



||
The Value Chain of Construction:
How Can Architects Occupy
a Larger Role?

||
**Building art is a
synthesis of life
in materialised form.
We should try to bring
in under the same hat,
not a splintered way
of thinking, but all
in harmony together**

Alvar Aalto

||
A report by ACE
International Business Models (IBM)
Task Force Group



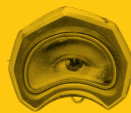
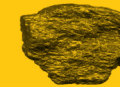
Role 01:
Sustainable
Building Expert

Role 02:
Social Impact &
Sustainable Urban Advisor

Role 03:
Green Finance Expert
on Sustainability

Role 04:
Low Carbon Footprint
& New Technologies
Materials Consultant

Role 05:
Circular Economy
Expert for Buildings



Architects play many parts in the value chain of construction.

Their responsibility and expertise extends beyond the boundaries of any one role or sector.

This requires them to wear many hats.

ACE-
CAE
EU



Co-funded by
the European Union

THE VALUE CHAIN OF CONSTRUCTION**How Can Architects
Occupy a Larger Role?**

Foreword by
Ruth Schagemann,
President of ACE

Part One:	1.1	Sector Commitments	
Introduction	1.2	Report Aims & Objectives	
Part Two:	2.1	The Professional Environment of European Architecture	
Context	2.2	Architects for a Sustainable Future	
Part Three:	3.1	Report Methodology	
The Value Chain of Construction	3.2	Value Chain Explained	
	3.3	Value Chain Diagram	5
Part Four:	4.1	Eighteen Roles Identified	
Strategy of Improvement	4.2	Key Sectors Within the Architectural Field	
Part Five:	5.1	Role 01-Features & Proposals	
Defining the Five Key Roles	5.2	Role 02-Features & Proposals	
	5.3	Role 03-Features & Proposals	
	5.4	Role 04-Features & Proposals	
	5.5	Role 05-Features & Proposals	

References

Colophon

Foreword

6

“This is why we will set up a new EUROPEAN BAUHAUS – a co-creation space where architects, artists, students, engineers, designers work together to make that happen!”

– Ursula Von der Leyen, 2020

Ruth Schagemann,
President of the
Architects Council
of Europe (ACE)

The New European Bauhaus comes at a key moment for the architectural profession. On the hand, it does so when we have overcome the negative cliché that architects may have suffered after the construction bubble. On the other hand, at a time of ambition in the areas of urban, environmental and social policy, to add a cultural soul to the European Green Pact and bring it closer to the spaces we inhabit on a daily basis.

The already more than widespread values of sustainability, inclusiveness and beauty are part of the pillars of architectural training. In addition, the combination of local and global dimensions, participation and transdisciplinarity are part of the complexity of the architectural process.

The DNA of the profession is embodied in the New European Bauhaus. Moreover, the social vocation of the collective means that it must place itself at the service of citizens. Like the historical Bauhaus, the ultimate goal of the NEB is to improve people's lives. To put culture, architecture, design and urban planning at the service of society.

At a time when we are going to invest millions of euros in renovating buildings to make them more efficient, and build in a more sustainable way, the role of architects is indispensable to do it in an inclusive and aesthetic way: following our values, but also those of the NEB.

If we share time and place with this initiative, we must seize the opportunity to put our profession and our sector in the place they deserve. The original Bauhaus movement came to democratize our homes, our objects, to make them more comfortable, easier to produce, more affordable. A hundred years have passed and the ways of living have changed much more than the spaces built. But the time has come.

The spirit of the Bauhaus has rekindled in the European Union to put architecture in the place it deserves. This study work in the same direction, on the idea of enhance and enlarge our role and influence in the construction of our cities and environments, and therefore, to contribute for a better future of our society. The time has come to transform buildings, neighbourhoods and cities to improve the lives of all.

1. https://ec.europa.eu/commission/presscorner/detail/ov/SPEECH_20_1655

7

ARCHITECTS FOR A SUSTAINABLE FUTURE

Creating or transforming our cities and urban territories demands a complex collaboration between a diverse group of experts and stakeholders. These stakeholders include investors from both the public and private sectors, developers, urban planners, regulatory agencies, architects, designers, social scientists, economists, legal advisors, material suppliers, construction teams, and the citizen, who should also take decisions on the environment where their lives are developed. Among all these spectra, architects stand out due to their specialized training, which equips them with a comprehensive understanding of social, cultural, environmental, economic, and technical aspects.

In modern procurement processes—many times dominated by financial considerations—the skills of architects are often overlooked, losing opportunities in the leadership of professional roles that could reinforce their contributions to the construction process. This contribution, as the construction process itself, is not static and is in constant evolution. The work of the modern architect in the early 20th century has little in common with today's work, except for the main aspect of architectural design, which remains the core of their profession.

However, as the construction process has become more complex with new layers as important as the design itself, the architect must now incorporate new essential aspects into their knowledge, such as circularity, carbon footprint, or energy strategy. It is a mistake to separate these aspects from the design, since the decisions made when planning a building directly impact these parameters.

Therefore, despite the presence of other professional profiles that assist us, it is the architect who must continue to hold the overall coordination and comprehensive understanding of the process. They are uniquely positioned to balance and integrate the varied perspectives of other stakeholders, using design thinking to address complex challenges holistically.

This document emphasizes the need for architects to revindicate their broad-based skills to both the public and their peers. It encourages the profession to unite, reinforcing its relevance in shaping future cities that align with sustainability goals. And it highlights the importance of ACE (Architects' Council of Europe) in advocating for the European architect's role in the achievement of these objectives.

Only in this way will the much-discussed European idiosyncrasy, based on cultural, urban, and sustainable values, will achieve continuity and cohesion, allowing the control of these three key concepts in the architect's work and their wide and multiple roles within the construction value chain.





Report Introduction

1.1

SECTOR COMMITMENTS

The following document, developed by the Architects' Council of Europe - Internationalisation and New Business Models Task Force Group, ACE-IBM, explores strategies for European architects to broaden their professional scope of services and therefore, show the way on how to enhance their influence in the architecture and construction value chain.

Currently, the professional profile of architects is primarily focused on the traditional roles that have historically been held, related mainly with the design of our cities and urban environments. While this role remains fundamental and part of our primary tasks, the evolution of construction and market processes has introduced new areas of specialisation into the construction value chain related to new necessities and targets, like sustainability, efficiency of the construction process, industrialization, digitalisation, coordination between the social and the constructive aspects, citizen participation, etc.

These new areas of interest are justified based on multilateral commitments promoted by the United Nations, such as the *2030 Agenda*², which, in a context of globalization, have made a receptive society aware of issues such as the urgent need to react to climate change. *The European Green Deal*³, which has deepened these concerns, sought geopolitical leadership in Europe in strategic areas of action: transport, energy, agriculture, buildings, and industries. After the Covid crisis, the *Next Generation EU Funds*⁴ were linked through initiatives and concrete plans to this strategy (*Renovation Wave/NEB*)⁵ reinforcing the commitments towards the decarbonization of the building stock and its quality in different directives, like EED, EPBD and CP Regulation, and thus promoting new professional requirements and a constructive model focused on urban rehabilitation and regeneration. This also translates into a social action around the housing crisis in Europe, where architects must assume a conciliatory role to promote inclusion through urban planning.

In addition, the concept of the building's life cycle has evolved beyond its mere construction phase. It now encompasses the monitoring and control of the entire process, from the production of materials used to be built, to their reuse or recycling after demolishing. This involves measuring the building's carbon footprint over its whole lifecycle, which implies promoting a commitment to the industry and innovation in solutions and materials, which architects must lead.

This new panorama should not be seen as a threat but as an opportunity to reinforce the fundamental work of architects and our commitment to a changing and evolving society. Architects must adeptly navigate these emerging professional fields, positioning themselves as coordinators of the entire construction process, as we are the professionals who control and oversee the entire life cycle of buildings and know the needs of builders, investors, users and society at large.

To this end, to maintain our leading role in the process, it is essential to understand first the construction value chain as a whole, the different stakeholders involved and the interactions that arise between them in order to occupy a position of relevance with an integral vision of all the phases.

While engineering and industrial production are commonly associated with these new specific fields, architects have at times been excluded from key decisions in the some segments of the construction process, particularly outside the realm of design.* However, as these new aspects become integral to the construction industry, architects should assert their role as leaders who bridge the gap between design, sustainability, user requirements and efficient construction processes. Embracing these challenges positions architects to not only contribute to the traditional cultural and functional aspects of our cities and architecture but also to drive innovation and sustainability in the broader construction landscape.

*** Here also depends on the differences in training in the various European countries, due to the diversity in academic training. See Directive 2013/55/UE, that modifies the Directive 2005/36/CE on recognition of professional qualifications.**

2. <https://www.un.org/sustainabledevelopment/>
3. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en
4. https://next-generation-eu.europa.eu/index_en
5. https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/renovation-wave_en https://new-european-bauhaus.europa.eu/index_en

REPORT Aims & Objectives



Highlight:

Highlight architects' indispensable work in areas of the construction value chain where their contributions are not widely recognised.

Define:

Define new areas of specialisation within the construction value chain where architects can take a leading role.

Present:

Present these newly introduced areas as opportunities for architects to showcase their commitment to a changing and evolving society.

Look:

Look at the construction process holistically, and present the architect as being uniquely placed to address the complex intersectional cultural, social, technical, and environmental challenges.

Consolidate:

Consolidate objectives from previously defined agreements (SDGs, the New Urban Agenda, New European Bauhaus, EU Cities Mission-Climate KIC, and the Territorial Agenda 2030).



2.1

OVERVIEW OF THE PROFESSIONAL ENVIRONMENT OF EUROPEAN ARCHITECTURE

In the ever-evolving landscape of architecture, the expertise of European architects play a pivotal role in shaping sustainable, resilient, and aesthetically pleasing environments that historically has defined our cities. Their work involves a seamless integration of various aspects, where cultural and social factors are intricately interwoven with technical and environmental expertise. This holistic approach, which is somehow unique and belongs to the architecture idiosyncrasy, underscores the key role of European architects in not only giving continuity to our historical architectural environment, but also in addressing the complex and interconnected challenges that arise at the intersection of cultural, social, technical, and environmental considerations.

To accomplish this, it is essential to coordinate and consolidate the objectives to be achieved, which are based on previously defined agreements that serve as a point of reference for the path to be followed. The previously mentioned attainment of the Sustainable Development Goals (SDGs) of the 2030 Agenda is crucial in this context, as it not only interconnects European objectives with global ones but also represents a clear and specific goal aiming for a fairer and more sustainable balance. European architects must be actively engaged in translating these global objectives into tangible, region-specific solutions that address environmental, social, and economic sustainability. Through innovative design thinking and strategic planning, they contribute to the creation of spaces that not only meet the immediate needs of communities but also foster long-term well-being and resilience⁶.

Another essential guide in the architect's toolkit is the *New Urban Agenda (NUA)*⁷ and its derivatives, the *European*⁸, national, regional and local urban agendas (list national ones) in a multilevel strategy of penetration at scale that favors the necessary relationship with the local level.

The NUA guides urban development policies worldwide. Established at the 2016 United Nations Conference on Housing and Sustainable Urban Development, serves as a blueprint for a shared and sustainable urban future, focusing on the urban dimension of the SDGs and the NUA's three transformative commitments - leaving no one behind, ensuring sustainable urban economies, and promoting environmental sustainability - . By aligning their work with the NUA, architects actively shape urban spaces that reflect a harmonious integration of social, economic, and environmental considerations. In fact, in response to the escalating climate crisis, the contribution of architects became imperative against climate change and decarbonization, due to the fact that 70% of CO₂ is produced in urban areas.

To integrate all these challenges into a European regional specific idiosyncrasy, the *New European Bauhaus* stands as a testament to the forward-thinking nature of European architects. As commented previously, this initiative seeks to merge aesthetics, sustainability, and inclusivity in architectural design. Within the framework of the Green Deal, the Urban Agenda for the EU and the Renovation Wave, the NEB puts culture, design, architecture and urbanism at the centre of European policies and funds for the first time. A project that aims to change the direction of investment of community resources, to improve not only our buildings, but also the lives of citizens. In a more recent action programme, the *EU Cities Mission-Climate KIC*⁹ underscores the architect's role in driving transformative change at the city level, linking all these commitments with the climate crisis and the resilience of our build environments in form of specific proposals and methodologies in governance. By collaborating with stakeholders, policymakers, and communities, architects contribute to the development of sustainable urban strategies that align with climate goals. This mission serves as a catalyst for innovation, encouraging architects to envision and implement solutions across Europe that will serve in the future for a global implementation in the whole territory.

In the same context of the European architectural discourse, it is important to highlight that 2023 has been European Year of Skills, emphasizing the importance of honing specialized skills in architects for the challenges of tomorrow. The discussion extends, as mentioned, above to local contexts, connecting with the intricacies of *Regional & Local Urban Agendas*, where the profession needs to engage with the unique characteristics and demands of diverse locales where critical focus is placed on the ongoing *Housing Crisis*, exploring the architect's role in devising innovative solutions to ensure accessible and sustainable housing for all.

Architects have a fundamental role on the development and design of territorial management instruments, taking as a lighthouse the European initiative *Territorial Agenda 2030*¹⁰, which sets the direction at the European Union level to achieve more sustainable and cohesive territories. Finally, the exploration broadens its scope to include consideration of other scenarios increasingly common in our continent, such as the impact of natural catastrophes and wars on the architectural landscape, underlining the resilience and adaptability required of European architects to face, as we did in the past, the challenges of these disasters. All these aspects should not make us forget the fundamental goal of architecture, which is none other than to serve the society where it operates.

6. Publication as "Un Sustainable Development Goals in Practice" by United Nations Global Compact and RIBA, also available as a PDF on www.architecture.com, or the SDG Commission on the UIA, that also promote publications <https://www.uia-architectes.org/en/commission/sdgs/> are some examples of its importance.
7. <https://unhabitat.org/about-us/new-urban-agenda>
8. https://commission.europa.eu/eu-regional-and-urban-development/topics/cities-and-urban-development/urban-agenda-eu_en
9. <https://www.climate-kic.org/press-releases/cities-climate-neutrality/>
10. <https://territorialagenda.eu/>

3.1

REPORT METHODOLOGY

The comprehensive analysis undertaken by the ACE-IBM in this report reveals a strategic roadmap to enhance the influence of European architects within the broader value chain of architecture and construction. The study began with a focus on sector commitments, particularly aiming to link the global competitiveness of EU architects through engagement with European Commission programs, as mentioned previously. In a second stage, the work focused on identifying new opportunity areas for architectural skills.

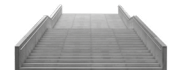
To achieve the definition of the objectives driven, the working group progressed through a process that facilitated the completion of various stages of in-depth exploration of the subject, primarily defined by the following steps:

- 1 Establish a map, or a state of the art, that allows an understanding of the current situation and the direction in which the study's strategy should be taken.
- 2 Compilation of information through other documents that may serve as reference.
- 3 The use of an online dynamic form to collect, analyse and filter data and information as well as ideas and assessments by the member countries of the working group. This had the advantage of using crowd intelligence.
- 4 Development of a report that compiles all the information generated, so that it can be published for future decision-making within the ACE.
- 5 Moreover, in line with other activities of ACE-CAE, this analysis sheds light on the future Sector Study that CAE-IBM group will organize in 2024, offering insights into the current state and future trajectories of the architectural profession.

Starting with a global analysis of our profession, the definition of the value chain and business model involved reflecting on the architectural profession's current standing and potential enhancements within the broader global value chain. This strategy delineated the most important roles for architects within the construction value chain, strategically positioned to integrate seamlessly into architectural processes and amplifying the versatility of architects, presenting targeted avenues for professional promotion and advancement. Finally, in order to support and promote the implementation of the roles defined, specific proposals were formulated for the top five roles identified.

These proposals delved into political/administrative considerations, educational initiatives, and dissemination/networking strategies. Also, each role can be defined through some of the parameters that could better establish the roles, like tools and skills, programs and channels, or actors and agents listed for each of them.

By identifying and promoting these specific roles, the IBM group considers a future where architects not only enhance their traditional roles, but also play a pivotal role in new ones, shaping sustainable, user-friendly, culturally rich, and efficient urban environments.



3.2

THE VALUE CHAIN OF CONSTRUCTION: DEFINED

Value Chain [Noun]

Value chain refers to the full lifecycle of a product or process, including material sourcing, information, planning, production, consumption and disposal/recycling processes. It describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use¹¹. Value chains are an integral part of strategic planning for many businesses and architectural firms today.

The research group began by defining the context of a value chain in the European architectural field. The study then examined different aspects of the construction process. This includes looking at both sides of the equation:

- 1 Examining whether there are means to accentuate and underscore the significant contributions architects make within the value chain.
- 2 Investigating whether there exists value within the architectural realm that architects themselves might not fully acknowledge or assert.

Step One

To initiate this exploration, the group established its initial task, which is closely tied to *delineating the components of the architecture and construction value chain*. This involves explaining all the essential steps in construction, spanning from the initial stages to the eventual end-of-life and recycling of the building and/or materials—a perspective aligned with the principles of a circular economy. This exploration included an undertaking to discern the nuances between the architectural scope of services and the broader global construction value chain, recognizing the symbiotic relationship wherein the former is intricately nested within the latter.

Step Two

As a second step, the group members delved into identifying tasks intrinsic to the architect's role or tasks with untapped potential, even acknowledging that, presently, architects may not be universally recognized as professionals typically undertaking these responsibilities.

Result

As a result, the graphic below delineates the multifaceted steps encompassing the global construction value chain. The graphic shows all the different parts and complexities of the global construction process.

It also, recognizes the variations in construction methods, highlighting that each step may be more or less important depending on the project. In fact, not every construction process incorporates each of these steps, and conversely, not all the identified steps, as elucidated earlier, directly correlate with the architectural value chain. This strategic diagram helps us grasp the complex network of activities in construction. It also gives a context for finding specific points where architects can use their skills. By recognizing the differences in construction, the picture helps us see where architects can make contributions.

Services

The services catalogued in this value chain diagram extends across a wide array of disciplines, encompassing professional services, construction, materials providers, infrastructure development, financial sector, public sector, academic & research, or Real State & promotion. Each sector represented within this diagram plays a pivotal role, contributing to the overall tapestry of urban development. The services identified in the value chain diagram can be listed as below, being typically developed by the different construction value chain stakeholders:

- Academic & Research
- Accessibility, Healthy And Inclusive
- Architectural Construction Stages
- Architectural Design Stages
- Building Management
- Business Case
- Circularity And Rehabilitation;
- Construction Works
- Dismantling
- Ecological Recovery
- Feasibility Studies
- Financing
- Maintenance
- Market Study
- Materials Industry R&D
- Materials Manufacturing & Providers
- Operation
- Project Definition
- Public Services (Administration & Infrastructure)
- Refurbishment
- Reuse & Revamping
- Sales
- Sustainability Services & Strategies
- Technical Services Providers
- Urban Public Regulations & Planning
- Waste Management

11. Kaplinsky, R. and M. Morris (2001), *A Handbook for Value Chain Research*, prepared for the International Development Research Centre (IDRC).

5 Key Roles

VALUE CHAIN SECTOR

Public Sector

Financing

Academic & Research

Material Providers

Real Estate & Promotion

Professional Services

Construction & Contractors

SERVICES

1 Public Sector (Administration & Infrastructure)

2 Financing

3 Academic & Research

4 Materials Industry Research & Development

5 Materials Manufacturing & Providers

6 Building Study

7 Market Study

8 Sales

9 Operation

10 Maintenance

11 Sustainable Services & Strategies

12 Technical Services Provider

13 Urban Public Regulations & Planning

14 Feasibility Studies

15 Business Case

16 Project Definition

17 Architectural Work Supervision & Handover

18 Architectural Design Stage

19 Construction Works

20 Renovation

21 Waste Management

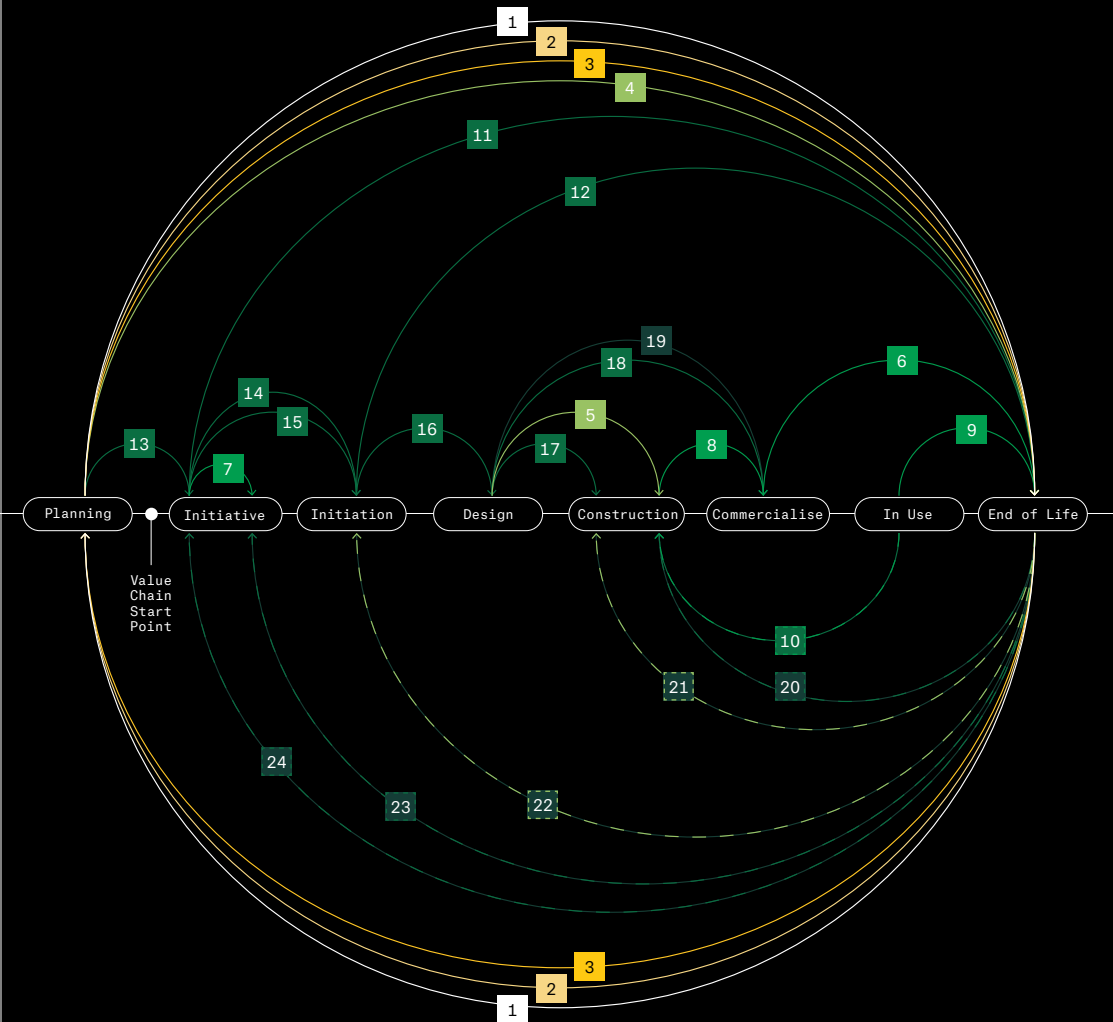
22 Reuse & Revamping

23 Dismantling

24 Ecological Restoration

3.3

THE VALUE CHAIN OF CONSTRUCTION



KEY

Value Chain Stages

Services

Services in two sectors

4.1**EIGHTEEN ROLES IDENTIFIED**

Among the 24 services identified, the first dynamic developed by the study discerned 18 distinctive roles that architects can potentially embrace or enhance within those services, considering that these roles may currently exist, but are not potentially developed or considered as a major skill for architects.

This identification of potential roles amplifies the professional skills of architects, but also underscores their potential to contribute meaningfully across various facets of the construction process that are not being explored. Upon scrutinizing the intricate facets of the specific construction process, a more granular examination of the architectural field reveals key areas that can be encapsulated through a logical framework.

One	Provide expert opinions on the intrinsic value and potential of buildings, spatial, material and construction qualities, areas, technologies, etc.
Two	Building evaluation and sustainability assessment of buildings.
Three	Expert in identifying the potential and requirements for green and sustainable financing of a project.
Four	Solutions that seek to balance the potentially conflicting requirements of sustainable and cost-effective construction.
Five	Consultant with practical experience in the use of materials and functional solutions (in building projects) and challenges to support development.
Six	Promotion of technologies, materials.
Seven	Product development.
Eight	Reuse & Revamping.
Nine	Design buildings that are energy efficient and at the same time of architectural cultural value.
Ten	Creator of a sustainable design strategy and vision that takes into account the adaptability of construction throughout its life cycle.
Eleven	New Technology and Engineering Skills.
Twelve	Landscape restoration.
Thirteen	To improve the role of sustainability, ecology and ethics in practice and launch a global and inclusive challenge, environmental, territorial, cultural and socially sustainable.
Fourteen	3D Interface in the IT sector
Fifteen	Building energy certificate.
Sixteen	Digital services.
Seventeen	Repurposing & Retrofit Strategies.
Eighteen	Building inspection, construction site director.

4.2

KEY AREAS WITHIN THE ARCHITECTURAL FIELD

Among the potential areas within the professional field of architecture, we can distinguish, through the suggestions collected with the online dynamic, that the identified 18 roles can be inserted mainly in three areas where the need to boost, encourage and promote the architectural profession is recognised. Hence, we can ascertain that the 18 roles pinpointed by the study seamlessly align with the forthcoming three themes encapsulated (with the possibility of some of them being identified in several of those areas):



Sustainability



Digitisation



Industrialisation



01

Sustainability:



Understanding it as aspects related to the use of resources and strategies focused on reducing the impact of constructions on our environment, analysing their carbon footprint, energy consumption, biodiversity, material consumption and the well-being of their inhabitants, with attention to regional building ecologies, the social and labour dynamics.

Roles — 1 / 2 / 3 / 4 / 5 / 8 / 9 / 10 / 12 / 13 / 15 / 17

02

Digitalisation:



Understood as the implementation of new technologies arising from computer and scientific development applied to the construction process, optimizing and refining design processes, team coordination, meeting sustainable requirements, and the construction and monitoring of buildings and built environments. (BIM, 3D, AI, and so forth)

Roles — 4 / 6 / 7 / 11 / 2 / 14 / 16

03

Industrialisation:



Understood as the field that develops the optimization of production processes, closely related to the construction process and the costs and waste derived from this process (serial and modular construction processes are an example.)

Roles — 1 / 3 / 4 / 5 / 6 / 7 / 8 / 17

4.3

PRIORITISING THE FIVE MOST IMPORTANT ROLES

With the aim of focusing on and delving into some of the proposed roles, in a second dynamic, there was a request to prioritize the top 5 that exhibit the highest potential for augmenting the architect's influence within the construction value chain. Among the 18 roles and activities, these selected roles are deemed to be particularly impactful in elevating the architect's position and contribution within the broader spectrum of the value chain.

ROLE 01



Dynamic Role Name
Design buildings that are energy efficient and at the same time of architectural cultural and social value.

Re-Formulated
Sustainability Building Expert



ROLE 02



Dynamic Role Name
Provide expert opinions on the potential of buildings.

Re-Formulated
Social Impact & Sustainable Urban Advisor



ROLE 03



Dynamic Role Name
Expert in identifying the potential and requirements for green and sustainable financing of a project.

Re-Formulated
Green Finance Expert on Sustainability



ROLE 04



Dynamic Role Name
Consultant with practical experience in the use of materials (in building projects) and challenges to support development.

Re-Formulated
Low Carbon Footprint & New Technologies Materials Consultant



ROLE 05



Dynamic Role Name
Creator of a sustainable design strategy and vision that takes into account the adaptability of construction throughout its life cycle.

Re-Formulated
Circular Economy Expert for Buildings



PART FIVE

Defining Five Key Roles

After delineating the top 5 roles for development, the group deliberated on various parameters that could serve as a foundation for devising strategies to seamlessly integrate these roles into the architects' repertoire of professional activities. The next phase focused on the specification of the name, definition, and the following features for each identified role. These features support business model thinking that can pave the way to new conceptions for setting up new architectural offices, but they must also drive the transformation of existing practices. In the authors' view, a business model is a holistic description of the logical contexts in which a company generates value for its customers and itself.

28

Tools & Skills	⇒	To Develop the Activities
Programmes & Channels	⇒	To Achieve the Tools & Capabilities
Actors & Agents	⇒	To Collaborate with & Strengthen the Roles and Activities

29

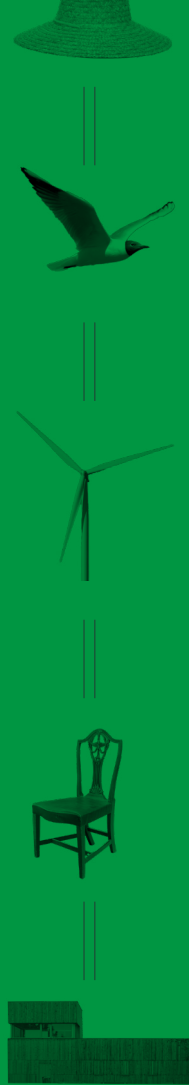
Supporting & Promoting Architects in the New Roles

In the subsequent phase, the study sought to refine the previously outlined roles by requesting proposals for their implementation. These proposals encompass various aspects and objectives, requiring collaboration from different agents and entities, making their implementation not always straightforward. Nevertheless, regardless of their difficulty, all of them contribute clearly to the implementation of the defined roles. In a future stage, the proposals could be prioritized and selected for implementation, considering the possibilities and coordination capacity available to the ACE. There are four categories under which the proposals fall:

- 1 Political & Administrative
- 2 Educational
- 3 Dissemination & Networking
- 4 Professional & Learning



Role



One

Role One

Sustainability
Building Expert

Definition

Architects possess the knowledge to unite two crucial elements of architectural strategy – energy efficiency and cultural architectural values – which are typically addressed in isolation, despite their contemporary interconnectedness.

Features

Tools & Skills

- Cost Control
- Sustainable Design
- Architectural Design
- State Subsidies for Efficient Buildings
- Design Product
- Collaborative, Interdisciplinary, Cross-Disciplinary Knowledge & Practice

Programmes & Channels

- Continuing Professional Development
- University Programs
- Best Practises Consulting with Other Professions

Actors & Agents

- Universities
- Engineers
- Government
- Clients

Incentive Programs: Create government incentives for architects and developers who incorporate sustainable and culturally significant elements into their projects, such as tax breaks or grants.

Specific Preservation Funds for protected buildings: Allocate funds for the preservation, restoration and revitalization of culturally significant buildings, ensuring they meet modern energy efficiency standards while maintaining their historical integrity. These funds can also cover the participation of experts in these areas.

Public Procurement: Incentivise government agencies to prioritize hiring architects and firms with demonstrated competence as an energy/sustainability expert and cultural/architectural value in their designs for public buildings.

Collaborate with government bodies: Involve architects in drafting essential regulations and guidelines that guarantee the accurate definition, process, and execution of sustainable and culturally linked architectural preservation.

Interdisciplinary Collaboration: Encourage collaboration between architects, urban planners, environmental experts, and heritage Baukultur specialists in municipal planning and development departments. With architects serving as the orchestrators responsible for merging different facets of their role.

Best practices and Cataloguing: Create databases and archives that catalogue and document culturally valuable architectural elements in the region, serving a resource for architects.



Collaborate with university programs and various professional stakeholders to implement thematic and tailored initiatives focused on these aspects within the field of architecture.

Continuous Education: Mandate ongoing professional development for architects, focusing on the latest energy-efficient technologies and Baukultur criteria.

Research Grants: Offer research grants to stimulate studies in universities and institutions with focus on the intersection of energy efficiency, baukultur and cultural value in architecture.

Workshops and Seminars: Organize workshops and seminars for practicing architects to share best practices and innovative ideas for achieving both goals.

Ensure effective oversight and appreciation of architecture as a cultural asset by formulating fresh principles that outline how architecture can contribute, thus creating awareness among professionals of construction value chain.

Cultivate public awareness regarding the significance of architecture as a cultural asset through campaigns, discussions, competitions and novel initiatives.

Champion the values of our European heritage and urban ideals, emphasizing its principles as a blueprint for other regions to adopt, guided by the most compelling benchmarks that characterize our architectural traditions.

Awareness Campaigns: Launch media campaigns that highlight successful projects and architects who have achieved the balance between energy efficiency and cultural value.

Public Lectures and Exhibitions: Host public lectures, exhibitions, and guided tours of sustainable and culturally significant buildings to increase public appreciation and understanding.

Online Resources: Create user-friendly online platforms or apps that showcase energy-efficient.

Role One

VALUE CHAIN SECTOR

Public Sector

Financing

Academic & Research

Material Providers

Real Estate & Promotion

Professional Services

Construction & Contractors

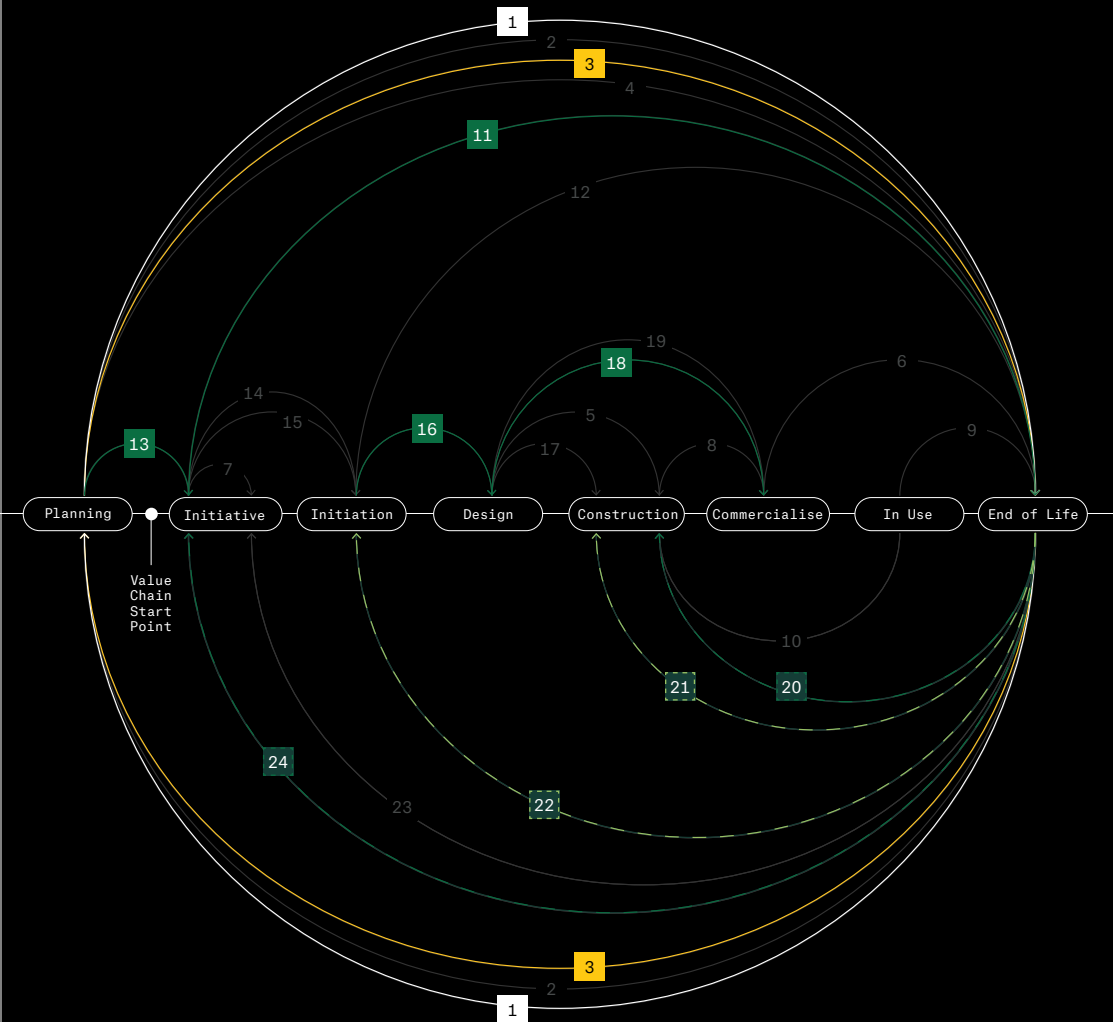
ARCHITECT ROLES

- Role 01: Sustainability Building Expert
- Role 02: Social Impact & Sustainable Urban Advisor
- Role 03: Green Finance Expert on Sustainability
- Role 04: Low Carbon Footprint & New Technologies Materials Consultant
- Role 05: Circular Economy Expert for Buildings

SERVICES

- 1 Public Sector (Administration & Infrastructure)
- 2 Financing
- 3 Academic & Research
- 4 Materials Industry Research & Development
- 5 Materials Manufacturing & Providers
- 6 Building Study
- 7 Market Study
- 8 Sales
- 9 Operation
- 10 Maintenance
- 11 Sustainable Services & Strategies
- 12 Technical Services Provider
- 13 Urban Public Regulations & Planning
- 14 Feasibility Studies
- 15 Business Case
- 16 Project Definition
- 17 Architectural Work Supervision & Handover
- 18 Architectural Design Stage
- 19 Construction Works
- 20 Renovation
- 21 Waste Management
- 22 Reuse & Revamping
- 23 Dismantling
- 24 Ecological Restoration

Sustainability Building Expert



KEY

- Value Chain Stages
- Services
- Services in two sectors

Role Two



Role Two

Social Impact & Sustainable Urban Advisor

Definition

Architects promote the social dimension of sustainability and address the disproportionate impact of crises on deprived communities. A public service should be established to provide authoritative professional evaluations concerning the possibilities offered by buildings and development areas taking into consideration, all elements linked to architecture, including defining healthy public spaces, revitalizing urban areas, and optimizing the energy efficiency of existing buildings.

37

Features

Tools & Skills

- Cost Control
- Sustainable Design
- Architectural Design
- State Subsidies for Efficient Buildings
- Design Product
- Collaborative, Interdisciplinary, Cross-Disciplinary Knowledge & Practice

Programmes & Channels

- Continuing Professional Development
- University Programs
- Best Practises Consulting with Other Professions

Actors & Agents

- Universities
- Engineers
- Government
- Clients

Political
& Administrative
Proposals

Government Advisory Committee: Establish a government advisory committee consisting of architects and urban planners to provide recommendations and evaluations for proposed building and development projects, emphasizing holistic urban and architectural considerations.

Building Evaluation Standards: Develop and implement standardized criteria and professional evaluation bodies for assessing the potential of buildings and development areas, with a focus on public space, urban revitalization, and energy efficiency.

Regulatory Incentives: Create policies and incentives for developers and property owners to seek evaluations and recommendations from professionals, potentially offering streamlined permitting processes or financial incentives for sustainable and community-oriented projects.

Municipal Architectural Review Boards: Require municipalities to establish architectural review boards that include expert architects to evaluate projects for their architectural, public space, and energy efficiency potential.

38

Educational
Proposals

Architectural Training Programs: Collaborate with architectural schools and institutions to develop specialized training programs for architects to equip them with the skills (expertise and communication) needed to provide authoritative evaluations on public spaces, urban regeneration, and energy efficiency.

Continuing Education: Encourage architects to engage in continuing education on subjects like sustainable design, urban planning, and community development, ensuring they stay updated on evolving architectural practices.

Public Service Internships: Create internship opportunities within the public service for architectural students and recent graduates, allowing them to learn firsthand about the evaluation process.

Dissemination
& Networking
Proposals

Public Awareness Campaigns: Launch media campaigns to educate the public about the role of the public service in evaluating and promoting architecture that defines healthy public spaces, revitalizes urban areas, and enhances energy efficiency.

Online Platform: Develop an accessible and user-friendly online platform where the public can access information on evaluations, case studies, and architectural insights related to public spaces, urban renewal, and energy efficiency.

Architectural Talks and Webinars: Organize public talks, webinars, and panel discussions featuring architects and experts discussing the importance of architectural evaluations in creating vibrant and sustainable communities. With special focus on the public projects that contribute to improving the social quality of life.

39



Role Two

VALUE CHAIN SECTOR

Public Sector

Financing

Academic & Research

Material Providers

Real Estate & Promotion

Professional Services

Construction & Contractors

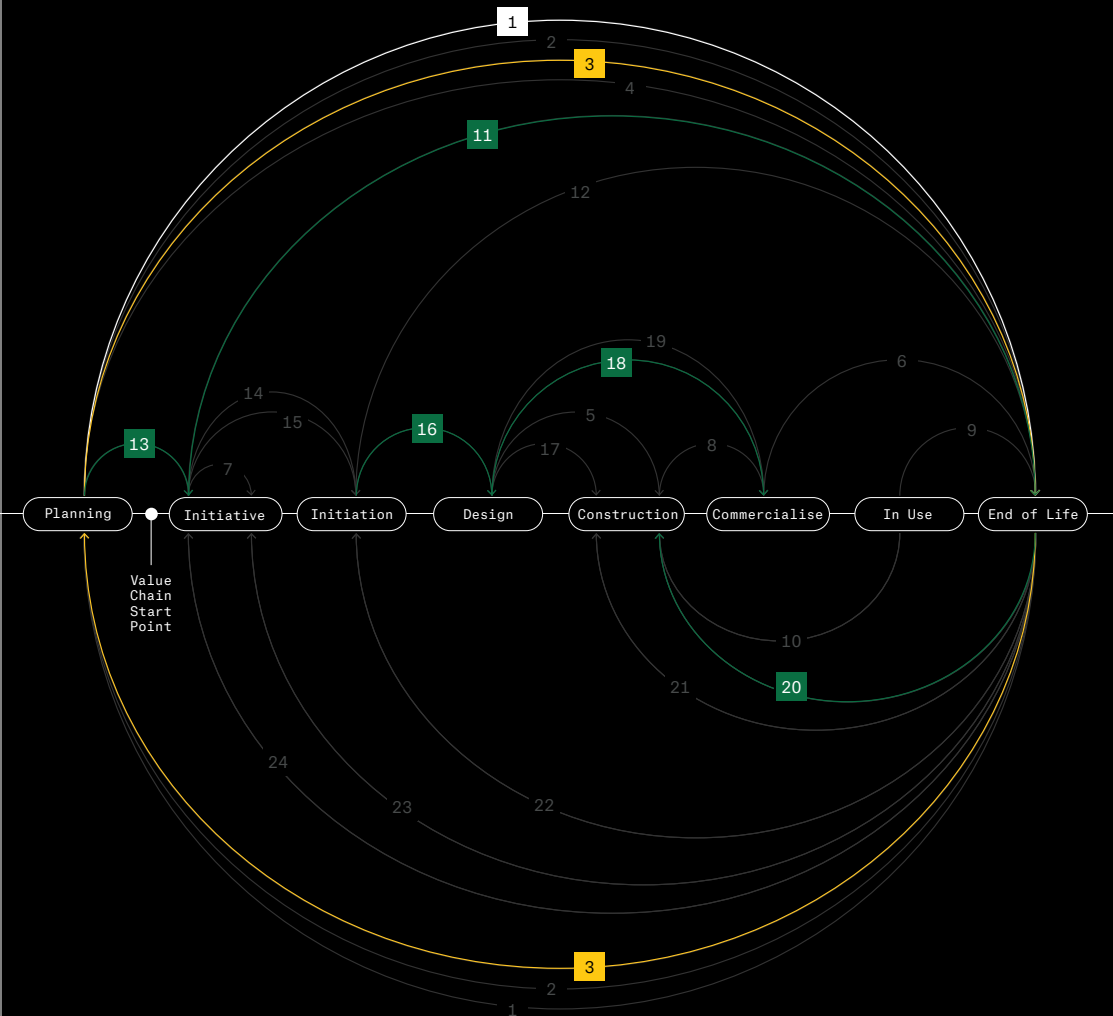
ARCHITECT ROLES

- Role 01: Sustainability Building Expert
- Role 02: Social Impact & Sustainable Urban Advisor
- Role 03: Green Finance Expert on Sustainability
- Role 04: Low Carbon Footprint & New Technologies Materials Consultant
- Role 05: Circular Economy Expert for Buildings

SERVICES

- 1 Public Sector (Administration & Infrastructure)
- 2 Financing
- 3 Academic & Research
- 4 Materials Industry Research & Development
- 5 Materials Manufacturing & Providers
- 6 Building Study
- 7 Market Study
- 8 Sales
- 9 Operation
- 10 Maintenance
- 11 Sustainable Services & Strategies
- 12 Technical Services Provider
- 13 Urban Public Regulations & Planning
- 14 Feasibility Studies
- 15 Business Case
- 16 Project Definition
- 17 Architectural Work Supervision & Handover
- 18 Architectural Design Stage
- 19 Construction Works
- 20 Renovation
- 21 Waste Management
- 22 Reuse & Revamping
- 23 Dismantling
- 24 Ecological Restoration

Social Impact & Sustainable Urban Advisor



KEY

- Value Chain Stages
- Services
- Services in two sectors

Role



Three

Role Three

Green Finance Expert on Sustainability

Definition

A green and sustainable financing expert evaluates projects to assess their environmental impact and financial feasibility. They identify sources of funding, incentives, and cost-saving measures that align with eco-friendly practices. Their role is to bridge sustainability goals with practical financial strategies for project success.

Features

Tools & Skills

- Cost Control
- Sustainable Design
- Architectural Design
- State Subsidies for Efficient Buildings
- Design Product
- Collaborative, Interdisciplinary, Cross-Disciplinary Knowledge & Practice

Programmes & Channels

- Continuing Professional Development
- University Programs
- Best Practises Consulting with Other Professions

Actors & Agents

- Universities
- Engineers
- Government
- Clients

Advanced Training Programs: Develop specialized training courses and workshops that cover the latest developments in green financing, sustainable investment strategies, and environmental impact assessment techniques. Make these programs accessible to finance professionals, environmental consultants, and project managers.

Cross-Disciplinary Collaboration: Encourage collaboration between finance experts, environmental scientists, and sustainability professionals to foster a holistic understanding of green financing. Create platforms for knowledge sharing and joint projects to expand expertise.

Certification Programs: Establish certification programs specific to green and sustainable financing, offering credentials to individuals who demonstrate proficiency in the field. Recognized certifications can enhance professional credibility.

Government Initiatives: Advocate for government support in the form of grants or subsidies for sustainable finance education and training programs. Government backing can help expand the pool of experts in the field.

Industry Partnerships: Collaborate with financial institutions, green investment funds, and sustainability-focused organizations to provide access to resources, data, and networking opportunities for green financing experts.

Continual Learning: Encourage professionals to stay updated with emerging trends and regulations in green financing through webinars, online courses, and industry publications.

Real-World Case Studies: Develop a repository of real-world case studies showcasing successful green financing projects. Analyze these cases to highlight best practices and lessons learned, providing valuable insights for practitioners.

Mentorship Programs: Launch mentorship initiatives where experienced green financing experts guide and support emerging professionals. This helps transfer practical knowledge and fosters career growth.

Research and Publications: Encourage experts to engage in research activities focused on green financing trends, innovative financial instruments, and their impact on sustainability. Promote the publication of research findings in industry journals and reports.

Networking Events: Organize conferences, seminars, and networking events that bring together professionals from finance, sustainability, and project management fields. These forums facilitate idea exchange and collaboration.

Public Awareness Campaigns: Launch media campaigns to educate the public about the role of the public service in evaluating and promoting architecture that defines healthy public spaces, revitalizes urban areas, and enhances energy efficiency.

Online Platform: Develop an accessible and user-friendly online platform where the public can access information on evaluations, case studies, and architectural insights related to public spaces, urban renewal, and energy efficiency.

Architectural Talks and Webinars: Organize public talks, webinars, and panel discussions featuring architects and experts discussing the importance of architectural evaluations in creating vibrant and sustainable communities. With special focus to the public projects that contribute to improve the social quality of life.



Role Three

VALUE CHAIN SECTOR

Public Sector

Financing

Academic & Research

Material Providers

Real Estate & Promotion

Professional Services

Construction & Contractors

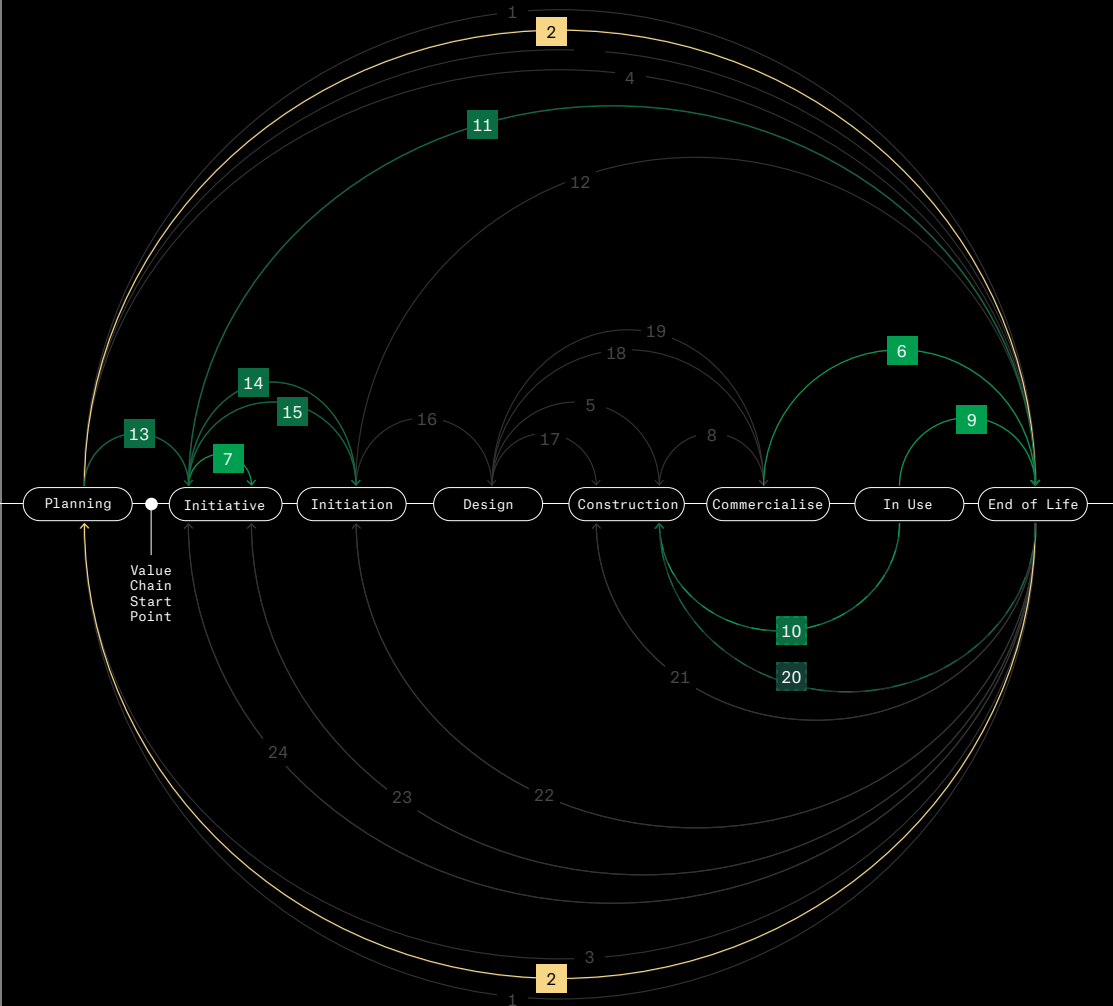
ARCHITECT ROLES

- Role 01: Sustainability Building Expert
- Role 02: Social Impact & Sustainable Urban Advisor
- Role 03: Green Fianance Expert on Sustainability
- Role 04: Low Carbon Footprint & New Technologies Materials Consultant
- Role 05: Circular Economy Expert for Buildings

SERVICES

- 1 Public Sector (Administration & Infrastructure)
- 2 Financing
- 3 Academic & Research
- 4 Materials Industry Research & Development
- 5 Materials Manufacturing & Providers
- 6 Building Study
- 7 Market Study
- 8 Sales
- 9 Operation
- 10 Maintenance
- 11 Sustainable Services & Strategies
- 12 Technical Services Provider
- 13 Urban Public Regulations & Planning
- 14 Feasibility Studies
- 15 Business Case
- 16 Project Definition
- 17 Architectural Work Supervision & Handover
- 18 Architectural Design Stage
- 19 Construction Works
- 20 Renovation
- 21 Waste Management
- 22 Reuse & Revamping
- 23 Dismantling
- 24 Ecological Restoration

Green Finance Expert on Sustainability



KEY

- Value Chain Stages
- Services
- Services in two sectors

Role

Four



Role Four

Low Carbon Footprint & New Technologies Materials Consultant

Definition

Consultant with practical experience and specialisation in the effective utilization of new materials, new technologies and low carbon footprint materials to facilitate development projects.

Features

Tools & Skills

- Cost Control
- Sustainable Design
- Architectural Design
- State Subsidies for Efficient Buildings
- Design Product
- Collaborative, Interdisciplinary, Cross-Disciplinary Knowledge & Practice

Programmes & Channels

- Continuing Professional Development
- University Programs
- Best Practises Consulting with Other Professions

Actors & Agents

- Universities
- Engineers
- Government
- Clients

Specialized Training Programs: Develop comprehensive training programs or workshops, organised by the professional chambers of architects, that provide in-depth knowledge of materials selection, application, and sustainability, tailored for aspiring materials consultants.

University Partnerships: Establish partnerships with universities and educational institutions to offer practical experience opportunities, such as internships or co-op programs, for students pursuing careers as materials consultants.

Guest Lectures: Invite experienced materials consultants to deliver guest lectures at educational institutions, sharing their real-world insights and experiences with students.

Case Study Competitions: Organize case study competitions for students, where they can analyze and propose solutions for real project material challenges, under the guidance of practicing materials consultants.

Educational Resources: Create and disseminate educational resources like online courses, webinars, and textbooks specifically focused on materials consultancy and sustainable development.

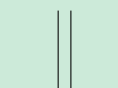
Certification Programs: Develop a recognized certification programme for materials consultants, assessing their practical knowledge, problem-solving skills, and ability to support sustainable project development.

Mentorship Initiatives: Establish mentorship programs that pair novice materials consultants with experienced practitioners, enabling knowledge transfer and professional growth.

Industry Workshops: Organize specialized workshops and seminars where materials consultants can refine their skills, stay updated on industry trends, and network with peers.

Professional Associations: Encourage materials consultants to actively participate in industry associations, promoting collaboration, sharing best practices, and setting ethical standards.

Online Knowledge Sharing Platform: Create an online platform or forum where materials consultants can exchange experiences, discuss challenging projects, and seek advice from their peers.



Role Four

VALUE CHAIN SECTOR

Public Sector

Financing

Academic & Research

Material Providers

Real Estate & Promotion

Professional Services

Construction & Contractors

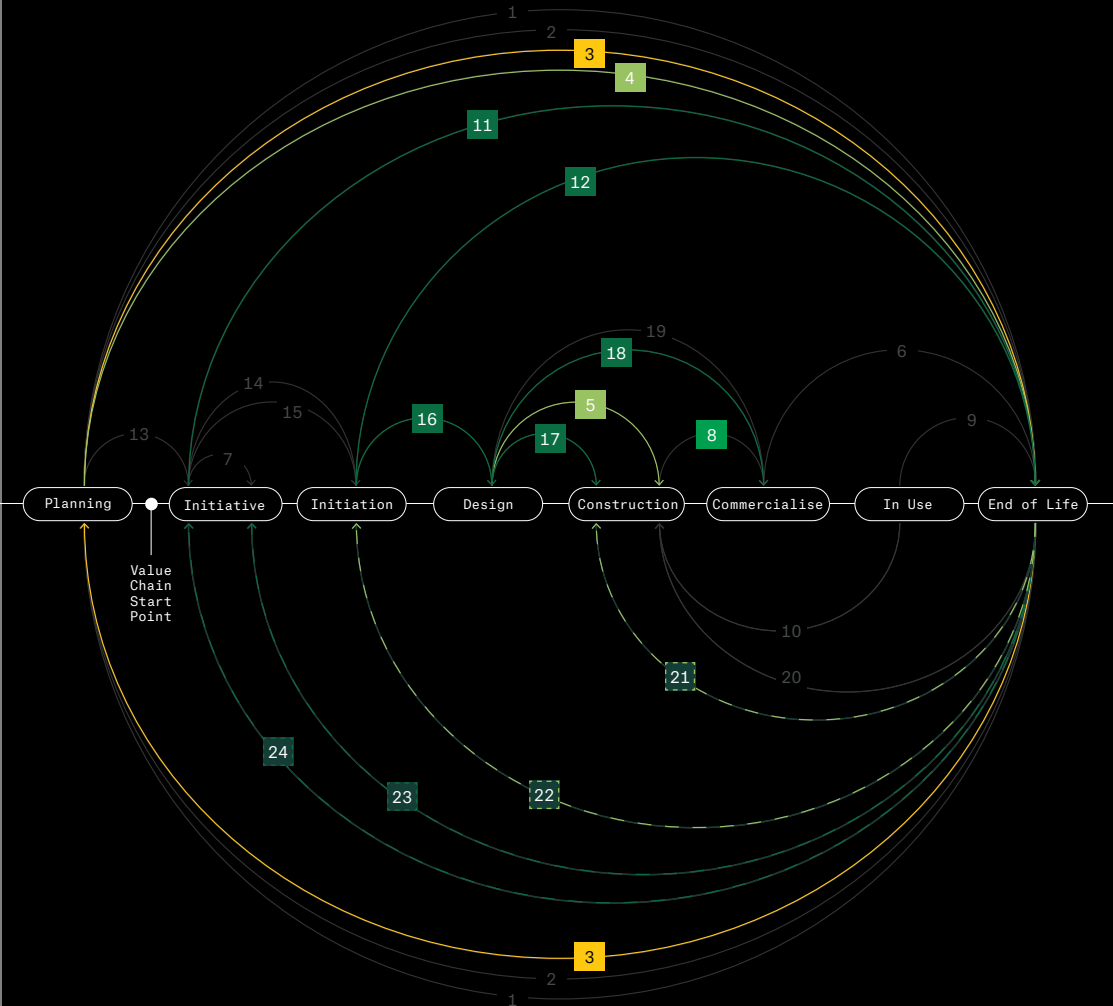
ARCHITECT ROLES

- Role 01: Sustainability Building Expert
- Role 02: Social Impact & Sustainable Urban Advisor
- Role 03: Green Finance Expert on Sustainability
- Role 04: Low Carbon Footprint & New Technologies Materials Consultant
- Role 05: Circular Economy Expert for Buildings

SERVICES

- 1 Public Sector (Administration & Infrastructure)
- 2 Financing
- 3 Academic & Research
- 4 Materials Industry Research & Development
- 5 Materials Manufacturing & Providers
- 6 Building Study
- 7 Market Study
- 8 Sales
- 9 Operation
- 10 Maintenance
- 11 Sustainable Services & Strategies
- 12 Technical Services Provider
- 13 Urban Public Regulations & Planning
- 14 Feasibility Studies
- 15 Business Case
- 16 Project Definition
- 17 Architectural Work Supervision & Handover
- 18 Architectural Design Stage
- 19 Construction Works
- 20 Renovation
- 21 Waste Management
- 22 Reuse & Revamping
- 23 Dismantling
- 24 Ecological Restoration

Low Carbon Footprint & New Materials Technologies Consultant



KEY

- Value Chain Stages
- Services
- ▨ Services in two sectors

Role

Five



Role Five

Circular Economy
Expert for Buildings

Definition

Designer of a sustainable architectural strategy centred on the construction project's ability to adapt over its entire lifespan. Proficient in understanding and managing the entire life cycle of construction projects.

Features

Tools & Skills

- Cost Control
- Sustainable Design
- Architectural Design
- State Subsidies for Efficient Buildings
- Design Product
- Collaborative, Interdisciplinary, Cross-Disciplinary Knowledge & Practice

Programmes & Channels

- Continuing Professional
- Development
- University Programs
- Best Practises Consulting with Other Professions

Actors & Agents

- Universities
- Engineers
- Government
- Clients

Government Guidelines: Promote the collaboration with government agencies to establish guidelines that prioritize sustainability and adaptability in public construction projects. Encourage the use of sustainable design principles and life cycle assessments.

Public-Private Partnerships: Facilitate partnerships between the public sector and private developers to promote sustainable and adaptable design practices in large-scale infrastructure projects.

Green Building Certifications: Advocate for the adoption of green building certifications and standards in public construction projects, incentivizing environmentally friendly and adaptable designs.

Professional Training Programs: Develop training programs for government officials, architects, and contractors that focus on sustainable design and the management of construction projects throughout their life cycles.

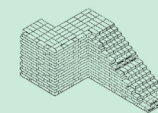
Sustainable Design Awards: Establish industry awards and recognition programs for private developers and architects who excel in creating adaptable and sustainable construction projects.

Financial Incentives: Encourage private investors and developers by offering financial incentives, tax breaks, or grants for projects that prioritize sustainability and adaptability.

Sustainability Consultancies: Partner with sustainability consulting firms to offer expertise in life cycle assessments and sustainable design to private developers seeking to enhance their projects.

Industry Collaborations: Foster collaboration between private construction associations and architectural firms to promote sustainable and adaptable design principles as industry standards.

Marketing Sustainability: Implement marketing campaigns that highlight the long-term benefits and cost savings associated with sustainable and adaptable construction, targeting private clients and investors.



Role Five

Circular Economy Expert for Buildings

VALUE CHAIN SECTOR

Public Sector

Financing

Academic & Research

Material Providers

Real Estate & Promotion

Professional Services

Construction & Contractors

SERVICES

1 Public Sector (Administration & Infrastructure)

2 Financing

3 Academic & Research

4 Materials Industry Research & Development

5 Materials Manufacturing & Providers

6 Building Study

7 Market Study

8 Sales

9 Operation

10 Maintenance

11 Sustainable Services & Strategies

12 Technical Services Provider

13 Urban Public Regulations & Planning

14 Feasibility Studies

15 Business Case

16 Project Definition

17 Architectural Work Supervision & Handover

18 Architectural Design Stage

19 Construction Works

20 Renovation

21 Waste Management

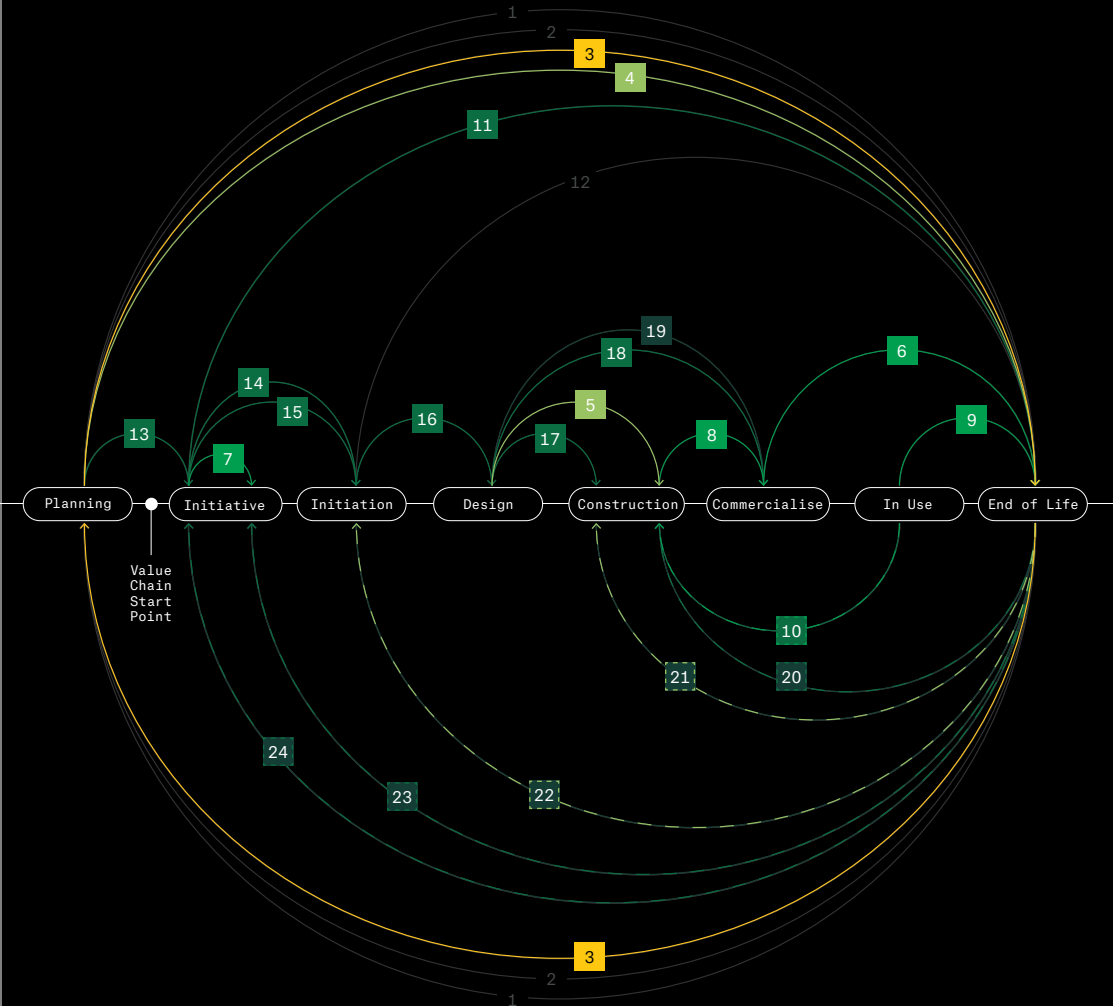
22 Reuse & Revamping

23 Dismantling

24 Ecological Restoration

ARCHITECT ROLES

- Role 01: Sustainability Building Expert
- Role 02: Social Impact & Sustainable Urban Advisor
- Role 03: Green Finance Expert on Sustainability
- Role 04: Low Carbon Footprint & New Technologies Materials Consultant
- Role 05: Circular Economy Expert for Buildings



KEY

- Value Chain Stages
- Services
- Services in two sectors

References

- 1 https://ec.europa.eu/commission/presscorner/detail/ov/SPEECH_20_1655
- 2 <https://www.un.org/sustainabledevelopment/>
- 3 https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en
- 4 https://next-generation-eu.europa.eu/index_en
- 5 https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/renovation-wave_en https://new-european-bauhaus.europa.eu/index_en
- 6 Publication as “Un Sustainable Development Goals in Practice” by United Nations Global Compact and RIBA, also available as a PDF on www.architecture.com, or the SDG Commission on the UIA, that also promote publications <https://www.uia-architectes.org/en/commission/sdgs> are some examples of its importance.
- 7 <https://unhabitat.org/about-us/new-urban-agenda>
- 8 https://commission.europa.eu/eu-regional-and-urban-development/topics/cities-and-urban-development/urban-agenda-eu_en
- 9 <https://www.climate-kic.org/press-releases/cities-climate-neutrality/>
- 10 <https://territorialagenda.eu>
- 11 Kaplinsky, R. and M. Morris (2001), A Handbook for Value Chain Research, prepared for the International Development Research Centre (IDRC).

**About the Architects' Council of Europe (ACE)**

The Architects' Council of Europe (ACE) is the representative organisation for the architectural profession at European level: it aspires to speak with a single voice on its behalf in order to achieve its aims.

Its growing membership currently consists of 52 Member Organisations, which are the regulatory and professional representative bodies in all (European Union (EU) Member States, Accession Countries, the UK, Switzerland and Norway, and 6 Observers Members—Serbia, Kosovo, Ukraine, Montenegro, Macedonia, Moldova). Through them, the ACE represents the interests of over half a million architects from 36 countries in Europe.

Editorial coordinators

Sergio García-Gasco, Chair of the ACE—IBM task force / CSCAE / Universidad San Pablo CEU

Angela Baldellou, CSCAE

Elena Zucchini, CSCAE

61

About this publication

This brochure is published by the ACE's Taskforce on Internationalisation and New Business Models (IBM)

ACE—IBM members

Jacques Borg Barthet

Joris Boutin

Gaetane de Breyne

Clelia Fernandes

Krzysztof Frackowiak

Sandor Gergely

Borislav Ignatov

Pawel Kobylanski

Roni Koski-Tuuri

Sergio Garcia-Gasco Lominchar

Elin Lydhal

Ana Maio

Emmanuelle Meunier

Gnieszka Mietlicka

Nada Ponomarev

Kateryna Romanenko

Sarma Visvaldis

Luis Pedra Silva

Philip Steden

Frank Turvey

Viktors Valgums

Olga Venetsianou

ACE Secretariat members

Ian Pritchard

Julie Deutschmann

Lukas Bollaert

Design:

Red&Grey

redandgrey.ie



dice-
cae
eu



Co-funded by
the European Union

This publication is co-funded by the Creative Europe Programme of the European Union.

Disclaimer: The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors and the Commission cannot be held responsible for any use which may be made of the information contained therein.