VALENCIA SUMMER SCHOOL ON SYNERGIC URBAN INFRASTRUCTURES

Editors: Juanjo Galán Vivas | Luis Bosch Roig

This book summarizes the goals, methods, implementation, and results of the VLC Summer School on Synergic Urban Infrastructures. The course was organized as a Blended Intensive Program (BIP) by the Polytechnic University of Valencia with the collaboration of other universities from the ENHANCE Alliance (Politecnico di Milano, Technical University of Berlin, RWTH Aachen University, Norwegian University of Science and Technology, and Warsaw University of Technology). The course was triggered by an ambitious goal: exploring new tools and procedures to inform the urban planning process in a time of increasing specialization and scientification of the planning discipline. As presented in this book, the use of the `synergy concept provided a useful platform to integrate different urban dimensions by considering how each urban infrastructure or system (green, blue, social, housing, mobility, and energy) interacts with each other. In particular, following a highly interdisciplinary approach, 36 students and 16 professors from different academic fields worked together during the course in the development of conceptual frameworks, methodological tools, and synergistic proposals for a pilot area located in the city of Valencia (Spain). Overall, the development and results of the Summer School displayed in this book exceeded the highest expectations of the organizers and participants, paving the way for future and more ambitious collaborations within the Urban Planning pathway of the ENHANCE alliance.
ACKNOWLEDGMENT

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The Universitat Politècnica de Valencia was proud to host one of the first academic and immersive initiatives created by and for the European ENHANCE Alliance: The Summer School on Synergic Urban Infrastructures. Seven Urban Planning academic teams from seven leading European technological universities have developed a learning experience that blends hybrid and on-site teaching methods, capturing the best of both worlds. There is a palpable sense of satisfaction, reflecting the ENHANCE Alliance’s potential to drive forward advanced and innovative education. The dedication of our teams is evident in the testimonies describing a hands-on educational journey through the vibrant neighbourhoods of Valencia. Thirty-six students from our seven institutions have brought dynamic energy to this pilot program, approaching urban planning from green, blue-water, social, and energy perspectives, offering fresh insights into the area. As the Rector of the UPV, I am delighted to guide you through the rich learning experiences detailed in the following pages.

Prof. Dr. José E. Capilla Romá
Rector | Universitat Politècnica de València (Polytechnic University of Valencia)

One of the leading strategies of European universities in the last years, fully endorsed and supported by the EU, has been the creation and strengthening of university networks at international level. Universities, both in their education and research components, thrive when they are open to peer discussion, able to learn from diversity, and ultimately when knowledge is being exchanged in free and democratic debate environments. The Enhance alliance, founded by seven leading European technical universities and subsequently enlarged to three more, is aimed at tackling the pressing challenges the EU is facing and will be facing in the next years, specifically as far as the green and digital transitions are concerned, by connecting students and researchers through a range of curricular and extra-curricular activities, able to strengthen cooperation and mutual learning. With this stimulating background, Schools of Architecture have a specific and long-standing tradition of learning by design and research by design, with a strong connection to the actual spatiality of different contexts: the Valencia Summer School on Synergic Urban Infrastructure, held for the first time in Valencia in 2023, is a very interesting example of the ability to focus the attention and work in a time-restricted and intense design environment with a multicultural and multi-disciplinary class. Students have learnt to work together in the exploration, interpretation and design of critical urban environments, and professors themselves have experienced a great exchange opportunity, based on the merge of different knowledge forms and perspectives, and enriched by diverse points of view. The results are critically illustrated and discussed in this articulated book, which goes well beyond the individual training experience which inspired it, to propose critical reflections and design explorations in sustainable and resilient planning, aimed at tackling some of the most pressing challenges European cities are facing today.

Prof. Dr. Carolina Pacchi
Vice-rector for Institutional and community relations | Politecnico di Milano
After building the organizational structure and cooperation mechanisms within the ENHANCE Alliance, it is time to add the content to the idea of „One Campus“. Thanks to the joint effort of 10 European technical universities, I am convinced that this project will soon become the natural platform for cooperation among students, teachers, and our entire academic community. In order to unlock our greatest potential, we allow the boundaries within our society to disappear. The grassroots initiative of the Valencia Summer School on Synergic Urban Infrastructures became such an awaited content. „Smart and Sustainable Cities and Communities“ is one of the key pilot areas of the Alliance where we would like to develop the new models of the European cross-disciplinary and co-creative education to tackle the world’s most pressing problems. Thus, the idea of the Summer School focusing on the synergies that contribute to the sustainable development of urban areas matched the ENHANCE goals perfectly. It was the extraordinary event that combined not only the scientific exchange of ideas and views but also provided the inspiring academic environment for sharing various cultural experiences. Intercultural meetings always foster building the atmosphere of openness, cooperation, and mutual support. Therefore, I am certain that the Valencia Summer School in 2023 contributed to developing the joint European sphere of knowledge by meeting the highest standards of the best practices in teaching.

Prof. Dr. Jan Słyk, PhD, DSc (Arch)
Vice-Rector for Academic Affairs | Warsaw University of Technology

The Summer School on VLC_SYNERGIC URBAN INFRASTRUCTURES was organized within the ENHANCE alliance with the aim of providing participants with the necessary skills to design and apply new methodologies to maximize synergies between different urban infrastructures (green, blue, energy, social, mobility, and housing). RWTH Aachen University was involved in the co-design and implementation of the course with four professors and researchers from the Chair and Institute of Urban Design and the Chair and Institute of Urban and Transport Planning, and with six students who proceeded from a wide range of programs (M. Sc. Transforming City Regions, Computational Social Systems, and Construction and Robotics). They all represent the academic diversity of RWTH Aachen University and its potential to contribute to the endeavors of the ENHANCE Alliance. We are really pleased to see that the work produced in the VLC_Summer School is now available to the public in this book, and we expect this collective work to be the first of many more to come.

Prof. Dr. Ute Habel
Vice-Rector for International Affairs | RWTH Aachen University

For the students of the ENHANCE Summer School 2023 in Valencia, the School was not only an educational experience: It also was a glance into the complexity of interdisciplinary planning. Such was connecting different perspectives and knowledge on urban planning and design in discussions and thoughtful solutions. Thus, the students were enabled to create sustainable, livable cities and environments for the future. The functional connection of urban systems and spaces emerged by linking ideas, concepts, and visions. Such approach is representative for the potential of the ENHANCE Alliance as a catalyst for collaboration and common innovative thinking of students from different European universities with the aim for a more sustainable urban future.

Prof. Dr. Kristin Wellner
Dean of the Faculty VI Planning Building Environment | Technical University of Berlin

Urban planning and design challenges are a pressing concern in current times. How we plan, design, and govern determine how liveable our cities are. Here, cities in Europe with diverse urbanisation pathways, strategic plans, pedagogies, and planning cultures can learn a lot from each other. Educating young planners and designers in transdisciplinary settings are an important and exciting way to ensure that our future cities are in good and capable hands. It is indeed a moment of great pride that planning and architecture students from NTNU participated in the first edition of the blended intensive summer school ‘synergic urban infrastructures’ along with students from 5 other ENHANCE university alliance partners. It is my strong belief that this collaboration will be the start of many other exciting endeavours.

Prof. Dr. Sara Brinch
Dean, Faculty of Architecture and Design | Norwegian University of Science and Technology (NTNU)
An intense knowledge, even affection, for the culture and territory in which we have grown up is not at all incompatible with a strong global vocation, that is, the desire to know and experience everything that other cultures and territories can bring to us and what we can bring to them. Absolutely committed to this concept, students in architecture schools nowadays are being trained as future practitioners with the conviction and ambition that their future professional field of action is the whole world. As a result, they are increasingly demanding that their learning environment expands its boundaries, incorporating faculty and knowledge from other countries and cultures. In response to this demand, the European Commission promotes the formation of alliances of universities that are initiating their common journey by developing joint activities, such as intensive workshops, to increase mutual knowledge and to pursue the ambition of a European area of higher education in which student mobility is extremely easy. This is the case of the activity documented in this publication, of which our school feels remarkably proud and satisfied and to which it intends to give, without a doubt, continuity, and growing commitment.

Prof. Dr. Ivan Cabrera i Fausto
Dean of the Higher Technical School of Architecture | Universitat Politècnica de València (Polytechnic University of Valencia)

The following pages capture the essence of the VLC Summer School as an example of immersive learning in which professors’ and experts’ bold vision and determined action converge in the ENHANCE Alliance environment, bringing inter-university collaboration as the catalyst for the experience. The combination of talents, resources and wills has generated an unprecedented initiative, charting a new horizon in how we conceive and facilitate the learning process. This initiative, a pioneer in the Alliance environment, not only offers students an interdisciplinary, deep, and meaningful vision of the Urbanism field of study but also challenges established norms, transcends academic and geographical boundaries, and invites participants to immerse themselves in an ocean of knowledge where theory intertwines with practice synergistically. The VLC Summer School is the prelude to new learning experiences that will awaken our students’ curiosity and exploration of academic knowledge through creativity.

Nuria Llobregat, PhD.
International Affairs Director | Universitat Politècnica de València (Polytechnic University of Valencia)

With the inaugural edition of the ENHANCE Summer School students of six different European universities were invited to dive in into the complexities of the topic of “SYNERGETIC URBAN INFRASTRUCTURES”. Their focus lay on implementing innovative and systemic synergies, including established concepts such as blue-green infrastructures, while also exploring emerging ideas and fields of action in urban planning, design, and construction. This exploration aimed to fully grasp the potential of integrating green, blue, energy, social, and mobility infrastructure, not only for enhancing open spaces but also for housing or education infrastructure. Next steps would be to consider the implications for new professions in shaping and maintaining synergetic urban infrastructures, including higher education of planners and designers. Embracing the different disciplinary and international perspectives, approaches, and methodologies, the ENHANCE alliance aims to empower the next generation of urban planners to tackle the complex challenges of our time and higher education. We appreciate the start and look forward to more!

Prof. Dr.-Ing. Angela Million
Director of the Department of Urban and Regional Planning | Technical University of Berlin

The International Summer School VLC_SYNERGIC URBAN INFRASTRUCTURES is an initiative that the Department of Urbanism at the UPV has supported from the first moment, for several reasons. Firstly, due to the interest of its theme, design and apply interdisciplinary methodologies to maximize synergies between the different urban infrastructures. Secondly, for addressing urban problems of our city, Valencia, from an international perspective. And last but not least, because it is an initiative with a strong involvement of faculty from our department, along with a brilliant international group of professors from other universities. On behalf of the Department of Urbanism, I thank students and teachers for their participation and congratulate them for the work carried out, in a collaborative co-creation environment that has proven to be very productive.

Prof. Dr. Javier Pérez Igualada
Head of the Department of Urbanism | Universitat Politècnica de València (Polytechnic University of Valencia)
INTRODUCTION
1.1.1. Goal: Support Integrative Urban Planning

With the overarching goal of promoting sustainable and resilient urban planning, the Summer School VLC_SYNERGIC URBAN INFRASTRUCTURES was organized as a Blended Intensive Program (BIP) within the ENHANCE alliance with the aim of providing participants with new skills to detect and maximize synergies between different urban infrastructures (green, blue, energy, social, mobility, and housing). This aim responds to the integrative character that the urban planning discipline is expected to have, and to the need of counterbalancing the increasing incorporation of specialized knowledge and silos that make it difficult for students and teachers to fully understand and purposefully use the manifold interactions between different urban systems, elements, or infrastructures.

The course was divided into two phases (online and face-to-face or onsite) and included a co-creation process in which students and tutors with the support of decision-makers and representatives of the civil society collectively developed diagnoses, visions, and proposals for a Pilot Site in the city of Valencia. The students who completed the course were awarded a certificate of participation in the ENHANCE Summer School with 4.5 credits (ECTS) equivalence.
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