ME—ZeroE

PROGRESS

Five years is a short time in the life of buildings — and a long one in the life of ideas.

MEZeroE
Measuring Envelope systems
for Zero Energy buildings

A 5 YEARS QUEST FOR PROGRESS

When MEZeroE began, Europe's construction sector was facing a paradox that had become impossible to ignore. Innovation was accelerating, driven by climate urgency and technological breakthroughs, yet the path from laboratory to building remained slow, fragmented and uncertain. Promising solutions stalled between testing facilities, regulatory frameworks and market realities. Knowledge existed, but it rarely travelled far enough to change practice.

MEZeroE set out to address this gap. Not by proposing a single technology, nor by adding another isolated platform, but by building an ecosystem — one capable of connecting infrastructures, disciplines and people across Europe. An ecosystem where testing, validation, certification, monitoring and innovation management could finally speak the same language.

This magazine marks a transition. It is not a catalogue of achievements, nor a technical summary of deliverables. It documents a passage — from experimentation to continuity, from project logic to long-term governance. Laboratories have opened their doors. Companies have tested products not only against standards, but against lived reality. Buildings have become active participants in innovation.

As MEZeroE moves beyond its funded phase, this publication captures the logic, the methods and the collective intelligence that now allow the ecosystem to stand on its own. What follows is not an ending, but a threshold — between a project and a future infrastructure designed to endure.

From fragmentation to ecosystem

Beyond the project:
Building the conditions for change

When MEZeroE was first imagined, the ambition was clear, but the path uncertain. Europe needed faster, more reliable ways to bring innovative envelope solutions to market. Solutions capable of meeting energy targets without sacrificing comfort, safety or architectural quality. Yet no single actor held the answer. The challenge was systemic.

What MEZeroE demonstrated over five years is that innovation in the built environment cannot be accelerated through technology alone. It requires alignment — between research and industry, between testing and regulation, between performance metrics and human experience. Above all, it requires collaboration that is structured, trusted and sustained over time.

From the outset, MEZeroE chose complexity over simplification. Instead of forcing a one-size-fits-all model, the project embraced Europe's diversity — of climates, regulations, construction cultures and industrial capacities. The result is an ecosystem that does not erase differences, but makes them workable. Through shared methodologies, coordinated testing chains and Open Innovation Services, MEZeroE transformed fragmentation into a strength.

One of the most significant outcomes has been the shift in perspective. Laboratories no longer operate as isolated endpoints, but as interconnected nodes. Manufacturers,

particularly SMEs, no longer face innovation as a linear and risky journey, but as a guided process with clear decision points. Living Labs have brought real users back into the equation, reminding us that Nearly Zero Energy Buildings are not abstract targets, but places where people live, work and interact.

Collaboration has been the project's quiet infrastructure. Built through repeated interactions, transparent evidence and shared responsibility, it has allowed partners to move faster, take informed risks and challenge established practices. This trust now underpins the transition toward MEZeroE's post-project phase, where the ecosystem continues through a dedicated entity and an operational Single Entry Point.

This magazine does not celebrate completion. It documents a passage — from experimentation to continuity, from project logic to long-term governance. MEZeroE's true success lies not only in what has been delivered, but in what is now possible.

Innovative flexible architectural cladding system by Flexbrick.

Transform complexity into clarity

Building the Conditions for Impact

MEZeroE was conceived as a response to one of the most persistent bottlenecks in Europe's construction sector: the disconnect between innovation and implementation. Despite significant investment in research and development, many envelope technologies struggled to reach the market, slowed by fragmented testing infrastructures, complex regulatory pathways and limited opportunities for real-world validation.

Focchi Group Headquarters
designed by Mario Cucinella Architects

The project's answer was structural. Rather than focusing on individual products, MEZeroE built a framework capable of supporting innovation as a process. At its core lies a distributed, open innovation ecosystem designed to accompany envelope solutions from early development to market readiness. This ecosystem rests on three interconnected pillars.

The first is a network of Pilot Measurement and Verification Lines (PM&VLs), offering advanced testing capabilities across Europe. These facilities enable manufacturers to generate robust, comparable performance data under controlled conditions, addressing thermal, acoustic, hygrothermal, structural, fire-safety and durability requirements. Crucially, these lines are coordinated — not isolated — allowing results to feed into a coherent innovation pathway.

The second pillar consists of Open Innovation Services (OIS), which translate technical results into actionable strategies. From regulatory guidance and CE-marking support to innovation management, business modelling and matchmaking, these services reduce uncertainty and lower barriers, particularly for SMEs. Innovation becomes navigable, rather than prohibitive.

The third pillar is the integration of Living Labs — real buildings with real users — where technologies are tested under actual operating conditions. Here, performance data intersects with comfort, indoor environmental quality and user behaviour.

Connecting these pillars is the Single Entry Point: a digital interface that orchestrates access to services, infrastructures and expertise. By classifying needs, routing requests and aligning users with the appropriate facilities and partners, the platform transforms complexity into clarity.

What makes MEZeroE distinctive is not any single component, but the way they function together. The project has replaced linear innovation models with a circular logic, where feedback, learning and adaptation are continuous. Knowledge circulates. Failures are identified early. Decisions are evidence-based. As MEZeroE transitions beyond its funded phase, this architecture remains. The ecosystem is operational, the governance structures are in place, and the community continues to grow. What began as a project now stands as a shared European infrastructure — designed to support the next generation of healthy, Nearly Zero Energy Buildings.

Inside the platform

Innovation, guided.

Imagine a place where great ideas in building materials don't get lost. Where an engineer in Barcelona can test a new façade component alongside a materials scientist in Milan. Where a small manufacturer in Vienna can find the exact testing service she needs without spending months understanding who does what, and where. This is not a theoretical vision, this is the MEZeroE platform in action.

At its core, the MEZeroE platform is a digital backbone for innovation in building-envelope technologies — façades, roofs and windows that mediate between climate, performance and comfort. Its purpose is not simply to host information, but to connect people, infrastructures and processes so that innovation can move from early development to market readiness in a structured and credible way.

Rather than functioning as a static catalogue of services, the platform has been designed as a living interface, capable of evolving alongside the ecosystem it supports. It reflects a fundamental shift in how innovation is organised: from isolated initiatives to coordinated pathways, from individual efforts to collective intelligence.

As the MEZeroE ecosystem continues to grow, the platform is expected to remain closely linked to the governance and exploitation structures established within the project. In the short term, continuity will be ensured through a lightweight digital presence connected to the Building Envelope Association (BEA), allowing the ecosystem to remain visible while keeping maintenance efforts proportionate. In the longer term, as the ecosystem matures, the platform is envisaged as the main operational channel supporting BEA-affiliated activities, including those of a future profit-oriented entity, in line with the exploitation framework.

From community to matchmaking

For building-envelope manufacturers — particularly small and medium-sized enterprises — innovation is rarely linear. Regulatory uncertainty, fragmented testing infrastructures and limited visibility across stakeholders often turn development into a high-risk process. The MEZeroE platform addresses this challenge by providing a shared digital environment where a diverse community of stakeholders can interact within a coherent framework. Laboratories, service providers, manufacturers, researchers and building owners coexist within the same system, governed by neutrality, transparency and evidence. A central component of this environment is the private matchmaking area. By enabling targeted connections between producers, service providers and other actors, it supports collaboration at critical stages of development and reduces friction across the innovation journey. This feature is expected to have a strong and lasting impact for both industry and research communities, by turning dispersed expertise into actionable partnerships. At the same time, open sections dedicated to success stories and news foster horizontal knowledge exchange, allowing the wider ecosystem to share insights, results and lessons learned beyond individual projects.

From digital interface to physical infrastructure

While the platform provides a digital entry point, its role extends far beyond the virtual layer. It connects users directly to a distributed European infrastructure of Pilot Measurement and Verification Lines, offering advanced testing capabilities across multiple performance dimensions. Living Labs add a complementary perspective. Real buildings, occupied by real users, allow technologies to be monitored under actual operating conditions. Performance data can therefore be interpreted alongside comfort, behaviour and patterns of use — a dimension that is increasingly critical for Nearly Zero Energy Buildings. Looking ahead, future evolutions of the platform may further strengthen this connection between digital and physical environments. One anticipated development is the integration of dynamic dashboards enabling real-time visualisation of data collected in Living Labs. Over time, these could be complemented by AI-based and predictive analytics tools, capable of generating tailored insights for specific materials, products and application scenarios.

Data governance, interoperability and long-term reuse

From the outset, data security, interoperability and clarity have been central design principles of the MEZeroE platform. The platform is built on Drupal, selected for its ability to support complex, content-driven environments while ensuring high levels of security, scalability and long-term maintainability. Usage analytics rely on Matomo, an open-source system fully compliant with EU data protection regulations and officially adopted by European institutions. Beyond the platform itself, several tools and datasets developed within MEZeroE are designed to remain exploitable after the project's conclusion. Notably, the Envelope Package BIM Configurator developed by POLIMI enables manufacturers to access minimum digitised datasets adapted to their construction segment and use scenario, providing a solid foundation for BIM model creation. In addition, the curated collection of success stories documents the validated innovation pathways using Pilot Lines, Open Innovation Services and Living Labs, supporting replication, confidence-building and knowledge transfer across the ecosystem.

Taken together, these elements position the MEZeroE platform not as a temporary project output, but as an enabling infrastructure. By structuring access, orchestrating services and aligning technical, regulatory and human dimensions, it transforms complexity into a navigable condition — and creates the basis for sustained innovation beyond the project's lifetime.

Building the MEZeroE Legacy

**MEZeroE did not only deliver results.
It modified the way innovation works.**

By connecting infrastructures, aligning expertise and reintroducing real users into the process, the project has built an ecosystem where ideas can move faster, risks are reduced, and impact becomes scalable. What follows is not a catalogue of activities, but the anatomy of a system — one designed to ensure that innovation in building envelopes can move faster, more reliably, and with greater relevance to the people and environments it ultimately serves.

Flexbrick The Mileone 22 project, Barcelona
BCA Architecture

At the ecosystem level, MEZeroE has demonstrated that economic value can be generated through coordination rather than ownership. The marketplace does not commercialise products, nor does it appropriate intellectual property. Its value lies in orchestration — connecting needs with capabilities, and transforming fragmented services into coherent innovation journeys.

Open Innovation Services have played a critical role in this transformation. OIS1 translates regulatory complexity into actionable development strategies. OIS2 embeds products in real buildings, generating performance data that resonates with both regulators and end users. OIS3 supports innovation management, business modelling and matchmaking, helping companies move from technical feasibility to market strategy.
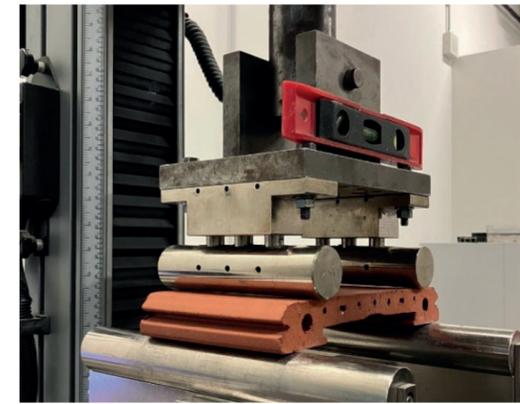
Making innovation investable

The business case for collaboration

One of MEZeroE's most decisive contributions lies in the economic logic it has introduced into the innovation process for building-envelope technologies. Rather than treating innovation as a high-risk, discontinuous investment, the project has reframed it as a structured, evidence-based pathway where technical validation, regulatory compliance and market readiness evolve together.

For manufacturers — especially SMEs — this shift has tangible consequences. Innovation is no longer a sequence of isolated expenses, but a guided process supported by shared infrastructures and services. Through the coordination of Pilot Measurement and Verification Lines and Open Innovation Services, MEZeroE has reduced uncertainty at critical decision points: when to test, how far to develop, which standards to target, and when to engage the market.

This has enabled the emergence of new business models. Instead of investing heavily upfront in full-scale testing or certification with limited visibility on outcomes, companies can now adopt incremental strategies. Early-stage characterisation identifies weaknesses before costly redesigns. Regulatory pathways are clarified before resources are committed. Living Lab data provides real-world evidence that strengthens both product positioning and investor confidence.

Together, these services create a business environment where innovation becomes accessible, scalable and replicable. The economic impact of MEZeroE is therefore not limited to individual products or companies. It resides in a new logic of value creation — one where collaboration reduces risk, evidence accelerates decisions, and shared infrastructures lower the threshold for market entry.

Testing Flexbrick's flexible
architectural cladding system

Ecosystem by design

The architecture of the MEZeroE ecosystem

The MEZeroE ecosystem was conceived to address a structural weakness in Europe's construction sector: the lack of a coherent interface between innovation, testing, regulation and market deployment. Traditionally, these dimensions evolve in parallel, often disconnected from one another, slowing down the transfer of promising solutions from laboratories to real buildings. MEZeroE has reconfigured this fragmented landscape into a functional system.

At its core, the platform operates as a multi-sided ecosystem rather than a conventional marketplace. Laboratories, service providers, manufacturers, researchers and building owners coexist within a shared framework governed by transparency, neutrality and evidence. No single actor dominates the system; value emerges from interaction. This ecosystem logic is particularly visible in the way testing infrastructures are integrated. The Pilot Measurement and Verification Lines do not compete with one another but function as complementary nodes within a European network. Each contributes specific expertise, climatic contexts and technical capabilities while operating under shared methodological principles. This coordination enables comparability without uniformity — a crucial balance in a diverse regulatory landscape.

The ecosystem also functions as a translation layer. Technical data generated in laboratories is transformed into regulatory insight, experimental results are contextualised through Living Lab monitoring, and business questions are aligned with technical evidence. In doing so, MEZeroE bridges disciplinary cultures that rarely intersect in conventional innovation settings and makes complex processes intelligible and actionable.

Governance plays a central role in this coherence. MEZeroE deliberately separates facilitation from liability: intellectual property remains with its owners, and transactions take place outside the platform. This design preserves trust and neutrality, allowing the ecosystem to act as an enabler rather than an intermediary with conflicting interests. What emerges is not a static platform, but a dynamic infrastructure capable of learning and adapting as new services are added, new providers onboarded and new regulatory challenges arise.

Open innovation within MEZeroE is therefore not treated as an abstract principle, but as a matter of design. Coordination replaces consolidation. Interaction is structured rather than incidental. Value is created through orchestration — clarifying needs, aligning capabilities and enabling collaboration without transferring ownership or control.

Within this framework, two complementary roles support scaling and long-term continuity: Seeds and Ambassadors. Seeds are organisations such as clusters, innovation hubs or networks capable of replicating and deploying MEZeroE services in new regions or contexts, enabling geographical and structural expansion. Ambassadors act as multipliers of visibility and trust, sharing experience, promoting use cases and connecting peers through professional networks, thereby supporting adoption.

Designed as an evolving system, the MEZeroE ecosystem can integrate new partners, services and challenges over time. By treating open innovation as a question of architecture rather than intention, MEZeroE demonstrates how collaboration can become operational, scalable and durable — and how the ecosystem itself can stand as one of the project's most lasting outcomes.

The platform as enabler

Building a coherent innovation interface

Beyond infrastructure and services, MEZeroE has cultivated something less tangible but equally essential: a living community. Innovation, the project has shown, does not thrive in isolation. It requires shared language, repeated interaction and mutual recognition between actors who do not traditionally work together. Its value does not lie in owning solutions or controlling innovation pathways, but in its capacity to activate collaboration, structure access and make results visible.

One of the clearest expressions of this enabling role is the growing body of Success Stories published through the platform. These cases document concrete innovation journeys supported by MEZeroE — from early-stage testing to advanced characterisation, Living Labs monitoring and regulatory alignment. Taken together, they form a substantial and diverse corpus of evidence, illustrating how envelope products and systems can successfully progress through the ecosystem.

Beyond individual achievements, these stories build collective credibility, provide reference points for new users and demonstrate that the platform's services translate into real-world outcomes.

Access Success Stories

Open calls — opening access to innovation pathways
The platform has also proven its enabling capacity through the successful implementation of open calls. These calls, offering structured access to Pilot Measurement and Verification Lines, Open Innovation Services and Living Labs, have attracted strong interest from manufacturers and innovators across Europe. Their uptake confirms the relevance of the consortium's offer and highlights the demand for coordinated, evidence-based support mechanisms. More than selection procedures, these open calls function as entry points into the ecosystem, lowering barriers for external actors and expanding the community beyond the original consortium.

Contests & open innovation — activating collaboration
By inviting students, researchers and emerging innovators to engage with concrete industrial challenges, MEZeroE has created spaces where experimentation, learning and collaboration intersect. These initiatives not only generate ideas and solutions, but also cultivate relationships and shared practices that extend beyond individual events. They contribute to the formation of a common culture — pragmatic, open and oriented toward iteration.

Open doors — experiencing innovation first-hand
MEZeroE has also promoted physical moments of openness that allowed the ecosystem to be experienced first-hand. Through site visits, laboratory open doors, Living Labs demonstrations and on-site workshops, stakeholders were invited to engage directly with testing infrastructures and real buildings. These encounters made complex processes tangible. By seeing facilities in operation and discussing methods on site, participants gained a clearer understanding of how innovation is tested, validated and monitored in practice.

Events & conferences — an ecosystem in motion
More broadly, the platform's continuous flow of news, events and activities reflects an ecosystem in motion. Regular updates on testing campaigns, services, calls and community initiatives ensure visibility, maintain engagement and signal that MEZeroE is not a static infrastructure, but a living system. This ongoing activity is essential to sustaining momentum and anchoring the platform as a reference point for innovation in building-envelope technologies.

Webinars — live access to the ecosystem
The MEZeroE platform has enabled knowledge transfer through a series of thematic webinars, providing a low-barrier entry point for a wide audience, allowing manufacturers, researchers and service providers to engage with the ecosystem regardless of location. They contribute to demystifying complex processes, sharing lessons learned from concrete cases and clarifying how the platform's services can be mobilised in practice. Beyond their informational role, webinars function as community-building tools. They create moments of collective exchange, connect new actors to the ecosystem and often serve as gateways to deeper engagement, including participation in open calls, testing campaigns or collaborative initiatives.

Taken together, these elements illustrate how the platform functions as an enabler. It does not simply host services; it creates the conditions for interaction, trust and progression, transforming individual initiatives into shared value and reinforcing MEZeroE's role as a long-term European innovation infrastructure.

Orchestrating complexity

The operational heart of the ecosystem

Complexity is unavoidable in the innovation of building-envelope technologies. Regulatory diversity, technical specialisation and contextual variability are structural realities. The Single Entry Point (SEP) does not eliminate this complexity; it makes it navigable.

Designed as the operational heart of MEZeroE, the SEP provides a structured interface through which users access the ecosystem. By classifying requests according to product type, testing needs and, where relevant, geographic context, the platform routes users toward the most appropriate services and infrastructures. This orchestration function is critical. It prevents duplication, reduces misalignment and accelerates decision-making. Manufacturers no longer need to decode the landscape alone.

Researchers gain clearer insight into industrial needs. Service providers receive better-defined requests, improving efficiency and outcomes.

Importantly, the SEP embodies a shift from linear workflows to service bundles. Testing, regulatory guidance, Living Labs monitoring and innovation consulting are no longer isolated steps, but coordinated components of a single pathway. This integration reduces friction and supports informed go/no-go decisions at every stage.

As MEZeroE transitions into its post-project phase, the SEP becomes the backbone of continuity. Operated by a dedicated legal entity, it ensures that services remain accessible, quality-controlled and economically viable. In doing so, it transforms a temporary project structure into a permanent innovation infrastructure.
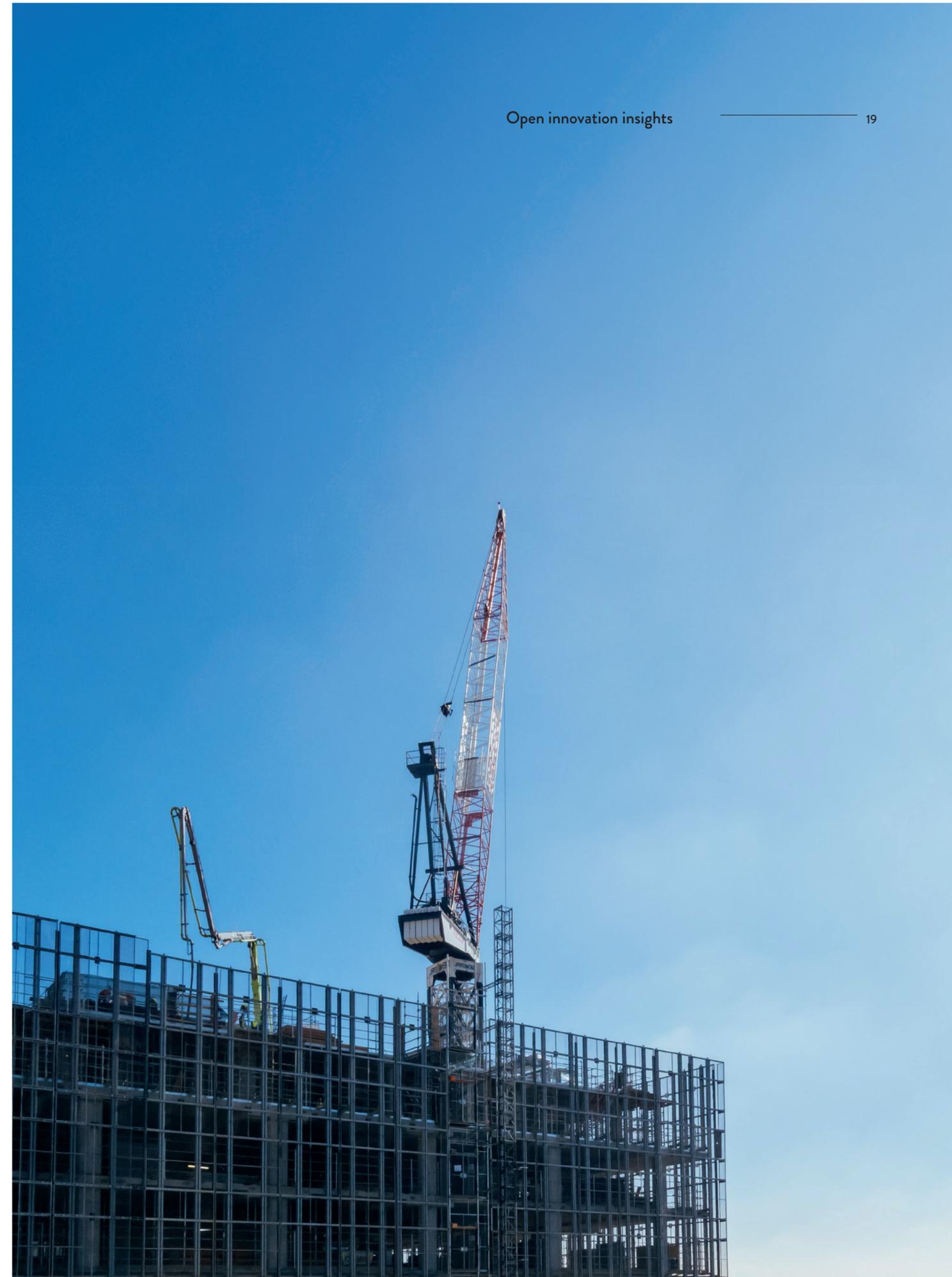
Designed for the future

Impact that outlasts the project

Looking ahead, MEZeroE's relevance extends far beyond the solutions already tested or the services already deployed. The project has laid the foundations for how Europe can accelerate innovation in the built environment under increasing climate, regulatory and social pressures.

Future nZEBs markets will demand more than energy efficiency. Indoor Environmental Quality, long-term durability, fire safety and user wellbeing will become defining criteria. MEZeroE's methodologies — combining laboratory precision with real-world monitoring — are uniquely positioned to support this evolution.

Equally important is the project's contribution to standardisation. By generating validated procedures for non-standard products and innovative systems, MEZeroE feeds evidence into regulatory and normative processes. This shortens the distance between innovation and acceptance, enabling new technologies to scale more rapidly.

Perhaps most importantly, MEZeroE has demonstrated that acceleration does not mean simplification. It means better coordination, clearer evidence and shared responsibility.

By aligning technical, economic and human dimensions, the ecosystem offers a replicable model for future European initiatives.
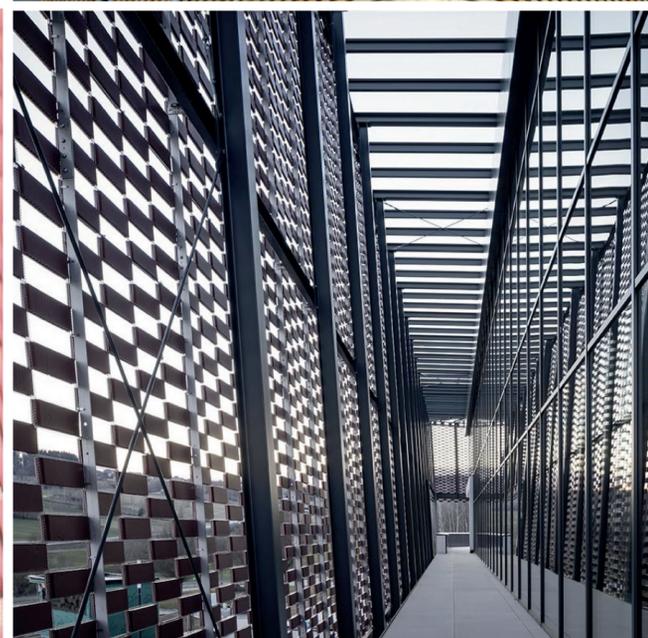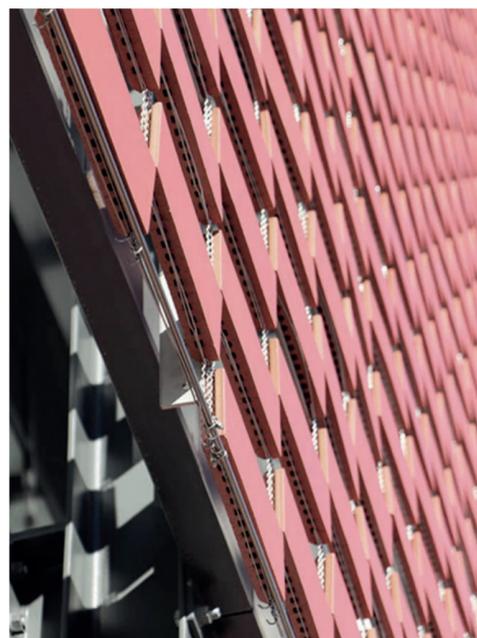
As the project gives way to its next phase, MEZeroE stands not as a conclusion, but as a platform for continued transformation — one capable of supporting Europe's transition toward healthier, more sustainable and more resilient buildings.

What remains today is more than a platform or a set of services: it is a shared European capacity to transform complexity into opportunity and innovation into impact. As MEZeroE moves forward beyond the project phase, its greatest achievement may be this:

MEZeroE began as an experiment in collaboration and has become an infrastructure for continuity. Over five years, it has shown that accelerating innovation in the built environment is not a matter of speed alone, but of alignment — between disciplines, evidence, regulation and human experience.

proving that sustainable buildings are not only designed through technology, but through trust, coordination and collective intelligence.

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Measuring Envelope systems
for Zero Energy buildings

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