

La Biennale di Venezia
19th International Architecture Exhibition
Intelligens. Natural. Artificial. Collective.

Statement by **Carlo Ratti**
Curator of the Exhibition



Introduction

Architecture has always been a response to a hostile climate. From the earliest "primitive hut," human design has been led by the need for shelter and survival, driven by optimism: our creations have always strived to bridge the gap between a harsh environment and the safe, livable spaces we require.

Today, that dynamic approach is being taken to a new level - as climate becomes less forgiving. In the fires of Los Angeles, in the floods of Valencia and Shergpur, in the droughts of Sicily, we have witnessed first-hand how water and fire are attacking us with unprecedented ferocity. The year 2024 marked a grim milestone as Earth registered its hottest temperatures on record, pushing global averages beyond the Paris Agreement's 1.5°C target. In just two years, climate change has accelerated in ways that defy even the best scientific models.

When the systems that have long guided our understanding begin to fail, new forms of thinking are needed. For decades, architecture's response to the climate crisis has been centered on mitigation—designing to reduce our impact on the climate. But that approach is no longer enough. The time has come for architecture to embrace adaptation: rethinking how we design for an altered world.

Adaptation demands a fundamental shift in our practice. This year's Exhibition *Intelligens. Natural. Artificial. Collective.* invites different types of intelligence to work together to rethink the built environment. The very Latin title *Intelligens* contains the word "gens" ("people") - inviting us to experiment beyond today's limited focus on AI and digital technologies.

In the time of adaptation, architecture is at the center and must lead with optimism. In the time of adaptation, architecture needs to draw on all forms of intelligence – natural, artificial, collective. In the time of adaptation, architecture needs to reach out across generations and across disciplines - from the hard sciences to the arts. In the time of adaptation, architecture must rethink authorship and become more inclusive, learning from science.

Architecture must become as flexible and dynamic as the world we are now designing for.

Curatorial highlights

- A) *Intelligens*, serves as a **dynamic laboratory, uniting experts across various forms of intelligence**. For the first time, the Exhibition features **over 750 participants**: architects and engineers, mathematicians and climate scientists, philosophers and artists, chefs and coders, writers and woodcarvers, farmers and fashion designers, and many more. Adaptation demands **inclusivity and collaboration**.
- B) Curating on such a large scale required a fundamental shift in approach. The **selection process has been open and bottom-up**, guided by an **interdisciplinary curatorial team**. *The Space for Ideas*, our open call for projects from May 7 to June 21, 2024, generated an overwhelming global response. The flood of submissions was both thrilling and daunting, but it allowed us to discover fresh, lesser-known voices that might otherwise have been missed.
- C) The resulting **participant pool spans generations**—from seasoned professionals still innovating at ninety to recent graduates just beginning their careers. Pritzker Prize winners, former La Biennale di Venezia Curators, Nobel laureates, Royal Professors appear alongside emerging architects and researchers. This **inclusion** reflects our commitment to a diverse range of perspectives.
- D) This richness of contributions calls for a **new approach to authorship**. *Intelligens* challenges the tradition of the architect as the sole creator, with other professionals relegated to supporting roles. We propose a **more inclusive authorship model, inspired by scientific research**. In the time of adaptation, all voices driving design must be recognized and credited.
- E) In the era of adaptation, La Biennale di Venezia must collaborate with other institutions. *Intelligens* has forged connections with other global Institutions, the UN's **COP30** in Belem, **C40**, the Davos **Baukultur Alliance**, the **Soft Power Club**, and many others. **Its public program, GENS, will host a chorus of events and conversations**, engaging audiences both large and small.

Highlights from the Corderie dell'Arsenale

The work of hundreds participants cannot be reviewed in toto, but here's a glimpse.

The Corderie opens with a stark confrontation: global temperatures rise while global populations fall. This is the reality architects must face in a time of adaptation. From here, visitors will traverse **three thematic worlds: *Natural Intelligence, Artificial Intelligence and Collective Intelligence***. The Exhibition culminates in *Out*, and asks: can we look to space as a solution to the crises we face on Earth? Our answer is no—space exploration is not a way out but a means to improve life here, on the only home we know.

Each section is conceived as a modular, fractal space—an organism that links large and small-scale projects, creating a web of dialogue. The **Exhibition design** by **architecture and design office Sub**, directed by **Niklas Bildstein Zaar**, and the **graphic design** by **Bänziger Hug Kasper Florio** mirrors the interconnectedness we need to survive. Digital layers amplify and expand conversations, adding a new dimension to the exhibition.

The opening questions are simple, but urgent: What will tomorrow's climate look like? How will shifting populations reshape the world? The first project is born from the research of leading climate scholars **Sonia Seneviratne** and **David Bresch**. Collaborating with **Fondazione Cittadellarte Onlus** by artist **Michelangelo Pistoletto**, German climate engineering office **Transsolar** and environmental historian **Daniel A. Barber**, their work turns spatially into artificial floods and searing air vortices.

The Other Side of the Hill digs deeper into our global population future by exploring the microbial communities that balance resource consumption. What happens when population growth peaks and collapses? This project, spearheaded by physicist **Geoffrey West**, biologist **Roberto Kolter**, and architectural theorists **Beatriz Colomina** and **Mark Wigley**, asks us to rethink the fundamentals of life on Earth. Designer **Patricia Urquiola** renders this vision into space, blending mathematics and design.

As we move into the *Natural Intelligence* section, *Living Structure* presents an answer to the question of what building with nature really means. Led by **Kengo Kuma And Associates**, **Sekisui House - Kuma Lab & Iwasawa Lab** (both at the University of Tokyo), and **Ejiri Structural Engineers**, this project explores how Japanese joinery techniques, fused with AI, can turn irregular timber into structural material. The future is as much about reverence for nature as it is about innovation.

In the *Matter Makes Sense*, we dive into the future of construction—bioconcrete, banana fiber, graphene, and more. In this material bank project, professors **Ingrid Paoletti** and **Stefano Capolongo**, Nobel laureate **Konstantin Novosëlov** and scenographer **Margherita Palli Rota** join forces to show us how material innovation can change the very foundations of architecture. In bringing to the Biennale Architettura dozens of experiments from all over the world, they show us a possible path to tomorrow - rebuilt at the molecular and ecological level.

Even as we dream of new materials, we must reckon with the waste of today. The Biennale Architettura's **Circular Economy Manifesto**, developed with guidance from **Arup** and input from the **Ellen MacArthur Foundation**, sets bold goals for reducing waste and promoting material reuse at the Biennale Architettura itself. These aspirations will be further supported through a research handbook produced between China and Italy by **Archi-Neering-Design/AND Office**, **Massimiliano Condotta** and **Valeria Tatano** – **Università IUAV of Venice**, **Jin Arts**, **Pills**, **Róng Design Library**, and **Typo-D**.

The 2025 Exhibition might not be perfect, but it wants to walk the talk. Most Exhibition panels are made of recycled wood - to be shredded at the end of the Biennale Architettura and turned into new materials. Projects like **Boonserm Premthada's Elephant Chapel**, which uses recycled elephant dung to create bricks, redefine what is possible, turning nature's waste into a resource for construction.

Entering the *Artificial Intelligence* section, the Exhibition stretches the concept of “artificial” beyond LLMs (Large Language Models). Robotics, engineering, and data science converge to show us how technology can affect our built environment and our social systems. Researchers from a group of global universities - including **Tongji University** professor **Philip Yuan**, and **Gramazio Kohler Research** from **ETH Zurich** with **MESH** and **Studio Armin Linke** - use next-gen humanoid robots to explore the future of construction, raising key questions about the evolving role of human labor.

Meanwhile, in Ukraine, researchers like **Kateryna Lopatiuk**, **Herman Mitish**, **Roman Puchko**, **Oleksandr Sirous**, and **Orest Yaremchuk** use computer vision to map and rebuild cities destroyed by war. It’s a haunting reminder that technology is not neutral—it can be a tool for rebuilding or a means of destruction. In the eyes of those who see peace, it becomes a vision for reconstruction.

The *Collective Intelligence* section turns our attention to building and learning through collective wisdom. From the favelas of Rio to the refugee camps of Bangladesh, from the small towns of China to the bustling markets of Lagos, urban ecosystems offer profound insights into how material economies and social networks function in tandem. **Tosin Oshinowo**’s research on informal markets shows how building ingenuity thrives in the margins.

To bring many voices together from all corners of the world, the *Collective* section features a *Speakers’ Corner* - a physical platform designed by **Christopher Hawthorne**, **Johnston Marklee**, and **Florencia Rodriguez**. The project rises above the Exhibition, physically and metaphorically, as a venue to host panels, workshops and discussions.

Finally, we move to the concluding section *Out* through *Oxyville*, a 360 sonic structure by composer **Jean-Michel Jarre** in collaboration with **Antoine Picon** and **Maria Grazia Mattei** - **Meet Digital Culture Center, Milan Once Out**, we look for inspiration beyond our fragile planet. A project by **Jeronimo Ezquerro**, **Charles Kim**, **Stephanie Rae Lloyd**, **Sam Sheffer**, **Emma Sheffer**, and **Emily Wissemann**, inspired by astronauts’ space suits, rethinks how we can improve building and insulation techniques on Earth.

The UK Astronomer Royal **Martin Rees**, in his essay for the catalog, reminds us that space exploration is no salvation. Even the most habitable regions outside Earth are a thousand times more hostile than our planet’s most extreme environments. Instead of escaping to the stars, we must focus our intelligence on adapting here, on Earth.

Highlights from Venice as a Living Lab

With the venue of the Central Pavilion under renovation in 2025, Venice will not just host the Biennale Architettura—it will become a laboratory. The city itself – one of the most imperiled on Earth in the face of a changing climate—will serve as the backdrop for a new kind of Exhibition, where installations, prototypes, and experiments are scattered across the Giardini, the Arsenale and other neighborhoods.

One such project, led by the **Norman Foster Foundation**, **Michael Mauer** and **Ragnar Schulte** from **Porsche**, **Miguel Kreisler** from **Empty+Bau** and **Christopher Hornzee-Jones** from **Aerotrope** will redesign Venice’s relationship with its canals, exploring sustainable aquatic mobility as a

blueprint for the future. **Diller Scofidio + Renfro**, **Aaron Betsky**, **Natural Systems Utilities**, **SODAI** and chef **Davide Oldani** will turn the very waters of Venice into a symbol of transformation—purifying the canals to create the best espresso in Italy, proving that environmental challenges can be woven into the fabric of daily life. In another project, **Diane von Fürstenberg** will explore how Venice can turn its femininity into resilience.

Meanwhile, we will confront the legacy of **Bernard Rudofsky's** *Architecture Without Architects*—a manifesto for vernacular and indigenous design. His ideas should be reimagined in the context of climate adaptation. In projects like the *Manameh Pavilion*, designed by **Rashid** and **Ahmed Bin Shabib**, **Alia Al Mur**, **Yusaku Imamura**, **Jonathan Shannon**, and **Vladimir Yavachev** with traditional cooling techniques from the Gulf region, and *Terra Preta*, a collaboration between **Cacique Nixiwaka Yawanawa**, **André Corrêa do Lago**, **Marcelo Rosenbaum**, **Fernando Serapião** and **Guilherme Wisnik** addressing housing needs in the Amazon, indigenous knowledge will merge with scientific research to create sustainable, culturally rich housing solutions.

The Biennale Architettura 2025 aims to be more than an Exhibition; it is an experiment in uniting different voices and forms of intelligence. Some will resonate louder than others; some might clash and produce jarring sounds. Nonetheless, we hope that this choral effort will offer new insights into one of the defining challenges of our time: adapting to an altered world.

Key data

750+ participants (individuals or organizations)

280+ projects

500+ participants in interdisciplinary teams

350+ participants in multigenerational teams

250+ participants in women-led teams

375+ participants in transnational teams

Some teams are still reaching out to new participants, hence the final numbers in May 2025 might slightly differ.