ARCHITECTS' COUNCIL OF EUROPE
CONSEIL DES ARCHITECTES D'EUROPE

Date: 16th May 2011
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ENHSA III Project
Dublin and Venice Seminars
11th February and 8th April 2011

Principal Conclusions

Introduction
The ACE[1] is an institutional partner in the successful ENHSA III Project, funded by the European Commission (DG Education and Culture). It has been responsible for the organisation of a series of events in 2011 that explored the gap in expectations between the graduate architect and the experienced professionals that employ them.

The first event was a seminar held in the premises of the RIAI in Dublin Ireland on the 11th February. The second event was a similar seminar held at the Palazzo Zorzi in Venice on the 8th April. They saw participation from more than 60 persons drawn from the profession (both recent graduates and experienced professionals) and from the schools of architecture. This memo sets down the main conclusions and outcomes from the debates in Dublin and Venice and it is intended that it will be used as one of the expected deliverables of the ENHSA III Project.

This document firstly sets down the key outcomes of each seminar and then seeks to draw early conclusions on which the deliverables will be built. It is supplemented by a series of annexes that contain the presentations that were presented at the seminars.

Report
The ACE is very pleased with the level of participation in its seminars and with the content of the presentations and the debates that occurred. In no particular order, the main outcomes can be listed as follows:

In DUBLIN:

1. In relation to the education and training of architects across the EU, it was confirmed that there is an uneven approach that has led to a significant diversity in the approaches taken in the various countries.

2. The fact that there is a close relationship to the provisions of the Professional Qualifications Directive was noted and a question as to which institution should be responsible for notifications under the Directive was raised.

[1] The Architects' Council of Europe (ACE) is the European organisation representing the architectural profession at European level with its headquarters and Secretariat located in Brussels. Its growing membership consists of member organisations, which are the nationally representative regulatory and professional bodies of all European Union (EU) Member States, Accession States, Switzerland and Norway. Through them, it represents the interests of about 520,000 architects. The principal function of the ACE is to monitor policy and legislative developments at EU level, seeking to influence those areas of EU policy and legislation that have an impact on architectural practice and on the overall quality and sustainability of the built environment.
For more information, go to: www.ace-cae.eu

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3. It was also noted that the tasks carried out by architects also varies from State to State, although the professional activities of architect are highly portable. *(It should be noted that the ACE is currently engaged in mapping this diversity and intends to report on the subject before the end of 2011).*

4. One aspect of the professional practice experience period that was highlighted as problematic is the circumstance where the boss in the office where the graduate is gaining experience is also the mentor for the period of professional practice experience. It was considered that this represents an undesirable conflict of interest and should be avoided.

5. It is unreasonable (impossible?) to expect that you can teach professional practice in schools of architecture. However, it is reasonable to expect that the student can be taught to know when he/she is placed within the project and what his/her duties and responsibilities will be when they are practising as architects.

6. In the USA there are emerging approaches of interest including courses that offer students the opportunity to both design and build small buildings (including the Solar Decathlon Competition), the integration of the practice in the academy to initiate projects of, for example, social importance and the integration of the academy in practice such as the *Gensler Academy* set up by a large practice for its staff.

7. The use of case studies to expose students to the reality of practice is effective, but case studies do not have anything to do with knowledge, they are really about culture – the culture of practice.

8. Internships operate at many different levels and their quality often depends on the ethos of the practice, not on its size. In fact it seems that interns prefer to gain experience in smaller practices where they are exposed to more of the tasks that an architect undertakes.

9. It would be helpful to establish a baseline of evidence that shows off the value of the work undertaken by an architect on behalf of his client. This way the profession could more readily demonstrate our design thinking and design based approach.

10. The philosophy followed by schools of architecture also varies from one extreme to the other. These can be described on one hand as being schools that insist on complete academic freedom and who will not engage with the profession at all to, on the other hand, schools that focus on producing graduates that very readily become independent practising architects.

11. It has been true across most of the EU that there is virtually no working relationship between the schools and the profession. There are exceptions such as IE where the relationship has been good and long-standing. The divide can be characterised by considering that schools do not wish to produce “office-fodder” and the profession wants to have a productive employee – ideally from the first day.

12. The education and training of an architect is a lifelong process for which different bodies have responsibility at different stages. Therefore cooperation between the schools and the profession is essential and should be well structured.

13. The relevance of research for both schools and the profession was highlighted. As change is a constant and those who adapt best survive best, it is necessary to ensure that the architectural profession can adapt to the new realities and challenges that face society.

14. A potential problem can arise where regulations do not allow professors of architecture to be practitioners and so they do not understand practice well enough. In revers, a professor who is concerned about his school, is never a “true” practitioner!

15. When gaining professional experience there is a danger of getting "labelled" early on. Knowing the extent of the possible role that could be taken on can be an antidote to this danger.

16. The architectural profession is a snobbish profession. This is the conclusion of one graduate who is being mocked by her peers because she is doing a PhD in marketing. Her peers esteem that she has strayed from "the path" and is therefore a lesser architect because of her choice.

17. Schools should prepare students for a broader range of options as there is huge scope for other fields of activity that suits an architectural qualification that society will benefit from if graduates go into those other fields of activity.

18. Difficulties arise for architects, as the "true" architect must be an artist, an engineer, a lawyer and a businessman! How can all of these skills reside in one person? This emphasises the need for collaboration across different professions to ensure a high quality in the built environment and the need to ensure that graduates can work in teams.

19. There was an acknowledgement that education instils values and that this is a powerful influence on the future choices of graduates. Therefore there must real care about which values a schools espouses.

20. The economic crisis has raised new questions and issues. For example, in the absence of workflow, how do you stimulate the professional practice period? Do we need to broaden our horizons and examine other areas such as landscape architecture of interior architecture?

21. The great diversity of approaches to the acquisition of professional experience in the EU has been studied by the ACE – see the presentation by Michel Procès in annexe. One common factor seems to be that the quality of the experience depends on the strength of the supervisor. Also it seems that the shared goal is to move to a situation where the length of the period of professional practice is 2 years and that the knowledge gained is tested by a formal exam. Certainly this is official ACE policy.

22. The Irish approach to the acquisition of professional experience is highly structured and rigorous and does include a formal examination process. The statistics held by the RIAI indicate that, even though the required period is 2 years, the average length of time taken to succeed in the RIAI Part 3 exams is 6.3 years. The exam focuses on integrity, judgement, and the ability to apply knowledge to real projects.

23. In contrast, the Belgian approach is less rigorous with a requirement for 2 years supervised practice, but no requirement for an exam at the end. In fact, if the graduate does not pass the "test" at the end of three years, he is, in any event, legally entitled to fully pursue the practice of the profession. In fact the period of supervised professional experience is subject to a maximum of 3 years.

24. The Irish Government (through its Office of Public Works) runs a graduate training programme that sees it take in 10 graduates each year to a structured 3-year training course that aims to equip them fully for independent practice of the profession. On average there are 150 applications each year for the 10 places and, as the scheme has been running for 11 years, there are now 110 architects that have passed through the course.

25. Among this group of 110, there have been architects from 9 different countries and all have successfully passed the RIAI Professional Practice exams at the end of their time with the Office of Public Works.

26. One particularly successful and useful aspect of the scheme is that the graduates prepare CPD material that they give to all the architects in their department. This sharing of information is highly instructive for all involved.

27. There was a suggestion that schools should look more at integrated design approaches that merge design, technical and research issues. It is important that students are told why things are done a particular way so as to develop a sensitivity to the basic principles of good design.

28. It was agreed that graduates who are gaining experience in architects' offices should be properly treated with a paid contract that recognises the fact that they are graduates of a five-year course8 It was noted that this is not often the case across the EU!

29. The graduates, in telling their own individual stories, delivered a number of key messages including:

    A graduate is not a finished product, there is more that needs to be added through professional practice experience.

    Case studies of real projects could be commented upon by newcomers in order to maintain a high level of aspiration within the office.

    If at all possible, graduates in offices should be allowed to make mistakes as it through doing that we learn best.

    It is the responsibility of the intern to know when he/she is ready for independent practice.

    In the market, architecture graduates are treated more like computer technicians and are not given a full range of experience. This must be addressed.

    The complexity of the tasks assigned to the architectural profession is so great that it is no longer possible to contain all the skills in one person. However one person can have an advanced awareness of the extent and complexity of the tasks.

    The criteria used to judge if a graduate have "achieved the grade" seem to be based on the old profile of the architect and no longer reflect the reality of being a practising architect.

    The skills possessed by a graduate are honed over time – a sort of continual adaptation that is not obvious during the period it is happening and only becomes apparent at a time of self-assessment such as the exam process.

    As far as possible, graduates should be "free" during the period of their professional practice experience and should be allowed to see all the potential paths that are open for a graduate in architecture before they make a choice of direction in their career.

30. Mid-career professionals should "touch base" with the cradle from which they came, possibly through participation in Master Classes. Such activities give space to think again about first principles and thus update their approach.

31. Maybe educators should have to do internships in offices from time to time?

32. Graduates should compile a record of the experiences they gain in offices and include it in their CV as this will stand to them in the future and be difficult to recall if not undertaken at the time the experiences are happening.

Main additional points that arose during the VENICE seminar now follow:

33. The overall objective of the ENHSA III Project is to help schools to adapt to the new conditions that they are facing in our fast moving society. As such it strives to increase the quality of education in Europe and one of the decisive qualities that graduates should possess is employability. There is a need to collaborate between the profession and the schools, but the ambitions of the collaboration have to be carefully set.

34. It is hoped (by the ACE) that the outcome of the ENHSA III Project will be a process model or toolkit that can be used to bridge any differences between the profession and the schools and thus underwrite the vitality of the profession.

35. There is a North-South divide in the schools of architecture. Northern Schools have embraced the Bologna two-cycle approach, but in the South it is not favoured. There is no belief in the Bachelor level of qualification.

36. It is not acceptable that fresh graduates (immediately out of University) can build buildings (be fully independent practitioners) as there is a strong need to build practical knowledge first.

37. Within schools there is often a certain level of segregation between departments that make it hard to form “true” architects who need to be generalists.

38. Doubts were expressed that practice of the profession of architect can be based solely on education as Universities have put their courses “on the market” and they compete with each other for students. This further underlines the need for a properly structured and tested period of professional practice experience.

39. Doubts were raised about the value of accreditation of schools as the schools tend to want to produce “starchitects” and the market wants to have “CAD-fodder”. Architectural education is complex and must be aimed at a generalist education.

40. Graduates in Italy and Romania, do not have any structured period of professional practice such as those described for the USA. This is a problem and the graduates present from those countries would like to have such an option.

41. In considering the future of architecture, we constantly talk about quality and cultural aspects. These are expressed through design, but practising architects rarely spend more than 15% of their time on design. This raises a problem. Maybe practitioners should return to school from time to time!

42. Architects are losing out to engineers and one reason is that engineers stick together more than architects do.

43. A great deal of success in practice is connected to effective communication skills. These could be taught in schools.

44. There is a need to re-think the value of teaching through design. Many skills are learnt implicitly through design projects – collaboration, reflection, deadlines etc…

45. Another feature that can be problematic is the quality of teachers in schools. In many countries they are civil servants and stay on in their posts across generations of students. This can be solved by engaging graduates in the teaching staff and through teaching the teachers (CPD).

46. The acquisition of professional practice experience should not be tied to the country where the primary educational qualification is gained. There should be mobility options that allow graduate to gain their experience in any country and have it recognised in their country of origin.

47. The concerns of the educational material that is to emerge from these seminars should address the majority of graduates – those who go on to practice the profession. It should recognise that the manner in which a graduate practices in his or her first years, has a significant influence on their whole career. They tend to continue to practice in later years in the same way as they do in their first years in practice.

48. The economic crisis presents an opportunity to re-think the profession that could be jointly undertaken by the schools and the profession.

49. Is it possible to find a country where the quality of life is good and the quality of the experience of working as an architect is also good? In Italy the quality of life is good, but the work environment is not. Are the two mutually exclusive?

50. To gain a really good experience it is necessary to choose an office that actually builds its projects – a situation more difficult to find at the present time.

51. There are many cases where teachers recruit their best students. In fact in some places this has led architects to take up teaching in order to have a pool from which they can recruit!

52. Society does not know enough about what architects actually do – they undervalue our work. There is a need to raise awareness about our profession.

53. Architectural practices should see graduates as a resource to invest in and to learn from in order to re-fresh their approach, particularly to design issues.

54. The architectural profession is a very traditional one that does not move quickly with the times. There is a great need for flexibility in schools and in the profession. However, the profession in Europe should not move towards the USA model, which is too based on economic and business concerns.

55. The Public Authorities should lead by example as in the Irish case noted further above.

56. There is a need to survey the professional destinations of graduates at regular intervals in order to inform all those involved on the structure of the profession and hence of the educational needs that must be delivered by the schools.

57. The various differences in the conditions that are imposed on persons to access the architectural profession in different countries is unfair. There should be a more level playing field.

A First Synthesis:
There is agreement that there is a gap in the expectations that graduate architects have for their future career and the expectations of professionals (architects offices) receiving them. There is therefore an acknowledged need to address the issue for the good of the disciple of architecture and, ultimately for the good of society – the ultimate recipient of the architects work.

Furthermore, the experiences of the graduates, as expressed at the seminars, clearly demonstrate that there is a vast divergence in the experiences offered by the different systems in the various EU countries as regards the acquisition of professional experience. Many of the discussions focussed on this aspect of the education and training of architects.

A clear need for better statistics on the situation of graduates emerged. Beyond information on the duration of studies and the different models in the EU countries, it was highlighted that understanding the career path followed by graduates is important. There are no reliable statistics for the "drop-out" rate from the profession after 5,10,15 years of experience. Also there is no reliable EU-wide information on the number and variety of jobs that graduate architects take up. Having reliable information and statistics would be informative to the policies of both the ACE and the EAAE.

The current work to modernise the Directive on the Recognition of Professional Qualifications offers an opportunity to further level the playing field for architects, at least as far as the minimum conditions of training for the purposes of mobility across borders within the EU is concerned. In particular to introduce a provision that permits graduates to acquire their professional experience in any country and that it is recognised in all other countries, including the graduates country of origin.

The period of training (acquisition of professional experience) that is provided for graduates should be properly structured, allow for the graduate to see the full range of duties and responsibilities that a practising architect has to shoulder and provide him or her with experience of real projects under construction. In addition the conditions of engagement of the graduate must be fair and remunerated at a rate commensurate with the length of studies completed.

(To be completed)

Conclusions
From the foregoing, one might conclude that the following actions should be taken:

1. Use the ACE Sector Study 2012, to gather more information about the students and graduates in architecture.

2. Ensure that the educational material to be produced by the ENHSA III Seminars contains a section that clearly explains the variety of circumstances that graduate architects find themselves in on leaving their school of architecture.

3. Suggest in the educational material to be produced, a methodology for the creation of a structured course for the acquisition of professional experience that can be used by many EU countries to devise such courses. If possible, particular recommendations as to the means of testing at the end of the period of professional experience should be made.

(To be completed)

This draft document was submitted, on the 19th May 2011, to the following persons for initial comments:

For the EAAE/ENHSA:	For the ACE:	External Expert:
Jim Horan, Stefano Musso, Constantinos Spiridonidis, Maria Voyatzaki, Per Olaf Fjeld, Francis Nordemann, Herman Neuckermans, Sophia Meeres,	Dalibor Borak, Selma Harrington, Luciano Lazzari, Wolfgang Haack, Michel Procès, Sarah Lupton, Ferenc Makovenyi, Jos Leyssens	Laura Lee

End of Notes

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CONSEIL DES ARCHITECTES D'EUROPE

ENHSA III
Competences Vs Expectations

Venice
8th April 2011

Selma Harrington
President of the ACE

ARCHITECTS' COUNCIL OF EUROPE
CONSEIL DES ARCHITECTES D'EUROPE

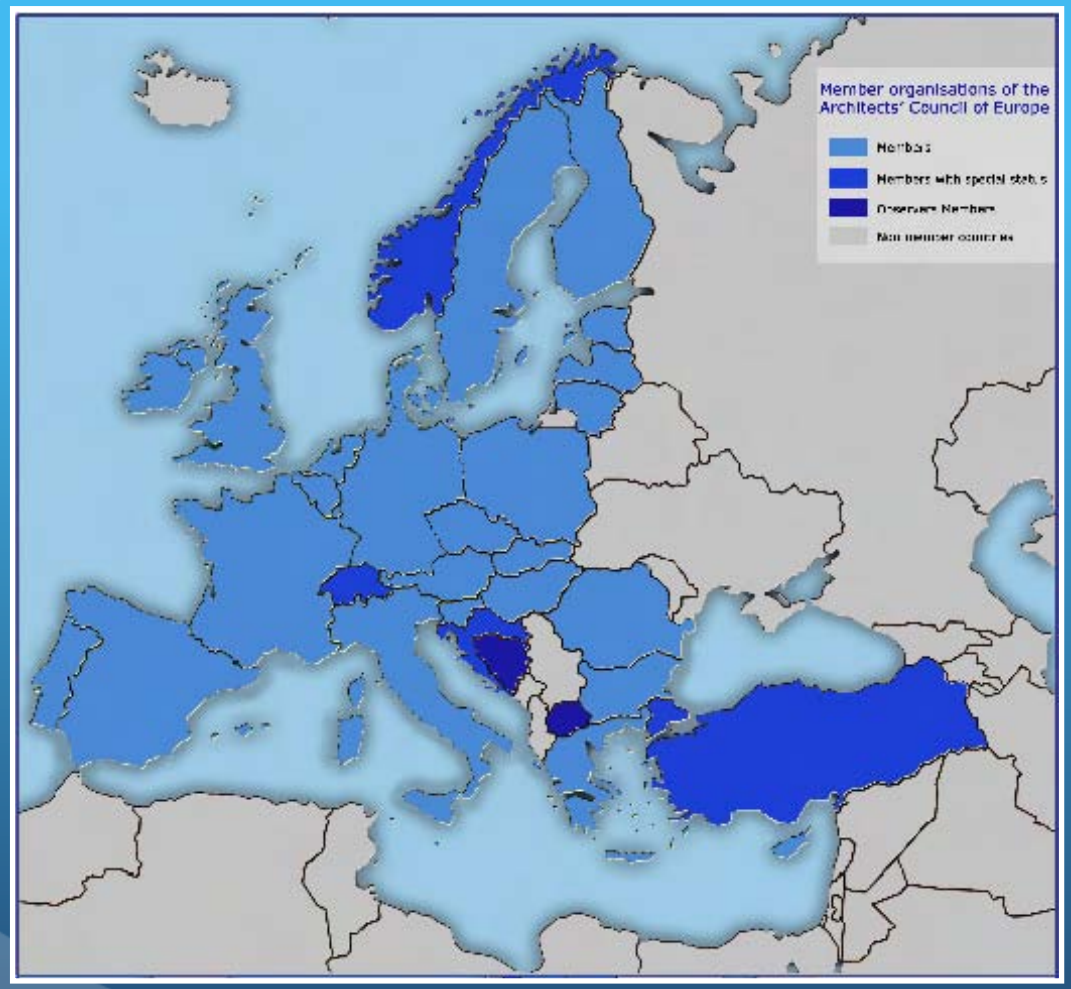
The ACE - Membership

46 Member Organisations from 33 Countries

Regulatory and Professional Bodies

Represents about 520,000 Architects

Main Work Relates to EU Policy and Legislation



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ENHSA III - ACE Role

Cooperate with the EAAE

Organise 2 Seminars (Dublin and Venice) on Competences of Graduate Architects

Devise Educational Material on Gap in Expectations: Graduates - Practitioners

Organise Validation Conference on Outcomes from Seminars

York Street Housing - Dublin Sean Harrington Architects

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ENHSA III - ACE Motivations

Better Understanding of Gap in Expectations?

Increased Exchange of Knowledge Between Schools and the Profession

Input to Curricula and CPD Courses?

Greater Retention Rate in Profession?

EKO Park, Warsaw Kuryłowicz & Associates Architecture Studio

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ENHSA III - ACE Motivations

Sharing of Best Practices

Sharing of Case Studies

Sharing of Pertinent Personal Experiences

Increased Professionalism Across the Board

Integration of Teaching in Practice

Residence, Bratislava **Peter Benuska & Peter Topinka**

THANK YOU!

Visit our Website at:

www.ace-cae.eu

ENHSA III Project

ACE Seminar

Venice

Friday 8 April 2011

Professor James Horan

Head of School

•To establish a coherent, structured and effective collaboration between Schools of Architecture and Bodies representing the Profession of the Architect

DUBLIN SCHOOL OF ARCHITECTURE

Professor James Horan

Head of School

Expectations from Schools of Architecture

•It might be unreasonable to assume that the expectation from all Schools of Architecture in this matter would be the same.

•Considerable differences exist between the type of educational programmes delivered by Schools. Considerable differences exist between the ways Schools see their relationship with the profession.

DUBLIN SCHOOL OF ARCHITECTURE

Professor James Horan

Head of School

•Broadly speaking there are two extreme positions when it comes to the relationship between academia and the profession in Architecture.

•At one end of the scale there is the philosophical concept that a School has total academic freedom and should carry out its educational work without any reference to the Professions or the commercial world. This can be highlighted in the differentiation between providing an architectural education or the process of educating Architects.

•On the other hand, there are Schools which see a seamless continuation from academia to professional life as being part of the educational process.

•Schools which fall into this category may very well perceive that architectural education is the joint responsibility of the academics and the professionals alike, underpinned by the philosophy that education is a lifelong process and is not just a package that is delivered after 5 years of Architecture School.

•The position about the relationship to the profession as understood by Schools can vary significantly from Member State to Member State within the European Union and indeed may differ even within the Member States where more than one School exists.

•The position will often be coloured by the relationship which exists between the academic community of the Schools and the Professional community of the Chambers and Institutes of Architects.

•In a similar manner to the Schools, Professional Bodies may subscribe to the notion that they have a responsibility for the continuing education of the graduates of the School and for the development of seamless relationship between the Educators and the Profession.

•On the other hand, some Practitioners may rate a graduate only by their ability to engage in Practice and to generate income for the Professional office.

Philosophical Position

•Many Schools find themselves in a middle position and would subscribe to the notion of the shared responsibility between educators and profession. They understand that it is not possible to cover all the areas of professional practice in the undergraduate curriculum. There is at least an introduction to professional practice covering areas of ethical behaviour and responsibility and the nature of what is expected of the graduate architect once they become involved in practice activities.

•Schools of Architecture should be primarily about developing how graduates of architecture think.

Professor James Horan

Head of School

•Schools should be about the process of producing the sustainable graduate who can continue their lifelong learning education without the support of the School structure.

•This position maybe more important in these times as many graduates may find themselves working in areas other than main-stream architecture.

•However if a School of Architecture's Mission is primarily about educating graduates for the practice of architecture then the culture of practice should be found in the culture of the School.

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Professor James Horan

Head of School

•The significance of the Professional Qualifications' Directive makes a precise connection between the academic education of the architectural graduate and any additional experience, education or other training which may be required to allow the graduate Architect access to the profession and to the market.

•This means that the Professional Qualifications' Directive is not just about architectural education, but it is about the ability of the Architect to earn a living in the market place.

•It is therefore important that educators engage with the Professionals and that the Professionals understand that the function of architectural education is not just providing a product that they can assimilate into their Offices.

DUBLIN SCHOOL OF ARCHITECTURE

Professor James Horan

Head of School

•There is a need to establish an environment where the collaboration between educators and professionals engage with each other around the concept of lifelong learning.

•There is need to establish an environment where the young graduate Architect does not find themselves in a type of limbo between Architecture School and access to the Profession.

•The Practices of Architecture need to engage in research. Educators can assist in generating a culture of research in Practice.

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Head of School

•The EAAE, representing the Schools of Architecture, is encouraged by the way that the concept of research in Practice and research by design is growing, developing and maturing across the EU.

•The relationship between the Educators and the Professionals is now more important than ever and ideally there should be an openness that results in continuous dialogue around a culture of shared responsibility.

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Professor James Horan

Head of School

Professional Practice in the Dublin School of Architecture

The Dublin School of Architecture Professional Practice programme is spread evenly throughout the academic programme. In the first year of tertiary level education it is the first point of contact for new undergraduate students. Their very first lecture outlines the potential of an architect as a practicing professional. It is also, at postgraduate level, the last point of contact with the school, prior to registered accreditation and it marks the transition from student to professional.

Professor James Horan

Head of School

Years 1-3: BArch Programme

In year 1, Semester 1, the students have a dedicated Professional Practice Module. This module outlines the potential opportunities available to the professional architect. It is run as a lecture and seminar course with two dedicated field trips and is designed to provide each student with an insight into the complexity of making architecture. To achieve this there is a strong focus on the architect as a collaborator, rather than individual.

Professor James Horan

Head of School

In year 2, Semester 1, the students begin to engage with the legislative process and undertakes two case study investigations, one focused on planning regulations and how they affect design and the other on building regulations and how they affect design.

Year 3, Semester 1, is a preparation for practice. The module introduces the student to the full range of professional endeavour that they are likely to meet in practice, including the commercial aspect of making buildings as well as the legal responsibilities that an architectural office has to its staff and clients.

Professor James Horan

Head of School

Years 4-5: MArch Programme

Year 4, requires the students to immerse themselves in reflection, from a professional perspective. They are asked to develop a fully detailed scheme design report, which includes their response to planning, cost control, sustainability, access statement, structure, and build-ability.

Year 5. The programme focuses on the nature of a professional architect and allows the students to reflect on their own position, regarding the profession before they enter it as a full time employee. The students are also challenged with a complex scenario, based on real life practice, which they are asked to respond to in a mature way. They also have a detailed module which describes the purpose and use of the standard RIAI documents from a practical and legal perspective.

DUBLIN SCHOOL OF ARCHITECTURE

Professor James Horan

Head of School

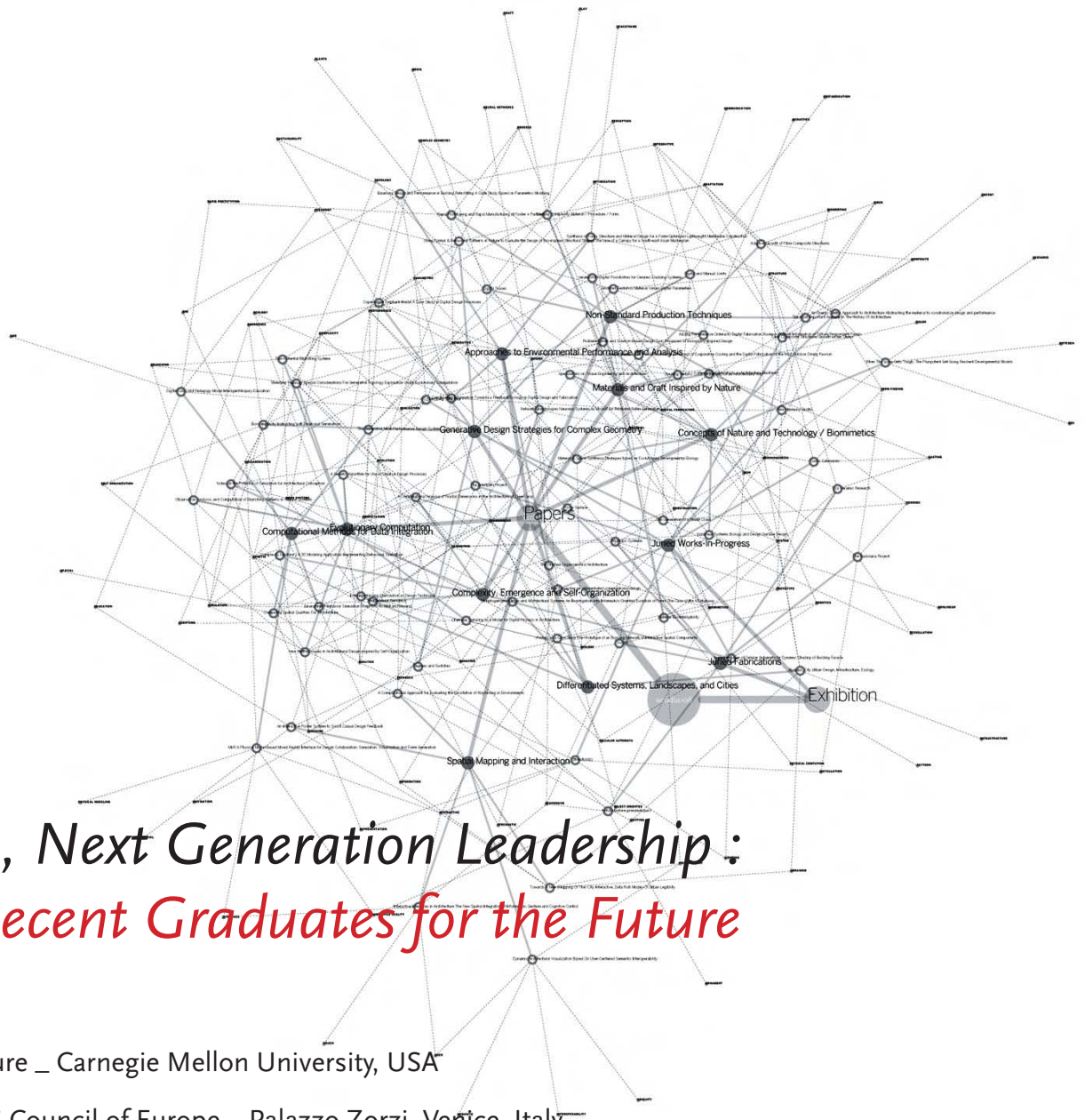
Postgraduate Diploma in Architectural Professional Practice

This is a part time course which allows on completion, the graduate to register as a professional with the statutory body in Ireland, the RIAI

DUBLIN SCHOOL OF ARCHITECTURE

Professor James Horan

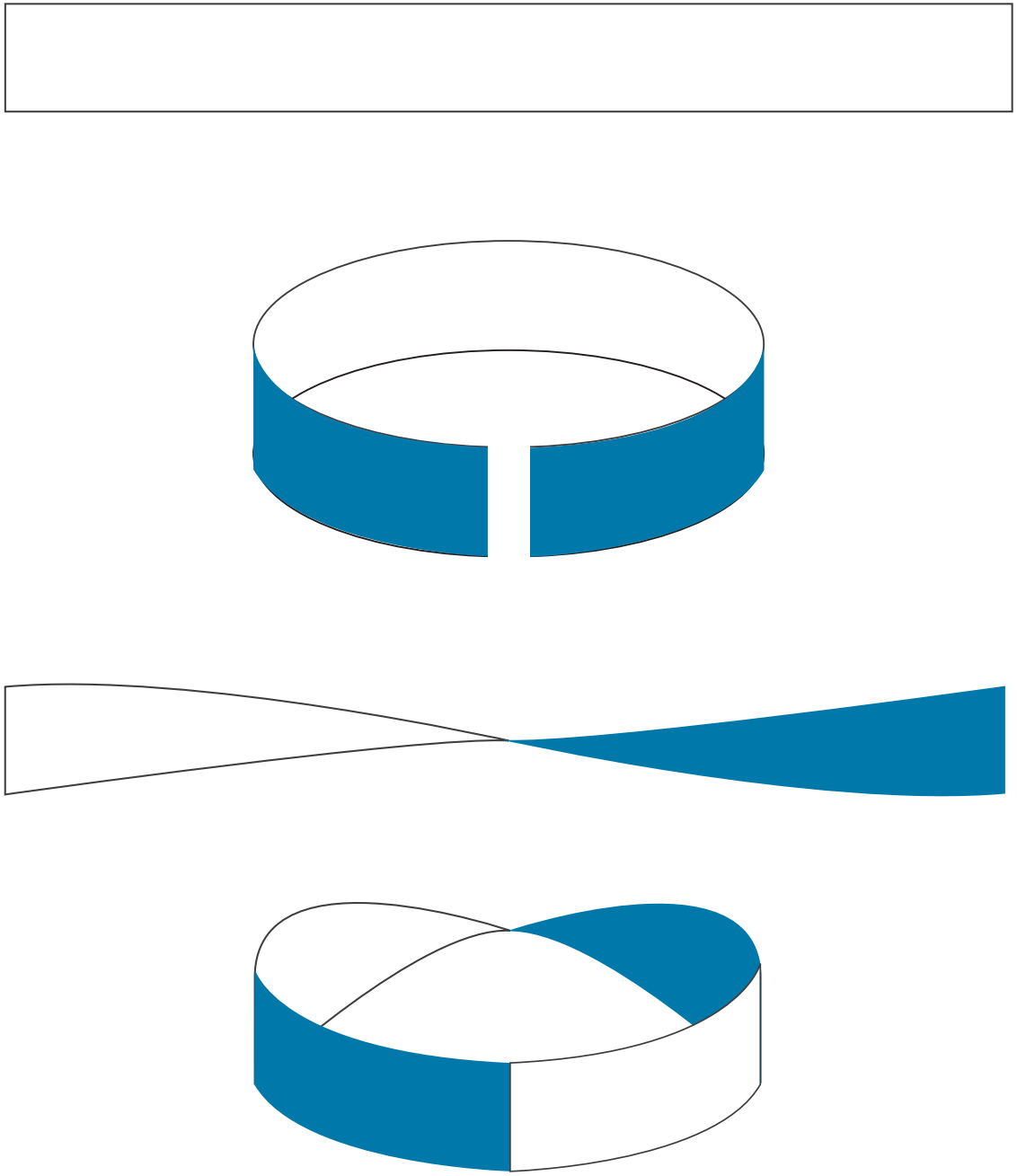
Head of School



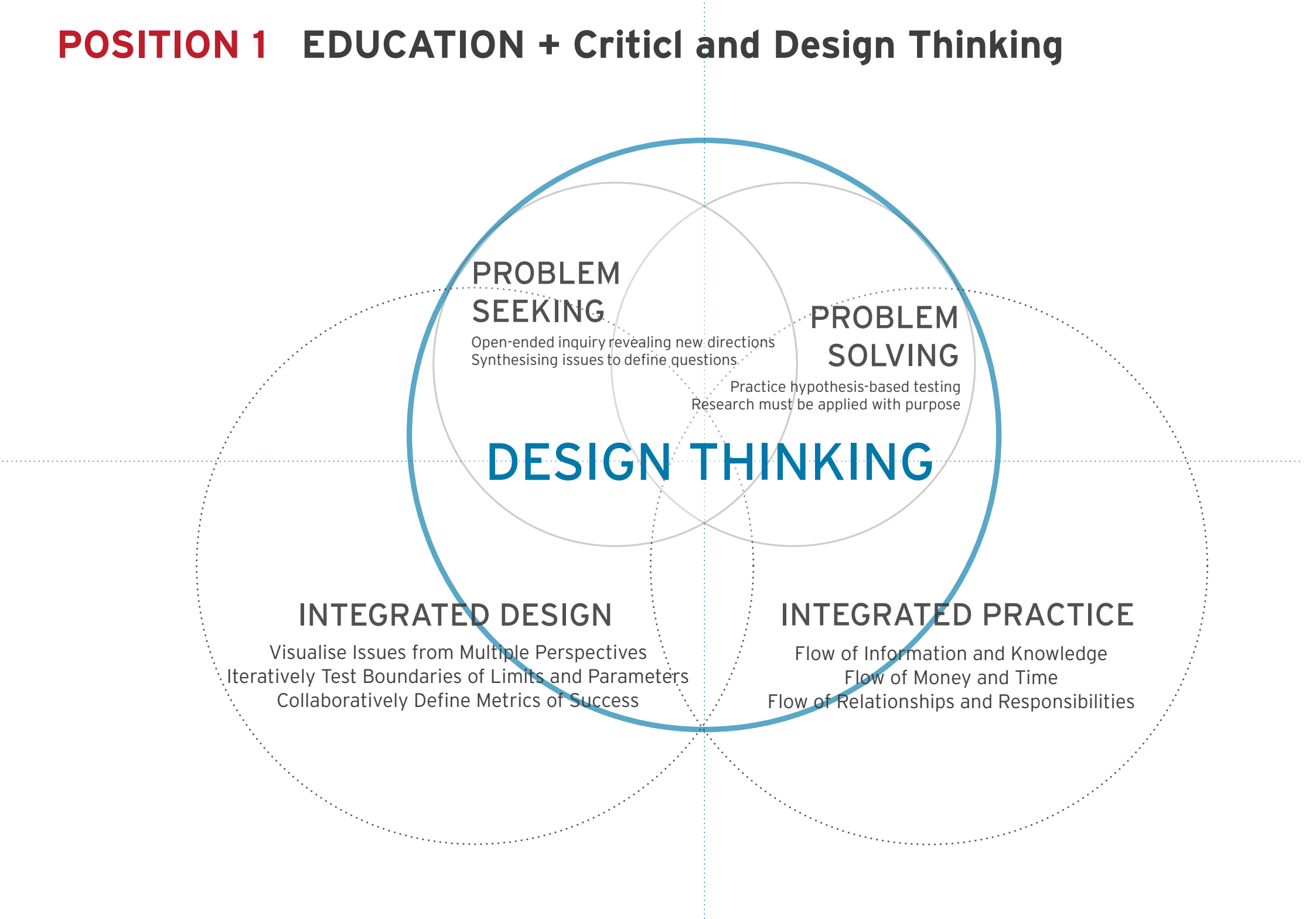
Next Generation Practice, Next Generation Leadership :
Positioning Interns and Recent Graduates for the Future

Laura Lee, FAIA, Hon RFAIA, Professor of Architecture _ Carnegie Mellon University, USA

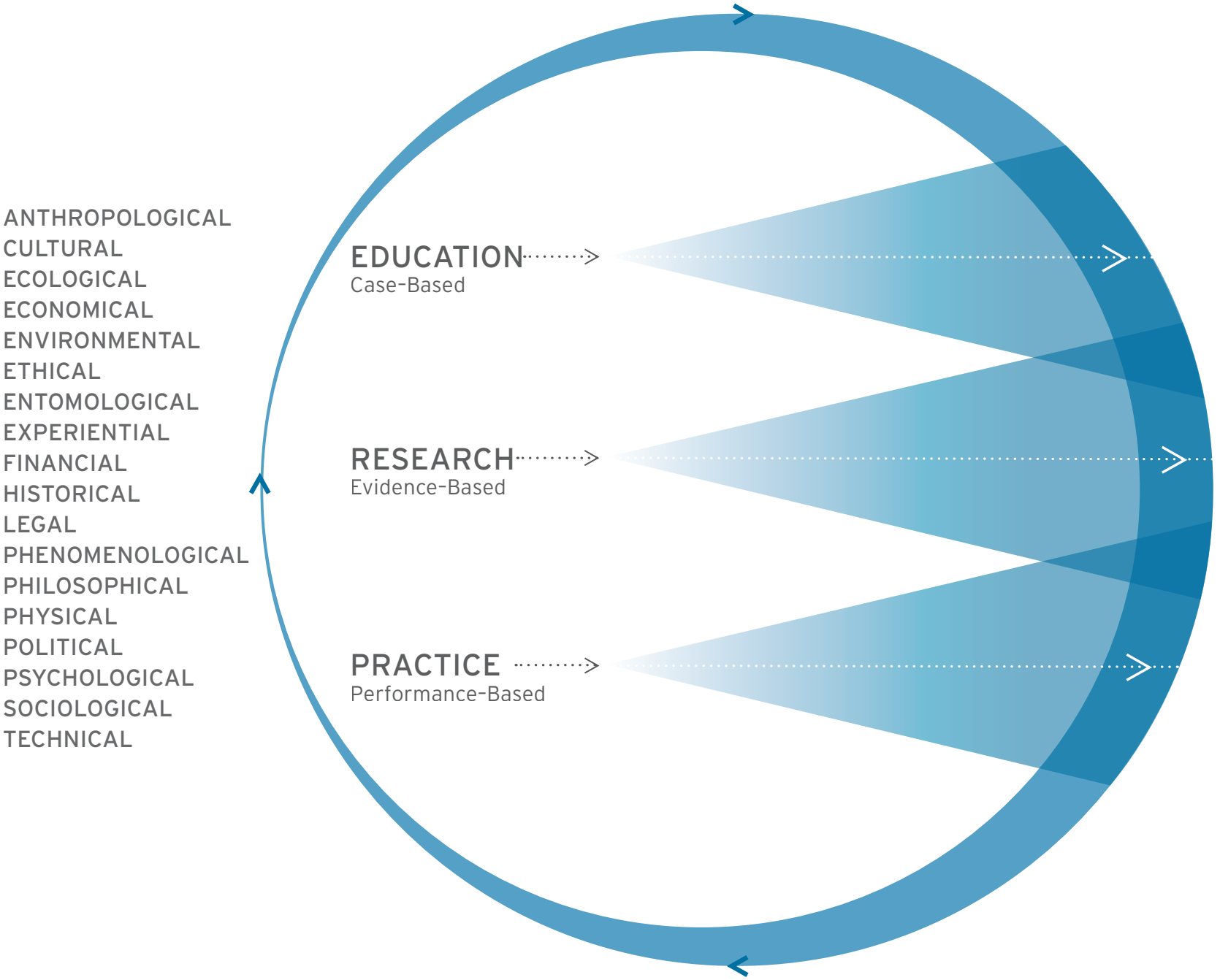
8 April 2011 _ ENSHA III Project with the Architects' Council of Europe _ Palazzo Zorzi, Venice, Italy



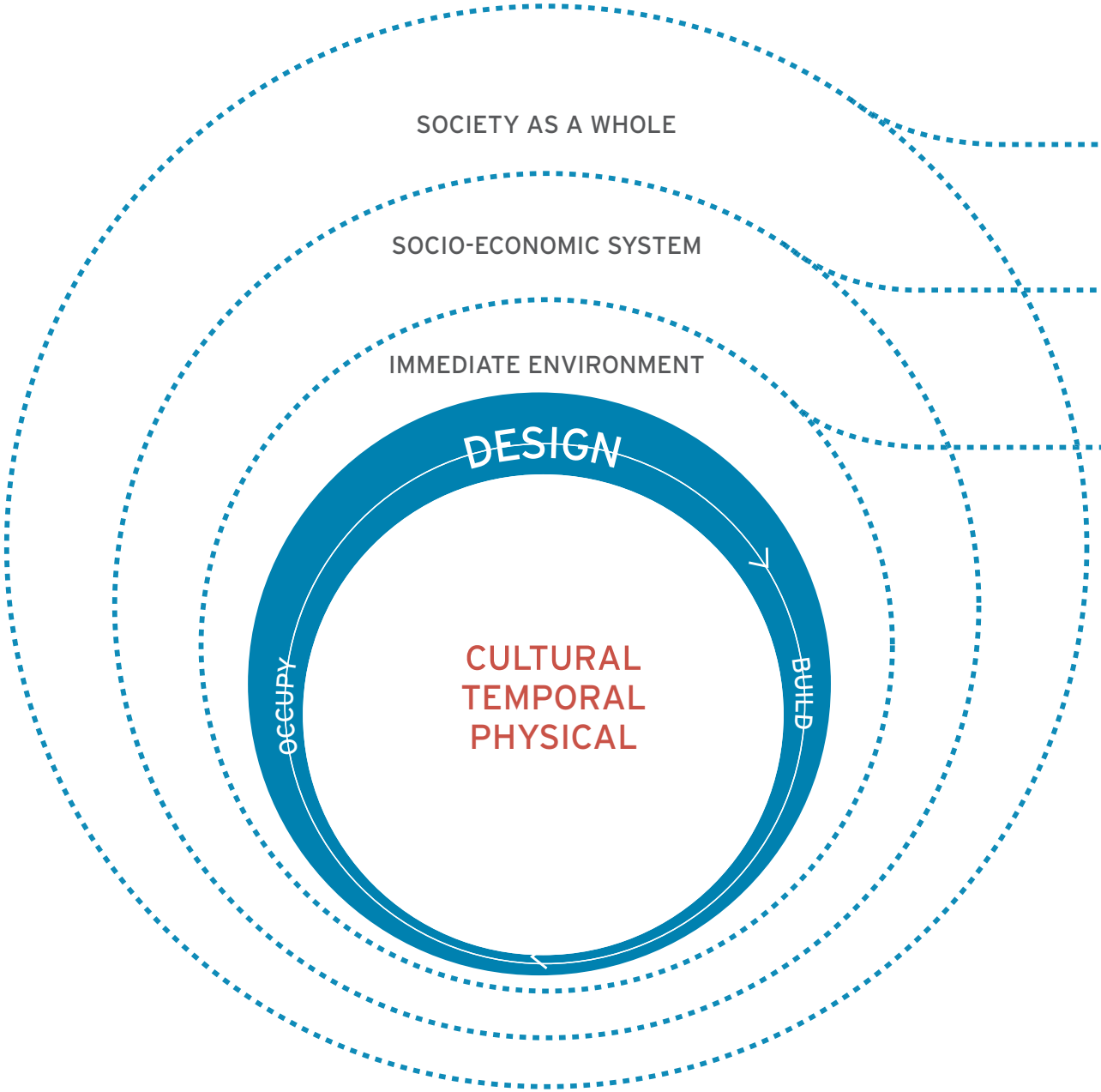
POSITION 1 EDUCATION + Criticl and Design Thinking



POSITION 2 RESEARCH Case, - Evidence, - Performance Based



POSITION 3 CONTEXT Cultural, Physical, Temporal

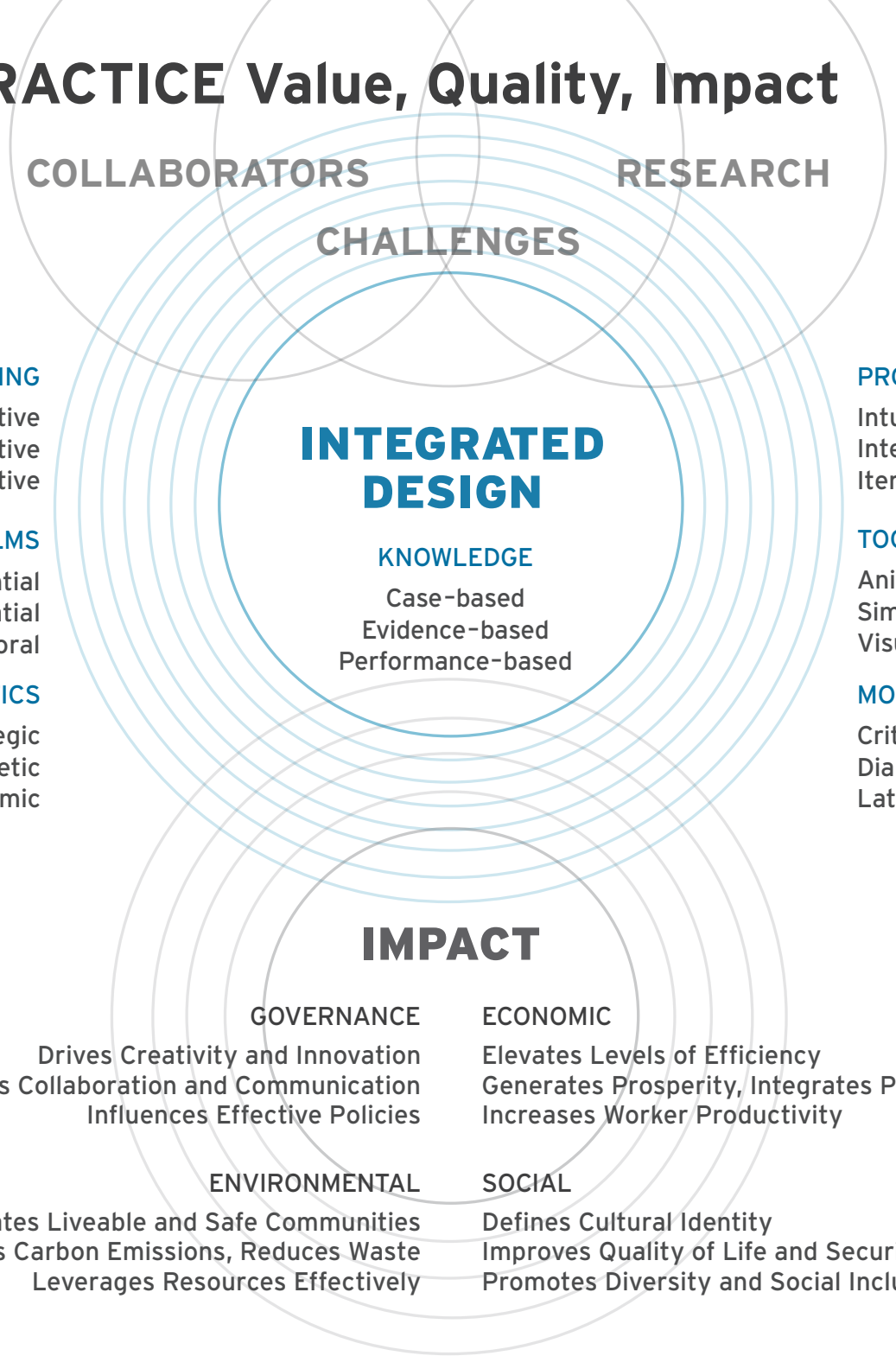


DELIGHT / Aesthetic
authentic, beautiful, memorable
illuminating, imaginative, inspirational
convenient, efficient, intuitive

COMMODITY / Function
affordable, liveable, sustainable
competitive, productive, profitable
durable, reliable, safe

FIRMNESS / Structure
accessible, equitable, inclusive
adaptable, flexible, transformational
ecological, regenerative, resilient

POSITION 4 PRACTICE Value, Quality, Impact



CONTEXT E E E
The Path to Becoming an Architect

E 1	**EDUCATION**	Accredited Professional Degree
E 2	**EXPERIENCE**	Internship Period (“Stage”)
E 3	**EXAMINATION**	Professional Exam

NATIONAL ARCHITECTURE ORGANIZATIONS

ACSA	American Collegiate Schools of Architecture
AIA	American Institute of Architects
AIAS	American Institute of Architecture Students
NAAB	National Architectural Accreditation Board
NCARB	National Council of Registration Boards

E 1 EDUCATION
34 NAAB Student Performance Criteria

1. Speaking and Writing Skills
2. Critical Thinking Skills
3. Graphics Skills
4. Research Skills
5. Formal Ordering Systems
6. Fundamental Design Skills
7. Collaborative Skills
8. Western Traditions
9. Non-Western Traditions
10. National and Regional Traditions
11. Use of Precedents
12. Human Behavior
13. Human Diversity
14. Accessibility
15. Sustainable Design
16. Program Preparation
17. Site Conditions
18. Structural Systems
19. Environmental Systems
20. Life Safety
21. Building Envelope Systems
22. Building Service Systems
23. Building Systems Integration
24. Building Materials and Assemblies
25. Construction Cost Control
26. Technical Documentation
27. Client Role in Architecture
28. Comprehensive Design
29. Architect's Administrative Roles
30. Architectural Practice
31. Professional Development
32. Leadership
33. Legal Responsibilities
34. Ethics and Professional Judgment

E 2 EXPERIENCE
Internship Development Program 16 Core Competencies

Category A: Design and Construction Documents		350
1. Programming	10	
2. Site and Environmental Analysis	10	
3. Schematic Design	15	
4. Engineering Systems Coordination	15	
5. Building Cost Analysis	10	
6. Code Research	15	
7. Design Development	40	
8. Construction Documents	135	
9. Specifications and Materials Research	15	
10. Document Checking and Coordination	10	
Category B: Construction Contract Administration		70
11. Bidding & Contract Negotiation	10	
12. Construction Phase—Office	15	
13. Construction Phase—Observation	15	
Category C: Management		35
14. Project Management	15	
15. Office Management	10	
Elective Units In This Category	10	
Category D: Related Activities		10

E 3 EXAMINATION
ARCHITECTS REGISTRATION EXAM (ARE)
National Council of Architectural Registration Boards

7 Exam Sections : Multiple Choice and Graphic (each $200)

Programming
Planning & Practice
Site Planning & Design
Building Design & Construction Systems
Schematic Design
Structural Systems
Building Systems

E 1,2,3 EMERGING PROFESSIONALS COMPANION (EPC)

16 Core Competency IDP Requirements by NCARB
Typical Chapter Contents (as conceived in 2004, revised 2010)

1. Narrative
2. Exercises
3. Evidence-based Learning
4. Health Safety Welfare
5. Design and Construction Liability
6. Ethical Dilemmas
7. Professional Continuing Education
8. Further Study
9. Personal Portfolio
10. Bibliography, References, Resources, Links

E 2,3 IDP OUTSTANDING PRACTICE AWARD (Ex: Gensler)

"Gensler's unique two-part approach – a suite of tools and a network of Licensure Champions -- creates dynamically flexible mentoring strategies. This system nurtures the local culture and unique requirements of over 30 offices on five continents while achieving the broader objectives and standards of excellence for the firm."

Inclusive Mentorship: Crossing Disciplines and Jurisdictions
The Common Thread: Nurturing the Enduring Fundamentals
A Culture of Storytelling
Rich and Strategic Partnerships: Sharing Among All Levels and Disciplines
Learning to Mentor: The Importance of Training

The Importance of Multifaceted Support
Strategic Financial Support
Intellectual Infrastructure
Cultural Development Around Licensure
Leadership Investment

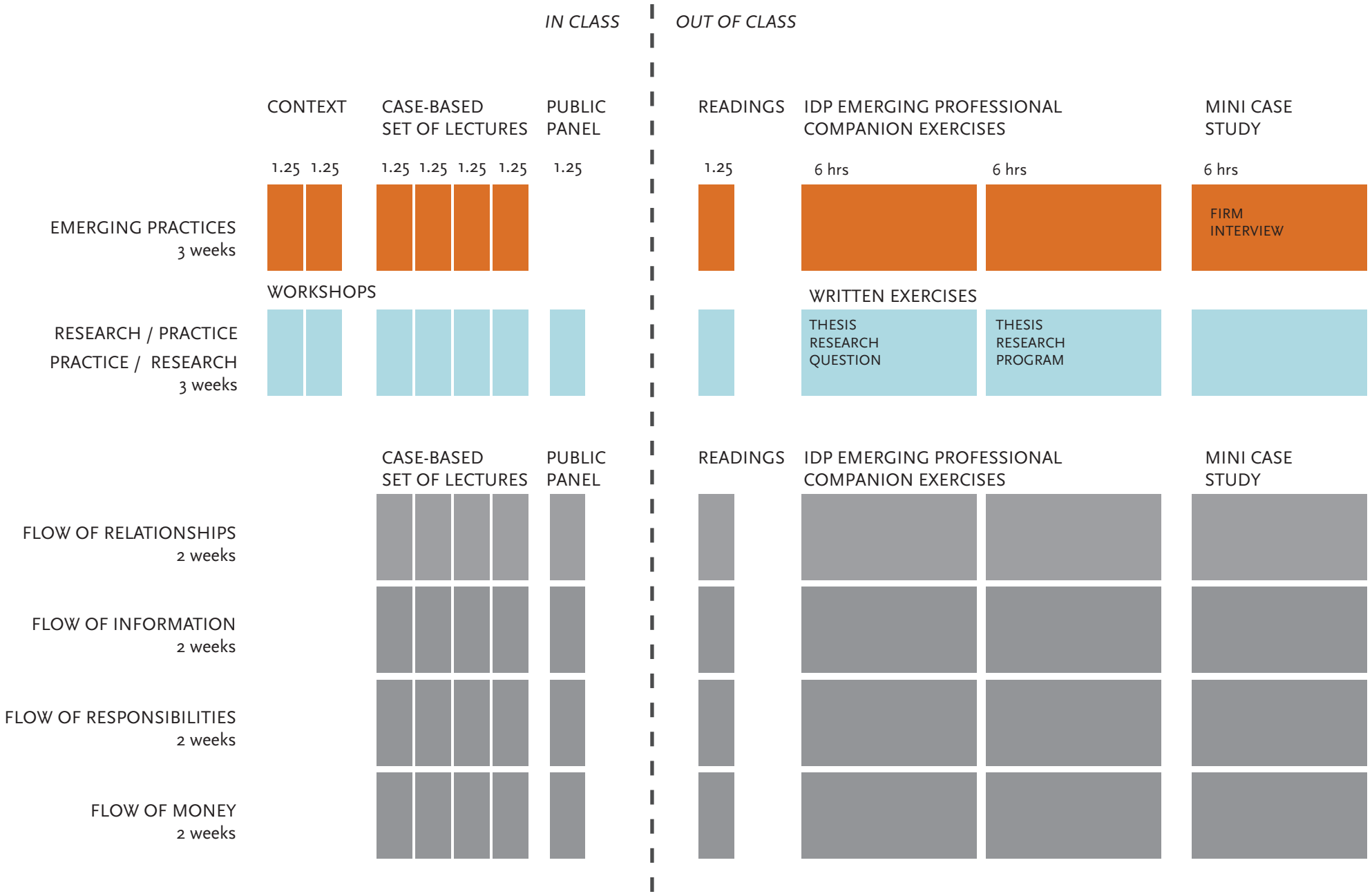
"Developing integrated Licensure Experience Reporting Systems are a key priority for comprehensive licensure support. When such systems are integrated into the culture and technical operations of the firm, they can drastically improve the intern experience as well provide data-driven strategies for a strategically responsive environment for professional development."

POSITION 1 *EDUCATION* _ *PRACTICE EDUCATION*

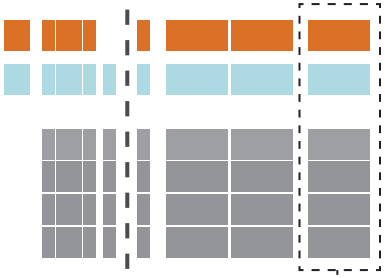
COURSE #1 ISSUES OF PRACTICE

1 FACULTY
1 PRACTITIONER
1 INTERN TEACHING ASSISTANT
1 STUDENT TEACHING ASSISTANT
48 STUDENTS

FALL SEMESTER
15 WEEKS
3 CREDITS
REQUIRED



COURSE #1 PROFESSIONAL PRACTICE IN ARCHITECTURE



CASE STUDY_ELLERBE BECKET

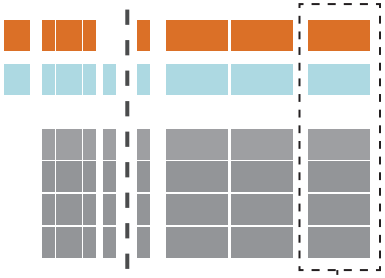
CASE FOCUS_RESPONSIBILITIES

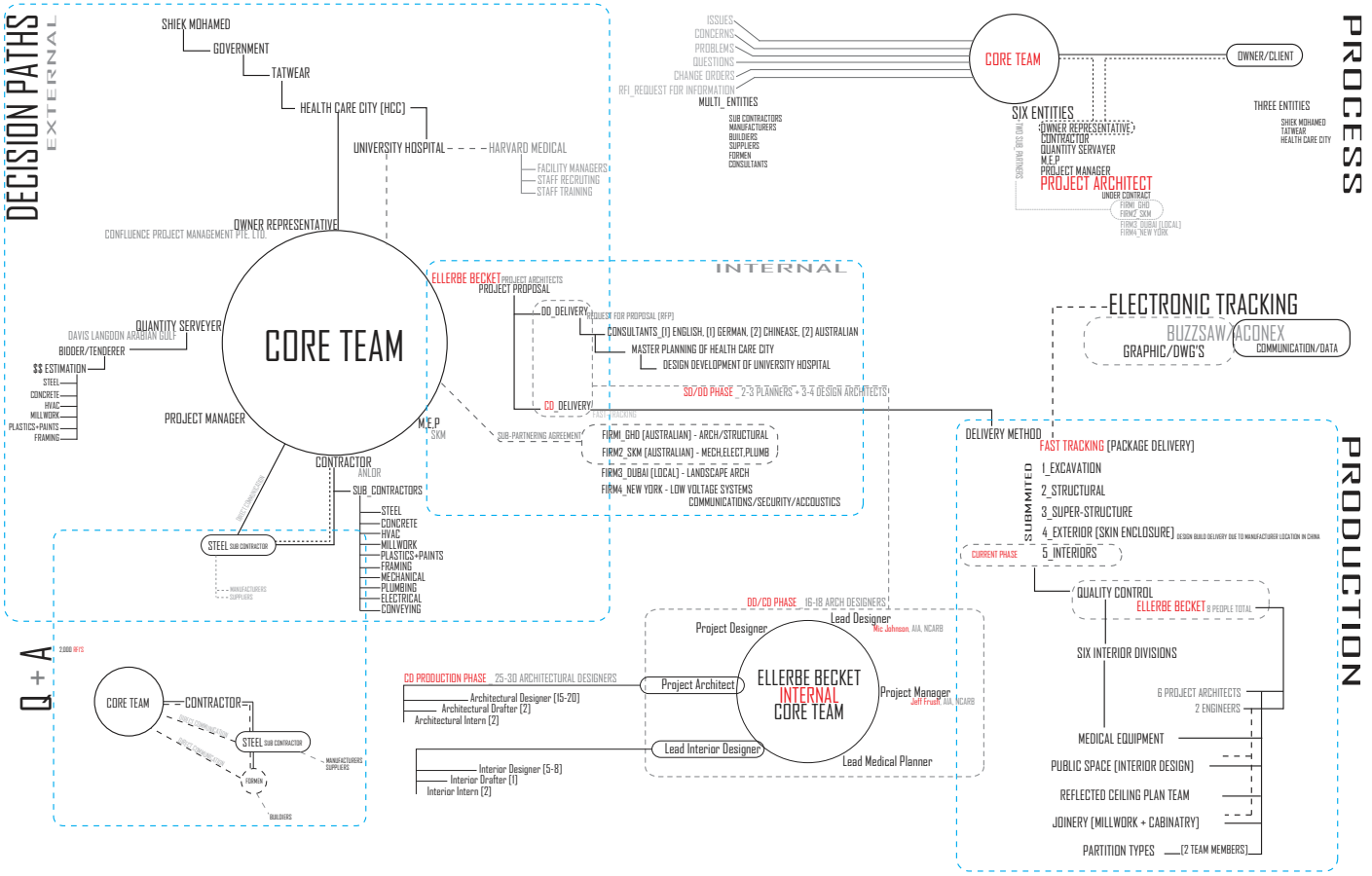
INTERVIEWERS_ANDREW MOEDING
_PETRO MEDITS
INTERVIEWEES_JEFF FRUSH, AIA, NCARB
_PRINCIPAL + PROJECT DIRECTOR
SUBMIS. DATE_11.18.2008

CASE DESCRIPTION

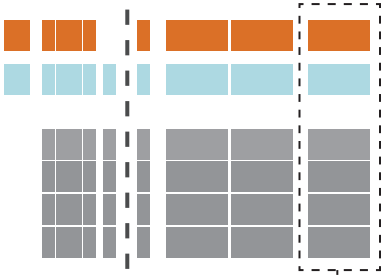
PROJECT NAME_UNIVERSITY HOSPITAL
PROJECT LOCATION_DUBAI, UNITED ARAB EMIRATES
CLIENT_DUBAI HEALTHCARE CITY (DHCC)
BUILDING TYPE_INPATIENT+OUTPATIENT HOSPITAL
BUDGET AND PROJECT COST_$700 MILLION (TOTAL PROJECT) DESIGN FEES_$35 MILLION
SIZE_1,450,000 SQ. FT.
SCOPE OF SERVICES_MASTER PLANNING+MEDICAL PLANNING/ARCHITECTURAL DESIGN/INTERIOR DESIGN/MECHANICAL+ELECTRICAL ENGINEERING DESIGN
COMPENSATION TYPE_MONITARY VIA CONTRACTUAL OBLIGATION
PROJECT DELIVERY METHOD_PARTNERING AGREEMENT + FAST TRACKING PACKAGE DELIVERY
SCHEDULING AND DATES_SD COMPLETION APRIL 2006
_DD COMPLETION APRIL 2007
_CD COMPLETION JANUARY 2009
_CONSTRUCTION BEGAN FALL 2007 COMPLETION SPRING 2011

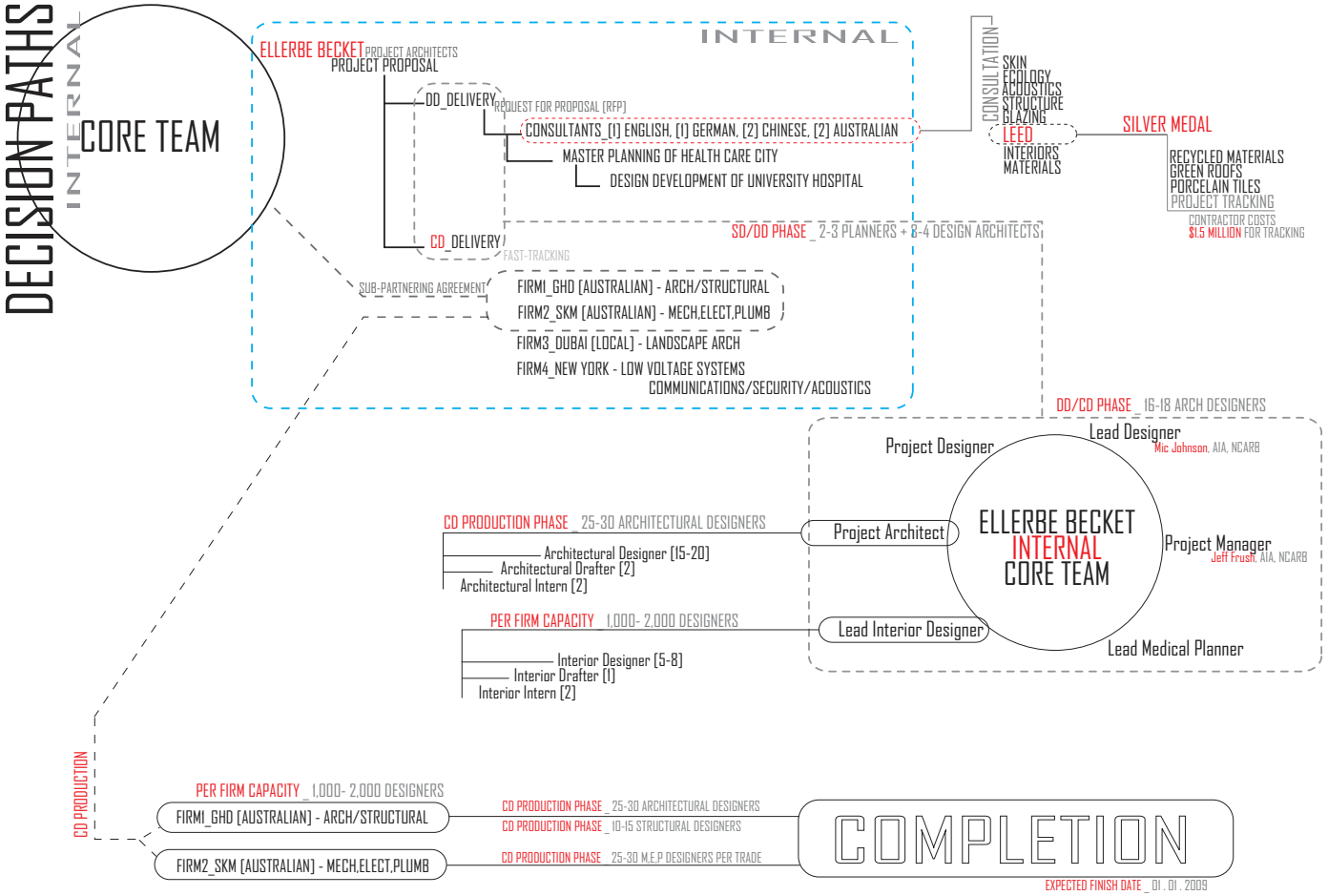
COURSE #1 PROFESSIONAL PRACTICE IN ARCHITECTURE



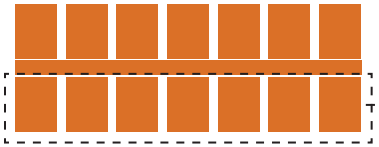


COURSE #1 PROFESSIONAL PRACTICE IN ARCHITECTURE





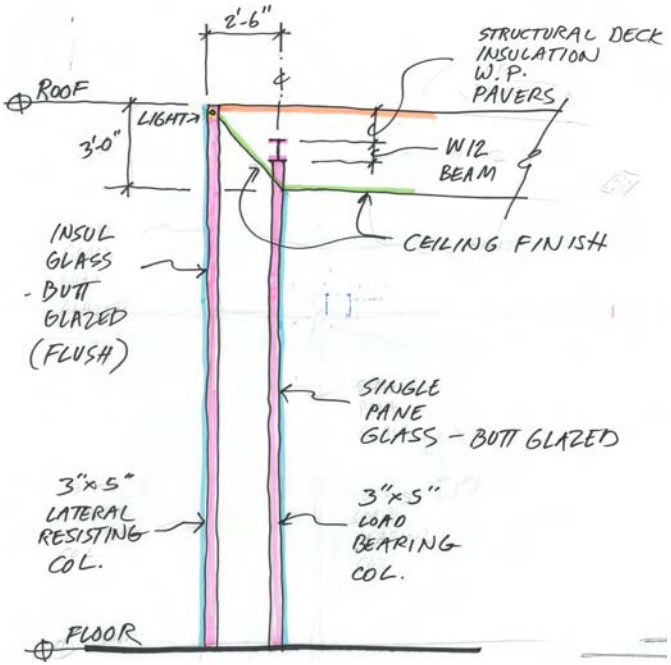
COURSE #2 BUILDING STORIES



– – DETAIL DEVELOPMENT

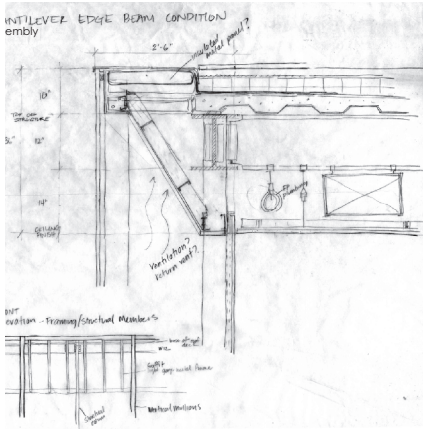
01
INTRODUCTION TO CONTEXT AND SCHEMATIC INTENT - IN CLASS

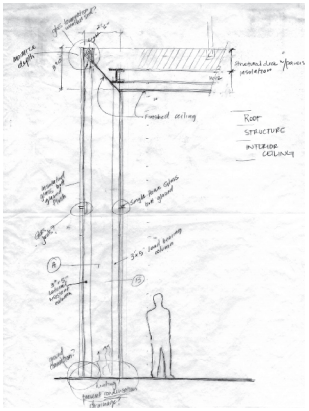
Walker Art Center Facade; glass to roof detail

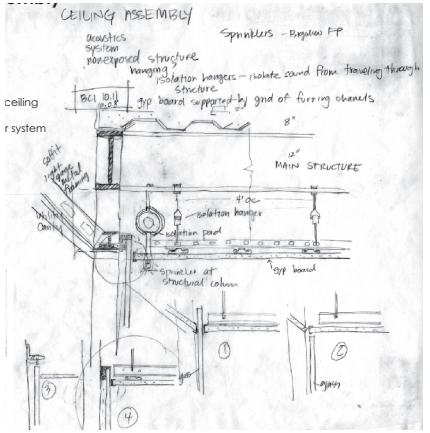


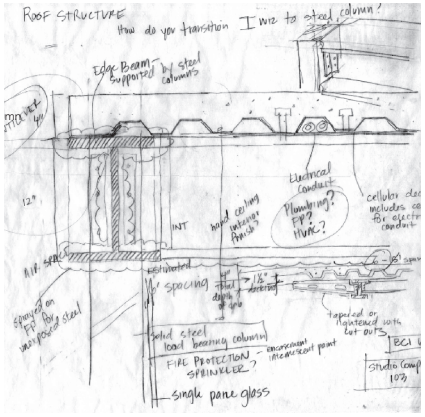
02
STUDENT DETAIL INVESTIGATION - OUT OF CLASS

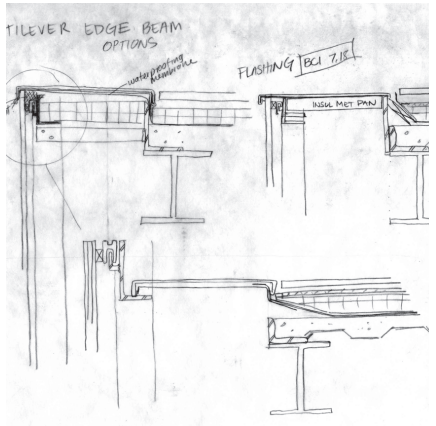
Detail Development through collaborative peer discussions, research, and drawing



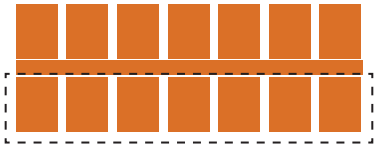








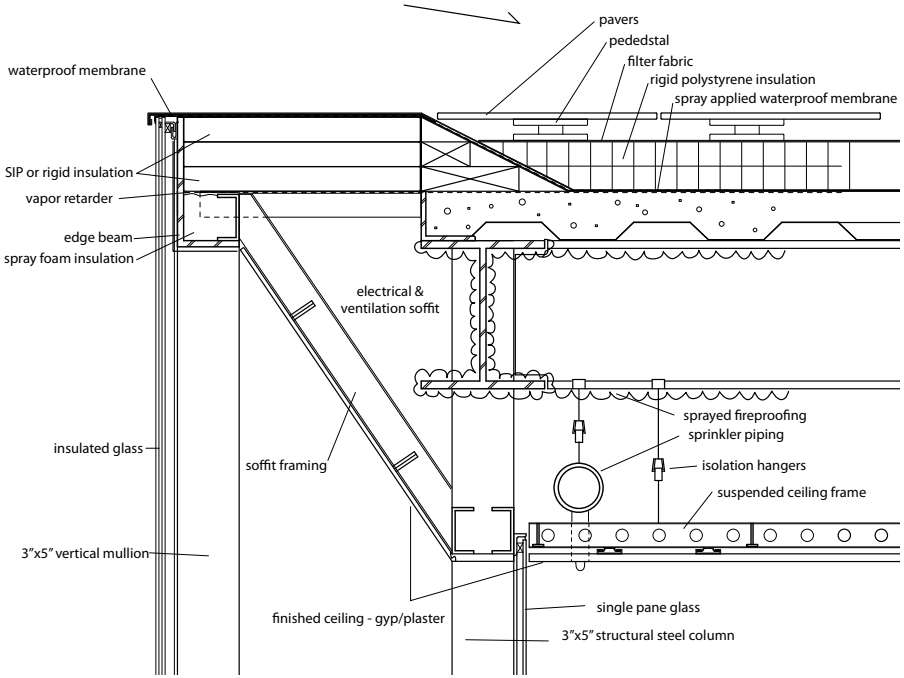
COURSE #2 BUILDING STORIES



03
STUDENT DETAIL PRESENTATIONS - IN CLASS

Students present individual solutions. Before revealing the actual detail, John Cook and the class respond and discuss the presentations to identify potential gaps or problems.

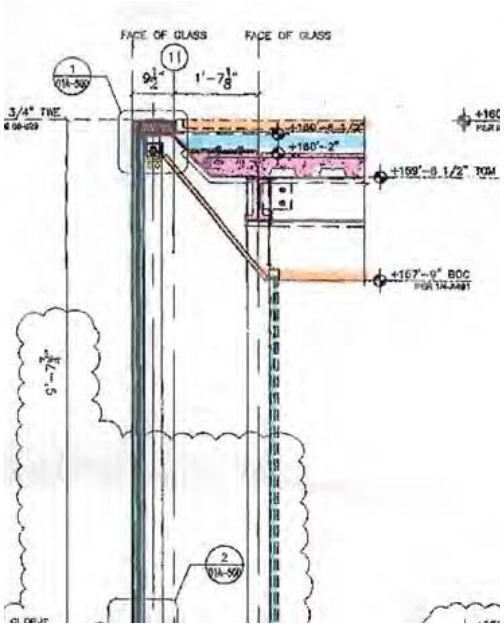
Student Proposed Detail

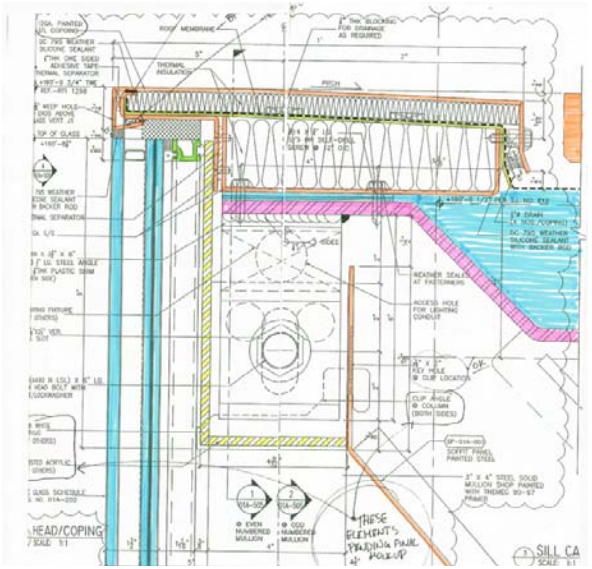


04
RESPONSE AND EXPLANATION OF ACTUAL BUILT DETAIL - IN CLASS

John Cook presents the actual detail development and construction process, emphasizing lessons learned from field observations as well as performance issues that develop once the building is in operation.

Actual Built Detail





NCARB PRIZE for the Integration of Practice in the Academy

WHAT WOULD HAPPEN IF ...

Education is designed
or graduates to position themselves in 5, 10, 25 + years?

Practice is designed to be
adaptable, flexible, resilient, sustainable and transformational?

Education and practice are designed
for high-performance outcomes for the future?

Architecture's ability to improve quality of life is based on the

Role of Architects as Leaders
communicator / coordinator / enabler / facilitator / integrator

Role of Architects (beyond buildings)
visionary / strategist / researcher / entrepreneur / ambassador

FUTURE BASED ON EMBRACING GLOBAL CALLENGES

Climate change adaption, sustainability

Economic uncertainty

Emissions

Energy

Housing affordability, availability, diversity

Population growth, demographic change

Resource depletion, alternatives?

Social diversity, equity, inclusion

Urbanisation

Waste

FUTURE OF EDUCATION BASED ON EXPECTING CHANGE

Climate Change / Sustainability

Collaborative Design / Integrated Practice

Cultural Understanding / Ethical Differences / Human Diversity

Culture and Issues of Practice / Professionalism

Digital Fabrication and Material Technologies

Evidence Based Design

Globalization / Urbanisation

Interdisciplinarity / Specialization / Dual Degrees

Integration of Education, Practice, Research

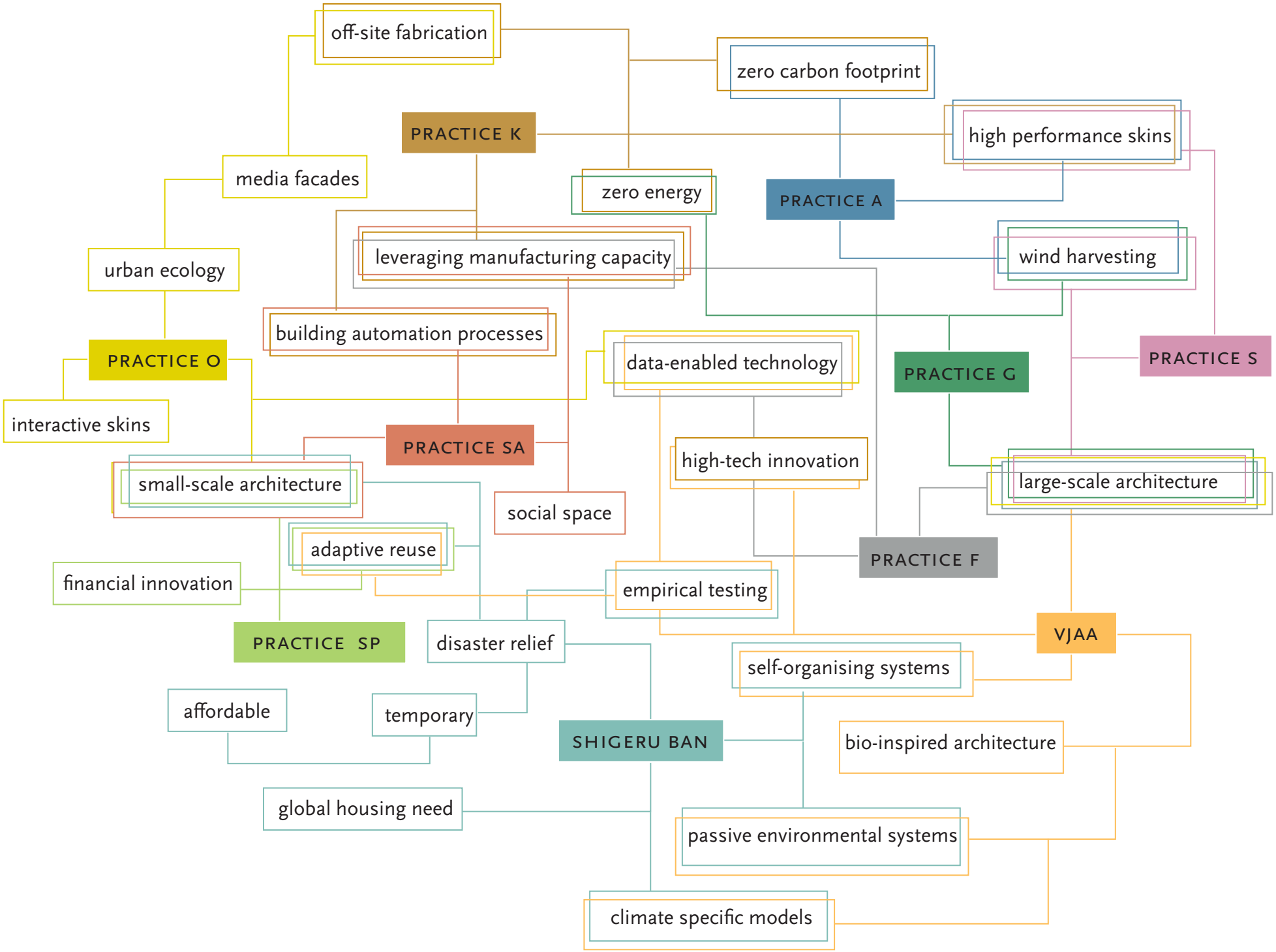
Social Responsibility

DESIGN BUILD PROGRAMS Rural Studio; Alabama and Ghost; Canada

DESIGN BUILD Solar Decathlon

U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON

CASE STUDIES: RESEARCH BASED PRACTICES _ 10 PRACTICES

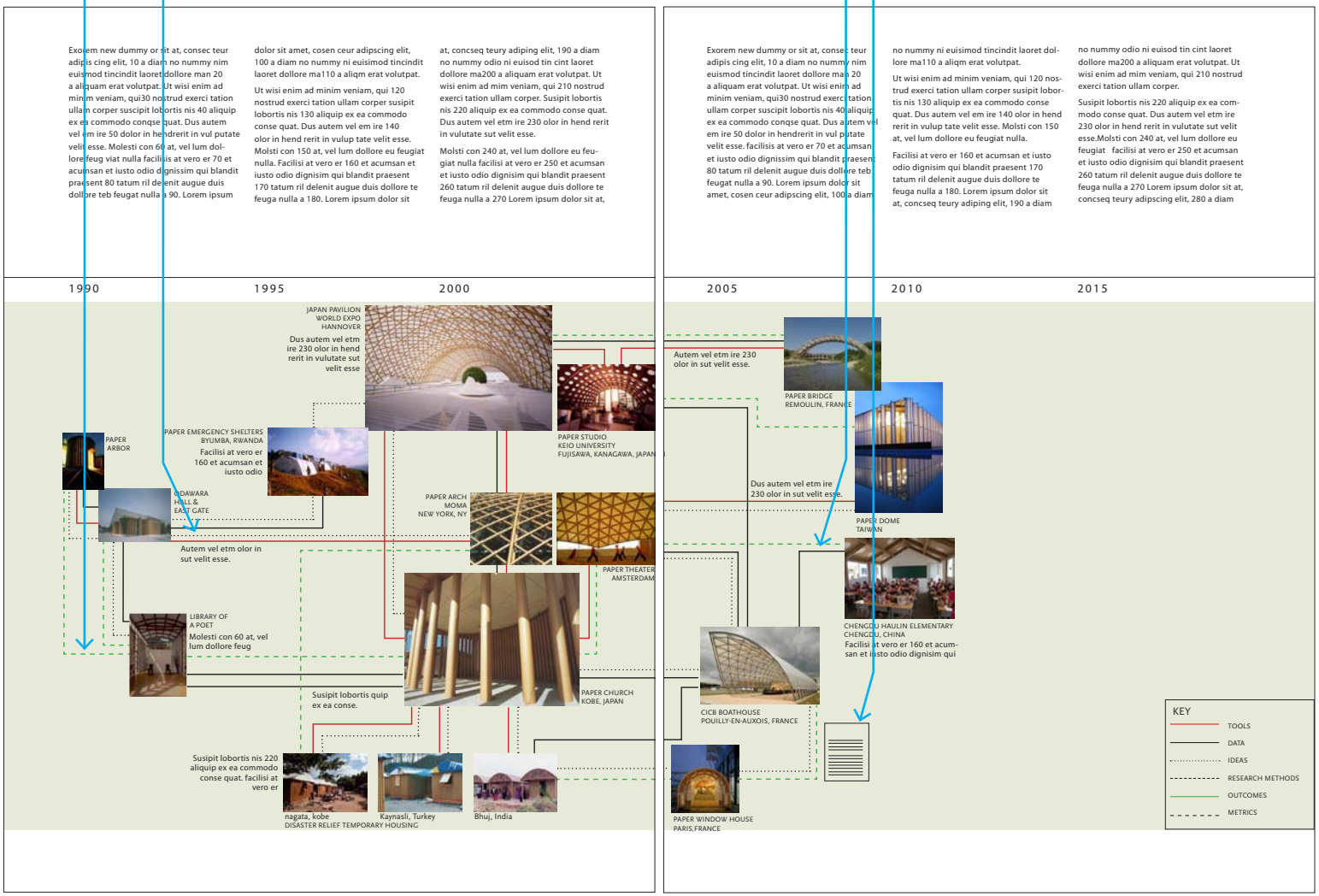


FLOWS OF RESEARCH TRAJECTORIES may be identified for firms with enough demonstrated research expertise. Other firms' flows may be more focused on potential research trajectories.

CONNECTIONS specifies how research ideas connect between multiple projects

KEY CODING indicates type or nature of project interconnection including: tools, data, ideas, research methods, outcomes, metrics, resources

EXTERNAL INFLUENCES such as collaborators or innovative processes brought in from other disciplines.



THREE FLOWS:

1. COMMUNICATION

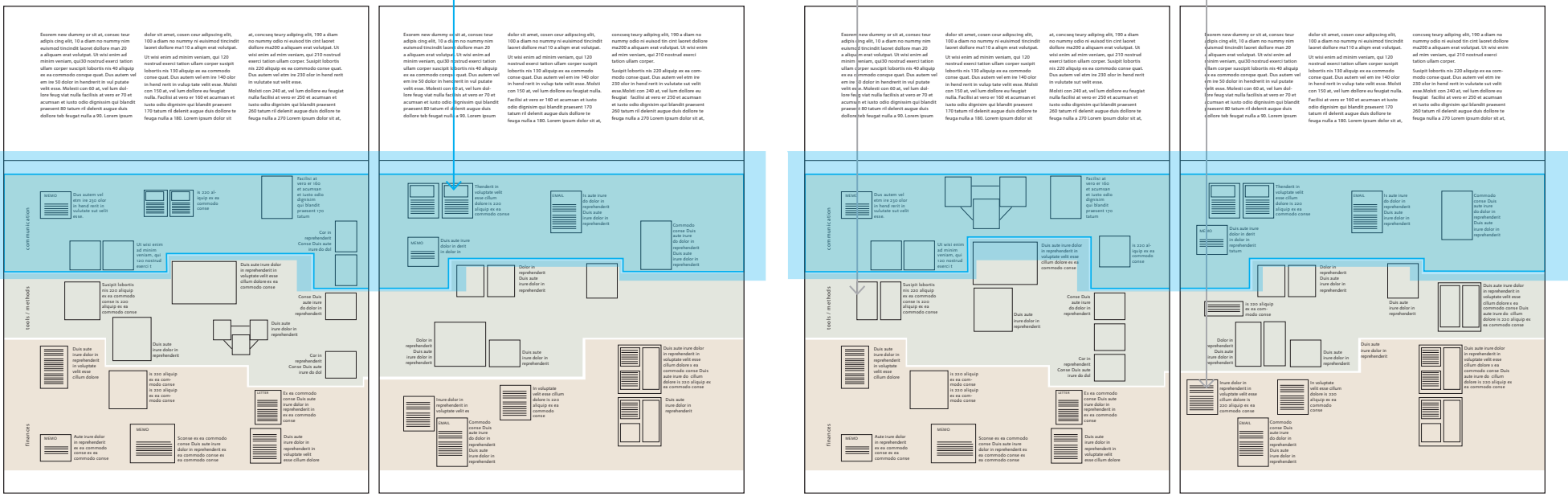
original documents, images and text relating to communication mechanisms, collaborative team formation, decision-making processes

2. METHODS & TOOLS

original documents, images and text relating to methodologies and tools for research

3. CONTRACTS/FINANCE

original documents, images and text relating to contracts, finances, liability, intellectual property



THUMBNAIL
of contract and text of contract terms related to intellectual property

ORIGINAL CHART
showing lines of communication

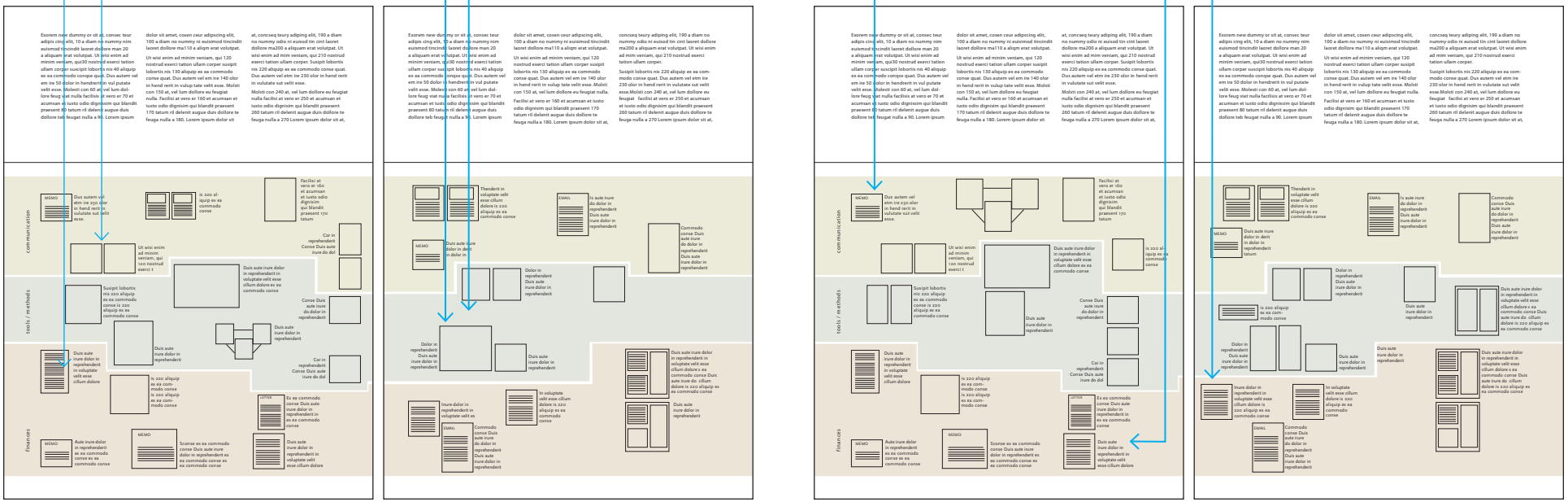
CHART OF TOOLS
chosen to measure progress towards goals

SPECIFIC TECHNOLOGIES
models, software, techniques

DESCRIPTION
of communication techniques and tools

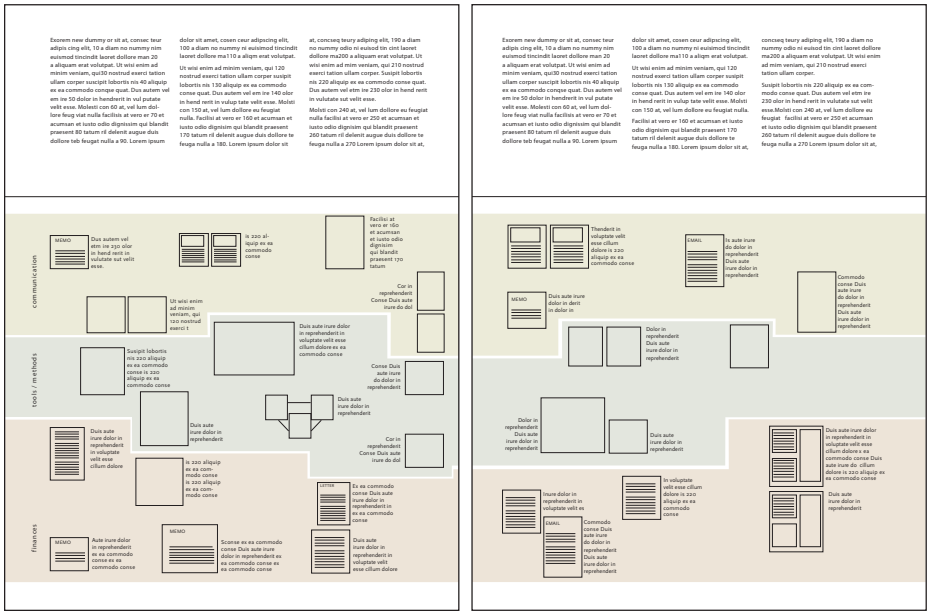
ORIGINAL MEMO
outlining goals for value of metrics

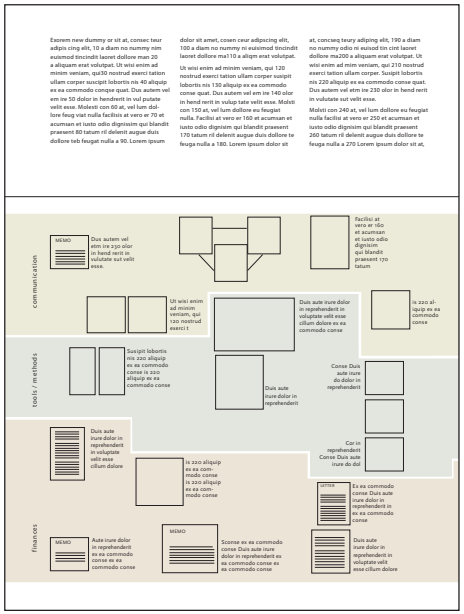
PROGRESS CHART
showing original goals and return on investment

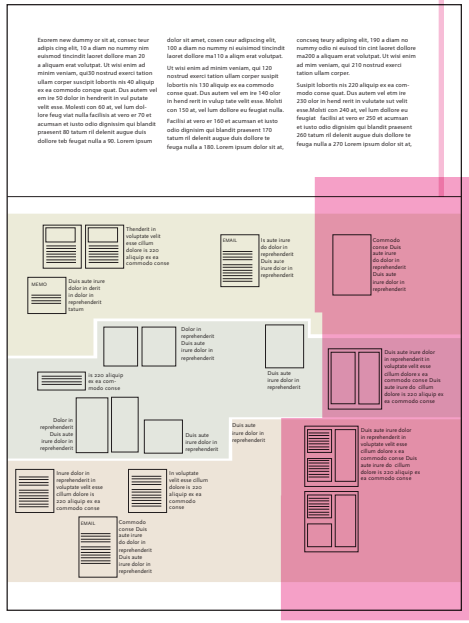


PROCESS INNOVATION

each case concludes with a summary of its innovations, the collection of summaries can be issued as a "deck of cards" distinct from the research manual







RESEARCH _ CASE STUDY: HANNOVER EXPO

EXAMPLE: Shigeru Ban

NARRATIVE

MEMO DESCRIBING FREI OTTO COLLABORATION TERMS

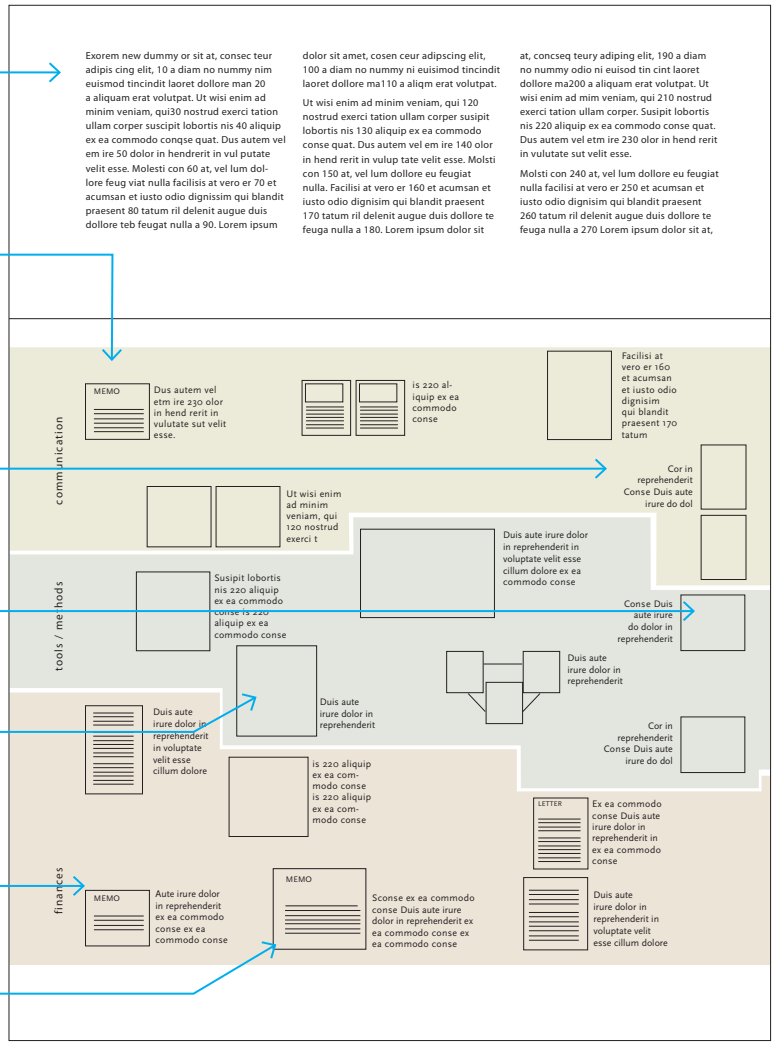
REPORT FROM GERMAN BUILDING INSPECTORS ON TESTING

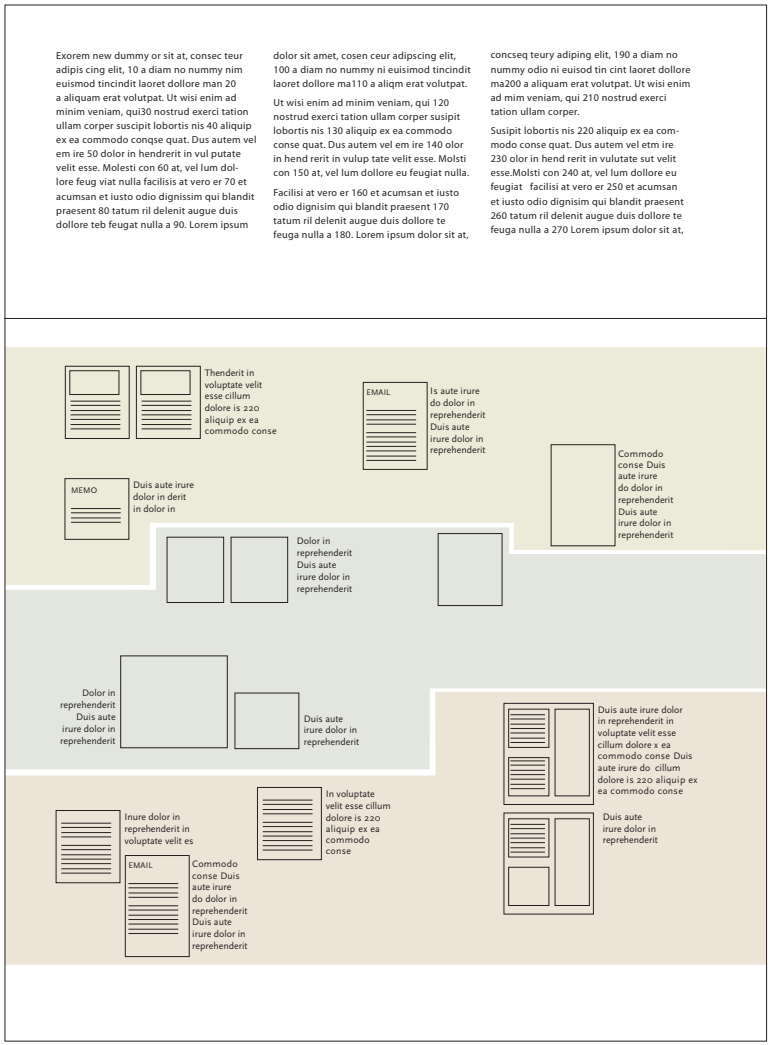
TESTING PARAMETERS REQUIREMENTS

RESEARCH ON GERMAN & JAPANESE SUBCONTRACTORS

TUBE SUPPLIER PRICE SET

MEMO OUTLINING COSTS OF TUBE





TEN ISSUES FACING THE PROFESSION

Productivity	field versus shop, outcomes: time, money, quality
Globalisation	supply chain, working at distance, competition
Sustainability	scope versus results, evolving standards
Workforce	leadership training, global workplace, gender / family
Complexity	formal / stylistic, performance, delivery model
Collaboration	joint and several outcomes, digital / virtual, transactional vs. integrative
Analysis	rapid inference, outcome engines, integrated insight
Fabrication	thinking to making, rapid prototyping, customisation
Standards	code alignment, building performance
Representation	BIM, representative versus performative

BUILT ENVIRONMENT INDUSTRY IMAGINED FUTURE

Case-based knowledge, evidence-based design, performance-based outcomes

Collaboration – increased capacity through seamless sharing of responsibility, rewards, risks

Connected research, development and innovation

Community engagement in a sustainable future

Continuous learning; professional and workforce development, education, training

Culture, infrastructure and network of communication, knowledge, methods, processes

Decision making frameworks which are data-enabled, expertise-driven, highly integrated

Design value recognised and relevant throughout the project life cycle

Diverse and capable supply chain with value added linkages

Enabling and harmonised regulatory environments and legal frameworks

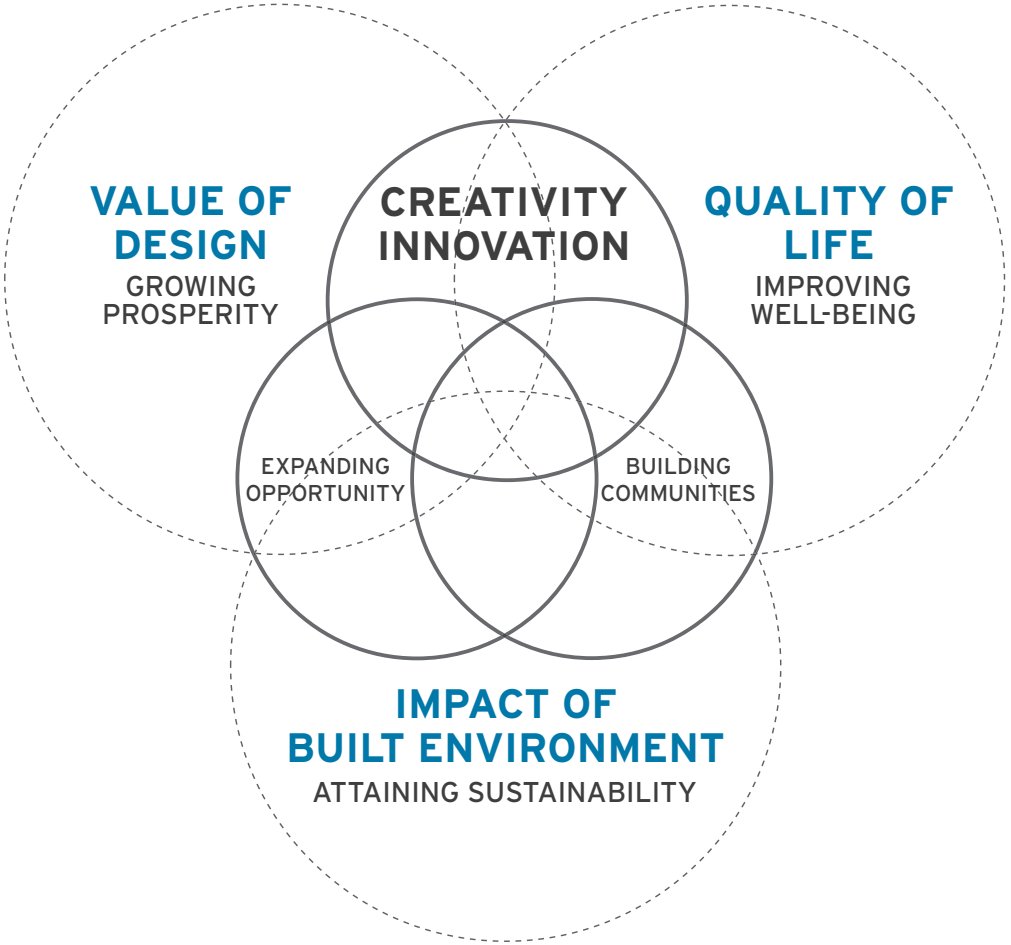
Enabling innovative tools and technologies such as building information modelling

Increased off-site manufacturing and digital fabrication

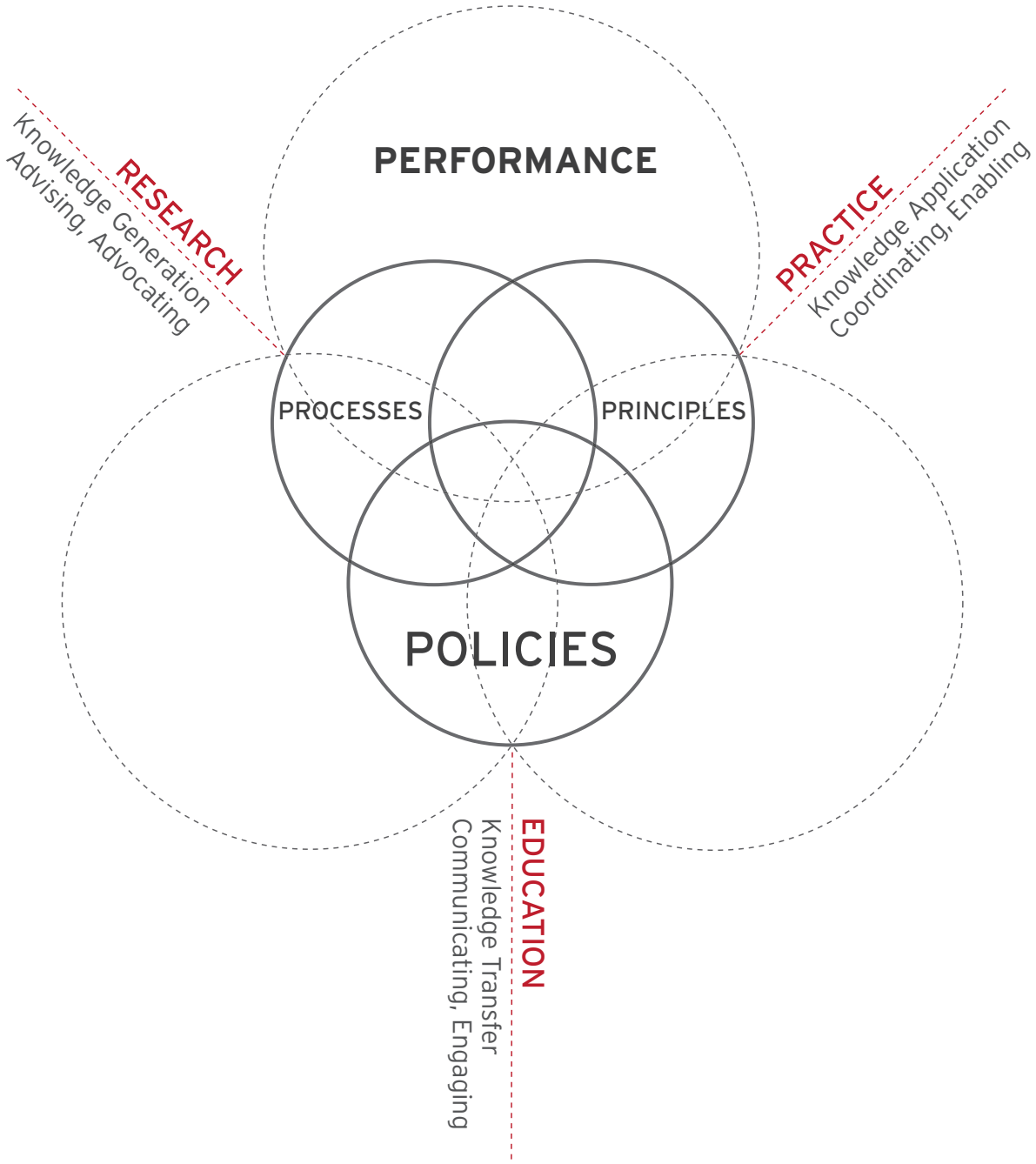
Integrated governance models and criteria-based government procurement

Integrated urban design and planning; legislative reform

REPOSITIONING VALUE_QUALITY_IMPACT
SOUTH AUSTRALIA STATE STRATEGIC PLAN



REPOSITIONING EDUCATION PRACTICE RESEARCH
PERFORMANCE + PROCESSES + PRINCIPLES = POLICY



REPOSITIONING DNA

SOUTH AUSTRALIA'S STRATEGIC PLAN

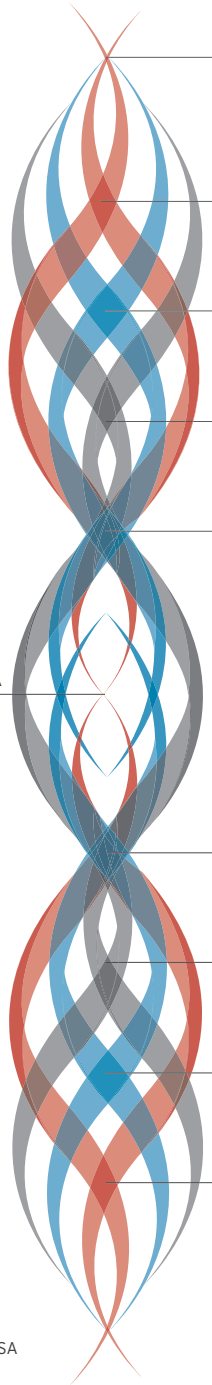
Creativity and Innovation
Building Communities
Expanding Opportunities
Improving Well-Being
Attaining Sustainability
Growing Prosperity

INTEGRATED DESIGN STRATEGY FOR SA

Economic Development Board Statement
30 Year Plan for Greater Adelaide Principles
State Reform Agenda Policy Priorities

PROPERTY COUNCIL "ADELAIDE 2036"

1: Governing the Central City for Communities of SA
2: Designing the Central City to Unleash Potential
3: Moving People to and Around the Central City
4: Building the Central City as the State's Business Hub
5: Boosting the Residential Population of the Central City
6: Creating and Marketing a Dynamic Central City



1. INTELLIGENT INVESTMENT

Robust program of infrastructure investment
Economic growth and competitiveness
SA - The Entrepreneur State

2. HIGHEST QUALITY COMMITMENT

Social and regional benefits from economic growth
Healthy, safe and connected communities
Strengthening communities / people, places

3. COLLECTIVE ACTION

Productivity through innovation and value-chains
World class design and vibrancy
Vibrant Adelaide

4. GLOBAL ENVIRONMENTAL LEADERSHIP

Coordinated action plan for water security
Climate change resilience and carbon efficiency
Green South Australia

5. COLLABORATIVE CONSTRUCTION

Positioning SA as a leader in renewable energies
Environment and natural resource management
Renewable Energy: A Key Economic Sector

6. ECO INDUSTRY INNOVATION

Raising workforce participation
Affordable living and housing diversity
Skills for All

5. BUILT ENVIRONMENT RESEARCH ALLIANCES

Planning for population growth
Heritage and character enhancement
Engaging Older South Australians

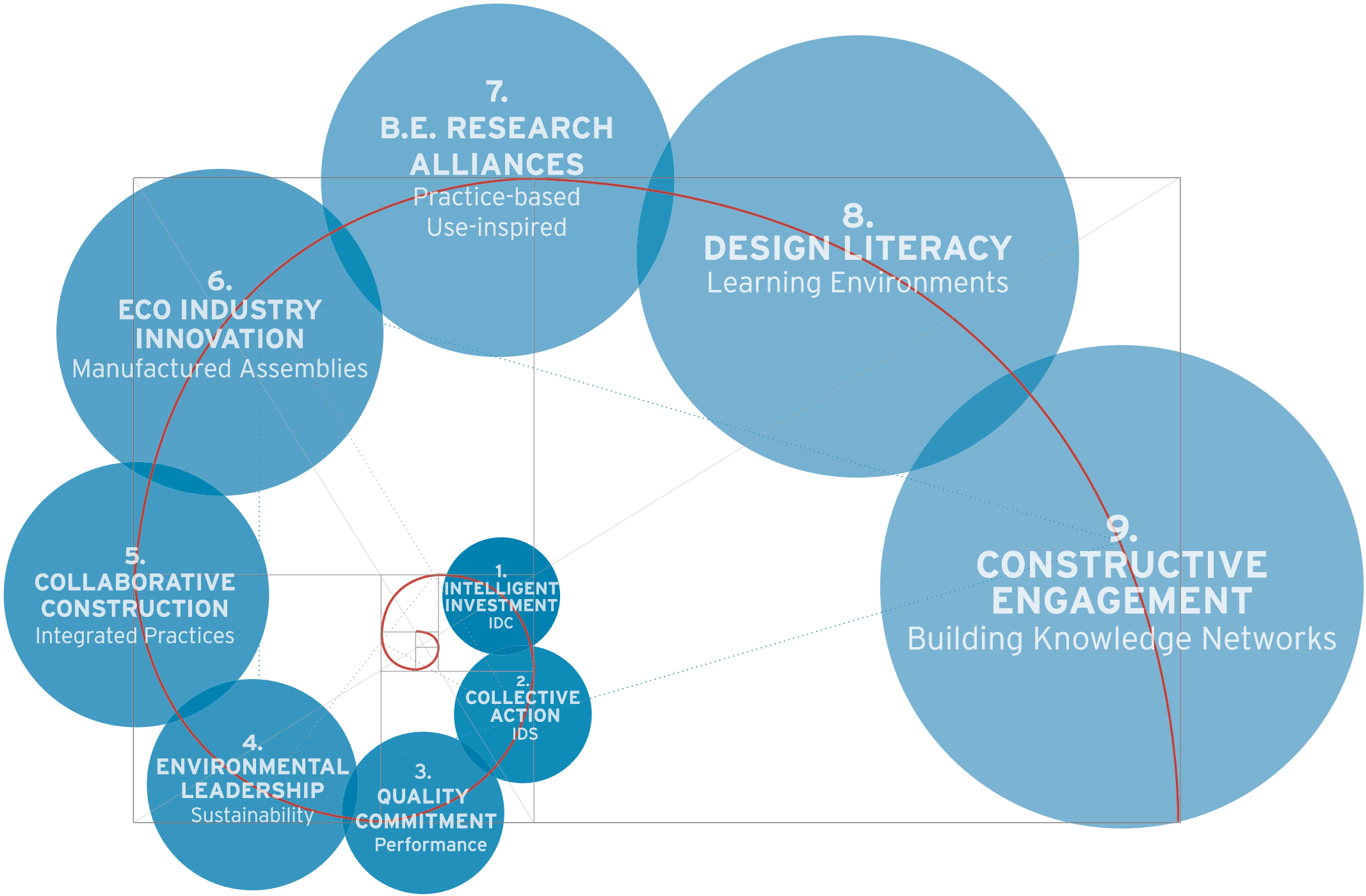
8. ENVIRONMENTAL DESIGN LITERACY

Education and training system for the 21st century
Accessibility and social inclusion
Early Childhood Development

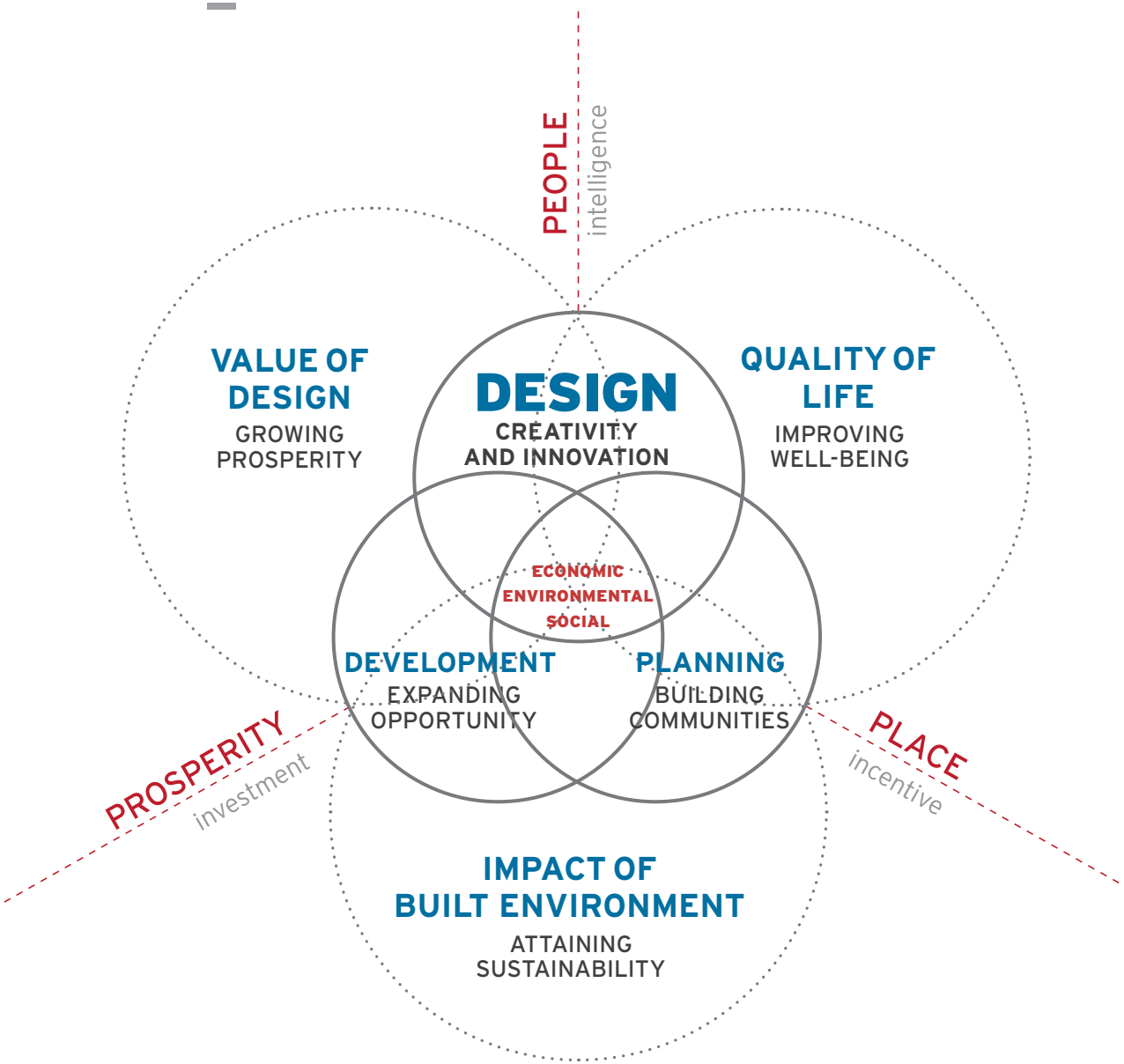
9. CONSTRUCTIVE ENGAGEMENT

Efficient and effective public sector
Community engagement
Information for Citizens

9 RECOMMENDATIONS FOR AN INTEGRATED DESIGN STRATEGY

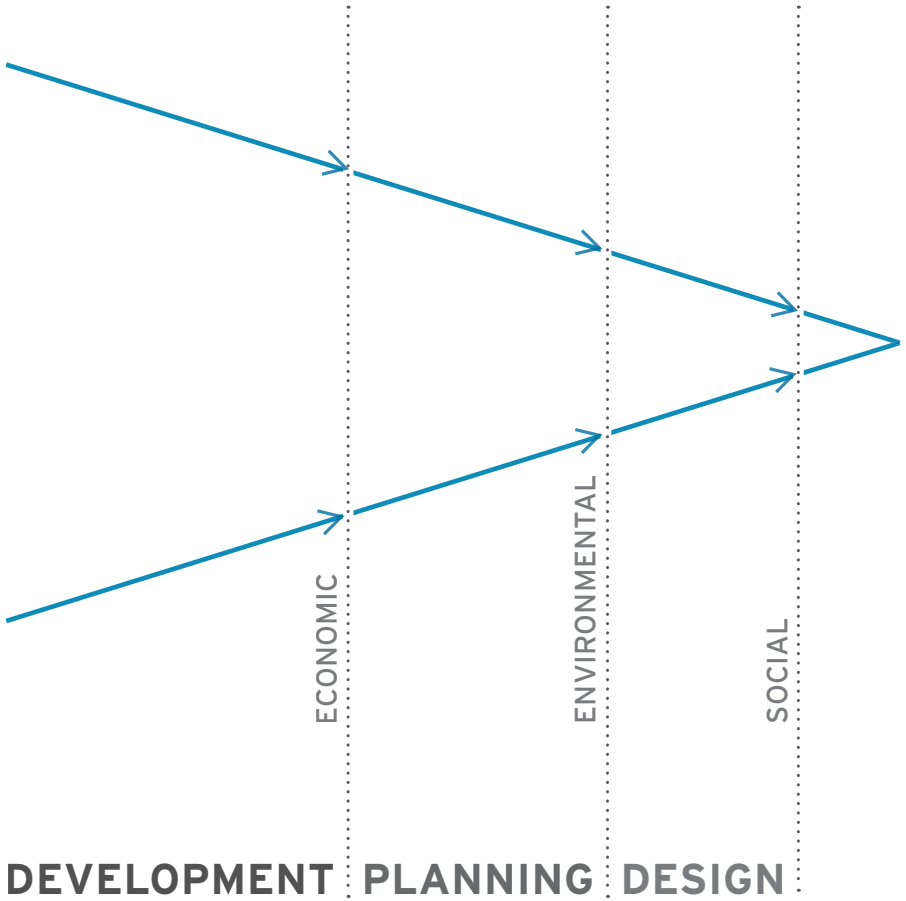


RECOMMENDATION 1 INTELLIGENT INVESTMENT
DESIGN _ PLANNING _ DEVELOPMENT

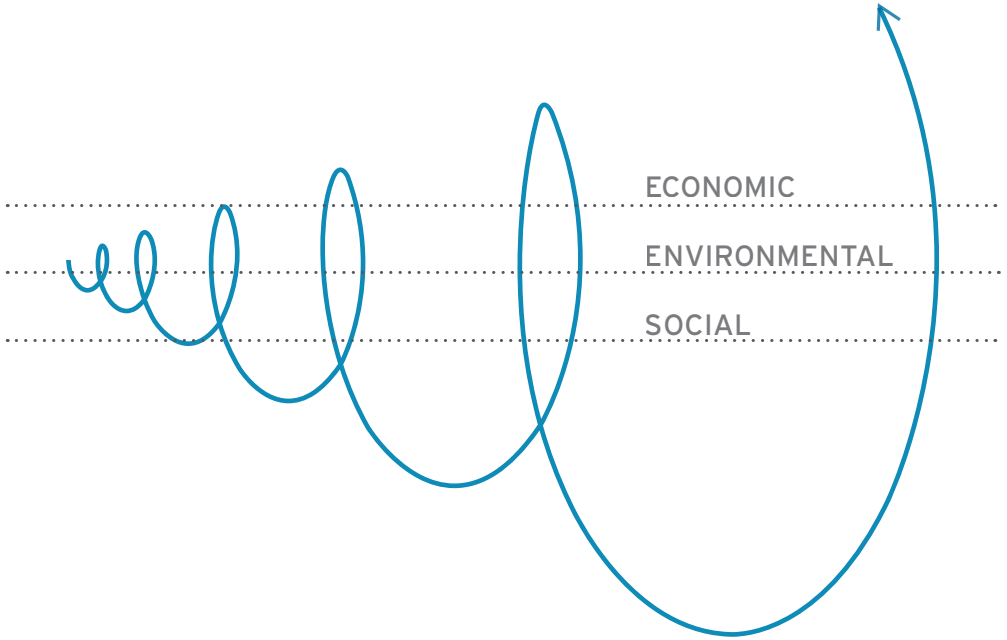


RECOMMENDATION 1 INTELLIGENT INVESTMENT
DESIGN _ PLANNING _ DEVELOPMENT

CURRENT PARADIGM



INTEGRATED DESIGN PROCESS



DESIGN
CREATIVITY INNOVATION

PLANNING
BUILDING COMMUNITY

DEVELOPMENT
EXPANDING OPPORTUNITY

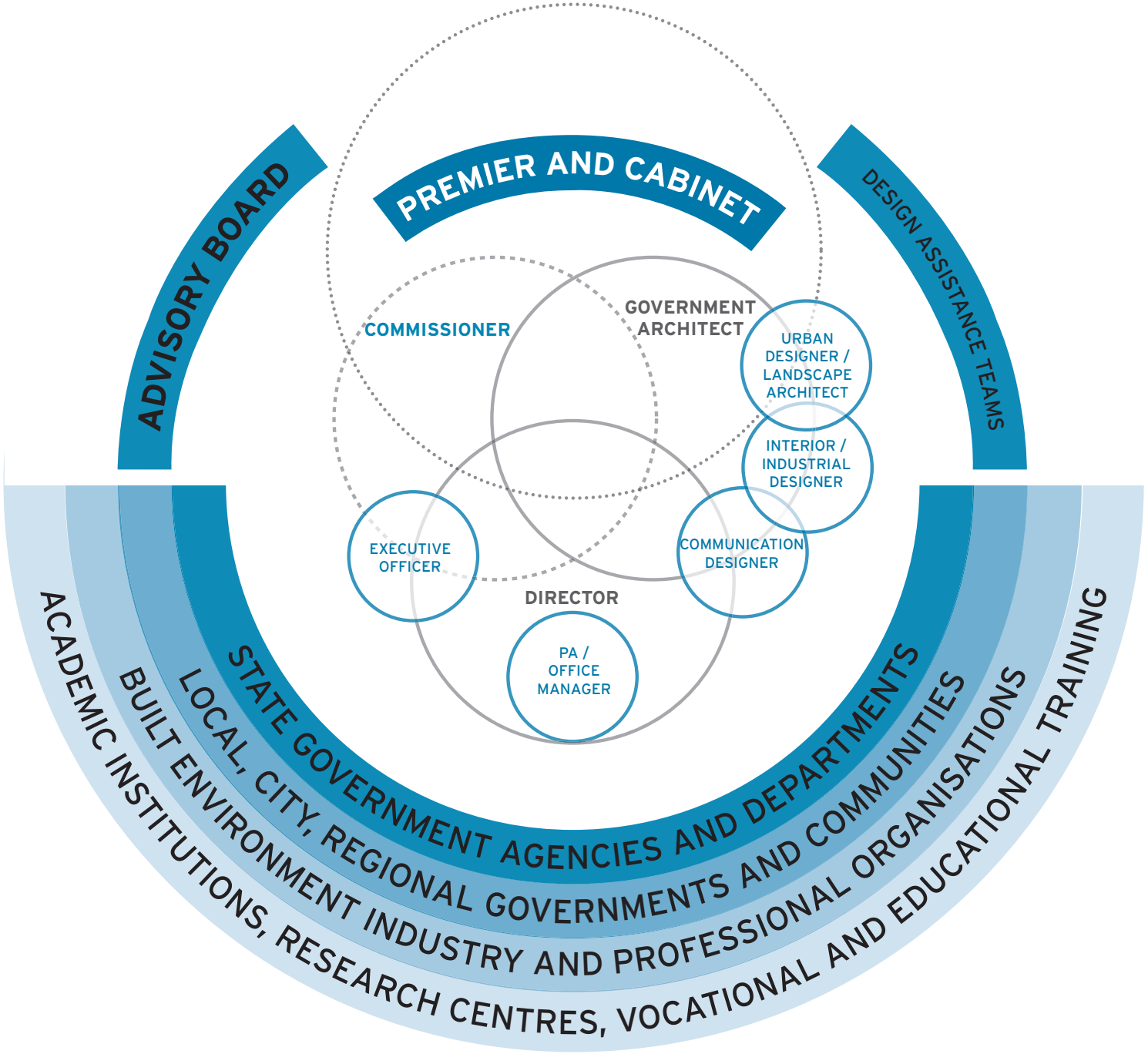
INTELLIGENCE -> **INCENTIVE** -> **INVESTMENT**

PEOPLE -> **PLACE** -> **PROSPERITY**

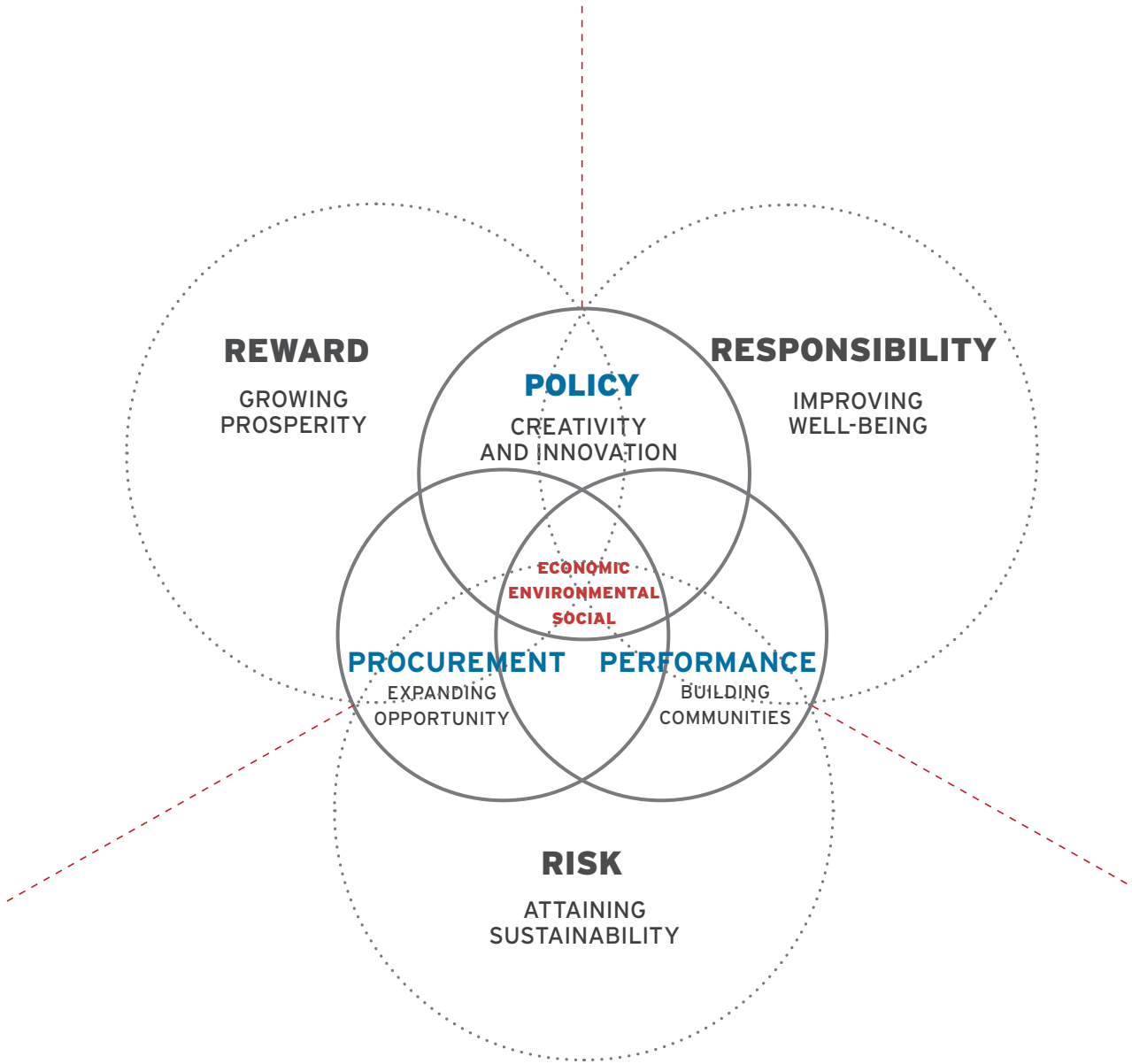
PARTNERSHIPS FOR PUBLIC GOOD AND PUBLIC SPACE

RECOMMENDATION 1 INTELLIGENT INVESTMENT

INTEGRATED DESIGN COMMISSION

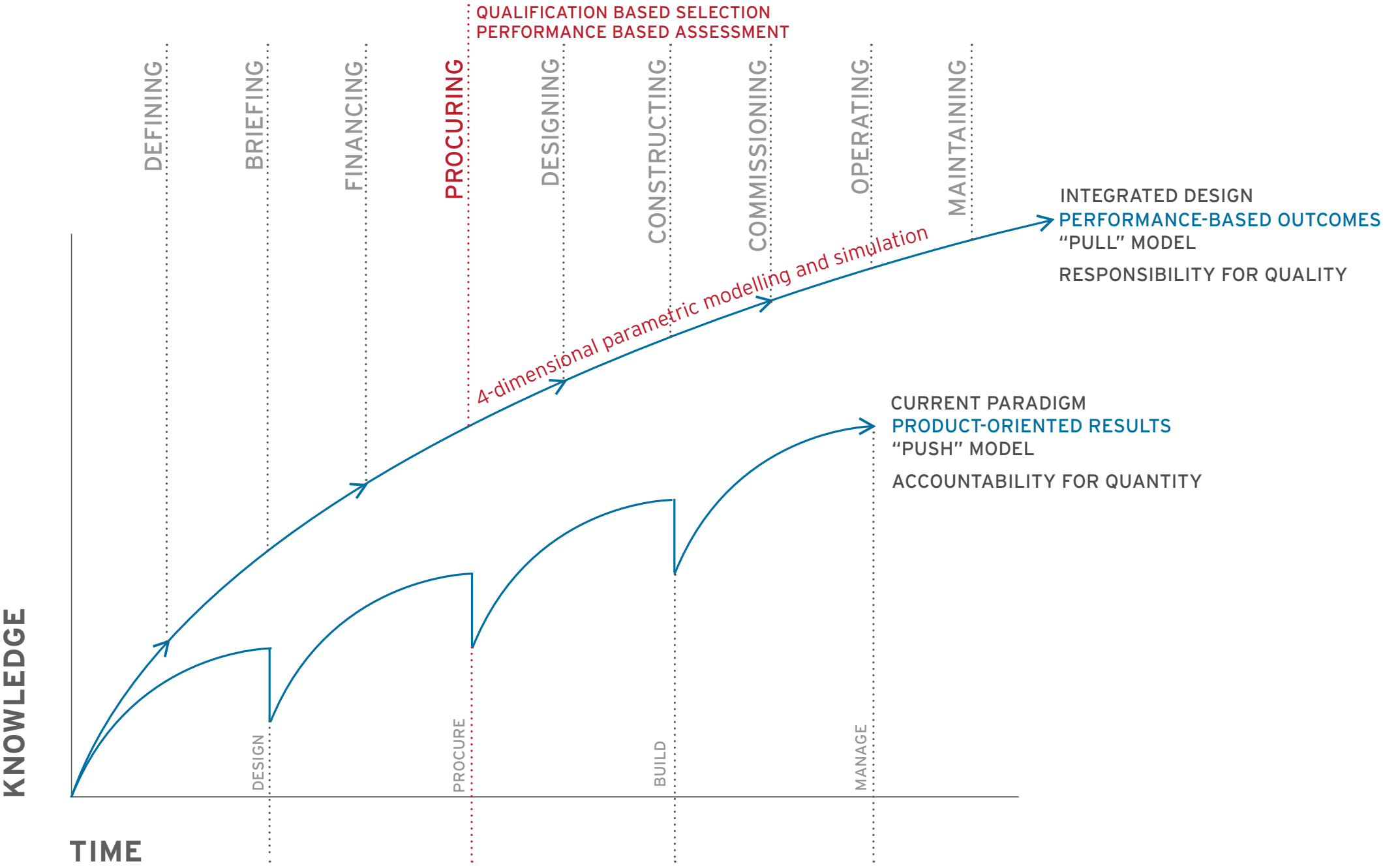


RECOMMENDATION 2 HIGHEST QUALITY COMMITMENT
RESPONSIBILITY _ REWARD _ RISK



RECOMMENDATION 2 HIGHEST QUALITY COMMITMENT

VALUE-BASED DECISION-MAKING MODEL



RECOMMENDATION 2 HIGHEST QUALITY COMMITMENT
PERFORMANCE BASED OUTCOMES

FIRMNESS / Firmitas / Structure

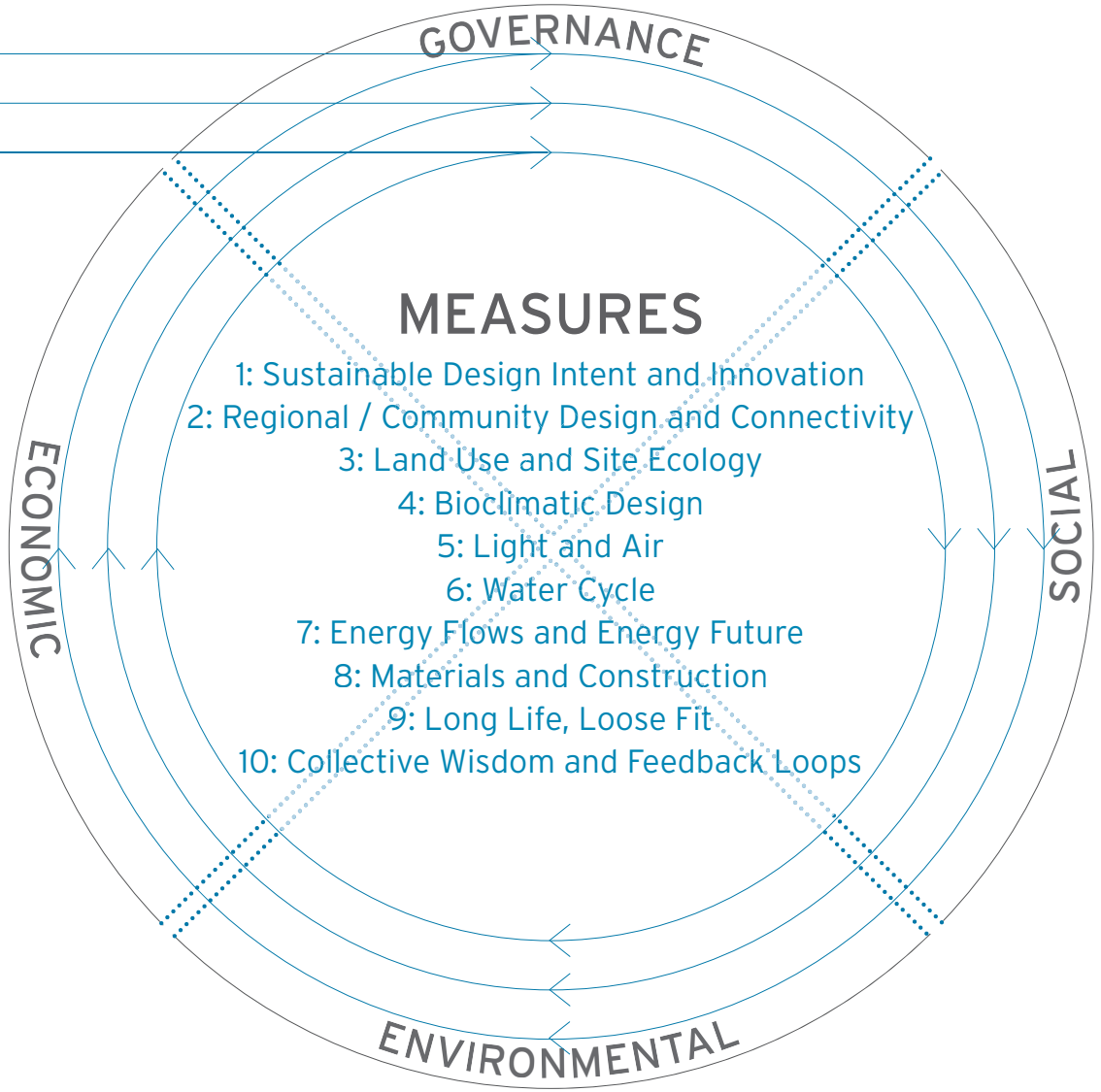
accessible, equitable, inclusive
adaptable, flexible, transformational
ecological, regenerative, resilient

COMMODITY / Utilitas / Function

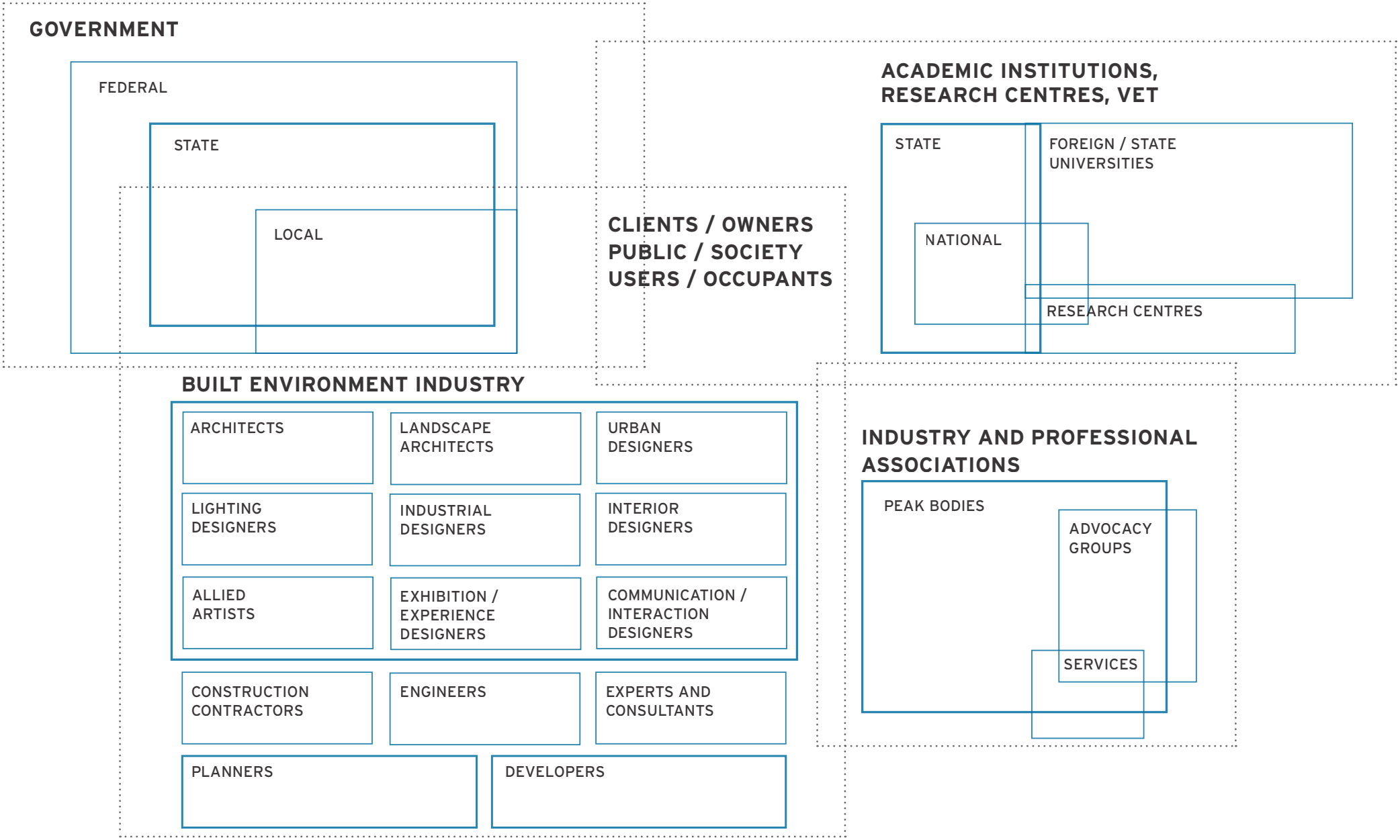
affordable, liveable, sustainable
competitive, productive, profitable
durable, reliable, safe

DELIGHT / Venustas / Aesthetic

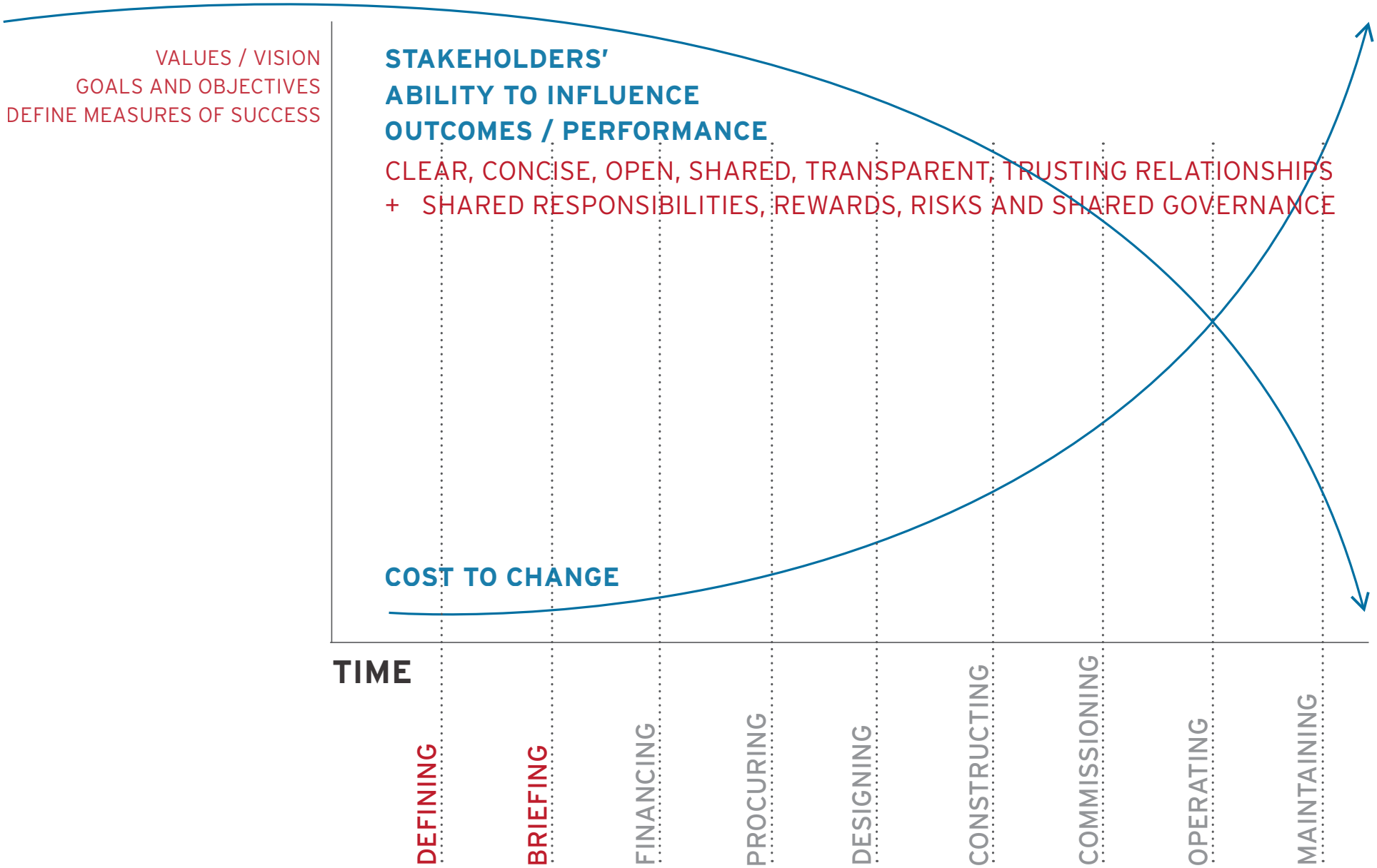
authentic, beautiful, memorable
illuminating, imaginative, inspirational
convenient, efficient, intuitive



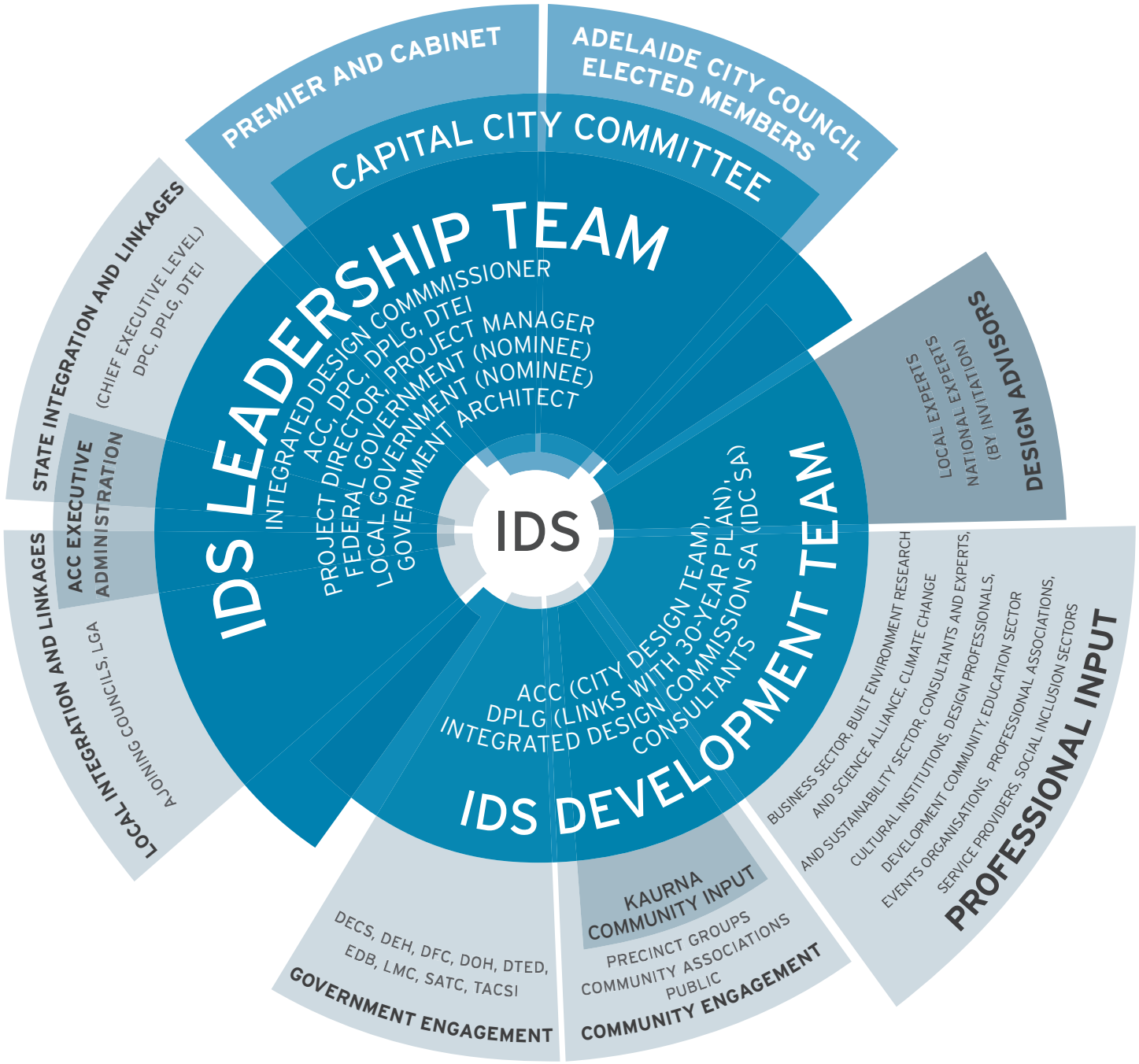
RECOMMENDATION 3 COLLECTIVE ACTION
AGENCIES AND TIERS OF GOVERNMENT _ INDUSTRY AND PROFESSIONAL ASSOCIATIONS _ ACADEMIC INSTITUTIONS, RESEARCH CENTRES, VET



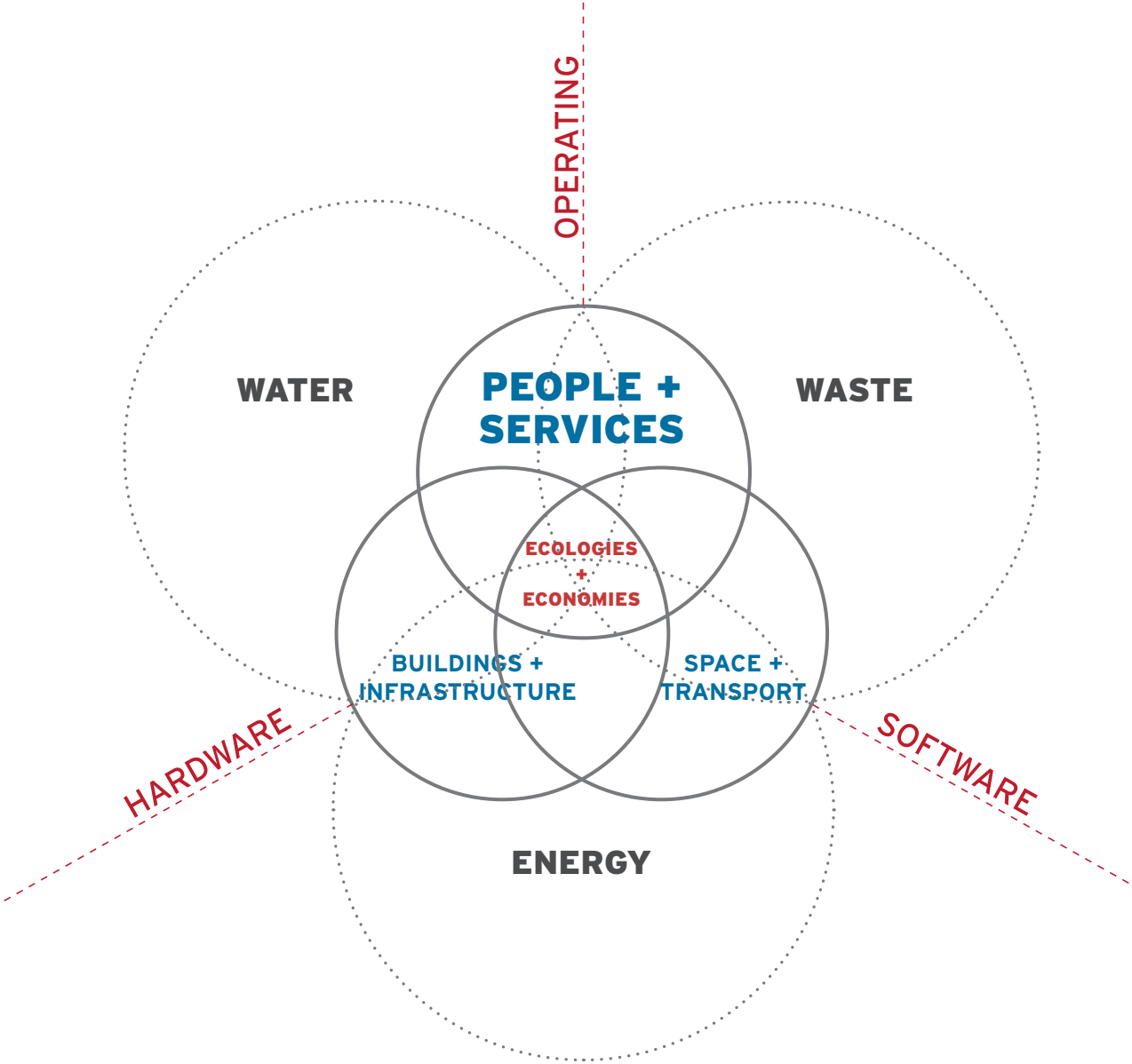
RECOMMENDATION 3 COLLECTIVE ACTION
COLLABORATION _ CONSULTATION _ COMMUNICATION



RECOMMENDATION 3 COLLECTIVE ACTION
INTEGRATED DESIGN STRATEGY FOR CITIES

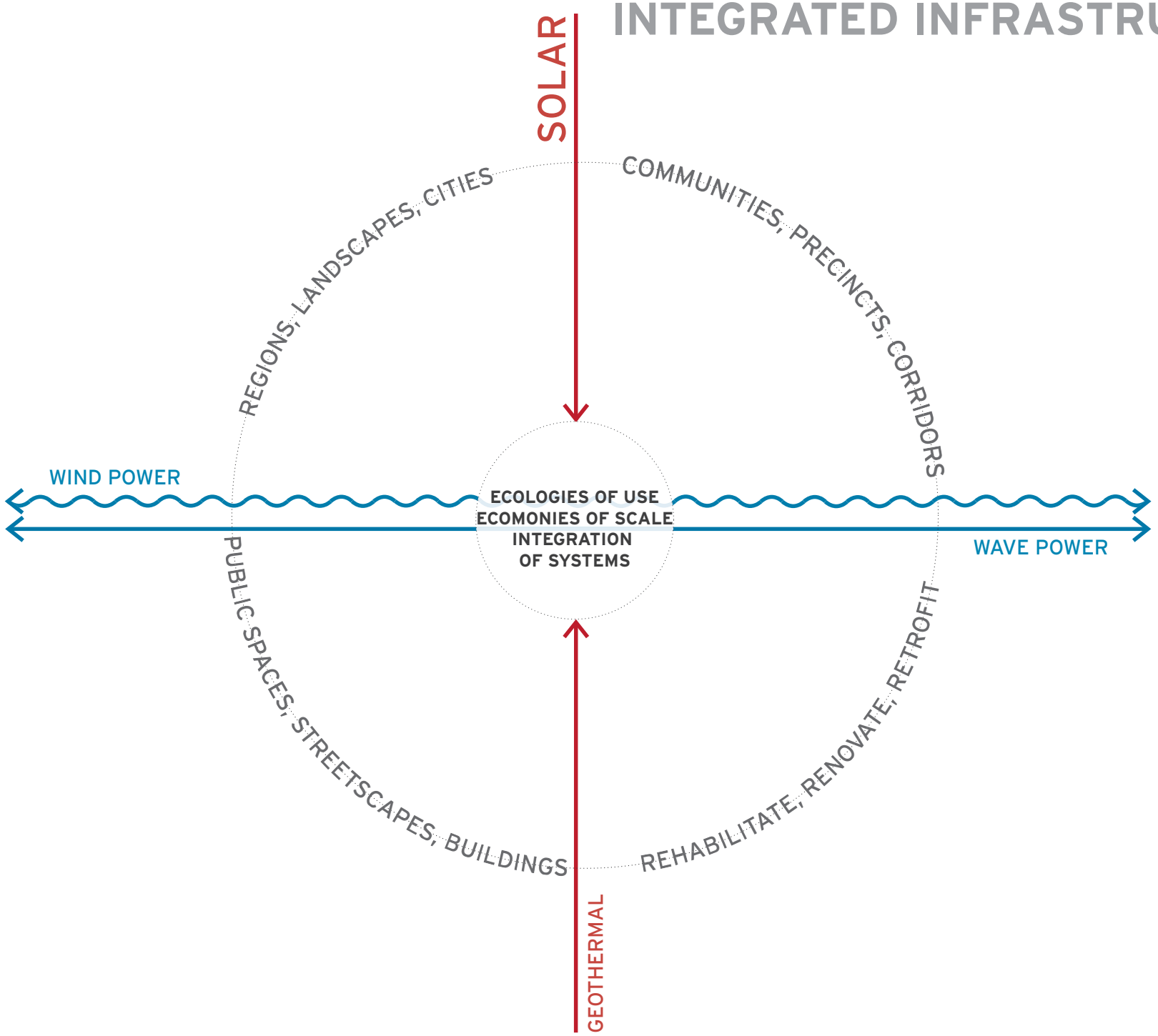


RECOMMENDATION 4 GLOBAL ENVIRONMENTAL LEADERSHIP
ECOLOGIES AND ECONOMIES

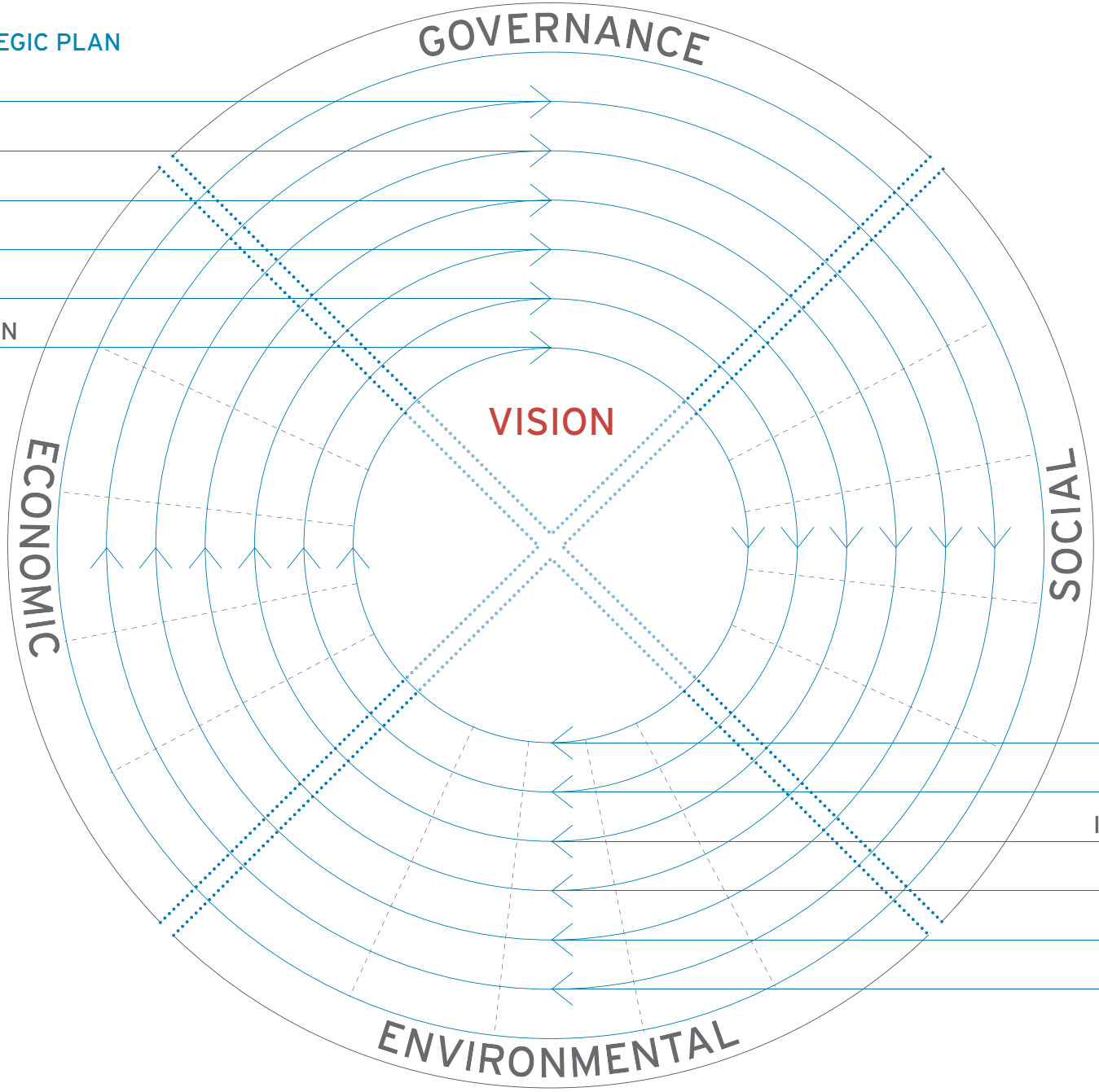


RECOMMENDATION 4 GLOBAL ENVIRONMENTAL LEADERSHIP

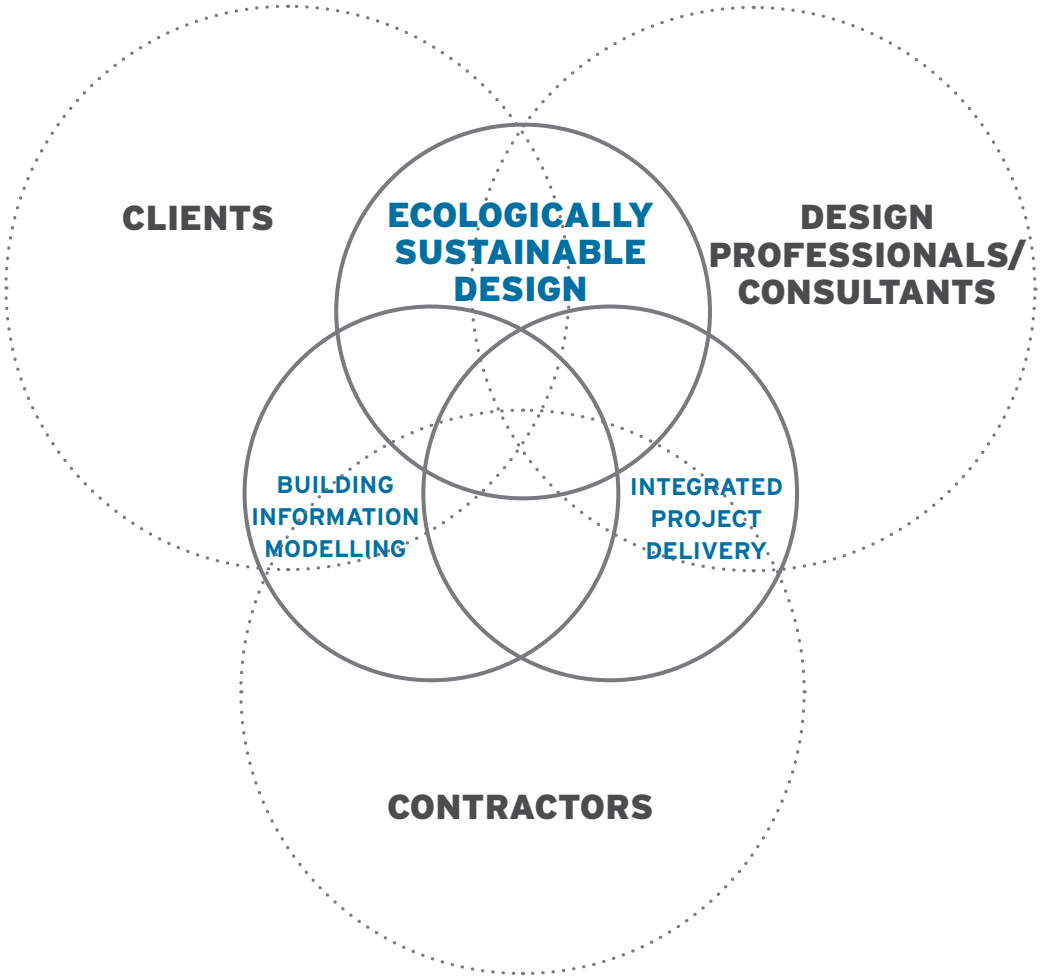
INTEGRATED INFRASTRUCTURE



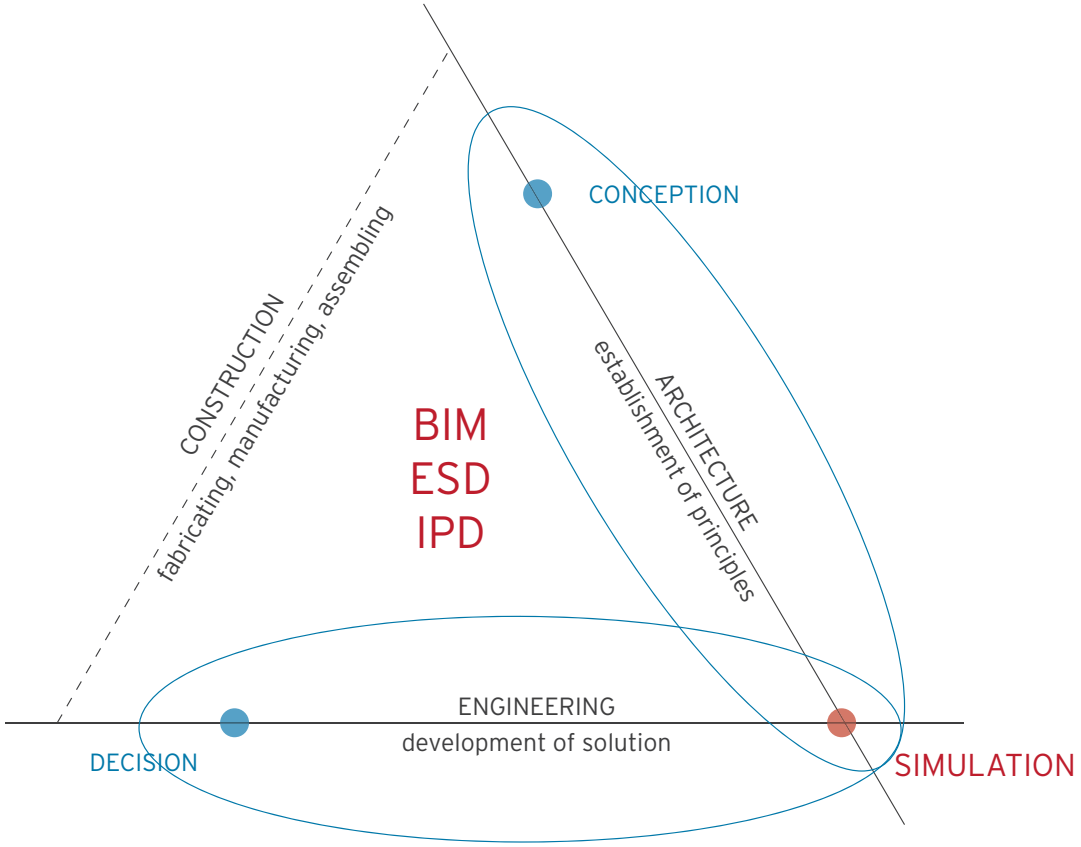
RECOMMENDATION 4 GLOBAL ENVIRONMENTAL LEADERSHIP
WHOLE SYSTEMS APPROACH



RECOMMENDATION 5 COLLABORATIVE CONSTRUCTION
CLIENT _ DESIGN AND CONSULTANTS _ CONTRACTORS



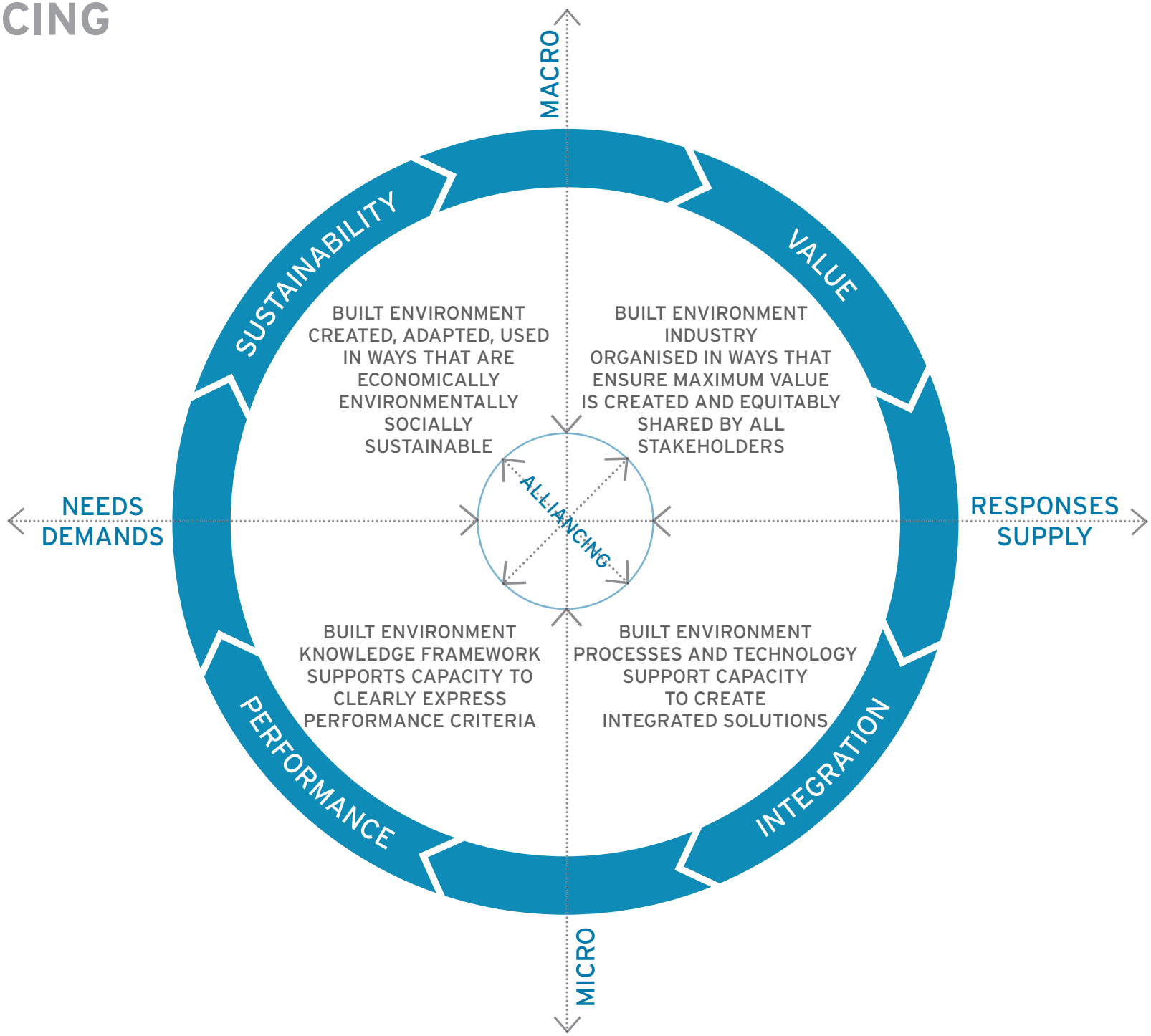
RECOMMENDATION 5 COLLABORATIVE CONSTRUCTION
ARCHITECTURE _ ENGINEERING _ CONSTRUCTION



REDUCE conflicts, construction time, cost, errors, loss of information, omissions, waste
INCREASE communication, efficiency, innovation + opportunity, precision + productivity, predictability, prototyping

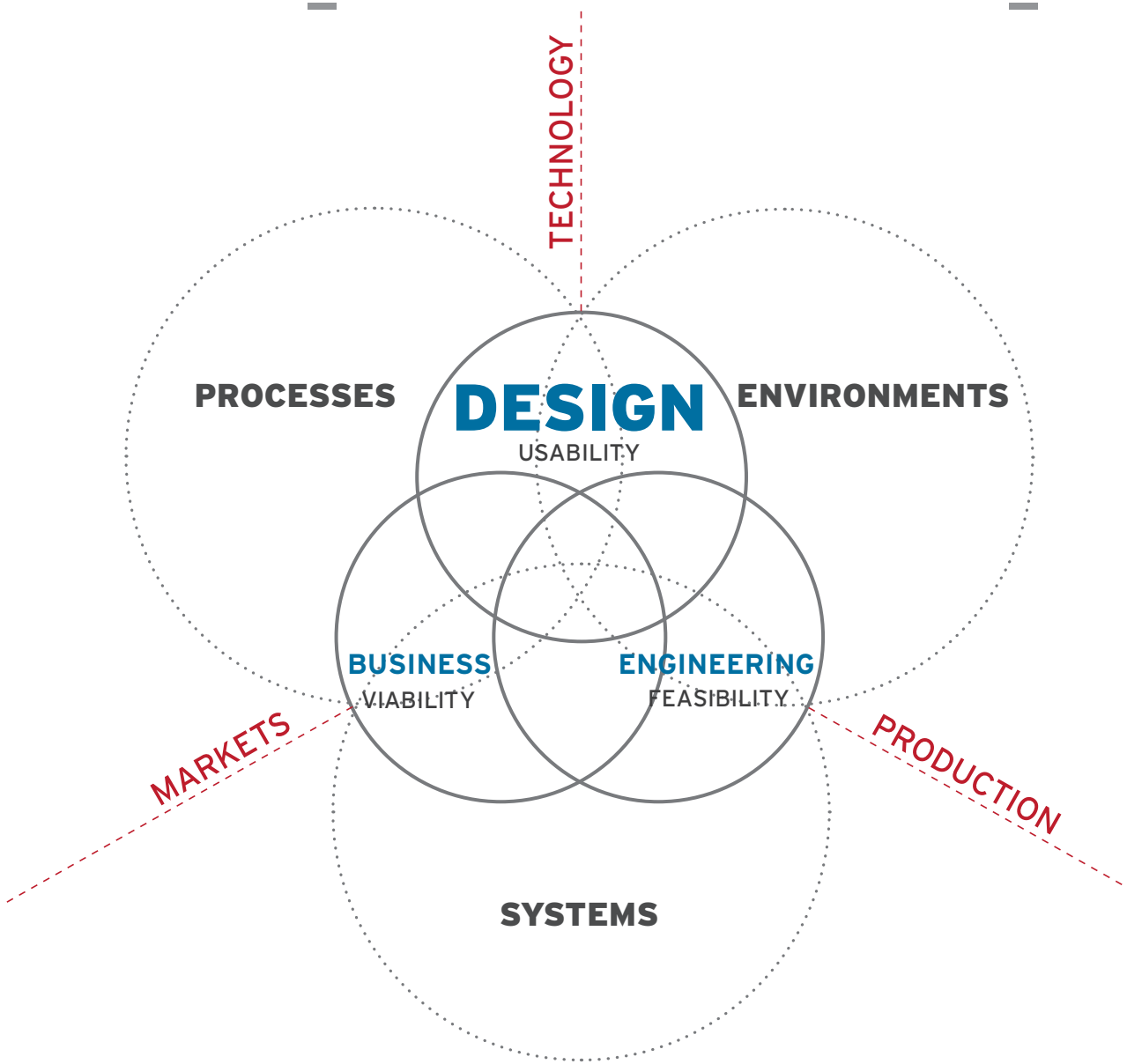
Adapted from "Clever Beyond Engines" Paulo Tombesi

RECOMMENDATION 5 COLLABORATIVE CONSTRUCTION
ALLIANCING



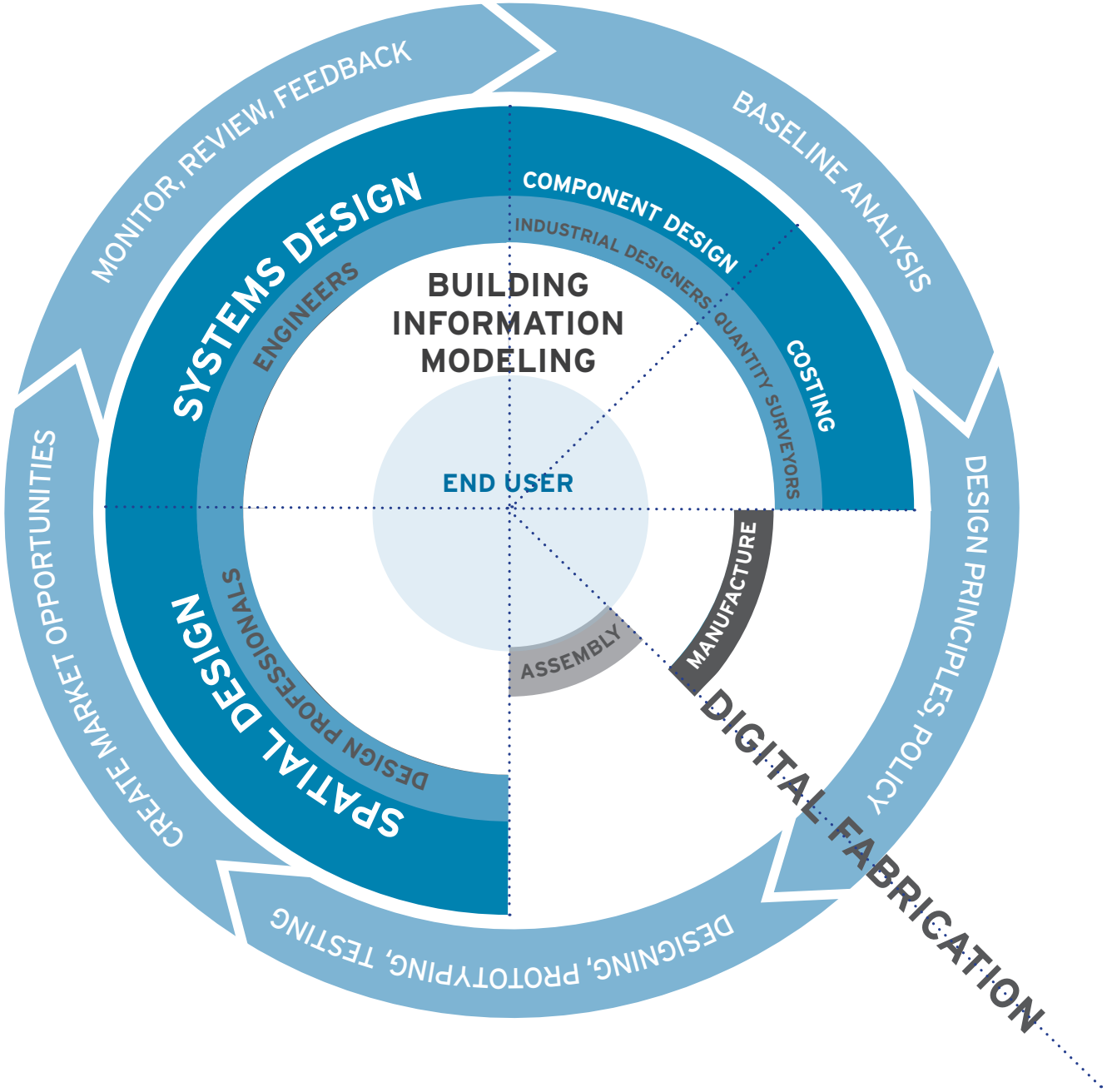
RECOMMENDATION 6 ECO INDUSTRY INNOVATION

BUSINESS + MARKETS _ DESIGN + TECHNOLOGY _ ENGINEERING



RECOMMENDATION 6 ECO INDUSTRY INNOVATION

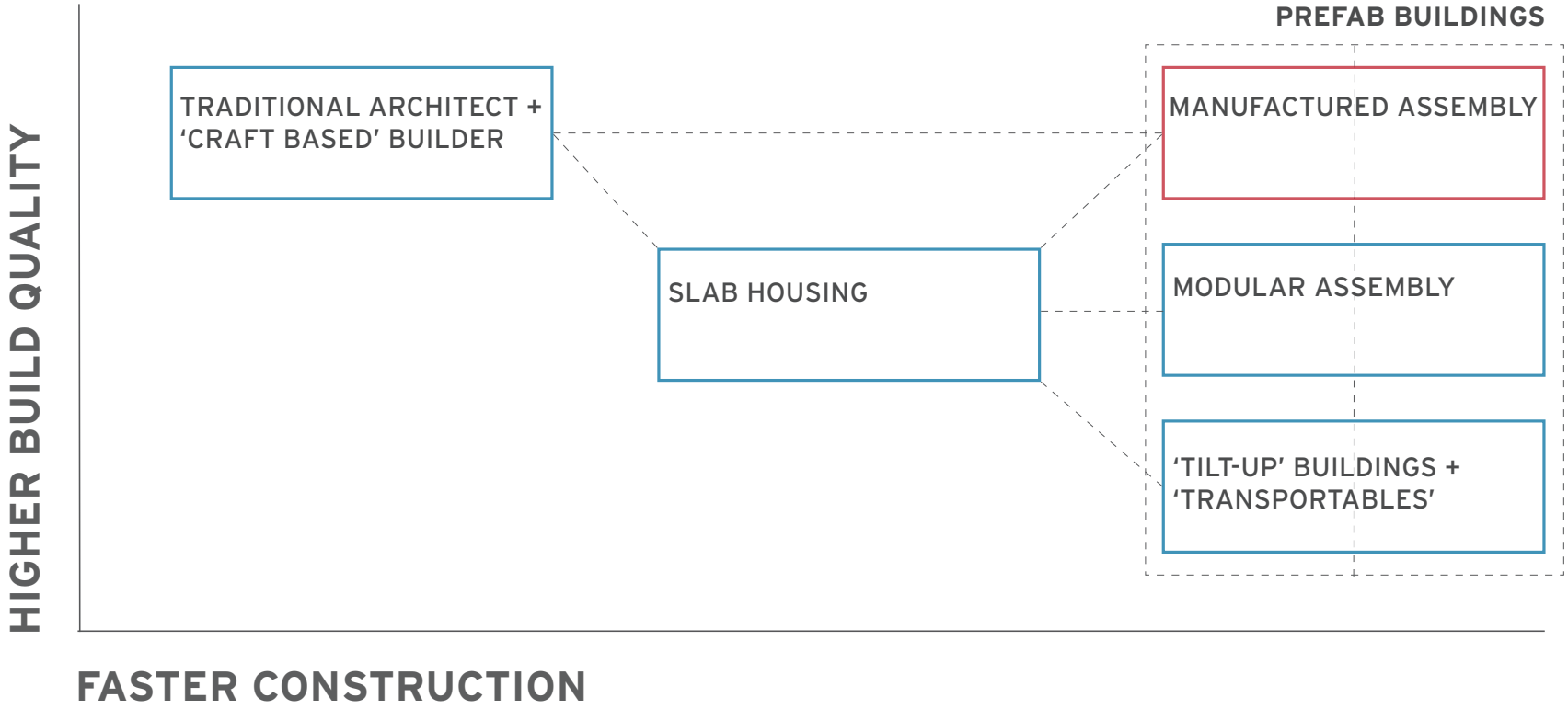
PIONEER _ PROTOTYPE _ PILOT



RECOMMENDATION 6 ECO INDUSTRY INNOVATION
UNITISED ASSEMBLIES FOR MASS CUSTOMISATION

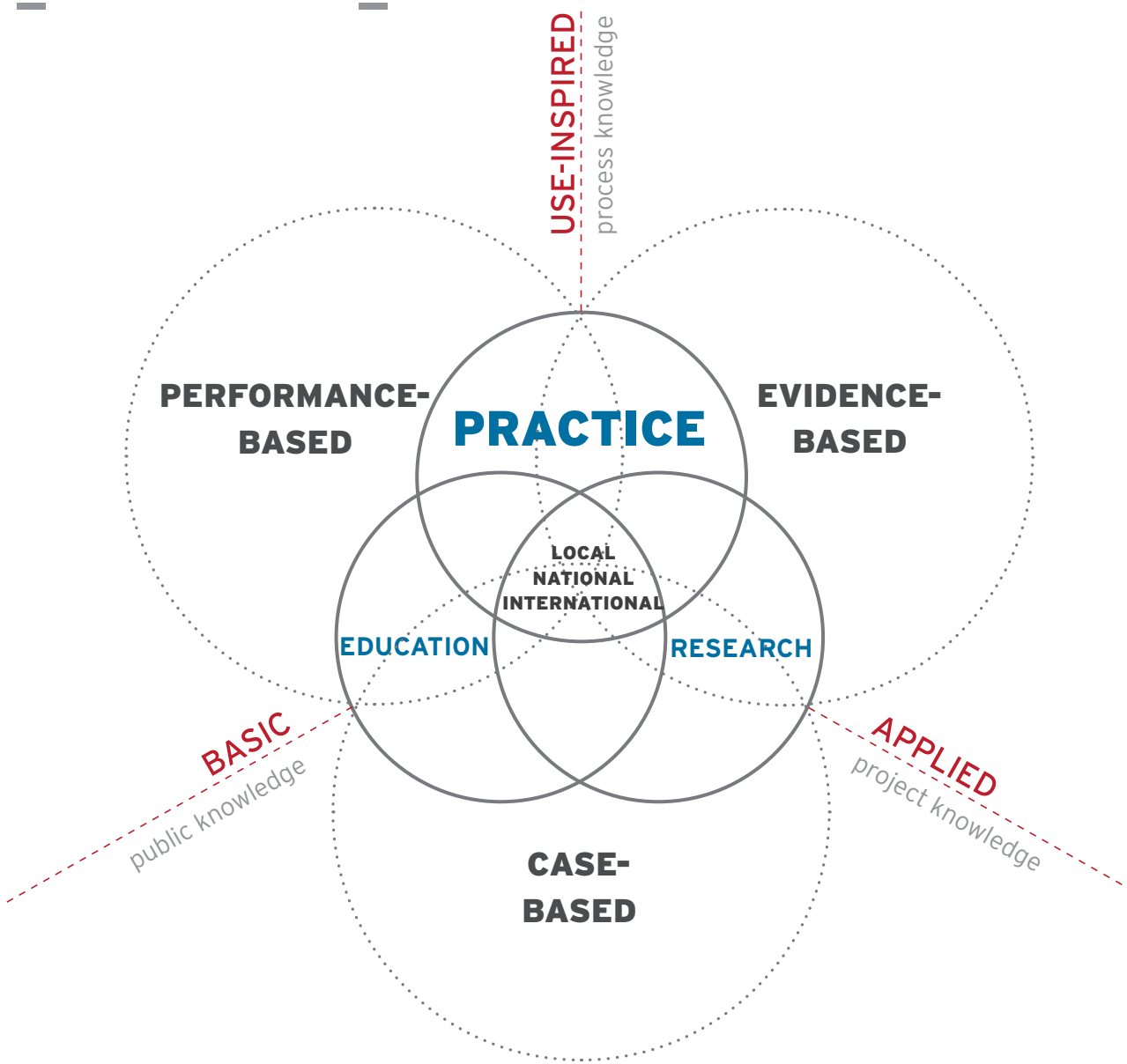
APPLICATIONS AND MARKETS
LOCAL NATIONAL, GLOBAL

HOUSING FOR SPECIAL POPULATIONS	ELDERLY, STUDENT
HOUSING IN REMOTE COMMUNITIES	DEFENCE, INDIGENOUS, MINING
HOUSING AS LIVING SOLUTIONS	LOW DENSITY, MEDIUM DENSITY, HIGH DENSITY
HOUSING FOR SPECIAL ENVIRONMENTS	COASTAL, DESERT, HERITAGE
SPECIAL USE	EVENTS, FILM AND THEATRE INDUSTRY, FESTIVALS
TEMPORARY STRUCTURES	DISASTER RELIEF, DISPLAY / EXHIBITION, KIOSKS / RETAIL



RECOMMENDATION 7 BUILT ENVIROMENT RESEARCH ALLIANCES

EDUCATION _ PRACTICE _ RESEARCH



RECOMMENDATION 7 BUILT ENVIROMENT RESEARCH ALLIANCES
TOWARD A BUILT ENVIRONMENT RESEARCH ROAD MAP

MODES OF RESEARCH

BASIC (FUNDAMENTAL) RESEARCH
APPLIED RESEARCH
USE- INSPIRED RESEARCH

TECHNICAL Research For Design
SOCIAL Research Into Design
DESIGN Research Through Design

FORE-GROUNDING Project-Based
BACK-GROUNDING Practice-Based
COMBINED Profession-Based

HYBRID METHODOLOGIES

DOMAINS OF KNOWLEDGE

PROCESS KNOWLEDGE
PROJECT KNOWLEDGE
PUBLIC KNOWLEDGE

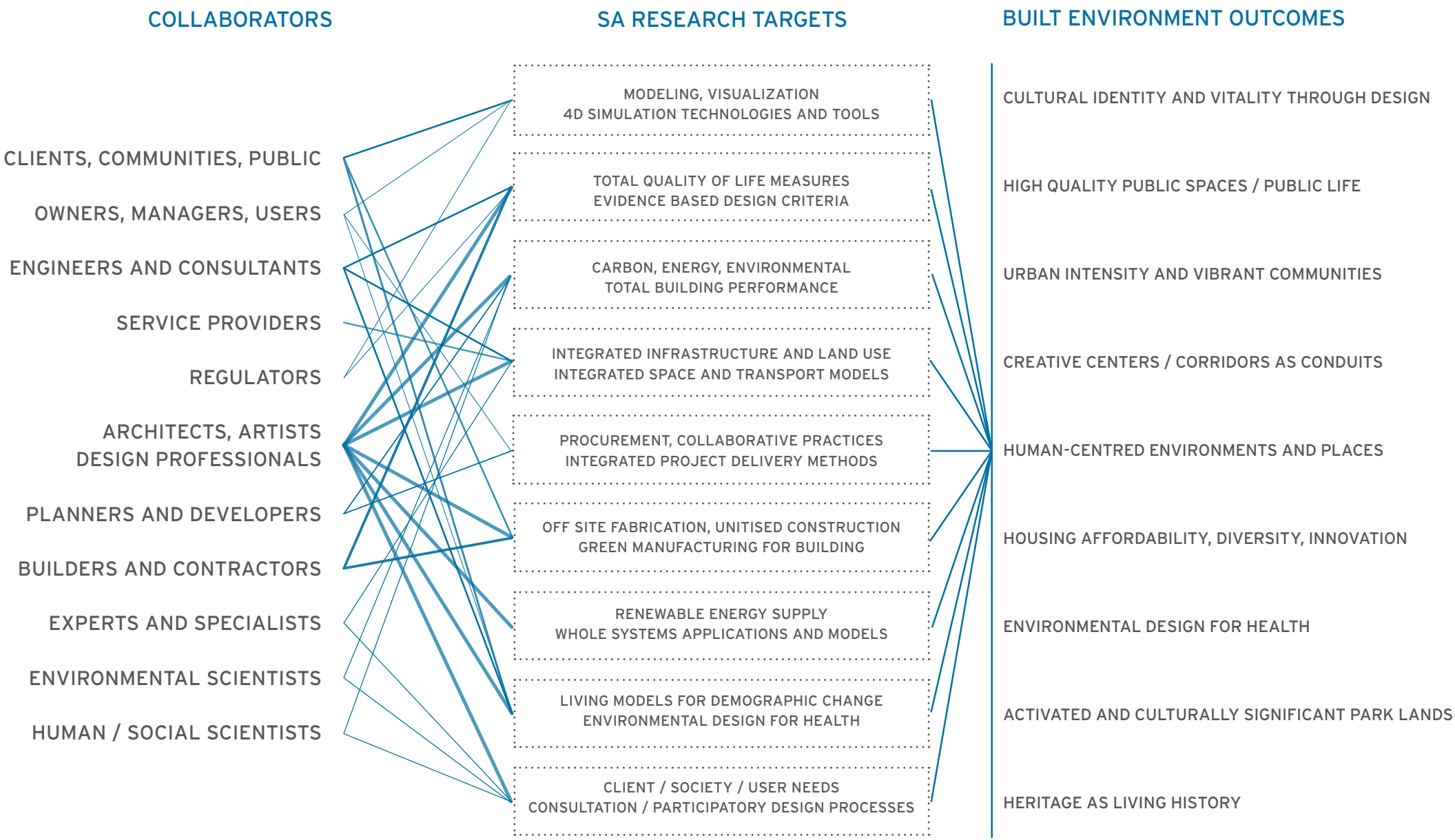
ESTABLISHED RESEARCH AREAS

BEHAVIOURAL AND SOCIAL SCIENCES
BUILDING INFORMATION MODELLING
BUILDING PERFORMANCE
CARBON / ENERGY
CLIENT / USER NEEDS
COMMUNITY DEVELOPMENT
CULTURE OF PRACTICE
DIGITAL FABRICATION
HEALTH AND LIFESTYLE
INTEROPERABILITY
MATERIALS AND METHODS
PRODUCT DEVELOPMENT
PROJECT DELIVERY
SIMULATION AND VIRTUAL REALITY
SUSTAINABILITY
URBAN DEVELOPMENT
WASTE
WATER

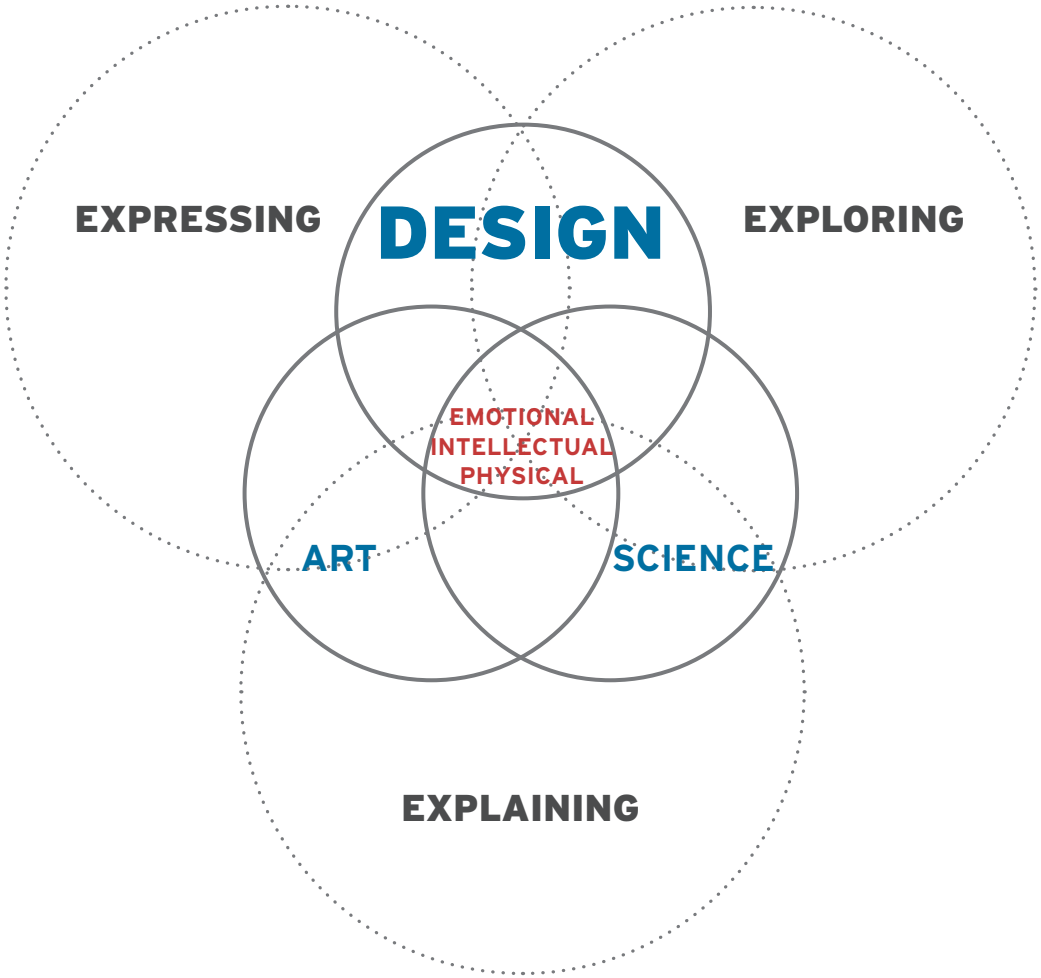
EMERGING RESEARCH AREAS

ADAPTIVE REUSE
AFFORDABILITY AND LIVEABILITY
ARCHITECTURAL ROBOTICS
BIO INSPIRED DESIGN / BIO-MIMICRY
BUILDING AUTOMATION PROCESSES
CLIMATE ADAPTION AND RESILIENCE
DATA-ENABLED TECHNOLOGY
DISASTER RELIEF
INTERACTIVE SKINS
FINANCIAL INNOVATION
GREEN CHEMISTRY
INDUSTRIAL ECOLOGY
OFF SITE FABRICATION
PROCUREMENT
RENEWABLE ENERGY
SELF-ORGANISING SYSTEMS
SOCIAL SPACE
SPATIAL DATA TOOLS
TEMPORARY STRUCTURES
UNITISED CONSTRUCTION
URBAN ECOLOGY
WHOLE SYSTEMS DESIGN
WIND HARVESTING

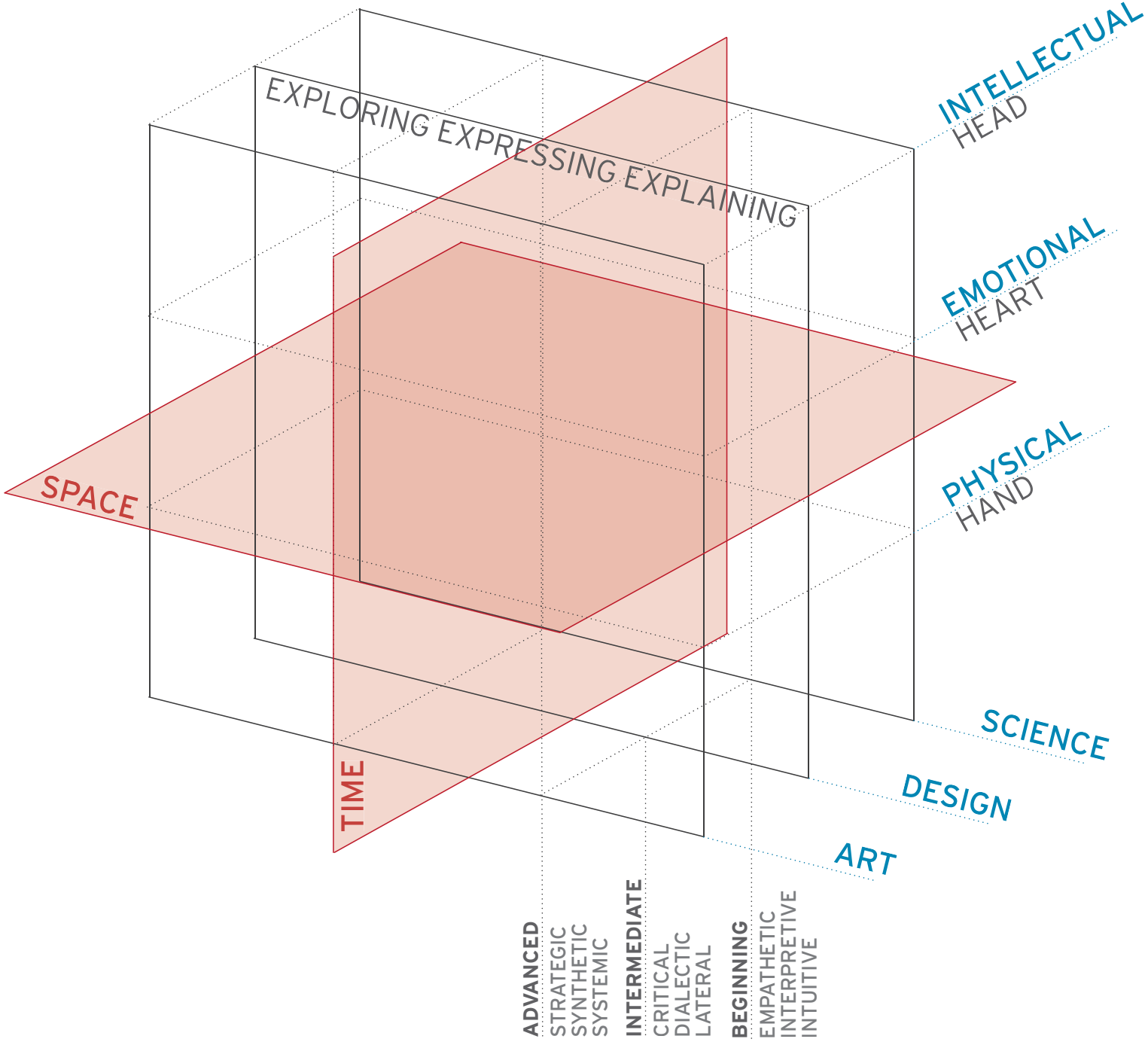
RECOMMENDATION 7 BUILT ENVIROMENT RESEARCH ALLIANCES
PRACTICE-BASED USE-INSPIRED RESEARCH



RECOMMENDATION 8 DESIGN LITERACY
ART _ DESIGN _ SCIENCE



RECOMMENDATION 8 DESIGN LITERACY
INTEGRATED LEARNING ENVIRONMENTS



RECOMMENDATION 8 DESIGN LITERACY
EDUCATIONAL MODELS OF COLLABORATION

WEB-BASED RESOURCES WITH BLOG AND WIKI

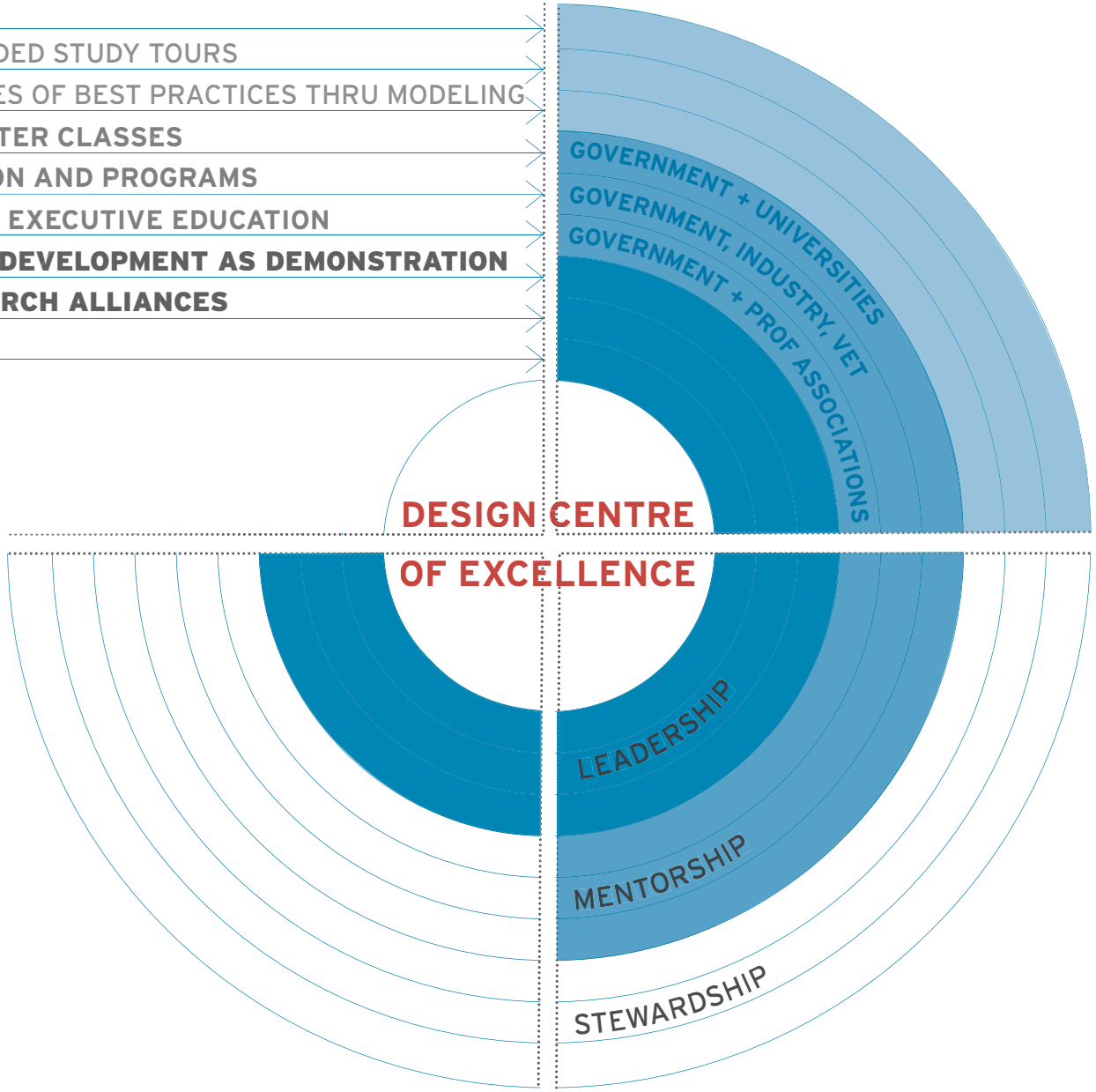
EXPERIENCE
- INTERACTIVE EXPERIENCE MAPS, EXPERT GUIDED STUDY TOURS
- CASE-EVIDENCE-PERFORMANCE BASED STUDIES OF BEST PRACTICES THRU MODELING

INTEGRATED DESIGN STUDIO COURSES, MASTER CLASSES

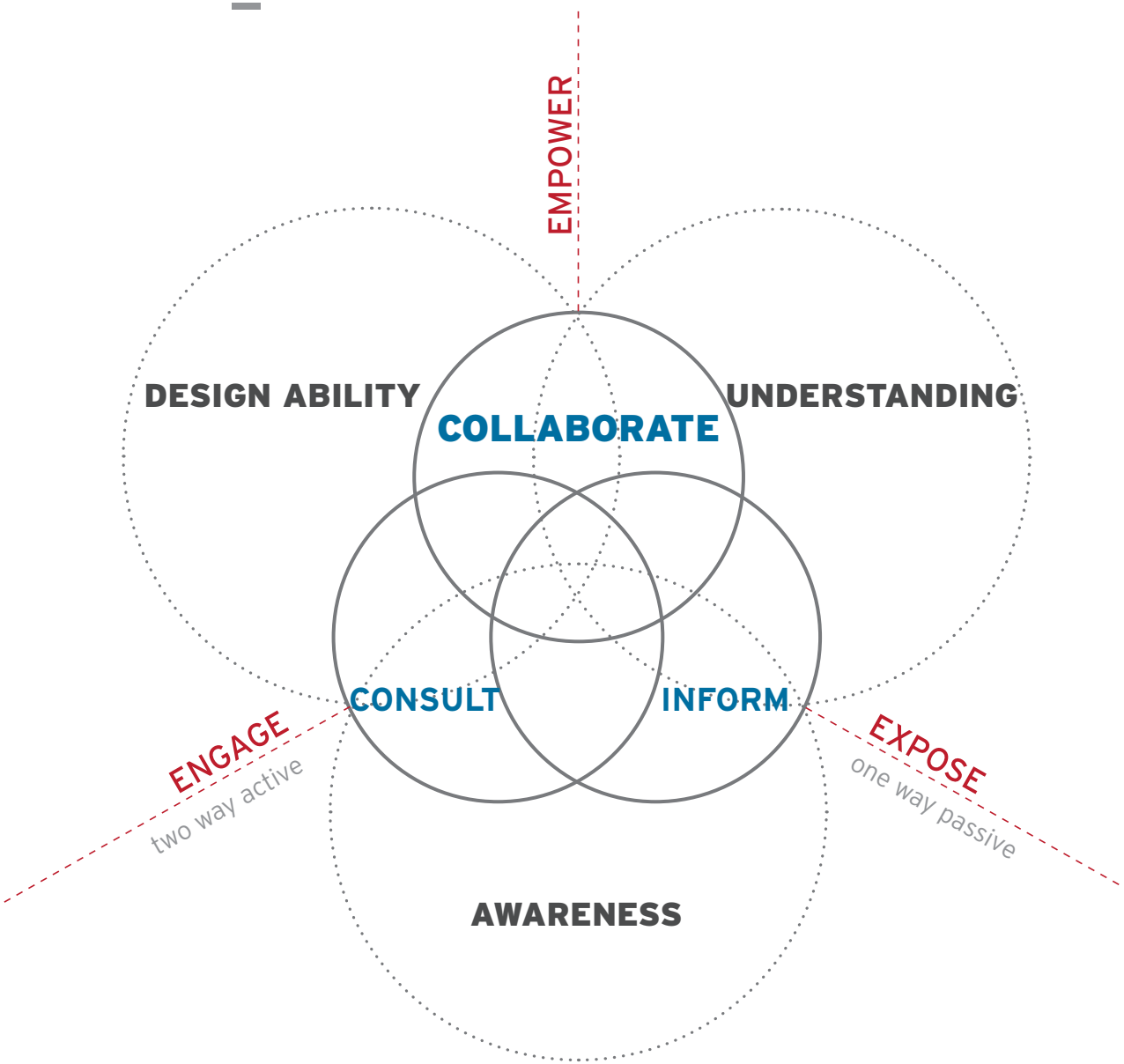
EXCHANGE
- UPSKILLING AND RE-TRAINING CERTIFICATION AND PROGRAMS
- CONTINUING PROFESSIONAL DEVELOPMENT, EXECUTIVE EDUCATION

INTEGRATED DESIGN BUILD AND PRODUCT DEVELOPMENT AS DEMONSTRATION

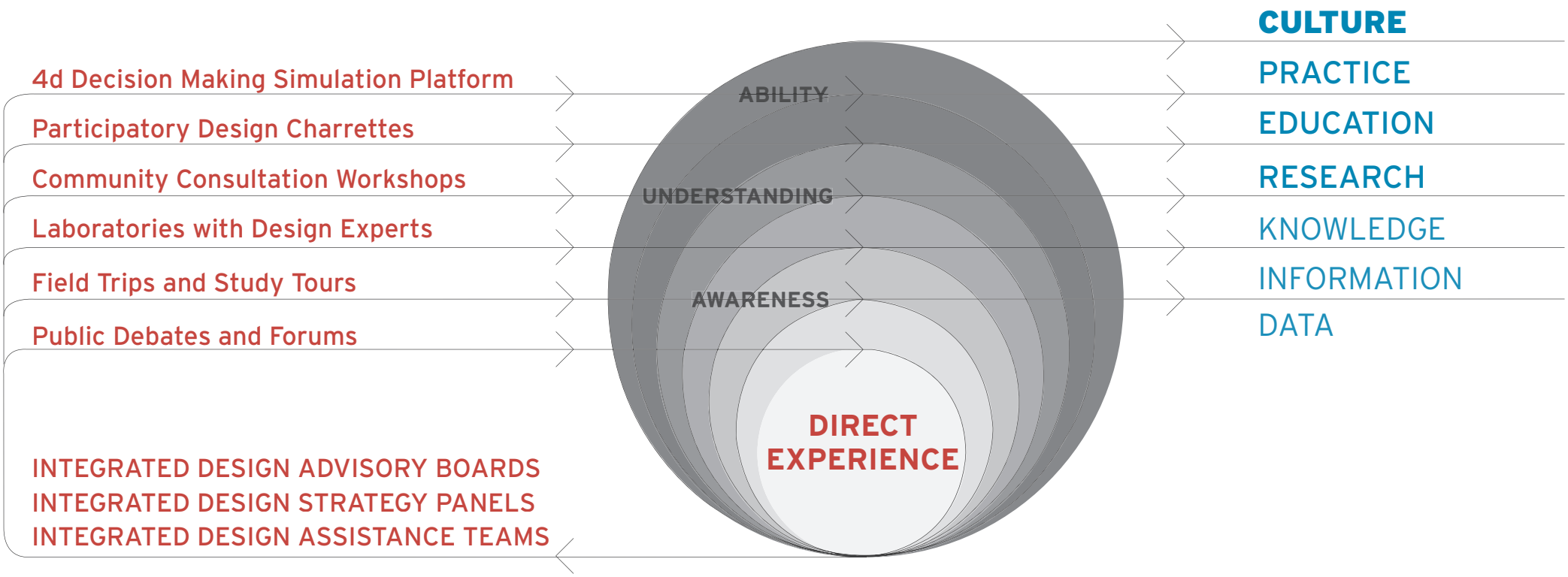
EXPERTISE
- **USE-INSPIRED BUILT ENVIRONMENT RESEARCH ALLIANCES**
- **PRACTICE ACADEMIES**



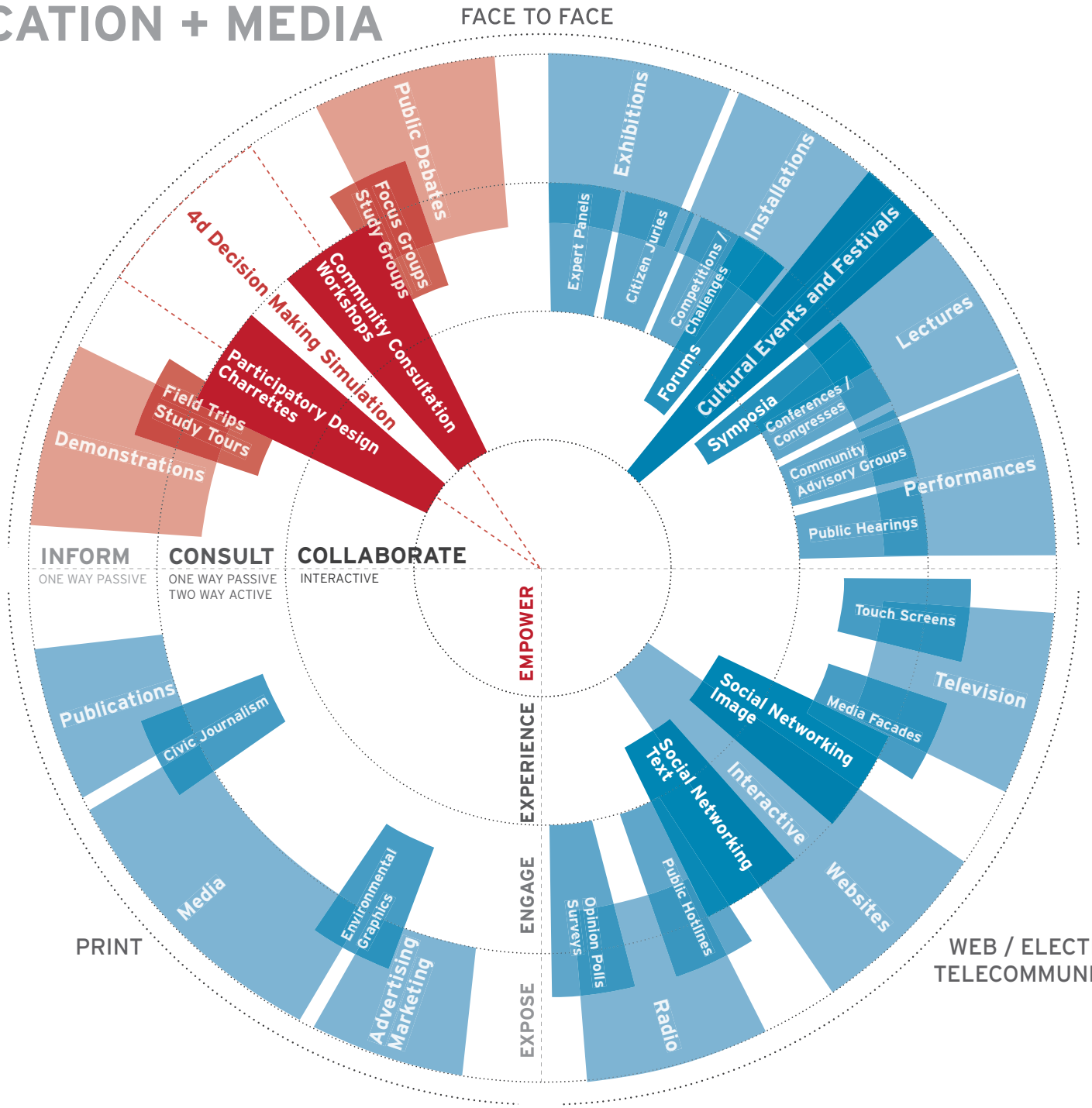
RECOMMENDATION 8 CONSTRUCTIVE ENGAGEMENT
INFORM _ CONSULT _ COLLABORATE



RECOMMENDATION 8 CONSTRUCTIVE ENGAGEMENT
DESIGN CULTURE GENERATOR



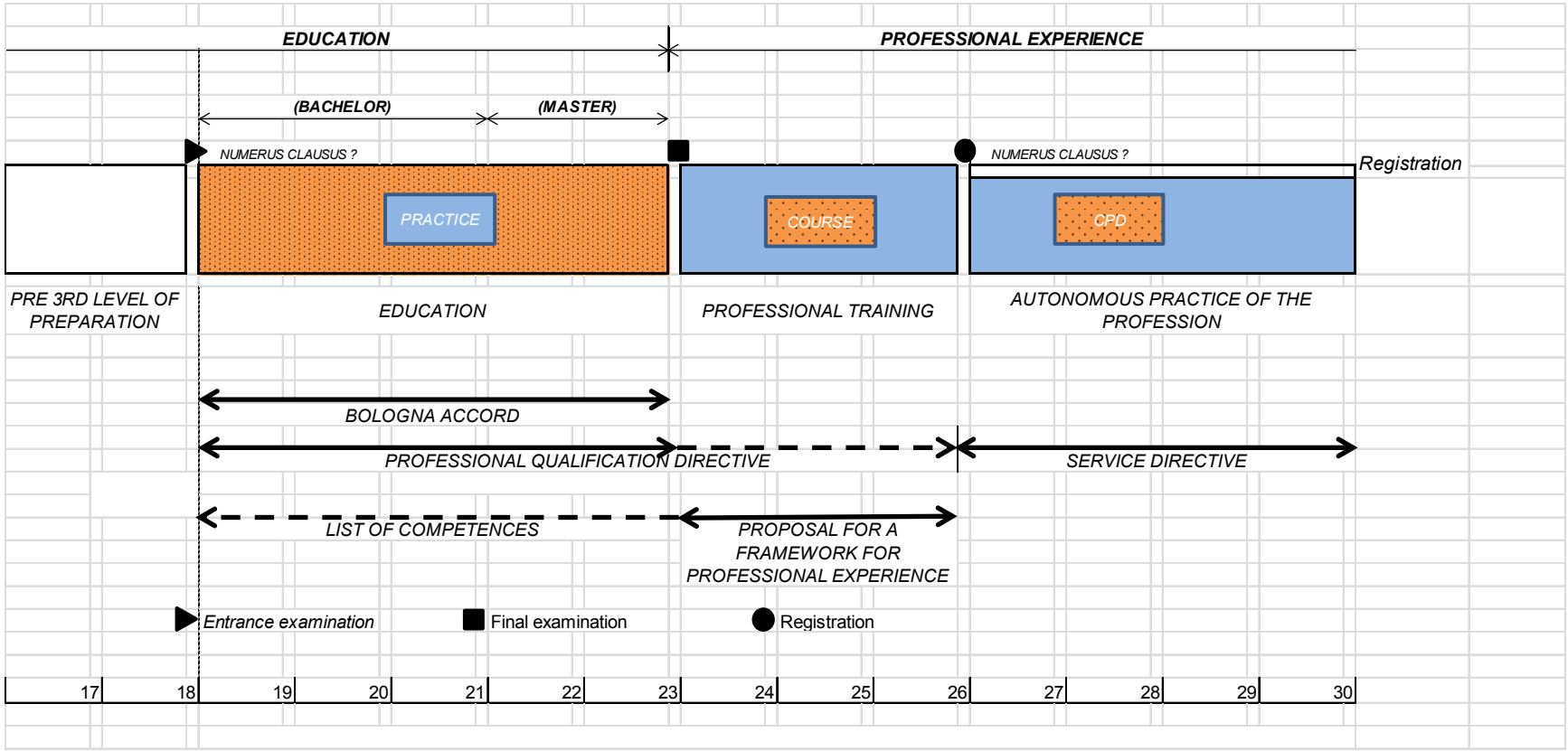
RECOMMENDATION 8 CONSTRUCTIVE ENGAGEMENT
COMMUNICATION + MEDIA



Access to the profession of architect

The main phases of the education and the professional training of an architect (Inspired by J. Horan, Paris, 29/01/11)

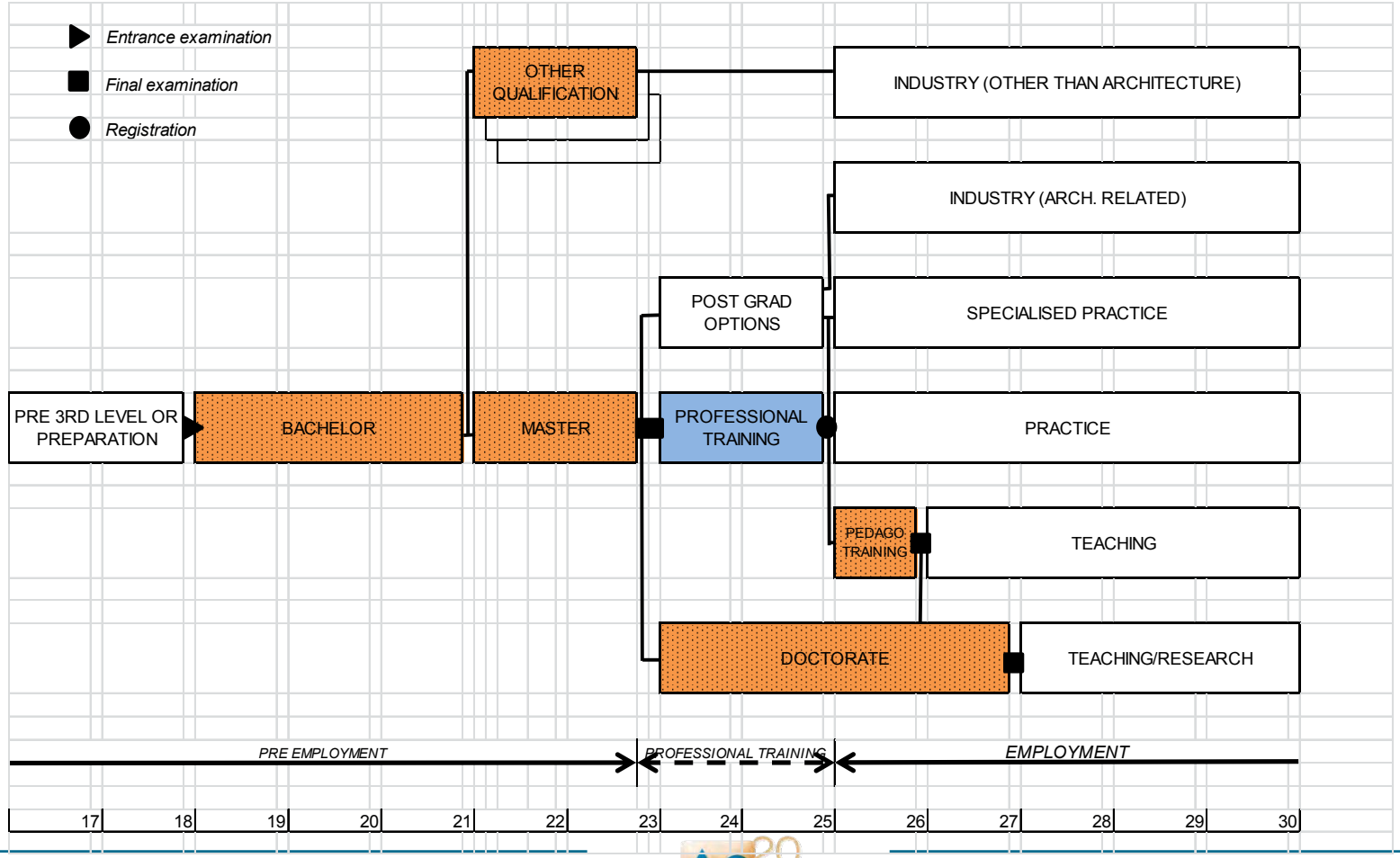
1.0



Access to the profession of architect

The transition from the studies to employment

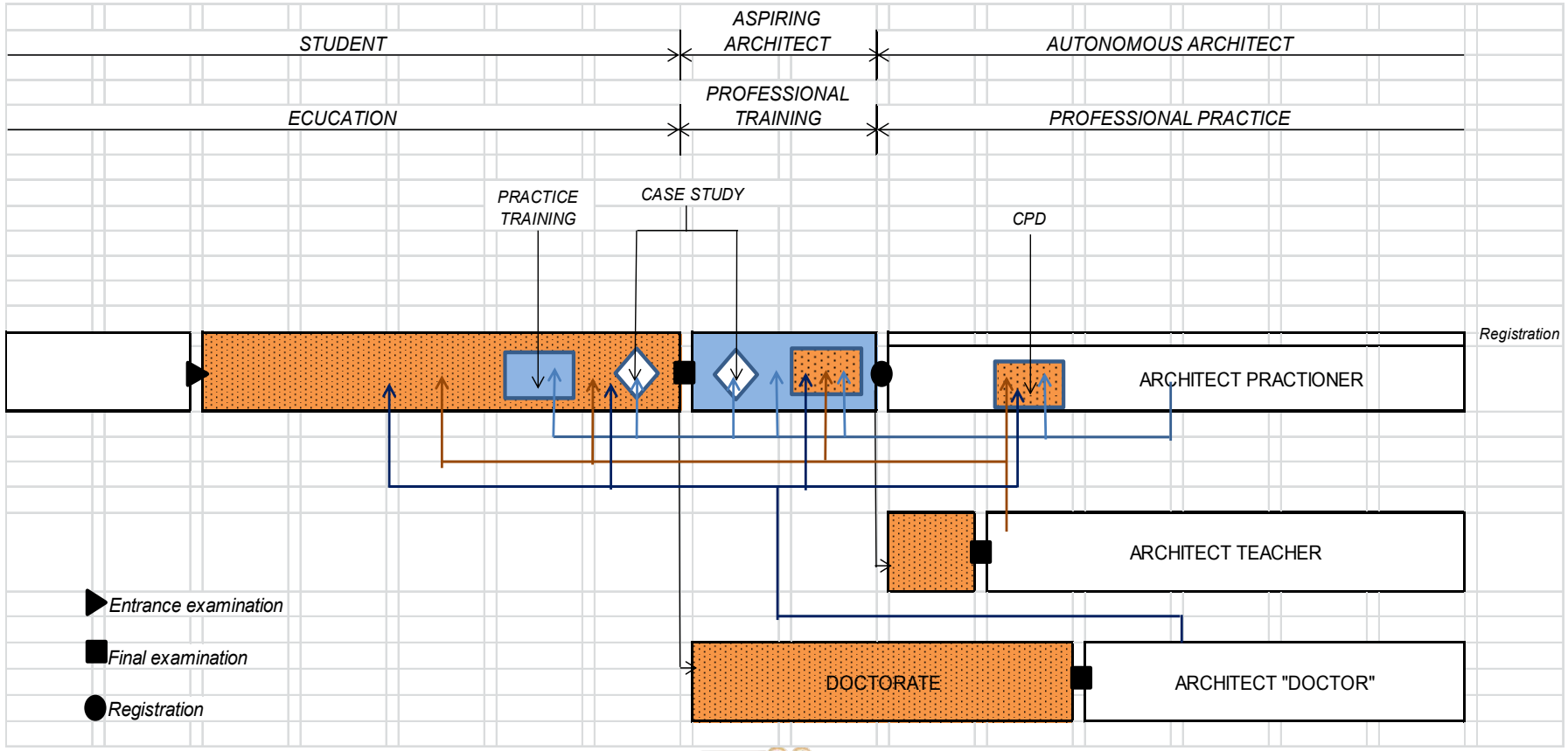
2.0



Access to the profession of architect

The contributions of the professionals for the education and the training of the future architects

3.0



Access to the profession of architect

The transition from the studies to employment

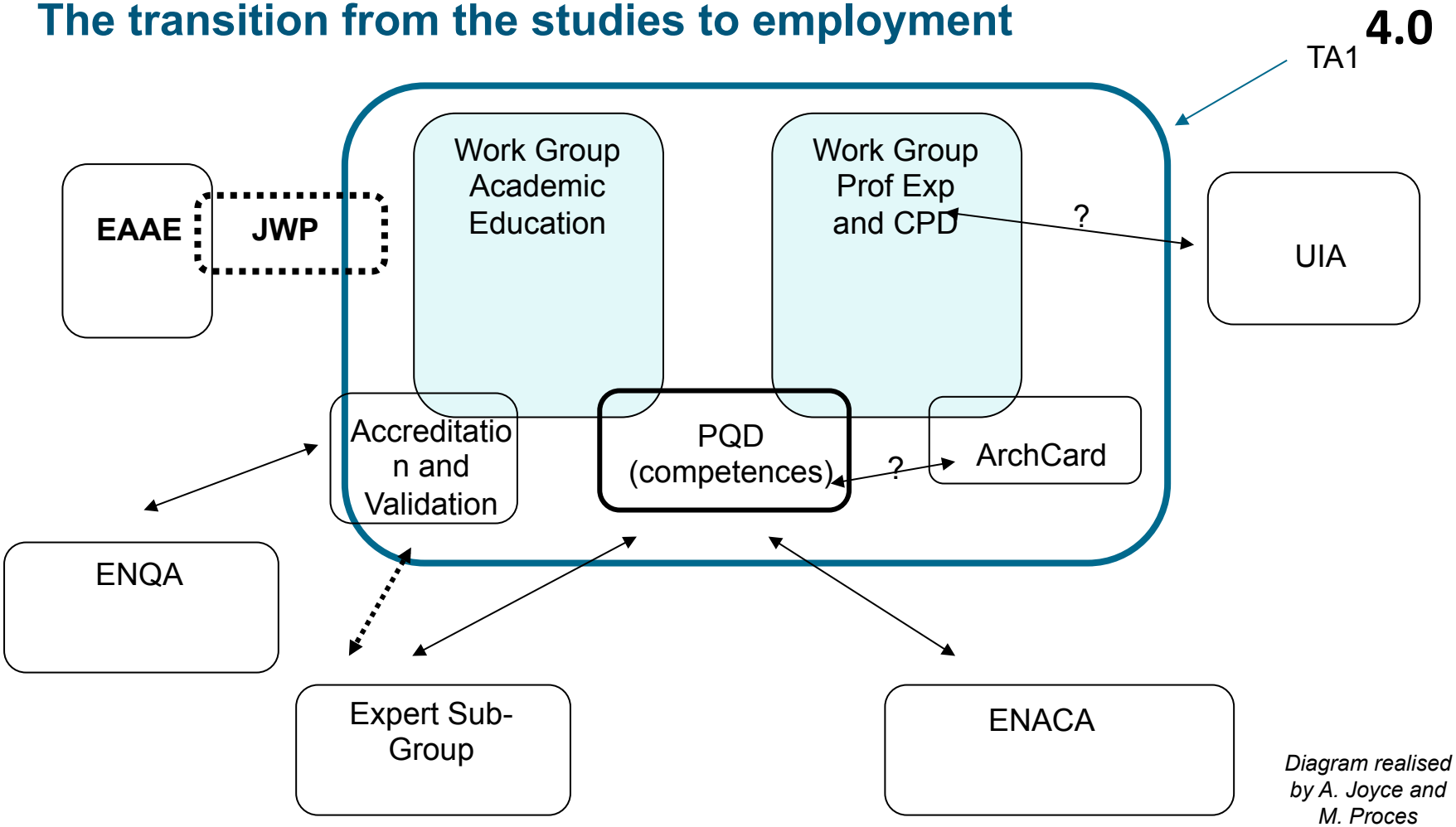


Diagram realised by A. Joyce and M. Proces

Access to the profession of architect

Reference documents of the ACE 5.0

Proposal for a framework for Professional ~~experience~~ training	**5.1**
Professional ~~experience~~ training : Recommendation of the 2nd GA in 2008	5.2
Period of Professional training for architects : Principles and practical organisation	5.3
Diagram model of Education training for architects	5.4

Access to the profession of architect

5.1.1 : Definition of the phases of acquiring professional competences

1. ACADEMIC EDUCATION	
2. ACQUISITION OF PROFESSIONAL EXPERIENCE	
3. « AUTONOMOUS » PRACTICE OF THE PROFESSION	
4. OPTIONAL QUALIFICATIONS	
Not necessarily reserved to architects	Reserved to architects
DOCTORATE	

Access to the profession of architect

5.1.2 : Definition of the levels in the acquisition of professional experience

1. <u>AWARENESS :</u> Acquaintance with general concepts, topics, rules, methods or procedures and the position within the fields
<u>2. KNOWLEDGE :</u> Familiarity with specific information, including facts, definitions, rules, methods, processes or settings.
<u>3. UNDERSTANDING :</u> Identification, assimilation and comprehension of information, including its practical application

Access to the profession of architect

4. SKILLS :
Ability to relate specific information to the accomplishment of tasks and to apply it independently to the solution of specific problems

5. FURTHER QUALIFICATION :
Formal supplementary qualification in a specific area, awarded by a recognised body.

6. CPD :
Completing, supplementing or adapting the acquired knowledge and skills in order to maintain and update them or to acquire new fields of activities ans specialisations (not covered by the levels above).

Access to the profession of architect

5.1.3 : Definition of the groups and types of professional competences

1. CULTURE AND HUMAN SCIENCES
2. DESIGN
3. TECHNOLOGY AND ENVIRONMENT
4. BUSINESS AND PROFESSIONAL PRACTICE
4.a. MANAGEMENT OF PRACTICE
4.b MANAGEMENT OF PROJECTS

Access to the profession of architect

Reference documents of the ACE **5.0**

Proposal for a framework for Professional ~~experience~~ training	5.1
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Access to the profession of architect

5.2 : Professional ~~experience~~ training : Recommendation of the 2nd GA in 2008

Recommendation n°1 : The necessity to have experience that complements academic qualification.

Recommendation n°2 : The acquisition of their professional experience should extend over a period of three years.

Recommendation n°3 : This acquisition can be achieved by different means but a real experience via professional practice experience is required for some competences.

Recommendation n°4 : The description of te=he necessayr competences and the level to be reached should be devised and agreed with the professional bodies.

Recommendation n°5 : The competences acquired must be maintained through CPD.

Access to the profession of architect

Reference documents of the ACE **5.0**

Proposal for a framework for Professional ~~Experience~~ training	5.1
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Period of Professional training for architects : Principles and practical organisation	**5.3**
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Access to the profession of architect

5.3 : Period of Professional training for architects : Principles and practical organisation

TITLE:

- Definition and objectives of Professional training.
- Means of acquiring professional competence
- Parties involved in the training.
- Duration and status of professional training.
- General organization and the links between professional and academic boards
- General condition for the professional training.
- Evaluation of the accomplishments of the aspiring architect.
- Status, functions and duties of a director of training.
- Status and function of the adviser.
- Employment conditions for the aspiring architect
- Duties and attitude of the aspiring architect.

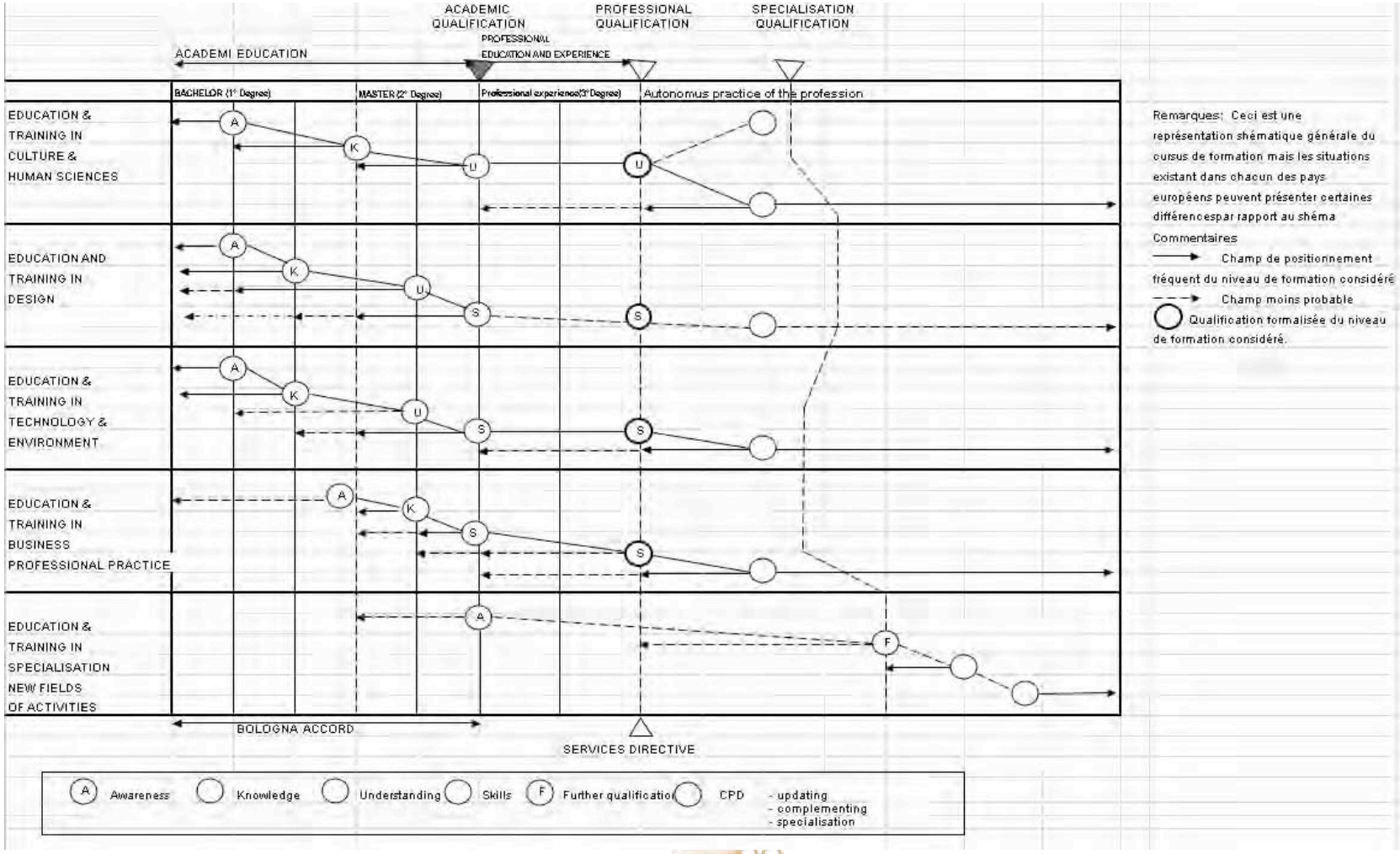
Access to the profession of architect

Reference documents of the ACE 5.0

Proposal for a framework for Professional ~~Experience~~ training	5.1
Professional ~~experience~~ training : Recommendation of the 2nd GA in 2008	5.2
Period of Professional training for architects : Principles and practical organisation	5.3
Proposition of different diagrams of access to the profession in the different countries of Europe	**5.4**

Access to the profession of architect

5.4 : Proposition of different diagrams of access to the profession in the different countries of Europe



Access to the profession of architect

Survey and synthesis of the cursus of access to the profession by the ACE — 6.0

Programme of acquisition of competences : Overview of situation in the different countries of Europe	**6.1**
Access to the profession : Summary table	6.2
Diagram model of education training for architects ; Example : Belgium	6.3
Proposition of different diagrams of access to the profession in the different countries of Europe	6.4

Access to the profession of architect

6.1 : Programme of acquisition of competences : Overview of situation in the different countries of Europe

BELGIUM

13,500 architects (94% practising) - 10.5m inhabitants (1.3/1000) - 24% female architects

Liability: 10 years (counted from acceptance) + non-contractual liability of 20 years.

The architect's title and function are protected.

Professional title: Architect or Architect-engineer

The architect's profession is protected (Law of the 20/02/1939)

Competent authority: National Council of the Orders of Architects (CNOA) and 10 provincial councils.

Programme of acquisition of competences:

• Architects (Institutes of architecture) or Architect-engineers (Universities)

No entrance examinations (except for Architect-engineers in most universities) but often numerus clausus based on the institutes practical capacities.

Baccalaureate of 3 years (with internship of 15 days)

Master's degree of 2 years (with internship of 15 days)

Qualification (at university level) as Architect or Architect-engineer

Compulsory internship period of 2 years (in phases of a minimum of 6 months) to be started within the 5 years following the qualification:

- The internship mentor must be registered with the Order for more than 10 years.
- The intern most often carries out his/her internship under the status of independent.
- No examination, but a follow-up conducted by an internship committee belonging to a Council of the Order (which can extend the duration of the internship by a maximum of one year).
- On the francophone side, a complementary professional training of 80 hours is advised (It might soon become compulsory)

Compulsory registration on the registry of the Order.

Continued training: not compulsory.

Access to the profession of architect

Survey and synthesis of the cursus of access to the profession by the ACE — 6.0

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Access to the profession of architect

6.2 : Access to the profession : Summary table

Belgium	5 years	Architect / Engineer-architect	2 years (with follow-up)	No but might be compulsory for the francophone side (80 hours) in the future	No (but the Order can impose a prolongation of internship of a year)	Yes (Provincial Council of the Order)	Architect / Engineer-Architect	No
Bulgaria	5 years	Master of Architecture	2 years	Yes	Yes (by a mixed jury: teachers + admin. + practitioners)	Yes (Chambers of Architects in Bulgaria)	Architect	No
Romania	6 years (with entrance examination and sometimes internship during the final year)	_	(6 months to) 2 years	_	Yes (oral exam + portfolio)	Yes (OAR)	_	No

Access to the profession of architect

Survey and synthesis of the cursus of access to the profession by the ACE — 6.0

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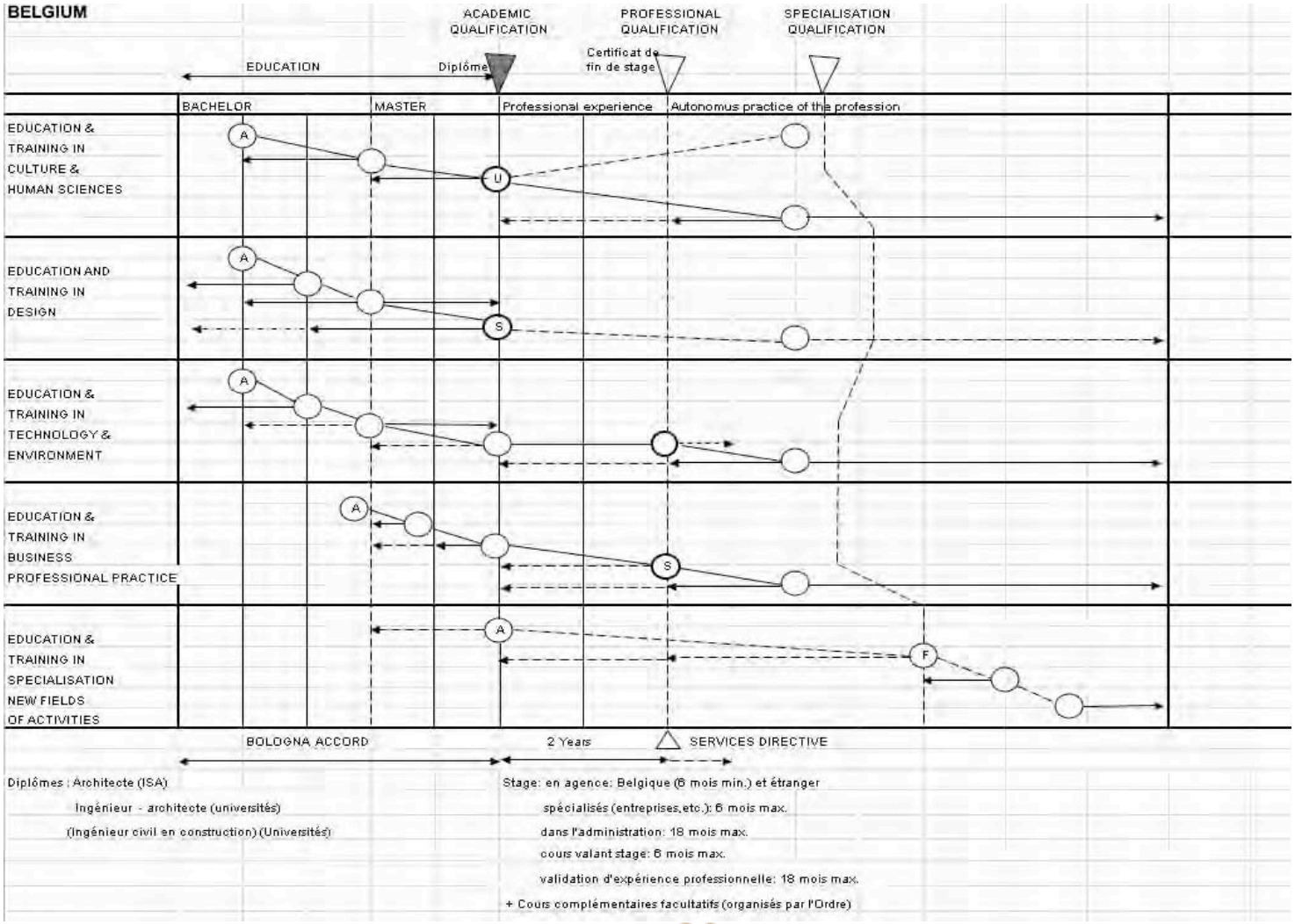
Diagram model of education training for architects ; Example : Belgium	**6.3**
Proposition of different diagrams of access to the profession in the different countries of Europe	6.4

Access to the profession of architect

6.3 : Diagram model of education training for architects ; Example : Belgium



Access to the profession of architect

Survey and synthesis of the cursus of access to the profession by the ACE — 6.0

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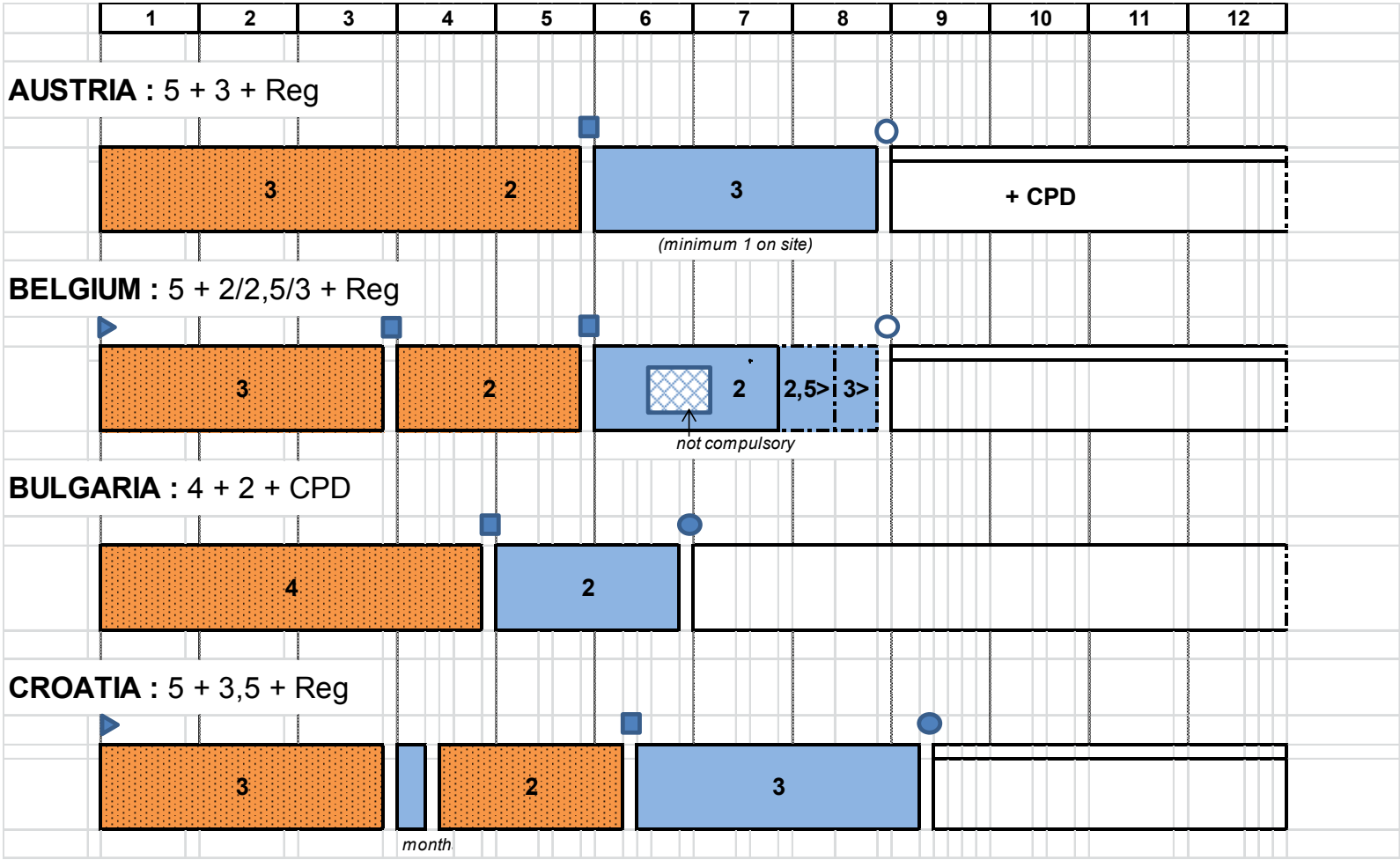
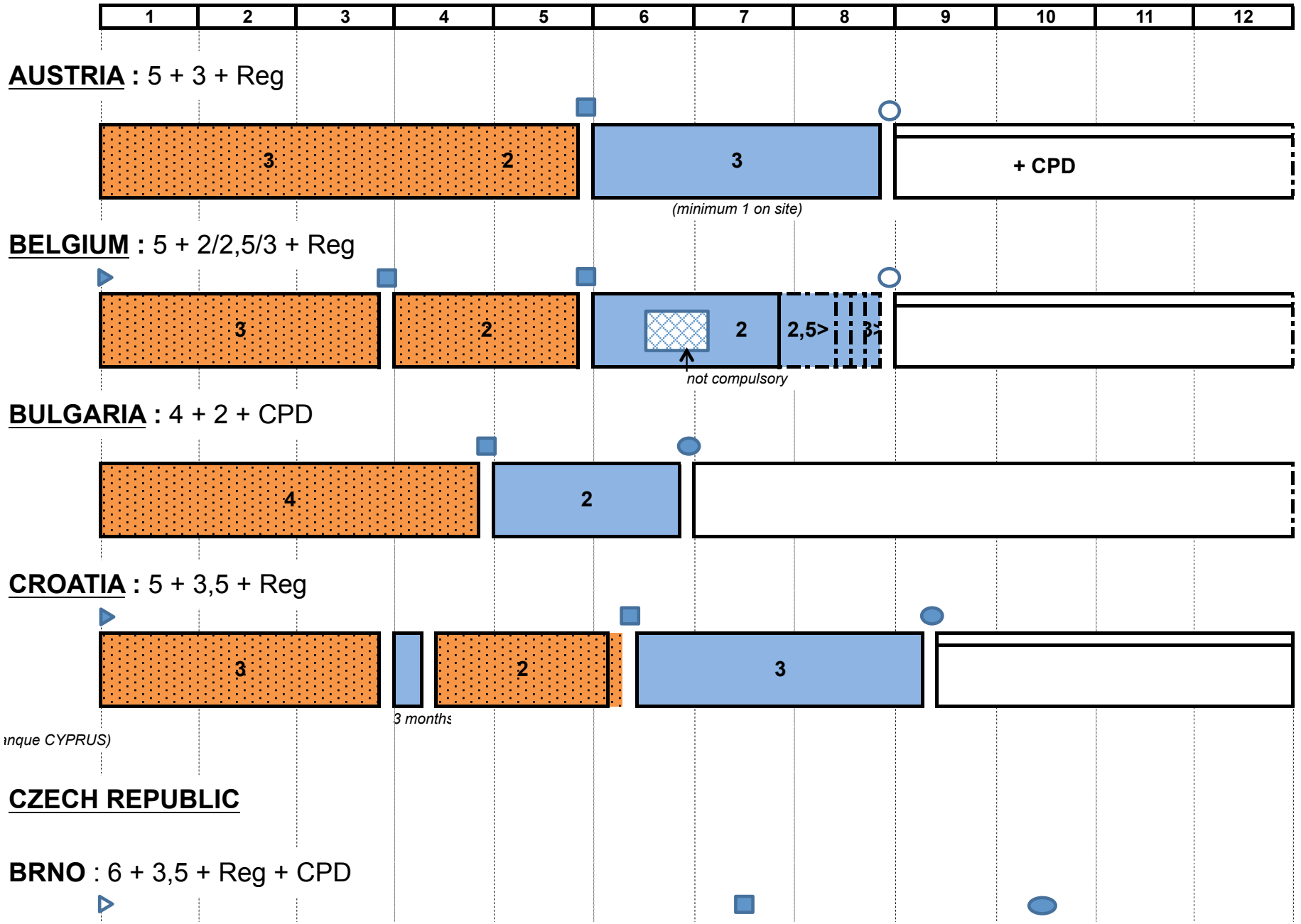
Diagram model of education training for architects ; Example : Belgium	6.3
Proposition of different diagrams of access to the profession in the different countries of Europe	**6.4**

Access to the profession of architect

6.4 : Proposition of different diagrams

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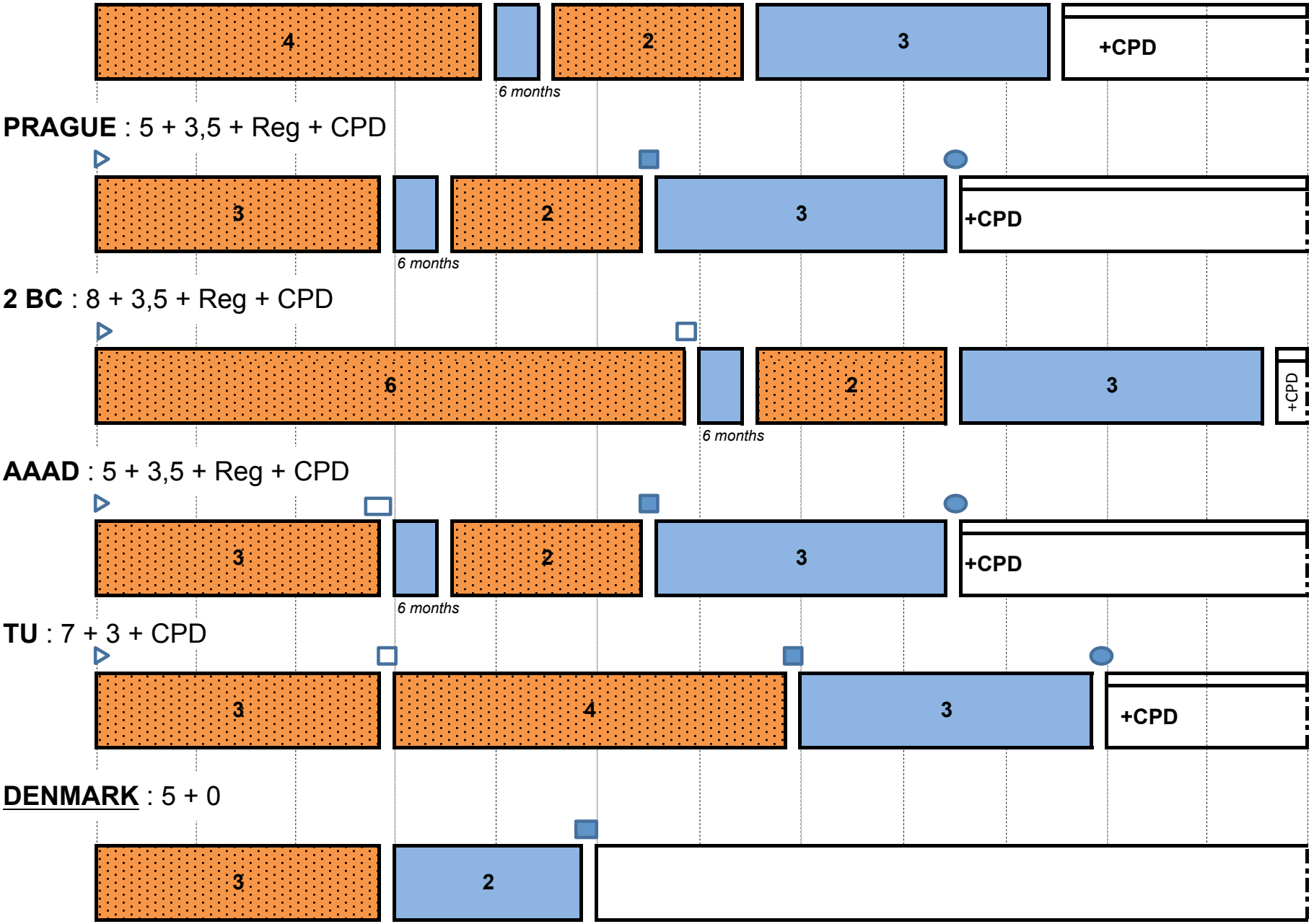
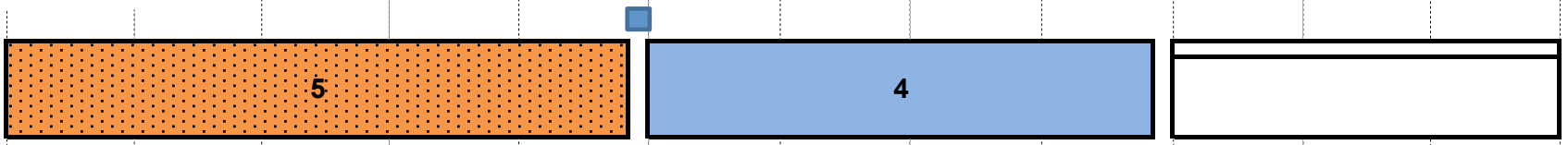
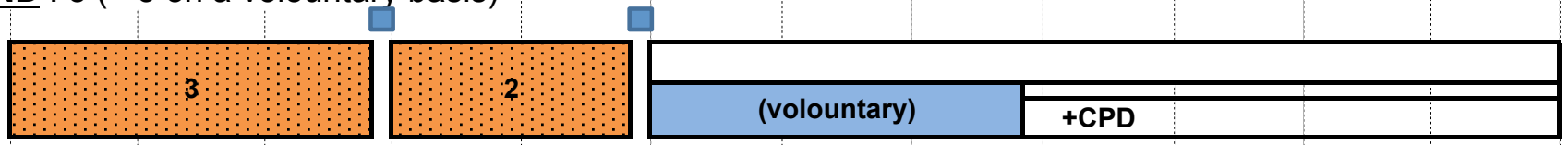
AUSTRIA : 5 + 3 + Reg
3
2
3
+ CPD
(minimum 1 on site)
BELGIUM : 5 + 2/2,5/3 + Reg
3
2
2
2,5>
not compulsory
BULGARIA : 4 + 2 + CPD
4
2
CROATIA : 5 + 3,5 + Reg
3
2
3
3 months
nque CYPRUS)
CZECH REPUBLIC
BRNO : 6 + 3,5 + Reg + CPD


4
6 months
2
3
+CPD
PRAGUE : 5 + 3,5 + Reg + CPD
3
6 months
2
3
+CPD
2 BC : 8 + 3,5 + Reg + CPD
6
6 months
2
3
+CPD
AAAD : 5 + 3,5 + Reg + CPD
3
6 months
2
3
+CPD
TU : 7 + 3 + CPD
3
4
3
+CPD
DENMARK : 5 + 0
3
2

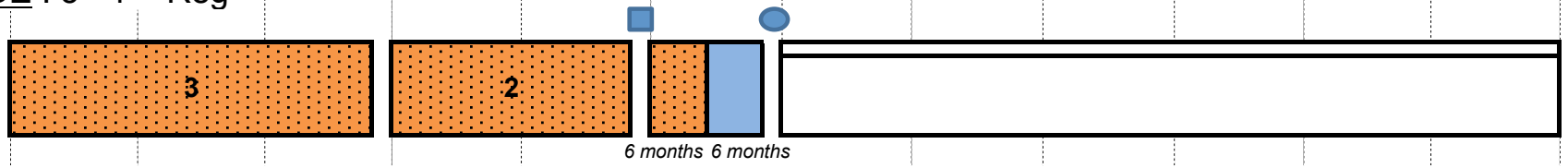
ESTONIA : 5 + 4 + Reg



FINLAND : 5 (+ 3 on a volountary basis)

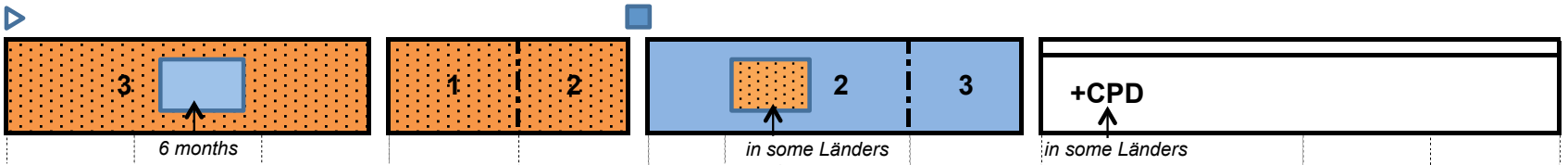


FRANCE : 5 +1 + Reg

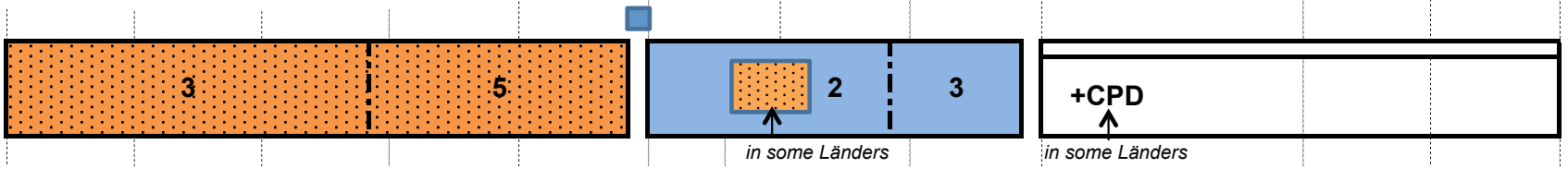


GERMANY

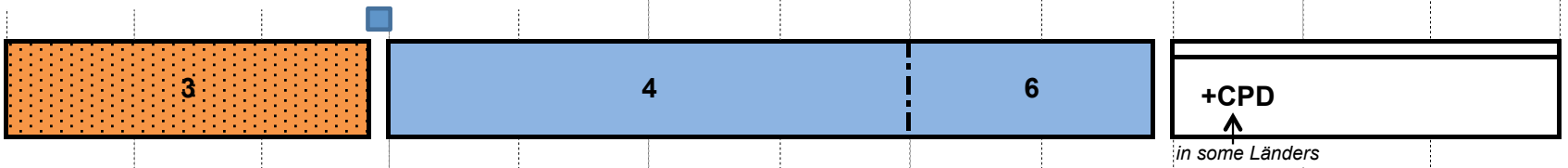
UNIVERSITIES : 4/5 + 2/3 + Reg



FACHHOCHSCHULEN : 4/5 + 2/3 + Reg

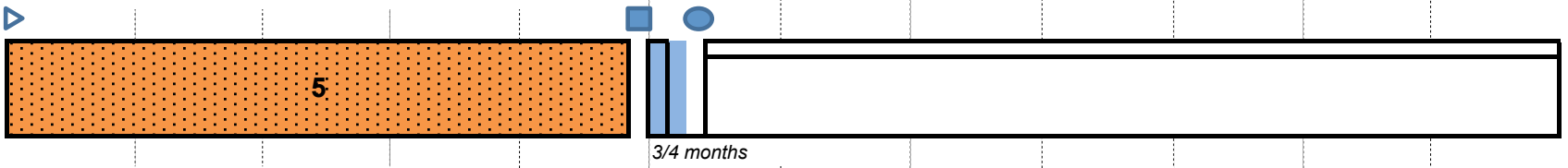


EXCEPTIONALLY (3 LÄNDERS) : 3 + 4/6 + Reg

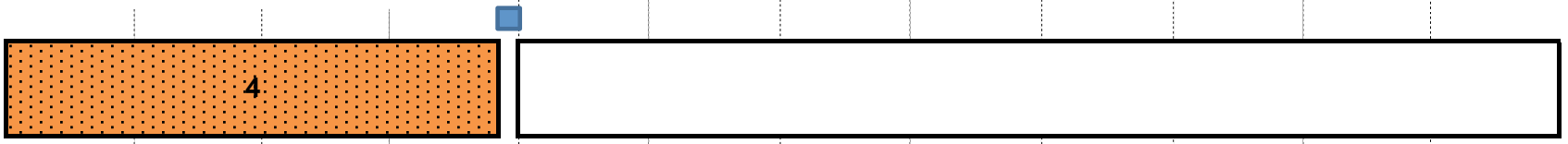


GREECE

UNIVERSITIES : 5 + 0,3/0,4 + Reg + CPD

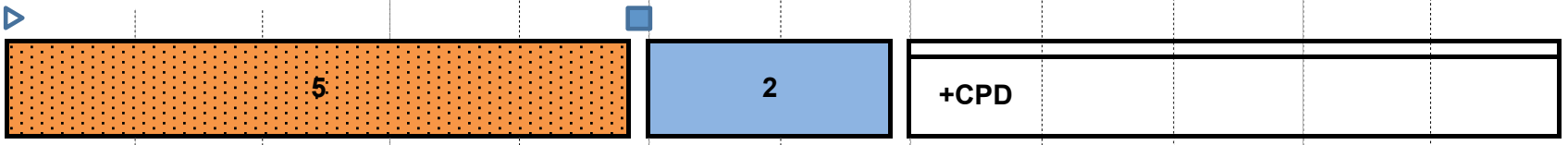


TECHNICAL UNIVERSITIES : 4 + 0

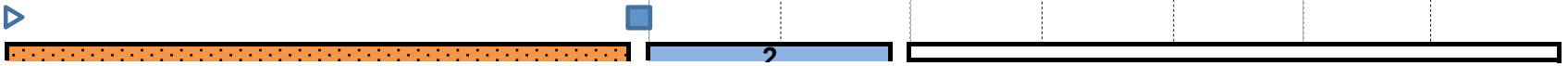


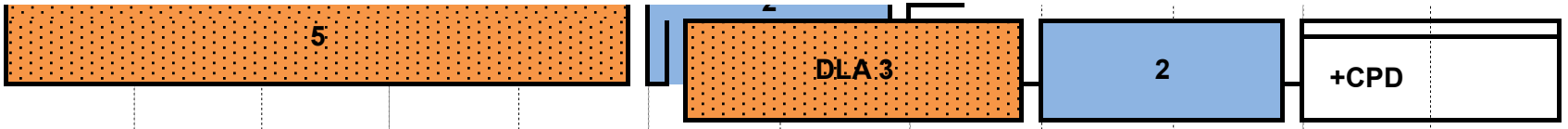
HUNGARY

CURSUS 1 : 5 + 2 + Reg + CPD

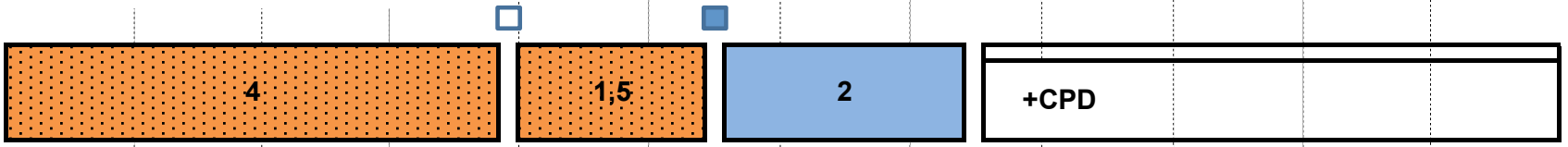


CURSUS 2 : 5/8 + 2 + Reg + CPD

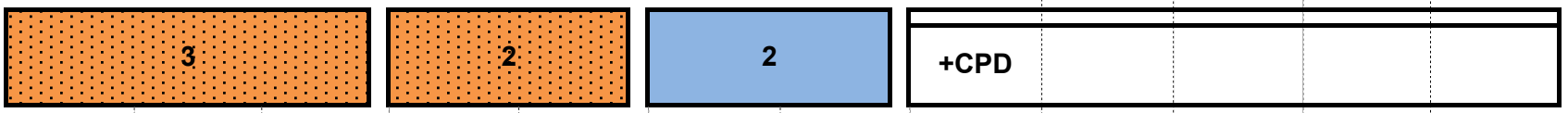




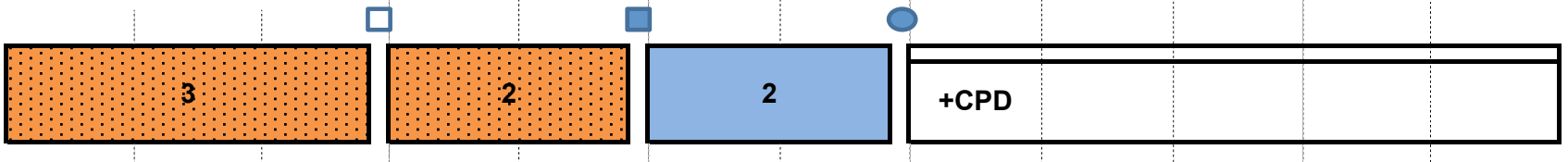
CURSUS 3 : 5,5 + 2 + Reg + CPD



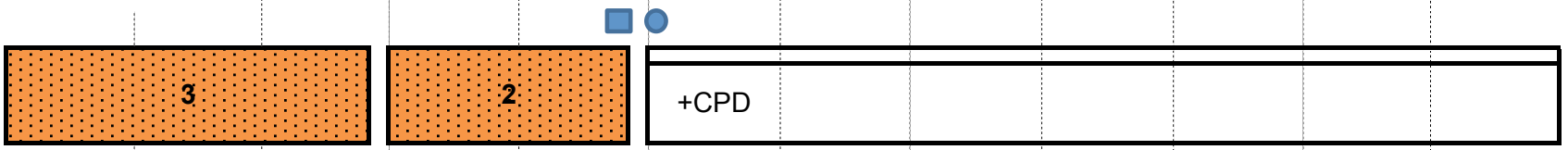
CURSUS 4 : 5 +2 + Reg + CPD



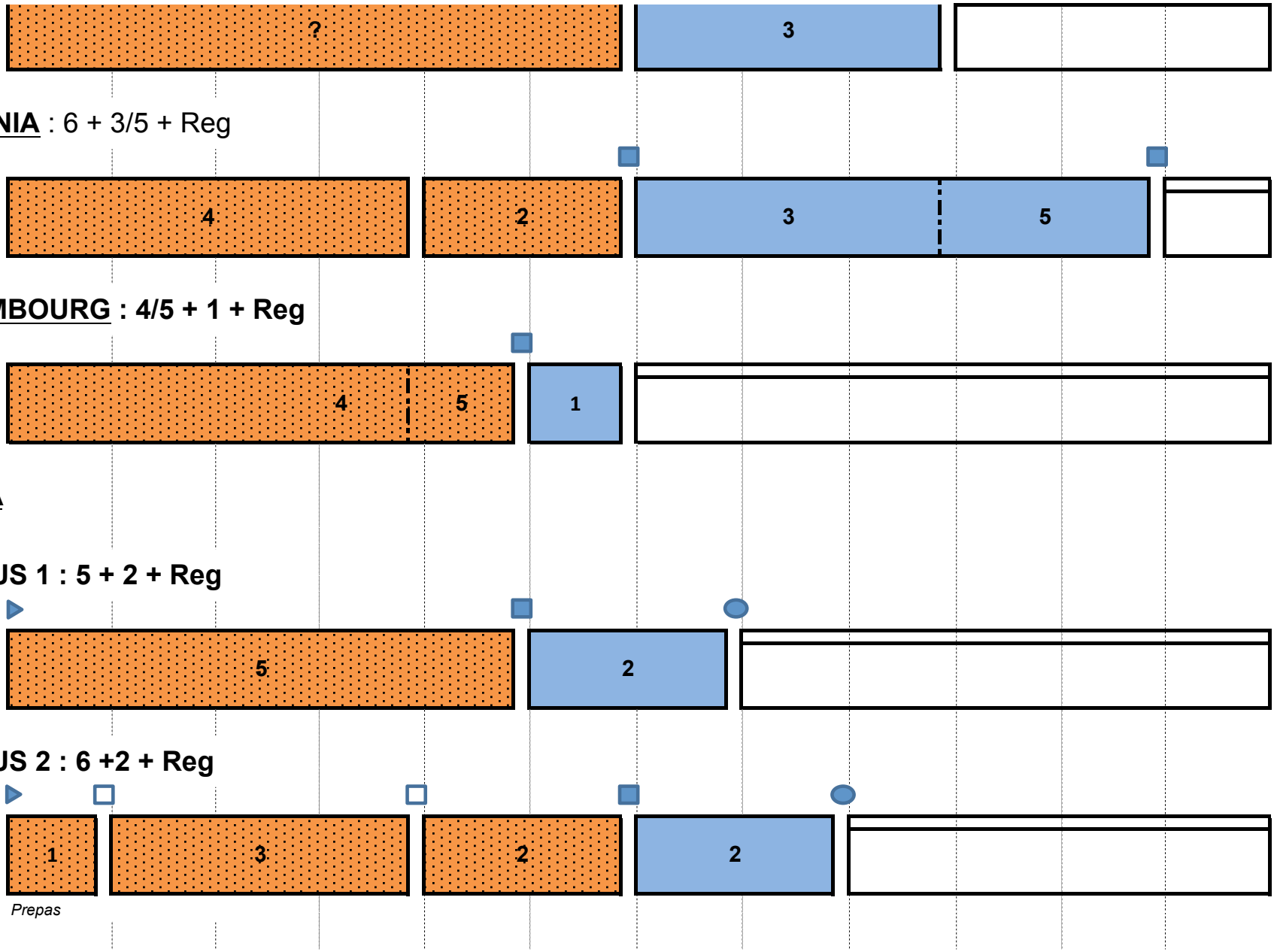
IRELAND : 5 +2 + Reg + CPD



ITALY : 5 + 0 + Reg

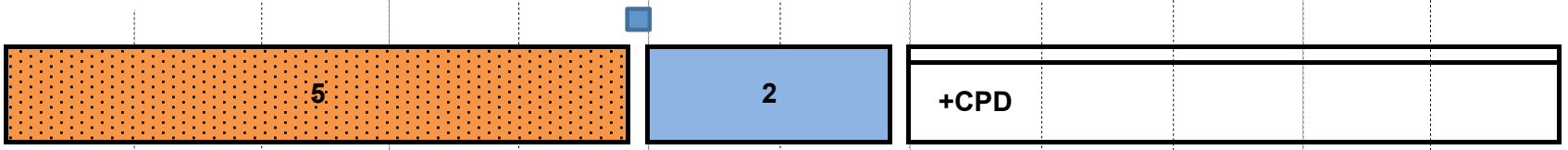


LATVIA : ? + 3 + Reg

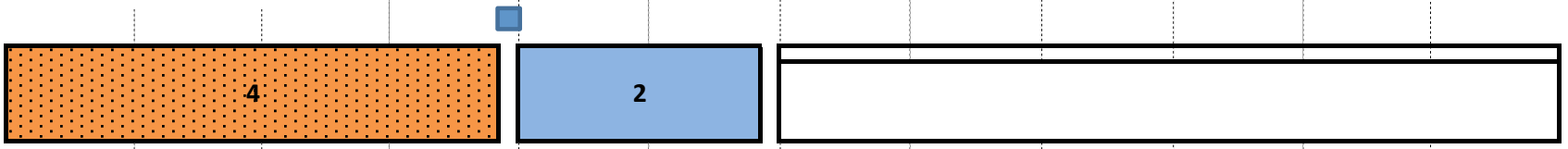

?
3
LITUANIA : 6 + 3/5 + Reg
4
2
3
5
LUXEMBOURG : 4/5 + 1 + Reg
4
5
1
MALTA
CURSUS 1 : 5 + 2 + Reg
5
2
CURSUS 2 : 6 +2 + Reg
1
3
2
2
Prepas

NETHERLANDS

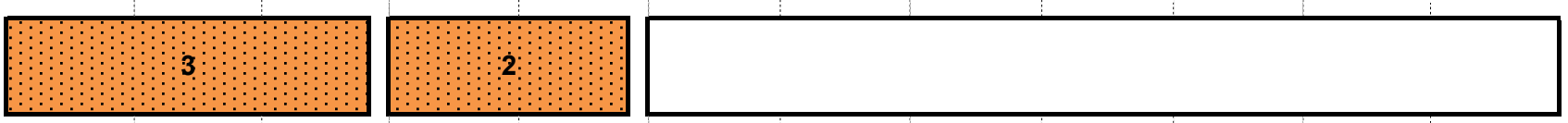
TU : 5 +2 + Reg + CPD



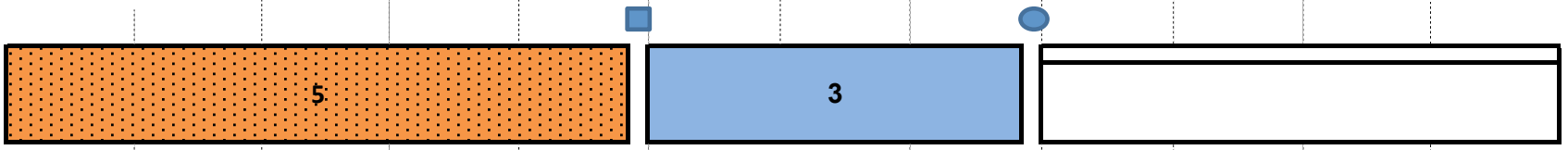
ACAD : 4 +2 + Reg + CPD



NORWAY : 3 +2

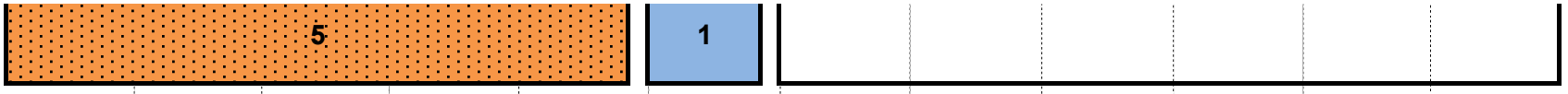


POLAND : 5 + 3 + Reg

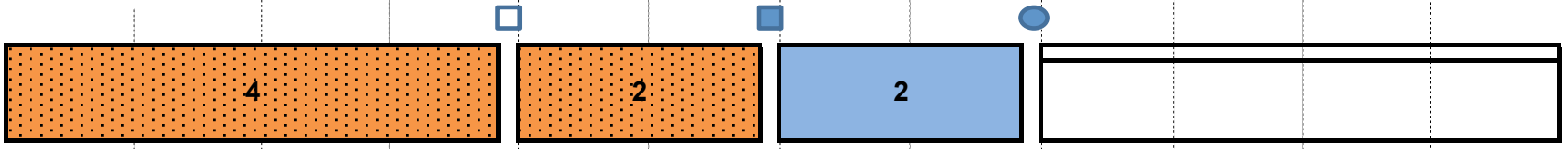


minimum 1 on site

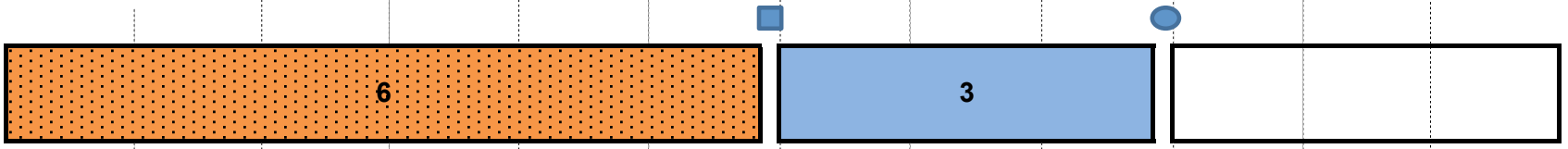
PORTUGAL : 5 + 1 + Reg



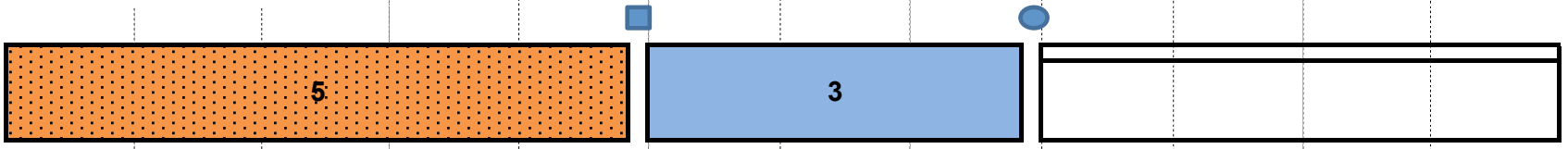
ROMANIA : 6 + 2 + Reg



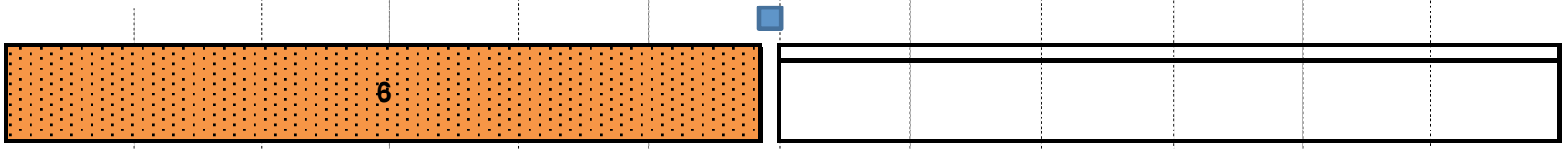
SLOVAKIA : 6 + 3



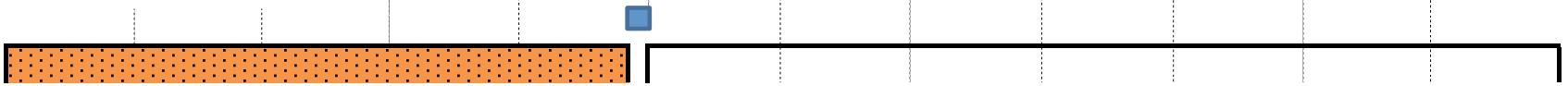
SLOVENIA : 5 + 3 + Reg

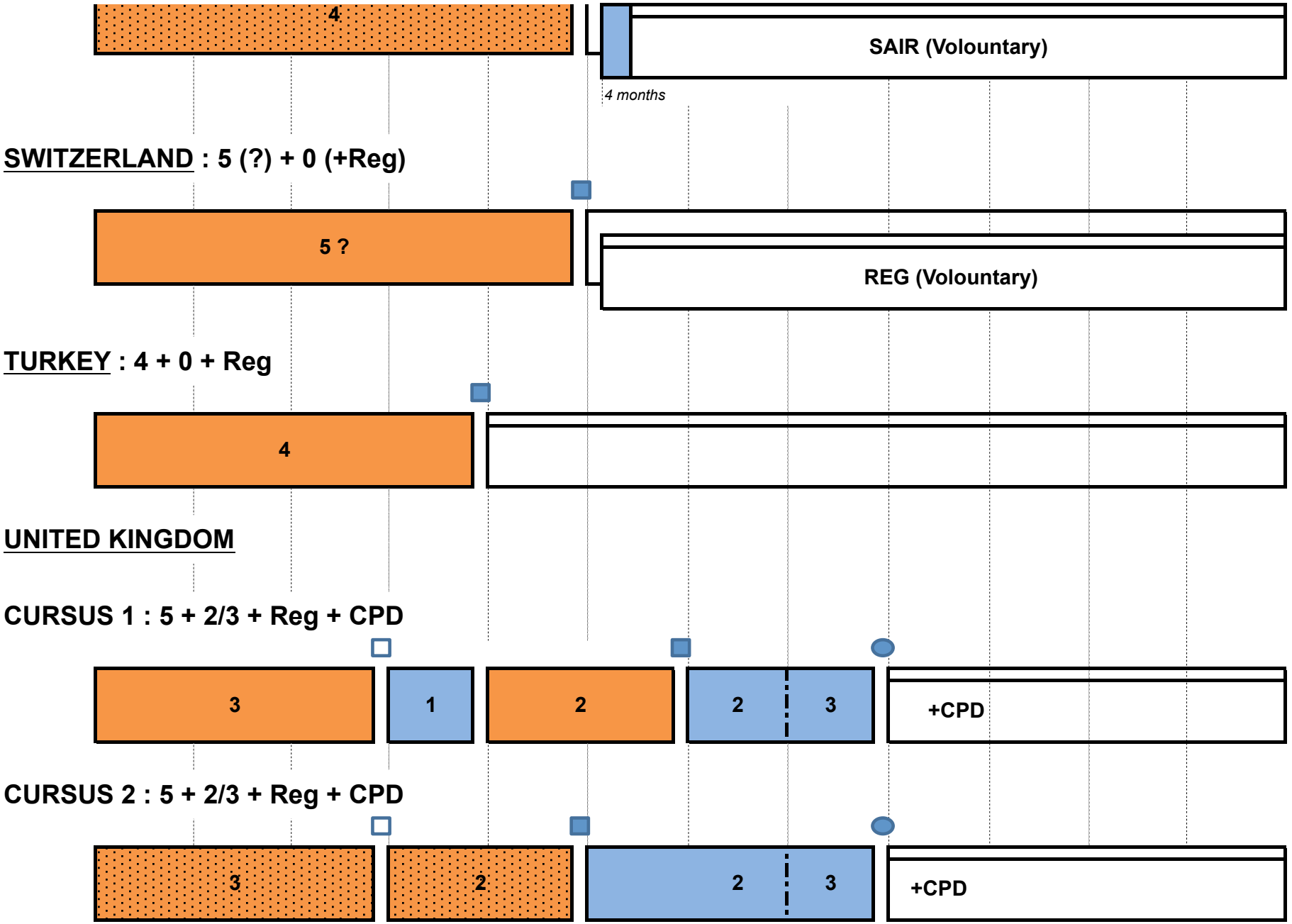


SPAIN : 6 + 0 + Reg

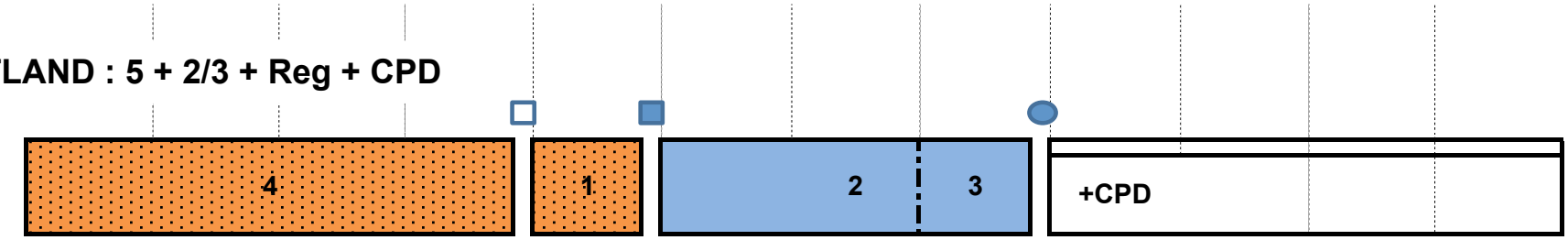


SWEDEN : 5 + (0,3 + Reg)




4
SAIR (Volountary)
4 months
SWITZERLAND : 5 (?) + 0 (+Reg)
5 ?
REG (Volountary)
TURKEY : 4 + 0 + Reg
4
UNITED KINGDOM
CURSUS 1 : 5 + 2/3 + Reg + CPD
3
1
2
2
3
+CPD
CURSUS 2 : 5 + 2/3 + Reg + CPD
3
2
2
3
+CPD

SCOTLAND : 5 + 2/3 + Reg + CPD



University of Zagreb
Faculty of Architecture

Study of Architecture and Urban Planning and the Bologna process

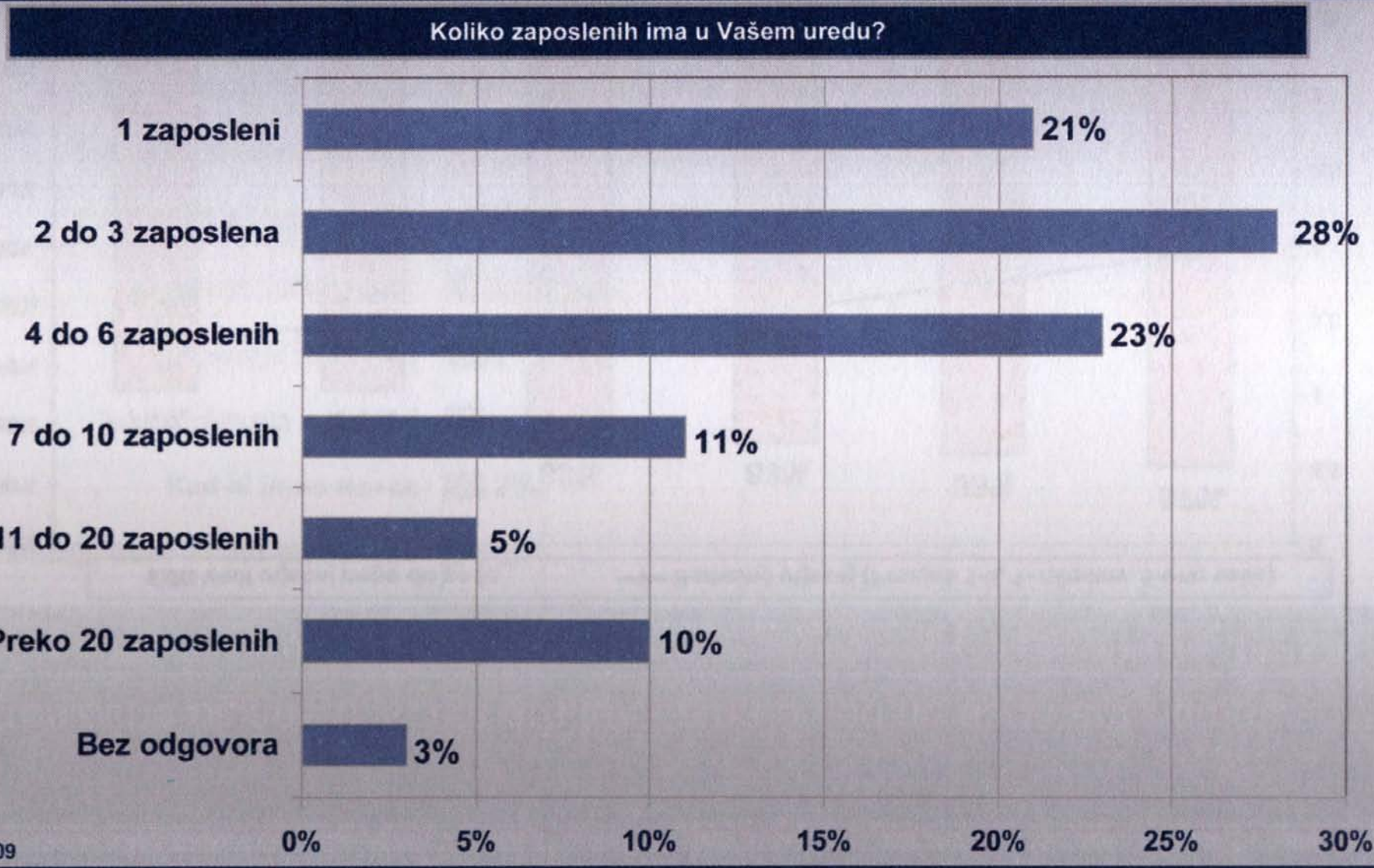
June 2006.

Presentation by:
Vice dean
Prof. dr. sc. Bojan Baletić

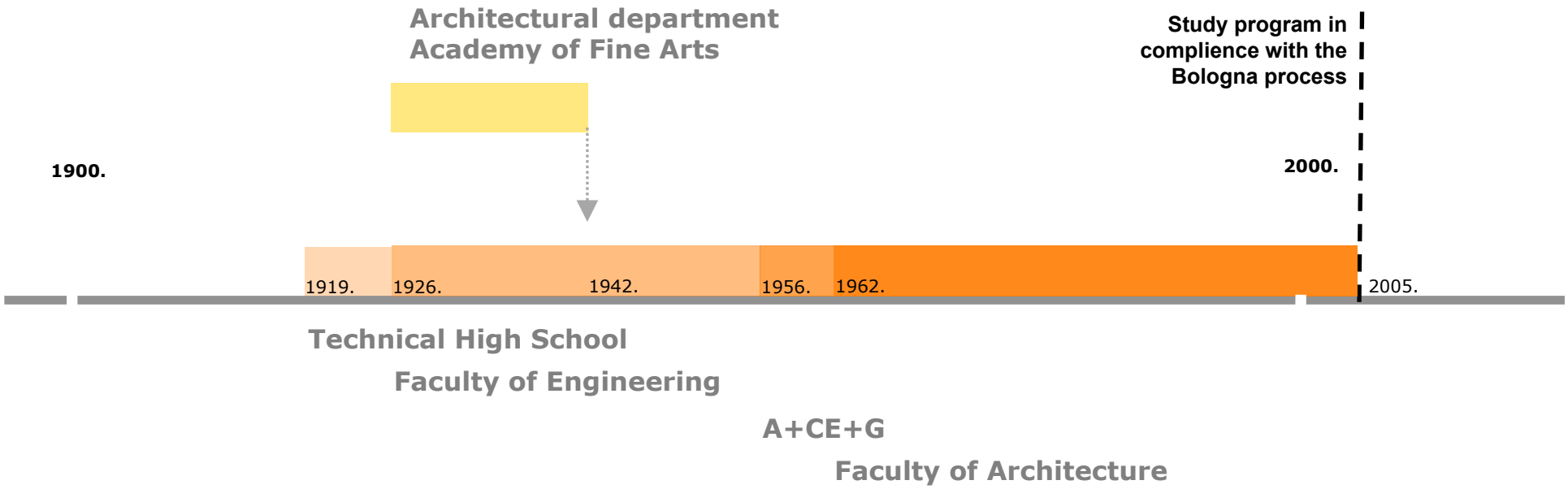
Context

Schools of Architecture in Croatia

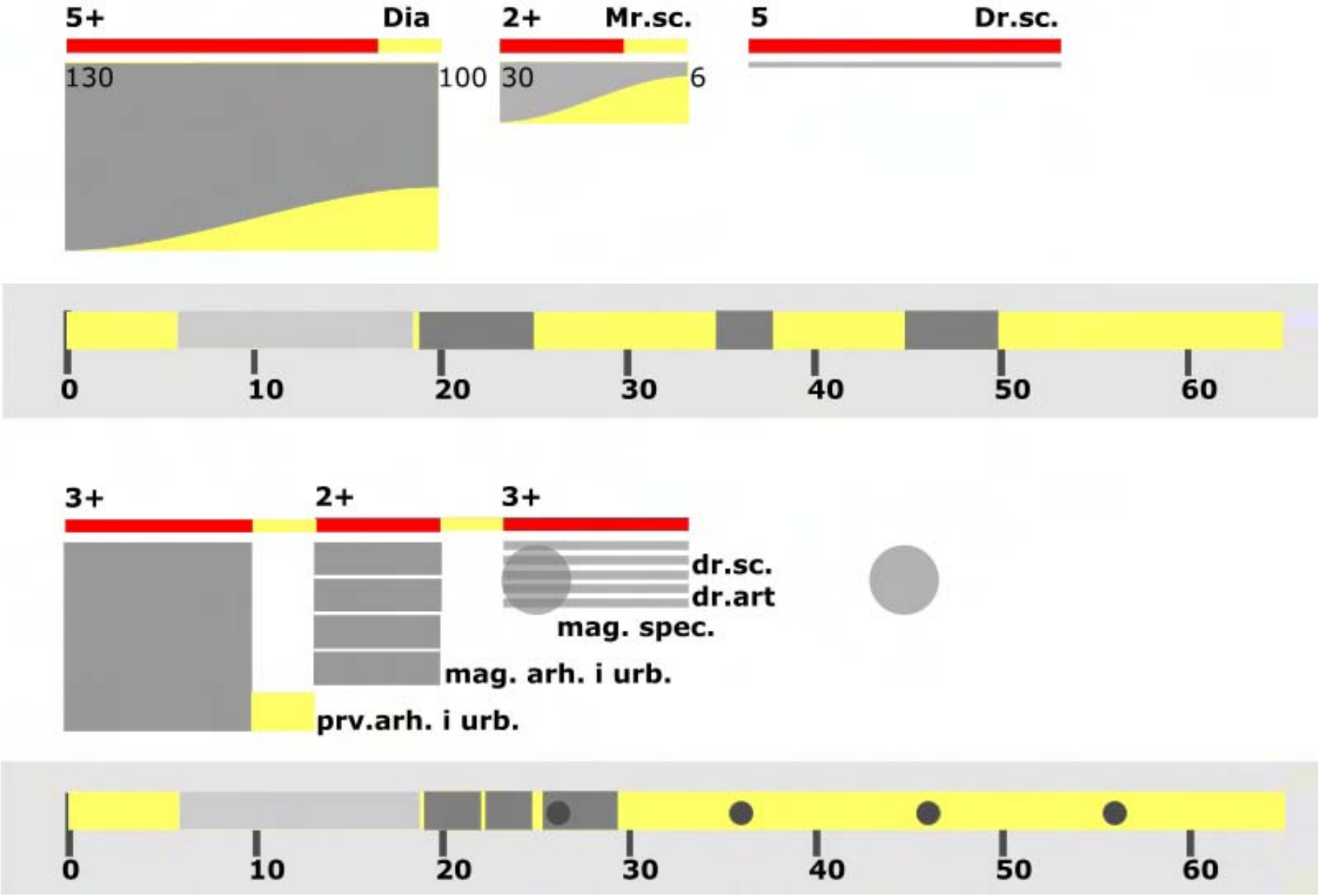
Broj zaposlenih u uredu



Study of Architecture in Croatia



Postojeća i razmatrana struktura studija na Arhitektonskom fakultetu Sveučilišta u Zagrebu



Concerns

EDUCATIONAL CONCEPT

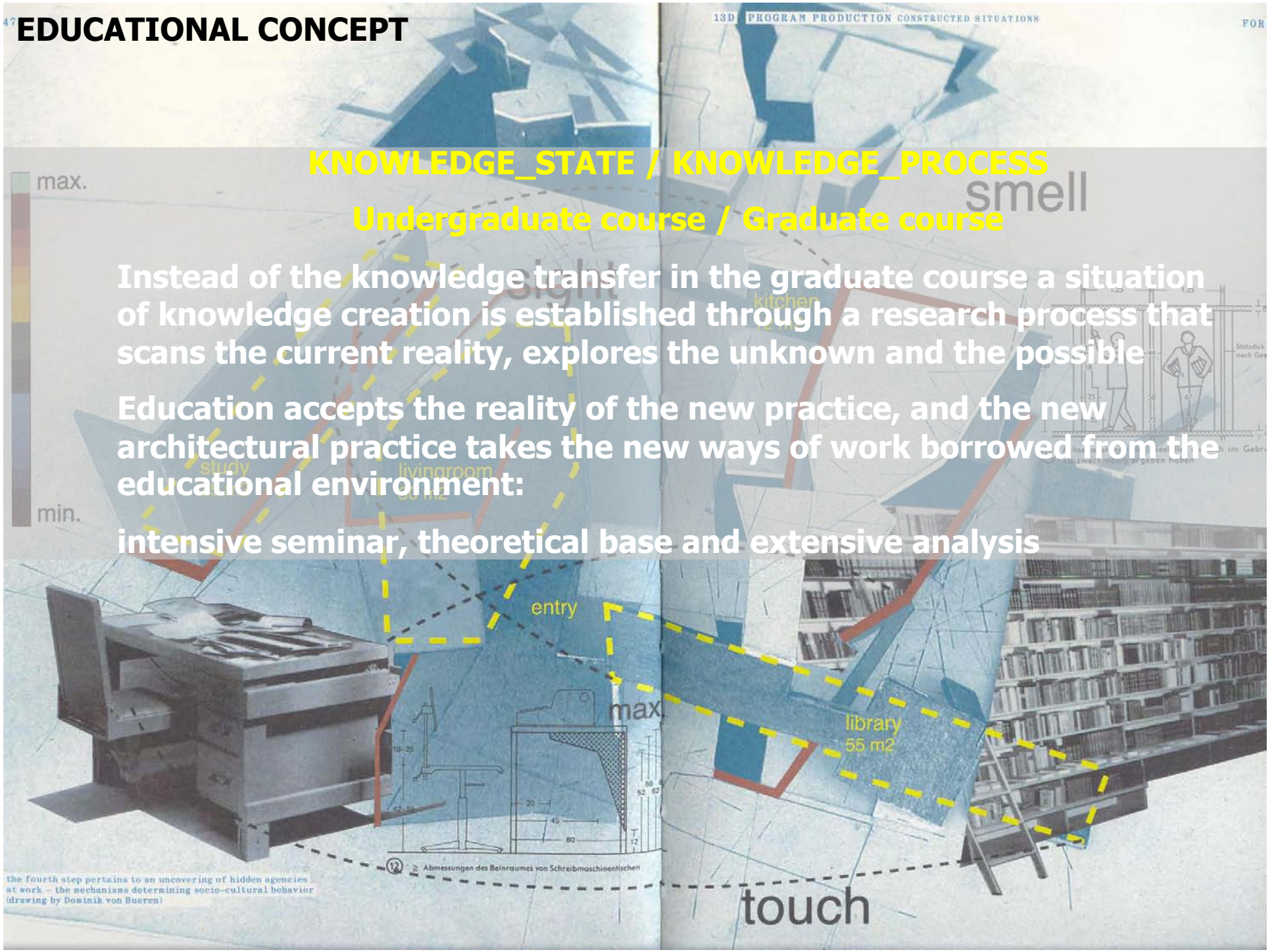
KNOWLEDGE_STATE / KNOWLEDGE_PROCESS

Undergraduate course / Graduate course

Instead of the knowledge transfer in the graduate course a situation of knowledge creation is established through a research process that scans the current reality, explores the unknown and the possible

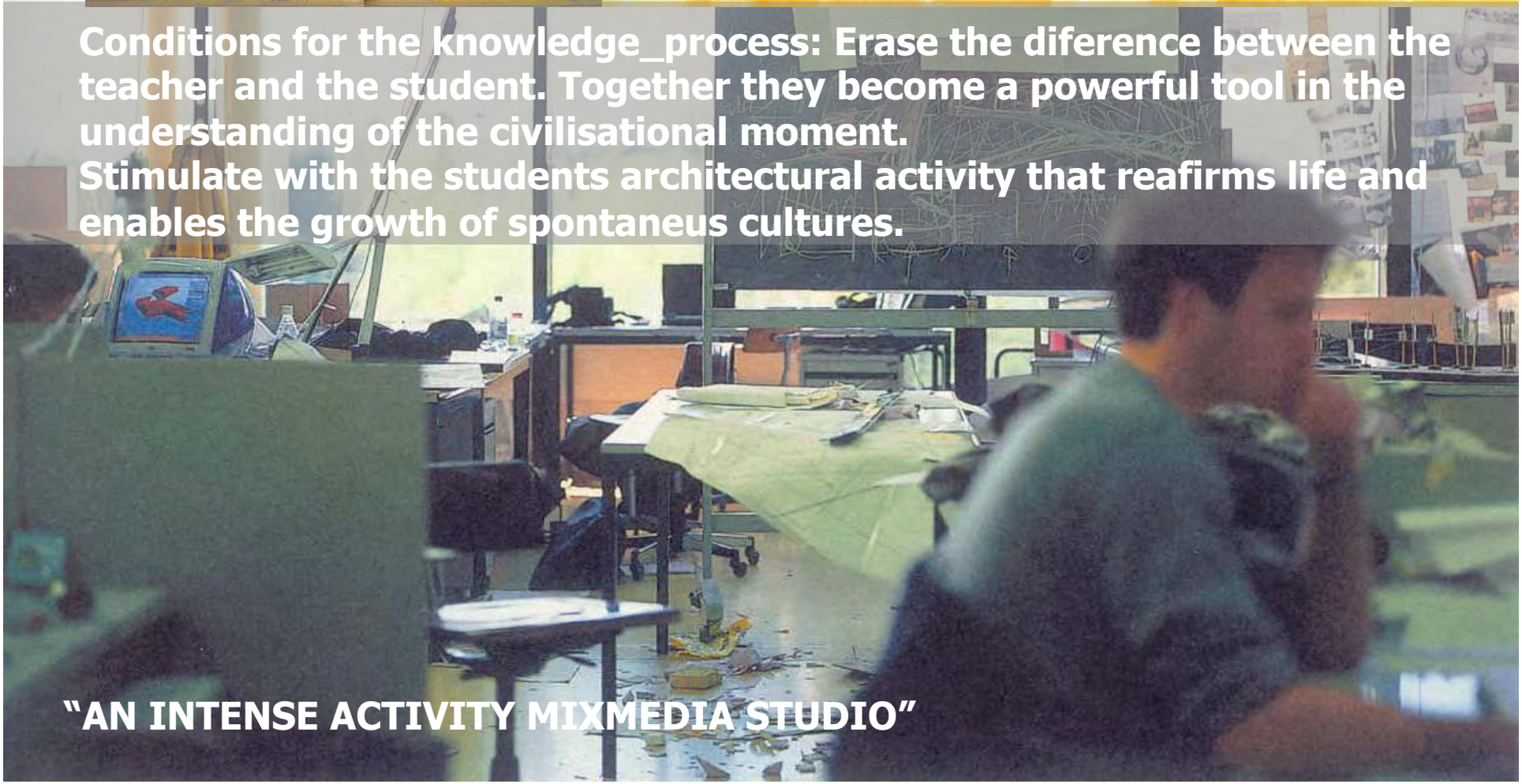
Education accepts the reality of the new practice, and the new architectural practice takes the new ways of work borrowed from the educational environment:

intensive seminar, theoretical base and extensive analysis



STUDY SPACE

Conditions for the knowledge_process: Erase the diference between the teacher and the student. Together they become a powerful tool in the understanding of the civilisational moment.
Stimulate with the students architectural activity that reafirms life and enables the growth of spontaneus cultures.



"AN INTENSE ACTIVITY MIXMEDIA STUDIO"

MODERN TECHNOLOGIES

Can the school create an atmosphere in which the student, who by nature of his age participates in a multitude of different worlds, can mediate new contents, new briefs and a new sensibility of the information age?

A PAPERLESS ON-LINE STUDIO?

Competences

EU Council Directive
DIPLOME, POTVRDE I OSTALI DOKAZI O OBVEZNIM KVALIFIKACIJAMA KOJE OMOGUĆUJU IMAOCU OBAVLJANJE DJELATNOSTI NA POLJU ARHITEKTURE POD STRUČNIM NAZIVOM ARHITEKTA

Članak 3.

Obrazovanje, koje se sastoji od teoretskog i praktičnog djela, a koje vodi diplomi, potvrdi ili drugom dokazu o obveznim kvalifikacijama na koje se odnosi Članak 2, osigurat će se kroz nastavni plan na sveučilišnoj razini vezan primarno uz arhitekturu. Ovakvi studiji bit će uravnoteženi u teoretskim i praktičnim aspektima te osigurati stjecanje:

1. sposobnosti stvaranja arhitektonskih projekata koji zadovoljavaju i estetske i tehničke zahtjeve
2. dostatnog znanja povijesti i teorije arhitekture kao i srodnih umjetnosti, tehnologija i znanosti
3. poznavanja lijepih umjetnosti kao utjecaja na kvalitetu projekta
4. dostatnog znanja iz područja urbanizma, urbanističkog planiranja i vještina uključenih u proces urbanističkog planiranja
5. razumijevanja odnosa između ljudi i zgrada, zgrada i njihovog okoliša kao i potrebe dovođenja zgrada i njihovog okoliša u odnos s ljudskim potrebama i mjerilom
6. razumijevanja zvanja arhitekta i njegove uloge u društvu, posebno pripreme programa koji su od važnosti za socijalne faktore
7. razumijevanja metoda istraživanja i pripreme programa za arhitektonski projekt
8. razumijevanja strukturalnih, konstrukcijskih i inženjerskih pitanja vezanih za projektiranje zgrada
9. dostatnog znanja o fizikalnim problemima i tehnologijama kao i funkciji zgrada kako bi se osigurali unutrašnji uvjeti ugodnog boravka i zaštite od klimatskih uvjeta
10. neophodnog projektantskog znanja za zadovoljenje zahtjeva korisnika zgrade uz poštivanje ograničenja koje nameće faktor cijene i građevinske regulative
11. dostatnog znanja o industriji, organizacijama, pravilima i procedurama uključenim u prenošenju projektnog koncepta u izgrađenu zgradu i stvaranju planova djelom cjeline.

Guide to the FEANI register / Eur Ing
3rd edition, Brussels, October 2000

3.0 Koncept

Sistemi obrazovanja i profesije u Europi dosta variraju. Njihovu vrijednost ocjenjuje FEANI po profesionalnoj sposobnosti inženjera koji su na njima diplomirali. Moguće je da koegzistiraju različiti sistemi.
Opis profesionalne sposobnosti koju FEANI očekuje dan je u točki 3.1. koja slijedi.

3.1 Profesionalna sposobnost

Inženjeri svjesni svoje profesionalne odgovornosti trebali bi se truditi postići sposobnosti:

1. Razumijevanje inženjerske profesije i obveze služenju društvu, profesiji i okolišu kroz obvezivanje upotrebe primjerenih pravila profesionalnog upravljanja.
2. Cjelovito znanje principa inženjerstva, bazirano na matematici i kombinaciji znanstvenih tema prikladnih njihovim disciplinama.
3. Opće znanje dobre inženjerske prakse u njihovom području kao i svojstava, ponašanja, proizvodnje i korištenja materijala, komponenata i softvera.
4. Sposobnost primjene ispravnih teoretskih i praktičnih metoda u analizama i rješenjima inženjerskih problema.
5. Znanje korištenja postojećih i novih tehnologija relevantnih za njihovo područje specijalizacije.
6. Sposobnosti u inženjerskoj ekonomiji, osiguranju kvalitete, održivosti i upotrebi tehničkih informacija i statistika.
7. Sposobnost rada u grupi na multidisciplinarnim projektima.
8. Sposobnost da osiguraju upravljanje uključujući voditeljske, tehničke, financijske i ljudske aspekte.
9. Komunikacijske sposobnosti i obveza održavanja spospbnosti stalnim profesionalnim razvojem.
10. Znanje standarda i regulativa iz njihovih područjima struke.
11. Svjesnost neprestane tehnološke promjene i izgradnja stava o traženju inovacija i kreativnosti u inženjerskom procesu.
12. Tečno govorenje europskih jezika, dovoljno da omogući komunikaciju za rad u Europi.

SEFI preporuke /
European Society for Engineering Education

Rezultati programa

...

Rezultati programa (navedeni u Tablicama 1. i 2.) opisuju znanja diplomanata Prvog i Drugog kruga priznatih inženjerskih programa. Oni su usvojene i izmijenjene verzije sličnih izjava koje postoje ili se razvijaju u ostalim «Standardima» (Europskim državama jednako kao i u državama koje obuhvaća Washingtonski ugovor), za dodijeljene diplomske atribute.

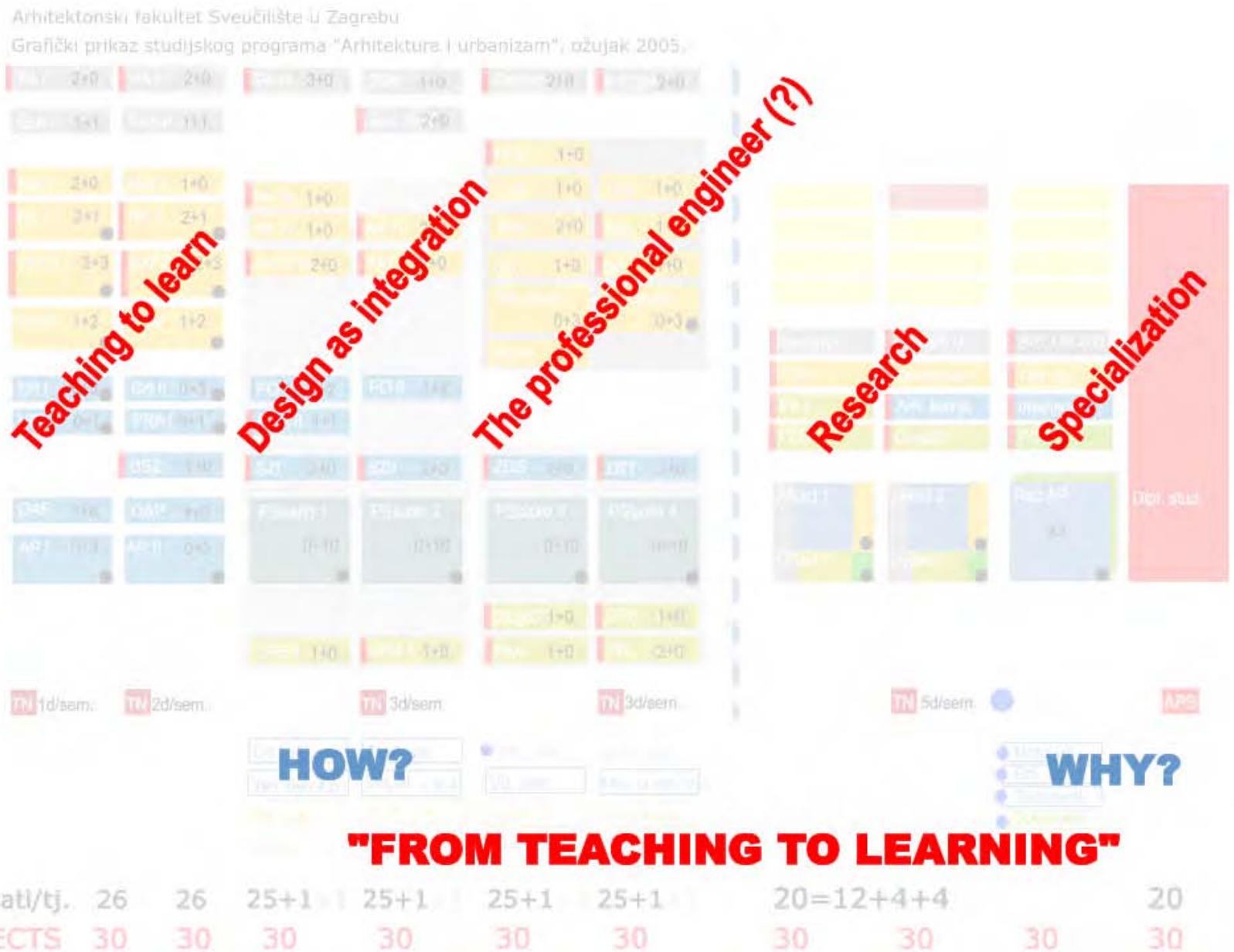
...

Tablica 1: Akademski rezultati programa / **Academic program results**

		Diplomanti Prvog kruga	Diplomanti Drugog kruga
1	**Znanje inženjerskih znanosti** **Engineering knowledge**	Primjena znanja iz matematike, znanosti, osnova inženjerstva i inženjerska specijalizacija na inženjerske procedure, procese, sisteme ili metodologije.	Primjena znanja iz matematike, znanosti, osnova inženjerstva i inženjerska specijalizacija na konceptualizaciju inženjerskih modela.
2	**Problemska analiza** **Problem analysis**	Pronalaženje, razumijevanje, pretraživanje literature i rješavanje inženjerskih problema *srednje težine* postižući valjana rješenja upotrebom analitičkih metoda primijenjenih njihovoj disciplini ili području specijalizacije.	Pronalaženje, razumijevanje, pretraživanje literature i rješavanje *složenih* inženjerskih problema postižući valjana rješenja upotrebom primarnih principa matematičke i inženjerske znanosti.
3	**Dizajn / razvijanje rješenja** **Design/ Development of solutions**	Dizajn rješenja inženjerskih problema *srednje težine* i *doprinos* dizajniranju sistema, komponenata ili procesa za rješavanje specifičnih potreba uz primijenjeno uvažavanje javnog zdravlja i sigurnosti te kulturoloških, sociooloških i problema okoliša.	Dizajn rješenja *složenih* inženjerskih problema i *dizajniranje* sistema, komponenata ili procesa za rješavanje specifičnih potreba uz primijenjeno uvažavanje javnog zdravlja i sigurnosti te kulturoloških, sociooloških i problema okoliša.
4	**Istraživanje** **Research**	Upravljanje istraživanjima *srednje* problematske težine; lociranje, pretraga i odabir relevantnih podataka iz kodova, baza podataka i literature; dizajn i upravljanje eksperimentima koji dovode do valjanih zaključaka.	Upravljanje istraživanjima *složenih* problema uključujući dizajn eksperimenata, analizu i tumačenje podataka i sintezu informacija da bi se došlo do valjanih zaključaka.
5	**Upotreba moderne opreme** **Use of modern tools**	Odabir i upotreba primjerenih tehnika, pomagala i modernih inženjerskih alata, uključujući prognozu i model, za inženjerske aktivnosti *srednje težine* uz razumijevanje ograničenja.	Stvaranje, odabir i upotreba primjerenih tehnika, pomagala i modernih inženjerskih alata, uključujući prognozu i model, za *složene* inženjerske aktivnosti uz razumijevanje ograničenja.

Tablica 2: Osobni rezultati programa / **Individual program results**

		Diplomanti Prvog kruga	Diplomanti Drugog kruga
1	**Individualni i timski rad** **Individual and team work**	Učinkovito funkcioniranje i kao individua i kao član ili vođa različitih inženjerskih timova.	Uspješno funkcioniranje i kao individua i kao član ili vođa različitih inženjerskih timova i multi-disciplinarnih postava.
2	**Komunikacija** **Communication**	Učinkovito komuniciranje o inženjerskim aktivnostima *srednje težine* s inženjerskim krugom i s javnosti u cjelini kroz sposobnost razumijevanja i pisanja učinkovitih izvještaja i dizajniranje dokumentacije, izrađivanje uspješnih prezentacija, i davanje i razumijevanje jasnih uputa.	Učinkovito komuniciranje o *složenim* inženjerskim aktivnostima s inženjerskim krugom i s javnosti u cjelini kroz sposobnost razumijevanja i pisanja učinkovitih izvještaja i dizajniranje dokumentacije, izrađivanje uspješnih prezentacija, i davanje i razumijevanje jasnih uputa.
3	**Inženjer i društvo** **Engineer and society**	Pokazivanje razumijevanje sociologije, zdravlja, sigurnosti, pravnih i kulturoloških pitanja i proizašle odgovornosti u odnosu na inženjersku praksu.	Pokazivanje razumijevanje sociologije, zdravlja, sigurnosti, pravnih i kulturoloških pitanja i proizašle odgovornosti u odnosu na inženjersku praksu.
4	**Etika** **Ethics**	Razumijevanje i odanost profesionalnoj etici i odgovornostima i normama inženjerske prakse.	Razumijevanje i odanost profesionalnoj etici i odgovornostima i normama inženjerske prakse.
5	**Okoliš i održivost** **Environment and sustainability**	Razumijevanje utjecaja inženjerskih rješenja u sociološkom kontekstu i pokazivanje poznavanja i potrebe za održivim razvojem.	Razumijevanje utjecaja inženjerskih rješenja u sociološkom kontekstu i pokazivanje poznavanja i potrebe za održivim razvojem.
6	**Upravljanje projektom i financije** **Project managment and financing**	Pokazivanje svjesnosti i razumijevanja pri upravljanju i poslovnoj praksi, kao što su rizik i promjena upravljanja, i razumijevanje njihovih ograničenja.	Pokazivanje svjesnosti i razumijevanja pri upravljanju i poslovnoj praksi, kao što su rizik i promjena upravljanja, i razumijevanje njihovih ograničenja.
7	**Međunarodna suradnja** **International cooperation**	Rad u međunarodnom okruženju s odgovarajućim razmišljanjem o razlikama u kulturi, jeziku i socijalnim i ekonomskim faktorima.	Rad u međunarodnom okruženju s odgovarajućim razmišljanjem o razlikama u kulturi, jeziku i socijalnim i ekonomskim faktorima.
8	**Cijelo-životno obrazovanje** **LLL**	Prepoznavanje potrebe i stvaranje mogućnosti uključivanja u neovisno i cijelo-životno obrazovanje.	Prepoznavanje potrebe i stvaranje mogućnosti uključivanja u neovisno i cijelo-životno obrazovanje.

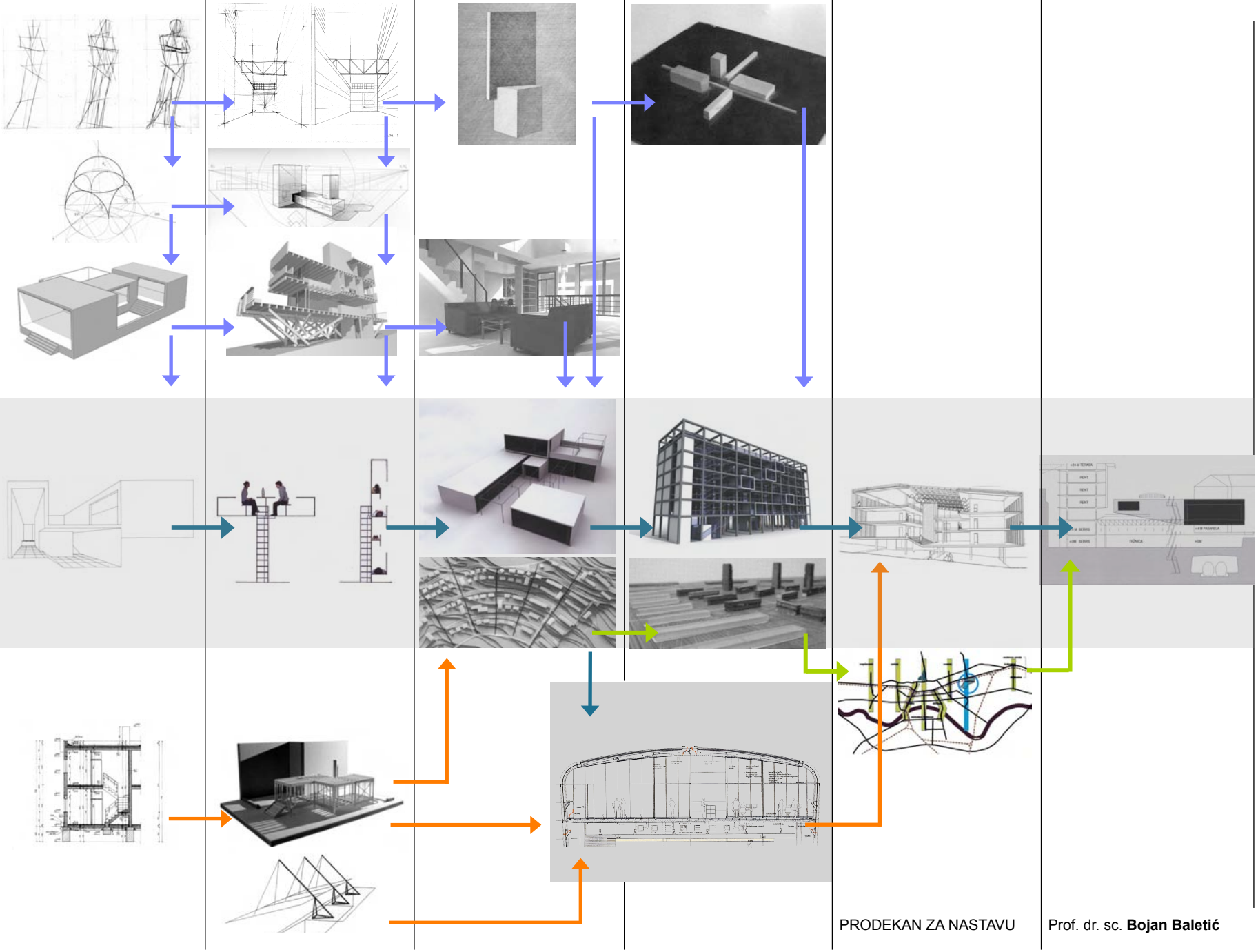

Arhitektonski fakultet Sveučilište u Zagrebu
Grafički prikaz studijskog programa "Arhitektura i urbanizam", ožujak 2005.
Teaching to learn
Design as integration
The professional engineer (?)
Research
Specialization
HOW?
WHY?
"FROM TEACHING TO LEARNING"
sati/tj. 26 26 25+1 25+1 25+1 25+1 20=12+4+4 20
ECTS 30 30 30 30 30 30 30 30 30 30

Results

Prijedlog izmjena programa preddiplomskog studija (10. 9. 2006.)

PRIJEDLOG 1

1 2 3 4 5 6



SVEUČILIŠTE U ZAGREBU

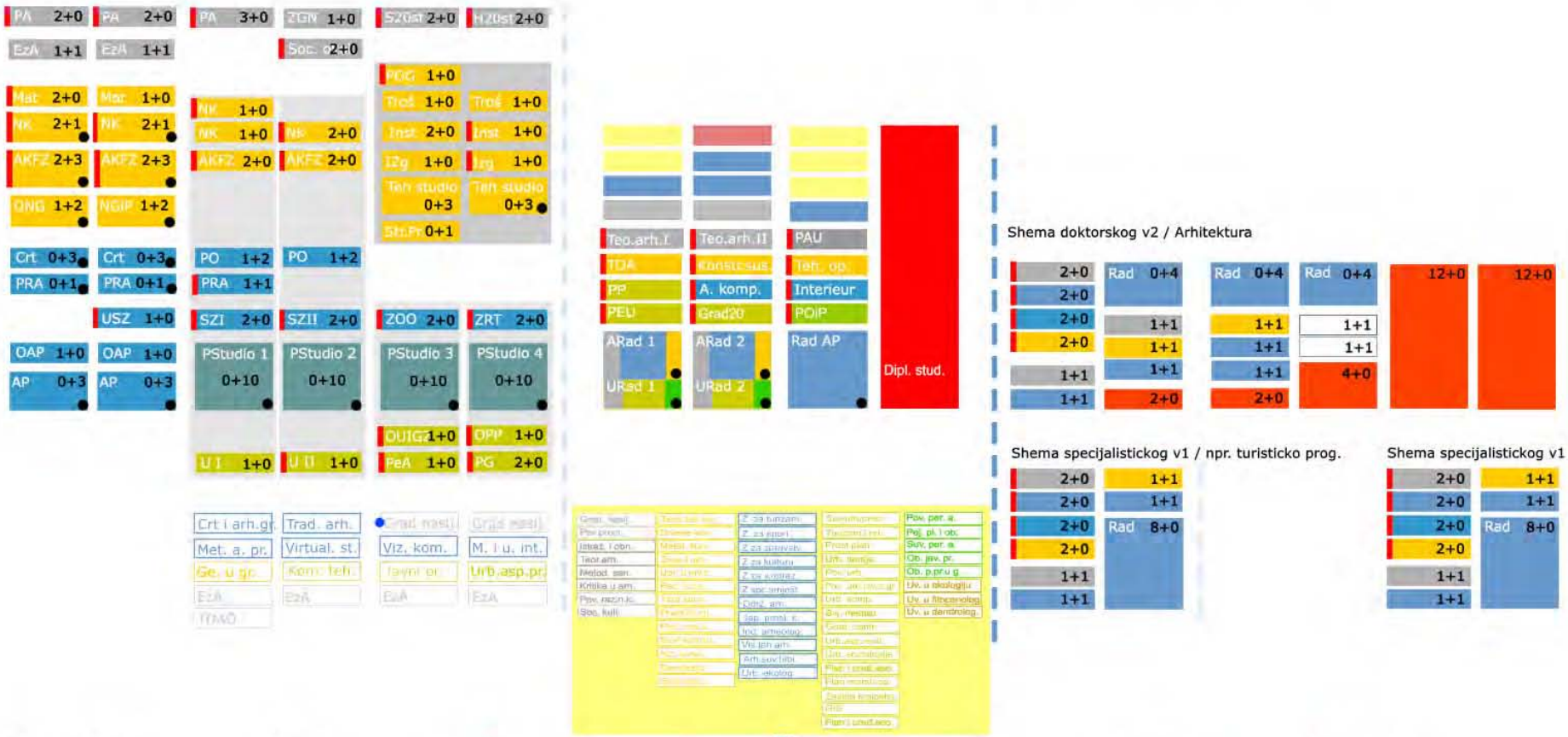
ARHITEKTONSKI FAKULTET

PRODEKAN ZA NASTAVU

Prof. dr. sc. **Bojan Baletić**

Arhitektonski fakultet Sveučilište u Zagrebu

Skica za cijeli nastavni plan 3+2+3 AF 07.04.2005. verzija 2



Poslijediplomski studijski program (na osnovi AP)

Shema doktorskog v2 / Arhitektura

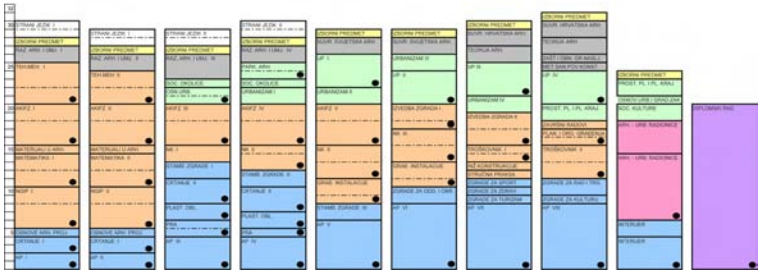
Shema specijalistickog v1 / npr. turisticko prog.

Shema specijalistickog v1

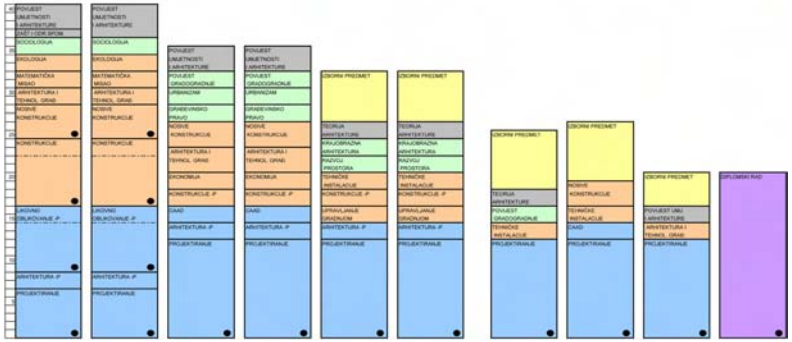
TN 1d/sem. TN 2d/sem. TN 3d/sem. TN 3d/sem. TN 5d/sem. APS S.put. S.put.

Motovun
Bol
Obk
Dubrovnik

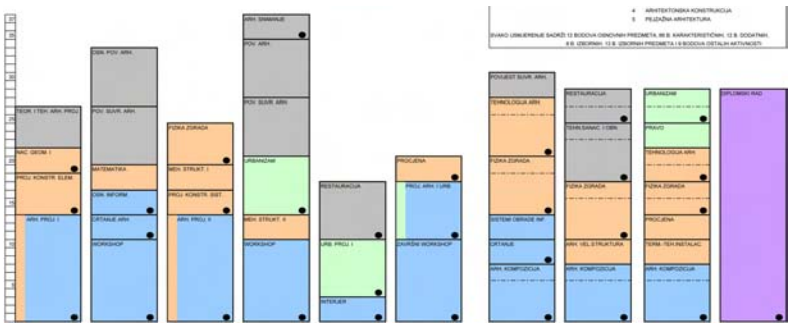
sati/tj.	26	26	25+1+1	25+1+1	25+1+1	25+1+1	20=12+4+4			20	12	12	12	12	12	12
ECTS	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30



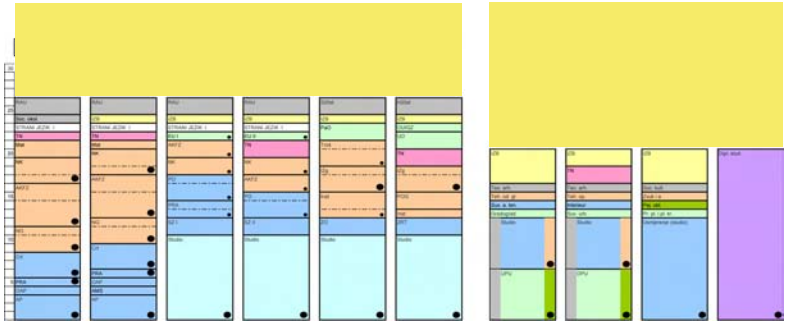
AF

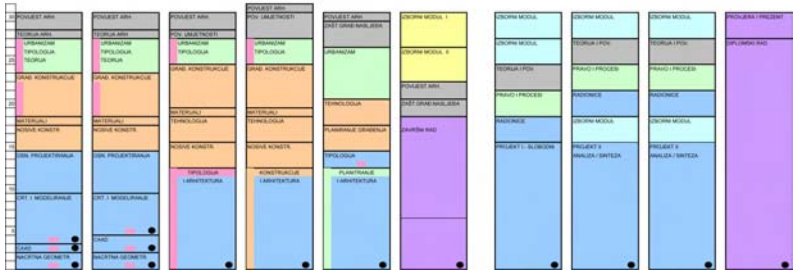


ETH Z.

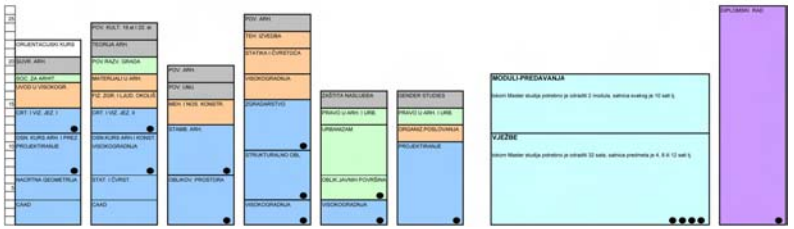


IUAV





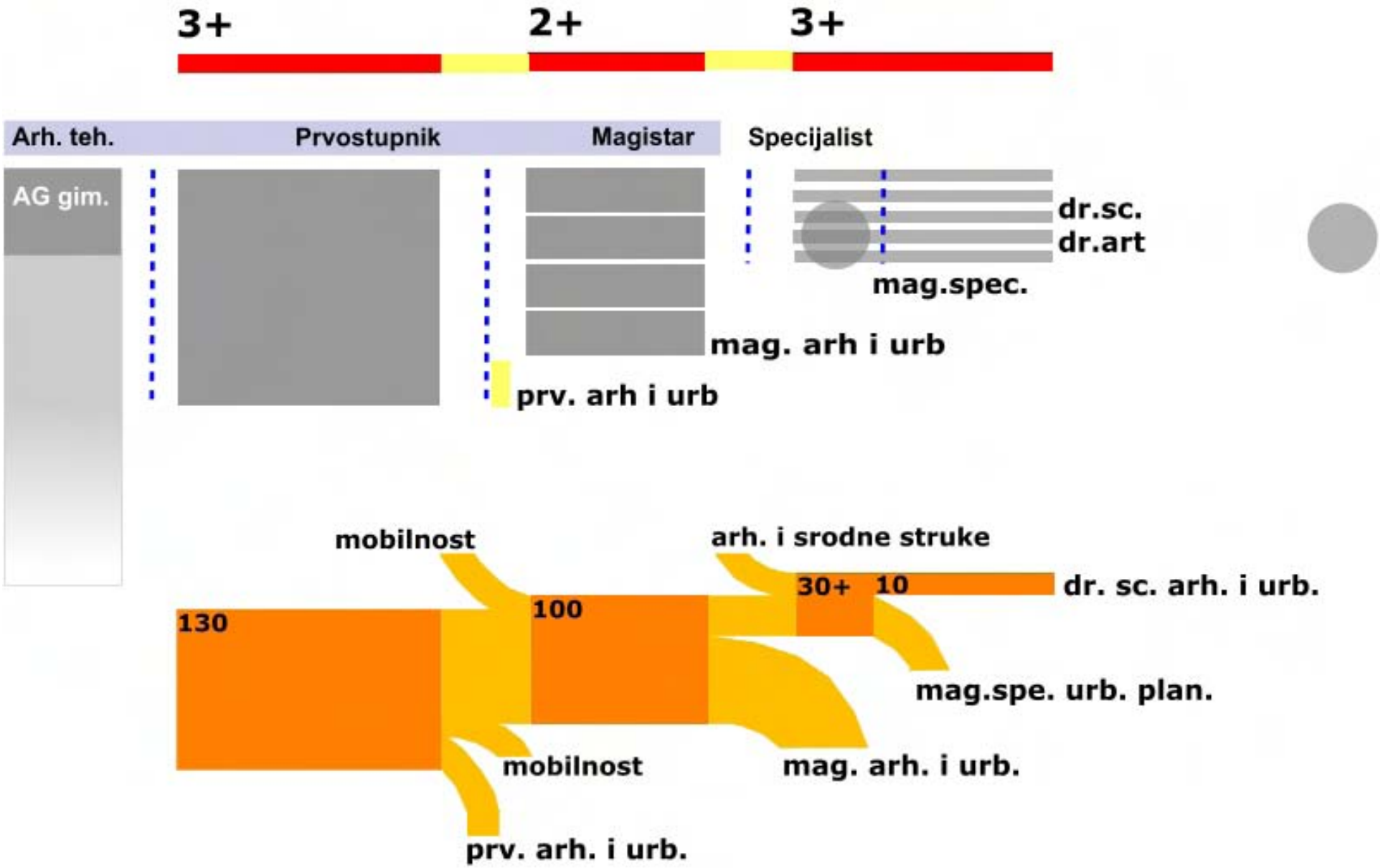
RWTH A.



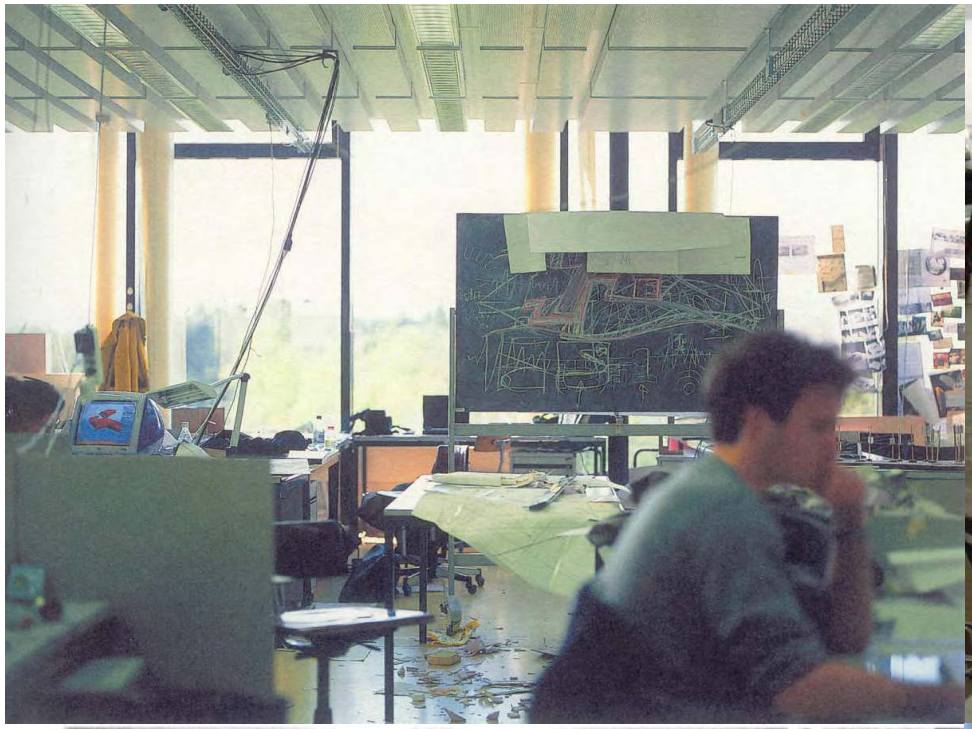
TU W.

USPOREDBA NASTAVNIH PLANOVA

Struktura studija na Arhitektonskom fakultetu Sveučilišta u Zagrebu



Work space



Radno mjesto - studio

Namještaj
- radni stol i stolac
- prostor pod ključem
- prijenosno računalo

Mrežna infrastruktura
- *bežična mreža i*
- *pristup Internetu*
- *osobni web prostor*
- *portal fakulteta*

Mrežne periferije
- *printer A4/A3*
- *plotter A0*
- *skener A4/A3*
- *digitalna kamera*

Programi
- *CAD programi*
- *3D programi*
- *grafički programi*

Ponuda: 6.000 – 15.000 Kn

Kalkulacija: 10.000 Kn

Rata (24mj): **500 Kn mjesečno**