TWIN2EXPAND

Working Group Studio – A2

WORKING GROUP STUDIO A 2

14.02.2024 - 16.02.2024

NICOSIA, CYPRUS & ONLINE

twinning towards
research excellence
in evidence-based planning
and urban design

Co-funded by the European Union

UK Research and Innovation

surf society and urban form research lab

TWIN2EXPAND

Document Description: This document provides a summary of discussions and panels that took place over the course of the Working Group Studio A2 (WGSA2) in February 2024, online and onsite at the SURF lab, in the Department of Architecture of the University of Cyprus in Nicosia.

February 2024

General Contact:

TWIN2EXPAND Project, Dr. Nadia Charalambous, Department of Architecture, University of Cyprus, Nicosia, Cyprus

For more information: charalambous.nadia@ucy.ac.cy

Please refer to this publication as follows:

University of Cyprus, Department of Architecture (2023). Working Group A2 Report Nicosia. TWIN2EXPAND project: 101078890 (Horizon Europe), 10052856 & 10050784 (UKRI).

This project has received funding from the European Union's Horizon Europe Research and Innovation Programme under Grant Agreement No. 101078890.

This project has received funding from the UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee under grant numbers 10052856 and 10050784.

Version Control Sheet

Report Name	
WP / WP number	WP2

TWIN2EXPAND

Type	Report
Dissemination level	Public
Lead beneficiary	UCY
Contributors	Iason Ziro, Ana Maria Ricchiardi hernandez, Ilaria Geddes, Andreas Papallas, Nadia Charalambous
Reviewer(s)	Nadia Charalambous
Changes with respect to the Grant Agreement	None
Dissemination and uptake	Website, Social Media

Revision history

Version	Date	Summary of changes	Initials	Changes marked
1	28/02/24	First draft	IZ	
2	06/04/2024	Final	NC IZ	

Co-funded by the European Union
UK Research and Innovation
surf society and urban form research lab

Working Group Studio A2- introduction

The second TWIN2EXPAND Working Group Studio A focused on activities that evaluated and enhanced the research capacity of the Society and Urban Form Lab (SURF) and the supporting administrative mechanisms from the Department of Architecture and UCY Research Support services.

The Consortium representatives provided feedback, consultations and suggestions based on their experience from their corresponding leading institutions for the purpose of developing a scientific and organizational strategy for the SURF lab and draft an action plan.

1. Working Group Studio A2- Day 1- 14th of February

1.1. Session A- SURF Lab Strategy Workshop

1.1.1. Brief Description:

The morning session included a research capacity workshop for the consortium members to assess and evaluate the current and future development of SURF lab. During the workshop, the participants studied and evaluated three different types of research entities that the SURF lab has the capacity to operate under. Each of the three scenarios was analysed and evaluated in teams employing a SWOT analysis and rigorous effort/impact assessment exercises. Noteworthy considerations surfaced including the degree of administrative backing each scenario provided, the potential to sustain permanent research positions, and the capacity to spearhead extensive projects, collaborations, and consortiums, particularly in response to Horizon calls.

The workshop was broken down into two sessions, a current state" session and a "visions for the future" session, that were led by an external facilitator, Eleni Paschia. The goal of the Strategy workshop, was for the project's participants to collaboratively analyse and strategize the future directions of SURF lab and explore the potential impact of various scenarios on the lab's strategy and constitution, based on the possibilities provided by the current legal framework of University of Cyprus.

The three possible scenarios that were explored are:

- Scenario 1: SURF Lab Remains as a Lab
- Scenario 2: Surf Lab Develops as a Research Unit
- Scenario 3: Surf Lab Transitions into a Research Center with (or without) Horizon Teaming

Figure 1 The consortium members during the workshop discussing the possible future venues for SURF lab

1.1.2. Workshop Structure and workflow:

The workshop sought to undertake a comprehensive examination of its current state, strengths, weaknesses, opportunities, and threats (SWOT) to inform strategic decision-making processes. The workshop, structured around scenario-based strategic SWOT analysis and priority setting exercises, aimed to derive actionable insights and initiatives to steer SURF towards sustained growth, innovation, and impact.

Throughout the course of the workshop, participants engaged in rigorous discussions, collaborative activities, and strategic deliberations, drawing upon their collective expertise and domain knowledge to evaluate potential pathways and priorities for SURF's future trajectory.

1.1.3. Summary of Findings and Recommendations from SWOT analysis

The key findings for each scenario are summarized below:

-Scenario 1: Surf Lab remains as a Lab

For the first scenario, in which SURF lab remains as a lab, the stakeholders identified that the main characteristic of the current form of SURF lab is that it is 'small' and acts locally. The contained and compact characteristics of the lab can be brought in the foreground to help create a global network, while it is easier to manage a smaller number of staff. To do so, the lab can capitalize on its strong relationship with the local stakeholders.

However, in this scenario and scale, the lab could better clarify its mission, building on its current state. Furthermore, the lab at its current state needs further support in various fields, such as the pre-award phase, funding, and administration, as well as in creating awareness of its research output across faculty members beyond the Department of Architecture. Additionally, interdisciplinary work and topics for collaboration are currently limited.

In conclusion, due to heavy multitasking and lack of support, time to brainstorm for research development is limited and diverted by the effort to maintain the lab.

Keywords: small, local, redefine mission, limited support, limited research

-Scenario 2: Surf Lab Develops as a Research unit.

For the second scenario, in which SURF lab gradually develops towards becoming a research unit, the stakeholders identified the possibility for increased visibility and increased capacity to hire administrative staff to support the day-to-day tasks.

The participants noted that functioning as a unit does not necessarily guarantee horizontal employment opportunities for researchers. Additionally, the process of becoming a unit entails significant extra effort to align with assessment indicators, potentially diverting valuable time away from core research activities due to increased administrative responsibilities. Given the current administrative workload, there remains uncertainty about the feasibility of delivering a sustainable solution.

If the Board of Directors comprises solely academic members, there's a risk that crafting an effective strategic plan, agenda, and development strategy for the unit may prove challenging. It's been recommended that lab administrators adopt a business-oriented perspective to ensure the formulation of an impactful development strategy. However, the availability of additional administrative support from central agencies to manage the increased workload associated with a business development plan remains uncertain.

Keywords: visibility, researcher rank, extra effort, administrative workload, unclear business model development

-Scenario 3: SURF Lab Transitions into a Research Center with (or without) Horizon Teaming

For the final scenario, in which SURF lab transitions towards becoming a Research Center, the participants identified that its major advantage is size, as the lab actively becomes an entity. Furthermore, it was pointed out that instead of establishing a new research center, there is also the option of joining an existing one.

Opting to establish a new entity offers the advantage of allowing SURF to define its agenda from inception and gradually attract high-level collaborations. However, this approach entails assuming full ownership of the risks and administrative burdens inherent in the project's infancy stages. Conversely, affiliating with an existing center presents the opportunity to introduce the urban design perspective, potentially adding a unique dimension to established efforts. Regarding financial support and management, becoming a Teaming center provides a substantial initial funding injection and ongoing yearly support, which could significantly bolster SURF's capabilities.

The participants pointed out that this great expansion will completely shift the focus of the research and projects, from internal interdisciplinary and interdepartmental collaborations

into international and large-scale collaborations. Consequently, this may translate into increased demand for staff and for organizational structure and human resources.

1.1.4. Conclusion and recommendation for future steps

Based on the insights from participants, coordinator's insights and facilitator's observations and reflections, the discussion can be summarized into the following steps that can be viewed as recommendations for developing SURF's strategy document/plan.

-STEP 1: Define Vision & Mission Statements (& Values)

It is imperative to establish a clear vision for the lab's future state, encapsulating a long-term objective. During the concluding discussion, it was suggested that this vision could portray the lab's seamless evolution from a mere laboratory into a fully-fledged research center.

Subsequently, the mission can be redefined to delineate the lab's functions, its target audience, and the rationale for its existence. This redefinition often encompasses core values and principles that underpin the organization's actions and decisions.

Values epitomize the deeply ingrained ideals and ethical standards that shape the organizational culture and define its essence. They serve as the compass guiding the lab's identity, purpose, and priorities, thereby forming the bedrock for its operations and interactions with stakeholders.

-STEP 2: Enrich Internal Audit input & Engage Internal Stakeholders

During the closing discussion the inclusion of internal mapping processes was suggested. . SWOT analysis is only one tool to use for understanding the current position of the lab and guides on how to proceed with decision-making through leveraging strengths, mitigating weaknesses, capitalizing on opportunities, and minimizing threats.

-Action 1: Engage current lab's staff & associates: Mapping process can be focused on an internal needs analysis from current staff to map the current situation (what exists) and gaps/challenges (what is needed) for the different pillars of the lab's work such as: available resources, research output etc.

-Action 2: Engage other faculty members: The process can be enriched with a series of informal discussions or interviews/focus groups from current faculty members, similar to this workshop, to collect their opinion on the different scenarios.

-Action 3: Engage staff from existing units & centers: Additionally, the mapping process can be enriched by extending discussions with staff and/or board members from existing

university units and centers, who can share their insights on decision-making regarding the state of their lab/unit/center and how they managed to transition. Also, it will be useful to understand why several units remain in this form and do not become centers, or if they wish to what are the obstacles.

Moreover, it will be interesting to find out whether being a unit has the increased administrative (possibly other) support as expected.

Action 4: Analyze an example of success story: Like the above, or complementary to, could be the analysis of an existing example as a good practice of 'business development' (e.g., an existing unit or center) and take away key-decision points and criteria to do so.

-STEP 3: Set the long-term desired Outcome: Goals

Out of the whole workshop it was apparent that the strategy should include the short-term and long-term goals that will allow the lab's development and transition from a lab into a center gradually and smoothly.

It is possible that it may need to develop into a unit, but not necessarily. However, the goal to transition into a center can be set as the long-term goal and take necessary actions to achieve it within a specific time frame.

Essentially goals are specific statements and help to realize an organization's vision and fulfilment of its mission.

-STEP 4: Set the short-term Actions: Objectives & Action Plan Development

Once a goal is set, it should be broken down into short-term measurable actions (objectives) that will help reach the goal. These should be SMART: specific, measurable, achievable, relevant, and time bound.

An example of one of the several objectives that can help to achieve the overarching goal could be: 'To develop a resource development model'.

Each action requires and is broken into specific smaller steps or tasks that need to be undertaken by specific people or units within an organization. These actions are the practical, tangible measures that make up the content of a plan.

During the planning phase, along with the specific tasks/actions and timelines, resource allocation should take place estimating whether actions need human or other resources in order to be implemented.

Therefore, for the example of developing a resource development model it should be specified:

- who is responsible to do so,
- when this action starts and
- when does it end,

- do we need money for this (including possibly an external expert or internal staff to carry out the task).

Additionally, key performance/success indicators are defined to track progress and identify any deviations from the project plan early on.

-STEP 5: Execution, Monitoring

Once the plan is created, the project team collaborates to execute it under the oversight of a project manager. Tasks are executed according to the plan, and any issues or changes are promptly addressed. Risk management is crucial during this phase, with identified risks actively monitored and managed, and real-time adjustments made as necessary.

-STEP 6 and 7: Monitoring and Evaluation

In the monitoring stage, project performance is regularly measured and evaluated against the project plan. This allows for the identification of any deviations from the plan and enables necessary adjustments to keep the project on track. Additionally, ongoing monitoring ensures that new risks are promptly identified and addressed to mitigate their impact on project outcomes.

1.2. Session A2- SURF Lab Pitch Presentation development

1.2.1. Brief description:

During the afternoon session, a thorough examination of the Pitch Presentation for the SURF lab took place, emphasizing the primary pillars and research strands that the lab aims to excel in. The presentation covered the mission of the lab, the vision, and the current research strands as they have been emerged by ongoing projects and by the set goals. The presentation also included the staff and affiliates of the lab, the academic and research network and was concluded with an overview of past, current and future projects that the lab is currently engaged in.

An important takeaway from this discussion highlighted the importance of aligning research strands not only with past and future projects but also with the overarching research goal of the lab – the pursuit of excellence and the generation of tier 1 research publications within these specific fields.

1.2.2. Major points that emerged from the discussion:

- **Defining the primary research field and research contribution**

The major point of the discussion that followed revolved around the primary focus of the lab. As it was suggested, by many voices, it is imperative to define research fields that the lab is working on, and on what specific research topic the lab strives to achieve excellence (high Tier publications). Furthermore, the participants discussed the difference between studying participatory or decision-making processes, thus using preestablished tools and processes and developing such tools for urban analyses.

The central takeaway from the discussion underscored the necessity for the lab to meticulously assess and validate its strengths, pinpointing areas where it holds the greatest potential for excellence. This introspection will profoundly impact the selection of research topics, publication outlets, and methodological approaches.

- **Current state of research focus of the SURF lab**

Based on a timeline of past, present and future projects, all consortium partners acknowledged that the current research strands have developed organically from past research experiences. However, it was made clear in the discussion that the lab needs to establish a strong identity as it moves forward. The lab's identity serves as its distinctive trademark, setting it apart from others in the field. To achieve this, the combination of Evidence-Based Design and Planning (EBDP) with participatory practices/community engagement emerged as a compelling value proposition for the lab's overarching strategy.

It was also suggested that for each different strand of research that the lab places as primary research contribution strand, there should be also a primary researcher with a preexisting knowledge in the field and placed responsible for research activities in relation to the research strand.

- **Participatory practices and Community Engagement as a potential main research strand**

Based on the pitch presentation, many ongoing and upcoming projects such as VibCEND project (Vibrant Communities: Community Engagement for Neighborhood Development), SUGAR (Sustainable Urban Governance Through Augmented reality), RE-DWELL (Delivering affordable and Sustainable Housing in Europe and PS-U-GO (enable place- based civic participation thought urban living labs to address issues of public concern), create a solid and diverse framework to place participatory practices and their potential impact on governance and decision-making processes as a good candidate for the prime research strand for SURF lab.

In the case that participatory practices become the main field of research, the lab should aim to contribute to tier 1 publications in this field, whereas research fields such as urban morphology and social spatial analysis should be used as vehicles towards that goal.

- **Threats and observations**

All participants in the discussion acknowledged the challenge in excelling across multiple strands and the need for systematic planning and organization to achieve this.

Furthermore, the consortium members suggested that sustainable urban governance and healthy cities cannot be considered as main research strands and share the same importance as others (ex. Participatory or EBDP) and should be treated as targets for the lab's vision and support.

- **Future Steps**

The discussion for this session ended by making some key suggestions that SURF Lab members and administration should take into consideration.

Evaluation: By evaluating past projects based on funding received, it will help identify strengths and weaknesses and which projects presented the lab with a unique opportunity or breakthrough. Ease of funding in a field suggests that there is substantial expertise in that field and the lab should capitalize on that in order to ensure continued funding for research.

Brainstorming: Internal discussions between Lab personnel are deemed necessary for making decisions about the lab's future direction.

Internal Organization and mapping: the members of the consortium proposed to create a staff organization diagram to clarify roles and responsibilities within the lab, particularly regarding research topics. Furthermore, a mapping of skills and knowledge base that each

member is bringing to the lab would be beneficial to create a mind map of potential research areas and transferable technical skills.

Proposed Strategy: The consortium members identified three main research interests that circle around and shape the framework of past current and future projects: Urban morphology/ Socio- Spatial analysis, Participatory design practices and EBDP/ Sustainable urban governance. This triangle should be used to facilitate and drive the internal brainstorming and discussions to formulate the final research strands for the lab.

A) Current state of the research strands:

Figure 2 Current state of the Pitch Presentation depicting the Research Strands of SURF lab.

B) Proposed revisions based on consortium consultations:

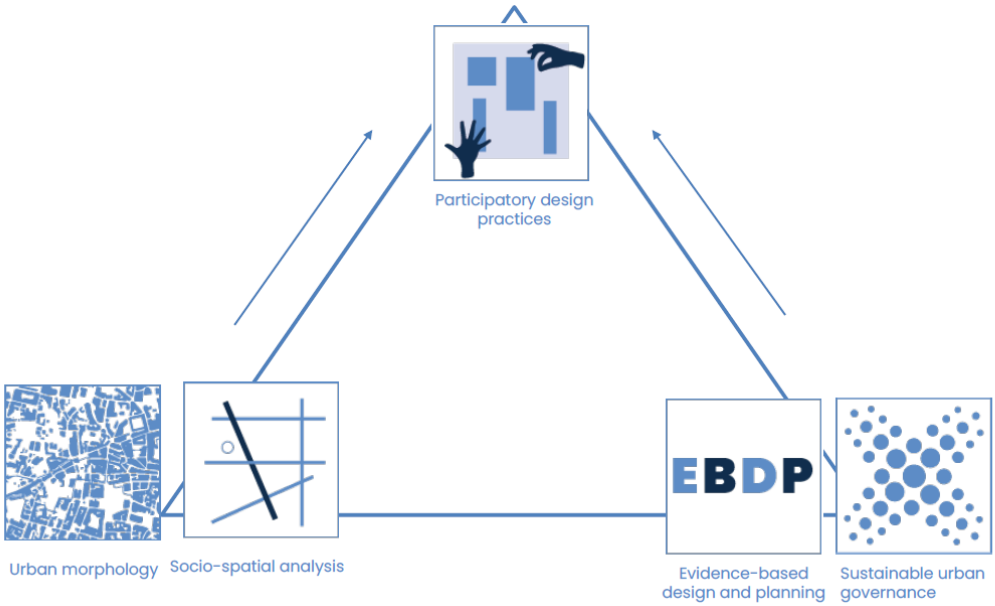


Figure 3 Revised version of the Pitch Presentation with the Research strands- Option A

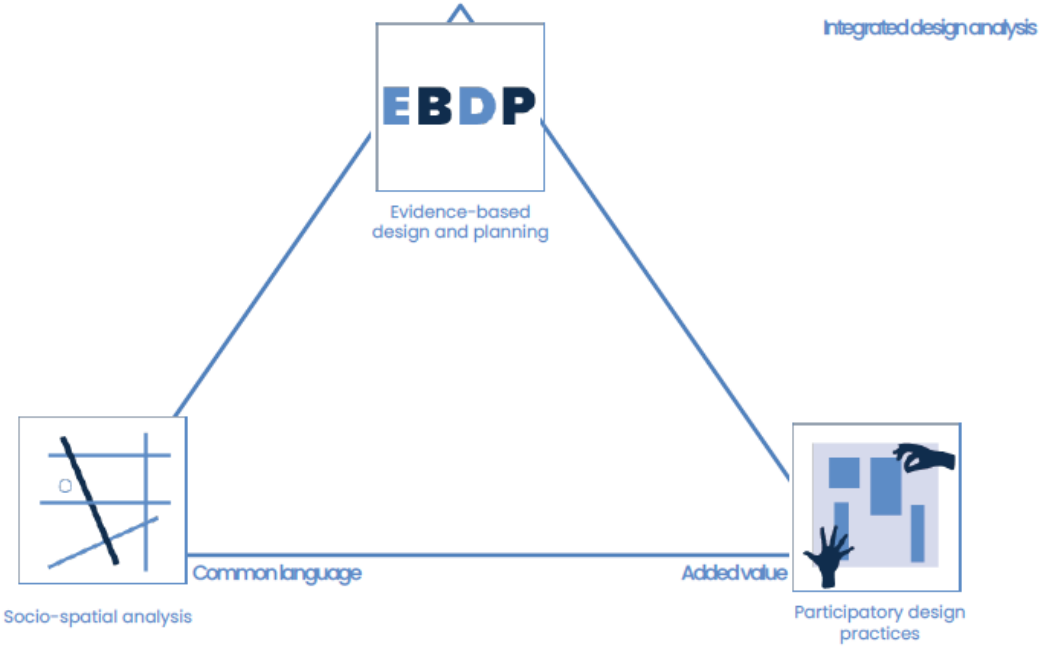


Figure 4 Revised version of the Pitch Presentation with the Research strands- Option B

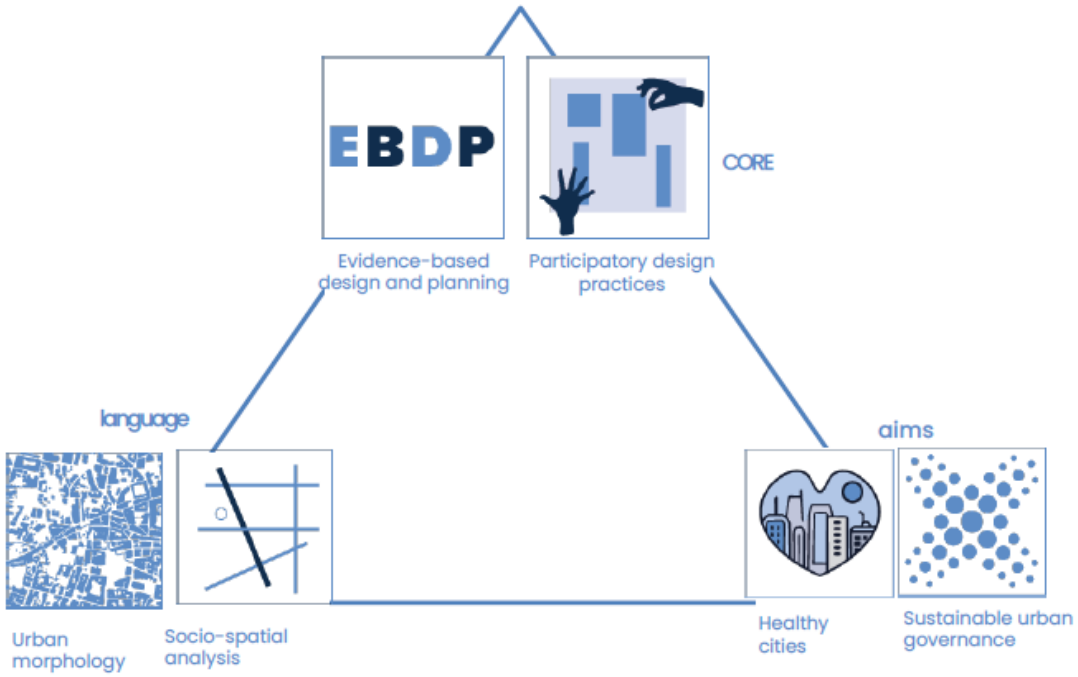


Figure 5 Revised version of the Pitch Presentation with the Research strands- Option C

1.3. Session A3- EBDP presentation development

The next session, led by UCL, continued with the presentation of the state of the art of EBDP (WP3, Task 3.2). The report showcased a flowchart that was broken down into four major sections:

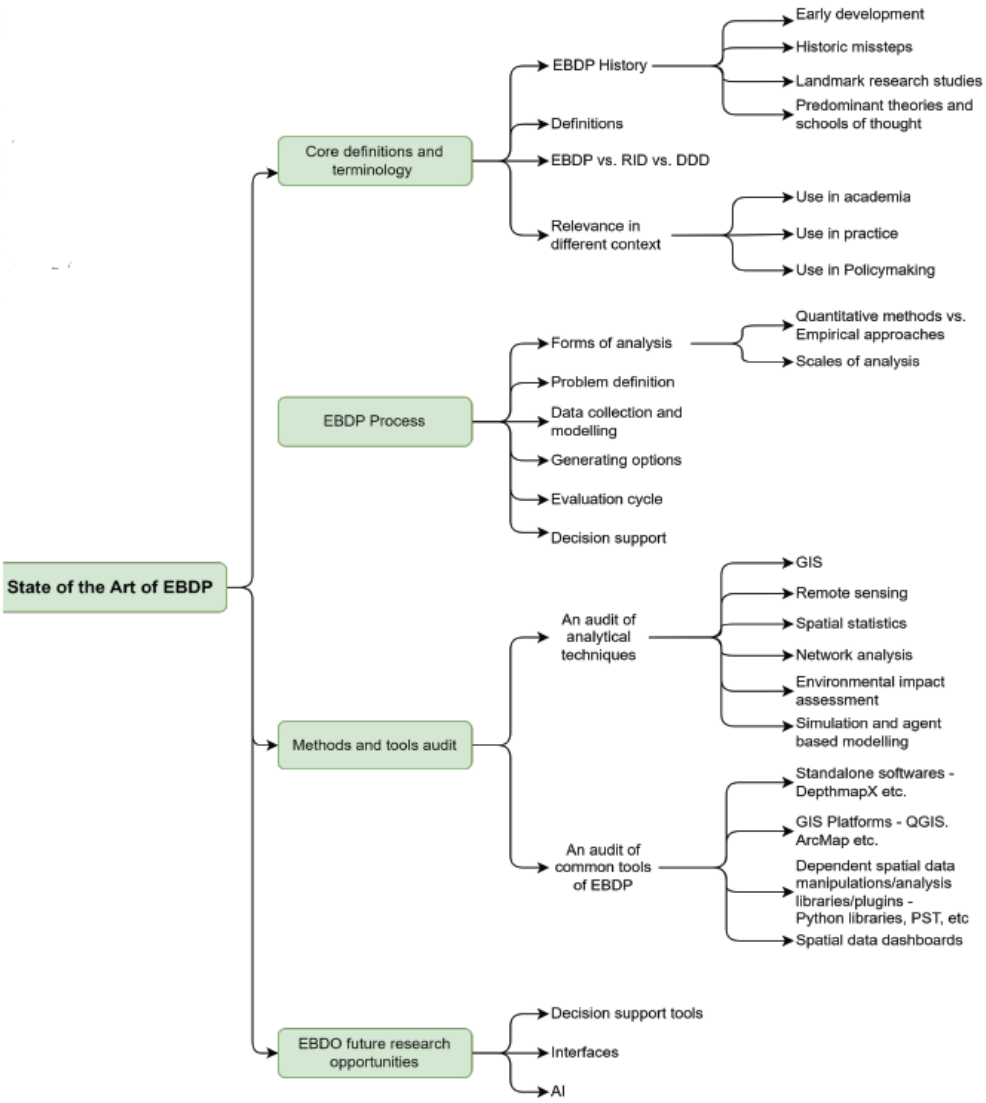


Figure 6 The state of the Art of EBDP and the key items that is touching upon: Terminology, Process, Methods and Tools and Future opportunities.

Section 1: An extensive literature review covering core definitions and terminology. In more detail, items such as, early development and predominant theories and schools of thought in EBDP are covered. The report continues into key definitions of EBDP vs RID and DDD. Finally, there is a section about how EBDP is used in different contexts such as academia, practice and policy making.

EBDP report matrix of steps for research, EBD and RID

steps	Research	EBD	RID
	Adapted from polit and Beck (2008 and Stichler (2010b)	Adapted from the center for health design 2008	Adapted from Burghardt and hacker (2014)
1	Identify problem, research question or hypothesis	Define Evidence based goals and objectives (with client and interdisciplinary team	Clarify design problem and project-based goals and constraints
2	Perform literature review	Find sources for relevant evidence	Identify research on related problems and populations
3	Use a theoretical framework to explain the relationships among variables	Critically interpret relevant evidence, assess evidence applicability, quality, and strength	Assess Research applicability, quality, and strength. Use research to assess variables that affect performance
4	Select an appropriate research design to test the hypothesis	Create and innovate EBD concepts	Use knowledge gained from Steps 1-3 to generate design options
5	Identify measurements to quantify variables	Develop a hypothesis	Design evaluation, choose the best option using research to weigh pros/cons
6	Select the sample	Collect baseline performance measures	Develop a prototype (virtual, physical
7	Data collection and analysis	Monitor implementation of design and construction	Design testing, evaluate prototype using empirical observation or testing with target audience
8	Statistical and data analysis	Measure post- occupancy performance results	Iterative improvement, use results from testing to drive greater research inquiry, to improve, and to iterate the design process
9	Disseminate results in publications and presentations including study limitations, recommendations, and implications for practice	Disseminate post-occupancy performance results through publication and presentation	Communicate process, share process and lessons learned

Peavey and Vander Wyst, (2017),

Figure 7 Matrix of Steps based on 3 different methodological approaches, Research, EBD, RID based on Peavey and Vander Wyst (2017)

Section 2: An EBDP design process review, that firstly covers forms of analysis, comparing quantitative methods and empirical approaches and the different scales of analysis. Continuing the report covers problem definitions, data collection and modelling techniques, option generation techniques and methodologies and how the evaluation cycle works in the EBDP process.

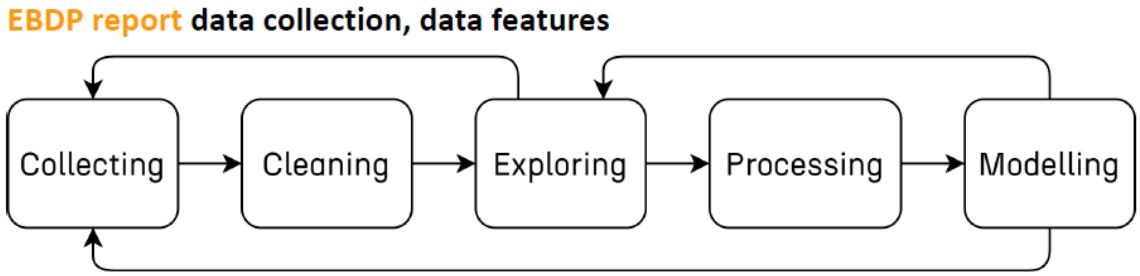


Figure 3-2 General EBDP data collection pipeline. Adapted from (David S. Jordan, 2023)

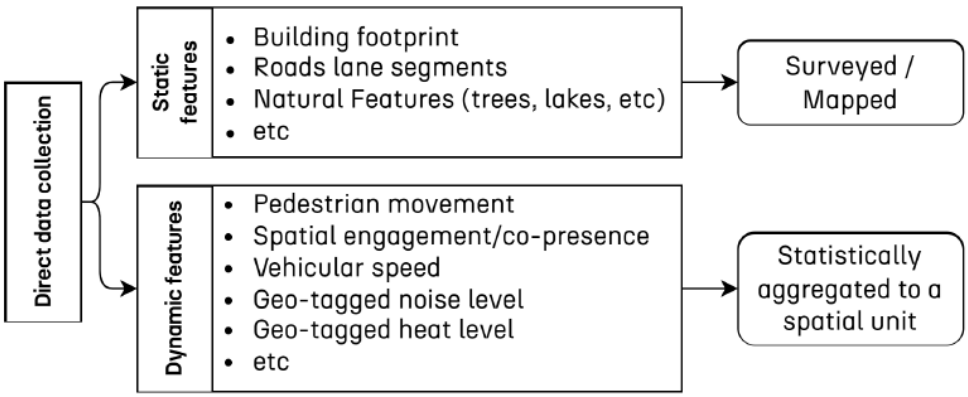


Figure 8 The EBDP data collection process and data features.

Figure 3-3 Dynamic and static spatial features

Section 3: An audit of analytical techniques that can be used in the EBDP framework such as GIS, Remote sensing, spatial statistics etc, and an audit of most commonly used tools in the EBDP process, such as standalone software, GIS platforms such as QGIS or ArcMap, dependent spatial data manipulations/ analysis/ libraries/ plugins or python libraries and spatial data dashboards.

EBDP report Programming interfaces (e.g. Python-based tools)

Software	Embedded tools	Applicability	Interface	Format/ Distribution	Language	Advantages/ Limitations
OSMNX	Network analysis (Node via NetworkX) Visualization	Urban Planning Urban Design	CLI	OSM .gpkg	Python	
Cityseer	Network preparation (graph cleaning, network decomposition, primal to dual) Network analysis (primal / dual, node / segment, simplest / shortest) Land use accessibilities Mixed-uses Statistical aggregations	Urban Planning Urban Design All methods applied over the network Bi-Directional datapoint assignment to adjacent network Distance weighted methods Simplest path compatible algorithm (no shortcutting)	Python API QGIS plugin under development	Python package Compatible with Network X Can link to varied formats vis python ecosystem	Python with Numba JIT Python with Rust under development	
PySAL	Network analysis Network moBidelling/Visualization	Urban Planning Urban Design	CLI	.gpkg, .shp, etc	Python	
GeoPandas	Geo data manipulation and handling	Urban Planning Urban Design	CLI	.shp, .geoJSON, . gdb, .kml, .gpkg, .wkt	Python	
Shapely	Manipulation and analysis of geometric objects	Urban analysis	CLI	.WKT, .WKB, Coordinate array	Python	
Fiona	Manipulation of geo data to and from GIS platforms	Urban analysis	CLI	.shp, .geoJSON, .gdb, .MapInfo Tab, . PostgewSQL/PostGIS	Python	
Rasterio	Manipulation and handling of gridded raster dataset	Urban analysis,	CLI	GeoTIFF, GeoJSON	Python	
PyProj	Manipulation and handling coordination reference systems for geospatial data	Urban analysis	CLI	CRS strings, EPSG codes, Proj4 strings, .WKT	Python	

Figure 9 EBDP tools and programming interfaces.

Section 4: The final section will be revolving around the future research opportunities of EBDP process such a decision support tools, interfaces and AI.

Lightweight workflow Generation

The Presentation continued with a showcase of the first draft of the lightweight modelling workflow. The goal of the workflow is the creation of lightweight models for applicability to European Town and cities as defined by the EU high urban clusters. Towards that end, the methodology uses an assortment of open datasets to calculate land use accessibilities, population densities, access to greenery, urban morphological characteristics, and properties of street networks.

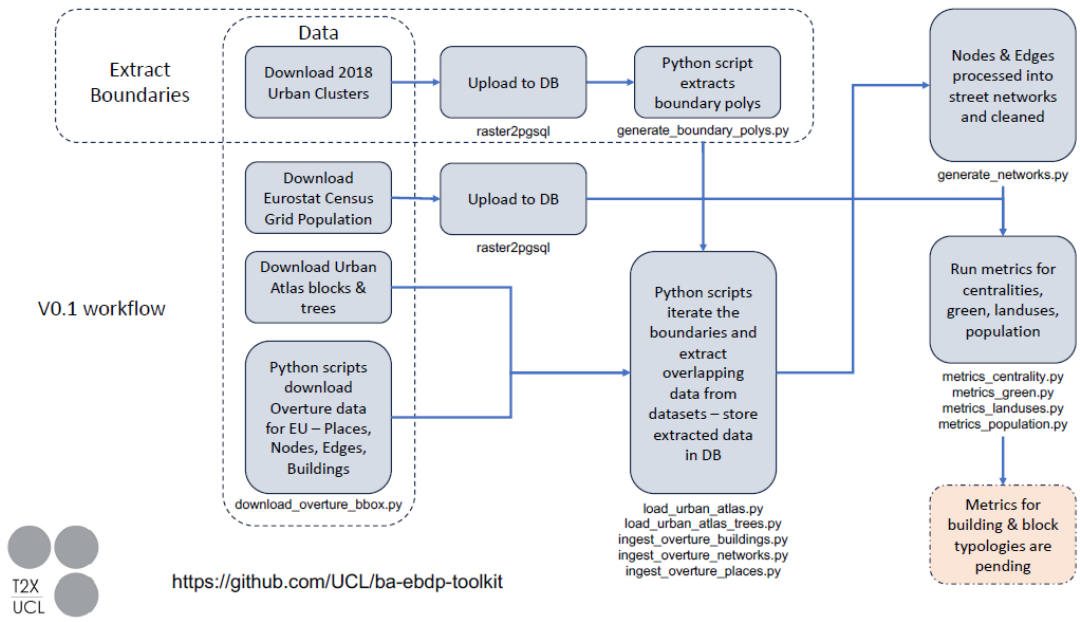


Figure 10 current state (v.01) of the lightweight model creation workflow.

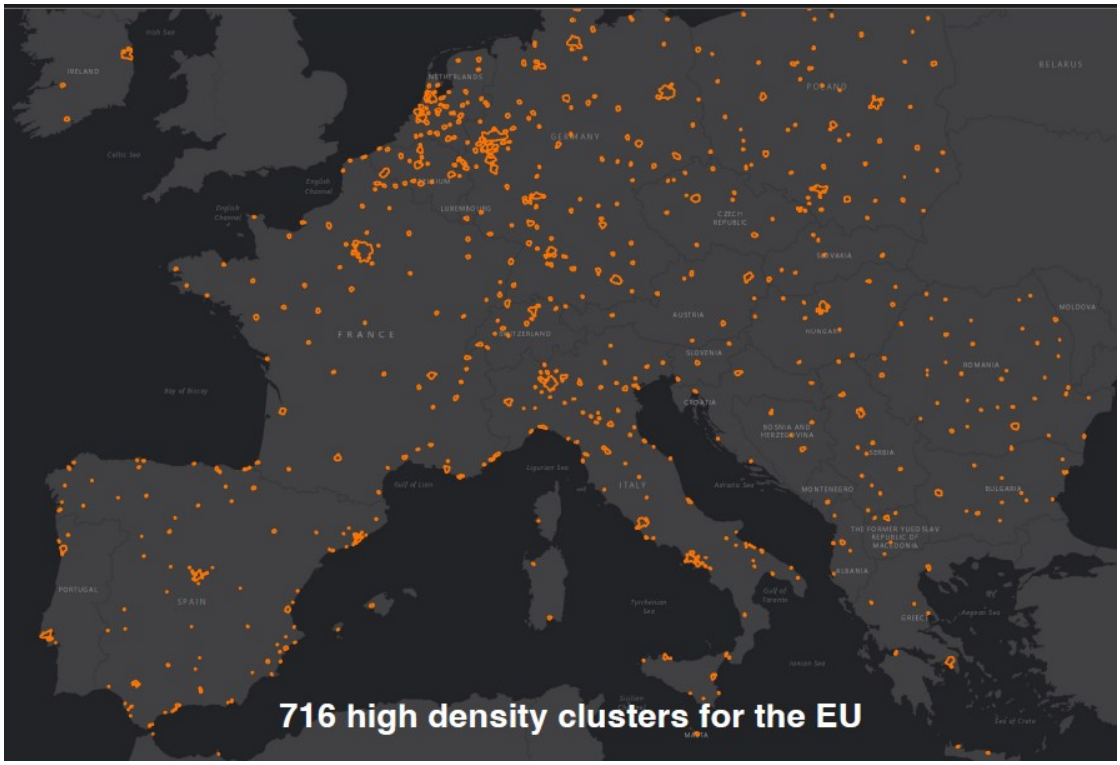


Figure 11 Current state of Urban Morphological Zones in Europe (UMZ)

The added value of these workflows is that the methodologies are automated and applied to an all high- density urban clusters. This contrasts with traditionally intensive approaches which rely on manual procedures for selecting, preparing, and analysing datasets.

The Data in the study comes from readily available datasets with coverage for the EU, with the prerequisite that these are open so that the derivative data and workflows can be shared or replicated. The data used are a combination of overture maps, Eurostat 2018 urban clusters, Eurostat 2021 census grid population count, urban Atlas land cover 2018 and finally urban atlas street tree layer 2018.

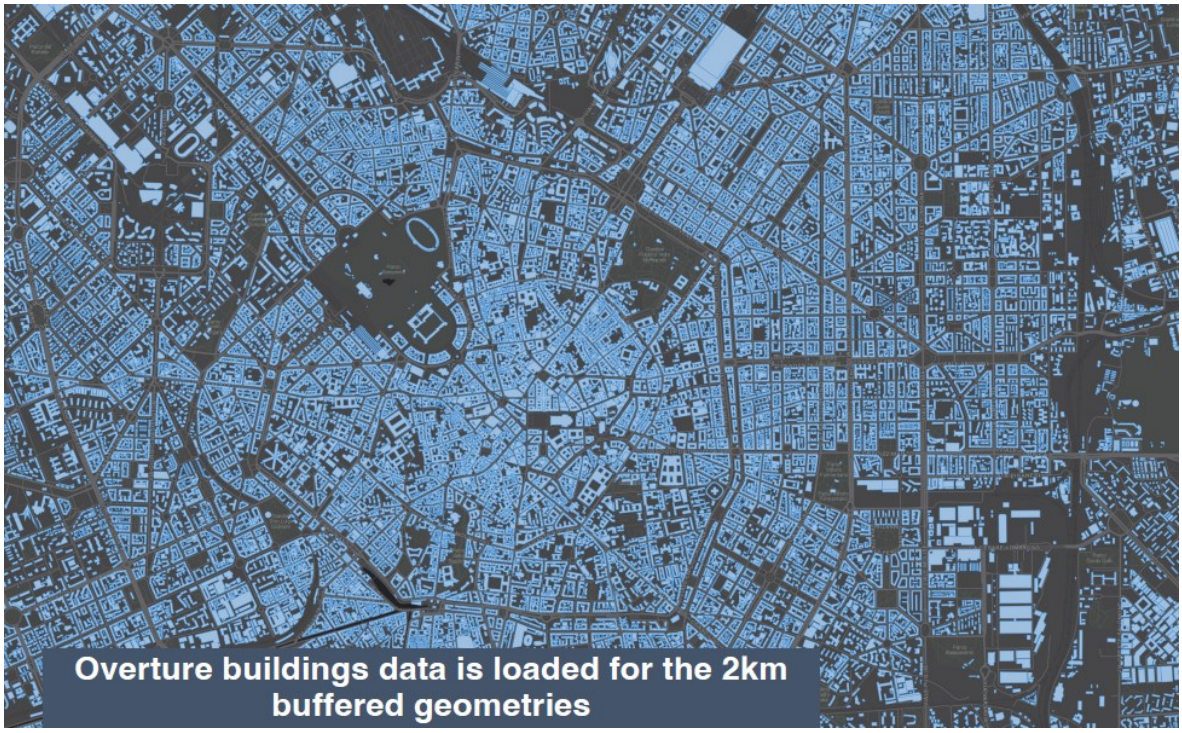


Figure 12 Samples of Overture maps database of buildings from Milan, Italy.

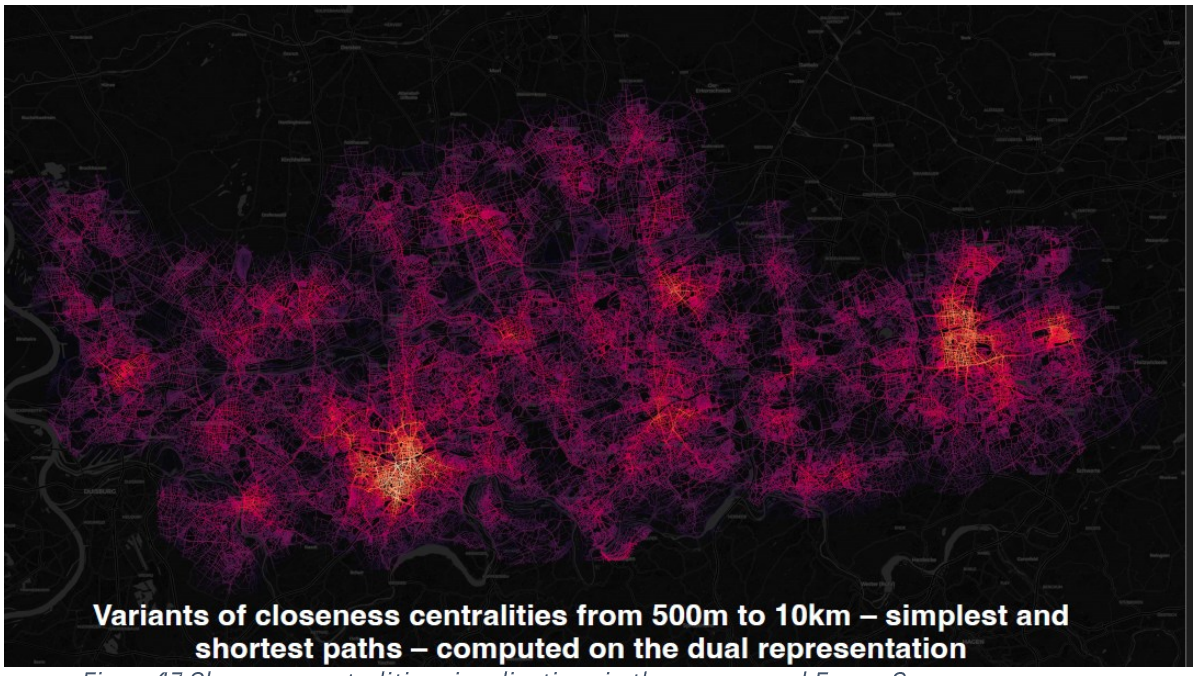


Figure 13 Closeness centralities visualizations in the area around Essen, Germany

1.4. Session A4- T2E First year Placements

1.4.1. Brief description

The first day wrapped up with presentations on the first year TWIN2EXPAND Placements at Space Syntax Limited and University College London (UCL) by Iacovos Loizou and in UCL by Mariam Shulqamy.

1.4.2. SSL placement- Iacovos Loizou

Iacovos Loizou, during his placement at Space Syntax Limited, investigated on one hand what factors affect pedestrian movement in the urban built environment post implementation and on the other hand tried to answer the question, in which extend space syntax models were successful in predicting shifts in movement. To do that, the trainee, chose a series of case studies that satisfied certain criteria, most importantly, the projects should have been completed for least ten years. Specifically, the five below projects were selected:

- Trafalgar Square
- One New Change
- Central St Giles
- Bloomberg HQ
- Nottingham Old Market Square

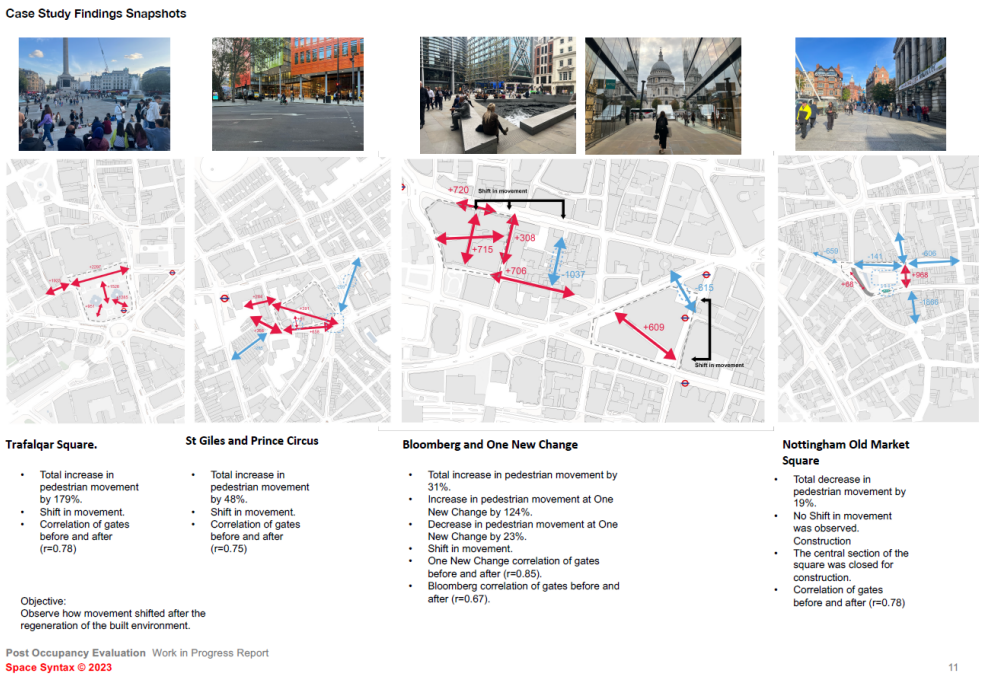


Figure 14 Snapshot counts and movement patterns of pedestrian activity.

Key findings involved the confirmation that changes in pedestrian movement are affected by a range of spatial and non-spatial factors across a range of scales. Revisiting previously studied areas helped to identify these factors and to develop a structured approach through the categorisation of change in movement as: a) general change in the total amount of pedestrian movement, b) redistribution of movement flows or c) both.

Within this complex framework, space syntax models were able to consistently identify redistributions of movement, however a wider general uplift is more difficult. Again, this understanding is valuable as the model explains likely patterns of movement if all other variables remain consistent.

1.4.3. UCL placement- Mariam Shulqamy

Mariam Shulqamy, audited courses that were part of the Space Syntax: Architecture and Cities master program. The courses revolved around the issues of describing and analysing form- function relationships in all scales and relationships between architecture and the city. As a case study for her placement, Mariam Shulqamy choose to investigate the Bloomberg headquarters designed by Foster and Partners and the role that space syntax analysis played in providing the necessary evidence to arrive to a successful design output.

One of her conclusions were that the selected interventions highlighted the power of using spatial modelling techniques not only to improve the experience for the building's workers, but also for people across the city by enhancing the overall urban fabric. This project is a testament to how analytical design, informed by reliable scientific evidence, can have far-reaching positive impacts.

This emphasizes the necessity for a well-defined framework to embed spatial analytical methods grounded in strong theory within EBDP, enabling a more widespread application in practice, especially in contexts where it is not yet commonly used.

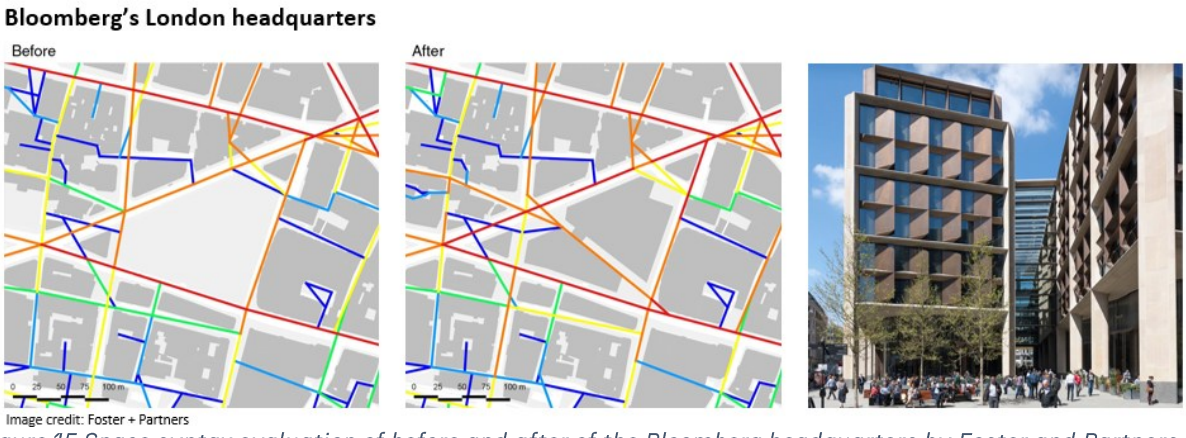


Figure 15 Space syntax evaluation of before and after of the Bloomberg headquarters by Foster and Partners

1.4.4. Remarks:

These discussions identified a promising trajectory for these placements to transcend mere training for the participants. There's a distinct prospect for them to evolve into a "Training the Trainers" initiative, wherein the individuals undergoing training at the host institution subsequently assume the role of trainers back at their home institution. This involves disseminating acquired knowledge, methodologies, and tools from their placements, along with facilitating project-based "train the trainers" workshops for both lab members and university students.

Therefore, the participants suggested a series of steps that each traineeship should include in its syllabus from the start.

- Firstly, an extended report and tutorials of all methodologies and tools learned during the placement to insure the transfer of skills and knowledge.
- Secondly, the trainee should be part of a series of workshops among lab personnel or students to transfer knowledge through hands-on exercises and projects.

2. Working Group Studio A2- Day 2- 15th of February

2.1. Brief description:

During the second day of the WGSA2, the team focused on a comprehensive review of the current and prospective funding proposals within SURF lab. The focus was not only on refining existing proposals but also on aligning them with suitable calls for future resubmission or adaptation. Simultaneously, the team identified opportunities for crafting new collaborative proposals, seeking to foster innovative partnerships in the field.

2.2.Session B1- SURF lab Funding proposals and portfolio workshop

2.2.1. Brief description:

The first session opened with a presentation by the Polito partners that revolved around the pitch presentation from the previous day, in an attempt to better frame the main research strands. The most prominent strands based on a review of past projects are Urban morphology, Socio spatial analysis and Participatory Design Practices.

In addition, commenting on the mission statement based on the already mentioned research strands, it could be reframed as “SURF is a transMULTIdisciplinary scientific endeavor focusing on describing and interpreting how the built environment impacts society and on translating evidence from the analysis of urban environments for application in design practice and policy”.

The focus of this statement rests in providing a framework for the lab to be able to navigate effortlessly between the three primary research strands. Based on Wikipedia, Transdisciplinarity connotes a research strategy that crosses disciplinary boundaries to create a holistic approach. It applies to research efforts focused on problems that cross the boundaries of two or more disciplines.

On the other hand, Multidisciplinarity, relates more, with bringing together people from different academic disciplines and professions to participate into a project. These people are engaged in working together as equal stakeholders in addressing a common challenge.

The second part of the presentation provided insight on SURF lab future steps and evolution based on a paper[1] that provides an insight into the evolution of university urban design and research centers from their beginnings in the 50s, advancement in the 80s and their resurgence in the 20s. The survey considers over fifty centers throughout the US and a typology is established based on the dominant activity of each center: Advocate, Consultant, Educator and Scholar.

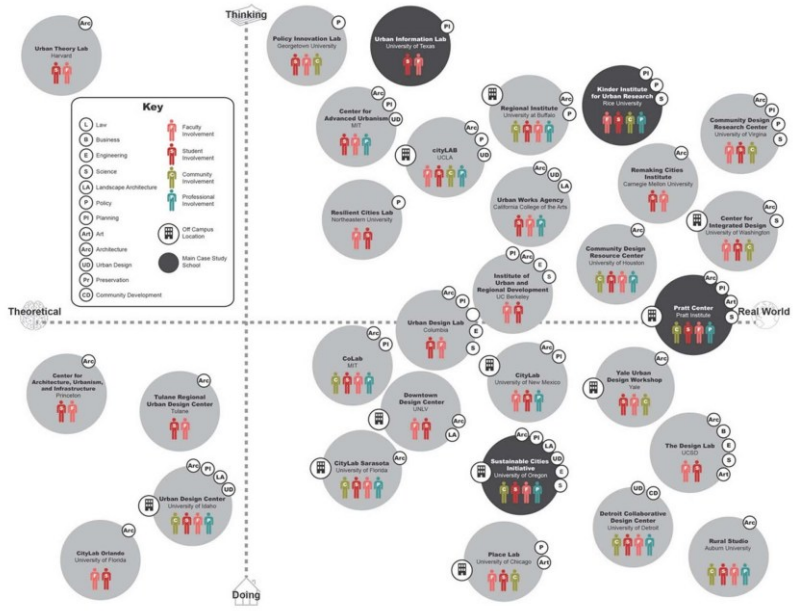


Figure 2
Evolution of center products (from paper to physical) and type of activity (from thinking to doing)

Figure 16 Depiction of the evolution of various research centres with their appropriate position within the boundaries of theory to Real world problems and action to thinking

[1] Crosson, Courtney (2022) "Four Modes of Engagement: Positioning University Urban Design and Research Centers for the Future," Journal of Comparative Urban Law and Policy: Vol. 5 : Iss. 1 , Article 34, 446-465. Available at: https://readingroom.law.gsu.edu/jculp/vol5/iss1/34

In brief:

The Consultant Mode

- **The Center works with community partners to help improve communities at both local and wider scales.**
    - The Center is typically project based and not focused on theoretical research.
    - The Center can work quickly and with direct impact.
    - The Center's projects were driven by client needs rather than intellectual discovery.
    - The Center can be perceived as a competitor by professional world.

The Scholar Mode

- **The Center focuses mainly on theoretical and applied research and is more closely tied to university.**
    - The Center adopts research methods and expertise as tools for scholarly thinking and writing.
    - The Center prioritizes academic publications.
    - The Center's work is not always communicated in an accessible and useful way to communities.
    - The Center is funded by Academic Founds and its administration can be slow in responding to the community.

The Educator Mode

- **The Center focuses mainly on teaching the next generation of professionals in the associated fields offering courses and degrees.**
    - The Center provides real-world project experience to students, particularly aligned with professional schools of planning and architecture that seek to produce practice-ready graduates.
    - The Center is able to respond to local community needs, but pro-bono and short-term projects often give inconsistent quality of products.
    - The Center is funded by Academic Founds.

The Advocate Mode

- **The Center focuses more on policy and public education and how this mechanism can better communities.**
    - The Center strongly focuses on community needs and supports long-term community relationships.
    - The Center, through its mission-driven objectives, uses scholarly work for direct impact that addressed community needs.
    - The Center is funded by those looking to promote change, be it the university, community partners or national organizations.

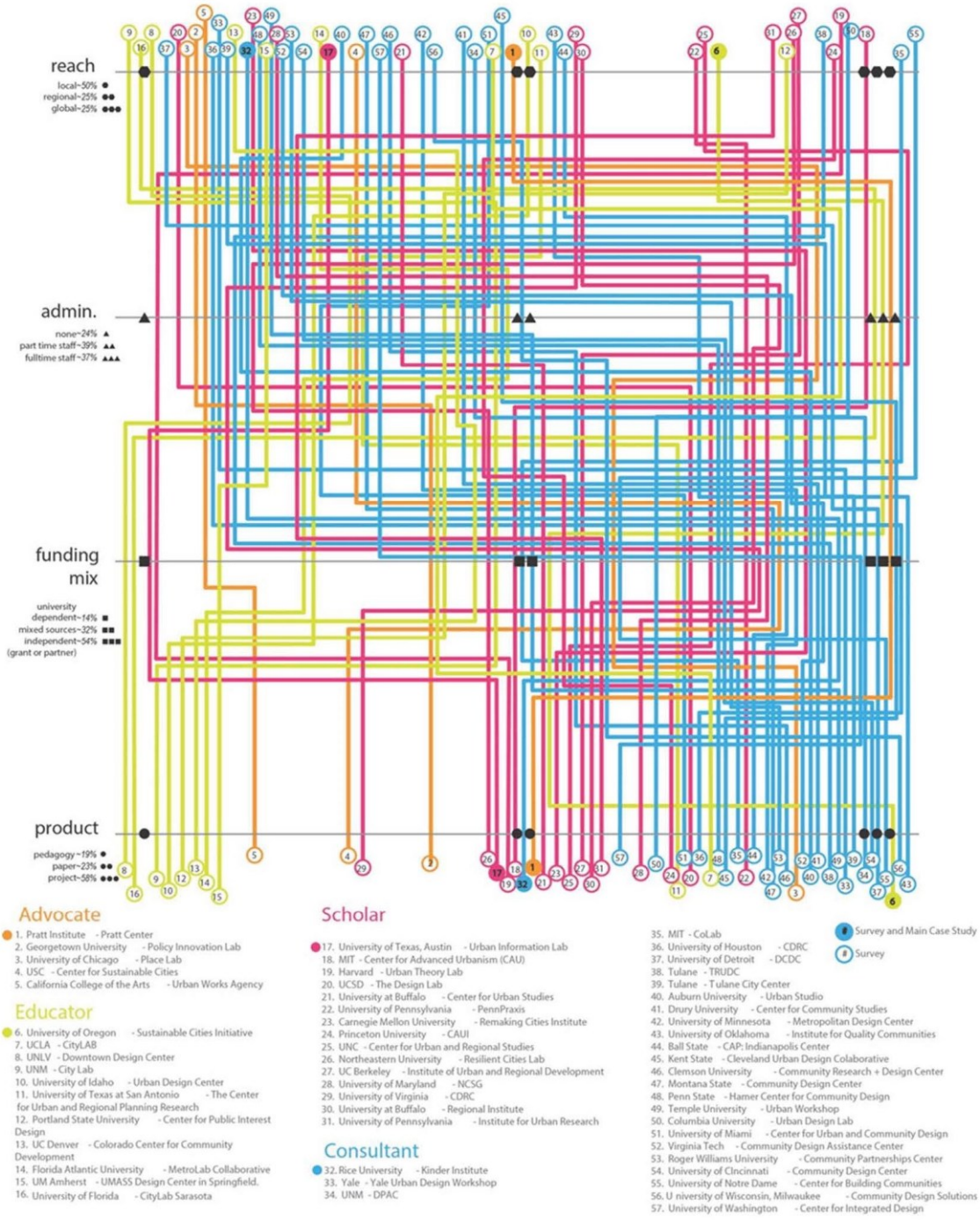


Figure 17 Linking each centre and modality with type of funding, administrative capacity, extent of reach and product produced (Crosson, Courtney (2022).

2.2.2. Key Remarks:

The consultant mode tends to have a regional to global reach, requires greater administrative support, requires secured higher volumes of funding largely from the industry produces professional products.

The Scholar mode tends to have a broad reach, requires less administrative support, requires moderate level of funds, largely from grants, and produces academic publications.

The Educator mode tends to have a local focus, requires little administration, derives funding from existing tuition and produces semi-professional products.

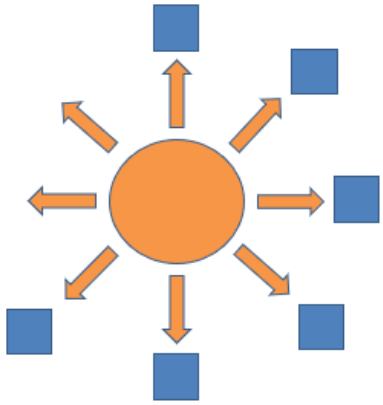
The Advocate mode tends to be locally focused, requires greater administrative support, requires secured larger amounts of funding from mission- driven foundations, and produces products that directly address community identified needs.

Defining geographical reach, administrative support, and funding mix

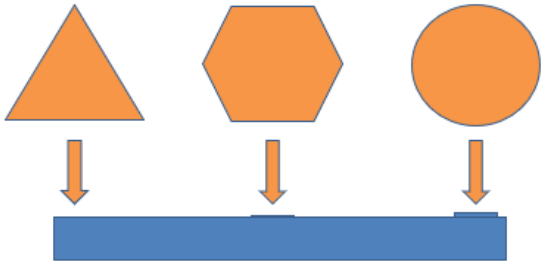
Based on the above, the meeting participants stated the need for SURF lab to define the geographical reach of the intended research impact of the projects. This will help guide the nature of the lab towards the most appropriate business and research model, that will help identify and guide the administrative needs and the required funding to support.

To further understand the differences in geography, structure and target, the group examined three different case studies, the Future Cities Lab Global, lead by @ETH, in Singapore, the Urban Architectural Lab lead by @Southeast university in Nanjing and the Future Urban legacy Lab in the Politecnico di Torino. Finally, the discussion ended with three suggestions for the future development of the lab to consider.

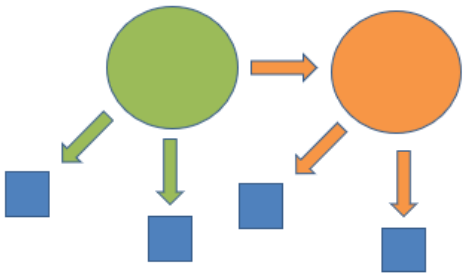
A Reputation based Model for Multiple Activities.



A 3 parties' model upon the same strategic topic



Doubling the model in a Multidisciplinary Way



2.3.Session B2- Future Proposal 2025

The afternoon session culminated in a forward-looking discussion, with presencompassing an exploration of a Marie Curie Staff Exchange-Alliances and a specific Horizon 2025 call brainstorming session. Furthermore, there was also a presentation of a new European project, "IDEaS". The intention behind these deliberations was to acquire valuable insights into the nuanced aspects of a successful Horizon proposal in the framework of the specific call. The team engaged in a collaborative effort to identify critical points that demand attention and discussed the optimal structuring of a Horizon proposal. This collective effort aimed to enhance the proposal's viability and increase the likelihood of success in the competitive landscape of Horizon calls. The session served as a practical exercise, allowing

participants to gain firsthand experience in addressing pivotal elements and structuring proposals effectively within the Horizon framework.

2.3.1. IDEaS project

The IDEaS project stands for "Innovating the Design of Educational Spaces" and is about applying Evidence-based Approaches in Secondary Schools. The project spans over 3 years and the main objective is to develop a horizontal innovative cross-sectoral and multidisciplinary educational and training network which Innovates the design of educational space by addressing the need for evidence-based approaches in school buildings and a more holistic understanding of the interplay between school building, school life and managerial aspects. IDEaS deal with secondary school buildings, schools that cater pupils between 12 and 15 years old, in four Mediterranean countries (Cyprus, Greece, Italy, Portugal) and aims at co-creation of knowledge exchange between academic institutions, architecture students, professional architects, professionals in education, and policymakers.

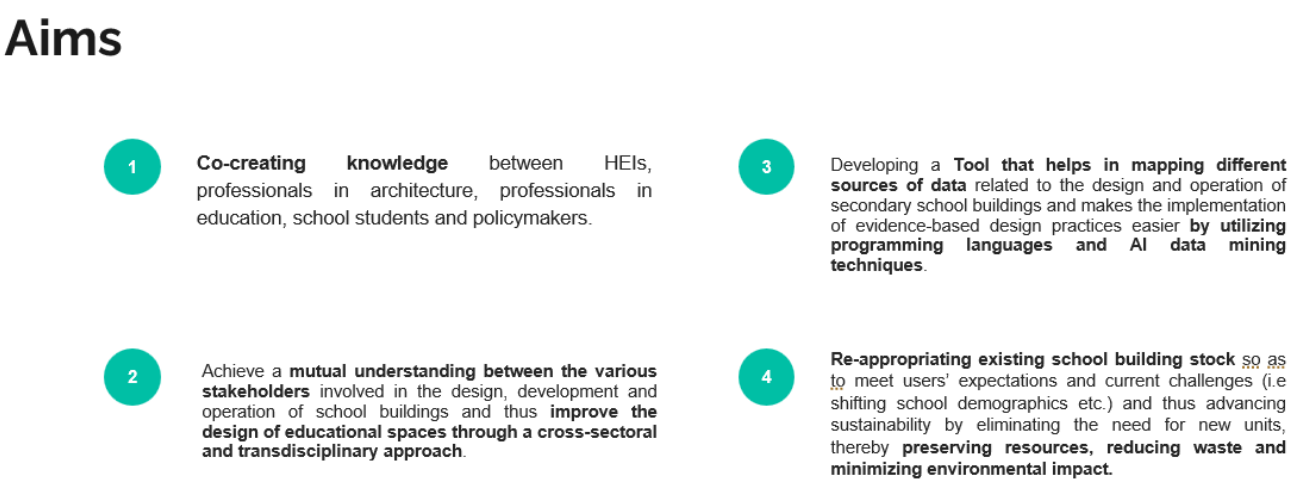


Figure 18 The four key aims of the IDEaS project.

The project consortium spans over 3 countries (Cyprus, Portugal, and Italy) with the UCY being the lead. It involves universities, enterprises, Vocational and training organisations (Europe for All, IT), municipalities from Greece, Italy, and Portugal along with the ministry of education, sport, and youth of Cyprus.

HEIs	Enterprises	VET	AFFILIATED
UCY, CY Lead	Rosan Bosch, NE&SP	Europe For All, IT	MOEC, CY
ULisboa, PO	Common Space, GR		Municipality, GR
PdTorino, IT	Splace Architect., CY		Municipality, IT
	RTD Talos, CY		Municipality PO

Figure 19 IDEaS project consortium.

2.3.2. Horizon Call- Work Programme 2023-2024 Climate, Energy and Mobility workshop

The participants, along with the guidance of Valentina Romano from PoliTo, engaged on a keyword mapping workshop, facilitated by UCY researcher Ilaria Geddes focusing on understanding how to decode the Horizon calls to guide the proposal writing as close to the call intentions. The call under examination was the HORIZON- CL5-2024-D4-02-05: Digital solutions to foster participative design, planning and management of buildings, neighbourhoods, and urban districts (Built4People Partnership).

The first part of the workshop required from the participants to spend some time going through the key themes of the proposal. After

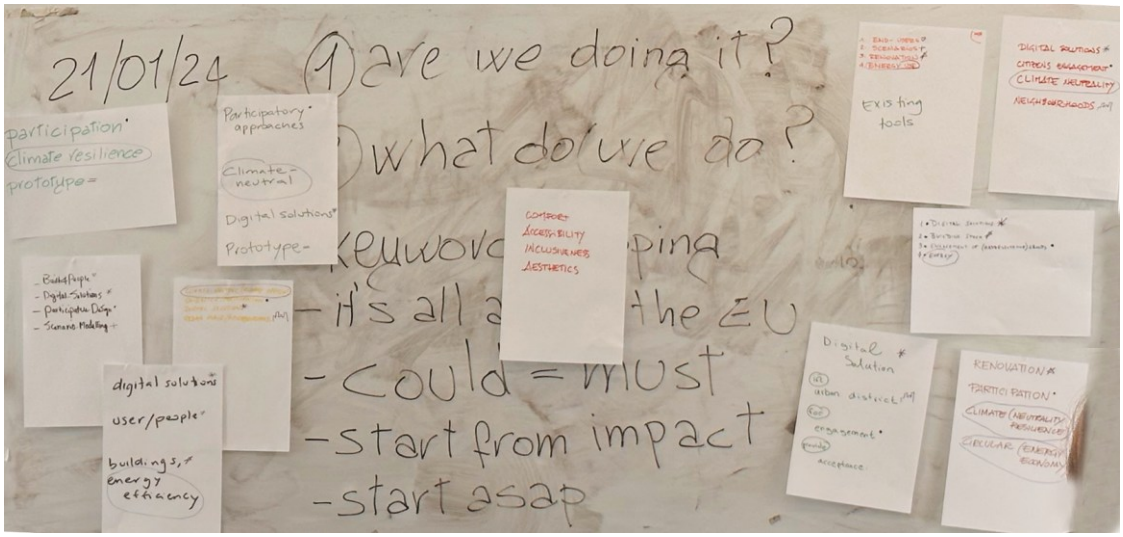


Figure 20 Keyword mapping of the main themes during the Horizon call workshop

The main questions and suggestions that any team consider during the mapping process:

- Are we doing it? - A Horizon proposal needs commitment
- What do we do? - Be very specific on your contribution and what your proposal is offering in terms of novelty.
- It's all about the EU. – Try to align your proposal as close as EU policy and overarching goals for the region and for the timeframe of the call.
- Could do means must do. – Any suggestion within the call, is a subtle suggestion that you must do it to be eligible.
- Aways start from impact.
- Start asap. - The Horizon call needs a lot of work, its very important to allow enough time before the submission, for the proposal to mature.

The main themes that emerged were:

- Participation/ climate resilience/ prototype
- Build for people/ digital solutions/ participatory design/ Scenario modelling.
- Digital solutions/ user, people/ buildings/ energy efficiency
- Participatory approaches/ climate- neutral/ digital solutions/ Prototype
- Comfort/ accessibility/ inclusiveness/ aesthetics.
- End- user/ scenarios/ renovation/ energy use.
- Digital solutions/ citizens engagement/ climate neutrality/ neighbourhoods
- Digital solution in urban district, for engagement, to provide acceptance.
- Renovation/ participation/ climate neutrality/ circular (energy economy)

2.3.3. Conclusions

During the session, some key hints that were marked are:

- Any proposal exploration should start with a thorough keyword mapping session.
- Identify the type of the call and align your idea to the spirit of the call. For example, Horizon calls, usually need to be in line with EU policy and non-necessarily about the novelty of the proposal.
- Whenever any call suggest that something could be done, it is usually implied to the participants that it must be done.
- Impact assessment of your idea is a good place to start.
- Start planning the proposal as early as possible.

2.4. Session B3- Virtual trainings and summer School program

The consortium members, then concluded the day with the discussion and organization of the virtual trainings that will become available through the T2E project and the summer school workshops that will take place in Nicosia as part of the Space Syntax Symposium. It is the intent of the group to treat the virtual trainings as preparatory work for the students that will also participate in the TWIN2EXPAND Summer School workshop, in order for them to have beforehand the required level of skills to participate in the Summer School.

Virtual training 2_MAy2024
The second TWIN2EXPAND Virtual Training: Hands-on training on spatial analysis for scenario assessment in EBDP using analytical software, is planned to take place online on the 22nd and 24th of May 2024.

The aim of the second virtual training is to offer a hands-on training on using analytic software to conduct spatial analysis, following up the theoretical introduction of the first Virtual Training (April 2023) where the role of spatial analysis for Evidence-Based Design and Planning (EBDP) was in focus.

The focus of the training will be to become familiar with basic functionalities of QGIS and with the primary plugins used for Space Syntax analysis, the SSToolkit (Space Syntax Toolkit), the PST (Place Syntax Tool) and DepthmapX. During the training, the trainees will learn how to conduct space syntax analysis including axial and Angular Segment Analysis, Attraction Accessibility analysis, Density analysis, Visual Graph Analysis (VGA) and Agent-Based Modelling (ABM).

Lastly, the trainees will be introduced to how to visualize the results of spatial analysis for scenario assessment.

Summer School Workshop
The main topic of the Intensive Summer School is “Enhancing the connectivity of neighborhoods: the application of evidence-based design in master planning of linear parks”.
The planned duration is 3 weeks starting from 19 of June until 3 of July 2024 and it will take place at Nicosia.
During this session the consortium members discussed the structure of the summer school workshop as presented in a draft program.

Summer School Theme
The theme of the summer school is the value of linear parks for neighborhood connectivity. Linear parks have a long history and have grown in popularity in urban areas. They may offer many benefits, such as providing more access to green spaces, lengthy protected routes for

cyclists and pedestrians, opportunities for businesses and continuous greenery for biodiversity. However, they may also carry negative trade-offs, such as acting as barriers between communities if difficult to cross, or reinforcing separation between different road users, thus diminishing efforts to make the urban environment more widely human-centered.

Summer School Structure

The summer school comprises a series of lectures and training sessions on GIS, spatial analysis, field work, space syntax methodology and integrated urban modelling. The school centers around a local case study: the Pedieos Linear Park in Nicosia, which is currently undergoing master planning efforts aimed at enhancing access to and across the park, as well as improving its infrastructure and facilities.

Summer School Goal

The consortium is interested in establishing a conversation with engaged stakeholders tackling the current understanding of how the park performs as green infrastructure in relation to its surrounding neighborhoods and the whole city. At the same time, the consortium would like to gain an understanding of the potential impacts of the proposed plan and interventions to initiate a dialogue about the vision for the park and the city, the methods through which intervention proposals are developed and assessed, consideration for alternative solutions and the understanding of the social, economic, and environmental impacts of design.

Summer School Methodology

Participants will apply EBDP methodologies to the case study and proposed masterplan to develop their own understanding of the park, evaluate the potential impact of the masterplan, consider and test alternative solutions. There will be direct engagement between the participants and local stakeholders in the initial and final phases of the workshop to establish a comprehensive understanding of the case study prior to analysis and to relay findings to interested parties, ensuring that the participants' work has practical impact in the local decision-making process.

Summer School Participants

This training activity will be aimed at both students and researchers, and will benefit not only UCY members, but also the broader scientific and practice community in Cyprus, as attendance will be open to researchers and students from all Cypriot universities, professionals and officers from local authorities and central government. Furthermore, the TWIN2EXPAND Summer Workshops will encourage applications for attendance from the EMME region, which will enhance UCY's role as a major educational hub for the Eastern Mediterranean region.

Summer School Structure

Week 1- Introduction to context and case study 19-22 June 2024
During the first week, participants will be hosted by the SURF Lab for introductory sessions on Nicosia, the case study, site visits, manipulation of Nicosia's spatial model, analysis of the existing situation, analysis of the proposed masterplan, field work and initial proposals.
The workshops will comprise a series of lectures, computer training sessions on GIS, spatial analysis, space syntax methodology and integrated urban modelling to be taught by the TWIN2EXPAND partners and other world-class experts in the field.

Week2- Working groups during the Space Syntax Symposium 24-29 June
During the second week, participants will join their choice of workshops, plenary sessions and present their papers (if applicable) at the 14th Space Syntax Symposium. The participants will be asked to work in teams to further develop the assessment of the masterplan and their proposals.

Week3-Targeted tutorials and Public Exhibition 1-3 July 2024
During the third and final week, participants will finalize their work through targeted tutorials, prepare their outputs into a specified format to be included in a public exhibition hosted by UCY, and present their work to stakeholders.

2.4.1. Identifying research questions through the convergence of stakeholder interaction, education, and research:

A great opportunity that arises from the summer School workshop is bridging the ongoing research project of T2E with education along with local stakeholder interaction. One major issue that the overall research project would like to address and thereby answer is, to what extend and to what contexts and scales the lightweight models can be applied effectively into practice.
By introducing the models also into an educational framework, we have the potential to inform the applicability question from three different strands:

- Form research questions that relate to the spatial models and lightweight models and address questions that the models could answer. **Lightweight models as effective, fast and efficient research tools for EBDP**
- Form research questions that arise through stakeholder interaction and try to understand what the stakeholders mark as important information that the spatial models should be able to answer. **Lightweight models as participatory tools for acceptance and consensus**
- Form research questions that will help students navigate and be introduced into the EBDP process, not just as a tool, but as a methodology that will guide design decisions

throughout their studies and their career. **Lightweight models as educational tools for EBDP**

3. Working Group Studio A2- Day 3- 16th of February

3.1. Brief description:

On the final day of the WGSA2, the effort was directed towards enhancing research capacity and mapping the supportive activities of the central research office at UCY. This session was designed to delve into the pivotal role and capabilities of the Central research Office at UCY, seeking avenues for strengthening its effectiveness. This insightful discourse elaborated on the central research office's functions, specifically reflecting on its involvement in pre-award processes, project implementation, and post-award impact support throughout the entire life cycle of a research project.

Figure 21 snapshot from the last day of the WGS, where participants engaged with employees from the Central Research Office at UCY

The focus centred on identifying avenues to strengthen the office's effectiveness in its various roles. The current situation was presented by officers of the central research office. Consortium members, drawing upon their experiences from their respective institutions, actively contributed by offering feedback and recommendations.

The overarching goal of this session was to identify best practices, leveraging the rich expertise of consortium members. The consortium participants, representing institutions such

as Polito, UCL, and Chalmers, shared insights into how their central research offices operate and support diverse research programs throughout the lifetime of a project (from pre-award phase to implementation). This collaborative exchange provided a unique platform for the TWIN2EXPAND project partners to become aware of valuable practices that could be adapted and implemented for mutual benefit.

Can we include some suggestions here? (eg to have a dedicated person appointed at the School level? To have a common shared online matrix? As regards budget preparation during pre-award phase? Etc..

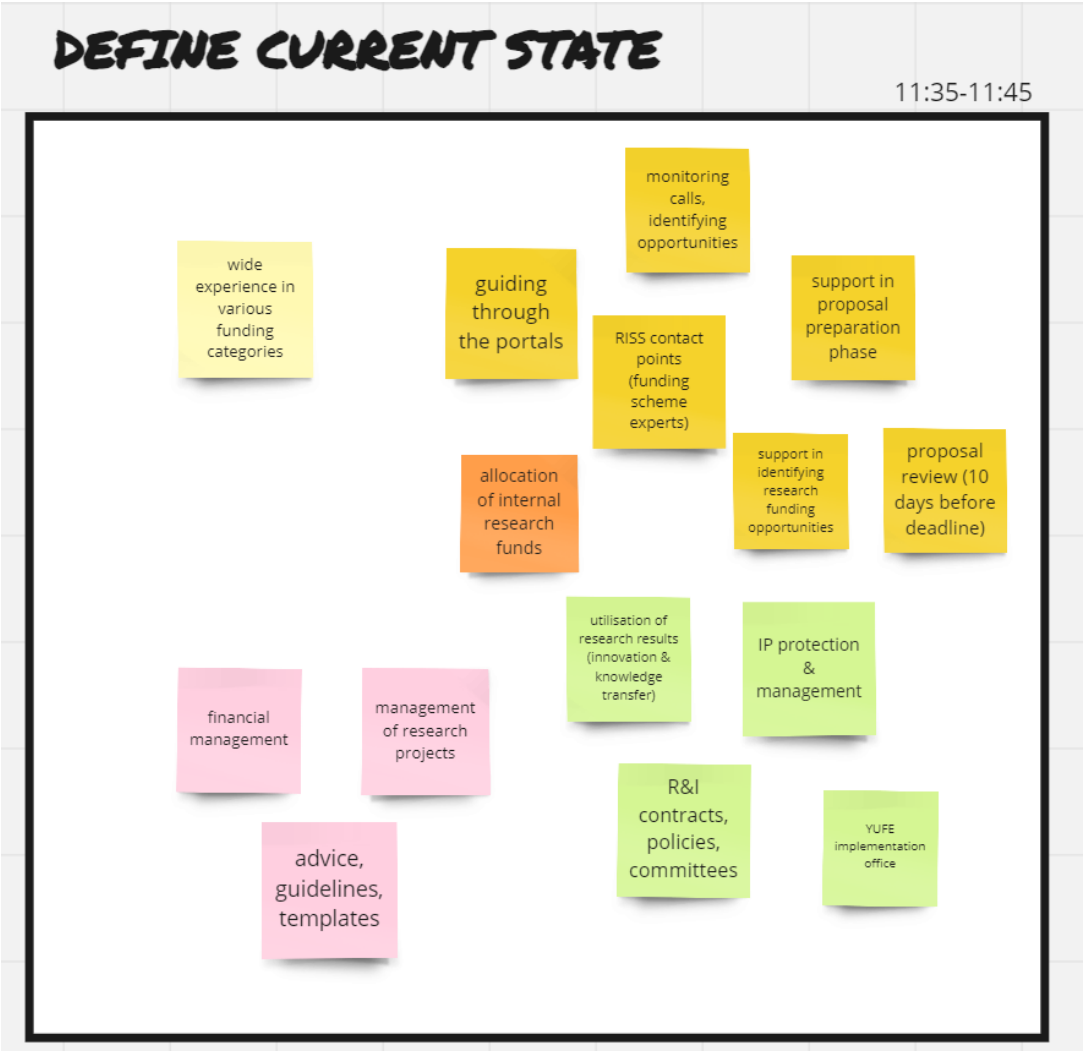


Figure 22 Screenshot of the Miro board used during the Workshop to map the current state of the research support in UCY.

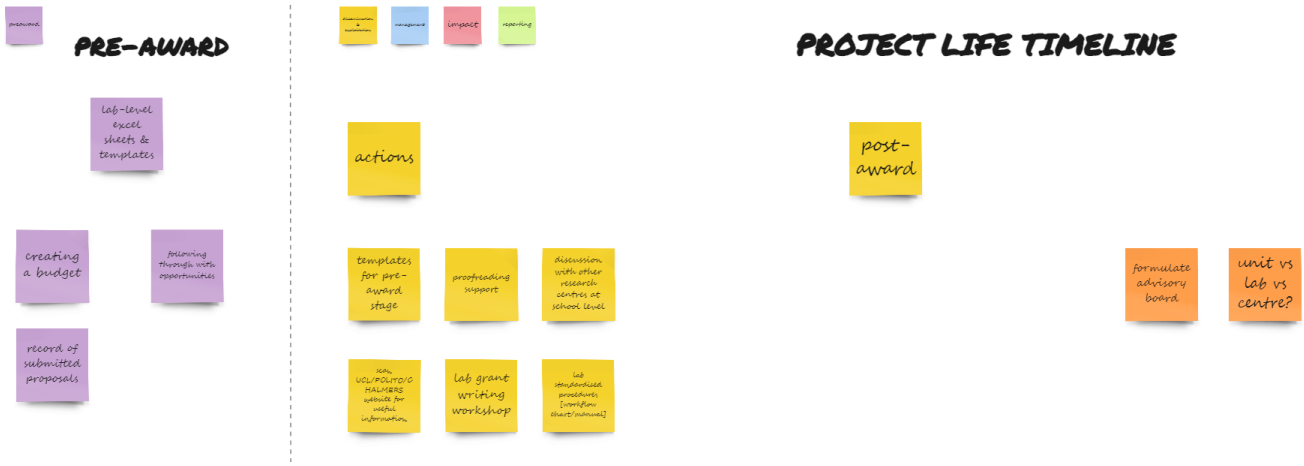


Figure 23 Screenshot of the Miro board used during the Workshop to map the current state of the research support in UCY.

The input and feedback obtained from this dynamic interaction aim to play a pivotal role in shaping recommendations for enhancing the central research office's capabilities. This collaborative endeavour aims not only to refine existing support mechanisms but also to foster continuous improvement, ensuring the optimal facilitation of research endeavours within the broader TWIN2EXPAND project framework.