

Leveraging Cross-Sector Expertise for Transformative Urban Education and Practice

The KAEBUP Project

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1. The Knowledge Alliance for Evidence-Based Urban Practices (KAEBUP)

The Knowledge Alliance for Evidence-Based Urban Practices (KAEBUP) set out to develop an international educational and training model that enables participants to engage directly with professional environments. Its central aim was to demonstrate how research can serve as the foundation for innovative professional practices, and to explore what businesses in the fields of planning, architecture, and urban design require from academia. Across Europe, forward-looking enterprises are increasingly integrating research outputs into their core practice to address urgent urban challenges such as sustainability, mobility, public health, and social cohesion. These evidence-based approaches are becoming essential tools for designers and public authorities striving to achieve more effective and sustainable urban outcomes.

KAEBUP brought together higher education institutions (HEIs), non-governmental organizations (NGOs), and enterprises from various European cities. All partners shared a strong commitment to evidence-based design and a mutual interest in strengthening the interface between academia and business. This collaboration was instrumental in addressing current societal and educational needs, while also contributing to the development of future-oriented educational systems. The project sought to equip students with the skills required to thrive in professional contexts and to inspire academic staff to innovate in both teaching and research through closer ties with practice.

KAEBUP's objectives were pursued through three interrelated 'pathways to evidence-based urban practice':

1. Innovating learning and teaching by promoting knowledge exchange and transversal skills development through real-life urban projects.
2. Understanding and developing business models that support evidence-based urban practices.
3. Co-creating urban knowledge via multiple modes of collaboration and mutual learning involving students, academic staff, and professionals.

Throughout its implementation, KAEBUP fostered entrepreneurial mindsets among students and academic staff, while enhancing businesses' access to research knowledge and improving communication between the academic and professional spheres. The Alliance produced tangible and transferable results, especially in relation to curricu-

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lum innovation and the promotion of transversal skills critical to contemporary urban practice.

KAEBUP's activities addressed its ambitions through a series of interconnected initiatives that combined education, research, entrepreneurship, and dissemination. These included three international training workshops and student internships, which innovated learning and teaching by engaging participants directly with professional practices and real-world urban challenges. A comprehensive literature review, alongside interviews with professionals and two dedicated professional development sessions, mapped the potential of research-informed practice and explored the business models underpinning successful evidence-based urban practices. Three Business Model Workshops fostered entrepreneurial thinking among students and staff in architecture and urban design, culminating in a portfolio of tailored business models. Collaborative Learning Activities through the Research to Practice Platform (R2P) supported blended learning and enabled the co-creation of a critical mass of knowledge through open educational resources.

In addition, the project developed an online, open-access module on “Social Entrepreneurship and Evidence-Based Design for Sustainable Urban Development”, which introduced a learning progression that integrated key stages of entrepreneurial thinking with evidence-based approaches to urban issues. Finally, a wide range of dissemination activities – including webinars, round table discussions, capacity-building events, conference presentations, research publications, and the organization of academic and professional conferences – played a vital role in initiating communities of practice and promoting the exchange of knowledge and best practices across diverse sectors and national contexts.

2. Innovating learning and teaching in urban planning and design

At the heart of KAEBUP was the ambition to reimagine and enrich the way urban planning and design are taught and learned. Through the integration of practice-based learning, entrepreneurial thinking, and collaborative pedagogy, the project developed and tested a new pedagogic model that bridges academic knowledge with the realities of professional urban practice.

A New Pedagogic Model

The pedagogic model developed by KAEBUP is grounded in co-creation, interdisciplinarity, and knowledge exchange between academia and practice. It moves beyond traditional classroom-based instruction to promote situated, collaborative learning, where students, educators, and practitioners come together to tackle real-world urban challenges. Central to this model (figure 1) is the belief that students should not only acquire knowledge but actively participate in its production – through research, experimentation, and reflection. This model emphasizes flexibility, responsiveness to context, and an iterative learning process that mirrors the complexity of contemporary urban practice.

Transversal Skills

KAEBUP placed a strong emphasis on transversal skills – those competencies that are transferable across disciplines and professional settings. These include critical thinking, collaboration, communication, adaptability, and problem-solving. By engaging with real-life projects and working in interdisciplinary teams, students were exposed to diverse perspectives and learned to navigate complex social, environmental, and institutional settings. These skills were further reinforced through mentorship by professionals and researchers, who modeled reflective and adaptive approaches to urban challenges.

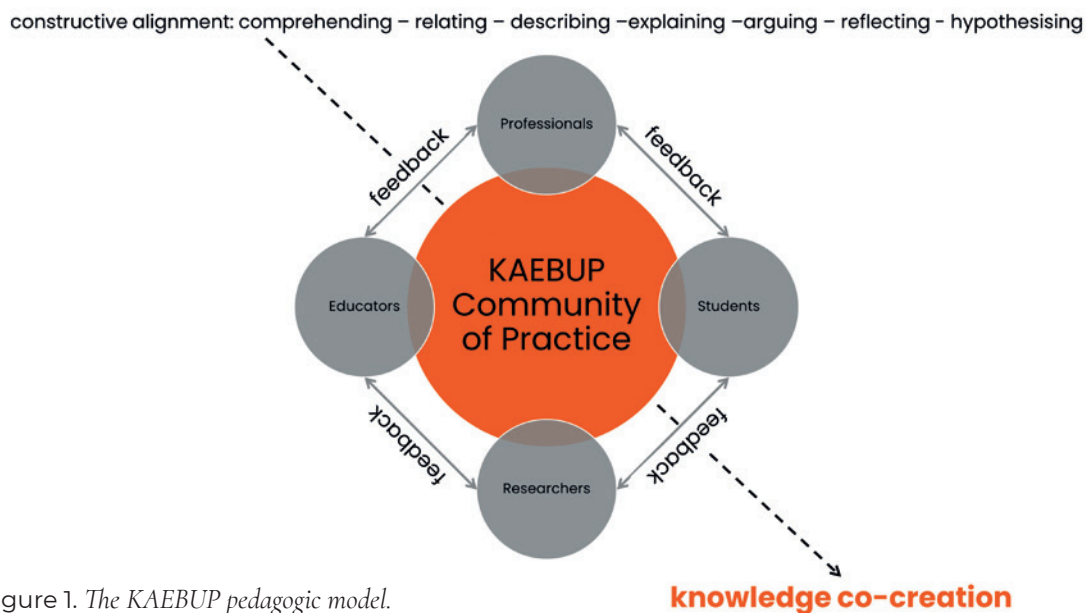


Figure 1. *The KAEBUP pedagogic model.*

Real-Life Urban Projects

One of the key innovations of KAEBUP's approach was the direct engagement of students with real-life urban projects in different cities. These projects served as living laboratories, where students could apply theoretical knowledge to concrete problems, test out research methodologies, and interact with stakeholders. The learning was experiential, hands-on, and deeply contextual. Students worked on issues ranging from urban regeneration and mobility planning to ecological infrastructure and inclusive public spaces. This engagement enhanced their ability to navigate real-world constraints while also encouraging them to propose innovative, research-informed solutions.

Entrepreneurship

KAEBUP also aimed to nurture an entrepreneurial mindset among students and staff. Rather than viewing entrepreneurship solely in commercial terms, the project promoted a broader understanding that includes social innovation, value creation, and proactive engagement with urban challenges. Through the Business Model Workshops, the online module on Social Entrepreneurship and Evidence-Based Design, and direct interaction with practicing professionals, participants were encouraged to envision new roles for themselves – not only as future employees but as initiators of change, founders of practices, or leaders of community-based initiatives. This orientation was designed to empower participants to shape their professional paths and contribute to more sustainable and inclusive urban futures.

3. Business Models for Evidence-Based Urban Practices

3.1. Market Opportunities for Evidence-Based Urban Practices

The report on market opportunities for evidence-based urban practices was developed to deepen our understanding of how research is – or could be – adopted in the professional fields of architecture, urban design, and planning. It served not only as a foundation for the subsequent development of business models within KAEBUP, but also as a resource to guide the design of future workshops, learning modules, and strategic collaborations between aca-

demia and practice. At its core, the report explores what drives the uptake of evidence-based design (EBD) in professional settings, and where the barriers, gaps, and possibilities for innovation lie.

Drawing on a combination of literature review, survey data, and in-depth interviews with project partners, the report reveals that the integration of research into design practice depends on two key enablers: skills and strategic orientation. On the one hand, the presence of specific research skills – ranging from data analysis and evaluation to participatory methods and critical reflection – is essential. On the other, the successful adoption of EBD requires a more deliberate and forward-looking business strategy, where research becomes not an add-on but a central driver of value, innovation, and competitiveness.

Despite growing interest, the report highlights several persistent challenges. Many practitioners expressed concern over the additional time, costs, and resources required to engage with research, often noting that clients are hesitant to pay for services perceived as ancillary to design. This signals the need for operational models that can embed research more seamlessly into existing workflows. At the same time, there is a broader issue of knowledge management: much of the expertise within design firms remains tacit, experiential, and siloed within project teams. Without systematic processes for knowledge transfer and codification, it becomes difficult to build on previous learning or scale research-informed practices across an organization.

To address these challenges, the report introduces concepts such as *lean management* and *agile methodologies* as particularly relevant to the design disciplines. Borrowed from manufacturing and software development, these approaches provide tools to streamline operations, reduce waste, and iterate on ideas through structured experimentation. When adapted to design contexts, they can support firms in making research more actionable and sustainable – both economically and organisationally. For instance, lean principles can help clarify value to clients, eliminate inefficiencies, and encourage meaningful knowledge sharing, while agile practices can promote adaptability, team collaboration, and better stakeholder engagement throughout a project lifecycle.

Beyond these methodological insights, the report also surfaces deeper structural considerations. The extent to which a practice adopts EBD often correlates with its size, specialization, client base, and access to external funding. Firms that already operate in complex, multi-stakeholder environments – or that are committed to innovation – are more likely to invest in systematic research. For smaller or less resourced offices, however, the perceived risk and effort remain high. In this context, the role of higher education institutions becomes particularly important: not only to train future practitioners in relevant research methods, but to provide accessible knowledge, tools, and partnerships that help bridge the gap between theory and application.

Among the outputs of the report is a series of *definition cards* – clear, concise explanations of core concepts and practices related to EBD – which can serve as tools for teaching, collaboration, and dissemination. These, along with visual frameworks such as PEST and SWOT analyses, offer firms a way to self-assess their readiness to adopt evidence-based approaches and identify strategic opportunities for innovation.

Ultimately, the report positions evidence-based urban practice as more than a technical enhancement – it is a strategic imperative. In an increasingly complex urban landscape shaped by environmental, social, and economic pressures, the capacity to ground decisions in rigorous, contextualised knowledge is emerging as a key differentiator. For practices willing to engage with research proactively, EBD offers not only new forms of value creation, but a route to resilience, relevance, and long-term impact.

3.2. Portfolio of Business Models for Evidence-Based Urban Practices

Alongside the market opportunities report, KAEBUP developed a comprehensive Portfolio of Business Models for Evidence-Based Urban Practices (EBUPs), complemented by a litera-

ture review on research start-ups, entrepreneurial frameworks, and social innovation in the built environment. Together, these resources offer both theoretical grounding and practical guidance for supporting the emergence and sustainability of evidence-based practices across architecture, planning, and urban design. They also provide insights that can inform the reform of higher education curricula, particularly in regard to entrepreneurship, research integration, and industry collaboration.

The portfolio was created through a comparative investigation of architectural and urban design firms and organisations operating across Europe and Cyprus. Despite notable differences in size, mission, and service focus, these EBUPs exhibited significant similarities in the structure of their teams, their relationship with clients, and the role of research within their workflows. Some firms primarily provided consultancy services, others were focused on small- and medium-scale design projects, while a few dealt with more complex, large-scale developments. Additionally, NGOs within the sample adopted a more hybrid approach, engaging in both design practice and research-led public initiatives.

Across the board, these organisations shared a strong emphasis on client satisfaction, high-quality project delivery, and the importance of professional reputation – factors that were seen as critical for securing future work and sustaining business growth. Salaries emerged as the primary operational cost across firms, underscoring the need for effective resource planning in service-based industries.

A major insight from the research was the extent to which research activities vary depending on internal factors, such as a firm's value proposition and project scale, and external conditions, such as regulatory frameworks and access to funding. In smaller firms, research was often informal and closely tied to practical needs such as permit acquisition, site analysis, or material selection. In larger firms and NGOs, however, research was more systematically embedded within their value proposition – sometimes as part of their competitive edge or strategic differentiation.

Several practices highlighted the potential of external funding and academic partnerships in supporting more structured research activities. In some cases, such collaborations allowed for the integration of simulations, post-occupancy evaluations, and participatory methods into ongoing design processes – transforming research from an add-on into an intrinsic element of service delivery. However, the report also noted the persistent challenges faced by firms: limited time, resources, and often a lack of client willingness to pay for research-intensive approaches.

From this comparative analysis, a series of insights were drawn that can inform both sustainable business model development and curriculum innovation in architecture and urban design education. These include the need to: integrate research into the value proposition of a firm, enabling clearer communication of added value to clients; identify diverse revenue streams by reframing architectural services as products (e.g., site assessments, evaluation reports, pre- and post-design analyses); implement knowledge management strategies to make tacit, project-based knowledge more transferable across teams and contexts; teach students a broad spectrum of research methods relevant to design practice, from legal and environmental analysis to simulation tools; promote academic-industry-government collaboration through research projects, empowering students and professionals to contribute to policy change and institutional reform.

Some firms already demonstrated creative approaches to revenue diversification – for example, one practice made use of part of its office space for short-term rentals to supplement income. Others invested in research and development hours, recognizing that such investments would position them more competitively in the long term.

The report also underlined the necessity of framing research not as a burden but as a value-generating process that improves design quality, operational efficiency, and long-term

resilience. By equipping graduates with both entrepreneurial thinking and an understanding of how research adds value to practice, higher education institutions can play a transformative role in shaping a new generation of socially engaged and market-savvy professionals.

Ultimately, this portfolio – alongside its accompanying literature review – serves not only as a practical tool for businesses but as a pedagogical and strategic resource. It supports the scaling, replication, and upskilling of innovative design practices across Europe and contributes to the broader mission of embedding evidence-based approaches in both the professional and educational landscapes.

4. Co-creating Urban Knowledge Through Real-Life Case Studies

One of KAEBUP's most significant contributions lies in its capacity to foster the co-creation of urban knowledge through an integrated model of teaching, learning, and research. At the core of this approach was the active involvement of students, interns, academic staff, and professional practitioners in real-life case studies, forming temporary but highly productive knowledge alliances around pressing urban issues. These activities did not merely simulate professional scenarios – they directly engaged with real urban challenges and professional projects, thus offering a situated, practice-oriented environment for knowledge production.

Across different contexts and project scales, KAEBUP facilitated the exploration of a wide range of research questions, developed collaboratively by learners and professionals. This resulted in a substantial volume of original findings and analytical outcomes, extending from spatial diagnostics to post-occupancy evaluations. Notably, the process led to the creation of a transferable and methodologically grounded tool: the Sustainability Toolkit for the Assessment of Master Plans (STAMP). STAMP is a structured evaluative instrument designed to assess master plan proposals against defined sustainability goals. It is one of KAEBUP's most significant methodological innovations, emerging from the iterative and collaborative engagement between academia and practice.

The diversity and depth of the findings reflect both the richness of the co-creation process, and the complexity of the contexts addressed. In the case of the Ministry of Municipal and Rural Affairs (MoMRA) in Riyadh, for instance, research explored how the building design impacts site accessibility, urban integration, and climate responsiveness at the block level – critical issues in a city facing rapid urbanisation and environmental stress. In the case of the masterplan for Verengaria, the site of former British military barracks in Limassol, Cyprus, the STAMP tool was tested in both academic and professional settings, offering quantitative evidence that allowed consultants to assess the performance of different planning iterations against their sustainability objectives.

In the case of Solar da Avenida, in Porto, Portugal, students conducted a post-occupancy evaluation of a heritage building renovation, analysing its performance in light of local tourism pressures, conservation guidelines, and regulatory frameworks. Their findings not only validated the design team's approach but also demonstrated the potential of research-informed evaluations to support replicable strategies in heritage-sensitive urban contexts.

In the neighborhood of Martinovka in Zagreb, Croatia, collaborative activities revealed a critical gap between planning intentions and the lived experience of the local community. Through community engagement and transdisciplinary research, learners uncovered narratives and spatial practices that had been overlooked in formal planning processes. This case exemplifies the power of co-creation to uncover situated knowledge, enabling planning practices to become more responsive to social realities and everyday needs.

While the quality of outputs varied – unsurprisingly given the diversity in students' levels, institutional settings, and constraints such as time or remote participation – an internal review

process, involving the project's Quality Assurance Committee and feedback from academic and professional mentors, ensured that the most robust and relevant outcomes were identified and included in the portfolio of project research findings. These represent not only meaningful academic exercises but also valuable contributions to practice, particularly in their capacity to generate knowledge that was not previously available to the designers of the case studies.

Importantly, although these activities often took place retrospectively, after the main phases of the design or planning process had been completed, the knowledge produced remains relevant and applicable. Many of the professionals involved continue to work on related projects or within the same geographical contexts, meaning that the tools, insights, and reflections generated through KAEBUP will likely influence future planning and design adaptations. Moreover, the process demonstrated how educational and research collaborations can retroactively strengthen professional practice, offering analytical clarity and validation that may shape subsequent decision-making.

This experience of co-creation also underscores the transferability and adaptability of the research tools and methods developed through KAEBUP. Their application across diverse geographical contexts, project types, and institutional settings revealed their potential not only to enrich education and research but to directly support practitioners in refining design outcomes, aligning with client expectations, and navigating regulatory frameworks. The learning gained through these collaborative engagements illustrates how academia and practice, when meaningfully intertwined, can produce forms of knowledge that are contextual, actionable, and future-oriented.

In sum, KAEBUP's co-creation model did more than provide a framework for experiential learning – it actively produced urban knowledge of professional value. Through real-life case studies, students and researchers became contributors to the urban knowledge ecosystem, supporting a more reflective, informed, and collaborative form of design and planning. This legacy of co-created knowledge not only serves present stakeholders but has established a foundation for ongoing dialogue, tool development, and curriculum innovation within and beyond the lifespan of the project.

5. Concluding Thoughts: Reflections and Future Directions

The KAEBUP project has illustrated the powerful role that European collaboration can play in advancing research-led, practice-oriented, and entrepreneurship-driven models of education in architecture, urban planning, and design. By bringing together higher education institutions, professional practitioners, NGOs, and enterprises from across Europe, the project established a dynamic framework for knowledge exchange, pedagogical innovation, and real-world experimentation that produced tangible results at multiple levels.

At the core of KAEBUP's achievements was its ability to foster the co-creation of urban knowledge through real-life case studies. These collaborative engagements between students, academic staff, and practitioners generated a significant body of research and insight, including the development of new analytical tools such as the STAMP toolkit. The collaborative model proved especially effective in revealing contextual knowledge that had previously been unavailable to the designers or stakeholders of the projects under study, validating the importance of embedding research and education in practice. The results of these activities were not only relevant at the time but are also expected to inform future planning and design work within the same contexts, attesting to their lasting value.

European cooperation was central to the success of the project. The diversity of expertise across the partner institutions enabled the exchange of knowledge that would have been inaccessible within national or disciplinary silos. Institutions specializing in different methods and

pedagogical traditions were able to learn from each other and co-develop new curricular content and approaches. This was evident in the design and implementation of international training workshops, professional development sessions, and the development of blended learning activities. These efforts were instrumental in building a shared educational infrastructure supported by open educational resources, remote collaboration tools, and cross-institutional peer learning.

Moreover, the mobility of students and staff across countries offered direct exposure to new urban contexts, cultures, and design challenges, encouraging reflexivity and global citizenship. Participants developed transversal competencies such as digital and media literacy, intercultural communication, and adaptive problem-solving by working in unfamiliar settings and through interdisciplinary collaboration. The project also enabled institutions to leverage their previous experiences in EU-funded initiatives, while feeding KAEBUP's outputs back into national and European-level research, education, and innovation ecosystems.

Another core contribution of the project was the advancement of entrepreneurial thinking in urban disciplines. By conducting an in-depth exploration of market opportunities for evidence-based urban practices, and developing a portfolio of sustainable business models, KAEBUP helped define how research can be embedded into the operational and strategic dimensions of professional practice. It showed how firms can incorporate research not simply as an auxiliary function but as a value proposition that enhances service quality, client relationships, and long-term competitiveness. This also proved beneficial for academic staff and students, many of whom gained a clearer understanding of how research and entrepreneurship can coexist and reinforce one another in the professional world.

Among the successes of the project was the creation of a robust network of academic and professional actors committed to evidence-based design, the production of high-quality and openly accessible educational tools, and the facilitation of meaningful learning experiences that bridged theory and practice. These outcomes not only fulfilled the goals of the project but also positioned KAEBUP as a model for future knowledge alliances.

Nevertheless, the project also revealed areas for improvement. The diversity in participants' academic levels and access to resources led to a range of output quality, particularly in student-led research activities. While this variability is to some extent inherent in experiential learning environments, it underscores the importance of providing clearer scaffolding, consistent feedback mechanisms, and more structured support, especially in transnational and interdisciplinary settings. In addition, while the partnerships formed were productive and mutually beneficial, ensuring their sustainability beyond the project's lifespan remains a challenge. More robust institutional anchoring and long-term strategies for collaboration would strengthen the durability of these networks.

Looking into the future, the outputs and methods developed by KAEBUP offer fertile ground for further development. The Research to Practice (R2P) platform, the STAMP toolkit, and the online module on social entrepreneurship all have the potential to become permanent educational assets. The integration of these tools and methods into bachelor's and master's programmes could help formalise the innovations piloted during the project. Moreover, the involvement of KAEBUP's findings in new initiatives such as the TWIN2EXPAND project, funded by Horizon Europe, suggests that the project's legacy will continue to evolve and influence research and education in evidence-based urban practice.

Ultimately, KAEBUP has shown that when higher education institutions, professional enterprises, and public organisations work together across borders, they can co-create new knowledge and capabilities that address the complex challenges of urbanisation in a globalised world. The project not only fostered a new generation of urban thinkers and practitioners but also contributed to building a shared European space for innovation in architectural and urban education – one grounded in research, collaboration, and a commitment to social and environmental relevance.