baseline for the *Roadmap*.

One prominent theme focused on human impact and how design shapes experience. Conversations centered on how thoughtfully designed environments—artful, inclusive, and grounded in a deep understanding of mind-body-environment connections—can profoundly influence human well-being. Placemaking emerged as a powerful tool to amplify health and belonging, and discussions highlighted the critical role design plays in addressing global health challenges.

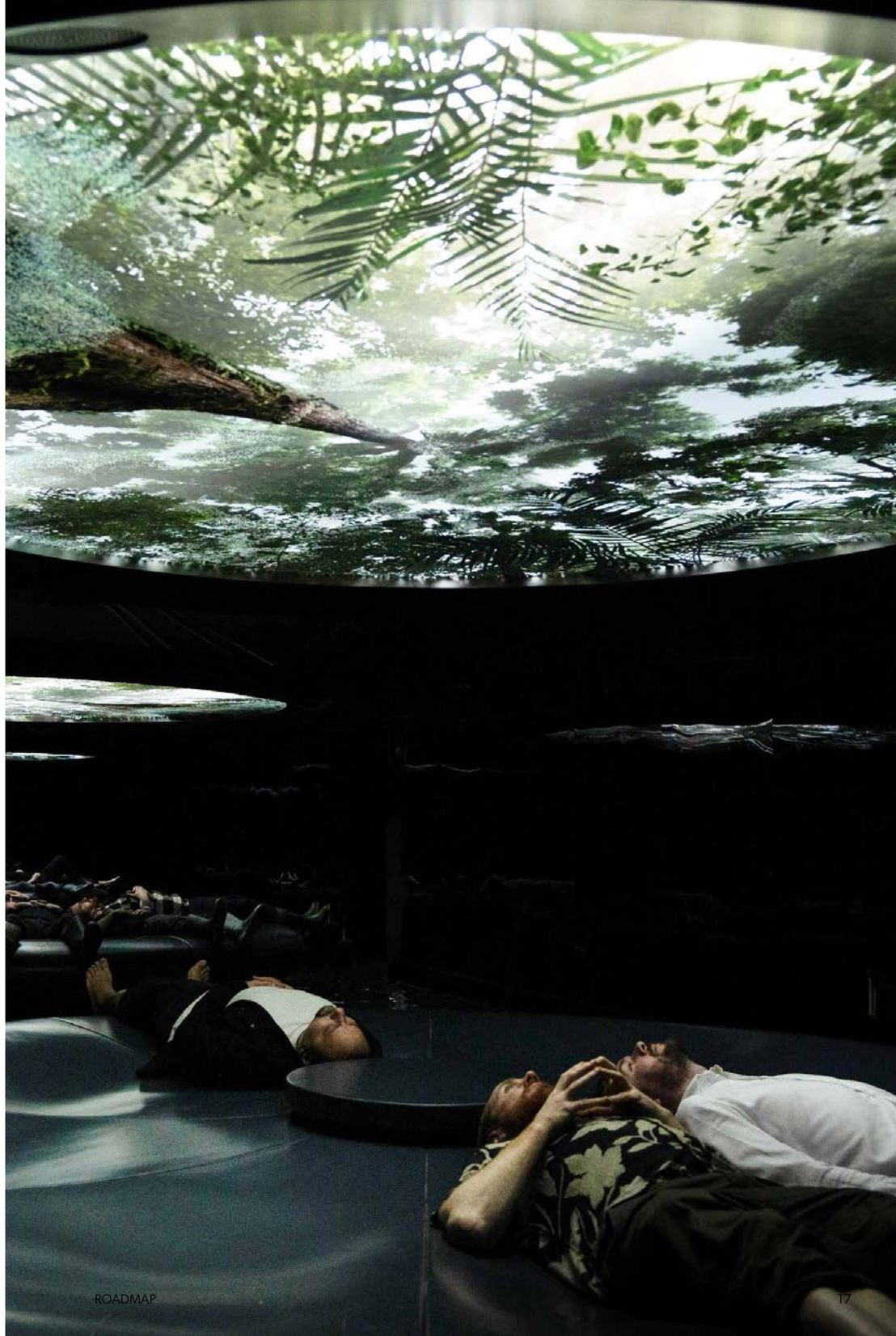
Another major theme considered the methods, tools, and technologies of design practice. Presenters showcased how advances in science and technology are equipping practitioners with new tools and perspectives. The premiere of the short film *What Design Can Do* by Sarah Williams Goldhagen and Sarah Robinson underscored the creative and global reach of design, while discussions emphasized the importance of curiosity and interdisciplinary collaboration in developing solutions that are both innovative and grounded.

The final theme addressed the need for rigorous evaluation methods to understand the complexity of human experience in designed spaces. Sessions explored how translational approaches can bridge research and practice, and how fostering a culture of evidence-informed design can lead to lasting transformation in the field.

WORKING SESSIONS

During the Summit's working sessions, participants engaged in energetic, forward-looking conversations centered on the intersection of the built environment and human well-being. These sessions provided space for small-group exploration of key questions shaping the future of the field. Attendees reflected on what they saw as the most promising opportunities at the nexus of design and health, while also candidly addressing the persistent challenges they face. Discussions delved into what meaningful, effective collaboration between researchers and practitioners actually looks like in practice.

Looking ahead, participants imagined thriving futures five, 10, and 20 years in the future and envisioned transformative changes made possible by shared vision and sustained effort. They also offered concrete recommendations for advancing the field and identified what support and/or resources they would need to integrate those ideas into their daily work. These engaging sessions not only deepened dialogue but also helped chart a collaborative path forward for research-informed design.



INSIGHTS TO GUIDE THE ROADMAP DEVELOPMENT

Drawing from this comprehensive process—including focus groups, a national survey, an extensive literature review, insights from the Intentional Spaces Summit, in-depth working group discussions, and ongoing conversations—we identified ten key themes. These themes reflect a rich convergence of perspectives across disciplines and highlight the priorities, opportunities, and challenges at the intersection of the built environment and human well-being. They serve as the foundation for the recommendations that follow.

The stakeholders referenced include researchers, practitioners, policymakers, and community leaders engaged in shaping the built environment at the intersection of health, architecture, and design. Many of these themes are explored in greater depth in the peer-reviewed article: *"Intentional Spaces": Thought Leaders on the Intersections of Health, Architecture, and Design* (Golden et al., 2024), while others were developed based on key insights from the Intentional Spaces Summit.

FIELD SURVEY, FIELD INTERVIEWS, AND LITERATURE REVIEW

Building on this work, the IAM Lab partnered with Thermengruppe Josef Wund, a global leader in thermal spa development to launch an interdisciplinary, impact-driven project to develop actionable design principles for real-world applications. The project began by surveying 80 potential end-users of the neuroaesthetic design knowledge to understand the data they find most supportive to their work, the types of questions and needs they have, their definitions of "design principles," and how they envision this research initiative being most actionable. In addition, we conducted in-depth interviews with six end-users to gain deeper insights.

Using this end-user data, we developed interview questions. We selected the experts to interview from various sensory modalities, defining them as individuals who have made significant contributions to their fields through published research and, ideally, extensive on-the-ground experience. These experts were identified from recent literature, including authors of prominent studies, as well as from the research team's existing networks.

We conducted 15 expert interviews, resulting in approximately 25 hours of recorded interviews. Experts were also asked to share three to eight peer-reviewed articles and/or published reports that they perceived as essential, and/or richly informative regarding the sensory modality about which they were interviewed. This resulted in the collection of literature that accompanied and contextualized the interview data. The findings are presented in the attached document *FOUNDATIONS: Intentional Spaces – Design Insights and Future Directions*.

KEY THEMES

Significant opportunities exist to grow the field. Stakeholders framed the limited extent to which existing knowledge has been translated into broader practice as a surmountable barrier. They noted that replicable models of intentional spaces already exist and that the COVID-19 pandemic underscored the value of healthy spaces. A comprehensive approach to design requires attention not only to environmental concerns, such as the quality of the air and water, but also to the effects on physical, mental and civic health.

Engaging professionals from all sectors and a broad spectrum of the general public can help foster a committed constituency. Increasing the demand, commitment, and funding dedicated to intentional spaces means educating diverse audiences about their value, bringing community concerns to the forefront, and elevating the importance of transdisciplinary work. Going beyond US borders is a further way to spark new ideas. Professionals in the field need to make it more known that our environments affect us profoundly.

To break down silos and foster collaboration across disciplines, professionals across fields need structured settings in which to come together. Differing priorities, the lack of a common language, and inconsistent definitions make it hard to recognize common goals and build bridges. There is often a disconnect between disciplines: those with a background in science may view design as superficial, while those in design may see science as irrelevant. Training and convenings have an important role to play in breaking down these myths and barriers.

Ongoing research can generate crucial evidence about how the built environment influences health and well-being. Controlled experiments in the field are difficult because so many variables are at play and outcome goals vary. Yet focus group participants identified a number of possible measures, depending on the environment being assessed and the available technology. These include physiological data (such as cortisol levels, heart rate, and eye tracking), academic or cognitive performance, self-reported satisfaction or sense of belonging, social cohesion, and productivity, among

others. Communicating research in ways that allow practitioners to apply the findings is essential. Ideally, every major building project would serve as an opportunity for research and learning.

Existing funding structures are not fully aligned with efforts to promote intentional spaces. Focus group participants said that funding decision makers should involve representatives across sectors and disciplines as they consider how to support built environment projects. Recent data suggest that for some places around the world, in the European Union, for example, more funding is being promised to projects that demonstrate a positive impact on both individual and community health. They also acknowledged the need to overcome perceptions that their work lacks a rigorous scientific basis and to learn more about why funders have, to date, made limited commitments.

Emphasizing training, education, adaptive design, and sustainability can widen the intersection of health and the built environment. While success in this field can be defined in many ways, participants agreed that evidence of greater linkages between health and design is an important metric. Among their recommendations to achieve that: increase the emphasis on education, beginning at the youngest ages and continuing throughout professional training; identify ways to modify buildings in response to research findings; and recognize the ethical imperative of factoring climate change into design.

Cultivating awareness of and demand for the ability for built environments to affect health and well-being can help drive change. To drive meaningful change, we must cultivate broad awareness and demand for the transformative potential of the built environment on health and well-being. This involves raising awareness among designers, policymakers, community leaders, and end-users through impactful campaigns, accessible education, and strategic advocacy. Communicating these concepts requires moving beyond jargon and technical data; we must leverage storytelling, visuals, and shared language tailored to different audiences' beliefs, values, and preferred platforms.

Supporting this awareness are resources and educational tools that empower stakeholders—from architects and clients to community advocates and educators—to champion health and well-being as critical outcomes in design. Furthermore, it is essential to frame healthy environments as a human right, including the right to know how our surroundings influence our bodies and minds. Equipping advocates with compelling tools—such as economic analyses, visual measures, and fact sets—can help bridge understanding and motivate investment in projects that are centered on well-being. Finally, pushing for policy change at every level, from standards and codes to educational curricula and certification systems, can help embed this awareness into institutional structures.

Embedding equity, inclusion, participation, and human-centered practices must happen from the outset. A commitment to diversity, equity, inclusion, and access must be foundational, baked into the process from the very beginning. Without this, even well-intentioned work risks perpetuating disparities and exclusion. Built environments must be co-created with the communities and end-users who inhabit them, ensuring their voices, knowledge, and experiences shape every stage of the design and decision-making process. Participatory strategies are essential here. Moreover, designing for well-being must go beyond aesthetics or isolated spaces to account for the broader social, cultural, and systemic forces that shape health outcomes. This includes attention to root causes of inequity, social drivers of health, and the lived experiences of individuals navigating those systems. A human-centered approach recognizes the whole person within their unique context and aims to create spaces that support dignity, empowerment, and belonging.

We must recognize and undertake the work of effective collaboration. Achieving environments that truly support health and well-being requires deep, intentional collaboration across disciplines and communities. Opportunities for collaboration—such as interdisciplinary education programs, professional gatherings, shared digital hubs, and integrated design teams—must be proactively developed. Bridging the research-practice divide is also crucial. Research must be made actionable, accessible, and responsive to practice, and vice versa, to create a cycle of learning that improves both theory and application. Establishing spaces that allow interdisciplinary teams to communicate openly, challenge assumptions, align values, and co-create solutions is essential. These spaces should foster a culture of systems thinking, curiosity, and collective learning, and should intentionally challenge bias and binary thinking. Education at all levels, from K-12 through higher education and continuing professional development, must teach communication, collaboration, and appreciation of diverse knowledge systems.

Measuring outcomes requires the development of a growing set of effective, usable, and adaptive methods. As we push for built environments that promote well-being, we must continually refine how we measure success. This includes identifying and sharing effective, mixed-method tools that combine quantitative metrics with qualitative, practice-based, and user-centered insights. New tools must be rigorous yet flexible, designed to respond to real-world complexity and variability across different populations and contexts. The integration of technology may enhance this adaptability, particularly for pre- and post-occupancy evaluations. To ensure broad participation, training in research and evaluation practices should be made accessible to practitioners without formal research backgrounds, covering fundamentals such as mixed methods and evidence thresholds. Instead of seeking prescriptive, universal metrics, we must develop evaluation practices that are sensitive to contextual, cultural, and situational factors. This means balancing the need for general, easy-to-use tools with customizable approaches tailored to the goals, users, and audiences at hand.

UNLOCKING VALUE: THE ROLE OF ECONOMIC ANALYSIS IN INTENTIONAL SPACES METHODOLOGY

Economic analysis is essential to accurately assess the value of applying the Intentional Spaces methodology in built environment projects, as it quantifies both tangible and intangible benefits that may otherwise be overlooked. By systematically evaluating costs, returns, and long-term outcomes, it helps justify investments in design strategies that prioritize human experience, functionality, and well-being. This approach enables stakeholders to understand impacts on productivity, health outcomes, community engagement, and operational efficiency—factors that translate into measurable economic gains—and prevents underestimating long-term value that can lead to missed opportunities for sustainable development.

CULTIVATING INTENTIONAL SPACES: BUILDING A SUSTAINABLE BUSINESS MODEL THROUGH ONGOING RESEARCH AND APPLIED KNOWLEDGE

In the evolving built environment, Intentional Spaces must prioritize sustainable business models grounded in continuous research and applied knowledge. These purpose-driven spaces—designed to enhance well-being, community, and ecological balance—require adaptive frameworks that respond to environmental data, social behaviors, and emerging technologies. By embedding research into operational practice, practitioners can generate actionable insights, validate design outcomes, and align with long-term sustainability goals, ensuring relevance, resilience, and innovation in how environments are shaped and sustained.

OBSTACLES THAT IMPEDE GROWTH

While the *Intentional Spaces Roadmap* vision was strongly affirmed by the themes and insights shared by many stakeholders, research also surfaced a series of persistent obstacles that hinder progress. Despite growing recognition of the connection between design and well-being, widespread adoption remains limited due to systemic, cultural, and practical barriers.

For the Intentional Spaces field to reach maturity and drive meaningful change, these challenges must be explicitly acknowledged and strategically addressed through interdisciplinary collaboration, shifts in policy and funding, and a revaluation of design's role in public health. The following are pressing obstacles that currently impede the field, with a focus on what must be overcome for its continued evolution.

DISCIPLINARY SILOS AND LACK OF SHARED LANGUAGE

One of the foundational challenges in advancing neuroarchitecture is the persistent divide between disciplines such as architecture, neuroscience, psychology, and urban planning. These fields often operate in isolation, each with its own methodologies, terminologies, and research priorities. As a result, meaningful collaboration becomes difficult. Designers may not possess the scientific literacy required to interpret empirical data, while scientists may lack insight into the practical constraints of real-world design. Without a common vocabulary or integrated conceptual frameworks, it becomes nearly impossible to translate research into actionable design. Building bridges between these disciplines is essential for developing shared methodologies and unlocking the full potential of brain-informed environments.

LIMITED ACCESS TO APPLIED RESEARCH AND EVIDENCE

Although research on the impact of physical environments on brain function and behavior is growing, much of it remains inaccessible to those who need it most. Findings are often locked behind academic paywalls, written in technical language, or derived from lab-based experiments that do not easily translate to real-world contexts. As a result, designers and developers struggle to apply insights in practical ways. Compounding the issue is the lack of validated design tools or guidelines that connect neuroscience with scalable design strategies. Making research more open, digestible, and application-focused is a crucial step toward empowering the design community with actionable knowledge.

LACK OF POLICY AND REGULATORY INCENTIVES

Current regulatory frameworks, including building codes and zoning laws, rarely account for cognitive health, mental wellness, or neurodiversity. In the absence of policy mandates or incentives tied to public procurement, there is little motivation for organizations to move beyond compliance toward innovation. Without structural sensitivity to intentional spaces from governing bodies, brain-friendly design remains an optional extra rather than a new baseline for the built environment. Incorporating physical and mental wellness into policy would signal a critical shift in societal priorities and could catalyze broader adoption.

INCOMPLETE TRAINING AND EDUCATION

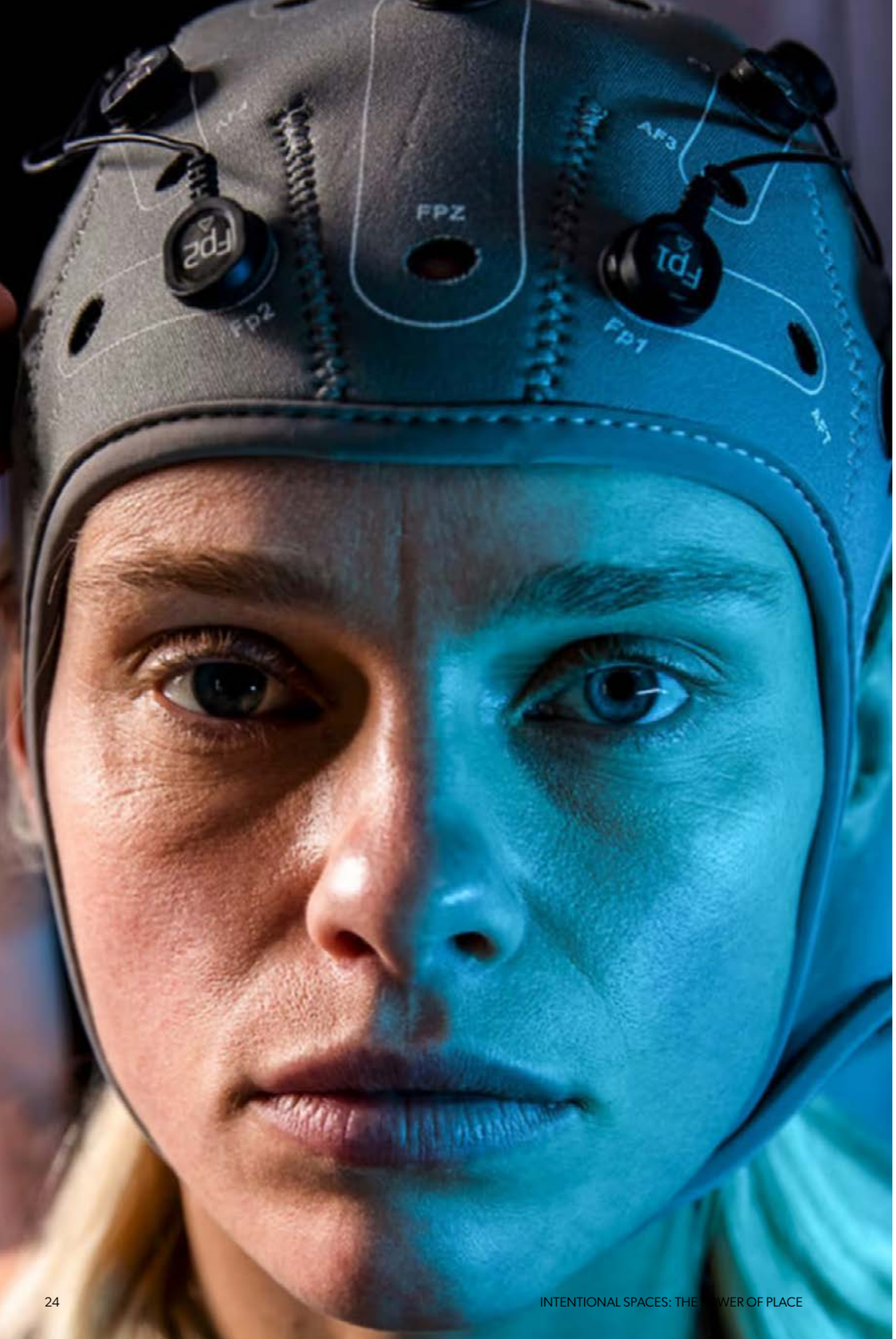
Academic programs in architecture, urban design, and interior design often lack courses on neuroscience or environmental psychology, leaving graduates unprepared to integrate science into their work. Similarly, neuroscience students are rarely trained to collaborate with design professionals or engage in applied projects. This disconnect leads to a shortage of practitioners with the interdisciplinary fluency required to advance neuroarchitecture. Curricula must evolve to foster cross-training and real-world collaboration across the sciences and design disciplines.

MEASUREMENT CHALLENGES

Despite growing interest, quantifying the impact of design on mental and emotional states remains a major challenge. Subjective experiences like stress, focus, or emotional well-being are difficult to measure at scale, particularly in dynamic, real-world environments. While tools such as EEG and heart rate variability monitoring are improving, they are often costly, time-consuming, or intrusive. The field urgently needs standardized, scalable, and non-invasive metrics to evaluate rigorously the outcomes of intentional spaces design strategies and to build a stronger evidence base.

INERTIA AND RELUCTANCE TO INCORPORATE INTENTIONAL SPACES PRINCIPLES

Beyond logistical and structural hurdles, cultural resistance to move toward intentional spaces presents a subtler yet powerful barrier. Many clients and decision-makers still view



design as primarily aesthetic or technical rather than as a vehicle for human thriving. This mindset can foster skepticism toward evidence-based approaches, which are sometimes perceived as overcomplicating a process traditionally driven by intuition and creativity. Furthermore, established workflows and procurement processes often resist change, especially in risk-averse or budget-conscious environments. Overcoming this inertia will require advocacy, education, and visible success stories to shift industry norms.

ETHICAL AND DATA PRIVACY CONCERNS

As technologies emerge that can track emotional and cognitive responses to environments, ethical questions become increasingly urgent. Concerns around consent, data privacy, and potential manipulation can create wariness among users, clients, and communities. Without clear ethical guidelines and transparent practices, there is a real risk that intentional spaces design could be perceived as intrusive or exploitative. Establishing robust frameworks for ethical data collection and use is essential to building public trust and ensuring that neuroarchitecture serves human dignity and autonomy.

LACK OF ECONOMIC MODELS TO QUANTIFY ROI AND SROI

In a market dominated by cost-efficiency, rapid delivery, and short-term return on investment, there is limited space for experimentation, research integration, or design processes rooted in neuroscience and behavioral science. Science-informed approaches—such as neuroarchitecture and evidence-based design—are often dismissed as luxuries or academic indulgences, particularly when they involve perceived upfront costs or extended timelines. As a result, developers, investors, and other market stakeholders frequently overlook these methods, despite their proven potential to enhance occupant well-being, productivity, and long-term asset performance.

What is missing is not just advocacy; it is data. More specifically, there is an urgent need for rigorous economic models that quantify both traditional return on investment (ROI) and social return on investment (SROI) for intentional, science-informed design. Without credible, scalable tools that show how improved mental health, lower turnover, better cognitive function, or reduced healthcare burdens translate into financial outcomes, the industry lacks a compelling reason to adopt these methods at scale. This remains one of the most critical—and underdeveloped—gaps in the field.

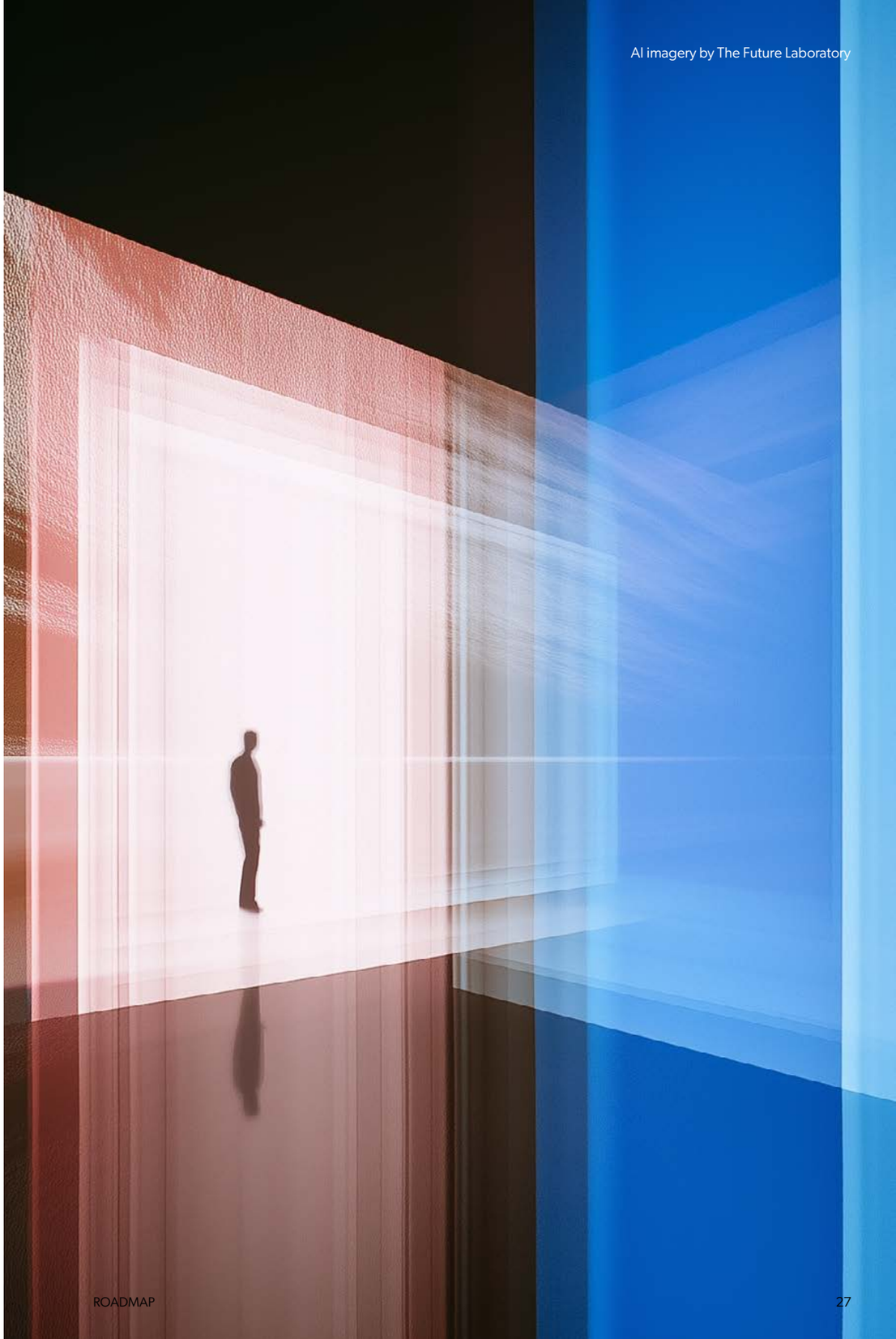
To move forward, the field must engage economists, data scientists, and systems thinkers to build models that capture both direct financial returns and broader societal value. This includes reduced public health costs, increased educational performance, higher workplace satisfaction, and environmental resilience. These models must be tested, validated, and communicated in language the market understands—dollars, risks, and opportunities.

One promising example is the growing body of research on the WELL Building Standard and its impact on workplace satisfaction and productivity. A 2022 report found that employees moving into WELL-certified buildings reported significant gains in workplace satisfaction and environmental quality, alongside notable improvements in perceived mental health and well-being, with modest increases in self-reported productivity (Ildiri et al., 2022).

Only by embedding ROI and SROI into the DNA of intentional spaces development can science-informed design shift from a "nice-to-have" to a "need-to-have." This paradigm shift is not just about better buildings—it is also about redefining value in the built environment.

INTENTIONAL SPACES ROADMAP RECOMMENDATIONS

Building the emerging field of neuroarchitecture requires a comprehensive and multifaceted approach. The following recommendations aim to unify the field by grounding action in evidence, promoting interdisciplinary collaboration, engaging and educating stakeholders, and establishing a lasting framework. At every stage, a commitment to equitable access must remain central to realizing this vision.



AI imagery by The Future Laboratory

RECOMMENDATION

Enhance Basic and Translational Research and Diverse Ways of Knowing

To make meaningful progress in the design of intentional spaces, we must ground decisions in evidence built on both quantitative and qualitative metrics. Simply put, the more we know, the more effectively we can act. This requires robust interdisciplinary collaboration, a commitment to ongoing research translation, and inclusive planning practices that link science to lived experience.

1. **Build a Strong Foundation for Evidence-Based Design**

The advancement of intentional spaces depends on rigorous, interdisciplinary research, particularly in the field of neuroarchitecture. This research examines how the built environment influences human experience across multiple domains, including:

- → Attention and focus
- → Memory and learning
- → Emotion regulation and mood
- → Cognitive performance and executive function
- → Creativity and problem-solving
- → Innovation and ideation
- → Sensory perception and integration
- → Spatial awareness and navigation

These processes are shaped not only by what we think, but also by how we feel and move within space. This is where two critical frameworks come into play:

- → *Affective cognition* refers to the way emotions influence thought processes. It recognizes that design elements—such as lighting, acoustics, color, and spatial layout—can directly impact emotional states, which in turn affect concentration, decision-making, and well-being.
- → *Embodied cognition* emphasizes that cognitive processes are deeply rooted in the body's interactions with its environment. It suggests that perception, movement, and physical experience are integral to how we think and understand the world—meaning that the shape, scale, texture, and affordances of space can fundamentally shape cognitive function.

Additionally, developmental and lifespan research brings essential insight into how different populations—infants, children, adults, and older adults—experience and are impacted by design. Understanding how needs and responses to space evolve over time is critical for creating inclusive, adaptable environments that support human health, learning, and flourishing at every stage of life.

2. **Translate Research into Practical Design Principles and Policies for Key Sectors**

To transform knowledge into impact, research findings must inform tangible design elements such as lighting, acoustics, spatial layout, materiality, access to nature, and views. These elements should be linked explicitly to cognitive and emotional outcomes, with practical applications across sectors:

- → **Schools**: improving focus, engagement, and safety
- → **Hospitals**: supporting healing, comfort, and orientation
- → **Workspaces**: enhancing productivity and reducing stress
- → **Elder care**: reinforcing memory, physical agility, and emotional well-being
- → **Public Spaces**: safety, navigation, sense of place, sense of belonging, social cohesion

It will be essential to integrate these findings into policy at all levels and in every sector. Findings must inform building codes, healthcare guidelines, and urban planning policy to set new standards for evidence-based, neuroscience-informed design.

3. **Foster Interdisciplinary Collaboration and Pilot Projects**

The Intentional Spaces field requires multidisciplinary teams that include architects, neuroscientists, psychologists, engineers, public health experts, ethicists, and data scientists. Establishing local and regional neuroarchitecture labs and working groups will foster sustained collaboration, enabling co-creation and knowledge-sharing across sectors.

To translate theory into practice, the field must prioritize the development of *proof-of-concept* projects that serve as replicable case studies. These pilot projects—embedded in real-world environments such as schools, healthcare clinics, office spaces, and community centers—should function as "living labs," where interdisciplinary teams can test, refine, and evaluate the full process of intentional design, from initial concept through to post-occupancy impact assessment.

For these pilots to be meaningful, they must include:

- → A clearly defined design hypothesis based on affective and embodied cognition
- → Integrated stakeholder collaboration across designers, researchers, end-users, and economists
- → Rigorous baseline and follow-up assessments measuring both human-centered outcomes (e.g., well-being, productivity, stress reduction) and organizational or social returns (e.g., ROI/SROI, healthcare costs, employee retention)
- → Adaptation and iteration loops to refine design elements based on real-time feedback and lived experience
- → Transparent documentation and dissemination to enable replication and scaling in other contexts

4. Co-Design with Community

A defining feature of intentional space design is community-based co-design. Engaging end users—especially marginalized populations—through charrettes, focus groups, and ethnographic research ensures that local knowledge, lived experience, and cultural values shape the outcome.

A critical component of this process is participatory planning and co-design. When the people who will use a space are actively involved in shaping it, the outcomes are significantly stronger. Co-design fosters trust, enhances relevance, and results in environments that are better aligned with community needs and aspirations. But beyond functional alignment, participatory design cultivates a deeper, often overlooked benefit: an increased sense of agency, belonging, and stewardship.

When individuals feel they have a voice in the creation of their environment, they are more likely to develop a personal connection to the space, take responsibility for its upkeep, and use it in ways that support collective well-being. This emotional investment not only improves outcomes but also strengthens social cohesion and long-term sustainability—critical goals for any intentional spaces initiative.

These proof-of-concept projects, when co-designed and thoroughly evaluated, become powerful case studies that demonstrate the full impact and replicability of science-informed, human-centered design. They are the foundation for scaling innovation and shifting industry norms toward a more holistic understanding of value in the built environment.

5. Develop and Share Open-Source Tools

To democratize access to neuroscience-informed design, we must create open-source tools and guidelines that help practitioners apply scientific insights in real-world projects. These resources will support broader adoption by architects, planners, developers, and policymakers. The goal is to develop inclusive design principles that bridges disciplines and links empirical research with experiential wisdom and catalyzes transformative design. This will help strengthen the connection between research and practice, ensuring that the intentional spaces efforts evolve in step with new discoveries.

RECOMMENDATION

Establish Career Training that Incorporate New Knowledge

To expand the field of neuroarchitecture and strengthen the practice of intentional space design, we must build robust educational and professional development. These work should integrate scientific understanding, design thinking, and lived experience, preparing a new generation of professionals to lead at the intersection of health, aesthetics, and the built environment.

1. **Develop Integrated and Inclusive Academic Curricula**

The foundation of long-term progress lies in reimagining education in this field. Interdisciplinary degree and certificate programs should be developed across undergraduate, graduate, and professional levels to blend neuroscience, architecture, psychology, public health, and design. Curricula must reflect both scientific knowledge and cultural/experiential perspectives, encouraging students to consider how space affects human emotion, cognition, and behavior across different contexts. Programs should include:

- → Interdisciplinary coursework linking science, design, and social impact
- → Studio-based learning that incorporates real-world projects and community engagement
- → Specializations in neuroscience-informed design and intentional spaces
- → Collaborative programs across institutions and disciplines

2. **Create Cross-Training and Certification Programs for Practitioners**

To support current professionals— including architects, designers, planners, healthcare providers—training programs should bridge disciplinary gaps through targeted skill-building. This includes:

- → Cross-training modules that bring together design and science professionals
- → Online and in-person workshops focused on neuroscience-informed design principles
- → Certifications for architects and planners to apply evidence-based design approaches in practice
- → Continuing education credits through professional associations

These offerings will help mainstream neuroscience-informed design across sectors by making it accessible, practical, and relevant.

3. **Build Internal Capacity Through Staff Development**

Organizations that implement intentional space principles need internal training programs to ensure alignment across teams. Offerings should include:

- → Interdisciplinary team training on neuroscience and design integration
- → Staff development modules that translate research into practice
- → In-house “lunch and learn” sessions, webinars, and hands-on workshops
- → Case studies of successful intentional spaces to support practical learning

These resources build an organization-wide culture of evidence-informed design and continuous learning.

4. **Support Leadership Development and Mentorship**

Strong leadership is essential to institutionalize intentional design. New initiatives should support mentorship between emerging and established professionals, building networks of influence and practice. Strategies include:

- → Formal mentorship programs within academic and professional associations
- → Fellowships and residencies that allow for focused research and innovation
- → Leadership development tracks within credentialing programs
- → Networking events and interdisciplinary symposiums to foster dialogue and collaboration

By cultivating leadership at all levels, the field will gain both resilience and direction.

5. **Broaden Access Through Internships, Apprenticeships, and On-the-Job Training**

To diversify the pipeline and increase access to this emerging field, practical training programs are essential. These include:

- → Paid internships and apprenticeships for students and early-career professionals
- → On-the-job training opportunities within multidisciplinary firms and institutions
- → Programs that support underrepresented groups in design and science fields
- → Community-based fellowships that center local knowledge and lived experience

Such pathways will help support equity, innovation, and the long-term sustainability of the field.

RECOMMENDATION

Expand Methods and Technology to Advance Intentional Spaces

Defining the field of neuroarchitecture will include the future of intentional space design, grounded in technologies and diverse methodologies that deepen our understanding of how environments shape human experience. These tools enable precise measurement, real-time modeling, immersive testing, and continuous feedback—making it possible to create environments that evolve responsively based on real-world data and lived experience.

1. **Integrate Advanced Measurement Tools for Deeper Insight**

New technologies allow researchers and practitioners to assess how individuals respond to spaces with unprecedented precision. In-situ neural and physiological monitoring—such as EEG, eye-tracking, heart rate variability, and galvanic skin response—can track attention, stress, and emotional engagement in both real and simulated environments.

These tools help identify how specific design elements such as light, acoustics, spatial layout affect:

- → Cognitive function (e.g., focus, memory, decision-making)
- → Emotional states (e.g., calm, anxiety, joy)
- → Physiological stress and wellbeing (e.g., heart rate, cortisol levels, sleep quality)

Integrating these metrics into research and practice enables more finely tuned, evidence-based design decisions.

2. **Use Immersive Technologies and Real-Time Lived Experience for Prototyping and Testing**

Prototyping intentional spaces requires more than conceptual modeling—it demands tools and methods that bring designs into lived experience, allowing designers and stakeholders to evaluate how spaces actually feel, function, and support human needs. Two powerful yet distinct approaches are emerging: immersive technologies (like virtual and augmented reality) and real-time, real-world lived experience testing.

Immersive Technologies (VR/AR/XR): Simulating Experience Before it is Built

Virtual reality (VR), augmented reality (AR), and extended reality (XR) offer powerful platforms for early-stage design exploration. These tools allow stakeholders to engage with spatial concepts before construction, providing a simulated, controlled environment where cognitive, emotional, and physical responses can be measured and observed. Key applications of immersive tech include:

- → Comparative testing of design options, materials, or lighting conditions in a virtual environment
- → Biometric integration (e.g., eye-tracking, heart rate, galvanic skin response) to assess stress, comfort, or attention in response to design features
- → Training and onboarding in simulated environments for staff or users (e.g., hospitals, schools, workplaces)
- → Accessibility simulation for different user groups to ensure inclusive design outcomes

This approach allows for iteration and optimization without the cost or inflexibility of building physical mock-ups—reducing design risk and enhancing stakeholder alignment from the outset.

Real-Time Lived Experience (Non-Immersive): Testing in Physical Environments

Equally important is real-world testing in physical environments—often through temporary installations, pilot spaces, or adaptable prototypes. These non-immersive, but embodied, experiences provide immediate, tangible feedback from users interacting with the built environment as it unfolds in real time.

Key features of real-time, real-world prototyping include:

- → Pop-up or modular test spaces that allow users to interact with spatial concepts in context (e.g., a prototype classroom, clinic room, or office pod)
- → Observation of natural behavior as users engage with lighting, acoustics, furniture, circulation, and spatial affordances
- → Narrative and ethnographic methods such as journaling, shadowing, or video analysis to capture emotional and cultural dimensions of experience
- → On-the-ground feedback tools like comment walls, QR surveys, or facilitated walk-throughs
- → Data synchronization between environmental metrics (light, air quality, sound) and human responses to evaluate design impact in real time

This approach grounds the design process in everyday lived experience and provides valuable insights that virtual simulations may miss—such as social dynamics, cultural cues, or tactile interactions.

3. **Employ Predictive Modeling Through Digital Twins and AI**

Digital twins—virtual replicas of physical environments—allow real-time modeling of how people interact with space. These dynamic simulations, enhanced by AI and big data analytics, can:

- Predict behavioral patterns and bottlenecks
- Optimize space use and resource allocation
- Simulate changes in design to forecast outcomes
- Identify environmental factors that influence well-being over time

By applying predictive tools across sectors (e.g., healthcare, education, workplaces), intentional spaces can be continuously refined for improved performance and impact.

4. **Redefine Post-Occupancy Evaluation with Continuous Feedback Loops**

Post-occupancy evaluation (POE) must evolve far beyond traditional satisfaction surveys. In today's complex and dynamic environments, we need tools and processes that allow for real-time, ongoing assessment of how people truly experience and interact with the spaces they inhabit. As many in the field have noted, "there is nothing post about occupancy." The moment people begin using a space, their experiences, needs, and behaviors start to shift—and our evaluation methods must keep pace.

Modern POE frameworks should embrace a continuous feedback model that integrates physiological, neurological, behavioral, environmental, and experiential data to form a holistic, 360-degree understanding of human-space interaction. Effective POE strategies include:

- Continuous monitoring of user well-being and cognitive performance through wearable tech, biometric sensors, and cognitive task performance data
- Sensor-integrated smart systems that track occupancy patterns, air quality, temperature, lighting, acoustics, and spatial usage in real time
- Ethnographic and narrative methods such as interviews, observations, and journaling that surface lived experience, cultural context, and emotional resonance
- Environmental-behavior correlation analysis, which synchronizes building metrics (e.g., CO2 levels, light levels, noise) with human data to detect patterns, triggers, or environmental mismatches
- Feedback platforms (digital or analog) that give users agency to report experiences, suggest changes, and participate in the evolution of their space

This approach enables not just assessment but adaptation—supporting environments that can evolve in response to human needs over time.

5. **Foster Iteration, Learning, and Responsiveness in Design Processes**

Technology-enabled methods are not just diagnostic tools—they are also engines of innovation. By integrating advanced measurement, immersive testing, predictive modeling, and feedback analysis into every stage of the design process, intentional spaces can:

- Adapt dynamically to the needs of users and communities
- Respond to changing conditions, behaviors, and technologies
- Build long-term resilience through iterative refinement

This approach transforms intentional spaces into living systems: responsive, user-centered, and grounded in both scientific insight and human experience.

RECOMMENDATION

Strengthen Messaging and Communication for Multiple Stakeholders

For intentional spaces and neuroarchitecture to reach mainstream adoption, strategic communication must bridge science, design, and public understanding. Building shared language, compelling narratives, and inclusive platforms ensures that the value of brain-informed design is recognized, embraced, and acted upon by diverse audiences—from policymakers and practitioners to communities and clients.

1. **Develop Shared Language to Bridge Disciplines**

A foundational step is to create a common vocabulary that connects architecture, neuroscience, health, education, and policy. This will enable more productive collaboration and consistent messaging across sectors. Key tools may include:

- → Open-access glossaries that define interdisciplinary terms
- → Case studies that translate abstract concepts into real-world outcomes
- → Communication toolkits with templates, messaging guides, and visual resources for advocates, educators, and professionals

A shared language ensures that complex research findings can be clearly understood and applied across various domains of practice.

2. **Craft Compelling Narratives to Drive Buy-In and Cultural Change**

Strong storytelling is essential to demonstrate why intentional, neuroscience-informed design matters. Narratives should:

- → Highlight lived experiences and user benefits
- → Emphasize community-level impact, especially in education, healthcare, and elder care
- → Tell the story of how design choices affect brain function, emotion, and behavior
- → Center the voices of end-users, particularly from historically marginalized communities

By framing neuroarchitecture as a tool for equity, health, and well-being, these stories help expand its relevance and urgency for a wider audience.

3. **Create Platforms for Cross-Sector Knowledge Exchange**

Intentional spaces thrive in a culture of dialogue. Conferences, journals, and networks must be cultivated to connect and educate key stakeholders.

Strategies include:

- → Dedicated journals and peer-reviewed platforms for neuroscience-informed design
- → Conferences and symposia that bring together thought leaders across disciplines
- → Cross-sector working groups and advisory panels to align goals and share knowledge
- → Online hubs for sharing information about the field of neuroarts, such as the Neuroarts Resource Center

These platforms can help accelerate learning, build consensus, and nurture innovation.

4. **Expand Public Awareness and Engagement Campaigns**

Wider public awareness is essential for building demand and legitimacy for intentional spaces. Public engagement strategies should aim to:

- → Demystify the science behind neuroarchitecture through museum exhibitions, media features, and interactive installations
- → Promote community awareness and engagement campaigns that show how environments shape brain function and mental health
- → Collaborate with schools, libraries, and local governments to host workshops and awareness events

Making this science visible and accessible can empower communities to advocate for healthier, more supportive environments.

5. **Cultivate Multi-Level Leadership and Advocacy**

Momentum requires leadership from every corner of the field. This includes:

- → Investigators and practitioners fluent in interdisciplinary thinking
- → Institutions willing to model best practices and host flagship initiatives
- → Champions across sectors—from public health to policy to development—who can speak with authority and urgency about the importance of intentional design

Strategic messaging, supported by leadership networks, can help normalize neuroarchitecture within decision-making and funding frameworks.

RECOMMENDATION

Generate Economic and Impact Evidence

To accelerate the adoption of intentional spaces, it is crucial to demonstrate that designing for cognitive and emotional well-being is not only beneficial for individuals but also economically viable and socially transformative. This requires moving beyond narrow cost-benefit calculations to embrace broader socio-economic value assessments that capture the full spectrum of benefits intentional design can deliver—ranging from improved health outcomes and educational attainment to reduced social inequalities and environmental sustainability.

1. **Invest in Outcome-Based Evaluation Frameworks**

Outcome-based evaluation and compelling real-world evidence are essential tools to influence policy, inform best practices, and unlock investment across diverse sectors, including education, healthcare, elder care, workplaces, and urban development. Without clear proof that these designs create measurable social, economic, and environmental returns, stakeholders will remain hesitant to prioritize intentional design in decision-making and funding.

Robust evaluation strategies must rigorously assess both financial and human-centered outcomes, encompassing short-term impacts and long-term societal gains. Key components include:

→ Return on investment (ROI) models that link specific design decisions to tangible financial benefits such as cost savings, productivity improvements, reduced absenteeism, and healthcare cost reductions. These models should integrate both direct economic returns and social return on investment (SROI), which captures broader social and environmental impacts like improved community cohesion, mental health, and equity.

→ Well-being and cognitive performance metrics tailored to different sectors and populations. For example, in education, metrics might track student engagement, learning outcomes, and attendance; in healthcare, patient recovery rates and staff burnout; in elder care, quality of life and mobility; and in workplaces, creativity, collaboration, and retention.

→ Advanced Post-Occupancy Evaluations (POE) that move beyond basic user satisfaction to include physiological, neurological, and behavioral indicators of spatial effectiveness. These evaluations must synchronize human data with environmental metrics (e.g., air quality, light levels, acoustics) to understand complex interactions and guide adaptive design improvements.

→ Longitudinal studies that track outcomes over time to reveal sustained impacts, cost-effectiveness, and potential unintended consequences, providing evidence necessary for scaling and policy adoption.

To support continuous learning and adaptive management, there is a need for integrated data ecosystems that combine sensors, wearable technologies, user feedback, and environmental monitoring. These platforms enable real-time data collection and analysis, creating dynamic feedback loops that inform iterative improvements and make possible scalable impact assessments across multiple sites and contexts.

Building intentional spaces at scale requires collaboration between architects, neuroscientists, economists, public health experts, policymakers, and community stakeholders. Multidisciplinary partnerships can drive the development of standardized evaluation protocols, shared databases, and policy frameworks that embed intentional design criteria into regulations, funding programs, and sustainability certifications.

Demonstration projects that integrate the full intentional design process—from hypothesis and co-design to impact assessment and economic valuation—are critical for proving feasibility and inspiring wider adoption. These pilot "living labs" in schools, healthcare facilities, workplaces, and public spaces provide replicable models, generate rich data, and foster stakeholder buy-in.

2. **Launch and Document High-Impact Pilot Projects**

Pilot projects serve as proof-of-concept for neuroscience-informed design. They should be designed and evaluated to:

→ Demonstrate ROI through reduced absenteeism, improved learning or recovery outcomes, or increased staff retention

→ Show measurable human impact such as decreased stress, improved memory or orientation, and enhanced user satisfaction

→ Generate replicable models that can be adapted to similar settings or populations

Documented case studies from pilot environments (e.g., schools, healthcare clinics, offices) help stakeholders visualize what success looks like—and how to achieve it.

3. **Align Economic and Health Outcomes to Policy and Investment Priorities**

To influence decision-makers, economic and

impact evidence must speak the language of policy and funding. This means:

- → Quantifying cost avoidance and long-term savings from preventive, health-supportive design
- → Mapping findings to existing policy frameworks and incentive programs in healthcare, education, and housing
- → Packaging results into briefs, infographics, and dashboards tailored for funders, developers, and regulators

Framing intentional space design as a strategy for improving public outcomes and controlling costs strengthens the case for widespread implementation.

4. **Standardize Metrics and Benchmarking Across Projects**

For impact evidence to be actionable at scale, consistency is key. Stakeholders should work together to:

- → Establish standardized metrics for evaluating physical, cognitive, emotional, and behavioral outcomes and environmental conditions
- → Create shared benchmarks and data repositories for comparing impact across projects
- → Develop toolkits and templates for conducting outcome evaluations in different contexts

These shared tools support transparency, comparability, and continuous improvement.

5. **Leverage Evidence to Build Cross-Sector Support and Trust**

Strong economic and human impact data builds credibility with clients, communities, and decision-makers. Sharing this evidence can help:

- → Build trust across sectors
- → Strengthen partnerships
- → Attract funding and institutional support for future projects

Clear, evidence-backed success stories will help show that intentional spaces are not only desirable, but also essential and achievable.

RECOMMENDATION

Advance Policies that Support Intentional Space Design

To institutionalize and scale intentional, neuroscience-informed environments, proactive policy engagement is essential. Partnering with government agencies, standards bodies, and funders ensures that intentional space design is embedded into regulatory frameworks, procurement practices, and funding streams—ultimately shaping systems that prioritize human well-being, inclusion, and ethical innovation. The components of this recommendation include:

1. **Embed Intentional Design Principles into Policy and Regulation**

Intentional spaces must be recognized as a public good, supported by enabling policies at all levels of government. Key actions include:

- → Incorporating physical and emotional health metrics into building codes, zoning ordinances, and urban planning policies
- → Requiring well-being criteria in public procurement and funding applications for buildings such as schools, hospitals, housing, and civic spaces
- → Ongoing "step up" guide and updating of national and local design standards to reflect evidence-informed principles as they are developed

These shifts position intentional design as an expectation, rather than an exception, in the built environment.

2. **Align with Funders and Investors Through Strategic Messaging**

Because neuroarchitecture is inherently interdisciplinary, funders and policymakers may not readily see how it aligns with their mandates. To secure consistent investment and policy traction, it will be necessary to:

- → Develop messaging that connects intentional spaces to existing priorities such as mental health, educational equity, healthcare innovation, sustainability, and workforce development
- → Partner with philanthropic foundations, development agencies, and environmental, social, and governance (ESG)-driven investors to pilot and scale projects
- → Provide evidence-based briefs and ROI data (see our previous recommendation) that show the economic and social impact of intentional design

This alignment will broaden the base of support and help neuroarchitecture gain legitimacy as a cross-cutting solution.

3. **Reform Procurement and Incentive Structures**

Systemic change depends on how projects are financed and approved. Advocates should work to:

- → Encourage outcome-based procurement models that reward well-being, equity, and accessibility outcomes
- → Embed intentional spaces requirements into RFPs, grant criteria, and development incentives
- → Incentivize innovation in public-private partnerships, especially for health, education, and housing projects

These reforms can help ensure that funding and contracting processes prioritize human-centered, neuroscience-informed design.

4. **Establish Ethical Frameworks and Governance Structures**

As neuroarchitecture adopts technologies such as biometric monitoring, it must be grounded in robust ethical practices to ensure it serves—and never exploits—its users. Policies should:

- → Require informed consent and data privacy safeguards in environments using neurophysiological or behavioral monitoring
- → Promote inclusion of neurodiverse populations by mandating accessibility for people with autism, ADHD, and other cognitive differences
- → Prevent misuse of technologies by establishing ethics review boards, transparent reporting standards, and accountability mechanisms
- → Prohibit designs aimed at behavioral manipulation or coercion for commercial or surveillance purposes

Responsible innovation can help with earning public trust and protecting the field's long-term integrity.

5. **Build Institutional Capacity for Policy Leadership**

To guide these efforts, intentional spaces design needs leadership embedded in institutions across sectors. This includes:

- → Advisory bodies or task forces that work with government and industry on policy development
- → Interdisciplinary think tanks or centers of excellence that generate policy-relevant research
- → Champions within agencies and firms who can translate scientific and ethical priorities into actionable policy language

These entities can help ensure sustained attention and expertise within the policy ecosystem.

RECOMMENDATION

Build Capacity and Leadership While Broadening Inclusion and Participation

To realize the full potential of intentional space design and neuroarchitecture, the field must evolve into a connected, inclusive, and well-resourced ecosystem. This requires cultivating leadership, broadening participation, and building institutional and professional capacity across disciplines and sectors.

1. **Create an Inclusive, Interdisciplinary Ecosystem**

Intentional space design must be shaped by a wide range of voices, skills, and lived experiences. This includes:

- → Urban planners and designers who initiate projects
- → Interior and exterior designers, architects, and engineers who create the projects
- → Developers and contractors who bring projects to life
- → Funders and investors who support innovation
- → Researchers, public health experts, clinicians, and educators who understand user needs
- → Communities and their representatives who are integral to the success of projects
- → Media professionals, communicators, and community organizers who amplify awareness and public engagement

Structured collaboration across these groups can help ensure that intentional spaces are practical, people-centered, and scalable.

2. **Develop Shared Infrastructure for Communication and Collaboration**

To foster collective impact, the field needs formal mechanisms for connection and coordination. These could include:

- → National and regional alliances that bring together professionals across disciplines
- → Online platforms, knowledge hubs, and open-access libraries to share research, case studies, and best practices
- → Annual convenings and working groups that promote co-creation, innovation, and alignment of goals

Shared infrastructure enables learning, reduces duplication, and accelerates field-wide progress.

3. **Invest in Capacity Building Across Roles and Regions**

The strength of the field depends on cultivating capacity at every level—from grassroots leaders to institutional innovators. Key strategies include:

- → Training programs, fellowships, and continuing education that span disciplines and career stages
- → Support for emerging professionals, especially from underrepresented communities
- → Localized support structures, such as community-based design labs and regional collaboratives

This distributed growth model can help ensure that capacity is built not only at elite institutions, but also within the communities most affected by design decisions.

4. **Cultivate Diverse and Distributed Leadership**

Leadership in intentional spaces design must reflect the diversity of the populations it serves. The field should:

- → Prioritize equity and representation in leadership selection for advisory boards, research initiatives, and funding decisions
- → Encourage community leadership models that elevate local knowledge, particularly from historically marginalized groups
- → Promote intergenerational leadership by pairing emerging voices with established experts
- → Support cross-sector champions who can advocate for intentional spaces within policy, philanthropy, real estate, healthcare, and media

This leadership model can help foster innovation, legitimacy, and long-term sustainability.

5. **Strengthen Field Identity Through Common Goals and Narratives**

To coalesce the field, intentional spaces design needs a shared sense of identity and mission. This includes:

- → Unified language and core principles that articulate the vision and values of the field
- → A collective impact agenda with measurable, cross-sector goals
- → Narratives that highlight success stories and the transformative potential of neuroscience-informed design
- → Inclusive branding and messaging that ensures everyone—from community organizers to clinicians—feels they belong

A coherent identity can attract new talent, galvanize investment, and build momentum.

IMPLEMENTATION STRATEGIES, GOALS AND IMPACT

For recommendations to truly drive impact, they must be translated into clear, actionable strategies that guide decision-making and resource allocation. We are organizing efforts around three core strategies: Building Evidence, Building Infrastructure, and Building Community.

These pillars will help ensure that work is grounded in rigorous research, supported by the systems and tools necessary for real-world application, and sustained through inclusive, cross-sector collaboration. What follows is an overview of the strategic approaches and some specific initiatives designed to activate the field in meaningful, measurable ways.

BUILDING EVIDENCE

The evolving knowledge base strengthens the platform on which advocates and stakeholders can gather. Research is not an end unto itself; rather, it is a means of supporting practice.

Establish a baseline of knowledge: A substantial body of data and findings already exists across domains engaging with neuroarchitecture and intentional spaces. A comprehensive literature review, followed by a gap analysis, can inform an asset map that depicts the broader field landscape. Several reviews are already underway or complete; once stakeholder input is layered in, the next step will be to identify research priorities and establish a coordinated agenda with timelines that emphasize cross-sector integration.

Integrate the community voice: Engaging those most affected by intentional spaces is essential to making research actionable and should be embedded throughout the process. Mixed methods—including quantitative research, qualitative narratives, and lived experience—can inform protocols and strengthen real-world application. One asset-based approach is community-based participatory research (CBPR), which engages practitioners and community members as collaborators and co-researchers, guided by a core question: How can intentional spaces support your community's goals? The Impact Thinking Model, developed by the IAM Lab, offers a complementary framework that brings diverse stakeholders together to define questions, interpret findings, and apply insights collaboratively.

Another framework is the Impact Thinking Model, developed by the IAM Lab, which serves as an example of an inclusive research approach, bringing together diverse stakeholders—researchers, practitioners, and community members—to define questions, interpret findings, and apply insights collaboratively in real-world contexts.

Commit to interdisciplinary dialogue: To advance collective impact, stakeholders must share common spaces for exchange, including convenings, webinars, and digital resource hubs. Training "bridge professionals" can further support collaboration by translating across disciplinary languages and practice cultures.

Grow the field with a multi-faceted research plan: As neuroarchitecture and intentional spaces gain visibility, the following steps can help expand the evidence base, helping to support adaptation and replication in practice settings and generating long-term funding and policy commitments:

- → Conduct economic analyses to gather return-on-investment data.
- → Develop standardized measurement protocols to assess the impacts of design on health, well-being, and learning across the full range of intentional space modalities, allowing findings to be compared across disciplines and sectors.
- → Design and fund pilot evaluations in various settings, including healthcare, education, and the workplace, to set the stage for deeper exploration.
- → Design longitudinal studies that track outcomes over time, including measures to assess how people use and experience a given space.
- → Create consortia that have the resources and cross-cutting knowledge to conduct large-scale interdisciplinary studies and establish mechanisms for translating the resulting evidence into practice.
- → Leverage the Neuroarts Resource Center (NRC), with its expanded section on the built environment, as a readily accessible information repository. The NRC is an easy-to-access free online platform that connects people, programs, and resources from around the world across neuroarts disciplines.

BUILDING INFRASTRUCTURE

A solid infrastructure will support the dynamic interdisciplinary partnerships that are fundamental to strengthening the field of neuroarchitecture and intentional spaces. The foundational scaffolding should include educational and training pathways, practice and standards guidelines, secure and stable funding mechanisms within the public and private sectors, and innovative policies that prioritize health-promoting design.

Develop new opportunities for interdisciplinary education, training, and career development: A vigorous package of approaches can encourage newcomers to enter the field and cultivate new skills among those already there. Such approaches may include:

- → Expanding existing educational programs
- → Introducing new coursework, curriculum modules, and mentorship opportunities
- → Creating specialized certificate programs
- → Designing professional and leadership development workshops for practitioners
- → Training research teams to work across disciplines

Establishing interdisciplinary centers at academic institutions will extend access to synergistic knowledge across design, architecture, community development, urban planning, and adjacent fields. These academic "homes" for Intentional Spaces work also will create avenues for breaking down training silos, honoring early- and mid-career professionals, and generating enthusiasm for the field.

Develop evidence-based design recommendations, standards, and evaluation criteria: There is not yet a consensus on how best to design intentional spaces for health and well-being and measure the results, but as one emerges, developing an implementation guide will help ensure consistent approaches. For now, several resources already provide some guidance. The IAM Lab report, *FOUNDATIONS: Intentional Spaces: Design Insights and Future Directions*, lays out the ways in which different sensory modalities influence biological processes and explores key concepts that are essential to any design project. The report's recommended practices consider the role of light, sound, touch, scent, and color while noting that some of its recommendations are grounded more in anecdote than data and still need to be confirmed by research.

One adaptable model is the WELL Building Standard®, a performance-based system that assesses buildings on the basis of their influence on health and wellness. Also helpful for informing standard-setting strategies are the LEED Rating System and the Living Building Challenge, two certification programs that focus on environmental sustainability. Beyond these well-known frameworks, there exists a wealth of resources from organizations such as the Center for Health Design, the Environmental Design Research Association (EDRA), and Public Spaces initiatives. However, many of these valuable resources remain disparate and have yet to be thoroughly investigated at the level of neural response. This gap underscores the ongoing distinction between the broader concept of "intentional spaces" and the more focused field of neuroarchitecture. To clarify and communicate these relationships, a Venn diagram mapping these terms and their intersections could be a powerful tool for the field.

Identify and pursue sustainable sources of public sector and private sector funding: Dedicated funding is essential to the stability necessary for field growth. Communicating the value proposition of neuroarchitecture and intentional spaces can sharpen the argument that the field aligns with the far-reaching mission of many funders. A persuasive economic case can motivate public and private funders to dedicate resources likely to pay off with health and social benefits that lower downstream costs and increase productivity.

Assembling a comprehensive database of potential funders is another tool to ground an agile fundraising strategy. Such information is valuable both to grow the infrastructure for the field as a whole and to inform researchers and practitioners about grants and other funding opportunities they can pursue.

Identify and pursue strategic public sector and private sector policies: Policies that can support or expand the development of neuroarchitecture and intentional spaces–where they exist at all–tend to be local and fragmented. In part, they are hobbled by the same absence of a compelling economic model that creates funding challenges. Return-on-investment data that document system wide cost savings and measurable health effects can further the case for public sector policies aimed at enhancing the built environment. Such evidence could also encourage support from employers, insurers, philanthropists, and other stakeholders.

BUILDING COMMUNITY

Establishing a diverse and vibrant global community is another foundational imperative to coalesce and grow the field of neuroarchitecture and intentional spaces. All stakeholders need to feel the sense of agency, ownership, and belonging that motivates them to engage. An all-hands-on-deck approach to community building recognizes and respects the role and interests of researchers, architects, designers, urban planners, local advocates, funders, policymakers, educators, clinicians, and individuals with lived experiences. Honoring end-users—those who will inhabit the spaces being built—is also integral to this process.

Foster and deepen cross-sector alliances and advocacy networks. An asset map that paints a comprehensive picture of the field will describe the stakeholders who have key roles to play in coalescing it. Reaching them through multiple forms of outreach, including online and in-person convenings, social and earned media, webinars, and other field-building activities, can promote the exchange of knowledge and cement interdisciplinary commitments across personal and professional networks. Also helpful in building a seamlessly connected community and accelerating the work: bring on high-profile influencers to serve as ambassadors for the field; create opportunities to recognize and advance the next generation of leaders; and reward innovation.

Create community engagement protocols and learning communities: Bringing diverse players together, honoring the multiplicity of their experiences, and integrating their varied cultural perspectives require intentionality and care. Organizations that share the goal of growing the field through collaboration, not competition, can pursue interconnected agendas that are consistent both with their own goals and with the intentional spaces ecosystem. Consider pilot programs to identify the most suitable team-building strategies to foster enthusiasm, participation, and learning.

Elevate communication as a centerpiece: To connect disparate elements of the field and cultivate new audiences requires communicating in multiple ways, on many different platforms. While some stakeholders will prefer technical, data-driven explanations of complex concepts, others will respond better to storytelling, visual demonstrations, or illustrative examples. All of these are legitimate ways of knowing. An inclusive, comprehensive global communication strategy makes it possible to reach across disciplines, overcome the obstacles created using different terminology and jargon, and work together effectively.

STAKEHOLDER ENGAGEMENT: FROM VISION TO ACTION

The roadmap outlined here is not a speculative exercise; rather, it can serve as a practical framework for reshaping the built environment by integrating neuroscience, design, nature, and technology. To realize this transformation, stakeholders across the ecosystem must take coordinated and deliberate steps. Stakeholders from many different sectors can contribute to a shared culture of designing for physical and emotional well-being.

AI imagery by The Future Laboratory

RESEARCHERS

Researchers can work to translate their findings into accessible formats through training and science communication that design professionals can utilize. They can co-create pilot projects with architects, community, and urban planners and to train graduate students in applied, interdisciplinary methods that bridge science and design.

ARCHITECTS AND DESIGNERS

Architects and designers can begin to embed neuroarchitecture knowledge into all phases of their work. They can collaborate with researchers and psychologists from the very beginning of a project and prototype, test, and iterate environments based on real human behavioral and physiological data. And they can collaborate more fully with users and people with lived experience.

USERS AND PEOPLE WITH LIVED EXPERIENCE

People who inhabit and interact with designed environments bring essential insights into how those spaces affect daily life, mental health, and well-being. Their voices need to be central throughout the design process—from initial research to post-occupancy evaluation. They help identify barriers to access, illuminate opportunities for emotional and sensory support, and ensure that spaces are not just technically functional but deeply responsive to human needs. Including individuals with diverse lived experiences—across age, ability, identity, and background—is vital to creating spaces that are equitable, inclusive, and truly effective.

CLIENTS

Clients need to understand and commission environments that support performance, wellness through a new lens that looks at ROI differently. Their participation in co-design processes and post-occupancy evaluations is vital, as is their commitment to long-term adaptation based on feedback and user needs.

MATERIAL MAKERS AND MANUFACTURERS

Those who produce materials need to continue to innovate with health and sustainability in mind. They need to be part of the co-creation team, sharing their research on neuro-compatible materials—such as those affecting acoustics, lighting, and thermal comfort—and collaborate on toolkits and libraries that emphasize well-being-oriented materials.

ENGINEERS

Engineers can apply principles from human factors engineering and universal design to create products and environments that are accessible, comfortable, and safe for people of all abilities and backgrounds. They can also create technologies and systems that are inclusive, ensuring equal access and opportunities for all users, regardless of their physical or cognitive abilities. They can practice empathetic design, which involves moving beyond purely technical knowledge to understand and connect with the lives, experiences, and emotions of end-users,

BUILDERS AND DEVELOPERS

Builders and developers need to begin to shift their key performance indicators (KPIs) beyond cost and schedule, expanding them to include human impact and post-occupancy metrics. They should partner in research-led demonstration projects and invest in materials and systems that enhance physical and psychological well-being.

MUNICIPALITIES AND GOVERNMENTS

Local, regional, and national governments have the power to incorporate intentional space design through policy, planning, and funding. Municipalities can lead by incorporating physical, cognitive and emotional well-being into zoning laws, public health initiatives, and design guidelines for schools, hospitals, public housing, and civic spaces. They can also fund pilot projects, support cross-sector research, and require post-occupancy evaluations for public buildings. Public agencies are essential to scaling up intentional design—ensuring it becomes a standard in the built environment. With limited dollars available this might be the best first step in engaging the public sector. It has traditionally been the way to get new approaches to urban development started.

URBAN PLANNERS

Urban planners can play a critical role by integrating health and well-being into zoning policies, public space planning, and mobility frameworks. Their work can also importantly promote green infrastructure, sensory diversity, and equitable access to restorative spaces that support mental and emotional well-being.

ECONOMISTS

Economists play a critical role in framing intentional design as not only a human-centered imperative but also a sound investment. They help quantify the long-term value of environments that promote health, productivity, learning, and social cohesion. By measuring cost savings from reduced healthcare use, improved cognitive performance, or enhanced community resilience, economists can build the business case for intentional spaces design. Their work helps shift funding priorities and policy agendas to support environments that yield measurable returns in individual and societal well-being.

POLICYMAKERS

Policymakers need to support pilot programs and provide innovation grants to encourage experimentation. They should incorporate well-being metrics into building codes and public procurement guidelines and advocate for brain-informed, biophilic design in housing, education, and healthcare infrastructure.

A NECESSARY SHIFT IN MINDSET

To truly transform how we shape the built environment, a fundamental mindset shift is required across all sectors: design, neuroscience, development, policy, education, and community engagement. It is no longer enough to meet minimum standards or focus solely on aesthetics and functionality. We must collectively adopt a forward-looking ethos centered on designing for cognitive and emotional well-being. This means moving beyond compartmentalized roles and outdated benchmarks and embracing a culture where spaces are created not just to serve, but to support and uplift the human mind and body.

Beyond immediate design and construction stakeholders, society at large plays a crucial role in shaping demand for intentional spaces. A broader understanding of how environments influence mental, emotional, and physical well-being can shift public expectations and values. When communities recognize the impact of science-informed design—from social connection to cognitive health—they are more likely to advocate for these spaces, driving both market demand and policy alignment.

This shift requires bridging research, practice, and technology through active experimentation. We now have tools and growing scientific insight to understand how environments affect stress, attention, memory, emotional regulation, and well-being—from wearable biosensors and mobile EEG to immersive environments and AI-enabled spatial analytics. However, these advances will only create change if we prioritize applying this knowledge in real-world settings.

Progress also demands a breakdown of silos. Architects, neuroscientists, technologists, developers, and communities must co-create, test, and refine new approaches, treating built environments as adaptive systems rather than static outcomes. This requires redefining success in design by placing human thriving at the center rather than treating it as a secondary benefit.

To do this, we must evolve beyond conventional "human-centered design." While it focuses on user needs, it often fails to capture the full complexity of human experience. What is needed is a more expansive framework that accounts for neurological rhythms, emotional dynamics, social realities, and ecological interdependence—an urgent redefinition of good design in an era of mental health crises, climate stress, and social disconnection.

The prevailing "good enough" mindset—code compliance, budget targets, and basic usability—has produced environments that are overstimulating, isolating, and emotionally draining. These spaces actively shape mental health, contributing to rising anxiety, burnout, and public health costs. Incremental improvement is no longer sufficient; a cultural transformation in how design is conceived and evaluated is urgently needed.

Integral to this transformation is the incorporation of nature, discovery, and innovation. Nature is not decorative—it is biological infrastructure. Exposure to daylight, greenery, water, and organic forms reduces stress, restores attention, and strengthens emotional resilience, making biophilic design a foundation rather than an add-on.

Equally important is the integration of emerging science and technology. Advances in cognitive science, environmental psychology, smart materials, adaptive lighting, responsive acoustics, and immersive digital environments offer new opportunities to create intuitive, healing, and empowering spaces. When applied ethically and thoughtfully, these tools can significantly strengthen alignment between the built environment and human well-being.

WHAT SUCCESS MAY LOOK LIKE

Imagine stepping into a building where you feel immediately at ease, not just because of aesthetic appeal, but because the space is actively supporting your mind and body. The lighting syncs with your circadian rhythm. The materials subtly regulate temperature and acoustics. Natural elements are woven throughout the environment—not as decoration, but as essential components for cognitive restoration and emotional balance. This is not the distant future; it is a vision we can begin to realize positive changes if we align our efforts and values.

In this future, **built environments measurably improve mental, emotional, and cognitive health**. We no longer accept environments that exhaust, isolate, or overstimulate. Instead, we evaluate design by how it helps people recover from stress, concentrate better, navigate intuitively, and connect more deeply with others. Metrics like cortisol levels, heart rate variability, attention recovery, and social engagement become standard indicators of successful design—alongside energy efficiency and safety.

Design teams are no longer composed solely of architects and engineers, but include neuroscientists, psychologists, behavioral researchers, public health professionals, and most importantly, representatives of the people who will live, work, and learn in these spaces. This shift brings deeper empathy into the design process and ensures that decisions are grounded in real human experience, not assumptions. These interdisciplinary teams are trained to speak across disciplines, creating a shared language of well-being.

Clients and funders start asking different questions. Instead of focusing solely on return on investment in dollars per square foot, they prioritize outcomes such as attention restoration, employee mental health, patient recovery rates, learning outcomes, and long-term community resilience. They recognize that the environments they fund have profound influence on human potential, and they invest in design accordingly.

Policy and regulation evolve in step with this shift. Just as we now mandate accessibility and energy performance, new building codes and planning frameworks include criteria for cognitive and emotional well-being. Neighborhood plans consider the neuropsychological impact of density, green space access, and mobility. Public procurement guidelines require evidence-informed approaches to school, housing, healthcare, and public infrastructure design.

Neuroaesthetics and neuroarchitecture itself matures into a fully recognized professional and academic field. University programs emerge that offer dual training in neuroscience and architecture. Conferences and journals provide platforms for rigorous exchange. Professional certifications help ensure ethical practice and continued learning. A new generation of practitioners emerges—fluent in both brain science and spatial design, equally comfortable in a lab or on a construction site.

Most importantly, the idea that **design should be intentional, inclusive, and aligned with how humans actually think, feel, and flourish becomes common sense.** Intentional Spaces does not complicate the design process—it clarifies it. It grounds decisions in science, centers the lived experience of people, and brings a deeper sense of purpose to the creation of buildings and cities.

This is what success looks like: **a world where our environments do not just house us—they heal us, support us, and help us thrive.** We stop settling for "good enough," and begin designing with a deeper sense of care, connection, and responsibility.

A CALL TO ACTION

Once a full set of recommendations is agreed upon, an implementation timeline will be developed. As we move forward, the next steps include a comprehensive review of the *Intentional Spaces Roadmap* with all stakeholders to ensure alignment with strategic priorities and emerging industry trends. Our goal is to release the implementation plan in spring 2026.

Success in this movement is not defined by a single building or breakthrough; rather, it is measured by the collective shift toward environments that actively support human flourishing. It means creating spaces that measurably enhance mental, emotional, and cognitive health; spaces that are grounded in science, enriched by art, and shaped through inclusive collaboration. In this future, architecture is no longer seen as a static backdrop but as a dynamic participant in human experience—a force that helps people think more clearly, feel more deeply, connect more authentically, and live more fully.

Achieving this vision requires all stakeholders—including designers, researchers, healthcare professionals, policymakers, funders, educators, and community members—to move beyond isolated expertise and embrace a shared culture of inquiry, innovation, and care. We must design not just for function or beauty, but for attention restoration, stress reduction, belonging, and equity. Interdisciplinary teams that include neuroscientists, behavioral scientists, and user representatives must become the norm. Policy and funding priorities must evolve to reflect the urgent value of cognitive well-being. Importantly, design education and professional development must rise to meet the moment, preparing a new generation of leaders fluent in both aesthetics and evidence.

The Roadmap is more than a strategic outline, it is a call to lead. Neuroarchitecture and intentional spaces are not abstract ideals; they are already taking root through initiatives like the Habitat research project, the forthcoming training and professional development boot camp, and the planned 2026 Intentional Spaces Summit, which will assess progress and deepen the dialogue. Our growing ecosystem will help ensure that knowledge, tools, and inspiration remain accessible to all.

This is a shared journey. No single institution or sector can chart the future alone. But together, as stewards of this emerging field, we can coalesce a diverse, powerful movement to shape environments that uplift the human spirit. Let us move forward with urgency and purpose, to transform the places we inhabit into spaces that help us heal, connect, and thrive. Now is the time to build: not just for today's needs, but for a healthier, more humane, and resilient tomorrow.

ANNOUNCEMENT OF FOUNDATIONS

We are proud to announce the release of ***FOUNDATIONS: Intentional Spaces – Design Insights and Future Directions***, the first practical, field-leveling guidebook created for all stakeholders engaged in shaping the built environment. This primary resource brings together leading-edge research, design strategies, and interdisciplinary insights to provide a clear, actionable starting point for those working at the intersection of neuroscience, architecture, design, and well-being.

FOUNDATIONS is designed to serve as both a primer and a roadmap, offering essential context, shared language, and real-world applications that support the growth of intentional spaces as a recognized discipline and practice. Whether you are a designer, researcher, policymaker, healthcare leader, educator, funder, or someone with lived experience advocating for more responsive environments, this guidebook equips you with the tools and understanding to contribute meaningfully to the field.

The guide includes:

- → Core concepts behind intentional spaces design
- → Insights from neuroscience, cognitive science, and environmental psychology
- → Frameworks for interdisciplinary collaboration
- → Recommendations for how to begin integrating these principles into everyday work

FOUNDATIONS is more than just a publication—it is a unifying resource to align efforts, inspire innovation, and create a shared foundation for a growing movement. It is available for free download via the Intentional Spaces website, and we encourage broad sharing across networks, institutions, and disciplines. Let this be the next step in helping build environments that are not only functional or beautiful but truly designed for human flourishing.

APPENDIX

- → FOUNDATIONS: Intentional Spaces – Design Insights and Future Directions
- → [Pre-Publication] Key Themes from Spaces of Impact: A Retreat to Shape Philanthropy at the Intersection of Health and the Built Environment, Milken Institute

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