ARCHITECTURE'S AFTERLIFE

POLICY BRIEFINGS

IO5

ARCHITECTURE'S AFTERLIFE POLICY BRIEFING PREPARATION DOCUMENTS

INTRODUCTION

The following five **Policy Briefing Preparation Documents** offer a set of audience-specific recommendations derived from the findings of the *Architecture's Afterlife* Study, and form the basis of the education- and industry-focused recommendations synthesised in the White Paper.

The main aim of these combined documents is to call for a policy-led reassessment and reclassification of graduate qualifications – one that, by placing greater emphasis on transversal skills, will enhance graduate employability and mobility across employment sectors, and address current real or perceived skills shortages.

While the research was originally intended to produce outcomes that were primarily aimed at schools of architecture (as demonstrated by these documents), the findings pointed to the need to formulate recommendations that are relevant to all degree programmes and all higher education institutions, as well as to industry and professional bodies. A realisation which is reflected in the structure of the White Paper, which seeks to speak to all these audiences simultaneously rather than individually.

POLICY BRIEFING PREPARATION DOCUMENT 01 (IO5.A)

RECOMMENDATIONS FOR ARCHITECTURE EDUCATION ADMINISTRATORS

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EXECUTIVE SUMMARY

Although architecture graduates generally feel satisfied with their education, they often find that what they were taught in school doesn't match what they need in their professional lives. To address this so-called 'mis-match' between architectural education and professional practice, this briefing makes a number of key recommendations which seek to satisfy better students' expectations about what to expect from professional practice.

Targeting European architecture school leadership and administrators, this policy briefing aims at revising and improving curricula in architecture as well as connections between curricula in architecture and others curricula in order to address the above-mentioned mismatches.

DEFINITION OF THE OBJECTIVES

POLICY IMPACT

As outlined in The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions On a Renewed Eu Agenda For Higher Education, Brussels, May 30 2017)[1] The EU is prioritising four goals as main challenges of its agenda for higher education:

1) tackling future skills mismatches and promoting excellence in skills development;
2) building inclusive and connected higher education systems;
3) ensuring higher education institutions contribute to innovation;
4) supporting effective and efficient higher education systems.

Based on the outcomes of the research, the present document specifically addresses two main objectives:

Revision and improvement of curricula in Architecture, specifically tackling point 1) and 2) of the Renewed EU Agenda for Higher Education.

[1] Source: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52017DC0247

Improvement of interdisciplinary connections between curricula in Architecture and in others curricula, specifically tackling points 2) and 3) of the Renewed EU Agenda for Higher Education.

AUDIENCE

This paper provides recommendations for schools of architecture regarding the study of architecture. Targeting European architecture school leadership and administrators, as well as professors and administrative staff specifically in charge of curricula design and organisation in architectural schools.

THE ISSUE

1. The **satisfaction ratio is high but could be higher**. No significant distinction between full-time, part-time architects and graduates working in related fields (more than 85% of them satisfied or very satisfied with their studies) but a significant difference between graduates working in architecture and others (76% of graduates satisfied or very very satisfied).

2. The survey highlights several mismatches between skills and competences learned at school and those useful in architectural practice, but the in-depth interview allows us to understand that the **mismatches have a strict relationship with the kind of professional context** in which graduates in architecture practice. For instance, the mismatches highlighted are very different from architects practicing as architects in small firms and from those working in big international architectural and engineering firms. Clear differences also arise between the mismatches identified by the founders of the architectural offices and architects partners of big firms dealing with building site phases of the project.

3. A recurrent complaint about architectural studies concerns the fact that educational paths include **too many theoretical activities and courses**. On one side the course in history of architecture is the only one in which the mismatch highlighted is not a gap but an excess. On the other side, architects consider that some disciplines – mainly the more technical ones such as construction or building physics - should be taught through more hands-on, experimental activities.

4. The architectural graduates are often recognised to have a high level of digital knowledge but most of the architects interviewed estimate their competences are **non-aligned** with professional needs. Namely, architectural graduates develop sophisticated skills in parametric design and Visual Programming Language while skills related to the BIM world, dominating in the professional context, are still neglected.

5. The fact that in many countries **professional internship is not mandatory** as a part of the curricula is also seen as an obstacle to having architectural graduates aware of the professional challenges and context and trained to be able to enter the professional word of architecture without further training.

6. In the countries in which internship is a compulsory activity in the frame of architectural curricula, the interviewees often observe how internships **very rarely include activities related to buildings site** and therefore architectural graduates still unfamiliar with the whole building process and context.

7. The so-called **soft skills** are unanimously recognized as fundamental in any professional context but in the architectural sector particularly. Both the survey and the interviews show that architectural studies improve the development of several soft skills, but this is achieved

in a non-planned way, going through tough experiences such the relationship with colleagues and professors in developing a project, or enduring high working rhythms.

8. The soft skills area where the mismatches between what is taught in AE and what is required in professional practice is higher are the skills related to communication. Whether architectural students are often confronted with **communication** issues in presenting their work or dealing with classmates for group working, proper techniques to develop effective, non-conflicting communication are never explained, nor analysed.

9. Skills related to **team building and team management** are also acquired "training on the job" but never systematised. Conflicts among groups specifically in design activities are often mentioned as concrete obstacles in architectural careers both in the educational and in the professional path. In other professional contexts specific team building and team management activities are organised as a part of the curricula while in the architectural curricula they are considered to be acquired through group activities.

10. Among the competences most acquired and used by architecture graduates are **social or emotional** skills strongly related to empathy. Although those competences are recognized to be already developed in architectural graduates, many interviewed expressed the importance of improving them and recognized them in a more clear way.

11. **Entrepreneurial competences** and skills are mentioned as one of the main gaps in architectural education. This gap is visible in the survey but only the interviews allowed to describe the main components of this lack of knowledge. The skills needed to develop the entrepreneurial approach, mentioned by the interviewed as essential in the starting phases of architectural practice but not only, are mainly related to three fields of knowledge: Business management skills, Basic economics and Real estate.

THE RECOMMENDATIONS

DATASET DESCRIPTOR

The proposed recommendations for higher education draw from an array of possible professional futures, and reference the full dataset of respondents, both those surveyed and those interviewed.

RECOMMENDATIONS

The following recommendations are related to the eight points which define the research question as outlined in the white paper[2]. More specifically the recommendation a) is related to the drive of education within industry (point 8). The recommendation b) addresses the skills mismatches and skills shortages (point 1) and the relationship between skills behaviour competencies and

[2] Eight-point probelm definition:
1. skills mismatches and skills shortages: myths or misapprehensions?
2. decredentialisation and the disciplines
3. skills, behaviours competencies and competences
4. transversal, transferable, trans-sector skills and transdisciplinarity
5. declining degree disciplines, increasing microcredentials
6. degree disciplines do not denote transversal skills
7. the hyperinflation, speed & obsolescence of technological skills & the rise of ai
8. the distributed classroom: education within industry
9. the growing gig economy impetus for trans-sectoral portfolio work

competences (point 3). Recommendation c) responds to the need of developing transversal, transferable, trans-sector and multi-sector skills (point 4) and to the need of declining existing degree (point 5). They are also designed to address a mis-match between what students believe architecture practice to be and what they then experience – in other words – better management of their expectations.[3] They seek to:

a) Offer **more practical and/or practice-based pathways to qualification** including opportunities for internships in European countries beyond their own in order to form graduates in architecture who can be practising architects without any further training needed.

b) **Transform architecture curriculum** to increase the acquisition, development and assessment of:

(i) soft-skills including public/client-facing communication, team-building experiences, with an emphasis on the ability to collaborate, listen and empathise;

(ii) innovation and entrepreneurship including business economics, strategy and team management skills;

(iii) digital skills - not only in terms of their level of acquisition but moreover in terms of the kind of digital skill learnt and in terms of their application.

c) **Transform architecture curriculum (2)** in order to meet plural and multiple expectations of the students in architectural education not only aiming at becoming practising architects or working in the field of architecture.

d) For schools to **better capture their graduate (and non-graduate) employment sector destinations** - as a means to determine their multi-sector impact, ideally, through participation in a European database.[4]

IMPLEMENTATION OF THE RECOMMENDATIONS

Specific actions are defined to implement the four recommendations highlighted above:

Recommendation a) more practical and/or practice-based pathways to qualification

1. A balance between theoretical and hands-on activities in any discipline, not only concentrating practical activities in the Atelier experience. The 50% of practical activities recommended by the EU legislation should be considered as a minimum, not as an average, and should be improved in courses and activities other than the design ateliers.

2. Professional internships should be included in the architectural curricula. The debate is still open on the form and the organisation of this experience. Considering the previous goal (To satisfy plural, multiple and different expectations of the students/graduates in architectural education), internships in different kinds of practice and for different professional roles should be proposed/accepted.

Recommendation b) Transform architecture curriculum

(i) soft-skills

1. To set specific communication courses focus both on external communication (toward clients and/or institution) and internal communication (among the members of a working group).

[3] Initiatives such as The London School Architecture already aim to tackle this 'mis-match' of expectations by providing workplace-based learning.

[4] The database recommendation applies more directly to an action for 105b - since the database would not be created by any individual school but requires a European directive to take the lead in its design and deployment.

2. To forecast specific experiences of team building and team management, not always directly related to architecture.
3. The inclusion of emotional and soft skills and competences in broader assessment criteria in the context of recruitment, competitions, etc.

(ii) innovation and entrepreneurship
Courses of basic economics and real estate as a mandatory part of the curriculum.
Business management skills courses and/or basic courses and experimental activities as elective courses accessible to graduated students as well.

(iii) digital skills
Digital skills teaching should focus more, even if not exclusively, on software and languages more widespread in the context of professional practice.

Recommendation c) Transform architecture curriculum (2)

1. Organising a programme in architecture through a core of subject and activities training the mindset and the design method recognized as the strengthening of architectural education towards all the sectors (related to architecture or not) = MAJOR. Add elective subjects and activities paths with different goals and professional perspectives= MINOR.
2. Organising mixed programmes with part of the educational path inside the schools of architecture and the possibility to take part of the educational path in other faculties or schools.

Recommendation d) capture their graduate (and non-graduate) employment sector destinations
Set up a tracking of students enrolled for at least 5 years after their leaving of the school and Creation of a database recording the sector of employment, the type of employer and the position covered by the former students/graduates.

FURTHER ACTIONS (NEXT STEPS)

The research suggest to develop two directions of enquire to tackle the mismatches between architectural education and architectural professional practice:

1. The setting of a European database of the graduates in architecture and their professional trajectories in the five years after graduation could be helpful in understanding the kind of practice in which the graduates evolve and their professional role to better define the related needs in terms of skills and competences.

2. A European training platform for architectural teachers to focus on pedagogical methodologies able answer the needs of the professional market but also to be able to forecast future needs and challenges of the society and not only of the building sector.

Those actions would require the building of a network among European schools of Architecture and the support from European architectural organisations. Namely the creation and maintenance of a graduate destinations database – would require a partnership between schools and a pan-European organisation, such as the European Association for Architectural Education (EAAE) or the Architects Council of Europe (ACE). A Trans-european training platform would require a promoting partnership of schools of architecture and would benefit from constant exchange with educational networks such as the EAAE, for example Education Academy, that offers pedagogical resources and debate occasions for architectural education.

These recommendations also apply to 105c – Higher Education Institutions (beyond architecture schools).

POLICY BRIEFING PREPARATION DOCUMENT 02 (IO5.B)

INSIGHTS AND RECOMMENDATIONS FOR ARCHITECTURE BUSINESSES AND REGIONAL REPRESENTATIVES, INCLUDING PROFESSIONAL BODIES

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EXECUTIVE SUMMARY

DATASET DESCRIPTOR

While the recommendations are based on findings related to the 62% of respondents working in architectural practice, they reach beyond this dataset by implying a broader understanding of the title 'architect', their skills and competences.

AUDIENCE

This paper is intended to impact architecture businesses and regional representatives, including professional bodies – specifically those responsible for maintaining professional standards and defining the needs of the industry in ways that support curriculum alignment and advancement within schools of architecture and to determine qualification standards for regulatory bodies such as professional registers.

This paper focussed on how the qualifications and skills needed to enter architecture school, graduate from architecture school, and to assume the title of 'architect' are not consistent across Europe. The implications are a lack of equal access and inequitable employment mobility prospects across the region. For example, Croatia and Spain hold national exams for university entrance, whereas in the Netherlands, entrance exams are not necessary. And, whereas in Spain, graduates can assume the title of 'architect' following graduation, UK architecture graduates have to undertake additional registration training and examinations before they can be admitted to the national register, and assume the title of architect. Moreover, in some countries, the study period is as little as three years and in others, as great as seven years.

POLICY IMPACT

Article 46 of the EU's Professional Qualifications Directive 2005/36/EC, which deals with 'the training of architects', states that an architect should have adequate knowledge of the fine arts,

technology, human sciences, environmental issues and building regulations, to name but a few. Not only, the directive says, should the architect be well versed in a variety of different forms of knowledge, but they should have an understanding of their 'role within society', mediating 'between people and buildings and between buildings and their environment', responding to 'human needs and scale'. However, nowhere is it clearly stated how exactly this knowledge/awareness is to be acquired through education or training, or what exactly it should consist of, which is why Article 46 needs to be expanded to include a clear definition of multidisciplinarity and an outline of the architect's role within society.

RECOMMENDATIONS

The following recommendations are intended as addendums and/or revisions to this policy, but could also be adopted by regional offices and representative bodies, too:

a) **Create a more transparent qualification taxonomy that would:**

   1. make the skills taught and acquired in architecture school more transparent and in turn it easier for employers and recruitment agencies to hire architecture graduates where their skills are most needed, both within and beyond the architecture sector, and;

   2. Identify whether the qualification includes certification of the legal competences assigned to it to make qualifications and their delineated skills comparable and competitive between the different countries. This would also avoid confusion and maintain public confidence and safety.

b) **Allow graduates of architecture to retain the title 'architect'** whether or not they practice as professional architects, by allowing a use of the title as a suffix (e.g. Jane Kane, Architect) or prefix (such as *building* architect). If a Ph.D. graduate is entitled to use the prefix 'Dr.' as much as a medical doctor can, then there is professional precedent for a plurality of use of the title.

c) **Create a publicly-accessible EU-wide skills register** for architects that delineate precisely what specific skills and specialisms an individual has - from the legal and technological to the 'soft' and interpersonal. Members of the register should be legally required to annually update it. Successful versions of this kind of register already exist as part of the Continuing Professional Development and maintenance of core competencies needed to retain professional registration in countries such as the UK. The limitation of this system however, is that it is not accessible to the public, nor to potential employers when seeking to appoint specialists or address skills shortages.

IMPLEMENTATION

The implementation of these recommendations – for example, the development of a system that would make the skills subsumed under a degree qualification more transparent – and the publicly accessible EU-wide skills register could in effect involve the same system, and, the same policy-based mandate.

The 'protection of title' is a legal entity, thus requiring legislative action.

Architecture businesses, regional representatives and professional bodies could be compelled through a policy-driven mandate to participate in the development and deployment of this proposal.

PRELIMINARY ANALYSIS

The text below provides a capture of the preliminary audience analysis, that was used to further advance, develop and synthesise the findings into the more pithy recommendations summarised above:

An analysis of the routes that a student has to follow to become an architect in the countries participating in this project gives an idea of the diversity and the origin of this diversity of training.
On the one hand, not all countries require university entrance exams. While Croatia, Spain and Spain require a certain qualification and hold national exams for university entrance, in the United Kingdom, the Netherlands and Italy they are not necessary. On the other hand, access to the profession of architect is not guaranteed by the graduate qualification and the duration of these studies ranges from 3 to 5 years. In all countries it is necessary to study for a master's degree in order to enter the profession. Moreover, in some countries such as the Netherlands, the United Kingdom and Croatia, an internship is compulsory to enter the profession. And as a consequence of specific laws linked to the professional associations, the competences granted by the training are diverse. In some countries, professionalisation does not depend on the university, but is granted by "state examinations", as in Italy, as opposed to Croatia, the Netherlands, the United Kingdom and Spain, where the university is the one that guarantees access to the practice of the profession.

RECOMMENDATION

1. Establish a clear definition of the competences of architects working in the field of building, construction, planning, or design in each country.
2. Increase the visibility of the work carried out by architects by the professional associations in each country.
3. The professional associations should continue with the work of safeguarding the rights and duties of architects but including the diversity that exists in today's society.

RECOMMENDATION b.1 Establish a clear definition of the competences of architects working in the field of building, construction, planning, or design in each country

With the increase in the number of qualifications: graduate in architecture, graduate in fundamentals of architecture, master's degree in architecture, master's degree in architecture specialisation, the ability to understand the competences granted by each of these studies becomes more complex and can result in a lack of credibility in the training of the different profiles. For example, in Spain, there are schools where the degree in architecture has different names: Graduate in Fundamentals of Architecture, Graduate in Architecture, Degree in Architectural Studies, and in some cases under this description:

"*a technically competent and scientifically solvent professional who is integrated into the productive activity of architecture, who can create architectural projects that meet both aesthetic and technical requirements; with knowledge of the history and theories of architecture, urbanism and planning, research methods and the preparation of construction projects, and also of the problems of structural design, construction and engineering linked to the design of buildings. You will understand the relationships between people, buildings and their environment, and the architectural profession and its role in society, in order to take into*

account social factors in the project." If you have a degree in architecture, you cannot practise as an architect, i.e. you do not have the competence to sign projects.

1. Each qualification should indicate in its certification the legal competences assigned to it. Homogenise the competences assigned between countries so that qualifications and their competences are comparable. This would avoid confusion and ensure that the profession is properly practised.

2. Create a publication/web with the different European titles/grades/qualifications and competences that should be actualized periodically.

3. Show by means of the widest possible dissemination (exhibitions, informative articles, documentaries...) what competences are attributed to each qualification.
The organisation of events and exhibitions informing about the different jobs that can be carried out as professional architects would help to understand the complexity of this training and differentiate between the exercise of the profession linked to building, construction, planning and other activities registered within the professional activity, from other activities that can also be carried out by the architect.

RECOMMENDATION b.2 Increase the visibility of the work carried out by architects by the professional associations in each country.

1. Hold exhibitions, write articles, organise conferences for the general public with the aim of making the diverse work of architects more visible. Organise debates and round tables with professionals who work in architecture from other perspectives.

2. Organise information sessions for students prior to university entrance on the various options for practising as an architect or for developing activities related to architecture.

RECOMMENDATION b.3 The professional associations/Bodies should continue the work of safeguarding the rights and duties of architects, but including the diversity that exists in society today in each country.

1. To ensure good professional practice by ensuring that legal regulations are complied with.

2. Updating the training of architects Offering training courses or informative conferences to update the training of architects due to the new demands of society in the field of architecture. ICT Programmes, materials, construction techniques, certifications, updated regulations are constantly changing in this ever-changing world.

POLICY BRIEFING PREPARATION DOCUMENT 03 (IO5.C)

RECOMMENDATIONS FOR EUROPEAN HIGHER EDUCATION ORGANISATIONS AND POLICY

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EXECUTIVE SUMMARY

DATASET DESCRIPTOR

As the recommendations are targeted to higher education policy and affect the total body of graduates, amending the learning outcomes stated in directives as well as transversal skill recognition draws from data acquired from the full set of respondents.

AUDIENCE

This paper is intended to speak to Higher Education Policy makers; EU representatives, European Qualification Frameworks administration, HE policy makers, accreditation boards and organisations, and academic HE experts, both in HE policy and HE pedagogy.

POLICY IMPACT

As outlined in The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions On A Renewed Eu Agenda For Higher Education, Brussels, May 30 2017)[1] the EU is prioritising four goals aimed at tackling future skills mismatches and promoting excellence in skills development; building inclusive and connected higher education systems; ensuring higher education institutions contribute to innovation; supporting effective and efficient higher education systems. This ASPB seeks to target Higher Education's ability to support more efficient and effective Higher Education systems, and in particular, the lack of 'equity and efficiency' (p.9) of qualification pathways and processes.

RECOMMENDATIONS

The following recommendations are intended as addendums and/or revisions to this Directive. They recommend that the policy is updated to:

[1] Source: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52017DC0247

a) **Determine a pan-European transversal skills rubric,** one that places equal value on 'emotional, 'soft' and 'social' skills and behaviours subsets as it does on technology skills.

b) **Provide multi-disciplinary assessment frameworks for transversal skills** to ensure transversal skills are taught within any degree subject, and to foster greater opportunities for interdisciplinary learning experiences.

c) **Require higher education to offer more opportunities for practice-based / work-based learning** by forming stronger partnerships with businesses, companies and community organisations - and - ensuring robust assignment and assessment frameworks for employers and students.

IMPLEMENTATION

Encouraging educational and policy tools throughout cultural and creative learning paths, including lifelong learning trajectories, such as Service Learning Methods or Academic Design Offices (ADO's) intensifying and rendering more explicit the connection between education, design practice and research, avoiding the threat of parallel circuits of practice and academia in architectural and artistic milieus. ADO's consist of multidisciplinary teams where researchers, artists, practitioners etc. meet in a pedagogical environment where students participate in practice or design-based research projects.

Within architecture, Using the ENACA (European Network of Architects' Competent Authorities) new policy tool of Mixed Qualifications could help to develop transversal skills rubric.

Within architecture, garnering interest and strategic support – through advisory board membership – from the Architects Council Europe (ACE), new EIT Culture & Creativity Innovation, Community, Council of the European Union dealing with Education, Youth, Culture, New European Bauhaus, among others, to ensure strong stakeholder engagement and advocacy for increases in work-based learning.

PRELIMINARY ANALYSIS

The text below provides a capture of the preliminary audience analysis, that was used to further advance, develop and synthesise the findings into the more pithy recommendations summarised above:

IO5C EUROPEAN HIGHER EDUCATION ORGANISATIONS AND POLICY

An analysis of the routes that a student has to follow to become an architect in the countries participating in this project gives an idea of the diversity and the origin of this diversity of training. On the one hand, not all countries require university entrance exams. While Croatia, Spain and Spain require a certain qualification and hold national exams for university entrance, in the United Kingdom, the Netherlands and Italy they are not necessary.

The range of courses offered by universities is increasing and the social demand for new problems to be addressed is becoming more and more complex and diverse, making it difficult for students to choose which courses to study.

By the other hand, part of the schools of architecture - such as Torino and Valencia - belong to Polytechnic Universities, and in many cases they must respond and organise themselves

within a common framework with other engineering or business administration degrees. In other words, as in the case of the UPV, it is seen as just another school, and its singularity is not taken into account.

However, the training of architects focuses on project workshops- project design studio-, and these require specific work methodologies: Project- based Learning (PBL), which have been present from the origin of the training and therefore require resources: teaching organisation, space, group sizes, etc., which are different to other disciplines.

1. Establish a clear definition of the transversal and specific competences to be worked on in the degree courses and indicate the resources and methodologies necessary for this purpose in each Degree and University.

2. Improve the optional election of the degrees, increasing the possibility of choice - even between universities - so that each student's pathway can be more specific.

3. Increase the information and visibility of the work developed by the students of each degree -particularly in architecture- by the Universities, in order to show the specificity of their training.

4. Pay attention to the specificity of each degree. Universities that have schools of architecture should continue to ensure the rights and duties of architects - taking into account their professional requirements - but including the diversity that exists in society today.

RECOMMENDATION 1 Establish a clear definition of the transversal and specific competences to be worked on in the degree courses and indicate the resources and methodologies necessary for this purpose in each Degree and University.

In recent years, with the Bologna Process and the legislative reforms towards European convergence, the adaptation to structuring curricula through the acquisition of competences has meant a change that needs to be improved. And with the increase in the number of degrees in European Universities, and the difficulty in managing the resources they need, there has been a tendency to homogenise resources - underpinned by the student's right to receive the same benefits per ECT enrolled. For example, in Spain, the schools of architecture are linked to the Polytechnic Schools and there is a tendency to equalise the needs of architecture students with those of the engineering schools. And each training needs different resources because the learning methodologies are different.

1. **Each university should specify for each degree the training offered and the resources used.** Indicate which competences are assigned to each degree, how they work, what size of group is necessary for project-based learning (Project-based learning).

2. **Show the results of student´s works** (exhibitions, informative articles, documentaries...) which competences are attributed to each degree. The organisation of events and exhibitions informing about the different jobs that can be carried out as architects would allow the complexity of this training to be understood and differentiate between the exercise of the profession linked to building, construction, planning, and other

activities registered within the professional activity, from other activities that the architect can also carry out.

RECOMMENDATION 2 Improve the optional election of the degrees, increasing the possibility of choice - even between universities - so that each student's pathway can be more specific.

Today's society demands an increasing diversity of profiles, and current degrees cannot respond so quickly to these needs. The procedures for modifying plans are very slow compared to the speed of change in society. For this reason, optional courses could be a way of responding to this demand.

1. **Offer a choice of optional subjects** within the degrees offered by the University, including those offered by other universities.

2. **Validate credits for training activities** of service to society that are related to the student's training.

RECOMMENDATION 3 Increase the information and visibility of the work developed by the students of each degree – particularly in architecture – by the Universities, in order to show the specificity of their training.

The increase in the number of bachelor's and master's degrees on offer at universities, and the lack of information on the work that can be carried out with this training and the skills that it can offer society, makes it necessary to provide greater visibility and information to future university students.

1. Hold exhibitions, write popular articles, organise conferences for the general public with the aim of making visible the diverse work that students of each degree - and in particular architecture students - carry out. Organise debates and round tables with professionals working in each discipline - and in particular architecture - from other perspectives in school environments.

2. Organise information sessions in high schools to make students aware of the possibilities offered by training in architecture - or in other degrees.

Many students are currently unaware of the training offered by each degree programme. It is important to offer information about the contents, but also about the professional opportunities with examples from the personal experience of some graduates, establishing relations with previous degrees, in order to understand the specificity of each one of them.

RECOMMENDATION 4 Pay attention to the specificity of each degree. Universities that have schools of architecture should continue to ensure the rights and duties of architects - taking into account their professional requirements - but including the diversity that exists in society today.

1. **Make a clear distinction between a Bachelor of Architecture and a Master of Architecture** in order to guarantee the professional activity related to construction works and opening new fields of action.

2. **Homogenise the duration of the bachelor's and master's degrees** that allow the exercise of the profession in Europe. Spain should modify its curriculum and establish a 4-year bachelor's degree and a 2-year master's degree to bring it more in line with the rest of Europe.

POLICY BRIEFING PREPARATION DOCUMENT 04 (IO5.D)

RECOMMENDATIONS FOR OTHER SECTORS – CREATIVE INDUSTRIES

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EXECUTIVE SUMMARY

OBJECTIVE

This policy preparation document has the objective to call for a **policy-driven reevaluation and reclassification of graduate qualifications**. More specifically this document targeting the creative industries in Europe calls for giving greater importance to transversal skills in order to increase graduate employability, employment sector mobility -between architecture and other creative industries- and to emphasise the importance of behaviours, including 'emotional' and soft skills.

AUDIENCE

This paper is intended to speak to EU-wide Creative Industry Strategists and Policy Makers and innovation organisations such as EIT Culture & Creativity Innovation Community[1]; ELIA[2] – the not-for-profit, European Language Industry Association trade association of language service companies), Members of the Council of the European Union dealing with Education, Youth, Culture; the New European Bauhaus,[3] continuing an open dialogue about the importance of a competent, diverse profession. Each of these groups and organisations are autonomous of any one country where they work together, this group of key stakeholders could be best positioned to form a policy briefing advisory board and to prototype some of the recommendations detailed below within their own organisations – effectively testing their efficacy across the whole European Region.

THE ISSUE

This White paper is part of a series of documents that aim to further disseminate the results of the Architectures Afterlife research.

Architecture's Afterlife, an Erasmus+ Strategic Partnership research project, extensively identified the multi-sector impact of an architecture degree within the context of Europe and the extent to which skills taught to architecture students are needed and used in other sectors. The study understands architecture as an interdisciplinary field whose intersection with other disciplines is not only inevitable but necessary for its own making and adapting to current needs.

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[1] Source: https://eit.europa.eu/eit-community/eit-culture-creativity
[2] Source: https://elia-association.org/
[3] Source: https://new-european-bauhaus.europa.eu/index_en

The study identified the multi-sector impact of the architectural degree and -as more extensively discussed in the accompanying White Paper- could generate insights relevant to all disciplines.[4]

We would like to draw attention to the numerical strength of graduated architects in the broad creative sector[5]. There are many reasons why graduate architects find their professional biotope 'deviating' from what is mostly understood by the concept of the classic architect, producing work for the purpose of developing parts of the build environment. The Architecture's Afterlife study outlined several aspects of issues that architecture graduates are confronted with and which cause this 'deviation' to remain perceived as a marginal migration, despite its significant manifestation in practice, which can be generalised for overall disciplinary migration due to multi-sector skill development in higher education.

By making strategic comparisons between the *Architecture's Afterlife* study and EU education and industry studies addressing similar issues, this White Paper has identified nine drivers which form the impetus for the policy recommendations, and are discussed in more detail within the main report. In the context of the creative industries, we want to highlight the following **three divers** for the policy recommendations formulated in this Policy Preparation Document:

1. Transversal, transferable, trans-sector and multi-sector skills.

The conflation of skills and behaviours makes it difficult for employers to identify candidates' transversal skills which would make them suitable for their vacancies despite the lack of job-specific skills.

2. Degree disciplines do not denote transversal skills.

University qualifications have proliferated and become too specific, making it difficult for employers to identify candidates with the necessary skills, behaviours and competencies.

3. Skills, behaviours competencies and competences.

One of the drivers behind limiting credentialisation is the conflation of skills and behaviours. This often leads to an over-emphasis on skills-shortages, while overlooking the importance of behaviours (the ability to apply a set of skills) in meeting market needs.

RECOMMENDATIONS

DATASET DESCRIPTOR

These recommendations draw from 10 % architecture graduates surveyed at EU level working in creative industries. It should be mentioned here that, while architecture is a regulated profession falling within EU legislation defining professional qualification, architecture is also considered a creative sector.[6]

The following recommendations target the proposed stakeholder group outlined above – and – the Directive EU's Professional Qualifications Directive 2005/36/EC.

[4] The Architecture's Afterlife EU-wide survey revealed that over one-third of architecture graduates chose not to work as architects. The study confirmed that architecture graduates occupy only slightly above average results in working in their discipline professionally, compared to the median position of graduates working in a field outside their original area of study (38% of architecture respondents in comparison to an average 46% across all disciplines#), and could therefore generate insights relevant to all disciplines.

[5] These recommendations draw from 10 % architecture graduates surveyed at EU level working in creative industries.

[6] Source: https://culture.ec.europa.eu/cultural-and-creative-sectors/cultural-and-creative-sectors

Recommendation A Determine a pan-European transversal skills rubric for qualification transparency. Employers and recruitment agencies can only recruit architecture graduates to the creative sectors jobs if the skills they are looking for are not obfuscated by the qualification title (I05.a), and, if highly sought after 'transversal skills' are assigned a specific rubric, one that places equal value on 'emotional, 'soft' and 'social' skills and behaviours subsets as it does on technology skills (I05.c).

Recommendation B Develop an EU-wide skills-driven search and selection platform for recruitment, one that is not dissimilar to the EU-wide skills register proposed in (SAPB 105b). Advanced software systems, similar to Myers-Briggs assessments, could help shortlist job applicants based on their micro-credentialled degree components – including transversal skills – against job description requirements. This would enable employers to efficiently recruit and retain the best-suited talents, ultimately saving costs, independent of the graduates original degree discipline.

Recommendation C Ensure transversal skills are inclusive of 'emotional' and soft skills. As the survey data highlighted, respondents placed high value on what are often viewed as emotional and soft skills – in addition technology skills – as the most valuable and relevant within their multi-sector roles. More generally "helping others" or making a difference for society are recurring drivers of architecture graduates choosing to move into the 'creative sector'[7] – taken to mean other design, culture and arts roles outside of construction.

→ The *Architecture's Afterlife* survey data provided evidence to support the idea that since architecture graduates most valued and multi-sector skills are 'emotional and soft' they are rendered invisible under what the EU's Professional Qualifications Directive 2005/36/EC[8] refers to 'knowledge' and 'understanding.' Consequently, an addendum to this policy directive is needed in order to ensure these skills are stipulated, made transparent and offer operational definitions for consistency across Europe.

[7] The study adopts the definition of 'creative industries' from the UK Department for Digital, Culture, Media and Sport's 2001 Creative Industries Mapping Document. The term includes: 1. Advertising and marketing; 2. Crafts; 3. Design: graphic and fashion design; 4. Film, TV productions, TV, video, radio and photography; 5. IT, software and computer services; 6. Publishing; 7. Museums, galleries and libraries; 8. Music, performing and visual arts

[8] Source: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:255:0022:0142:en:PDF

POLICY BRIEFING PREPARATION DOCUMENT 05 (IO5.E)

RECOMMENDATIONS AND INSIGHTS FOR OTHER SECTORS

TITLE: SKILLS THAT ARE LEARNED BUT NOT TAUGHT AND THEIR IMPACT ON MULTI-SECTOR TRANSVERSALITY WITHIN THE GIG ECONOMY

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Mia Roth Čerina (University Of Zagreb)

ARCHITECTURE'S AFTERLIFE STUDY DATASET

The recommendations within this paper draw from the data generated by the 7% of the *Architecture's Afterlife* survey respondents EU-based architecture graduates who work in sectors unrelated to architecture, but that also sit outside of what the sectors that the other preliminary studies consider – namely, education, architecture and construction and the 'creative sector', where more direct disciplinary alignments facilitate career transpositions. What the 7% sample size indicates is not that there are few architecture graduates who successfully migrate into significantly contrasting sectors, but instead the limitations of the study in locating and engaging this demographic. This was due to the fact that the main tactic for recruiting interviewees and survey respondents was via college alumni offices, many of which do not have robust graduate tracking systems. Consequently, what makes this dataset's insights so significant is four-fold:

(1) Their ability to affirm that skills acquired (both those that were explicitly taught and/or autonomously and inadvertently learned during their architecture degree) are applicable in sectors that are radically different to those where these skills are typically applied (in politics, for example);
(2) Their predisposition towards entrepreneurial and innovative activities and niche-market economy creation;
(3) Their predisposition towards leadership roles in other sectors;
(4) The fact that they are – operationally – successfully enacting forms of career mobility. And, in light of the fact that an estimated 85% of the jobs we will be doing in 2030 haven't been invented yet,[1] their ability to positively adapt and thrive within new and uncertain employment contexts provides vital insights for all employment sectors.

[1] Source: World Economic Forum 2020 Report: https://www.weforum.org/reports/the-future-of-jobs-report-2020/

NAME	OCCUPATION	COUNTRY	AGE	GENDER	DATE
F4-01	General Director of Ecological Innovation in Construction / Second Vice Presidency and Department of Housing and Bioclimatic Architecture_ Valencia	Spain	35	F	10/12/2021
F4-02	Manager of International relations for the School of Architecture at the Polytechnic University of Valencia	Spain	48	F	01/02/2022
F4-03	Ministro Cultura, Ufficio UNESCO	Italy	60	F	14/01/2022
F4-04	vice-presidente Legambiente	Italy	48		02/02/2022
F4-05	Architect and founder of Šlag na kraju, a small company for pastries and cakes..	Croacia	28	F	02/02/2022
F4-06	deputy mayor of the City of Zagreb	Croacia	47	M	31/01/2022
F4-07	coordinator Cultureghem (socio-cultural and spatial work)	Belgium	40	M	28/01/2022
F4-08	Marketing and Press lead at Global Counsel	UK	30	F	20/12/2021
F4-09	editor	UK	45	F	17/01/2022
F4-10	stage product designer / virtual producer at NSYNK	GE/CZ	30	M	15/12/2021
F4-11	consultant	UK/CZ	30	M	31/01/2022
F4-12	mayor	Croacia	50	m	07/02/2022

Fig. 5: In-depth interviews were conducted with architecture graduates working beyond construction, culture and creative sectors, captured in more detail in the study.

As Figure 5 illustrates, the *Architecture's Afterlife* data sample included international relations managers, a mayor deputy-mayor, a virtual producer, a director of ecological innovation, a UNESCO representative and start-up directors, and furthermore. Only one or two of the respondents could be described as portfolio workers. The majority had assumed roles of significant responsibility and leadership, too.

ARCHITECTS AFTER ARCHITECTURE DATASET

An embedded (within the *Architecture's Afterlife* study) but also independent additional dataset focussing on architecture graduates who work in sectors unrelated to architecture is provided by *Architects After Architecture: Alternative Pathways for Practice* (Routledge, 2020) – a book that emerged from the prototypical in-depth interviews preceding Work Package 3 of the *Architecture's Afterlife* study.

Architects After Architecture profiles 40 practitioners who either push the boundaries of what is considered conventional architectural practice or have left the profession altogether to work in fields as diverse as activism, film, video games, politics and technology. The practitioners featured in the

book demonstrate that **there are other ways of doing architecture beyond building and beyond the private sector.** One example is Rotor, a cooperative based in Brussels, which realised that in order to address the climate crisis they needed to confront architecture's troubling relationship to waste. To do so they created a new kind of architectural practice, one focused on deconstructing buildings and repurposing materials, with outputs ranging from design, research, exhibitions, books, economic models and policy proposals.

Other examples are those of Matt Jones, principal designer at Google AI, and Miriam Bellard, who after studying architecture in New Zealand went on to become the Art Director for Visual Development at Rockstar Games, designing spaces for blockbuster videogames such as Grand Theft Auto and Read Dead Redemption, which are roamed by millions of people every day across the globe. Both of them, frustrated with architecture's limitations, found solace in technology's ability to **effect change at planetary scale**, rather than one building at the time.

Other practitioners featured in the book have demonstrated that **architecture can address big societal challenges**, be it the climate emergency, homelessness or the refugee crisis. All of which have a spatial aspect which they are better able to understand, and better able to remedy. A case in point is the work of Malkit Shoshan, whose agency FAST investigates the impact of UN peace missions on local communities and the environment and looks for the potential to transform UN bases into catalysts for local development. Another example is Chris Hildrey, who has applied his strategic and civic thinking to the question of homelessness, developing a digital tool, ProxyAdress, to offer addresses to the unhoused, allowing them to access benefits, bank accounts, identification, a job, a doctor and receive post – all key services otherwise removed at the time of most need.

Through the accumulation of stories, *Architects After Architecture* provides a critique of traditional practice, with many contributors talking about their decision to 'leave' the discipline as a result of:

1) Disillusionment with architecture's ability to have a meaningful impact. Unlike technology, for example, buildings take a long time to build and you can hardly change the world one building at a time.

2) Discomfort with architecture's ethical agenda. Architecture is perceived as a luxury service provided by an elite (largely white and male) for a tiny proportion of society.

3) Frustration with the masochistic culture of conventional architectural practice, the expectation of long hours, limited flexibility, the huge gender gap and the cult of the 'master'.

The *Architects After Architecture* dataset also confirms that architecture graduates tend to engage in entrepreneurial and innovative activities that often defy clear definitions and lie outside conventional career paths. In addition, the survey of architects' work within and outside of architecture suggests that, contrary to conventional teaching and thinking, the uniqueness of the discipline may lie in the **stewardship involved in actually making something**, rather than in the end product itself, i.e. the building. A quality that requires: *synthesis* (the ability to act as a kind of switchboard, bridging different forms of knowledge, communities and points of view), vision (bringing these viewpoints together into a coherent narrative) and pragmatism (making things happen by navigating existing technical, political and legal frameworks).

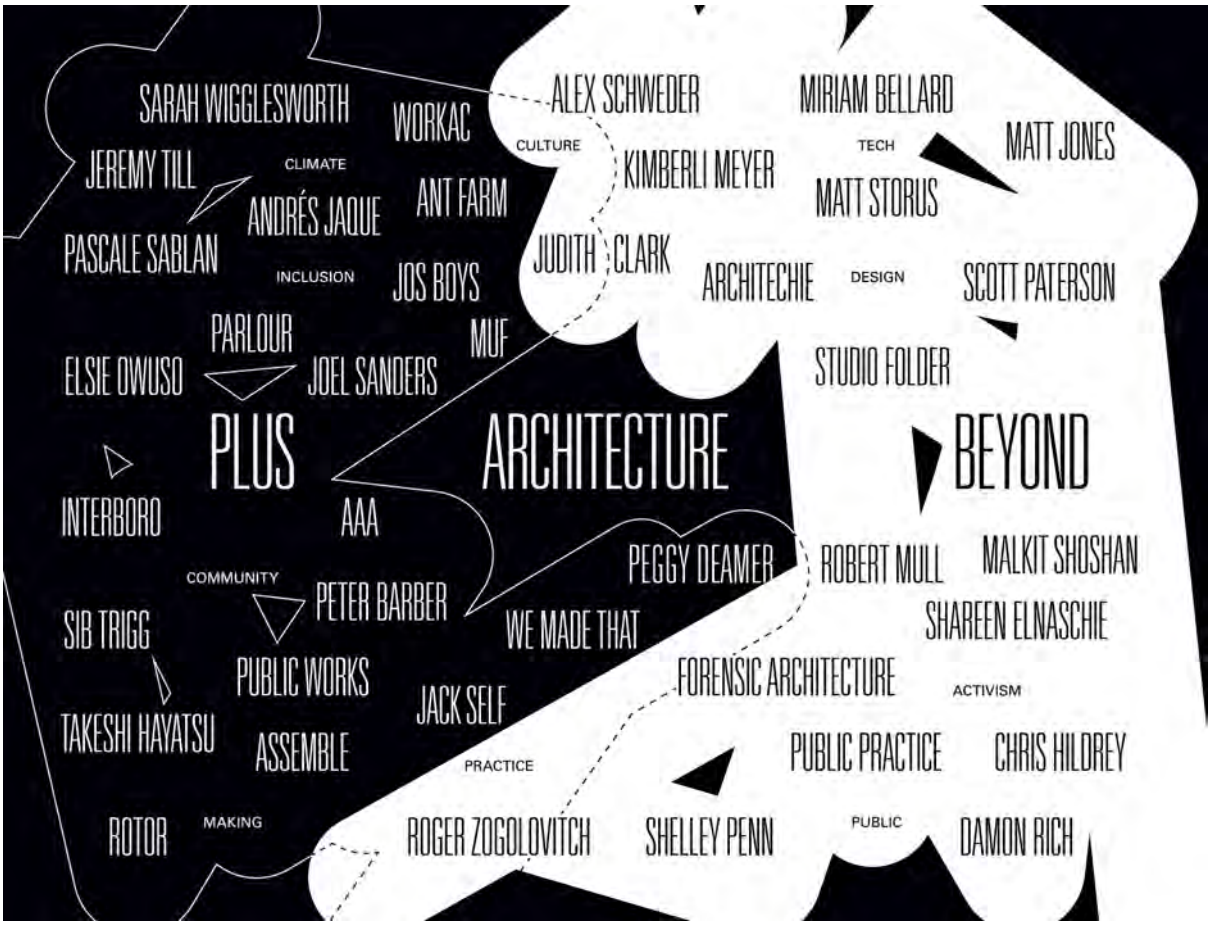

Fig. 6: A conceptual map of Architects After Architecture. At the centre is architecture as it is traditionally conceived. Around this body is Plus, those who like Rotor are stretching the boundaries and Beyond presents those who have left to apply their skills in other fields.

AUDIENCE

This paper's principal audience are the EU institutions, agencies & bodies responsible for innovation and entrepreneurship across Europe. Because aspects of the *Architecture's Afterlife* research findings have implications for future trends data analysis, this includes organisations and government offices involved in socio-economic forecasting also. Consequently, the recipient audiences are inclusive of but not limited to the European Institute of Innovation and Technology (EIT)[2] – who advance Europe's ability to innovate by nurturing entrepreneurial talent and supporting new ideas; CULT, which is responsible for cultural and educational policy, including policymaking for the cultural and creative industries. Innovation and entrepreneurship organisations in Europe; The European Innovation Council (EIC)I[3] who are offering innovative start-ups and SMEs the support needed to enable them to scale up within Europe and to ensure mutual access to advisory services and networks, in partnership with EIT and finally, the Panel for the Future of Science and Technology (STOA), who offer European policy-makers impartial and accessible information about developments in science and technology.[4]

[2] Source: https://eit.europa.eu/who-we-are/our-stakeholders-partners/eu-institutions-agencies-bodies#:~:text=European%20Parliament,-The%20European%20Parliament&text=ITRE%20is%20responsible%20for%20EU,the%20cultural%20and%20creative%20industries.

[3] Source: https://eic.ec.europa.eu/index_en

[4] Source: https://www.europarl.europa.eu/stoa/en/home/highlights

In addition, this SAPB addresses the priorities of The European Strategy and Policy Analysis System (ESPAS), a consortium of nine EU institutions and bodies who are committed to thinking longer term about the challenges and opportunities facing Europe and, through foresight, to support policy-makers to make the right policy choices.

RECOMMENDATIONS AND IMPLEMENTATION

1. Identify which transversal skills are the most transposable, and by implication resilient, by studying 'extreme user' mobility.

Architecture graduates working in entirely unrelated sectors can be defined as 'extreme users,'[5] sitting at the extreme end of the spectrum, and for this reason allowing one to explore potential use cases and scenarios that might not otherwise be considered. As such they provide the kind of critical distance needed to generate unique insights into what the most resilient, mutable and adaptable transversal skills are. Further research into this data group will provide insights that will benefit the growing number of workers who will fall into the 85% whose jobs haven't been invented yet. It seems reasonable to assume that if their job hasn't been invented yet, then their degree subject hasn't either – as the emergence of Game Design degrees serves to illustrate.[6]

2. Make transversal skills teaching part of the curriculum.

As discussed on page 18 of this White Paper (Architecture's Ambiguities), this dataset also confirms that many of the transversal skills acquired during an architecture degree are learned autonomously by students rather than being explicitly taught. These are also the skills that are applicable in sectors radically different from those in which such skills are typically applied (e.g. politics). This finding suggests the need to petition the European Parliament to require higher education institutions to make the teaching of transversal skills explicit in their disciplinary assessments and, by implication, visible in their degree transcripts, if not also recognisable as stand-alone microcredentials.

3. Investigate and identify the nature of the correlation between leadership, entrepreneurship and innovation and trans-sector mobility.

As both the *Architecture's Afterlife* dataset and the *Architects After Architecture* dataset seem to suggest, there is a correlation between leadership, entrepreneurial and innovative activity and cross-sector mobility: a correlation that could help employers select talented recruits by taking into account the distance travelled from the original discipline – as evidence of exemplary transversality. A more in-depth analysis of the transversality of this population could also help to reinvigorate and refine the definition of a key transversal skill.

4. Conduct future trends-focussed employment studies that seek to understand the relationship between trans-sector mobility and niche market economy creation.

[5] In reference phrase used by IDEO's founder Bill Moggeridge.
[6] In 1998, DigiPen Institute of Technology became the first school in the world to offer a bachelor's degree in video game development. Today, DigiPen is a prominent school for games and technology, with campuses in the US (Redmond, Washington), Singapore, and Spain.

As discussed in the consolidated recommendations section, while the *Architecture's Afterlife* study focused on the extent and situation of the movement of its respondents into sectors that exist today, it did not seek to understand the relationship between the respondents and the forms of niche economy creation required to enable the emergence of new sectors. This relationship nonetheless was evident in both the *Architecture's Afterlife* and *Architects After Architecture* datasets – and ranges from architecture graduates working in multidisciplinary teams creating digital twins[7] to another who developed a new digital tool to offer proxy addresses to the unhoused, allowing them to access benefits, bank accounts, identification, a job, a doctor and receive post – all key services otherwise removed at the time of most need. As a result, further research is needed to understand the relationships between cross-sector mobility and the creation of niche market economies, in order to identify ways of supporting those best placed to foster new sectors and forms of employment that are urgently needed as existing ones become obsolete.

5. Take steps to ensure that gig-economy portfolio workers are polyamorous – and not precarious – professionals.

As the *Architecture's Afterlife* study and *Architects After Architecture* datasets show, a significant number of respondents have not only been successful in implementing forms of 'trans' and/or cross-sectoral career mobility, creating new sectors and niche professions in the process, but have done so by exploring or working across a number of different careers as portfolio workers. To prevent both the idea and realisation of the gig economy from becoming increasingly unfair – and maligned – policies that categorically limit working hours are the obvious option. However, while some European countries have introduced a 4-day week, this audience is asked to consider whether a reduction to a 3 or 2-day week would give people time to retrain, refocus and, if necessary, reposition themselves in news roles and emerging sectors rather than face redundancy.

6. The transversal skills needed to mitigate the effects of climate collapse.

While the funding criteria for the *Architecture's Afterlife* study did not require the study to consider how the findings might mitigate climate change/collapse and other coalescing factors, it has now become imperative that all research enquiries must do so – whether compelled by politics or personal integrity. Within both the *Architecture's Afterlife* study and the *Architects After Architecture* datasets, the relationship between new forms of ethical and ecologically sensitive niche market creation was palpable, as evidenced by the aforementioned Belgian collective Rotor, who have created a new kind of practice that seeks to address the climate crisis by confronting architecture's troubling relationship with waste, or the Forensic Architecture research lab, which puts architectural skills at the service of justice through an unusual combination of architecture, visual arts and investigative journalism. Their spatial analyses allow the study of conflict and crime from an unprecedented perspective. These and other experiences captured in the studies are indicative of the ways in which multi-sectoral mobility becomes a means by which authentic forms of resistance to established curricula and/or professional values are rejected, challenged or reimagined. While the European Digital Innovation Hubs (EDIHs) can boast that 136 digital hub Grants[8] were signed and operational by the end of 2022, no such fund exists to support climate hubs. And, based upon the profiles of the 136 hubs that were funded, climate collapse ambition was not considered a

[7] Digital representations of a real-world systems such as a city to test various projects or realities (for example Squint/Opera)

[8] Source: https://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool?p_p_id=eu_europa_ec_jrc_dih_web_DihWebPortlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&_eu_europa_ec_jrc_dih_web_DihWebPortlet_edihTabParam=Candidate+European+DIHs&_eu_europa_ec_jrc_dih_web_DihWebPortlet_facet-freeSearch=&_eu_europa_ec_jrc_dih_web_DihWebPortlet_facet-EDIHTypes_select=2&_eu_europa_ec_jrc_dih_web_DihWebPortlet_facet-internalHub=

contingent pre-requisite. So, while the EU has stated that its investment in 'climate spending' is 20% of EUR 220.8 billion,[9] the term 'spending', as opposed to 'investment', suggests a deliberate blurring of the budgetary boundaries between covering the costs of mitigation and funding solutions-oriented initiatives. If ever there was a time to determine which specific transversal skills are best placed to support new forms of ethical and environmentally sensitive niche market creation – requiring transformations in both education and industry – then surely now is the time.

[9] Source: https://climate.ec.europa.eu/eu-action/funding-climate-action/supporting-climate-action-through-eu-budget_en