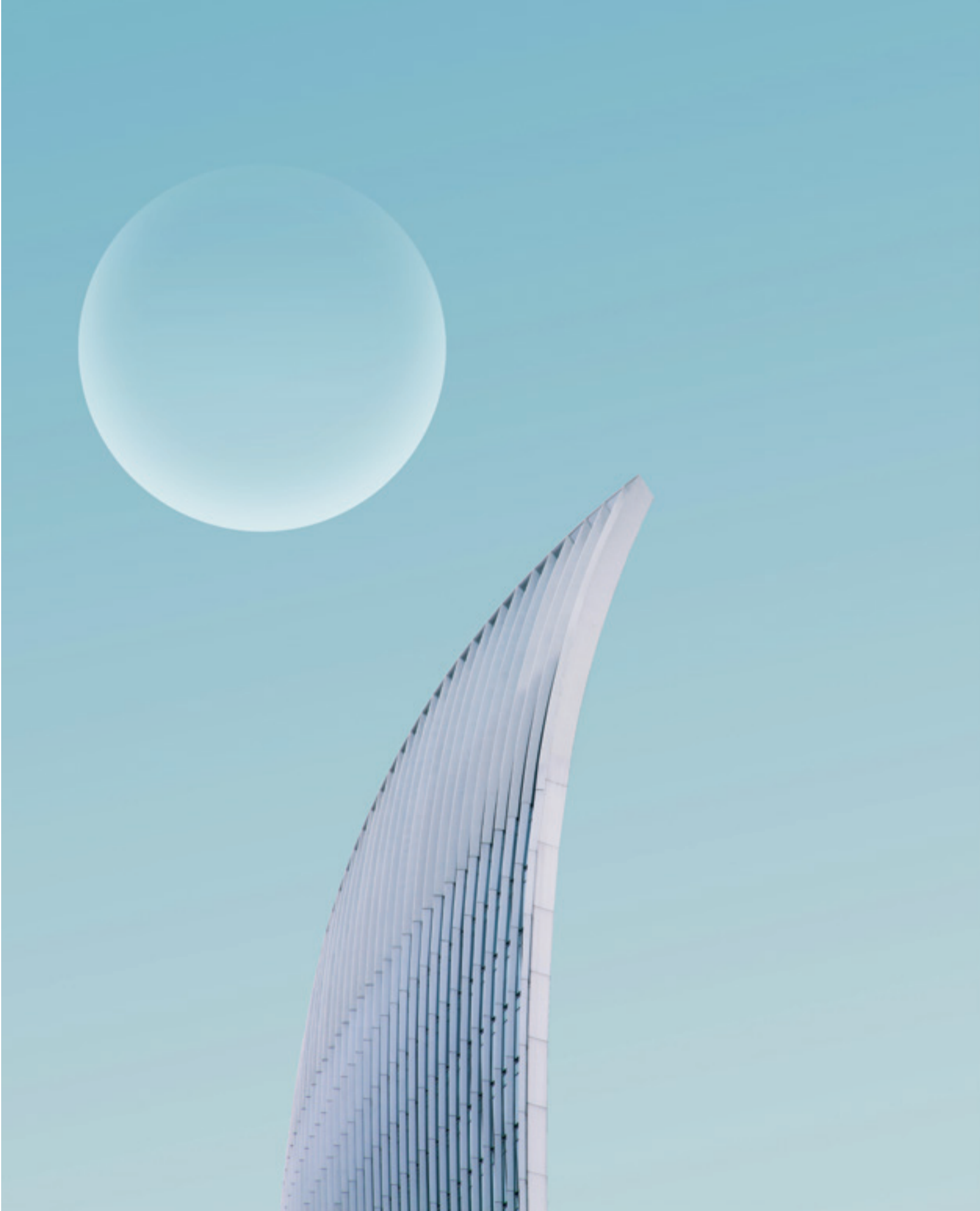


# ME— zeroE

DEC. 2021

# **1** / 05  
by **compáz**  
[www.compaz.art](http://www.compaz.art)

## manifesto



We are an open innovation ecosystem, an essential link between laboratories and markets, a network from which the next habitat paradigm must be born.

MEZeroE  
Measuring Envelope systems  
for Zero Energy buildings

# We build

Since the dawn of time, our species has shown ingenuity to survive in environments which, because of their indifference, are often hostile to us. We first explored caves, seeing in these natural cavities protective places. Then we developed all kinds of mobile and temporary habitats taking into account various geographical, cultural and organizational specificities - huts, tipis, yurts, igloos, cabins. Later on, we built villages, which over time became huge towns and then megacities. Today, we are able to build towers exceeding one kilometer in height. Over time, the ingenuity that served us so well for so long has become a problem by disconnecting us from nature, from its resources, from its rhythm. Our economic, industrial, urban and architectural paradigm is now a real ecological time bomb.

**Aware of this harsh reality, WE have created MEZeroE.**

We are researchers, industrialists, engineers, architects, scientists, private organizations, universities, designers, journalists. We are lucid and realistic. But also and above all optimistic.

**We are MEZeroE**

an open innovation ecosystem,  
an essential link between  
laboratories and markets,  
a network from which the next  
habitat paradigm must be born.

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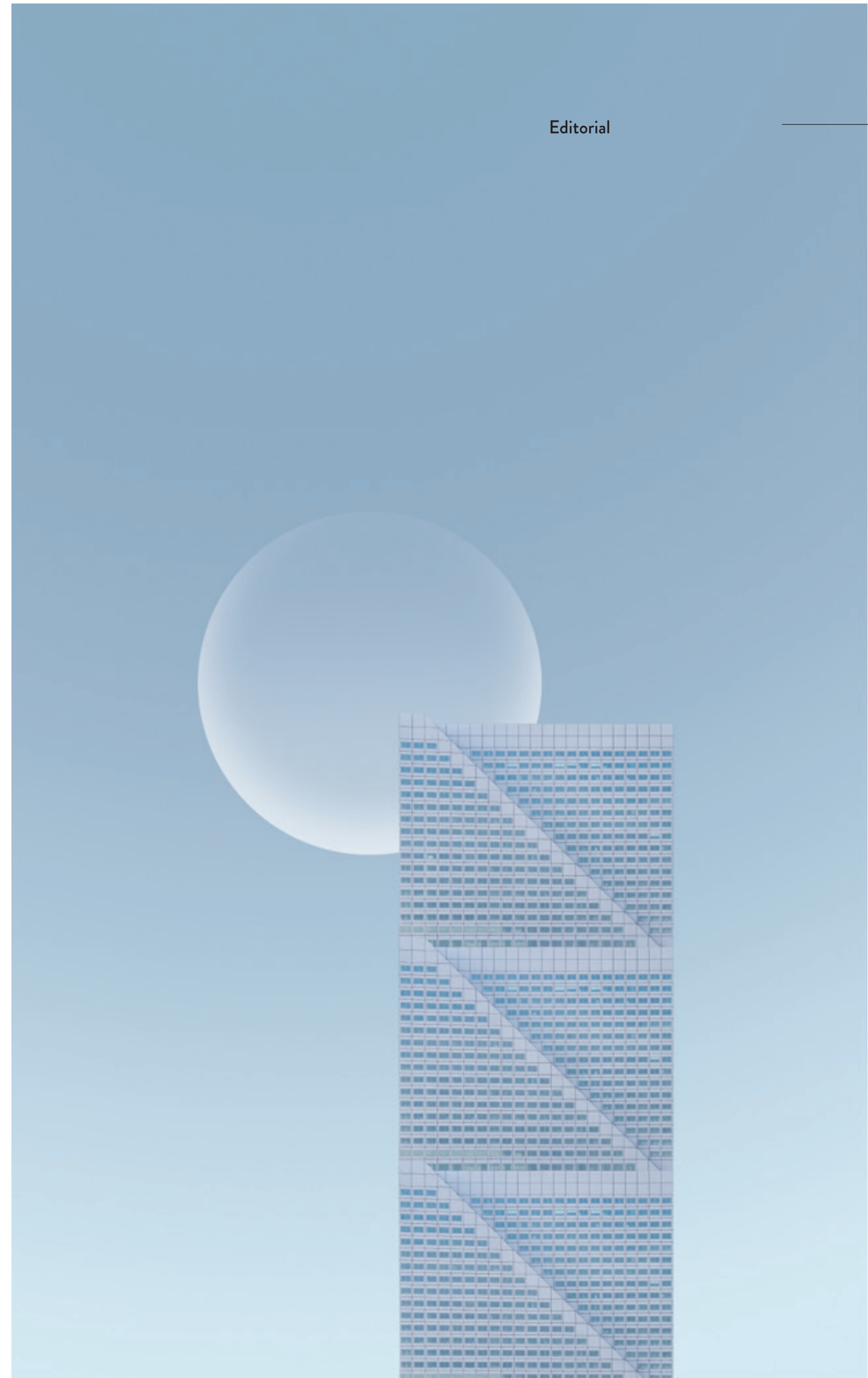
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# It's time to come down to Earth

We have already been to the Moon. Tomorrow we will go to Mars. But before that, it may be time to come back down to Earth. Because the global economic and industrial context that we have tried so hard to set up is now turning against us. In this sense, we have to admit that we have built our own prison. By seeking to achieve extreme profitability, the construction industry has moved away from its fundamental role. It would be easy to criticize this industry, as if it had become a kind of evil and unreasonable entity on its own. But we, as a species, are completely responsible for this drift. Especially when scientists have been sounding the alarm for decades.

The figures are available and well known. In Europe, the act of building generates more than a third of our CO<sub>2</sub> emissions. And once built, the buildings we live in consume about 40% of the energy we are able to produce. While some see these indicators simply as words and data, others are dying because of the climate crisis. Coastal cities are losing ground every year to rising seas. Forest fires are raging at the gates of our cities with increasing intensity and consistency. And the notion of “refugee”, once reserved for conflicts, is now sadly relevant in the climate context as well.

After the scientists, it is now the insurers who are sounding the alarm. Over the last 50 years, the number of weather-related disasters has been multiplied by five according to the World Meteorological Organization (WMO), which is attached to the United Nations (UN). Insurers are warning that property damage due to drought, fire or rising water levels will become increasingly difficult to cover.

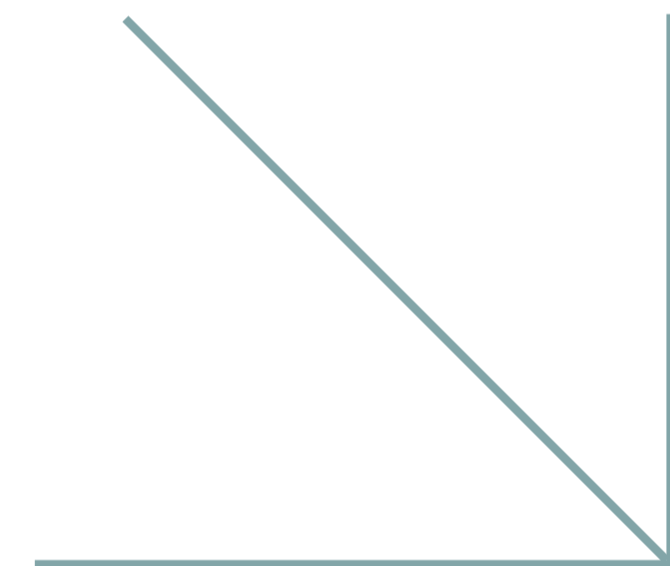


We promise to implement academic, scientific and industrial synergies that will allow the revaluation of short and local industrial circuits.



Despite the seriousness of the situation, we are resolutely dedicated to maintaining an optimistic attitude. This does not mean that we will naively and passively wait for an ecological miracle. It means that we promise to create a realistic and virtuous ecosystem, in which industry and science can rely on each other. We don't have the only solution or even, necessarily, the best one. But we do know exactly which partners to bring together, and we know how to create the framework conditions that will foster their collaboration. We promise to make MEZeroE a committed movement towards the reconsideration of what progress in housing industry should be in the light of the climate emergency.

And Europe has a real card to play, even if it has to navigate the current Chinese monopoly in the production of building technology devices such as photovoltaic panels. In this context, we promise to implement academic, scientific and industrial synergies that will allow the revaluation of short and local industrial circuits. Europe has not yet had its final word, as evidenced by the massive ecological recovery plans recently adopted to restart an economy shattered by the coronavirus pandemic.



This promise of change does not come without a realistic and radical awareness. After exploring its own wildest fantasies, architecture must come down to Earth. It is a question of composing again with constraints of form, henceforth defined by the function of durable technical elements that must be integrated in every responsible project.



# Real life everyday super-heroes...

There are shared visions, a long-term commitment to common goals, and an understanding that by pulling their collective abilities, they can influence and even change the global mindset and offer hope, just when we need it the most.





Practically everyone on our beleaguered planet grew up with at least a passing awareness of Superman. This archetypal hero was introduced in the late 1930s and for more than 80 years – in comic books, television series and feature films – he always appeared just when we needed him most. It's fair to say that the ever-growing popularity of superhero-driven entertainment reveals a near-primal desire for protectors... for entities that can help us face – and overcome – our greatest threats. The members of the MEZeroE consortium are prepared to assume that mantle. They won't rely on capes, Amazon bracelets and a golden lasso, or even a Batmobile to achieve their superhuman feats (though you can be assured that if they had a Batmobile, it would be completely non-polluting). Their tools are more prosaic but they are also a bit mysterious and every bit as important: there are pilot measurement and verification lines and open innovation services and a multi-side virtual marketplace. There are dedicated stakeholders drawn from small- and medium-sized enterprises and from larger companies and research labs and institutions of higher learning. But most of all, there are shared visions, a long-term commitment to common goals, and an understanding that by pulling their collective abilities, they can influence and even change the global mindset and offer hope – in true superhero style – just when we need it the most.

**when we need  
them most**



Fire

It won't be easy. Each member of the MEZeroE consortium knows that. The ambitions are grand and rely on the talents and skills of all of them. They share an understanding that collaboration is the best – and possibly the only – way to solve complex problems. Together, they will be setting new benchmarks and standards. And with the broad range of innovation platforms, test benches and living labs, MEZeroE will explore tangible and achievable possibilities, measuring at every stage the practicality of each solution and also how it will affect the quality of life. MEZeroE's initiatives are conceived to bring significant and sustainable changes to the building industry's marketplace and establish an ecosystem in which the design and construction of near zero-energy buildings are not only theoretically possible but, in fact, the option of choice for builders, architects and their clients. By providing turn-key startup and upscaling services for modelling, testing, and monitoring envelope technology solutions for near zero-energy buildings, the MEZeroE actors will establish their legacy.



Water

Future generations will look back in awe and appreciation and with the realization that these were indeed superheroes who, in dramatic fashion, appeared just when we needed them most.





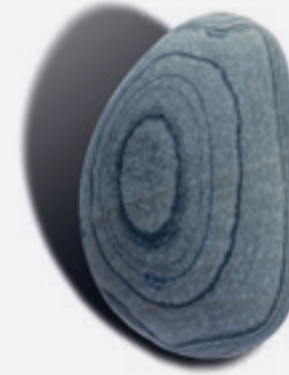
# De— construct

Long confined to the scientific community, research is now developing according to different models. Openness, horizontality and sharing are its defining characteristics. Within the MEZeroE project, this approach will be used in order to promote a holistic collaboration with the objective of federating scientific, economic and industrial actors.



Rethinking industrial and building processes in a sustainable way is not an easy task, especially if we consider the multiple sectors and fields that have to be involved in the process. Doing this in a realistic way from an economic perspective is also part of the challenge. In this context, the MEZeroE project aims to rethink the way laboratories, universities, industrialists, architects and real estate actors can collaborate in a more sustainable approach.

The presence of multiple profiles within the project reflects perfectly this holistic configuration. Currently, 25 entities are involved in MEZeroE. Among them are universities and polytechnics, industrial manufacturers, companies and start-ups. At first glance, it is a rather heterogeneous network that needs to be made organic. With this in mind, the research will be conducted on an open innovation model, allowing each stakeholder to contribute to the whole, and to benefit from it at the same time.





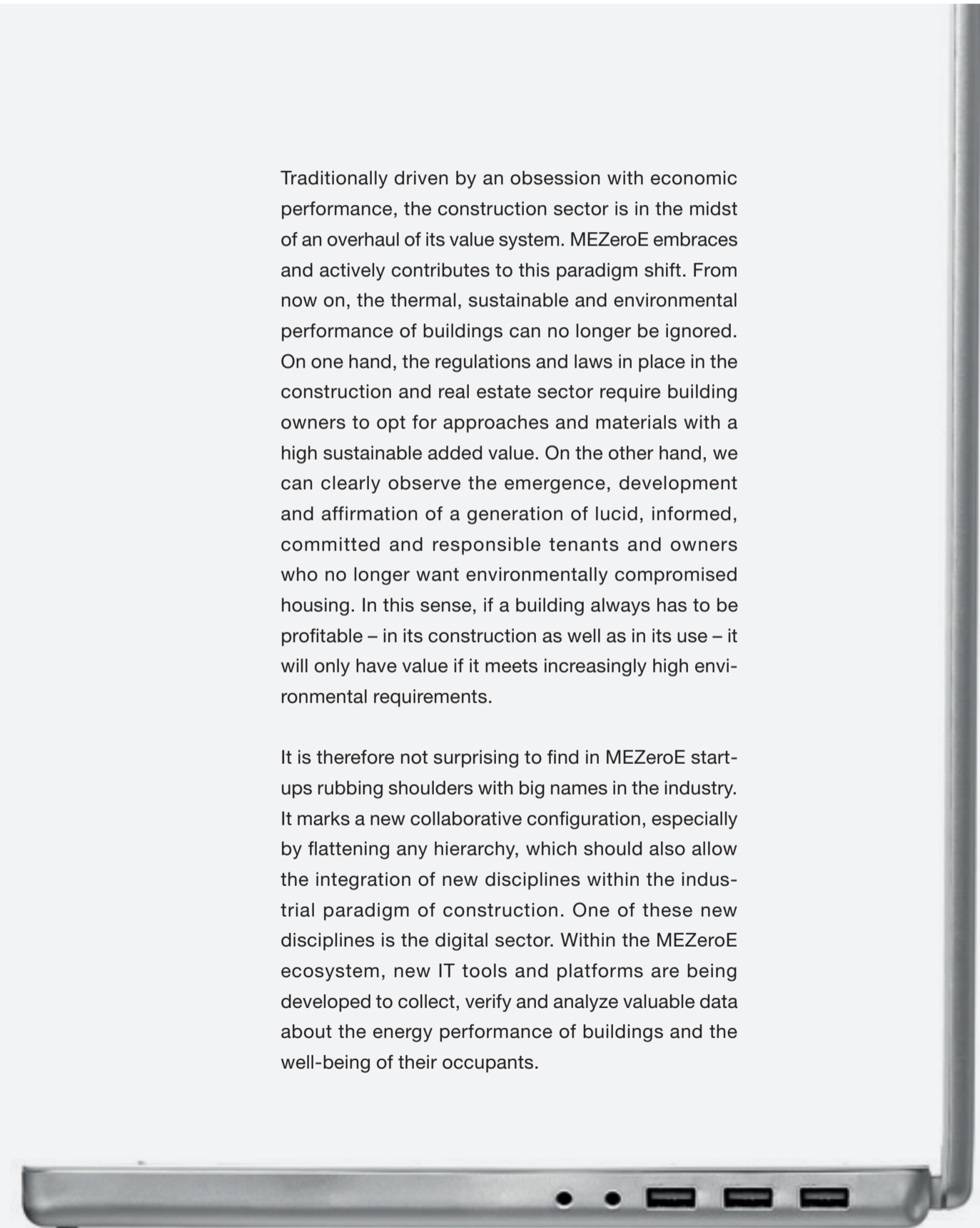
## to build better

### A complex and responsible constellation

Without necessarily going through all the partners involved in MEZeroE, it is important to look at the profiles of some of them to realize how holistic the project is. Because to break with the classical industrial models that we have abused historically, and which have partly led us to the current environmental disaster, it is necessary to create new synergies. If the market and economic imperatives can (and must) continue to dictate the tempo of innovation, multiple decisive factors have to be integrated into this leadership of the economy on research.

Traditionally driven by an obsession with economic performance, the construction sector is in the midst of an overhaul of its value system. MEZeroE embraces and actively contributes to this paradigm shift. From now on, the thermal, sustainable and environmental performance of buildings can no longer be ignored. On one hand, the regulations and laws in place in the construction and real estate sector require building owners to opt for approaches and materials with a high sustainable added value. On the other hand, we can clearly observe the emergence, development and affirmation of a generation of lucid, informed, committed and responsible tenants and owners who no longer want environmentally compromised housing. In this sense, if a building always has to be profitable – in its construction as well as in its use – it will only have value if it meets increasingly high environmental requirements.

It is therefore not surprising to find in MEZeroE start-ups rubbing shoulders with big names in the industry. It marks a new collaborative configuration, especially by flattening any hierarchy, which should also allow the integration of new disciplines within the industrial paradigm of construction. One of these new disciplines is the digital sector. Within the MEZeroE ecosystem, new IT tools and platforms are being developed to collect, verify and analyze valuable data about the energy performance of buildings and the well-being of their occupants.



# IMAGINE PRODUCE TEST UNDERSTAND REPEAT

MEZeroE is convinced that the project's holistic collaborative approach is a key element and a very thoughtful way to advance research and the building industry. Again, the stakeholder profiles reflect it. If you look at them, you will discover that manufacturers are as much a part of the project as the "testers". And this is perhaps one of the most relevant features of the project. Or at least a specificity that reflects a real positioning in terms of reflection, questioning, and even humility. These "testers", made up of university research centers and technology start-ups, are there to guide the industrialists. From now on, industrial players can operate fully aware of the environmental and human impact of their new products and materials. A precious asset due to the precise and clear-sighted science of these new academic and technological actors. Through the freshness of the profiles integrated into the project, MEZeroE aims to give an encouraging impulse, demonstrating that manufacturers and industrialists want to – and have to – deal with the progress and evolution of the knowledge generated by academics and startups.





# Measure for measure

The MEZeroE consortium is a dazzling array of companies and institutions with a shared commitment to bringing innovations to an open marketplace. At the same time, they are prepared to share their knowledge in a way that will take the idea of near-zero energy buildings from labs and classrooms to neighbourhoods all over Europe. And every step of the way, as the status of each new concept evolves from theory to reality, it will be necessary to measure the effects of these breakthroughs on the built environment and, importantly, on the people who will be living and working in these cutting-edge spaces.

## A dynamic ecosystem

We're all excited by the dynamic ecosystem being created by MEZeroE to deliver its services for modeling, testing, and monitoring near-zero energy building solutions. The aim, of course, is to make it possible for companies in the building sector to test their innovations comprehensively and to do so quickly enough that they can deliver them to the market effectively and successfully. And, of course, consideration has to be given to the fact that the materials, processes and products will be conceived for use in the broadest range of climate conditions, from the freezing winters in northern Europe to the scorching summers in the southern part of the continent.



## A tall order

It's a tall order because a broad-ranging infrastructure has to be in place, which includes testing facilities, sophisticated equipment, and professional skills. In short, it should be able to provide all the support services needed to develop, test, and upscale technology necessary for a process, a material, or a product to progress from laboratory testing and measurement to the higher technical readiness levels (TRLs) before the company can seriously consider a credible market entry.

Clearly, testing procedures will have to be implemented that are equal to innovative new materials and processes. A product based on outside-the-box thinking may challenge the limits of existing testing procedures so the consortium members are tasked not only with creating industry—and even world—changing solutions but with ways to measure their effectiveness. And in this respect, MEZeroE is tackling the need for enhanced testing, measurement and verification with great energy and originality.





**A comprehensive “measure and verification” approach**

At each stage of every proposed solution, it is essential not only to test products and processes but to install a comprehensive “measure and verification” (M&V) approach that allows the collection and recording of key data that can lead each proposal from its Proof-of-Concept to evaluation on a real building (or a test facility that emulates one) through to a unique living lab approach.

**Living labs: the heart of the MEZeroE ecosystem**

These living labs are at the very heart of the MEZeroE ecosystem. In the built environment, each bit of breakthrough technology and every process that reduces a building’s carbon profile have to be considered in terms of their effects on the people living and working in the buildings.

The living labs are real buildings and in the testing phase, they’ll be occupied by real people. The impact of the materials used in the building envelopes will be monitored in real time. In fact, individuals are currently being interviewed and recruited and included in the selection criteria is the competence of each candidate to assess, record, and discuss not only the biological impacts of specific materials on them but to consider the psychological and sociological implications as well. It means that all the key quantitative data will be complemented by qualitative analyses carefully collected from keen observers who have actually experienced the living conditions generated by the innovations being considered.

Imagine: buildings being quality-tested – pre-market – by the very people who will spend large parts of their lives living and working in them!



**Sharing lessons learned**

The potential benefits are enormous: through these living labs, players in the building industry will be able to measure the effect their innovations will have. The materials and products will already have passed the lab tests and survived the building emulators but they won’t yet have been industrialized, which reduces economic risk. And the open ecosystem, with its focus on knowledge sharing, will allow the stakeholders to share their lessons learned with others. The living labs, as an integral part of the consortium’s work, ensure that each stakeholder is especially mindful of the human – and humane – side of the MEZeroE mission. The quantitative measurement of the effects of a mate-

rial or a process or a product on a building’s energy is critical. But the qualitative evaluation of how these things influence the biological, emotional and rational comfort of the people staying in a building is every bit as important.

**An essential balance**

It’s fair to say that measuring and verifying technologies and innovations that have the potential to affect the quality of life of every living thing on the planet is quite a challenge: they are balanced delicately between the hard sciences and the humanities. The living labs – like all of the measuring initiatives – are a proud part of that balance.





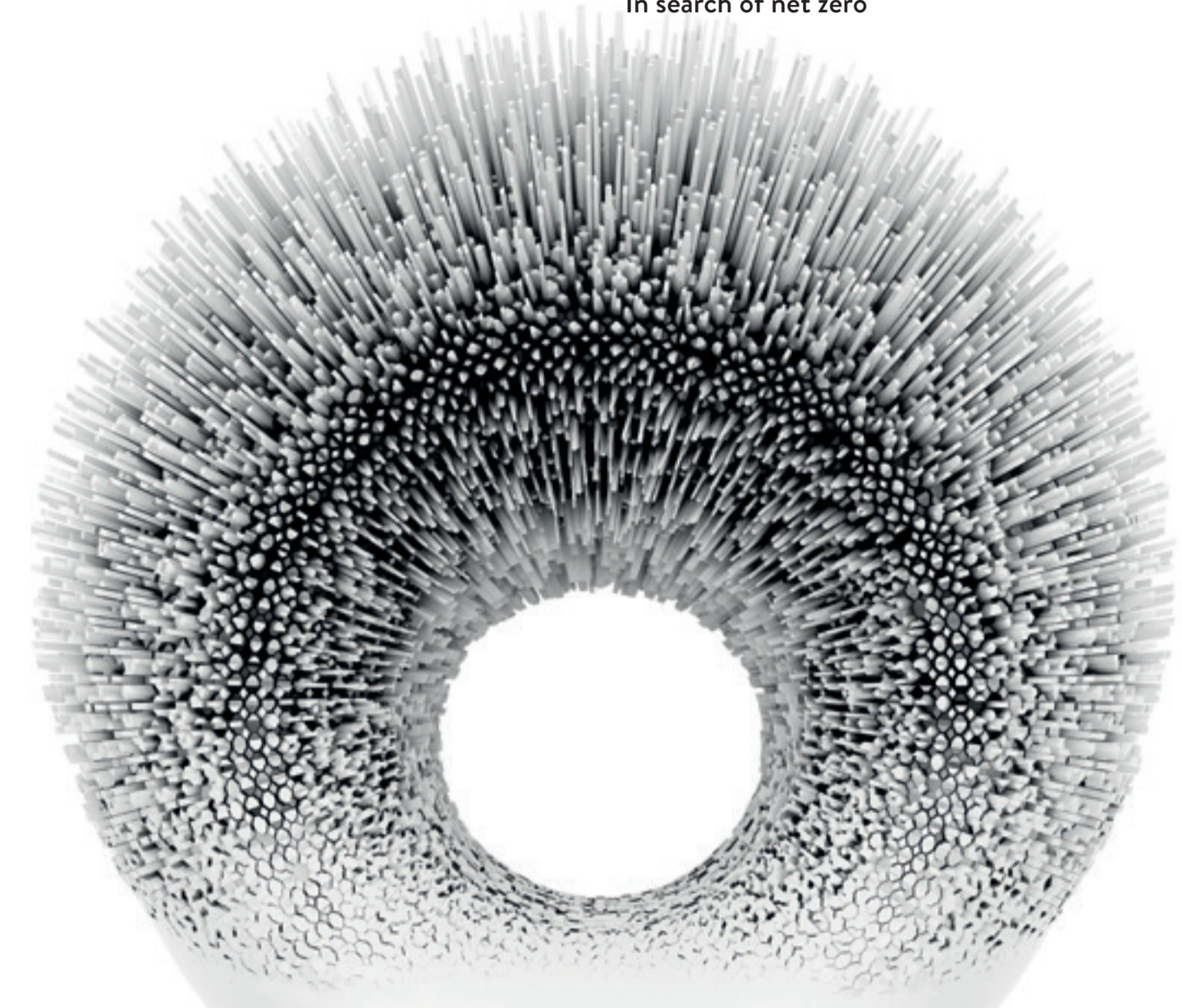
## Meet zero Let's face it

There's something special – almost seductive – about “zero”. In most cultures, it is represented as a circle, which among its many virtues is the fact that it is the ultimate expression of dynamic equilibrium. Zero co-stars with “one” in the binary number system at the heart of so many of our digital successes (and frustrations).

As a number, zero is full of paradoxes: you don't want to see it next to your team's name on a stadium scoreboard. On your car's dashboard it's a cruel reminder that you're sitting in a traffic jam (or an even more devastating indication that your tank is dry). But it also marks the end of a countdown leading to something spectacular: the launch of a spacecraft or the beginning of a new year that's bound to be better than the last one! Of course, on graphs, “zero” is the point where the axes meet. It is the seesaw's pivot. Metaphorically, it is the fork in the road. In short, it is a point of balance.

And MEZeroE and its consortium partners have a love affair with zero. It is the simplest possible expression of our ultimate performance goal. There is a delicious irony in the fact that so many things contribute to our formula designed to achieve a near-zero energy buildings. We have to succeed in building better, with materials that have proven to be efficient, healthy, and scalable. It takes an impressive collection of people, organizations and ideas and inspiration to achieve zero, this most intriguing of numbers. You know the figures even better than we do: it has been estimated that the building and construction sectors account for around 30% of all global carbon emissions. While the figure is daunting, it also offers some hope for MEZeroE and its consortium partners. It means that as the industries work together toward creating healthy nearly-zero-energy buildings, the positive impact on the world's footprint will be significant. In other words,

**Zero is  
huge**



### Our goals: challenging but achievable

Some nuts-and-bolts issues about the targets MEZeroE aims to help the building industry achieve: the Paris Agreement set the goal of limiting global warming by maintaining no more than 1.5 degrees Celsius of global temperature increase by the middle of this century. A pair of goals set by the World Green Building Council (GRESB) will contribute meaningfully to meeting the Paris Agreement baseline:

- All new buildings must operate at net zero carbon emission from 2030.
- 100% of existing buildings must operate at net zero carbon emission by 2050.

### It's in our name

Our commitment to these goals is reflected in our name. Keep in mind that MEZeroE means “measuring envelope products and systems contributing to the next generation of healthy nearly-zero-energy buildings.” While that name may not exactly roll off the tongue (MEZeroE is much easier to remember), it speaks volumes.

### Economic pragmatism in a circular built economy

MEZeroE and its partners are committed to practices that are squarely in line with World Green Building Council's aims. Our consortium members have evidence-based approaches geared toward carbon neutrality and healthy indoor environments but importantly, they also understand the need for economic pragmatism and operate effectively in a circular built economy, envisioned to minimize resource input as well as waste and emissions. The MEZeroE model recognizes the importance of rebuilding all types of capital – financial, human, social, and natural. MEZeroE, with its open ecosystem for the development, testing and upscaling of smart and bio-based human-centric envelope products, combines infrastructure facilities and the expertise of academic and research centers with innovative industry-proposed solutions. It is committed to bringing profound changes to the building market, always with an eye toward attaining permanent net zero carbon solutions.

MEZeroE, its consortium partners, and other passionate players in the building sector are, more than almost anyone else, positioned to reduce the global carbon footprint significantly through their commitment to net zero carbon. Because we know that at the end of the day, in spite of the multiple identities of this deliciously mysterious number, zero is the hero.

**Meet zero  
together**



## BUILDING INDUSTRY TO GO

# Organic

**The act of building must be rethought with a view to considering the life cycle of buildings in an organic way. Recycled and recyclable, tomorrow's housing becomes part of a circular and responsible approach. A commitment that then leads to the rise of cities whose sustainable systemic will contribute to solving the environmental crisis.**

Building a sustainable society is a heroic act. Those who lay the first stones of the edifice may not see the result in their lifetime. It is also a most altruistic act, since those who will have the courage to break with habits of a hundred lifetimes will not yet benefit from the virtuous system to which they contribute. We are ready to be those people. And to act in this way. Every construction and every renovation must now take place in the context of the climate emergency. In this context, the major challenge is to achieve an organic architecture. Houses are home to living beings. The houses themselves must become more "alive", or at least better designed and integrated as key parts of a circular system. And all these houses must, by acting like cells of an organism, give rise to organic cities. Behind these fine words, what do we mean in concrete terms?



## Build, use, deconstruct, recycle, reuse, and so on.

What is an organism? A living structure in which each part is essential and contributes to the whole, while being dependent on it. What is an organic architecture? A system in which owners, inhabitants, materials, houses and cities are interconnected to form a virtuous cycle. And to achieve this, everyone has a role to play. Like the cells of an organism. Through responsible and committed choices and decisions, owners and residents can promote and select new homes that meet their sustainable requirements. By living in homes built with energy efficient, recycled and recyclable materials, residents also have the opportunity to become actors in the system. From its perspective, the building industry today benefits from a large number of skills, knowledge, materials, techniques and technologies to generate and support this dynamic. "Nothing is lost, nothing is created: everything is transformed", declared the famous chemist Antoine Laurent de Lavoisier. Today, more than ever, we must apply this maxim to the letter, by focusing on this transformation to make it not problematic but virtuous.

Finally, by being built in an organic logic, buildings can give birth to an urban system as relevant as it is efficient. For example, the demolition of old buildings should no longer necessarily mark the end of their life cycles, nor should they trigger a new polluting chain. On the contrary, it should be the starting point of a new positive impulse, corresponding to recycling processes allowing the reuse of components to rebuild, and thus perpetuate the cycle as efficiently as possible.

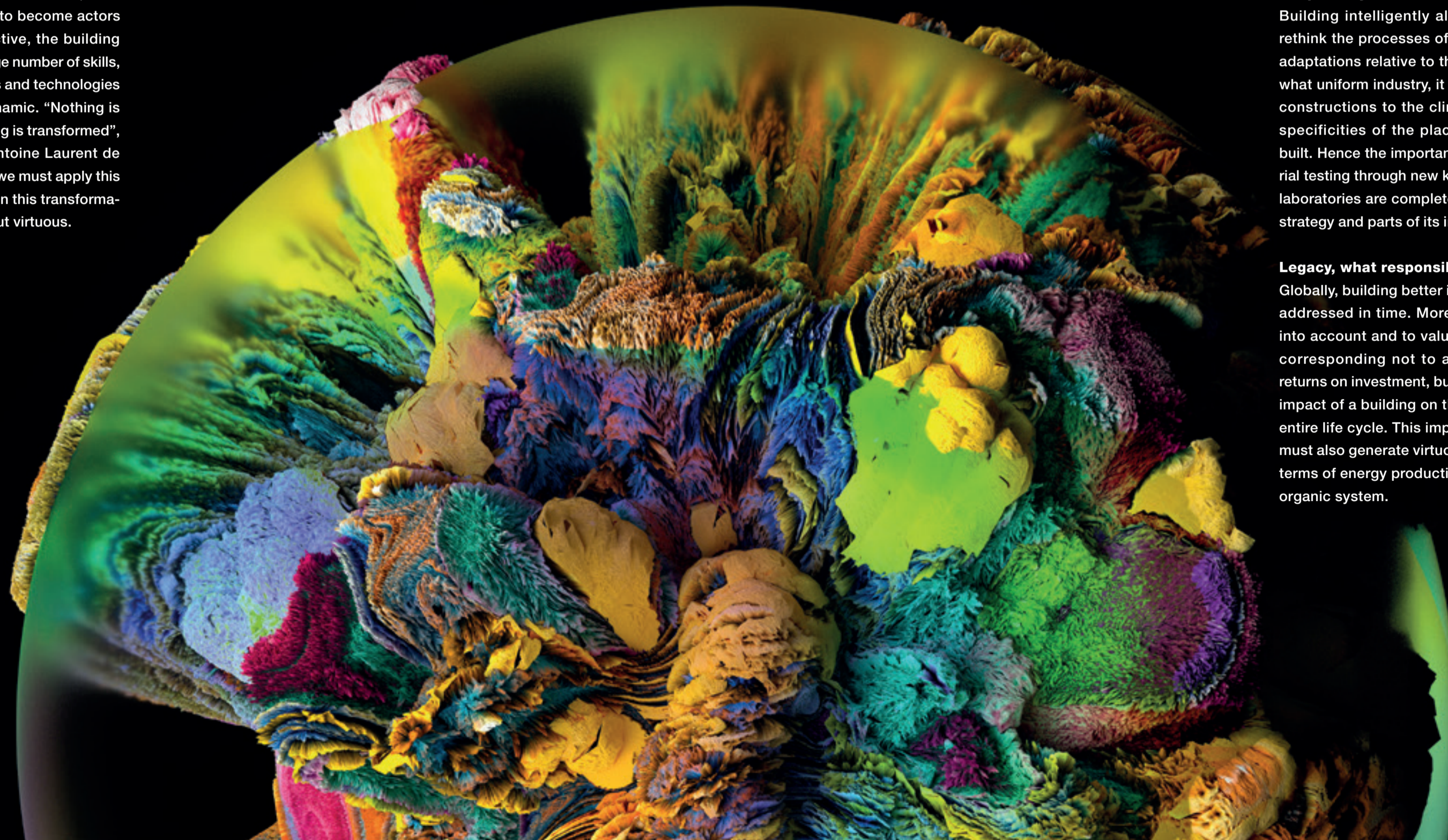
We can choose precisely how future generations will consider the builders of the housing stock they will inherit. We are clear about the legacy we want to pass on.

### Adaptability

Building intelligently also implies the ability to rethink the processes of the industry in a logic of adaptations relative to the context. From a somewhat uniform industry, it is necessary to adapt the constructions to the climatic and environmental specificities of the places in which they will be built. Hence the important needs in terms of material testing through new kind of laboratories. These laboratories are completely in line with MEZeroE's strategy and parts of its infrastructure.

### Legacy, what responsibility, what role?

Globally, building better is a question that must be addressed in time. More precisely, it has to take into account and to value a large temporal scale, corresponding not to an obsession with quick returns on investment, but to a consideration of the impact of a building on the environment during its entire life cycle. This impact, while aiming at zero, must also generate virtuous effects, for example in terms of energy production and contribution to an organic system.





# What if human skin inspired the building envelope?



Essential links between the occupants of a building and the outside environment, the facade and the roof represent central strategic issues in sustainable architecture. Once considered as simple structural elements, walls can be much more, thanks to technological advances made in recent years.

When we think of a wall, the first image that comes to mind is often something quite basic. A wall separates. A wall divides space. A wall can also be load-bearing, and thus contribute to supporting the structure of a building. We are talking about something “simple”, massive, basic. Today, building technologies allow us to go much further. Why continue to waste the sustainable, comfort and energy potential of walls? Much more than a simple structural element, a wall is a large surface that, if intelligently exploited, can concentrate new recycled and recyclable materials developed in a sustainable and organic approach, and even produce energy.

But above all, it is time to build the housing envelope with materials whose thermal, acoustic and sustainable properties are innovative. Globally, the building envelope also has a key stake in terms of comfort for the occupants. In this sense, in addition to its performances, the envelope of the new generation of sustainable buildings has to allow a certain permeability and openness between the interior

and exterior. Nobody wants to live in housing that isolates them and cuts them off from the world. Even if historically, by building shelters, human beings have logically begun by seeking to cut themselves off from the outside world to protect themselves from its aggressions: cold, heat, humidity, snow, wind, predators. Later on, some constructions also established walls as standards, and as elements necessary for the protection of their inhabitants. As evidenced by the walls of castles or the Great Wall of China.

And architecture has been imbued, consciously or not, with these trends. Not to isolate or divide the occupants, but certainly with a view to rationalization. Indeed, it is only in the last fifteen years that glass facades have multiplied in the public space on new large-scale buildings. This transparency reflects two important aspects: the desire to rediscover a tangible link between interior and exterior, and the availability of materials that are sufficiently efficient from a thermal point of view to build from glass.



## Permeability, the key component.

The construction industry is now in a position to go further. More than just walls, it can concentrate on building envelopes whose materials and dynamics allow us to transcend them. The wall of the future is permeable. It increases the interaction and flows between the interior and the exterior, between the occupants of a building and the environment in which it was built. In the organic approach, we seek and promote, let's dare the following comparison: the building envelope should be similar to our own skin. It protects us from the environment but binds us closely to it. The skin lets us sweat through its pores to regulate our body temperature. It also absorbs elements from the outside world – like sunlight – to activate certain physiological functions. In this new paradigm that we aim to create and develop, the building envelope acts as a biological balance, taking into account the specificities and preferences of the occupants, in terms of comfort in particular, while regulating and optimizing the energy efficiency of the home.

## Boosting the European industry.

Today, the building envelope is the focus of attention in the efforts to make our building stock more sustainable. Before thinking about replacing heating or ventilation systems with more efficient ones, it is first necessary to modernize the envelope to avoid losing the energy of these new devices. With a relatively old building stock, European countries have a clear interest in upgrading their buildings envelopes. This focus on the building envelope should also play a strategic industrial role within the European economic fabric. The photovoltaic industry is still largely dominated by China, from where most of the solar installations in the rest of the world are imported. However, when it comes to optimizing the efficiency of photovoltaic infrastructures, customizing them and integrating them into the facade, the Chinese industry does not yet seem ready to flood the world market with low-cost products.

The European construction industry, which is partly represented by the members of the MEZeroE consortium, has a real card to play in these specific fields.

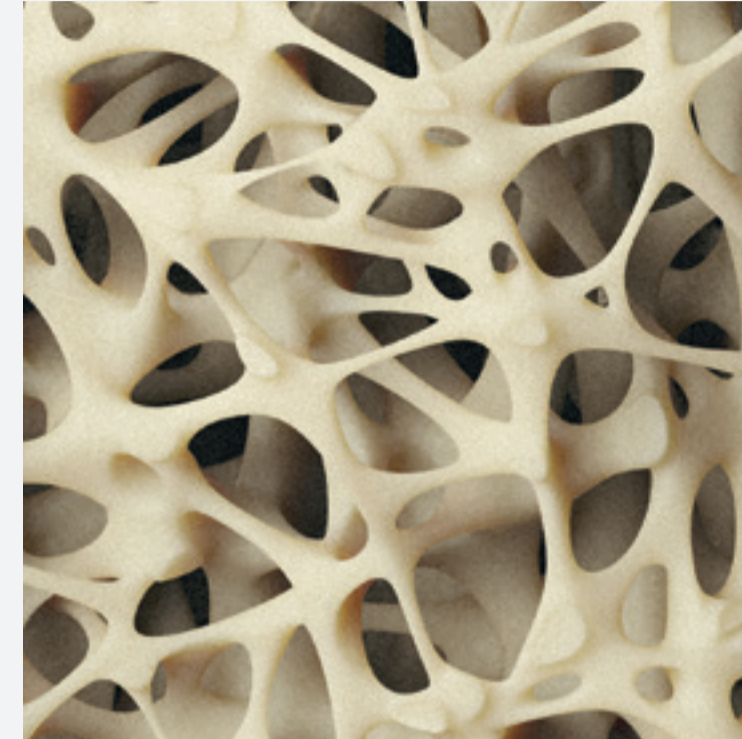


# Innovation has not yet had its final word

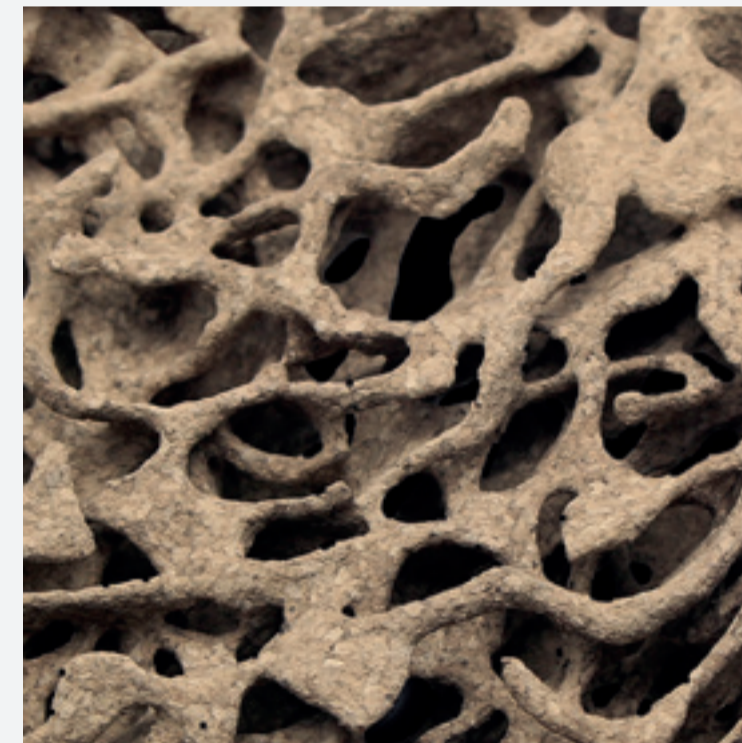
Our species is endowed with an incredible capacity for innovation. From the mastery of fire to the conquest of the Moon and the invention of the wheel, the human adventure is marked by major steps, leaps and progress. Today, we must deploy this capacity in order to solve the environmental crisis that threatens the very foundations of our civilization.

We only need to step back and look at our evolution as a species to see one key element: we have survived every major peril by being able to innovate. And this is perhaps one of the key characteristics that distinguishes us from other animals. To take a shortcut, let's say that over time our world has moved from a natural to a social to a technological environment. This progress, generated by our incredible ingenuity, is synonymous with hope. For it is our inventive faculty that first allowed us to fight against the violence and indifference of the natural elements. It is this same faculty that has allowed us to take care of each other and to extend our life expectancy.

At the same time, we have to admit that this incredible asset, which distinguishes our species, can also harm us. Especially when the notion of innovation has been distorted by an economic system based on short-term profitability. Over the last 30 to 40 years, we seem to have confused innovation with entrepreneurship, or to put it more bluntly, innovation with economic performance. This does not mean that we have not made progress. But it does mean that we have witnessed an unbridled innovation wave – perhaps because of a paradigm that has made consumerism a fundamental and necessary norm.



Human bone structure



Termite mound galleries



The termite pavilion, London

An art and science collaboration between Sofroom Architects, Freeform Engineering, Atelier One, Chris Watson, Haberdashery-London, KLLH and Pestival.



**Awareness**

These drifts are arguably a necessary evil since the environmental crisis to which our industrial and economic activity has also made our consciences evolve. By conviction or by obligation, humanity can no longer close its eyes on the problematic environment.

This harsh reality is in itself a new impulsion, synonymous with hope. Because to prevent the disaster scenarios from becoming reality in the near future, we have started a virtuous social, economic, industrial and technological movement. We are protesting in the streets, we are imagining new economic and industrial circuits that are more relevant and local, we are inventing recycling processes to give birth to environment friendly materials. In short, we innovate. And in the right sense of the word, since these are clearly innovations that fully integrate the essential values necessary to our survival and evolution. In our industry, which is massively involved in our CO<sub>2</sub> emissions, those are preservation of the environment and its resources, consideration of the well-being of inhabitants, and the circularity of new materials that are part of an organic approach. Does it mean that we are saved? Not yet. But why not?



Mushroom structure

**We innovate**

Driven by a realistic consideration of the whole environmental problematic, we have decided to act. We are not naive. But we have hope. And this is why we innovate, because every time our species has been in real danger, innovation contributed to saving us. This is a long-term project, but we can be trustful, as progress evolves in an exponential way. And this is a key asset we have to be aware of. Over time, scientists, industrialists, engineers, architects and research centers are able to achieve more progress in shorter periods. It means than in a hundred years, one year of current progress could be made in one month, or one day, who knows?

So, while we face a harsh reality today, we must also keep in mind that our ability to innovate can surprise even the brightest minds. In this sense, if the environment crisis has not yet spoken its final word, neither has innovation.



Metropol Parasol, La Encarnación square  
Sevilla, Spain



Energy  
by Julenochek

## MEZeroE and the energy of life

Energy. The word is at the heart of the MEZeroE mission, which is, in part, to develop a European-distributed open innovation system for developing nearly zero-energy buildings (nZEB). And while we are ever-mindful of the energy use that we are all committed to reducing, let us take encouragement from another kind of energy – the energy generated enthusiastically and without a trace of cynicism by our consortium partners.

MEZeroE's consortium partners share a vision and a set of aims that are focused on a nearly zero-energy built environment. And they do so with an abundance of another kind of energy – the sort of motivating life-force that is reason enough to start each day ready to face global challenges. That energy is expressed through imagination, innovation, vision and the long-term quality of life on our planet. No one involved with MEZeroE thinks that it will be easy to achieve the goals it has set for itself but without exception, the stakeholders share something bolder than a “can-do” attitude. It is, in fact, a “will do” mindset and it is as infectious as it is positive.

### **A community of stakeholders on a mission**

Take a look at the “Actors and their Roles” section of the MEZeroE website. As you know, these players are

drawn from companies large and small, from academic institutions and from research centres all over Europe. And the energy each one brings to the table – as they work together towards ways to reduce the energy needed in the built environment – is beyond encouraging, which is a remarkable thing to be able to say about anything even remotely connected to climate change. Consider a few of them.

An Italian research centre plans to create a long-term sustainable collaboration between industry and the research community to develop innovative façade systems. A structural engineering department at a university in Austria is supporting the building industry and is working toward making nZEB the European universal standard.



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**A one-stop shop and a reference institution**

In Slovenia, an engineering institute is using the MEZeroE platform to continue its work toward a “one-stop shop” solution that extends from developing ideas to creating final products in the field of nZEB envelope solutions. A technical university in Poland aims to establish long-term collaborations with its MEZeroE project partners and ultimately to become the reference institution for the complex evaluation of connectors in envelopes.

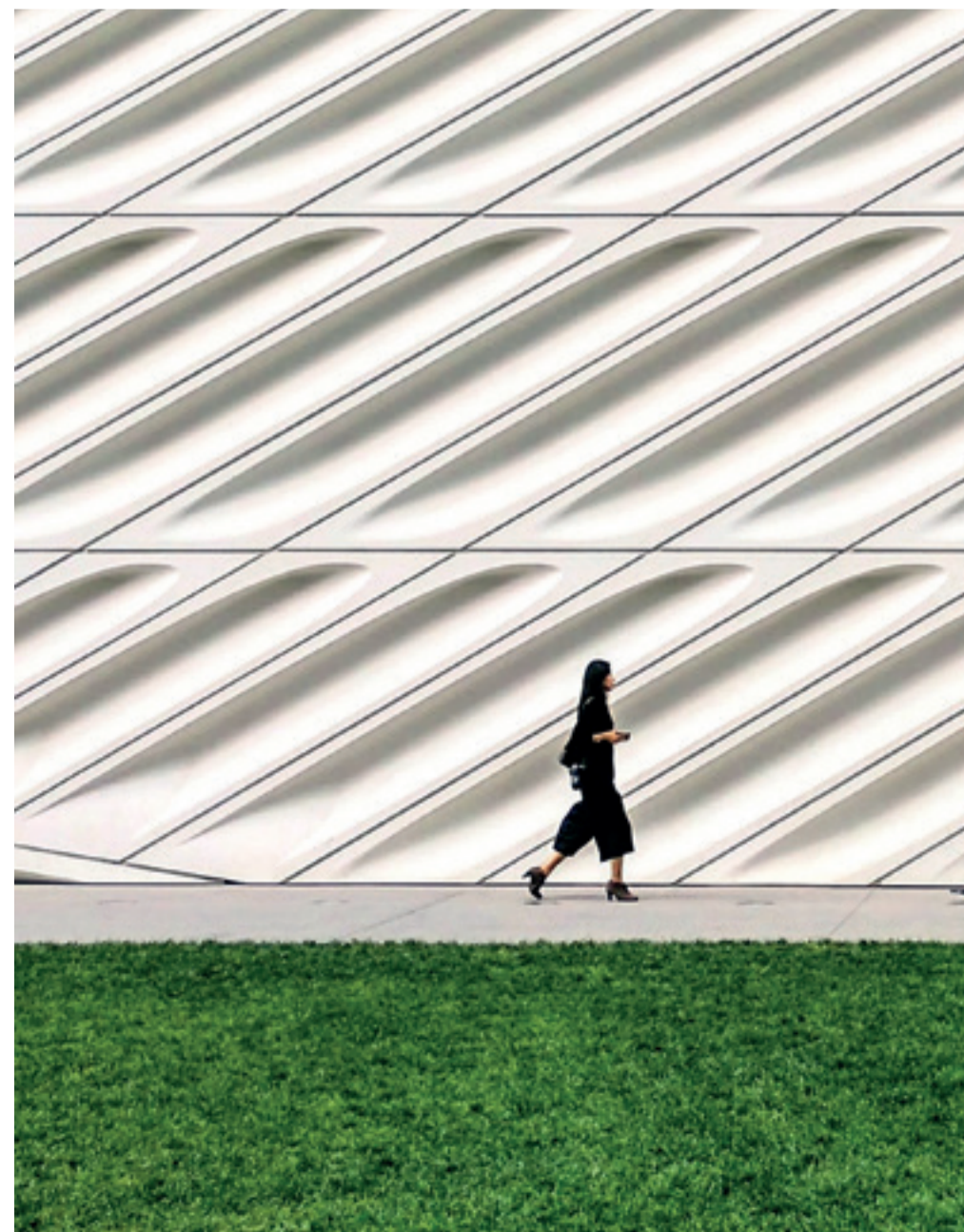
**Contributing meaningfully  
to a better world.**

A long-established German company is excited about using MEZeroE to help it – and other companies – navigate the complex process of qualification and certification of new and innovative construction projects. A start-up in Spain plans to redefine the thermal envelope materials for roofs, walls, floors, windows and doors, leading to nZEB with biobased polyurethane. This list is far from exhaustive. A performance software company in the United Kingdom is focused on measuring occupant wellness data as an integral part of achieving nearly zero energy buildings, which perfectly complements one of MEZeroE’s core tenets. A Swiss incubator of ideas plans to be involved in activities that provoke emotions and raise awareness of MEZeroE and its role in achieving European climate objectives, which ultimately will contribute meaningfully to the development of a better world.

**MEZeroE and a manifesto of hope**

A glance at the MEZeroE consortium’s players and their visions of the roles they will play in the context of the project offers hope and encouragement. It’s a wide-ranging group of actors. Some are well established. Others are starting up. Some are companies already operating successfully in the building sector. Others are academic and independent research institutes prepared to help their more commercial partners contribute significantly to the near-zero built environment. But each one has a clear-eyed vision and a dedication to the project’s ambitious long-term goals. Any of them working on their own could accomplish good things but when they share their dynamic energy and work together, the potential is enormous.

**At a time that the challenges can seem overwhelming,  
they have given us all reason for hope.**

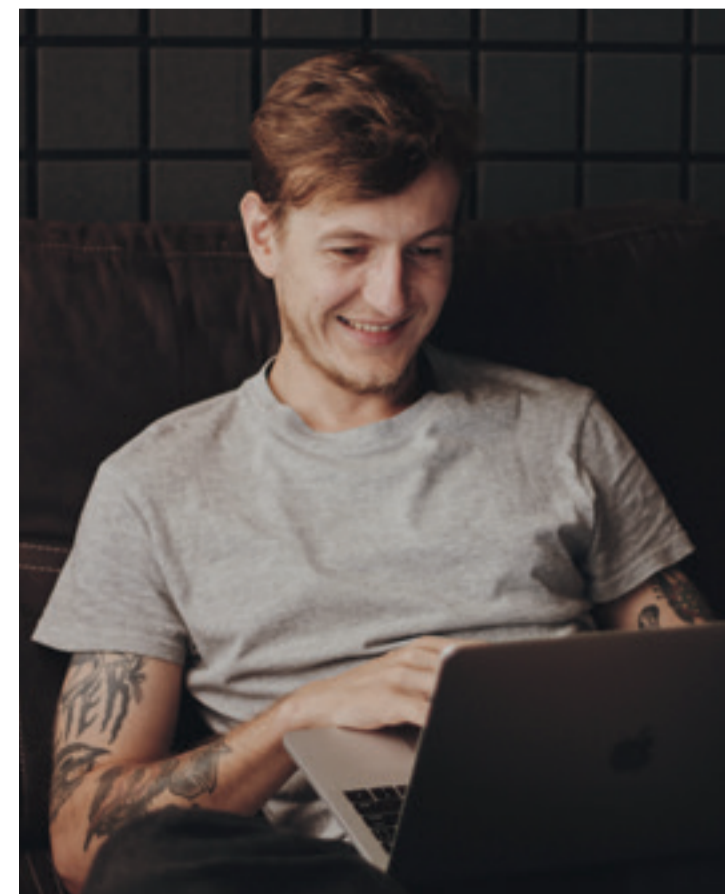




# Yes, we are OPEN

An open marketplace whose time has come: Meeting the needs of the MEZeroE community

The very sound of the word “marketplace”, especially in Europe, has some delicious historic connotations. It calls to mind central squares buzzing with the activity of people from all walks of life as they come together to buy, sell or exchange goods and services. MEZeroE’s multi-side virtual marketplace is not so very different.



This marketplace offers consortium members a platform – a virtual community – where they can meet, find or provide services and practical tools, and exchange know-how. More than that, the marketplace gives each one access to the support it needs to bring its industry-changing ideas and innovations directly to the market. The MEZeroE ecosystem is timely and dynamic and, to the extent possible, future-proof. It is decidedly compliant with Industry 4.0 and the technologies it encompasses. It encourages and enables rapid decision making. And critically, it creates a supportive environment for its members while remaining emphatically customer-centric.

#### An open-innovation approach

It’s all about an open-innovation approach and each participant in the consortium is explicitly committed to adopting it in three phases: discovery, empowerment, and realization. Importantly,

each of these phases is supported by the multi-side virtual marketplace. A key to the potential of the virtual marketplace is that all stakeholders, regardless of their roles in MEZeroE, have access via a single-entry point so, as was the case with those market squares of old, everyone winds up in the same space (in this case, of course, a virtual space).

With the multi-side virtual marketplace, MEZeroE offers an open ecosystem for the development, testing and upscaling of smart and bio-based, human-centric envelope products. By combining infrastructure facilities and the expertise of academic and research centres with innovative solutions proposed by industry, MEZeroE is committed to bringing profound changes to the building market not only in Europe but around the world.

## The ultimate expression of a circular economy

When the producers and service providers have met through the platform and benefitted from their contact with each other, they will be encouraged to make a contribution to the platform’s contents in the form of knowledge and pre-competitive data either in the spirit of open innovation or because of potential direct benefits. It is the ultimate expression of a circular economy. In effect, the ecosystem is open not only in terms of consortium members’ shared, unlimited access to the knowledge base, but also in terms of their willingness

to build a community and to create an active network that will extend well beyond the project’s timeline. The structure of the single-entry point multi-side virtual marketplace might be able to trace its roots back to centuries-old European market centres but its focus is squarely on the future. What could be a more fitting legacy for a community committed to improving the carbon footprint of buildings created in the past and constructing new ones that will contribute to a cleaner, healthier planet?



#### Updating an ages-old tradition

We’ve already suggested that MEZeroE’s virtual marketplace shares some characteristics with historic market centres in Europe. Of course, it has been updated and adapted to the needs of the consortium’s members and their goals.

But the principle should look familiar: a system producer entering the platform with a specific set of needs is guided through the identification of exactly the services and providers necessary to meet these needs. And with the virtual marketplace, a producer can, at a single source, access information and existing knowledge. The member will also receive notifications the moment new opportunities appear on the platform. When producers and the service providers are connected with each other via MEZeroE, they can make their own arrangements away from the platform.







Measuring Envelope systems  
for Zero Energy buildings



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CONSORTIUM MEMBERS

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