

Authored by architects, artists and engineers of the Ultramodern movement

## **Ultramodernism -**

A tech+architecture manifesto / A proposal for autonomous buildings

### Foreword

The following text is a proposal for a radical shift towards buildings that are no longer configured or maintained by people, but that have been transformed to be self-operating through technology and cutting-edge design. We believe in a future where 'living buildings' will transform our life, enable us to regain our time, and deepen our connections with others.

We are a group of engineers, architects and designers who have come together giving birth to a movement: Ultramodernism. A bold push to radically redefine how we live  
The time is now.

### In this manifesto, we will cover:

- The concern for where we are headed
- Our reasoning for this needed change
- Define Ultramodernism/
- Our concept reimagines the built environment with a new typology we are calling The Lighthouse
- Our set of principles on design, architecture and technology

### I. A call for change

#### Why? A billion seconds - our time to act

We have one life to live on this earth. On average, we spend 1 billion seconds working toward a life we hope will be fulfilling, roughly 31.5 years... Time is our shared limitation — and within it, the pursuit of fulfillment across life, family, health, and work.

It is with a deep concern for how we spend our next billion seconds that we propose a refocus to advance humanity, unite the world, and become a 'type-1 civilization'. We must do whatever we can to achieve this, then i fear humanity will not progres

#### The world of atoms is far behind

Every few decades, humanity experiences a transformative breakthrough that reshapes how we live. Despite rapid technological progress, our immediate physical surroundings remain fundamentally unchanged. The world of atoms lags far behind the world of bits; being stuck in outdated systems that have seen little true innovation. Nicholas Negroponte's 1995 book Being Digital, which popularized the distinction between digital information (bits) and physical matter (atoms). This framework has been adopted by entrepreneurs and investors like Peter Thiel and Travis Kalanick to discuss the pace and nature of innovation. The buildings we live and work in, the streets we walk on, the stores we visit and how we make food have fundamentally been the same for over a 100 years. Both Travis Kalanick and Peter Thiel touch on this concern through thoughts such as :

"I think we've had a lot of innovation in computers, information technology, Internet, mobile Internet in the world of bits." - Peter Thiel

## References -

<https://uk.pcmag.com/opinion/36498/peter-thiel-weve-seen-innovation-in-bits-but-not-enough-in-atoms>

<https://whyletz.com/story-behind-ubers-bits-and-atoms/>

## A life worth living: the need for tech-optimism

Humans should strive to create the best that they can in all their craft, in their relationships and their way of life. But the standard for doing one's best has drastically fallen. The meaning of greatness and excellence has disappeared and most of the world is living in a pessimistic societal outlook. Long gone are the days of the space-race era where humanity was driven by a goal to become transnational and multiplanetary.

We must bring the greatest people together and bring this optimism back.

## The path to a type-1 civilization

Through our guiding principles and technological developments, we aim to shepherd humanity's evolution into a type-1 civilization on the Kardashev scale. According to Kardashev "A Type-1 civilization is able to use all available resources on its home planet, specifically has the ability to harness all of the energy of its home star that reaches the planet". The transition to a type-1 civilization requires us to optimize how we live, starting with the very spaces we inhabit.

By bringing together the greatest and most passionate people, we accelerate achieving this single most important goal. A multiplanetary and transnational society can only come sooner if a bold group of people come together and show the world multiple moonshots and a promise of optimism.

We insist on radically advancing the way we live, starting with our buildings.

We must revolutionize our built environment and reignite the optimistic spirit that once drove humanity's greatest achievements.

## II. We maintain our buildings the same way since 100 yrs

### Static shells

Our physical world mostly remains trapped in antiquated systems that waste our time and human potential.

Although software has streamlined countless processes; homes and buildings still demand excessive human effort, time, and resources to maintain. This has been the same for centuries.

For eons now, we have inhabited these static shells.

Without constant intervention—cleaning, heating, cooling, fixing, and upgrading—these structures would quickly become uninhabitable. The "life" of a building is not intrinsic; it is an illusion sustained by human labor and external systems.

In our next 1 billion seconds, we must remember that this includes down-time, daily upkeep and maintenance, which can add up to nearly 1.5 years spent on these activities.

Our buildings have been passive vessels, dependent on armies of custodians to maintain their pulse and wellbeing. We stand now at the threshold of a profound transformation, where architecture transcends its inert nature to become truly sentient .

It is time for a fundamental shift—one that leverages technology to free us from the minutiae of daily upkeep. By advancing automation in our physical environments, we can reclaim time, reduce inefficiencies, and elevate the way we experience life.

## II. The Ultramodern vision - a movement

Next, let's introduce Ultramodernism and what it stands for.

Let us dive into why we're here and why we exist.

### Ultramodern - A tech-architecture (tech-arch) revolution

It is the radical belief that technology should serve the individual, not the institution. That form must follow need, not tradition. In an Ultramodern world, design is no longer static or symbolic — it's responsive, fluid, and deeply personal.

Ultramodernism abandons the outdated idea that one structure, system, or solution fits all. It replaces it with living systems — spaces, tools, and experiences that adapt, scale, and reshape themselves based on who you are and what you truly need.

It's not about how the future looks.

It's about how it feels. How it functions.

And how it frees us.

So why not start with one of the most iconic but also one of the most complex forms combining living spaces and social structures: the guest house - the inn - the hotel.

### From 'Caravanserai' to 'Marina Bay Sands' to our 'Lighthouses'

Throughout human history, the concept of hospitality has served as a crucible for architectural and social innovation. The ancient caravanserai of the Silk Road represented humanity's first attempt at creating comprehensive living environments that combined commerce, accommodation, events and community.

These structures were more than pit stops; they were microcosms of civilization that facilitated cultural exchange, trade, and the spread of knowledge across continents.

This evolutionary journey continued through the ages, manifesting in different forms across cultures and eras. In our modern era, developments like Marina Bay Sands in Singapore have demonstrated how a building can transcend its primary function to become a city within itself. We stand now at the threshold of the next evolution in this historical progression: the building that operates itself. Autonomous buildings will carry forward the caravanserai's legacy of creating self-contained communities - except that now it can clean itself, operate itself and manage its guests.

We propose a movement in which - we create conscious buildings that think, learn, and evolve alongside their inhabitants. Just like the introduction of steel once liberated architecture from the constraints of load-bearing walls; AI touch-vision-language models and robotics now free our buildings from the constraints of human operation. The result of such

thinking would lead to a profound optimization in our daily life and would enable us to live towards a larger purpose.

We are witnessing the dawn of a societal re-think of how our buildings are maintained and operated.

This architecture creates a seamless integration between physical infrastructure, digital systems, and robotic automation, all working in harmony to create autonomous spaces. The goal is to create a warm, safe, and self-operating environment—one where technology recedes into the background, making spaces feel more human, not less. Automation serves as a silent enabler of genuine connection, removing the transactional barriers that fragment our experience.

Imagine buildings that bring like-minded people together, organizing events and anticipating needs. The building becomes a living participant, fostering community and evolving alongside it—redefining the relationship between humans and their built environment.

Hence, the Ultramodern movement – to change how we live today. We inspire the advancement of human civilization to the next level. We're creating a global network of buildings that showcase what living in the future could look like.

- A fusion of eat, sleep and work:  
Rather than strictly separating residential and professional spaces, hospitality now embraces a fluid model where living, working, and eating can happen under one roof. This is similar to the age-old caravanserai model but enhanced with intelligent design to support seamless transitions between personal and collective spaces.
- Community-centric design:  
Hospitality is about creating environments that nurture authentic human connection, where spaces are functional and actively contribute to human flourishing. By integrating technology—through self-maintaining intelligent buildings and decentralized governance—these environments foster community, creativity, and collaboration.
- Adaptive and inclusive spaces:  
The post-2020 concept of hospitality transcends traditional notions by integrating adaptability and inclusivity. It leverages AI, robotics, and biomimetic design to create spaces that can adjust to the needs of their inhabitants, making every guest or collaborator feel at home regardless of where they come from.
- Reinvigorating historical wisdom:  
While taking inspiration from the guest house and caravanserai models, this modern interpretation reclaims the spirit of hospitality—generosity, openness, and community support—using state-of-the-art technology and design to enhance rather than replace these time-honored values.
- Transformation through design:  
It suggests that when you step into these thoughtfully designed spaces, you're more than a guest, you're an active participant in a transformative experience. The environment is crafted to push boundaries, allowing you to evolve and extend your identity beyond the familiar.
- The allure of the new:  
"The new guy" isn't just a newcomer in a conventional sense—it's a metaphor for

embracing innovation, fresh perspectives, and uncharted territories. In a hospitality context, this mystique becomes a promise: every stay or visit is an opportunity to reinvent yourself, to merge tradition with futuristic design.

- Beyond yourself:

This concept implies that the spaces we create are not static backdrops but active agents in your personal and communal growth. They enable you to surpass your current self, driven by environments that are as dynamic and evolving as the people who inhabit them.

- Intentional, evolving spaces:

In the post-2020 world, hospitality is less about returning to old models and more about pioneering new ways to live, work, and collaborate. By designing spaces that catalyze transformation, we invite individuals to explore who they can become—fostering both personal evolution and a collective redefinition of community.

The evolution of hospitality architecture reflects humanity's deepened understanding of the relationship between space, community, and human flourishing. From the caravanserai's role in fostering cross-cultural exchange to the modern vertical village's integration of diverse human activities, we see a consistent thread: architecture's capacity to shape and enhance human interaction.

This historical progression reveals a fundamental truth - that buildings are not mere shelters, but active participants in the human experience, capable of either facilitating or hindering our collective development; they should be launchpads for growth, where technology and architecture intersect to empower individuals to become something greater than they were before—by design.

As we enter this age, Ultramodernism is fulfilling architecture's ancient promise as a catalyst for human advancement. The caravanserai of old achieved this through thoughtful design that encouraged interaction and exchange. The vertical villages of today achieve it through the integration of diverse functions and spaces. Our autonomous buildings will achieve it through the addition of consciousness itself - an aware and responsive environment that actively participates in the community's development.

### III. The Lighthouse - A living building concept

Lighthouses are a concept of intelligent buildings. The Lighthouse will integrate cutting-edge technology and sustainable practices to create environments that foster human flourishing and technological advancement.

The Lighthouse concept emerges as the next evolutionary leap – these structures will serve as beacons of advancement, demonstrating how autonomous buildings can create more human-centric spaces by paradoxically becoming more machine-like in their operation.

While we begin with hospitality spaces, the Lighthouse concept is inherently fluid and adaptable. The same principles, technologies, and systems can evolve to transform any type of building – from residential towers to educational institutions, healthcare facilities to workplaces.

The Lighthouse represents not just a specific building type, but a fundamental reimagining of how all built environments can function.

At the same time Lighthouses are based on ancient, tested and celebrated ideas of hospitality, community, exchange, safety, comfort, rest and refreshment. Interestingly enough the idea of the guest house, the inn, the hotel, the caravanserai emerged in virtually all cultures around the globe. Because of its inherent need to rise.. That's why our manifesto and our project, our Lighthouses are so essential in these times.

#### The vertical village model

By thinking critically about the needs and desires of local neighbourhoods we propose a vertical village concept for Lighthouses - that we see as highly scalable. This can address needs of every neighbourhood with the focus on safety, community and cleanliness. Our vision embraces a counter-intuitive belief. To create more human spaces, we must first make our buildings more autonomous. By liberating buildings from its dependence on human operation, we free humans to engage with space in more meaningful ways. The building becomes a living participant in this relationship, anticipating needs, fostering connections, and evolving alongside its community. Hospitality becomes a reimagined sanctuary that blends the intimacy and communal essence of historic guest houses or caravanserais with the dynamic adaptability of modern technology and architecture. Here's what stands out from the design: A revolutionary reimagining of urban living that challenges the traditional hotel paradigm established over the last century. Offering not just accommodation but a complete ecosystem of experiences, from entertainment and dining to business and leisure. These structures represent a fusion of hospitality and urban planning that breaks down traditional boundaries between public and private spaces.

#### The 'Living building' paradigm

We envision buildings that are not merely smart, but self-aware. Structures that maintain themselves not through scheduled human intervention, but through an innate understanding of their own needs. Like a living organism, these buildings will detect and heal their own wounds, identify incidents, regulate their own systems, and adapt to the changing needs of its inhabitants. The cognitive architecture of a Lighthouse employs a three-tiered intelligence model: reactive systems handle immediate environmental responses with millisecond latency; tactical systems manage medium-term operations through reinforcement learning; and strategic systems employ generative models to anticipate future states and optimize for

long-term outcomes. This tripartite structure mirrors biological cognitive architectures, enabling the building to simultaneously respond to immediate needs while planning for future contingencies.

#### The foundation: Modular smart infrastructure

The physical infrastructure of living buildings begins with a revolutionary approach to construction. Rather than traditional building methods, these structures are fluid yet built with prefabricated smart components. Each component arrives on-site with embedded intelligence – sensors, actuators, and processing capabilities pre-installed and ready to connect to the building's neural network. This modular approach allows for rapid assembly while ensuring consistent quality and seamless integration of smart systems.

The building's infrastructure includes dedicated pathways for robotic systems, hidden corridors that allow service robots to move efficiently throughout the structure without interfering with human spaces. These pathways are designed with charging stations, maintenance bays, and storage areas for robots, creating an invisible but essential service layer within the building's anatomy.

#### Communities of tomorrow

Within each Lighthouse, the community becomes an integral part of the building's consciousness. The building learns how different spaces are used throughout the day, how environmental conditions affect occupant comfort, and how to predict and prevent potential issues before they arise. This learning extends to understanding social patterns and preferences, allowing the building to facilitate meaningful connections between residents.

Beyond community spaces, the Lighthouse engages with each individual in a hyper personalized way. Whether you seek social connection or solitary focus, the building responds to your specific preferences and needs. Your environment adjusts to your desired temperature, lighting, and ambient sound without prompting. Your favorite workspace is prepared before you arrive. Content, information, and experiences are curated based on your interests and goals. This hyper personalization extends beyond mere convenience—it creates an environment precisely calibrated to enhance your well-being, productivity, and fulfillment.

The building becomes a living participant in community formation, using AI to identify shared interests and complementary schedules among residents. It can dynamically reconfigure spaces to support emerging community needs and automatically arrange events that bring together people with similar interests. This creates an environment where technology doesn't just serve the community – it actively helps shape and strengthen it.

The private spaces within Lighthouses represent a revolution in personal environments. Unlike traditional residential spaces that remain static, private quarters in a Lighthouse respond dynamically to individual needs. These spaces serve as personal sanctuaries that understand their occupants on a profound level—adapting to circadian rhythms, anticipating needs before they're expressed, and providing customized wellness interventions.

### The network effect - Connecting learnings across lighthouses

Each Lighthouse functions as a node in a larger network of the ultramodern movement. These nodes coordinate efforts and share research and resources across the network, often holding mini-events similar to "demo-days" to update each other on innovations and learnings. When one building discovers a more efficient way to handle a particular task or solve a specific problem, this knowledge is quickly shared across the entire network.

This network creates a distributed intelligence that benefits from collective learning. Each Lighthouse serves as a specialized guild, contributing to the common goal of advancing civilization through its unique focus area. Progress and contributions are tracked on-chain, ensuring transparent sharing of innovations while maintaining intellectual property rights where appropriate.

Through this networked approach, Lighthouses become more than individual buildings – they form a living, breathing ecosystem of innovation and community development. Each success, each breakthrough, each lesson learned contributes to the collective advancement of the entire system, accelerating our progress toward becoming a Type-1 civilization.

### IV. Architectural principles of living buildings

The following section will cover our guiding set of principles on design, technology and aesthetics.

#### 1. Core technical architecture

##### The building as an operating system

The foundation of this architectural revolution lies in creating a sophisticated operating system for buildings that enables true autonomy. This system represents a fundamental departure from traditional building management systems, incorporating advanced artificial intelligence and machine learning capabilities to enable genuine self-operation. The system will continuously learn from occupant behavior patterns to predict and deliver services proactively, while simultaneously optimizing resource usage and maintaining optimal environmental conditions.

Through seamless integration with external services and amenities, it will create a comprehensive ecosystem that anticipates and fulfills occupant needs while maintaining efficient operations.

The building's nervous system consists of a dense network of sensors that monitor everything from structural integrity to air quality. These sensors don't just collect data; they form part of a learning system that continuously improves its understanding of the building's state and occupant needs. This creates a dynamic feedback loop where the building becomes increasingly attuned to its inhabitants over time.

A building requires many computers. Similar to the open source project Home Assistant, it is advised that rooms that are intelligent have their own computers to avoid latency issues for user experience. This approach minimizes latency in environmental response systems while creating redundancy that prevents cascade failures. Rather than routing all decisions through a central brain, the building incorporates hierarchical intelligence with specialized subsystems that handle domain-specific operations while reporting to supervisory systems



that maintain operational coherence.

#### Technological integration

While the building employs sophisticated technology, the physical expression of this technology remains deliberately understated. Control interfaces are seamlessly integrated into architectural surfaces, appearing only when needed and receding completely when not in use. The silver and minimalist aesthetic extends to these interfaces, ensuring they complement rather than dominate the space.

The robotic service layer operates through dedicated pathways integrated into the building's structure, ensuring that maintenance and operations occur without disrupting the human experience. This invisible orchestration of technology enables spaces to feel warm and residential rather than overtly technological.

#### Invisible interface

Perhaps the most significant architectural challenge lies in concealing the building's technological complexity. The architecture creates spaces that feel natural and intuitive while housing extensive technical systems. The walls themselves become interfaces, with touch-sensitive surfaces and embedded displays that appear only when needed. Lighting systems integrate into architectural features, allowing spaces to transform without visible mechanical changes.

We reject the notion that technology in architecture should be visible or celebrated for its own sake. Like the most sophisticated biological systems, the true complexity should be hidden beneath a simple, elegant exterior. The building's intelligence should manifest not in displays of robotic prowess, but in the seamless orchestration of space and experience.

#### Autonomous systems architecture

The heart of the living building's operational capability lies in its sophisticated robotic systems. Unlike traditional building automation that focuses solely on environmental controls, these systems handle the full spectrum of daily operations. Our robotic systems must employ advanced SLAM (Simultaneous Localization and Mapping) algorithms that continuously update spatial understanding, enabling precise navigation through dynamic environments. These systems utilize distributed sensor fusion from multiple input modalities—LiDAR, infrared, ultrasonic, and computer vision—to create enriched environmental models that exceed human perceptual capabilities. This multi-sensory approach allows maintenance robots to detect microstructural failures, thermal anomalies, and air quality gradients imperceptible to human senses.

### Cleaning systems

They consist of advanced robots working in coordinated teams, using computer vision to identify areas needing attention and adapting their cleaning strategies based on usage patterns and surface types. These aren't simple vacuum robots – they're sophisticated machines capable of sanitizing surfaces, cleaning windows, and maintaining both interior and exterior spaces.

### Maintaining and operating

Operations involve smart collection points throughout the building that automatically sort and process materials like laundry, while robotic systems handle washing, drying, folding, and delivery. The system learns individual preferences for fabric care and can handle delicate items with appropriate sensitivity.

In the culinary sphere, automated kitchen systems transform how we think about food preparation in buildings. Advanced robotic systems can prepare a wide range of dishes, learning from user preferences and dietary requirements. These kitchens combine precise temperature control, automated ingredient management, and sophisticated cooking robots to create consistent, high-quality meals while minimizing waste.

### The building as a learning system

At its core, a living building is a learning system. Every interaction, every environmental change, and every maintenance task contributes to the building's growing intelligence. Machine learning algorithms process this vast amount of data to identify patterns, anticipate needs, and optimize operations. The building learns how different spaces are used throughout the day, how environmental conditions affect occupant comfort, and how to predict and prevent potential issues before they arise. Our buildings should measure even our happiness and provide us with feedback on our mental health.

### Implementation strategy

The implementation of autonomous building technology will follow a carefully planned progression that allows for systematic validation and refinement of our innovations. Beginning with technology-forward hotels as proving grounds, we will demonstrate the viability and benefits of autonomous operations in a controlled environment. This initial phase will inform the expansion into mixed-use developments, where we can explore the interaction between commercial and residential applications.

The strategy emphasizes maintaining full functionality even during updates or system changes. Like a living organism that can heal while continuing to function, the building's systems are designed to be maintained and upgraded without disrupting essential services. This requires sophisticated failover systems and redundant capabilities that ensure continuous operation.

## 2. Physical Manifestation and Environmental Integration

### Biomorphic Design Language

The architectural expression of living buildings draws inspiration from biological systems, not through literal mimicry but through the adaptation of organic principles. This manifests in flowing spaces that echo natural forms, creating environments that feel inherently alive and responsive. The design emphasizes curved surfaces and continuous spaces that facilitate the natural movement of people and resources throughout the building. The building mimics the principles of natural evolution but sped up.

Materials play a crucial role in this biological aesthetic. The architecture incorporates self-healing surfaces, photocatalytic materials that clean the air, and phase-change materials that help regulate temperature. These advanced materials are integrated seamlessly into the design, creating surfaces that are both technically sophisticated and aesthetically pleasing.

### Material strategy: Authenticity and modularity

Modularity is key for the 'inner' workings of the walls to be accessible for maintenance and upgrade. This also allows for interchangeability of the touchable and surface materials that we want the community to interact with. In the way that high-end seating in cars still has luxury leather, yet beneath that leather is heating, cooling, touch sensitivity and movement, the surface needs to be 'real' and 'authentic' as a material, with all the technology beneath. This can be achieved with sensors creating touch sensitivity within (either beneath or incorporated into) leather, fur, glass, concrete, wallpaper and all other materials.

On our phones we touch glass, and that surface has zero intelligence—all the workings are a few millimeters below that real material. Keep materials and functionality separate. Asking too much of a material will reduce its value as an authentic entity for community members to interact with. We will still need the idea of 'stone', 'wool', 'walnut' and 'glass' without fear that it has been compromised by technology. It also gives designers an opportunity to be creative without fear that it needs to be approved by tech. This allows for the environment to change fully in a natural or intentioned way: burgeoning landscapes, morphing wall topographies through community interaction with the materials, or planned mechanical movement designed into the surfaces—all doable with modular panels and sections that are 'just material' and not complex electronic interfaces.

For cleaning and maintenance, automated systems can be created to deal with different levels of soiling. This can be either a 'top-down' car wash type that comes from the ceiling for each section of wall, with sensors for both the wall type (plant, stone, wood, felt etc.) and the type of soiling. Alternatively, keeping with modularity, a robot could pull off the dirty panel and run it through a mobile cleaning unit with the same sensors as the car wash system.

The structural system employs a parametrically-optimized diagrid exoskeleton that distributes loads through mathematically-derived patterns, minimizing material usage while maximizing strength and flexibility. This computational approach to structural design allows for larger spans with fewer internal supports, creating fluid, adaptable interiors that can evolve over time. The diagrid's algorithmic optimization creates a unique aesthetic signature

that expresses the building's mathematical underpinnings while serving as a visual manifestation of its intelligent design.

### Environmental integration

Living buildings must maintain a permeable relationship with their environment. The architecture mediates between interior and exterior conditions through a sophisticated building envelope that adapts to changing environmental conditions. This includes dynamic shading systems, turning rainwater into drinking water and for smart garden rooms, operable room spaces, and green spaces that blur the boundary between inside and outside.

The building skin functions as an environmental filter, adjusting its properties to optimize internal conditions while maintaining connection to the external environment. This creates spaces that feel naturally comfortable while minimizing energy consumption. Lighthouses should strive to be net-positive buildings.

### Living system

Like biological systems, each component can operate semi-independently while contributing to the larger whole. When one system encounters an issue, others can compensate, ensuring continuous operation. This approach extends to how the building handles resources – water systems mimic natural filtration processes, and energy systems adapt to changing conditions like a living organism adjusting its metabolism.

### Energy and resource management

Energy management in living buildings transcends traditional efficiency measures. The building operates as its own smart microgrid, combining multiple energy sources – solar, wind, and potentially geothermal – with advanced storage systems. AI-driven predictive algorithms optimize energy production and consumption, trading power with the grid when advantageous and ensuring resilience during disruptions.

Water systems follow a similar principle of intelligence and autonomy. The building captures and processes rainwater, recycles greywater, and manages water quality through automated treatment systems. Smart fixtures adjust water pressure and temperature based on learned preferences, while leak detection systems can automatically isolate and repair minor issues before they become problems.

### Light and temporal architecture

Natural light becomes a primary architectural material in living buildings. The design carefully choreographs the interplay of light and shadow throughout the day, creating spaces that evolve with the sun's movement. This temporal dimension of architecture is enhanced by artificial lighting systems that complement the circadian rhythm, maintaining the building's vitality after sunset.

### Acoustic design

Sound becomes a crucial design consideration in living buildings. The architecture creates acoustic landscapes that support different activities and moods, using a combination of hard and soft surfaces, sound-absorbing materials, and active noise control systems. This creates environments that can transition from energetic community spaces to quiet areas for focus and reflection.

### Aesthetic and manufacturing framework

The architectural expression of Lighthouses embraces a distinct aesthetic that combines Silver and Brutalist elements with contemporary minimalism. This design language acknowledges that certain architectural solutions have achieved a golden standard while allowing for evolution. The exterior features precise silver metallic surfaces that reflect and interact with natural light, while brutalist influences manifest in the honest expression of structural elements and materials.

### Manufacturing employs three key methodologies:

- Light steel framing systems that enable rapid assembly while maintaining structural integrity
- Advanced 3D printing technology for complex geometric elements and custom components
- Modular manufacturing processes that ensure quality control while enabling scale

The building's curved forms are achieved through these precise manufacturing methods, creating fluid geometries that echo natural patterns while maintaining minimalist clarity. These curves serve both aesthetic and functional purposes, improving circulation flow and creating more intuitive spatial relationships. Albeit, this could be done with many materials and is not limited to these methodologies.

### 3. Spatial design and human experience

#### Spatial fluidity and adaptive architecture

The primary architectural innovation of living buildings lies in their capacity for transformation. Unlike conventional structures with fixed layouts, these buildings employ a system of sliding walls, movable partitions, and reconfigurable spaces that can respond to changing needs throughout the day. The architecture must anticipate this fluidity from the outset, creating robust structural systems that allow for internal reorganization while maintaining the building's integrity.

#### Eudaimonic design implementation

The architecture explicitly implements eudaimonic design principles ([reference](#)) - spaces that promote human flourishing and well-being. This manifests through carefully crafted environments that support both individual growth and community interaction. The building incorporates distinct zones designed for different stages of work and creativity:

- Deep focus areas with optimal acoustic and lighting conditions
- Collaborative spaces that facilitate spontaneous interaction
- Contemplative areas for reflection and restoration
- Social spaces that nurture community bonds

Each zone is designed with comfort as the primary consideration, featuring natural materials, appropriate acoustic treatment, and lighting that adapts to circadian rhythms. The minimalist aesthetic reduces cognitive load while maintaining warmth through texture and natural elements.

### The personal space - redefining “personal living”

The private quarters within a Lighthouse represent a fundamental shift in how we conceive of personal space. Rather than static environments you must adapt to, these spaces actively adapt to you. Just as your smartphone or computer remembers your preferences and settings, your personal space learns and evolves with you. It understands your daily rhythms—when you prefer to wake, your ideal sleeping temperature, how you like your morning coffee, what you want on your smart tv, closing window blinds etc. and when you need focused work time versus relaxation.

This goes beyond mere convenience; it's about creating an environment that feels like an extension of yourself. Your preferences for lighting, sound, temperature, and even scent are automatically adjusted as you move through your day. The space anticipates your needs based on patterns it has observed: preparing a workout area when you typically exercise, adjusting lighting for reading or meditation, or creating the perfect ambiance for social gatherings. Think of it as advanced adaptive systems that can create personal environments. For example, each room could process data from multiple sensor arrays—thermal imaging, biometric monitoring, air quality analysis, and behavioral pattern recognition—all operating at the edge to ensure privacy.

Privacy settings allow you to control what the space learns and how it responds, giving you the same level of personalization control you expect from digital interfaces, now extended to your physical environment. This creates a deeply personal experience where your living space feels like it was designed specifically for you—because in many ways, it continuously redesigns itself around your evolving preferences and lifestyle. Unlike traditional smart home systems, the personal space employs predictive algorithms that anticipate needs based on time-series analysis of historical patterns, contextual factors, and even subtle physiological indicators—all while maintaining strict data sovereignty that keeps personal information local rather than cloud-based.

### Social choreography through design

Our buildings have a relationship to the outside world, not just to the inside. The architecture actively shapes social interactions through thoughtful spatial arrangement. Common areas are designed as a series of nested spaces that provide varying degrees of privacy and community engagement. These spaces flow naturally into one another, creating opportunities for both planned and spontaneous interaction. The vertical organization of the building plays a crucial role in community formation.

Rather than treating each floor as an isolated unit, the architecture creates three-dimensional communities through double-height spaces, internal stairs, and shared amenities that span multiple levels. This vertical connectivity encourages interaction between different parts of the building community. The issue starts with not leaving rooms open to interpretation. Rooms should be like chat-rooms, constantly repurposed to their needs; sometimes it's public (anyone can join), sometimes it's private (only those invited can join).

### Circulation as social infrastructure

Movement through the building is conceived not merely as transportation but as an opportunity for community building. Circulation spaces are designed as social condensers, with wider corridors that accommodate informal gathering, and stairs that encourage physical activity while facilitating chance encounters.

These dynamic spaces are achieved through a careful orchestration of permanent and flexible elements. The core structure – including primary circulation, mechanical systems, and key structural elements – remains fixed, while secondary spaces are designed for adaptability. This creates a framework within which spaces can evolve without compromising the building's essential functions.

### A Tech-house with a warm vibe

A living building is a vision of architecture that breathes, thinks, and evolves for you. It is a future where technology does not dominate space, but rather empowers it to become truly alive. We are not building machines to live in, but creating new forms of life to live with. In this fusion of technology and architecture, we find not the cold future often portrayed in science fiction, but a warmer, more organic reality where our buildings become active participants in human flourishing. This is the next evolution of architecture – not just spaces that shelter us, but spaces that understand us, grow with us, and help us become more fully human.

The future of architecture lies not in the shape of our buildings, but in their consciousness. We stand at the beginning of an era where our buildings will be born not just from concrete and steel, but from algorithms and artificial intelligence. They will be judged not by their appearance alone, but by their ability to learn, adapt, and care for their inhabitants.

## 4. Community and network

The Collective Structure of Artists, Engineers and Architects

The Ultramodern movement represents a convergence of technology, art, and architecture dedicated to advancing civilization. Our organizational structure mirrors the principles we embed in our buildings: adaptive, intelligent, and oriented toward human flourishing. Like the pioneers of open-source software, our members are driven by a pure desire to evolve technology and society. This intrinsic motivation ensures that our focus remains on advancing human civilization rather than short-term gains.

### Shared governance

Each Lighthouse functions as an autonomous entity within the larger framework, with its own specialized focus and community-driven decision-making processes. Local communities develop their own micro-governance systems, allowing residents to shape their immediate environment. Decisions about space utilization, community programs, and local initiatives are made through a combination of AI-assisted analysis and community consensus.

The broader network of Lighthouses operates through a sophisticated governance protocol that enables resource sharing, knowledge transfer, and collaborative decision-making across the entire ecosystem. This creates a dynamic balance between local autonomy and network-wide coordination.

### Knowledge sharing & innovation

The movement facilitates regular publication of research findings and technical documentation, while fostering partnerships with universities and research institutions. Drawing from the open-source ethos, the organization promotes the development of interoperable systems and open standards. This approach facilitates collaboration across different Lighthouses and enables the integration of external innovations into the ecosystem.

### Global network effects

The power of our network grows exponentially with each new Lighthouse. When one Lighthouse discovers an innovation or solution, it's immediately shared across the network. This creates a rapid learning cycle where improvements in one location benefit the entire system. Residents can easily connect with like-minded individuals across different Lighthouses, creating a global community of innovators and change-makers.

Our Lighthouses are innovation parks where cutting-edge ideas are brought to life and pioneering technologies are developed and tested in real-world environments. Each Lighthouse functions as a guild, contributing to the common goal of advancing civilization through its unique focus area, with progress and contributions tracked on-chain.

### A living and breathing concept

Perhaps the most revolutionary aspect of living buildings is their ability to evolve over time. Regular over-the-air updates enhance the building's capabilities, much like smartphone updates but on an architectural scale. These updates might improve energy efficiency algorithms, enhance robotic navigation systems, or add entirely new features to the building's service capabilities.

The modular nature of both hardware and software systems ensures that physical components can be upgraded as technology advances. Service robots can be replaced with newer models, sensor systems can be enhanced, and processing units can be upgraded – all while maintaining the building's core functionality.

We aim to create meaningful change by uniting talented individuals from diverse backgrounds to develop the technology we truly need and deserve. What was once dismissed as a dream is now becoming reality—the people have spoken, and we're taking action today.

Our approach embraces an MVP (Minimum Viable Product) philosophy, bringing Silicon Valley's rapid iteration culture into the physical world. By quickly creating tangible solutions and refining them through user feedback, we'll accelerate innovation where it matters most. This isn't just about technology—it's about building tools that genuinely serve people's needs, developed through collaboration and continuous improvement. The time for waiting is over. We're building now.



By solving for “the world of atoms”, we create an immense liberation of our free time to spend on our passions and extraordinary comforts . The Lighthouses where we work and live will experiment with governance and how a group of people share ownership and share spaces that we rule and police together.

Through this framework, we're not just building better buildings – we're creating a new model for human organization and collaboration that can scale globally while maintaining deep local community engagement.

The power of mission oriented communities:

We believe that bringing together visionaries and doers under a shared goal can catalyze the transformation of hospitality and community spaces for tomorrow's world.

Our movement is the synthesis of:

- Open-source ethos (OG open-source vibes)
- Decentralized organization principles - radically strong coordination work
- Cutting-edge innovation (Xerox parc)
- Visionary governance (Network states)

We are committed to building the technologies and systems that will define hospitality spaces of tomorrow, today, with full transparency and community participation. Lighthouses facilitate resource and research sharing to advance hospitality innovation in an iterative yet consistent manner. Collaborative efforts between different Lighthouses enables efficient allocation of expertise and assets across the network.

1. Interoperability and open standards

- Drawing from the open-source ethos, we promote the development of interoperable systems and open standards
- This approach facilitates collaboration across different Lighthouses and enables the integration of external innovations

2. Inspiring global innovation

- Regular publication of research findings and technical documentation
- Partnerships with universities and research institutions
- Collaboration with other projects

## VII. Join the movement

The future is not a distant dream—it is a reality we choose to create together, governed by community consensus. Join the Ultramodern movement as we lay the foundation for the next great leap in human civilization.

The hospitality industry serves as an ideal proving ground for autonomous buildings. Just as the ancient caravanserais served as nodes of civilization that connected distant cultures, modern hotels occupy a unique position at the intersection of residential and commercial spaces. The sector already demonstrates increasing acceptance of automation across various service areas, making it naturally receptive to more comprehensive technological integration.

Furthermore, the temporary nature of hotel stays provides a perfect laboratory for testing and iterating on new concepts without requiring long-term commitment from users. This allows us to rapidly prototype and refine our systems while gathering valuable data about human interaction with autonomous environments.

The implementation pathway follows a staged protocol that begins with isolating critical subsystems for rigorous real-world testing before progressive integration. We employ digital twin methodologies during both design and operation phases, creating high-fidelity simulations that allow for virtual commissioning and scenario testing. This approach dramatically reduces implementation risks while enabling continuous optimization through the comparison of predicted versus actual performance metrics—creating a feedback loop that continuously refines both the digital twin and physical building.

## The time is now

We stand at a critical juncture in human civilization. The 1.5 years each person spends on maintenance and upkeep of their physical environment represents not just lost time, but lost potential for human advancement. By creating an autonomous framework that frees humans from these mundane tasks, we unleash groundbreaking potential for creativity, innovation, and forward momentum.

We invite visionaries, innovators, and dreamers to join our movement and contribute to this grand endeavor of rethinking how we live from the ground up.

Together, we will:

- Create future living spaces that serve as models for sustainable, technologically advanced communities
- Develop and implement new forms of governance and economic systems that optimize for human flourishing
- Foster an environment of continuous learning and innovation through decentralized collaboration
- Build global networks that transcend traditional barriers and accelerate human progress
- Demonstrate that a more advanced, equitable, balanced and fulfilling future of civilization is achievable through technology and collective vision