

Evaluation Panel: ARTS AND HUMANITIES - Architecture and Urbanism

Panel Members

Christopher Platt (Chair)	Mackintosh School of Architecture, Glasgow School of Art, United Kingdom
Mhairi McVicar	Welsh School of Architecture, University of Cardiff, United Kingdom
Ombretta Romice	Department of Architecture, University of Strathclyde, United Kingdom
Helen Runting	KTH Royal Institute of Technology, Sweden
Stephen Walker	University of Manchester, United Kingdom

R&D Units

Centro de Estudos Arnaldo Araújo (CEAA)	Cooperativa de Ensino Superior Artístico do Porto, CRL (CESAP)
Centro de Estudos de Arquitectura e Urbanismo (CEAU)	Faculdade de Arquitectura da Universidade do Porto (FA/UP)
Centro de Investigação do Território, Transportes e Ambiente (CIITA)	Faculdade de Engenharia da Universidade do Porto (FE/UP)
Centro de Investigação em Arquitectura Urbanismo e Design (CIAUD)	Faculdade de Arquitectura da Universidade de Lisboa (UL) (FA/ULisboa)
Centro de Investigação em Território, Arquitectura e Design (CITAD)	Fundação Minerva - Cultura - Ensino e Investigação Científica (FMinerva)
Centro para a Inovação em Território, Urbanismo e Arquitetura (CITUA)	Associação do Instituto Superior Técnico para a Investigação e o Desenvolvimento (IST-ID)
Laboratório de Paisagens, Património e Território (Lab2PT)	Universidade do Minho (UM)
Laboratório Experimental de Arquitectura e Urbanismo (LEAU)	COFAC, Cooperativa de Formação e Animação Cultural, CRL (COFAC)

Evaluation Panel: ARTS AND HUMANITIES - Architecture and Urbanism

R&D Unit: Centro de Estudos Arnaldo Araújo (CEAA)

Coordinator: Maria Helena Teixeira Maia

Integrated PhD Researchers: 17

Overall Quality Grade: GOOD

Evaluation Criteria Ratings

- (A) Quality, merit, relevance and internationalization of the R&D activities of the Integrated Researchers in the R&D Unit Application: 3
- (B) Merit of the team of Integrated Researchers: 4
- (C) Appropriateness of objectives, strategy, plan of activities and organization: 3

Base Funding for (2020-2023): 112 K€

Recommended Programmatic Support

Programmatic Funding: 240 K€, including for 1 (Principal) New PhD Researcher Contract.

Justification, Comments and Recommendations

CEAA is a small R&D Unit (only 21 staff and a small number of associated—not registered— PhD students), working across architecture, urbanism, film/drama, art, cinema and theory. The team is most employed in the Escola Superior Artística do Porto. It mainly has a Portuguese focus geographically and culturally in terms of content, but with a wider reach in terms of collaborative projects, partners and outputs. It has a strong tradition for architectural and trans-disciplinary criticism. Many research initiatives include strong collaborations with municipalities, art institutions and galleries, other educational institutions, and third sector organisations such as forestry commissions. The Unit is producing research work of a good standard internationally, and is engaged in a range of very interesting internationalization initiatives. Given the small budget the Unit has, it has been able to mobilize an impressive roster of events and speakers, and is very strategic in the way these events are located in the centre, allowing many of the associated researchers, as well as students, to benefit from involvement in these high level exchanges. The current lack of administrative support within the Unit makes these achievements all the more impressive.

The five exemplar projects set out CEAA's range of interests and appear to be well supported by the full-text outputs in the submission, and by further evidence of publications and research activities presented and discussed during the visit of the Panel. Research includes a mixture of primary research work, curation, artistic projects, generally with local / national focus. There are relevant links to other work undertaken, such as the projects Popular Architecture in Portugal; Southern Modernisms. The exemplar projects cover pan-European architectural and rural/urban research (Modscapes), media-specific projects on photography, Architecture and the Oporto school, scholarly theoretical projects on identity formation and the self-portrait, and artistic/participatory projects such as Correspondences. The supporting material presented in the full-texts varies slightly in quality, but was generally good.

There is evidence of a range of outreach and other dissemination activities locally (such as open seminars on Fridays, regular visits for local school children, or events as part of the landscape/forestry project), nationally (with festivals, museums, municipalities and so on) and internationally (thanks to a generous programme of in-house seminars, colloquia and conferences, as well as out-going projects with University partners especially at Paris 8, in Rome, Greece, and Spain, as well as less frequent exchanges with other European Universities). There is also an expressed push towards making work available open access, and an extensive programme of editing and publication. For a Unit of this size, the quality and merit of the work is good, and represents exceptional value for money considering the amount of funding the Unit has received.

All these works and authors, show very clearly how they belong to, and respond to, the broader agenda of CEAA, with fluent theoretical and contextual moves made between cinema, art, photography, architecture, planning and individual, group, regional and national identity. The Unit as a whole appeared to be vibrant and coherent, with a high-degree of interaction and a spirit of cooperation and generosity amongst researchers, and extensive reflective awareness and ongoing self-criticism.

Generally, the age profile of the team is quite homogenous, and, given their age and experience, and the absence of any PhD students or early-career researchers coming into the Unit, this presents a potential future difficulty with succession planning if the situation continues.

CEAA sets out some broad objectives to undertake research into “theoretical, critical and historical territories with the design and curatorial practices.” It is logically structured into three disciplinary-focused research groups: Architectural Studies, Film Studies, and Art and Critical Studies. The constitution and management structure for the CEAA is very horizontal in practice, and it is clear diagrammatically. The strategy claims to foster interdisciplinary working and collaboration across these three groups, and as noted this clearly takes place, evidenced by the publications submitted (there is genuine cross-over around architecture and photography in particular, as well as with critical studies, for example). The notion of a ‘Common Place’ is included in the strategic statement as a distinctive common theme, an overarching approach and attitude, as well as being linked to ‘yards of criticism’ to foster collaboration.

The Advisory Board is broadly very supportive of the Unit and the work it has done and is doing. In their latest report (January 2018) they note the Unit’s lack of PhD awarding powers, something that was further explored by the evaluation Panel during the site visit. While noting the various external roles that staff play in PhD supervision, and the incoming, visiting PhD students who contribute to the broader research culture, the cooperative constitution of the Centro de Estudos Arnaldo Araújo / Cooperativa de Ensino Superior Artístico do Porto, CRL (CESAP) has proven to be a fundamental obstacle to the introduction of any in-house PhD programmes. Legally reconstituting the larger institution would be a significant undertaking, and at this stage it is unclear whether this would be the best use of the Unit’s resources or energy. If this became something they wanted to push for in future, CEAA could be a good environment for PhD study, allowing a virtuous cycle that would not only increase research capacity and culture, but also support existing members of staff in developing their supervisory experience. (Many staff in this Unit currently have very few official PhD completions for their career stage, but they do host several visiting PhD students and are external supervisor to others.) The attraction for current visiting PhD students was articulated very strongly around the expertise of key CEAA supervisors/academics, and their involvement in exhibitions and events. It seems somewhat paradoxical that this expertise is so widely recognised, yet CEAA cannot benefit directly from the generous input of their researchers into PhD study that is officially registered at other institutions.

Strategic leadership and management appears in practice to be a shared and transparent endeavor, although the Unit Director, Maria Helena Teixeira Maia, is clearly a hugely influential and respected figure within the Unit, providing both intellectual coherence, encouragement and challenge to colleagues, as well as extremely hands-on support for and in day-to-day activities. In combination, the formal and informal management structure is appropriate for the size and dynamic of the Unit, although the introduction of some administrative support could clearly make a significant difference to the current operation and longer-term sustainability of the Unit.

Looking ahead, the strategic Plan to 2022 is broadly developmental, continuing around current research themes and group structures. This is appropriate. Some mention is made of a desire to develop digital platforms that could further the Unit’s expressed interest in Open Access through this kind of dissemination work. Geographically, there are plans to increase collaboration with European, African and Latin American research institutions, although the current political situation in Brazil was noted by the Unit as a potential obstacle to future collaboration along this axis.

In terms of practicalities and objectives, the plans for this next phase are clear and logical. Each research group sets out three clear projects/themes that they will pursue. These could be developed by providing more detail to support strategic and project management, in particular addressing deliverable outputs, milestones, resources, and people. Proposed projects such as the ‘Dramatic Architectures’ would also permit a thorough collaboration across several staff and interests in CEAA. ‘Trajectories South-South’ would add critical rigour to some of the broader international collaborations and projects mentioned in the previous paragraph.

CEAA is clearly working at, or beyond, reasonable capacity. We recommend that the Unit acknowledges this situation, and that it explores ways that would allow all involved to work ‘smarter not harder’ in the short to medium term, with a view to becoming more sustainable longer term. We do support the request for funding much-needed administrative support, but would also encourage the Unit to take this as an opportunity to reflect on, and fine-tune, the organizational and management structure of the Unit to evaluate distribution of current roles/tasks. (The conclusion might be that this is OK, and remains unchanged, but it is worth checking). Finally, we recommend that some benchmarking and mentoring exercises might be useful as a way of increasing the general quality of research outputs.

The submission made reasonable reference to issues around Research Ethics: their approach is to refer to various codes and policies, so it reads in a quite instrumental way, and is quite front-ended in terms of the research design/implementation process (with nothing on data protection or dissemination, for example). Discussion during the site visit suggests that awareness around research ethics good practice is yet to be consolidated fully with staff and visiting PhD students.

The awarded New PhD Researcher contract may be used for the Junior, Auxiliar or Principal levels as required by the Unit and agreed by FCT.

Evaluation Panel: ARTS AND HUMANITIES - Architecture and Urbanism

R&D Unit: Centro de Estudos de Arquitectura e Urbanismo (CEAU)

Coordinator: Rui Humberto Costa de Fernandes Póvoas

Integrated PhD Researchers: 72

Overall Quality Grade: VERY GOOD

Evaluation Criteria Ratings

- (A) Quality, merit, relevance and internationalization of the R&D activities of the Integrated Researchers in the R&D Unit Application: 4
- (B) Merit of the team of Integrated Researchers: 3
- (C) Appropriateness of objectives, strategy, plan of activities and organization: 3

Base Funding for (2020-2023): 899 K€

Recommended Programmatic Support

PhD Fellowships: 7

Programmatic Funding: 270 K€, including for 1 (Principal) New PhD Researcher Contract.

Justification, Comments and Recommendations

CEAU is a R&D Unit of the Faculdade de Arquitectura da Universidade do Porto, an established institution of international profile.

The overall perception from the application submitted is one of a Unit rich in diversity, skills, expertise, with a commitment to the local and national context, well equipped in terms of facilities and with a considerable network of international collaborations and activities. Still, the overarching rationale of the Unit, apart from capturing the outputs and interests of staff at the school of architecture, came through less clearly.

The site visit added much important information to this initial overview. During the site visit, the Research Unit Director introduced it through a theoretical, disciplinary and organisational overview which showed a clearer cohesion in thought; still, whilst all parts are joined, this is a more general bottom-up coherence rather than a distinctive identity.

Overall, the Unit benefits from a number of contextual strengths:

- 1 The Faculty of Architecture in the University of Porto affords academic recognition and International stand; strong links and overlaps to the Graduate School at Porto, and to teaching: in fact, the pedagogy connection between most of the research groups and the school of architecture seems clear and natural, with benefits going both directions.
- 2 It resides in a dedicated campus, which gives a distinctive identity and a remarkable tone to the work done, its staff and students. It is a destination of which every member of the Unit is very proud of;
- 3 A cohort of staff dedicated to advancing the architectural discourse across all its declinations, its scales, and its practices, and its approaches;
- 4 A strong commitment to and expertise in the region and the city, in all its built environment aspects – social, technical, theoretical, historic, contemporary;
- 5 A genuine collaborative attitude, combined with a strong sense of identity with the school, which has managed to maintain, even through recent difficult financial conditions, the legacy of its staff, young and more established;
- 6 A desire to contribute meaningfully to international debates as active participants and leaders.

CEAU and its Research groups have quite strong academic profiles, with generally steady rather than stellar profiles, extensive teaching and/or practice experience, some impressive publication (books) lists, showing a robust capacity overall, although several don't have a large PhD supervision experience. From the ORCID profiles it was often difficult to tease out the very significant traits of everyone's cv, having staff often listing a remarkably detailed list of all activities undertaken throughout their career with not much hierarchical prioritizing.

A shared characteristic that makes this Unit truly unique, is the fact that all its members have a commitment and passion for Porto and its region. This is an asset which combined could define the external essence of the Unit to the rest of the world.

The Unit is organized in 7 Research Groups, which together cover all scales in architecture and urbanism: heritage and innovation in modes of living, communication and representation; technologies; professional training and user engagement; theory and practice. This range of scales is important, and should be used to rationalise the Unit overall. Most Groups claim and demonstrate activity and impact at both the local context and internationally. The 7 Research Groups have a distinctive profile, and the activities they engage in – as a spread – cover a lot of ground. They are described in the application unevenly: some declare their ethos, aims and objectives very carefully and with rigor, others (such as House Atlas, AdC) seem more research projects, although during the conversation this was rectified, and each group came across as solid, with purpose, well organised and proactive. The Research Group Digital Fabrication lab has particular consultancy potential, with funded research from industry and patents. It is in tune with international developments, whilst at the same time combining its approaches to local traits, from both a cultural and environmental point of view, suggesting potential to help strengthen and continue local traditions and ways of building. This might carve out a role for the Group to contribute to regional and national social innovation through upskilling and employment.

The Centre for Communication and Spatial Representation, CCRE) is described as an 'open group'. Whilst possessing a specific focus, its remit is clearly potentially collaborative, but from the discussion it was not clear if the collaboration with other groups is as effective as hoped.

The structure of the Unit is headed by a Director and Vice-Director, composed by a Scientific Board of all members with PhDs. The Board meets regular during the year.

In the meantime, the Research Groups coordinators hold informal meetings amongst themselves with Director and Deputy Director to discuss research plans, finances and allocation of resources on a more ad-hoc basis, even monthly. This helps them to engage in a continuous process of self-reflection, engagement and definition of goals and objectives. The Unit is supported by a permanent Advisory Board of 4 experts that is about to change its membership. The complete renewal of the Board is worrying, since it will lose any element of continuity. Furthermore, one member of the Board comes from the University of Coimbra, which is one of the Partner Institutions listed in the Application. This might constitute a conflict of interest.

The last evaluations by the Board occurred in 2013 and 2015. The 2015 Report was rather critical in relation to the broad spectrum of research interest, and the declining numbers of publications and research students. The issue of broad spectrum of topics was addressed by the Unit Director in the introduction, outlying a sense of coordination, respect and shared projects, although an overarching identity has still not fully emerged. The concern of declining number of publications was addressed by the rich display that the Unit organised for the site visit. In terms of number of PhD students, this was attributed to the economic crisis, although numbers are slowly picking up again,

During the site visit, the Unit confirmed that their goal for the Board is to bring together members of international and national reputation in order to give credit to the Unit through its assessment, although during the discussion it was agreed that the role of the current Panel, for now rather disconnect from the definition of strategic directions if not through criticism, could be more positive, in trying to help shape a direction of march rather than just assess it.

The range of contributions listed in the application appeared rather strong, although the impact of some of these, i.e. the Mapping Public Housing database, was less clear (the Database has an exceptional potential, for the sheer detail and coverage of its material). The range of publications available on display for the Panel during the visit was on the other hand remarkable, showing a much wider range and strength of outputs than the one presented in the formal submission.

This range of outputs of the Unit covers databases, peer-reviews publications, monographs and a varied spread of events. The outputs also include self-published peer reviewed Journals, with good intellectual value and distribution, namely BIM is More! And JACK, although these are still at an initial stage of development. The Unit declares a number of 'coordinated contributions' outwith the 7 Research Groups; these contributions have consultancy potential, making use of applied research.

Many of the book/monographies presented have high editorial and aesthetic quality.

The five 'exemplary projects' presented in the application cover a wide range of topics and approaches; public housing; cinema; robotics; distributed urbanism; and public dissemination of knowledge (as a research theme as well as an activity). Some of these, such as the project 'Territory: Common Home' are long-standing, while others are quite recent.

Whilst they don't represent all seven of the Research Groups, they certainly illustrate cross-references, both intellectual and methodological, indicating in a tangible way what the interviews and discussions during the site visit confirmed.

CEAU has a number of strengths:

- It strongly values, demonstrates and encourages the link between research and education; in this regard, aside from its day to day activities, 2 external initiatives should be flagged as good practice holding further potential: 1) help in setting up a School of Architecture in Angola, and 2) outreach activities to 15-19 years old. From a University internal point of view, the site visit confirmed staff commitment, across all its tiers, to work towards the integration of its research in teaching, through content, events and human resources.
- There is a strong overlap between the Doctoral Programme PDA and CEAU, as well as a desire for continuing integration of its researchers. The PhD students are a terrific resource: they all have a profound sense of belonging to the Unit, the Institution and the city; they are positively collaborative, within and across their research Groups, and are naturally multi-disciplinary. The mutual learning that is afforded by the co-location in the 'Unit's headquarter' is an asset not to underestimate.
- CEAU has a strong interest and expertise, in the Portuguese reality; in this area is strong and consolidated, and its work is disseminated Internationally.
- CEAU is mature and critically aware of both contextual and global changes at an environmental, societal and economic level and is already interrogating itself about how best to adapt and respond to them.

Weaknesses:

- CEAU's disciplinary richness is preventing a comprehensive, defined, unique identity to emerge (yet), one that brings together and celebrates all its strands and profiles and yet is meaningful: CEAU can be more than a collection of its parts. This was a point picked up from the application, the site visit and various discussions with staff.
- Collaboration and collegiality is evident amongst members, although it appears more the result of proximity and habit than shared long term ambitions.

Strengths and Weaknesses together, within CEAU's context, already define several future possibilities, which is an exciting position to be in.

The return under 'Ethics' is simply put down as 'n/a', which should be expanded, since many of the Research Groups have presented work based on engagement with or archiving of patterns of life of, people, all of which have ethical implications in terms of research methodologies. This is an area that the Unit should explore carefully, especially if it intends to make of this work an international best practice.

Future Plans and future activities of the Unit are presented, for the most part, as a continuation of, with the aim of cementing, each groups' current activities, even if through a number of new specific initiatives. This is a reasonable strategy, which will allow CEAU to rationalise its current range of expertise and activities before undertaking major new revolutionary activities: evolution, not revolution.

The funding request is relatively modest, commensurate to these plans.

Highlight:

The Mapping public housing project is worth a special mention, for its extensiveness, rigour and overall quality.

Whilst the goals listed in the Future Plans ambitions of CEAU are all worthy, discussion has highlighted a number of critical points of great potential which should be used to shape its future:

- the Unit needs to translate its overall ethos, aims and strategy into an explicit, precise vision which starts from both the RG's outputs and strengths, and the 2 dominant overarching traits: the geographic expertise and commitment, and the inclusive disciplinary coverage.
- This will help address another current limitation of the Unit – its capacity to benchmark its work in both the disciplinary context and internally – though the use of explicit KPIs. This is a point that was also raised by the PhD students. The impression of the Panel was in fact that whilst these overarching themes were clear to the higher levels of staff in the Unit, this was less clear moving down, to the youngest staff (PhD), whilst at the same time there is a great desire for this degree of clarity.

We are confident that this further definition might help increase its attractiveness for potential applicants, also addressing definitely one of the issues in the Advisory Board report from 2015.

Each of the Research Group has something very tangible already, i.e. the Course in Architecture in Angola, the standardised digitalisation/archiving of outputs, processes. It should not be difficult to clarify what is the purpose of the next steps. Clarifying this might also help Group Coordinators establish, maintain and develop further collaborations with each other. Also, it might help clarify the impact potential, outside academia, of the work being carried out by each group.

In looking ahead, the Unit has demonstrated a strong degree of awareness and self-criticism, which has helped shape some of their operations. For example, members of the Unit, across all seniority, have commented on the severe impact of the economic crisis has had on the Unit, as manifested in a decreased demand from municipality for their services. This has encouraged them to focus more attention towards the dissemination of knowledge, and tackling broader issues, such as aging, health, and work related to Africa and Brazil, on poverty, where the regional expertise could be built upon and transferred. This capacity to adapt is sign of intellectual maturity and structural adaptability; these new directions should be invested upon.

Detailed recommendations:

- CEAU-PDA – each of the 7 Research Groups could develop one or more taught modules, portraying its most relevant findings, to make up a taught element component of the PDA, and at the same time offer new PhD students an advanced starting point of paradigms and methods from which to start their PhD work. This would ensure a double advantage: 1) starting from the current achievements of the Unit across its 7 Groups, rather than from a neutral ground, students start with a natural interdisciplinary advanced framework 2) potential synergies for integrated research could start emerging through new PhDs and even be tested thanks to the involvement of PhDs in masters courses.
- These modules could be built also inserted in the portfolio of Masters courses.
- This practice would help in making the link research-teaching even stronger, with advanced ‘levels’ of knowledge being offered to students throughout.
- Eventually, these modules could easily be turned in Continuing Professional Development (CPD) for practice, increasing the impact and income generation of the Unit in a rather natural manner.
- Across the 8 Research Units being assessed, others also work on digital archives, so even further synergy could be built across Portugal overall, for example in terms of how they are translated for different layers of users (i.e. practice, academia, policy making); how they are interlinked so that physical analysis could be cross-referenced to social and economic data; how databases of skills can be linked to a database of Arch Rehabilitation Actions in Built Environ (PACT in CEAU). Some of the digital platforms seem already ripe for collaboration.

The awarded New PhD Researcher contract may be used for the Junior, Auxiliar or Principal levels as required by the Unit and agreed by FCT.

Evaluation Panel: ARTS AND HUMANITIES - Architecture and Urbanism

R&D Unit: Centro de Investigação do Território, Transportes e Ambiente (CITTA)

Coordinator: Paulo Manuel Neto da Costa Pinho

Integrated PhD Researchers: 45

Overall Quality Grade: EXCELLENT

Evaluation Criteria Ratings

- (A) Quality, merit, relevance and internationalization of the R&D activities of the Integrated Researchers in the R&D Unit Application: 5
- (B) Merit of the team of Integrated Researchers: 5
- (C) Appropriateness of objectives, strategy, plan of activities and organization: 5

Base Funding for (2020-2023): 777 K€

Recommended Programmatic Support

PhD Fellowships: 16

Programmatic Funding: 1015 K€, including for 3 (Principal) New PhD Researchers Contracts.

Justification, Comments and Recommendations

Overview

CITTA is a Research Unit of the FEUP and FCTUC. This distinctive disciplinary lineage characterises the Unit's rigour, remit and approach. In addressing the overarching theme of post-carbon city, CITTA has distinguished itself theoretically, methodologically and practically at national and international levels, in the areas of transport planning and management, environmental assessment and spatial planning.

Its profile is complex:

- It includes a wide range of disciplinary expertise;
- It has a rich set of projects;
- It targets many audiences;
- It has a range of impacts;
- It includes researchers at all stages of their professional development.

Despite this complex profile, CITTA is a coherent Unit, which encourages, supports and manages diversity.

This coherence is intrinsic to all its operations and transpires from the written submission, staff profiles and exemplars of work, and was confirmed by the site visit of the Panel.

Coherence and coordination can be attributable to three factors particularly, although a number of secondary factors should also be listed.

1. The Research Unit has positioned itself within a precise but varied area of work, used as an intellectual framework for all activities of the Unit. This framework has been strategically selected to be contemporary, relevant and necessary: the post-carbon city. This broad identity was communicated and explained, and most importantly, has been bought in by all staff, who accept it as a general and cohesive direction of travel. Still, it gives everyone space to develop according to distinctive interests and skills.

2. This framework is addressed and developed through 4 research lines, represented in 4 Research Groups: Planning and the Environment; Urban Policies and Housing; Policies in Transport; and Infrastructure and Management.

Across these 4 areas, staff conduct research which is theoretically fundamental, methodologically innovative around the areas of monitoring and assessment, and has impact, although since their main collaborations are with the public sector, the latter is perhaps less emphasised than the other two strands. In the Infrastructure and Management Group, a number of projects with industrial application potential are developed or have been developed. Whilst CITTA sits in a Faculty of Engineering, and is in line with this context, it has developed a wide theoretical and methodological depth, sitting comfortable on a solid, evidence-based substrate.

3. From a human resources point of view, it is in a strong shape across the board. The calibre of staff at all level is high: Integrated members of internationally recognised profiles are well represented in each of the Research Groups, where

they help drive projects, involving all from the younger Integrated researchers, to the PhD students. Their profile is key in attracting Doctoral students of the highest calibre (intellectually very mature, interested, engaged)

CITTA is much more than the sum of its parts; it is a well-crafted, and experienced organisation. Its location in FEUP/FCTUC is key: despite having a majority of staff with an engineering background, it accommodates a wide range of humanistic and design-based disciplines and interests, hence it operates across a good balance of quantitative and qualitative approaches, theoretical and applicative.

CITTA is well aware of its relative position both internationally and nationally, which it uses both as unit of measurement of its past and current performance, and a benchmarking exercise to guide and direct its future development. This helps it operate with efficiency with a 'divide and conquer' and no dispersal of energies.

The multidisciplinary profile of its staff is well distributed in its 4 Research Groups and range of projects, and even if each has an identifiable profile and portfolio, staff are happy to migrate across groups when new opportunities or need emerge. Each of the Groups is headed by leading figures in their specific area, who have a distinguished or emerging international standing. Interestingly, the area of urban morphology, which generates very interesting and distinctive work, seems less represented than others in staff profile; this suggests that the RG leader, V Oliveira, is a resource worth noticing as having particular potential, even if at a rather early stage of his career (has still few PhD supervision completed).

CITTA is extremely productive, with multiple excellent projects (many of which are European or International); collaborations with municipalities; numerous international accolades; several established collaborations with many countries around the world; extremely rich number of scientific articles published in ISI and Scopus journals, many other reports and publications and n of PhDs. The average rate of publications is close to 0.8 papers/researcher/year which is quite satisfactory and close to well established European research centres.

For what concerns the measurement of its productivity, this is a complex Unit to assess; on the one side, as a Unit submitted in the Architecture and Urbanism Panel, it has a distinguished, varied portfolio which satisfies the many facets of design-focussed and social sciences-oriented disciplines. On the other, as a Unit with a strong engineering focus, it tends to be assessed on the basis of more metric oriented-criteria.

Because the nature of the largest part of CITTA's staff has an engineering background, it has explicitly asked to accompany the assessment of our Panel with that of a further expert in the field of Transport; we briefly summarise here some of the key points made to this regard, as they provide crucial insight and recommendations.

The impact of CITTA's work is necessarily complex and multifaceted, since its work spans across so many domains and has so many different target groups. It is encouraging to see that its staff pursues and values impact of different nature, ranging from academic metrics, to influence on policy making, to consultancy and collaboration with industry (not many yet but growing), to relationships with local communities and established disciplinary organizations. This is a testament of the richness and resilience of the Unit.

Of particular relevance is the Units' explicit ambition to contribute, through its work, transformative impact to policy making, in the broader framework of the post-carbon city. This is ultimately what the best research should aspire to, and CITTA seems fit for achieving this goal.

Summary overview from the transport disciplinary Expert:

- An overall weak performance in income-generation, with little (5% funding coming from European or other national sources other than FCT).
- A visible lack of presence in well-known European or other international Transport research Associations such as ECTRI, FEHRL, FERSI, HUMANIST, etc., or liaise with international Transport operator Associations such as the UIC (railways), the UITP (public transport), etc. Still, there is a very positive internationalization position with the MIT and the other world-known Universities like Carnegie-Melon, Imperial College and others.
- Low performance overall in terms of income generation from private sector and the industry, although during the site visit this was put in the context of the public nature of many of the major transport institutions.
- A still small number (2 or 3) of spin-off companies created out of the activities of the Unit in the last 10 to 15 years.
- The Unit has 30 strong studies assigned to it under contracts mainly with local authorities and other public bodies. Most notable of these, are the studies for airline planning (for the TAP and SATA airlines), the airport capacity management manual, and the urban and regional transport and mobility planning study for the Porto Metropolitan Area Authority.

- Strong research and know-how transfer activities of the Unit over the past 5 years of very good scientific and practical value, but the wide coverage of subjects weakens the Unit's focus and potential future value

Whilst we, as FCT Evaluation Panel, acknowledge the Expert's points which we have reported extensively, we have developed an independent overall assessment, for consistency with the evaluation of all other Research Units.

From an organisational and governance point of view, despite its considerable size, the Unit is well organised and democratic. This is portrayed from the top-down, but is also profoundly felt from the bottom up, an important corroboration. The most senior staff of Integrated Researchers are considerate in the construction of a legacy strategy which ties the senior Integrated members to the full-time researchers to the PhD students and even down to the masters students.

From a practical point of view, CITTA operates through a combination of formal (Scientific Council meetings, yearly CITTA conference, and informal (i.e. Tertulias, workshops PhDs-PostDocs, 'future cities' and lunchtime presentations) meetings. Issues of strategic importance are decided by the top vertices of the Unit, although at a grass roots level these get discussed within the Research Groups.

There is a sincere sense of intellectual freedom, but also support and guidance, as well as openness (data is shared across projects, and between researchers) amongst its members, who communicated clear collegiality during the site visit.

Even the youngest researchers, i.e. very recently graduated PhDs, are granted important leadership opportunities, (i.e. the directorship of the Pavement Lab). Whilst this might be an exception more than the rule, it is an event that if emphasised correctly could have an extremely strong impact, serving as target for other students to show that hard work, and good ideas are rewarded and celebrated by the rest of the Unit.

There is also a sense that everyone in the Unit is treated with respect and given high responsibilities – this makes CITTA a challenging but at the same time stimulating environment.

Having the post-carbon city as underlying theme, CITTA is managing to efficiently connect theoretical, methodological, interpretative work which has disciplinary, political and social impact. Fundamentally, CITTA has demonstrated at best the value of framing itself around a strong conceptual, concrete identity, the post-carbon city. This is proving to be an endless source of new work. Therefore, it is important that in its future plans the Unit keeps this identity up-to date and that this identity keeps being communicated across all its staff and with their help is kept up to date.

Around this broad but at the same time quite focussed framework, it has then identified main strands of work – the efficient, safe, just and accessible city, which correspond broadly to the profile and interests of staff, or result from their ongoing synergies.

With its range of expertise – theoretical+fundamental/measurement/assessment+evaluation/modelling – CITTA has the great potential to undertake longitudinal studies which, around the theme post-carbon city, could easily link also more explicitly social disciplinary dimensions.

CITTA has considerate, organic and credible plans for expansion proportional to its current size and capacity. These plans are credible and we believe they could be supported by CITTA in its current form.

Resources should be used to pursue three lines of work: normative design (1); geographic diversity (2) and impact (3). CITTA's current work is at the top of its game and the Unit could embark on new directions, building on it.

The FCT Evaluation Panel would like to offer some comments to CITTA, in the hope that they will be of use in developing the Unit further.

1. Much of CITTA's focus is on the existing city, context in which it has achieved undeniable success. In the future, CITTA could expand its work towards the support of new urban development, both in the context of European post-industrial land, as well as rapidly developing countries.

2. Since many PhDs will, because of the nature of their work, find employment with companies in Brazil, Mozambique, Angola, Cape Verde, CITTA should expand some of its taught components to groundwork outwit Brazil, which seems to

be the greatest geographic interest outside Portugal for now. This focus on Africa came across both talking to the PhD and the research fellows group. There is recognition that the expertise they are developing could help them secure employment avenues in broader geographic areas than seem to be currently encouraged, but for this to happen, some background training and education on the planning, environmental systems of these Countries needs to be provided.

3. The Advisory Board Report of 2013 asked CITTA to develop case studies on community impact of their work; quite candidly, Integrated Members suggested that they received contrasting feedback from individuals considered at the very top of their disciplinary game (to pursue more fundamental research instead). Whilst the FCT Evaluation Panel found a good balance of both types of impact, we would suggest that the composition of the Board might be reconsidered to include both types, so to make their engagement even more useful.

Important points of recommendation offered by the Transport Disciplinary Expert:

1. Focus on few research areas to eventually establish "centres of excellence" status at national and international level. Potential is currently seen in:
 - a. Land Use and Transport interaction issues (How the urban structures influence the mobility patterns and vice versa). CITTA is suited to do so, starting from the book by Prof. Pinho on "Mobility patterns and urban structure" and the new Transport technologies (electrification, autonomous transport, etc) as well as the new mobility as a service ideas and models.
 - b. Decision support and impact assessment in urban planning and Transport, based on combination of urban planning and transport.
 - c. Sustainable urban mobility issues. "Sustainability" is the key word in the coming new EU research framework program (Horizon Europe) and it seems that by combining the competencies in the two fields that exist in CITTA i.e. that of mobility and that of environmental assessment many synergies and innovatory elements could emerge.
 - d. Traffic Engineering and advanced traffic management issues (including Intelligent Transport Systems applications) to create and apply innovative traffic engineering solutions at the local and national level including the work on pavement engineering and road maintenance issues.
2. Participate to more EU funded research by reinforcing international liaisons and connections.
3. Organize a more active and focused IPR and research implementation activity, through the creation of a separate horizontal section within the Unit.
4. Be more attentive to the impact of CITTA's research through collection and evaluation of data relating to citations. The specific objectives and reflected activities foreseen for the next five-year period do not seem to "match" the vision. In particular, the scientific objectives stated in the section 11.1 of the application are weak. They miss the stated vision and overall objectives of the Unit. They are not integrative, in any way, of the various disciplines and expertise that exist in the Unit and they lack the necessary focus towards one overall – or even a small number of – scientific areas in which the CITTA could attempt to become known (nationally and internationally) as a center of excellence in the future. They are – in their majority – continuation of pre-existing research work.

The awarded New PhD Researchers contracts may be used for the Junior, Auxiliar or Principal levels as required by the Unit and agreed by FCT.

Evaluation Panel: ARTS AND HUMANITIES - Architecture and Urbanism

R&D Unit: Centro de Investigação em Arquitectura Urbanismo e Design (CIAUD)

Coordinator: Fernando José Carneiro Moreira da Silva

Integrated PhD Researchers: 171

Overall Quality Grade: VERY GOOD

Evaluation Criteria Ratings

- (A) Quality, merit, relevance and internationalization of the R&D activities of the Integrated Researchers in the R&D Unit Application: 4
- (B) Merit of the team of Integrated Researchers: 3
- (C) Appropriateness of objectives, strategy, plan of activities and organization: 3

Base Funding for (2020-2023): 2378 K€

Recommended Programmatic Support

PhD Fellowships: 6 (*)

Programmatic Funding: 370 K€, including for 1 (Principal) New PhD Researcher Contract.

(*) After Preliminary Hearing

Justification, Comments and Recommendations

CIAUD is a large Unit, involving 167 integrated researchers with a PhD in 2017 (and 178 integrated researchers in 2019), 45 PhD students in 2017, Masters students from a diverse range of programs, and a number of collaborative researchers. The mission of the Unit is understood by the Panel to relate to a commitment to innovation within knowledge production, and we understand the identity of CIAUD as being related to the capacity of design (taken in the broad sense of an iterative and reflexive process of projecting new realities) to bring about positive societal change. Whilst this is a broad orientation, we see it as an appropriate description of the Unit's work and an umbrella that is able to take into account the diversity of research being undertaken at CIAUD.

The Unit is structured in 4 Main Research Groups (Architecture, Urbanism, Design and Ergonomics), which are organized under 16 Main Research Lines (2019). The Main Research Groups, which are built upon disciplinary affinities, are also used to organize the External Advisory Board, which comprises of largely well-known experts within the respective fields. Whilst the Evaluation Panel views this structure as a logical division, it places great pressure on the Secondary Research Lines which transect the structure, to provide evidence of interdisciplinary cooperation. The Unit emphasizes the creation of a number of Secondary Research Lines (also referred to as Cross Research Lines) as a key contribution in their Application. The Panel is inclined to agree with this assessment, which we expand upon below. Beneath this structure of Main Groups, Main Lines, a series of Research Groups are arranged more organically, and these are complemented by Research Lab. In governance terms, the structure is built on a Council of Researchers (which comprises of all Integrated Researchers); a Steering Committee (which is elected by the Council of Researchers); and an External Advisory Board (also referred to as a Consultative Council). PhD students reported a sense of involvement in decision making, although the mechanisms for this appeared to be partly informal. Early-stage researchers also described governance in the course of our Site Visit as a structure "without closed doors" or sedimented hierarchies, which point towards a foundational inclusivity in the Unit's structure that might be further formalized in future strategic work.

The Panel identifies a number of strengths of the Unit. The first lies in the demonstrated capacity and interest in linking the teaching activities of the Faculty of Architecture (FA/ULisboa) to research. This was evident in the Site Visit, where PhD students, early-stage researchers and senior researchers alike attested to the importance of teaching within their research practices (in the case of early-stage researchers, this was nominated as a key advantage of working within the Unit and indeed at FA/ULisboa). We note that this exchange is also emphasized thematically in the highlighted publications. The Unit is, in this sense, well positioned to make a significant contribution to design pedagogy should it chose to continue to strengthen this line of inquiry. We commend the fact that the possibility to combine teaching and research is so evidently supported at CIAUD.

Secondly, we agree with the Unit's own assessment that the emphasis on interdisciplinary work through the pursuit of transversal Secondary Research Lines, Research Groups and Labs that bind and complement the Main Research Groups

constitutes a key strength. CIAUD has been very successful in the dissemination of produced knowledge through traditional outlets and thereby engaging in scholarly debate across a wide range of disciplines. In terms of the highlighted publications listed in the Application – which were supplemented by an impressive display of titles at the Site Visit – scholarly work covers broad disciplinary fields like governance, management, design, and innovation, more specialist areas like ergonomics, transport, and fashion design, as well as addressing the more traditional concerns of the architecture discipline and its theory and history. The members of the Unit have participated in an impressive number of scientific meetings and conferences and publishing in numerous books, book chapters, and via articles in scientific journals; and conversations with PhD students suggest that the Unit’s reputation alone opens doors for them on an international stage. We note that CIAUD’s Application emphasizes the aim of future consolidation in relation to these Lines, which suggest that the Unit is moving towards a phase of maturation. This was explained at the Site Visit as an opportunity to (i) define goals, (ii) pursue excellence through an iterative process of development; (iii) identify core competences, and (iii) build bridges between areas.

A third, related, area in which the Unit demonstrates both maturity but also great potential lies in the linking of design practice to the scholarly production of knowledge. A practice-based orientation is clearly present in the research outputs of the Unit, which are diverse and exceed the boundaries of traditional peer-reviewed journal articles (although these are present, as noted above) to extend to more experimental publications, products and services, masterplans and strategic advice, exhibitions and media productions, and knowledge archives (for instance, morphological atlases and design historiography). The work on “Pattern” within the Fashion Studies field is provided as just one example of this productive orientation towards design. This is a great current strength for the Unit. On this front, the Panel commends existing achievements in practice-based and research by design, and identifies the possibility of important epistemological contribution to the architecture, design and urbanism field in the future.

The third strength of the Unit, in our view, lies in a demonstrated commitment to linking research activities to broader societal actors, via collaboration with municipalities, industry partners, and other communities of practice. This is evident in the diversity of contexts which researchers from CIAUD engage within with as sites for the initiation of positive change (both in terms of regional areas in Portugal requiring socioeconomic development stimulus by way of research and design processes and in terms of areas in the Global South or areas of socioeconomic deprivation that are being addressed by planning and participatory design work). The Poles that integrate more geographically isolated areas of the country with the activities of the Unit also offer further evidence of the focus on an outward-looking Unit seeking to engage with the world in “designerly” terms. Further, the work on design historiography that was submitted as part of the application is highlighted as making a particularly significant contribution to the cultural history and design discourse of Portugal, one that is relevant to broader international contexts.

Finally, CIAUD appears to place great emphasis on the value of the people that constitute it. A focus on human resources is evident throughout the application and was clear at the Site Visit, and is even reflected in the choice of objects and approaches within the research itself that is being done at the Unit (a clear example of this lies in the focus on work conditions, for instance, in the output of researchers within ergonomics, which emphasizes workplace safety, risk, and the importance of workplace design). The Unit has the benefit of a number of well-established senior researchers and a strong leadership team who have occupied key leadership positions within a range of institutional settings, published widely in books, articles, conference papers, and peer-reviewed journal articles, in a manner that indicates that they hold international standing within their field of expertise (be it design, morphology, urbanism or ergonomics). In addition, the senior and junior researchers, as well as the PhD students, of the Unit attest to the presence of fora for exchange, regular meetings to exchange and review work, and influence – albeit in many cases “organic” and “informal” - over the directions of the Unit. Each of the members of the Unit, whilst grouped together within the Main Research Groups (Architecture, Urban Planning, Design and Ergonomics) and united transversally by the Secondary Research Lines, also appear to have been accorded a degree of autonomy in defining their methodological and epistemological orientations, as well as the objects of their research (this is clear in the sheer diversity of themes present within the outputs). Rather than looking to method to unite the disparate projects of the Unit, the work is united by a “team spirit” (an ethos mentioned in the Application and evident at the Site Visit) that demonstrably motivates the researchers of CIAUD to pursue highly effective and occasionally quite experimental forms knowledge production. Within that team spirit, the leadership of the Unit also point to the importance of criticality towards the tools, contexts, and disciplinary frames of their research. This latter point is highlighted by the Panel as being particularly valuable and a distinguishing feature of the research Unit.

The Panel places the value of a diverse and highly productive research team, the prioritization of criticality, and the capacity to construct connections to practice, to society, and to teaching activities at the centre of our decision. At some 178 integrated researchers, the Panel sees the Unit as having achieved a “critical mass”. We support the Unit in their

aims to consolidate and further structure their activities, projects, and diverse lines of inquiry, and agree that this work may require support from FCT.

We note that the amount of funding requested from CIAUD indicates a desire for radical expansion from the Unit's leadership (CIAUD has requested 80 new researchers, and 200 new PhD fellowships). Future plans for the period 2018-22 that are elucidated within the Application (and confirmed in conversation with the Coordinators at the Site Visit) emphasise the importance of continued engagement with EU funding structures, as well as the potential of the group to capitalize on research through patenting, consultancy cooperation, and spin-offs, which establish the Unit as well-placed to move into a period of maturation through strategic consolidation. In any growth process, we highlight that the team spirit that pervades the work of CIAUD should be carefully protected, and used to drive succession plans and thinking around the strategic development of what is already a strong Unit towards international excellence.

It is suggested that the new Principal Researcher to be hired work across the Secondary Research Lines with the task of consolidating CIAUD's maturing approach with respect to inter/trans-disciplinary research, as well as strategically developing the Unit's methodological and epistemological orientation towards design research.

Evaluation Panel: ARTS AND HUMANITIES - Architecture and Urbanism

R&D Unit: Centro de Investigação em Território, Arquitectura e Design (CITAD)

Coordinator: Alberto Cruz Reaes Pinto

Integrated PhD Researchers: 74

Overall Quality Grade: GOOD

Evaluation Criteria Ratings

- (A) Quality, merit, relevance and internationalization of the R&D activities of the Integrated Researchers in the R&D Unit Application: 3
- (B) Merit of the team of Integrated Researchers: 2
- (C) Appropriateness of objectives, strategy, plan of activities and organization: 1

Base Funding for (2020-2023): 761 K€

Recommended Programmatic Support

Programmatic Funding: 100 K€

Justification, Comments and Recommendations

CITAD has 145 integrated researchers distributed across 4 research groups of differing sizes, and spread geographically across three sites (Lisbon, Porto, and Famalicão). The breadth of research attempted by CITAD is ambitious. The five 'exemplary projects' selected by the Unit appear to be chosen to represent this breadth rather than the quality of research that has been carried out, as in most cases it is difficult to locate or identify the research associated with these projects in the submission. Trying to read these together with the full text publication samples was not simple, but there was some correlation. Assessing the work in this way, the quality and merit of the outputs is very varied.

Zooming out from these particular outputs, it seems they do not represent the make-up and activities of CITAD in a satisfactory way. Of the four main Research Groups (Urbanism; Technologies; Theory/History/Thought; and Design), the first group seems to be larger than the other three put together, while three of the five 'exemplary' projects were linked to the Technology group. There is a relatively large number of integrated researchers in CITAD, from a relatively large number of institutions/organsiations (seven are listed, in addition to the management institution). Funding for the Unit is relatively small (with the share from FCT, at 84% for the current period, forecast to drop in real and % terms), but it is very questionable whether this is providing value for money. The general levels of research as submitted in the application fall well short of international standards for originality, consistency and rigor.

There are examples of strong research practices: in particular the research project on the Tagus estuary and surrounding landscape identity—this addressed a range of complex heritage issues across technology, agriculture, architecture, industry, bio-diversity and so on, and involved collaborators from municipality, various public stakeholders, as well as students. The involvement of these collaborators was intrinsic to the projects and added to its rigour and depth, and the research is producing new knowledge that is both specific to the locale while also contributing to larger debates internationally. Various projects that addressed pre- and post-disaster architecture/infrastructure responses are similarly to be commended, both for their timeliness and also for the contribution they make in areas of technology/construction and to policy.

CITAD comprises researchers across a full range of experience, from early career through to established and experienced academics. There is little evidence of collaboration between groups, judging by co-authorship of outputs, events organized, and site-visit discussion.

Examples of very good work mentioned above are being produced in spite of, rather than as a consequence of, the organisation, management and strategic leadership of the whole Unit. Indeed, the Advisory Board reports show that this Unit has received some sustained criticisms and sound recommendations from its own advisors, yet there is no evidence (yet) that structural changes have been made in response. The organisation and leadership of this Unit seems to be ineffective, and has been raised as an issue by the Unit's own Advisory Board. Earlier Advisory Board reports suggested (2009-10) that more coordination should be done to avoid duplication between research groups, with clearer guidelines, roadmaps, and better management structures for future evaluation. The 2011 report suggested very broadly that everything was 'adequate', while also setting out some very clearly directed and onerous 'recommendations', particularly around questions of output authorship. The Advisory Board also criticised the written documentation

provided by the Unit for its lack of clarity, something that is again very clearly in evidence here, both in the written submission and during the site visit.

These concerns remain in evidence: the stated goals of this Research Centre are: “to develop research areas that bring together the fundamental scientific areas of Territory, Architecture, and Design, working with diverse researchers of various origins, universities, municipalities, industries, and companies, with the aim of disseminating findings for the benefit of the scholarly community and society.” This strategic aim is so broad it is not helpful to the Unit as a whole, to the four main R&D Units, or to the individual researchers. Within the main application documentation, there is little distinction between overall Unit strategy and that of the four groups (the latter simply repeat the former), and there is little distinction between the proposed Unit strategy for the coming years and the report on the previous period. ‘Architecture for development’ is stated as providing the Unit with some sort of coherence, but we found this was hard to define, and that it does not seem to be clear to the various groups within the Unit. The documentation in general is lacking in specificity — a point made by the Advisory Board in 2011 — providing little reassurance that the Unit has a clear direction. Similarly, but in less formal declarations, the various commentaries about climate change are very general and already well-established, leaving little indication of how CITAD intends to work with this situation in particular.

There does not appear to be any clear strategic direction or leadership in this Unit. In order to address this situation, we recommend over the period of the next five years that a structured and targeted programme of support and career development is established for younger researchers, and that they are provided with opportunities to become fully involved in the leadership and governance of the Unit in order to address this significant problem. Within this larger leadership group, some significant self-reflection should be undertaken, and self-awareness encouraged, in order to establish a clarity of organization and strategy for the future. In both these aspects (leadership development and strategic planning) we recommend some involvement with external partners, possibly in the form of outside mentors, and a structured benchmarking exercise with a clear emphasis on pathways to improve research quality, respectively.

A more focused series of objectives would be more helpful than the current six Forward Planning objectives. As with the stated goals, these seem to be too broad to provide the Unit with any helpful guide or vision. Two of the other objectives (numbers 2 and 3) warrant more comment: the proposed increase in Masters and PhD students should only take effect when the research environment into which these students would be integrated has developed increased rigor that is relevant to each area/paradigm. Young researchers would need to be supported by a clearer induction into sound research practice than seems to be available to, or deployed by, current established integrated researchers. The objective to “encourage interdisciplinarity between its different Research Groups and strengthen the Fundamental and Applied Research Projects” seems to be more fundamental and appropriate for the longer-term viability of this Unit. It currently lacks specificity as a plan (the accompanying list of 17 proposed research projects does not substantiate how any of the objectives will be met) but as an aim this seems to be key. We recommend the Plan is reconceptualised, re-prioritized, and developed to include clearer objectives (key performance indicators (KPIs), milestones, outputs) that would support both strategic and project management.

The statement concerning research ethics is vague, and focused more on good accounting than any understanding of research ethics (participants, data management, dissemination and so on). While good accounting is clearly important, research ethics should be informing research design across all these areas of scholarship. At present it is not clear whether there is any appreciation of how this might happen. We recommend a general broadening of awareness of current best practice in research ethics, and the integration of this best practice into individual and group work as appropriate.

Evaluation Panel: ARTS AND HUMANITIES - Architecture and Urbanism

R&D Unit: Centro para a Inovação em Território, Urbanismo e Arquitetura (CiTUA)

Coordinator: Teresa Frederica Tojal Valsassina Heitor

Integrated PhD Researchers: 24

Overall Quality Grade: EXCELLENT

Evaluation Criteria Ratings

- (A) Quality, merit, relevance and internationalization of the R&D activities of the Integrated Researchers in the R&D Unit Application: 5
- (B) Merit of the team of Integrated Researchers: 5
- (C) Appropriateness of objectives, strategy, plan of activities and organization: 5

Base Funding for (2020-2023): 400 K€

Recommended Programmatic Support

PhD Fellowships: 8

Programmatic Funding: 685 K€, including for 2 (Principal) New PhD Researchers Contracts.

Justification, Comments and Recommendations

CiTUA is a new R&D Unit, formed by a constellation of researchers who were previously part of the larger CERIS-IST research group. As such, the Evaluation Panel has been invited to assess material that in part documents work conducted in a different research environment and in part represents a strategic proposal for future work. With respect to both points, we feel that the formalization of CiTUA through its funding by the FCT will further consolidate its role as one of the leading Units within the fields of architecture and urbanism in Portugal, and even in its current embryonic stage constitutes a site of research of international significance. The Application made by the Unit was very clear, expressing a decisive and highly strategic approach to the organization of the research Unit, its future aims and its past achievements, and we appreciate the use of quantitative measures and relevant examples in illustrating and supporting all claims. The Site Visit added depth to the Evaluation Panel's understanding of conditions by revealing a Unit that demonstrates a strong ethos of intergenerational and interdisciplinary generosity, social engagement, and maturity.

CiTUA's 24 integrated researchers include a number of senior academics who are highly established within their fields, occupying key positions within international scholarly networks (including Presidency and Editorial roles in relation to DOCOMOMO, membership of the Steering Committee of the Space Syntax International Network, and participation in the Association of European Schools of Planning, amongst others).

The Unit as a whole has been highly productive in the preceding period, but beyond the important contributions made by individual researchers and in individual projects, it is the work of the Unit as a whole (as a group of people united by a shared strategic aim) that is commended by the Evaluation Panel and understood as constituting a contribution to academic knowledge that operates at an international level. The scale of publication of the previous period is impressive, particularly given the size of the Unit, as it takes in significant numbers of journal articles in well-regarded international peer-reviewed journals, books and book chapters published by well-known publishers. Importantly, much of this work is understood by the Evaluation Panel as being generative of meaningful change on the ground as well as demonstrated international relevance.

CiTUA's reach is reinforced by the conferences organized and chaired (in particular international conference associated with DOCOMOMO and AESOP (2017); the INTA World Urban Development Congress (2016) and Space Syntax International Symposium (2017)), which are large undertakings of international significance. Further, the aspiration of the Unit to reach decision-makers, activists, and international non-government organisations, as well as to engage with other disciplines outside of the scope of the Unit itself – an aim that became apparent in dialogue during the Site Visit – attests to a commitment to link the scientific dissemination of ideas to positive social change, which is to be highly commended.

The strategic aims and structure of the Unit are clear. Its work is united by a shared research interest in the urban and territorial scales, and its research is motivated by the need to engage with the pressures of radical transformation in relation to inhabited territory. This framing instills the work with relevance and focuses the outputs in a manner that is highly effective. The research activity is organized into two clearly differentiated Research Lines (Line 1 examines

“emerging forms of inhabiting space” and Line 2 addresses “planning, management and governance of contemporary urban territories”).

The Unit’s organization is structured based on elections, whereby the President is appointed by the President of IST after elections at the level of the Scientific Council, which is made up of all of CITUA’s PhD holders and collaborators. An External Advisory Panel, made up of experts with international standing, has also been appointed. The role of the Advisory Panel remains to be developed, given the embryonic status of the Unit and its previous history as a much larger Unit. Future strategic development of the Advisory Panel should also attend to an evident gender imbalance. In general the governance structure appears appropriate to the size of the Unit, and to be both inclusive and transparent. Discussions with PhD students at the Site Visit testified to a strong engagement in decision-making processes within the Unit’s organizational structure, even on important issues like disciplinary terminology (for instance, the English translation of “territorial engineering”) and strategic direction. The involvement of post-doc researchers in the writing of the Application is also to be commended, as sharing this exercise appears to have produced a strong sense of ownership amongst the members of the Unit.

The work of group engages with a range of complex environments like regional facilities, campuses, and educational buildings is demonstrative of the central emphasis placed on matters of social justice, which is explored by means of both analytic and collaborative, propositional work. This work is complimented by more overtly critical scholarly work – for instance, in the development of a post-colonial architectural history, and attendant exploration of cultural identity and the European export of architectural knowledge, which is highlighted by the Panel as important and internationally relevant scholarly work.

Another of CITUA’s core strengths lies in the actions taken by senior researchers to actively nurture excellence amongst emerging researchers and PhD students. This characteristic of the Unit is evident in the organizational structure of the Unit and in the ethos of intellectual generosity that was articulated by senior and junior researchers alike at the Site Visit. This ethos can be exemplified in the sharing of networks and contacts (for instance by opening up opportunities for younger researchers to participate in Editorial Boards and the organizational bodies of institutions like Docomomo and AESOP); and in the production of clear formal structures for review and the exchange of research results (both PhD students, younger researchers and senior researchers identified a number of forums for disseminating and discussion work in progress across the group). The aims (present in the Application and its presentation at the Site Visit) of avoiding the proliferation of isolated research activities is further highlighted as crucial to this strategic, collaborative approach. The ethos of generosity that has pervaded the work of CITUA to this point is commended by the Evaluation Board as an invaluable strategic advantage, opening up for the legacy and succession planning needed to ensure the development of the Unit in the long term.

The transdisciplinary ethos of the Unit is a further strength. Acknowledging that the built environment and the territory demand disciplinary collaboration and thinking from divergent disciplinary positions, the Unit articulates a clear position on the epistemological challenges and opportunities of inter-, multi- and transdisciplinary approaches. The capacity to work effectively across and between disciplines is evident in the framing of projects that necessarily demand a range of disciplines. It is also clear in an attitude towards history (which places it as an operative tool that can be deployed in teaching design within Masters education) and theory (which sees theoretical ideas translated into practice through collaborations with municipalities in relation to the transformation of existing environments and processes). The commitment of the Unit in fostering knowledge in the humanities within the context of an engineering school (and in dialogue with the engineering disciplines) further attests to existing success in interdisciplinary thinking, and demonstrates success in leading an innovative and effective process of inclusive restructuring. The willingness of PhD students to draw on their backgrounds within practice, and their ambition to feed research back into future work, is also highlighted as an important contribution, which in fact can be more clearly articulated in terms of an agenda for practice-based research in future strategic development.

The Panel commends this Unit for their success in uniting a group of internationally recognized researchers and creating a credible and well-functioning organization by means of careful and targeted strategic plans for the future, as well as for their commitments to social inclusivity through the work that they are doing within the group (in particular, intergenerational and interdisciplinary exchange) and in relation to the complex cultural, environmental and demographic changes that they address.

The awarded New PhD Researchers contracts may be used for the Junior, Auxiliar or Principal levels as required by the Unit and agreed by FCT.

Evaluation Panel: ARTS AND HUMANITIES - Architecture and Urbanism

R&D Unit: Laboratório de Paisagens, Património e Território (Lab2PT)

Coordinator: Paula Cristina Almeida Remoaldo

Integrated PhD Researchers: 58

Overall Quality Grade: EXCELLENT

Evaluation Criteria Ratings

- (A) Quality, merit, relevance and internationalization of the R&D activities of the Integrated Researchers in the R&D Unit Application: 5
- (B) Merit of the team of Integrated Researchers: 5
- (C) Appropriateness of objectives, strategy, plan of activities and organization: 5

Base Funding for (2020-2023): 1001 K€

Recommended Programmatic Support

PhD Fellowships: 6

Programmatic Funding: 820 K€, including for 3 (Principal) New PhD Researchers Contracts.

Justification, Comments and Recommendations

Lab2PT are a recently defined (2013) medium-sized Research Unit of 148 Integrated Researchers, involving seven institutions, with a mission of promoting interdisciplinary research dedicated to the study of territory, landscape and heritage, understood as the material, spatial and cultural expressions of societies over time.

Several factors are commended by the evaluation Panel:

- The Unit's mission is exceptionally well positioned as employing multi-disciplinary expertise to form a cohesive and critical position towards societal challenges, including through longitudinal and geographically focused case studies.
- International collaborations achieve international relevance and significance in terms of knowledge transfer of multi-disciplinary outputs and research methodologies developed through regionally focused research.
- Multi-disciplinary collaborations are achieved without dilution of disciplinary expertise, as evidenced by the quality of discipline-specific research outputs.
- A balance of fundamental and applied research is achieved through a focus on the analysis and identification of regional and social needs, and through knowledge transfer, monitoring of impact, and stakeholder engagement.
- Particular attention is given to the support of research initiatives by, and leadership roles for, junior researchers in international and national networks.

Strengths:

- The Unit's strengths lie in an impressive range and quality of trans-historical topics, from the prehistoric to the contemporary, with a clear set of thematic interests over a regional focus and long time frame. Fundamental and applied research is innovative and experimental, emphasising epistemological change, and feeds into policy and industry, as well as teaching and scholarship. The Unit is exceptional in evidencing a collaborative approach to research, with a particular strength in supporting young researchers.

Weaknesses:

- The broader social and societal dimension is absent from some of the publications, and a closer linking of the archaeological and historic work to the current development of the urban territories of this area offers an area which can be more emphatically explored.

Stronger connections can also be pursued between regional case studies and the research in material processes and the ceramics lab.

- It is not always explicitly clear how the work or methodology might be applied internationally. The principles of the investigations are transferable but methods for this can be more clearly evidenced, and this might be an objective applied to all outputs.
- Impact is difficult to appreciate from the submission alone, and was more clearly defined in the site visit.

The submitted contributions of the Research Unit are of consistently excellent-very good quality in a national and international perspective, and are precisely quantified in the submission as evidencing an impressive level of growth in all areas of transdisciplinary outputs, including; publications in international and national journals; books and chapters in

books of international and national distribution; international and national research projects; and organisation of international and national scientific meetings.

Detailed regional case studies evidence a focus on social and economic issues, multidisciplinary working, external funding, external stakeholder collaborations with municipalities and institutions, and a precisely evidenced record of dissemination at national and international levels.

A stated objective of 'innovative and disruptive research' is evidenced by critical and self-reflective research which challenges prevailing epistemologies.

Published works include specific outputs in archaeology, geosciences, gender studies, heritage, tourism and visitor studies, architectural history and theory, engineering, and sustainability. Many of these inform a unit-wide regional focus, in particular in the Minho and Northwest Iberia regions, and emergent in international areas such as North Africa and Syria. The site visit confirmed evidence of progressions of fundamental to applied research as evidencing regional impact in areas such as tourism economies. The short and long term impact of this regionally focused work could be more explicitly analysed to inform future research projects.

The Unit's submitted outputs include publications in internationally recognised journals and publishers in a diverse range of scholarly fields (Journal of Architectural Science, Routledge, International Journal of Sustainable Energy, Lars Muller). Tavares' 2015 monograph *The Anatomy of the Architectural Book* is a significant undertaking and has had an impact on international debates in what is becoming a revitalized scholarly discussion on the mediation of architecture. Activities and outputs cover archival collections, database production, multidisciplinary territorial case studies, and alignment of technology with heritage; a separate theme covers prototyping and additive manufacturing technologies.

As a whole, the submitted research outputs demonstrate a range of rigorous empirical and qualitative research methods, and demonstrate the work of a diverse range of integrated researchers at varied career stages. The emphasis of output from team members at varied career stages evidences a collegiate and collaborative support of young as well as established researchers, and evidence an ambitious, highly active, and critically reflective research environment.

The structure of three Research Groups are clearly organised as Landscapes and Societies, Design and Technology and Space and Representation, operating according to five strategic axes which embody the intent of the Research Unit structure in terms of encouraging inter, multi and trans-disciplinary and inter-institutional research supporting societal challenges. Each group has a unique and clear identify, and operate within balanced and coherent aims and objectives.

Evidence is presented in the submission and case study of cross-over and overlap between the Research Groups, although more can be made of the cross-over of research, particularly in regards to applicability of the research of all three groups within specific regional case studies.

Integrated Researcher profiles include a well-established co-ordinator with extensive evidence of international dissemination, external funding, and supervisory and leadership experience. The Research Group leads are well established nationally, with a majority of researchers evidencing an established or emerging international profile. The support of researchers at all levels is commendable, with all levels of organisations reporting a role in decision making for the direction of the Unit as a whole, and structures are in place to encourage a collegiate, collaborative and welcoming research culture.

The four major objectives and twenty strategic measures outlined by the Unit balances ambition with applicability and organisational capacity. This submission is an exemplar in those submitted to this Evaluation Panel in terms of setting objectives with defined and reasonable performance indicators and milestones. Objectives for the next period describe building on existing strengths of regionally focused case studies to inform understanding and approaches transferable on international scales. The highly detailed consideration of resources and targets are impressive, although these should allow for flexibility and responsiveness to encourage continuity of innovation, responsive and disruptive research. The approach for the next period suggests more international activities, and this should be undertaken with care and focus, as the strength to date is in the regional focus with transferability to international issues. The Unit also reports an increasing level of invitations to collaborate at an international level, and criteria for selection of collaborative projects and networks should continue to be managed carefully to avoid overstretching and dilution of research focus.

The Advisory Board report highlights the importance of reinforcing connections between the 3 research groups, recommending the Unit seek out research projects which reflect integrated multi and trans disciplinary potentials, as well as securing external funding to support this, though dedicated human resource capacity to focus on funding. The

value of collaboration with municipal and regional stakeholders is recommended, particularly in terms of service provision exposing researchers to live projects. A question raised by the Evaluation Panel is regarding how innovative and disruptive research can productively support service provision contracts. A final recommendation from the advisory board suggests more opportunities for PhD students to know each other's work: while PhD students report a collegiate working environment, more formalised opportunities to raise awareness of the depth and breadth of existing research to identify potential overlaps and gaps might also be considered.

The funding requests PhD fellowships across 6 doctoral programmes, and a modest growth of Integrated Researchers. Funding is focused on Human Resources, Service Procurement/Acquisitions and Missions to emphasise the internationalisation of the Unit. There is clear rationale set out for why the current infrastructure of labs, space and equipment does not generally need any significant expansion or investment.

The overall budget requested is a reduction from previous periods, and represents 83% of the total budget anticipated at the time of submission. This should be recognised within a pattern of growth of international, national and private contracts in the prior period. The Evaluation Panel notes that the plan identifies an objective of increasing the Units' capacity to attract funding, and the proposed budget from FCT tapers off significantly over the projected five-year period. This might represent a risk.

The organisation and management of the Unit is clearly structured and transparent, with strategic decisions made by the Scientific Council. Management is undertaken by the Executive Committee (director, deputy-director and the group coordinators). This structure provides a reasonable link between research groups, project teams, and the day-to-day running, as well as longer-term direction of the Unit and the participation of the groups therein.

The Advisory Board comprises respected academics. Their recent report is on the whole very positive, with emphasis placed on PhD student experience and the rationale for the emergence of the Unit. There is some small change projected in the Advisory Board membership, with only one new member coming in. This succession planning is good, allowing continuity of advice and critical support. A recommendation from the Evaluation Panel is to continue to monitor the composition of the Advisory Board in terms of gender balance, as well as consideration of representation of members from areas of increasing research focus in global locations, such as global south partners.

A clear and thorough ethics statement makes specific reference to ethical principles of research, rules of conduct, and civic, political, economic, and social rights, and these are reflected in the research methodologies as evidenced in publications. While PhD students receive training as a standard component of a first year, further consideration might be given to the formalisation of project-specific Ethics training in areas of co-production and participatory research in place-based longitudinal case studies, which was not explicitly evidenced in site visit conversations with PhD students and junior researchers.

The awarded New PhD Researchers contracts may be used for the Junior, Auxiliar or Principal levels as required by the Unit and agreed by FCT.

Evaluation Panel: ARTS AND HUMANITIES - Architecture and Urbanism

R&D Unit: Laboratório Experimental de Arquitectura e Urbanismo (LEAU)

Coordinator: Mário Júlio Teixeira Kruger

Integrated PhD Researchers: 18

Overall Quality Grade: WEAK

Evaluation Criteria Ratings

- (A) Quality, merit, relevance and internationalization of the R&D activities of the Integrated Researchers in the R&D Unit Application: 2
- (B) Merit of the team of Integrated Researchers: 2
- (C) Appropriateness of objectives, strategy, plan of activities and organization: 1

Justification, Comments and Recommendations

The Architecture and Urbanism Experimental Laboratory (LEAU) has recently undergone significant restructuring due to changes in leadership at Unit and Research Group level. The Unit is clearly in the midst of reassessing its core aims and objectives, both at Unit and Research Group level. The objectives in this evaluation phase are consequently broad, and do not confirm to an agreed research agenda unique to this Research Unit. Without this in place, the research submitted in this evaluation period demonstrates gaps and serious flaws in organisational focus and strategic definition. As a result, there are inconsistencies in standards of outputs, with limited evidence of R&D activities performing at national and international standards of qualities. It is noted that there are individual outputs of significant or emerging international quality, and that post-submission ongoing activities evidence improving performance in international significance, including international collaborations achieving significant external research grants. However, this evaluation focuses on the research outputs and strategic objectives described in the submission.

Strengths:

- There is evidence of individual research projects which demonstrate clear potential for internationally significant research. A strength to highlight is Waterfront research which received a Marie-Curie grant following this submission. This is a significant achievement, and involves a team of senior and junior researchers, and evidences a demonstrably internationally significant output emerging from several years of related emerging research. This project evidences emerging capacity for international networking and external funding.
- A second area to note is well-established work on Alberti by the Co-Ordinator, including translation into Portuguese for the first time, and the work has contemporary significance in re-evaluating the assessment of Renaissance architecture in Portugal.

Weaknesses:

- The Unit is undergoing a substantial restructuring which has been imposed, rather than as a consequence of a strategic decision to restructure. This has clearly had a detrimental impact on the ability of the Unit to operate effectively as a cohesive whole. The Advisory Board acknowledges that progress has been made post-submission, and recognises the dedication and commitment of the research team in this regard.
- The lack of a clear aim or vision, and the lack of understanding as to what a clearly defined aim can offer in terms of developing a shared ethos amongst researchers and research projects, is a significant impediment. This poses a limitation in terms of internationalisation and impact.

Descriptions of key contributions outline research processes, rather than specific research outputs or outcomes. This includes generic processes expected of a Research Unit, including the organisation of international workshops and participation in conferences and meetings. The descriptions do not give indication of specific aims or impact of the research activities, and lack clarity as to the extent of LEAU's leadership role in collaborative work, as, e.g, in the description of LEAU's role as 'involved' in the launch of LABTEC.

Four of the five contributions listed are workshops, networks, events or conferences. The most sustained work in this list is around research on waterfronts and it is in this area where significant external funding (Marie-Curie Horizon 2020) has been achieved following the submission, evidencing the maturation of several years of research and network development.

The submitted main publications include evidence of comprehensive and original research and of international dissemination, with some areas evidencing international significance, such as well-established work around Alberti. It is notable that submitted outputs are limited to a very small number of Integrated Researchers: three of the five submitted outputs include the Unit co-ordinator as lead or co-author, and the remaining two are authored by one Research Group lead.

The list of publications offers limited evidence of research at a level of international significance, including papers which constitute reports on research activities rather than research outputs in their own right, with limited discussion of research methodologies. Despite the clear relevance and timeliness of areas of research such as the Waterfront, in the submission there is limited evidence of liaison with policymakers, where the impact of the work could be acknowledged.

Additional contributions describe an active research culture of organization of international and national seminars, membership of organising committees of international conferences/congress, collaborative international workshops, evaluation and appraisal roles, and curatorship. These represent active and engaged roles, but lack a precise discussion of aims, objectives and anticipated or actual outcomes of these research activities.

An analysis of submitted researcher profiles demonstrates that R&D activities of national and international quality are led by a few of the integrated PhD researchers, with other researchers having performed R&D of limited quality and merit at this stage of the Unit's development.

The Unit operates under an organisational structure of groups defined as; Theory History and Heritage; Planning Territory and Strategy; and Instruments to support project and construction, now redefined post-submission as Computational Tools. The description of projects within the Research Groups describe multiple individual projects varying in terms of rigour and significance, and lacking an overall agenda to bind the work of individual researchers into a cohesive Unit ethos. The site visit confirmed overlap between Research Group activities, but the impact of such overlaps is hard to evaluate within the submitted report.

The Research Unit Co-ordinator has a well-established and internationally significant CV and a methodological versatility and rigor. Other researchers cover a good variety of disciplinary expertise, including technology, ecology, education, urbanism and architectural theory, but as a whole display a relatively small portfolio in terms of doctoral supervision and publications. The team brings as much experience of (various forms of) practice as it does with academic research, and one area to support the emergence of a unique Unit identify might focus on Research in Practice, with numerous PhD and post-doctoral students noting strong ongoing links with practice.

The Unit profile is limited in terms of current international activity, and is notably less developed than comparable Research Units in this Evaluation Panel submission. The majority of Integrated Researchers lack publications with journals or publishers of international significance, and have limited PhD supervisory experience. This poses a risk in terms of capacity for cohesive research development and for a structured approach to PhD supervision.

The projected strategic claim does not reflect the recent phase of work in the Unit represented in this submission. Objectives as stated identify appropriate actions, but are generic, outlining research into Architecture & Urbanism, with no granularity. These do not progress the potential for a unique position as a Research Unit. Descriptions of the direction of key projects per Research Lines do suggest potential for international research (Identity and Alterity); external stakeholder engagement (Water front challenges); and dissemination via books and journals (Sensitive Image). There is a clear but generic promise to promote research, curate events, promote publication/dissemination and encourage researchers, but with no overarching agenda or specificity. This strategy describes the structure of a School of Architecture in which individual researchers undertake individual research projects, and this fails to take advantage of the expressed logic of the FCT funding model.

There are no Key Performance Indicators or Milestones mapped out in the current plan of activities, and the strategy does not explicitly outline a review strategy to check progress against milestones and KPI's.

There is no exercise in strategic direction within the three defined lines of research, or across the Unit as a whole. The Plan for 2018-22 instead describes a situation in which individual researchers will continue to pursue individual projects under the LEAU umbrella. There might well be methodological approaches in common that binds these lines together very tightly, but no declaration is made to this end. These lists are set out with no determined plans for delivery, nor any clear (individual or collective) objectives, making strategic and project management very difficult.

The Unit identifies a need for additional researchers to build capacity, noting a lack of stable participation, and identifies a lack of ability to compete due to researchers' teaching and administrative commitments. However, the site visit raised serious concerns regarding the Senior Leadership team's understanding of the financial status of the Unit, and projected finances. The Senior team present at the site visit was unable to provide a response to a clarification question on projected funding regarding the projection of a significantly increased dependency on FCT funding and misalignment between expected funding and projected expenses.

The Evaluation Panel also raises concerns regarding the assumption that post-doctoral researchers will take on the burden of strategy development, publication production, event management, and leadership of a PhD programme, due to Senior Researcher commitment to teaching. This demonstrates a significant gap in current capacity and organisational structure, and it is questionable whether post-doctoral posts can address this without a prior significant restructuring of Unit and Research Group leadership.

Projection of the budget figures are not clearly defined, and do not give precise justification of requests for equipment, including the robot /cad-cam arm, which is not factored into project planning or claimed research expenses.

As a whole, the Senior Leadership team did not demonstrate a clear overview of the rationale for proposed funding at the site visit.

The description of the Unit's management organization is clear as a diagram, but the responsibility for developing and implementing strategic aims and objectives is not, and the latter is currently lacking. It is recommended that more direct representation of the three declared research 'lines' be formalized.

The Advisory Board reports are concise and supportive, and identify significant challenges, such as financial precariousness. Consideration should be given to including invitations to Advisory Board members who have no prior knowledge of the Unit, and of the role of the Advisory Board in supporting the Unit with critical, candid and precisely targeted recommendations.

The submitted reference to ethics is procedural and limited in regard to projects undertaking research in Third Countries, referencing only personal data and benefit-sharing activities, with no consideration of ethical principles of research, rules of conduct or civic, political, economic, and social rights. The submission as well as the site visit suggests a fundamental misunderstanding of contemporary approaches to research ethics and its role in research design, application and dissemination. Responses to queries on ethics during the site visit misunderstood ethics as copyright and open-access dissemination, and this raised serious concern amongst the Evaluation Panel.