

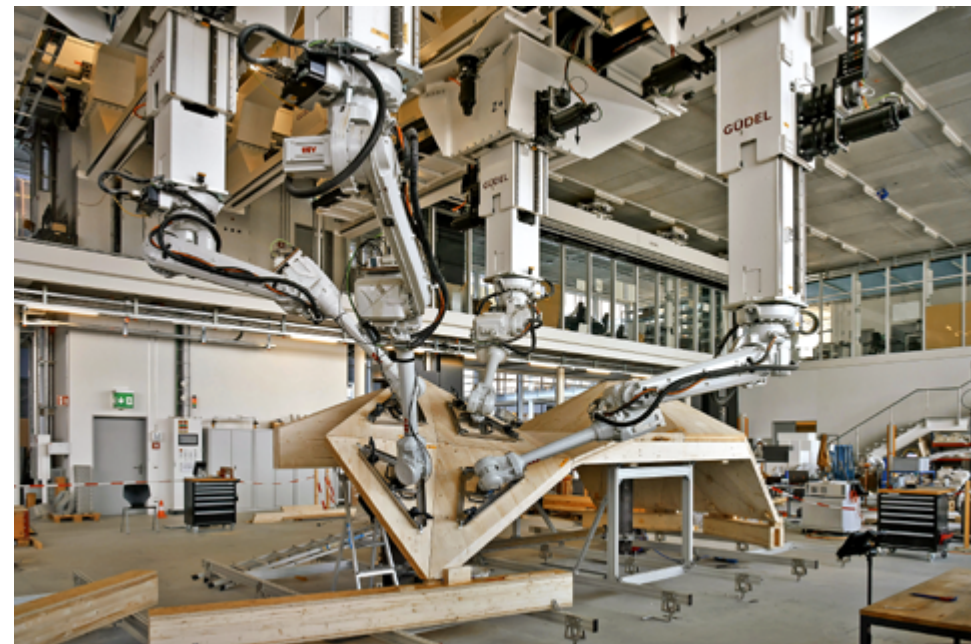




BAI BUILDING & ARCHITECTURE INSTITUTE

BAI Program

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WHAT IS BAI?

Funded by the Government of Navarra, the Ministry of Housing and Urban Agenda, and the Ministry of Industry and Tourism, among other institutions, the BAI Institute is a National Reference Center for Industrialization, Robotization, and Innovation in Construction and Architecture whose main objective is research in innovative technological systems applied to architecture and engineering, and the training of architects, engineers, and construction professionals through cutting-edge design and construction methods, in an effort to prepare companies and technicians at all levels (from vocational training to postgraduate level) to respond to the demands of contemporary society.

At the BAI Institute, research will be conducted in two complementary and closely related ways: on the one hand, through the development of innovative solutions in collaboration with highly qualified companies in the field; and on the other hand, through the design of

real buildings or interventions on an architectural and urban scale within the context of an 'Laboratory for Advanced Projects.' Both aim to use new technologies in an innovative, critical, and humanistic way with the objective of constructing the best possible buildings, infrastructures, and cities, all within the ever-changing framework of contemporary societies.

To foster an energetic and fruitful relationship with companies committed to real innovation and an ethical commitment to society is one of the premises of BAI, which from the outset will have a Company Committee. Beyond its advisory nature, this committee will put its technological know-how and market expertise at the service of the Institute and, from the beginning of the process, will collaborate in the development of the prototypes and the technical, constructive, and spatial solutions provided by BAI, besides offering internships and scholarships to students.

WHAT IS THE 'BAI PROGRAM'?

In its project to train architects, engineers, and professionals in the field in new industrial technologies, the National Reference Center for Industrialization, Robotization, and Innovation in Construction and Architecture offers a postgraduate program (BAI Program), with a total of 180 credits (90+90, equivalent to three conventional master's degrees), directed by architects and professors Francisco Mangado and Andrea Deplazes. Once completed, over two academic years, the program gives access to a **double postgraduate specialization degree**: 'Specialist in Fundamentals of Construction Design and Innovation' and 'Specialist in Advanced Design and Industrialization of Construction.'

The BAI Program's mission is not only to form 'specialists' – that is, to instruct in the use of new technologies and means linked to industry –, but to **train true professionals** who are aware of their reality and understand that industrial technologies are not a restriction to their creative in-

terests, but an incentive to carry them out with greater constructive rigor, with greater social, environmental, and economic responsibility, and also with a background knowledge that fosters new and unexpected design possibilities.

BAI's training aims to reconcile technical knowledge and design skills with the capacity for critical and responsible use of new technologies, and has a distinctive feature with respect to any similar training today: the possibility of working, from day one, on real projects and in the construction of buildings, infrastructures, and public spaces.

In its first edition, the BAI Program proposes a demanding and exciting challenge to its students: to participate in the design and construction of the headquarters of the BAI Institute in Pamplona. All this in direct contact with the most prestigious companies in the sector, the best professors, and in collaboration with the ETH Zürich (Swiss Federal Institute of Technology).



'BAI PROGRAM' IN NINE CONCEPTS

EXCELLENCE

The BAI PROGRAM postgraduate degree in Innovation and Industrialization in Architecture is a training program of excellence offered by the BAI Institute, a leading research entity sponsored by Spain's Ministry of Housing and Urban Agenda, the Ministry of Industry and Tourism, and the Government of Navarre, among other public and private institutions.

REAL LEARNING ENVIRONMENT

The BAI PROGRAM offers its students, from the beginning of their studies, the participation in prominent real-life projects, both buildings and infrastructures and public spaces. In its first edition, the program will be devoted to the on-site monitoring as well as the design and construction of the facilities for the headquarters of the BAI Institute itself.

INTERNATIONALIZATION

The BAI PROGRAM is a postgraduate degree developed in collaboration with ETH Zürich (Federal Institute of Technology Zurich), considered the world's most prestigious technological university. This relationship will foster mutual exchanges aimed at building a powerful professional and research network from its base in Navarre.

COMMITMENT

BAI's objective is not only to provide training in specific techniques or 'specialties,' but to prepare complete professionals with a critical capacity and a humanistic vocation. Professionals who are aware of the reality they are part of and who understand that new technologies must be an incentive for social creativity, offering a rigorous response to the demands of our societies today.

RESEARCH

BAI's training program is set out as the development of the Institute's research work in different areas such as the social and economic dimension, in different aspects like the optimization of housing, the development of new construction systems, energy efficiency and, in general, the improvement

of the spatial, material, and environmental qualities of living spaces; all this in necessary coordination with the instruments of IRIS NAVARRA, Digital Innovation Pole, developed by the Government of Navarre.

TRAINING

The BAI PROGRAM will train its students through the "learning by doing" approach in innovative areas of the construction sector, which will foreseeably gain greater relevance in the increasingly technological contemporary context; areas that encompass design, prototyping, industrialization, and efficient and quality construction.

COMPANIES

BAI's Company Committee will gather large companies and businesses in the community, as well as national and international ones, linked to different materials and construction systems, and whose main differential aspect is their commitment to innovation, bringing added value to the business fabric of Navarre as a whole, and favoring a transition towards a more technologically efficient model that is also environmentally and socially responsible.

FACULTY

Directed by Francisco Mangado and Andrea Deplazes, the BAI PROGRAM will gather a faculty of prestigious national and international professors, with a relevant presence of professors from ETH Zürich with experience in the field of digital design, prototyping, and industrialization.

QUALIFICATION

The rigorous training provided by the BAI PROGRAM, the continuous and intense work on real projects, the close collaboration with large companies in the field, the internships in strategic positions and the creation of a wide network of alumni will improve the students' possibilities when looking for qualified jobs with a future in the field of design and construction.

BAI Program

DEGREE CHARACTERISTICS

Directors: Francisco Mangado and Andrea Deplazes

Number of credits: 180 (90+90)

Duration: 20 months (10+10)

Location: National Reference Center for Industrialization, Robotization, and Innovation in Construction and Architecture, Pamplona, Spain

Languages: Spanish/English

Tuition: Scholarship system (18.000 euros per course)

Degrees: BAI Program postgraduate degree (Specialist in Fundamentals of Construction Design and Innovation + Specialist in Advanced Design and Industrialization of Construction)

Information and registration: programabai@bai-institute.es

The BAI PROGRAM is a postgraduate degree from the BAI Institute (National Reference Center for Industrialization, Robotization, and Innovation in Construction and Architecture), developed with ETH Zürich and endorsed, among other institutions, by the Spanish Ministry of Transport, Mobility, and Urban Agenda and by the Government of Navarre.

The research prestige of the BAI Institute, together with the recognition and experience of the public and private entities that collaborate in the project and the international professors, constitute a guarantee of quality in training.

The BAI PROGRAM grants 180 ECTS credits, over a period of 20 months and 2 consecutive academic courses. The structure of the courses leads to the awarding of a postgraduate degree upon fulfilling the entire process (including the Final Postgraduate Degree Project), but also the completion of two other degrees corresponding to the training received in each one of the courses.

The first degree, 'Specialist in Fundamentals of Construction Design and Innovation,' is granted after successfully completing the first 90 ECTS credits (first academic course). It introduces students into the theoretical principles and practical applications of design through the new building technologies. All this within the context of a real project: the construction of the new headquarters of BAI Institute in Pamplona, by Francisco Mangado.

The second degree, 'Specialist in Advanced Design and Industrialization of Construction,' is granted after completing the second 90 ECTS credits (second academic course). In this course, the development of real-life projects is complemented by training through internships at leading companies in the field of innovation and construction. Upon finalizing both degrees, the completion of the Final Postgraduate Degree Project leads to the awarding of the 'BAI PROGRAM of Innovation and Industrialization in Architecture and Construction' postgraduate degree.

CONTENTS

Linking up with the best polytechnic tradition – which BAI aims to recover in contemporary key –, the postgraduate program combines avant-garde and strictly practical training with a humanistic base, organized in four modules.

The first module, 'Design and New Technologies,' provides students with an intensive training in the management of systems linked to the new paradigm of 'digital crafts,' from 3D printers to robotic arms, via computational design software and other industrialization, prefabrication, and executive control methods; all this with an essentially practical purpose but critical as well, and developed in collaboration with prominent companies in the field, and that are part of the BAI Industrial Board.

The second module, 'Environment-Construction-History,' will show students how, over time, the building means, systems, and materials have made the best architecture possible, paying special attention to environment and energy not so much as concepts related only to economic sustainability but also as notions that have fostered and can foster valuable design solutions.

The third module, 'Thought-Critique-Project,' will give students the necessary intellectual background to understand and value construction from transversal and humanistic

criteria, as well as to understand and apply technique from a broad temporal perspective and through conceptual analysis and critical thought.

The fourth module, 'City-Economy-Society,' presents the social and economic reality, especially complex and changing today, which surrounds design and construction professionals; a reality they must know in detail to outline their responses with precision.

Finally, the fifth module, and fundamental in the program, 'Transversal Laboratory for Advanced Projects', offers a synthesis of all the knowledge acquired, functioning as an open workshop in which students will have the opportunity to participate from the beginning of their studies in real projects and construction processes, hand in hand with architects, engineers, technicians and industrialists, and with 1:1 scale models, working in a laboratory to test the solutions inspired by BAI, which seek their constructive, environmental, economic, and social endorsement in reality.

This training is complemented with classes and workshops taught by professors of renowned national and international prestige, and will be enriched with lectures, work in laboratories-workshops, trips and visits to factories, institutions, and buildings under construction.



COURSE OF STUDY

The postgraduate degree is developed over four semesters (two complete academic courses), organized in four training modules and a transversal laboratory. The program requires completing 180 ECTS credits, which will allow the student to obtain a double degree as Specialist (90+90 ECTS) and, after finalizing the Final Postgraduate Degree Project, to receive the Postgraduate Diploma.

Module 1	Module 2	Module 3	Module 4	Transversal Laboratory
DESIGN-INNOVATION-DIGITAL TECHNOLOGIES	ENVIRONMENT-CONSTRUCTION-HISTORY	THOUGHT-CRITIQUE-PROJECT	CITY-ECONOMY-SOCIETY	LABORATORY FOR ADVANCED PROJECTS
40 ECTS (20+20)	40 ECTS (20+20)	10 ECTS (10)	10 ECTS (10)	80 ECTS (30+50)

MODULE 1: 'DESIGN-INNOVATION-DIGITAL TECHNOLOGIES'

Given that one of the fundamental objectives of the BAI Institute is the creation of an environment of research and praxis that fosters creative interaction between architecture, construction, and industry, the first module will provide students with intensive and specific training in the critical use of systems and instruments linked to the new paradigm of 'digital crafts,' from 3D printers to robotic arms, including computer design software and other methods of industrialization, prefabrication, and control of the project execution. The relationship with technology is not based on adaptation or submission, but on effective control through real architecture and construction project, because the key question is: How can the potential of new technologies be harnessed from and for design and construction? All this in collaboration with the wide range of leading companies that are part of the BAI Institute's Industrial Board.

MODULE 2: 'ENVIRONMENT-CONSTRUCTION-HISTORY'

Conceived as instrumental, this module, based less on data than on ideas, will show students how, over time, construction means, systems, and materials have made the best architecture possible. It will pay special attention to the environment and energy not so much as concepts linked simply to economic sustainability, but as notions that have led and can lead to valuable design solutions. This module will at the same time introduce the environmental and constructive history of architecture and the currents that are shaping architecture today from an environmental and constructive point of view; all of this with the aim of establishing a fruitful dialogue between different solutions and historical moments and in pursuit of a profound knowledge of constructive innovations. For this reason, it is in this module – and also in module 4 – where the interaction with the prominent companies on the BAI Industrial Board will take place.

MODULE 3: 'THOUGHT-CRITIQUE-PROJECT'

Introductory and instrumental in nature, this module aims to ensure that what has been learned can be applied critically to the practice of building based on the principles that inspire the Institute. Its aim is to provide students with the intellectual background necessary to assess design and construction processes on the basis of transversal and humanistic criteria, with a broad temporal perspective and from a critical reflection that will allow them to better understand the role of construction professionals today, the main currents of architectural thought of the past and present, the foundations of architectural critique, the links between thought and action, and the conceptual relationships between design, construction, and technique, among other key subjects.

MODULE 4: 'CITY-ECONOMY-SOCIETY'

What are the demands of contemporary society? And of today's cities? And their economic principles? How can we address the construction project based on social challenges? And based on management? The expertise that allows answering these questions is a pending challenge in the training of professionals. This is why the BAI Institute pays special attention to it in the third module of the postgraduate course, which will analyze the complex and changing reality that surrounds construction today. A reality that the field's professionals must know in detail to accurately outline their responses and give meaning to their formal and technical work, which would otherwise run the risk of falling into a void or, quite simply, of clashing with reality.

'TRANSVERSAL LABORATORY FOR ADVANCED PROJECTS' (INTERNSHIPS)

The architecture and construction project, to which many of the course hours are devoted, will be the synthesis of all the knowledge imparted, functioning as an open and transversal workshop in which the students will have the opportunity to participate in actual projects in progress, hand in hand with architects, engineers, technicians, and industrialists, and by means of 1:1 scale models and prototypes, as if they were working in a test laboratory for the innovative solutions inspired by the Institute, and which must find their constructive, environmental, economic, and social endorsement in the real world.



RESOURCES AND ACTIVITIES

RESOURCES OF EXCELLENCE

From the 2026–2027 academic year, the BAI PROGRAM will be taught in the classrooms of the [BAI Institute's in Pamplona](#), a project by architect Francisco Mangado in collaboration with Andrea Deplazes, from ETH Zürich, which will be fit out with the best facilities. The postgraduate activities give students the opportunity to work from the beginning in an environment of architectural excellence and in teams. The program also includes internships and visits to the leading companies of the BAI Committee.

SCIENTIFIC COMMITTEE

The BAI PROGRAM has a scientific committee made up of both the board of directors of the postgraduate degree program and prestigious national and international professors, researchers and professionals, including Pritzker Prize laureates, as well as leading specialists in the fields of architecture, engineering, computational design, robotic construction, environment, criticism, and thought from the ETH Zürich. The role of the scientific committee is to advise on the most relevant contents and methods, as well as to strengthen the links of the BAI PROGRAM with leading universities, institutions, and companies.

QUALITY OF THE TEACHING STAFF

In its efforts to achieve excellence based on social sensitivity, the BAI PROGRAM is committed to bringing the highest qualified professors, both in terms of the academic prestige garnered in their own areas of research and their professional relevance. To this end, the postgraduate course not only has a large group of local professors, but also guests from prestigious universities and a broad network of renowned architects and professionals, national and international.

PROMINENT GUESTS

The contacts and relationships treasured by the directors and prestigious professors who form part of the BAI PROGRAM faculty will make it possible for the postgraduate course to welcome prominent guests from around the world. Not only technologists and specialists in the world of technology or the humanities, but also architects recognized for their work in Spain and abroad, from national architecture and urban planning awardees to Pritzker laureates, who stand out for their innovative and responsible work.

COLLABORATING ENTITIES

With the aim of offering quality and critical training, as well as being linked from the outset to the professional world, the BAI PROGRAM collaborates with prestigious industrial companies, which will give students the opportunity to learn first-hand, and 'from the inside,' about their working methods, their own management mechanisms, their production and innovation processes, as well as the real problems they have to face from their vantage position in the world of design, technology, and business.

INTERNSHIPS AND VISITS

An important aspect of the training provided by the postgraduate course is first-hand knowledge of the problems analyzed during the theoretical and practical classes. To this end, the BAI PROGRAM will organize frequent visits to the factories of the most important companies in the innovation and industrialization of architecture and construction. The nature of this visits will be eminently practical, providing direct contact with advanced design and production processes and systems, a source of expertise that will be rounded off with research residencies, professional internships, and scholarships offered by companies to BAI students.

BAI Program

FACULTY (MANAGEMENT)



FRANCISCO MANGADO
Academic Director

Architect and economist, he has been Visiting Professor at GSD Harvard, Eero Saarinen Visiting Professor of Architecture at the Yale University School of Architecture, L'École Polytechnique Fédérale de Lausanne, Baird-Gensler Visiting Professor at Cornell University and Visiting Professor at the Politecnico di Milano. Mangado is professor of Architectural Design at the ETSAUN (School of Architecture, Universidad de Navarra). His work has been featured in numerous national and international publications and exhibitions, and he has received numerous national and international awards.



ANDREA DEPLAZES
Academic Director

Andrea Deplazes studied at ETH Zurich, where he graduated as an architect in 1988. In the same year he obtained the Professor Fabio Reinhardt Diploma and since then he leads, with Valentin Bearth, the studio Bearth + Deplazes, with offices in Chur and Zurich. In 1997 he began teaching Architecture and Construction at the Department of Architecture at ETH Zurich, which he directed from 2005 to 2007. As chair of the Swiss Federal Institute of Technology (ETH Zurich) he edited Constructing Architecture: Materials, Processes, Structures, a prominent collective publication.



EDUARDO PRIETO
Program Advisor

PhD International Architect, Bachelor in Philosophy with postgraduate degrees in Aesthetics and Theory of the Arts and in Moral and Political Philosophy, he is professor at the ETSAM-UPM, where he teaches History of Architecture and the international course 'Architecture and Environment'. Prieto has also been a visiting scholar at Harvard University and is director of the master's program 'Architecture & Contemporary Culture.' He has lectured at institutions such as the Prado Museum, the Fundación Juan March and the Fundación César Manrique, and is the author, among other titles, of *Historia medioambiental de la arquitectura*.



JONATHAN BENHAMU
Research Associate

Swiss architect and professor with a prominent career in both professional practice and academia, he obtained his degree at the ENSAPLV after studying at the UCV in Caracas and at ETH Zurich. With more than 15 years of experience, Benhamu is a recognized member of the Swiss Society of Engineers and Architects (SIA), and founder of BENARICI GmbH, a firm dedicated to innovative design. During his time at ETH Zurich he created the HYTAC teaching unit to improve architectural education and directed the 3DLAB, focused on the exploration of advanced technologies in design.



ENROLLMENT PROCESS AND SCHOLARSHIPS

SCHOLARSHIPS

Enrollment in the BAI Institute's Postgraduate Program will be channeled mainly through scholarships awarded by the Institute's collaborating entities and the regional administrations. The calls for scholarship applications will be announced through the official website of the BAI Institute (*bai-institute.com*).

CALENDAR AND LOCATION

The program is organized into four semesters, over two complete and consecutive academic years. Classes will be held at the BAI campus in Pamplona (Navarre, Spain). The first year will correspond to the title of 'Specialist in Fundamentals of Design and Innovation in Construction'; the second year will correspond to the title of 'Specialist in Advanced Design and Industrialization of Construction.' After the Final Master's Project has been completed, for which an extension of six months may be granted, if necessary, once the classes have been completed, the BAI Program postgraduate degree will be awarded.

ENROLLMENT

The full tuition fee for the BAI PROGRAM 2025 is 18,000 euros per course, which must be paid according to the schedule established for this purpose. This amount includes all travel expenses for the academic activities, including the study trip. Personal expenses are not included in any case.

A deposit of 1,000 euros will be made as a place reservation. This reservation deposit is non-refundable, and must be paid within 7 calendar days after the student has received the letter of admission.

The tuition fee can be divided into four installments (25% of the total amount, each one of them), which would be paid at the beginning of each of the four semesters that make up the double degree program.

STUDENT PROFILE

The postgraduate course is aimed at those seeking the highest quality training in design and construction applied to new construction technologies in the field of innovation and industrialization of architecture. It is therefore oriented to a broad specter of technicians, ranging from graduates in architecture and engineering to qualified professionals in the world of construction looking for specialization excellence.

SELECTION AND ADMISSION

Applicants must hold an official Spanish university degree, an EHEA degree or a degree from an educational system outside the European Higher Education Area, without the need for homologation of their degrees and after verifying that they accredit a level of training and competence

equivalent to the corresponding Spanish university degrees, and that they are eligible for access to postgraduate studies in the country issuing the degree. This qualification must be accredited at the beginning of the studies.

1) Once the applicant has submitted the application for admission, the selection process will begin by requesting the following documentation:

- CV of applicant
- Letter of motivation
- Reference letters

2) In the second stage, the BAI PROGRAM Academic Committee will study the merits of the applicants to select those with the most suitable profile. Academic excellence, as well as the interest and intellectual curiosity shown by the applicants, will be valued. If deemed appropriate, the Academic Committee may call the applicant for a personal interview, in person and online. Based on the above, the Academic Committee will prepare the PROVISIONAL LIST OF ADMITTED STUDENTS.

3) Once provisionally admitted to the MBAL, applicants must submit, within the established deadlines, the following documentation:

Applicants with a University Degree issued in Spain:

- Photocopy of the University Degree.
- Photocopy of the academic transcript with the grades of the University Degree.

Applicants with a University Degree from abroad and issued in an EU country:

- Photocopy of the University Degree.
- Photocopy of the transcript of records with the grades of the University Degree.

Degrees, certificates, and transcripts must be translated into Spanish.

Applicants with a University Degree from abroad and not issued in an EU country:

- Photocopy of the University Degree with the Hague Apostille or with a certified copy from the Spanish Embassy in the country of origin (all stamps must be originals).
- Photocopy of the transcript of records with the grades of the University Degree with the Hague Apostille or with a certified copy from the Spanish Embassy in the country of origin (all stamps must be originals).

Degrees, certificates, and academic records must be translated into Spanish.

4) Once this information has been received and checked to verify its authenticity, the Academic Committee will publish the FINAL LIST OF ADMITTEES, which will not be definitive until each applicant pays the admissions reservation fee within the established deadline.



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Accounting
Institute



Basque
Government

Basque
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Department of
Economic Affairs

Gobierno
de Navarra



Navarroako
Gobernua



Basque
Government

Basque
Government
Department of
Economic Affairs

NAVARRA : NAFARROA
Una forma de funcionar | Our own way | Gaitza egiteko dugu modua