D5.2: STEAM Teams Management Plan

'Implementing the Interdisciplinary Engagement of Students in CrAFt'

CrAFt | Work Package 5, Task 5.2

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23-08-2022	v.02	Sanne Karssenberg, Irene Garofalo, Maria Hansen (ELIA)	Integration of feedback from Steering Group WP5 meeting, 18 August
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31-08-2022	v.04	Sanne Karssenberg, Irene Garofalo, Maria Hansen (ELIA)	Completion, updated formatting, copyediting, integration of additional feedback

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List of Acronyms

CTDT	CrAFt Think/Do Tank
Core Group	Think/Do Tank Core Group of students
EWRC	European Week of Regions and Cities
ITDT	Independent Think/Do Tank
NEB	New European Bauhaus
PPDDF	Public Participation and Deliberative Democracy Festival
WP	Work package

Executive Summary

This document entitled 'STEAM Teams Management Plan' (deliverable 5.2 of CrAFt) defines the operational structure for all the interdisciplinary student activities in CrAFt.

This document follows up on D5.1, the Model of Governance for Next Generation CrAFt Think/Do Tank of Students. D5.1 presents a governance structure for all CrAFt student activities, a relationship diagram of all actors involved, and describes the conceptual framework on which it is based. D5.2 then builds on D5.1 to present operational and managerial aspects for putting the Governance Model into practice. These details are key for kick-starting and running the interdisciplinary student activities also known as STEAM Teams and Think/Do Tanks.

The Methodology of the process of developing this document is described. This refers to D5.1, explaining how the Governance Model and the design principles are being implemented in the Management Plan to create an operational framework.

Subsequently, a detailed operational timeline is presented for the implementation of the CrAFt interdisciplinary student activities. This elaborates further on the main actors involved in the implementation process and on the key milestones over the course of this process. The document then takes a closer look at key operational aspects for the realisation and running of curriculum-related interdisciplinary activities at the CrAFt universities (Amsterdam University of Applied Sciences - AUAS, Czech Technical University in Prague - CVUT, Norwegian University of Science and Technology - NTNU, University of Bologna - UNIBO), the Think/Do Tank Core Group, and Independent Think/Do Tanks. This includes considerations on recruitment, activity formats, and how these link both to the design principles and the other actors within the project.

Overall operational structures and principles are also described, starting with detailed information regarding the feedback and documentation process for the student activities, which is key for attaining the triple-loop learning expected from the CrAFt project. It also contains information regarding the dissemination plan. Some information on managing the project is added, as well as an analysis of possible risks and mitigation strategies for the planned interdisciplinary CrAFt student activities.

Finally, the consortium adds reflections that came out of the writing process of this Management Plan and looks ahead at next steps.

The STEAM Team Management Plan (D5.2) is mainly connected to CrAFt Task 5.2 'STEAM Teams', but is also influenced by and connects to Task 5.1 'Engaging European universities, including art and design universities and academies', and Task 5.3 'Organising a Next Generation CrAFt Think/Do Tank'.

1 Introduction

1.1 Interdisciplinary Engagement of Students in CrAFt

CrAFt – Creating Actionable Futures is an EU-funded coordination and support action for New European Bauhaus (NEB) transformations towards climate-neutral, beautiful, and inclusive cities. The CrAFt project will place the transition to climate neutrality at the heart of urban development processes. It supports the Mission Board on Climate-Neutral and Smart Cities and the NetZeroCities platform in designing and deploying Climate City Contracts, based on knowledge derived from the CrAFt Sandbox Cities (Bologna, Prague, Amsterdam) and an additional 70 CrAFt Reference Cities. The project will test and share collaborative local governance models to harness the value of inclusiveness, aesthetics, and sustainability towards climate-neutral cities.

Following the NEB principle, interdisciplinary approaches (with special attention for the inclusion of arts and culture) feature prominently in the project.[1] One strand of CrAFt focuses on the engagement of the next generation, the students. Multiple initiatives by and for students will be launched during the project (2022–2025). CrAFt will test and further develop the formats of student Think/Do Tank(s) and STEAM Teams within the NEB cities framework.[2] This will result in a set of models outlining interdisciplinary ways of 'CrAFting' the future of cities in collaboration with the next generation. These initiatives and models are at the heart of CrAFt Work Package 5: Capacity Building through Students, Schools and Universities.[3]

The STEAM Teams Management Plan is the second deliverable (D5.2) of the work package. It is a key document for kick-starting the implementation of the interdisciplinary student activities which will engage with the CrAFt Sandbox and Reference Cities (also known as CrAFt Work Package Task 5.2 'STEAM Teams'). It also further supports Task 5.1 'Engaging European universities, including art and design universities and academies', and Task 5.3 'Organising a Next Generation CrAFt Think/Do Tank'.

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[1] The NEB core principle is 'Beautiful are the places, practices and experiences that are: enriching, sustainable, inclusive'. This is worked out in more detail on the NEB website: https://europa.eu/new-european-bauhaus/index_en

[2] The concept of STEAM and the interpretation of it used by the CrAFt project is explained in Chapter 3. Key Concepts. CrAFt expands this interdisciplinary definition beyond just **S**cience, **T**echnology, **E**ngineering, **A**rts, and **M**athematics. The STEAM Team format for interdisciplinary student collaborations is further elaborated in Chapters 3 and 4, especially in chapter 4, section C: Curriculum-related Interdisciplinary Activities at the CrAFt Universities ('STEAM Teams').

[3] The first two paragraphs of Chapter 1.1 are a general introduction to the CrAFt project and Work Package 5, they have been published once before in D5.1: Model of Governance for Next Generation CrAFt Think/Do Tank of Students, page 7.

1.2 STEAM Teams Management Plan

The STEAM Teams Management Plan provides operational guidelines for the implementation by the CrAFt project partners of the interdisciplinary student activities that are to take place within the project (also known as the STEAM Teams and the Think/Do Tanks). These student activities have previously been outlined in the Model of Governance for Next Generation CrAFt Think/Do Tank of Students (CrAFt deliverable 5.1, hereafter referred to as the Governance Model). The Governance Model is a conceptual document presenting an overarching framework for the interdisciplinary next generation activities within the CrAFt project, including a relationship diagram and descriptions of the different actors involved.

The STEAM Teams Management Plan is complementary to the Governance Model, as it specifies the operational and managerial aspects of this framework. Elements of the Governance Model will therefore be referred to throughout the document. Especially important are the model's design principles for the student activities which influence the operational choices presented in the Management Plan.The categorisation of the interdisciplinary student activities is also used as a building block for the Management Plan. Both aspects are elaborated on in chapter 2, Methodology. An overarching priority is to implement the principle of learning by doing and also to let CrAFt principles speak to students' imagination.

While the Governance Model gives some hints as to operational aspects foreseen for the implementation of the interdisciplinary student activities, chapter 3 of the Management Plan provides a detailed implementation timeline, while chapters 4 through 8 of the Management Plan dive into the particulars of the matter. This includes considerations about the budget, feedback and documentation model, and dissemination, as well as in-depth overviews of the operational principles for the curriculum-related interdisciplinary activities at the CrAFt universities, the Think/Do Tank Core Group, and the Independent Think/Do Tanks. CrAFt's aim is to go beyond the possibility of giving a diverse group of people a seat at the table: it aims to let these people design the table together. The document concludes with a reflection on risks and next steps in chapters 9 and 10.

The STEAM Teams Management Plan will be followed up on by two reports, which will reflect on learnings and highlight best-practice examples: CrAFt Deliverable 5.3 'STEAM Teams Experiences (initial version)' and 5.5 'STEAM Teams Experiences (final version)'. These will describe the experiences, insights, results, and impacts of the STEAM Teams and their cooperation and engagement in CrAFt, within and outside the project, across multiple disciplines.

2 Methodology

The Management Plan is the operational plan which builds on the framework, values, and objectives as described in the Model of Governance for Next Generation CrAFt Think/Do Tank of Students (D5.1). The work was led by ELIA. In the process of writing this document, representatives from all CrAFt university partners provided input and feedback (these are: Amsterdam University of Applied Sciences - AUAS, Czech Technical University in Prague - CVUT, Norwegian University of Science and Technology - NTNU, University of Bologna - UNIBO).

The partners came together in multiple WP5 Steering Group meetings and also provided input and feedback in written form (for instance, filling in Annex 1, the list of partner activities, and providing input for chapter 9, the risk analysis). Together they bring a lot of experience and knowledge to the table in organising student activities, working with university leadership, and university programmes reaching out to citizens, city stakeholders, and municipalities. Therefore, they are an ideal sounding board to test the feasibility of the Management Plan.

2.1 The Framework of the Governance Model

The Management Plan builds further on the Governance Model and therefore is aligned to the different actors and relationships that have been sketched out in the Governance Model Relationship Diagram. Choice of terminology, acronyms, and definition of concept align accordingly. As a reminder, we include the diagram here, more detail can be found in the Model of Governance for Next Generation CrAFt Think/Do Tank of Students (D5.1).

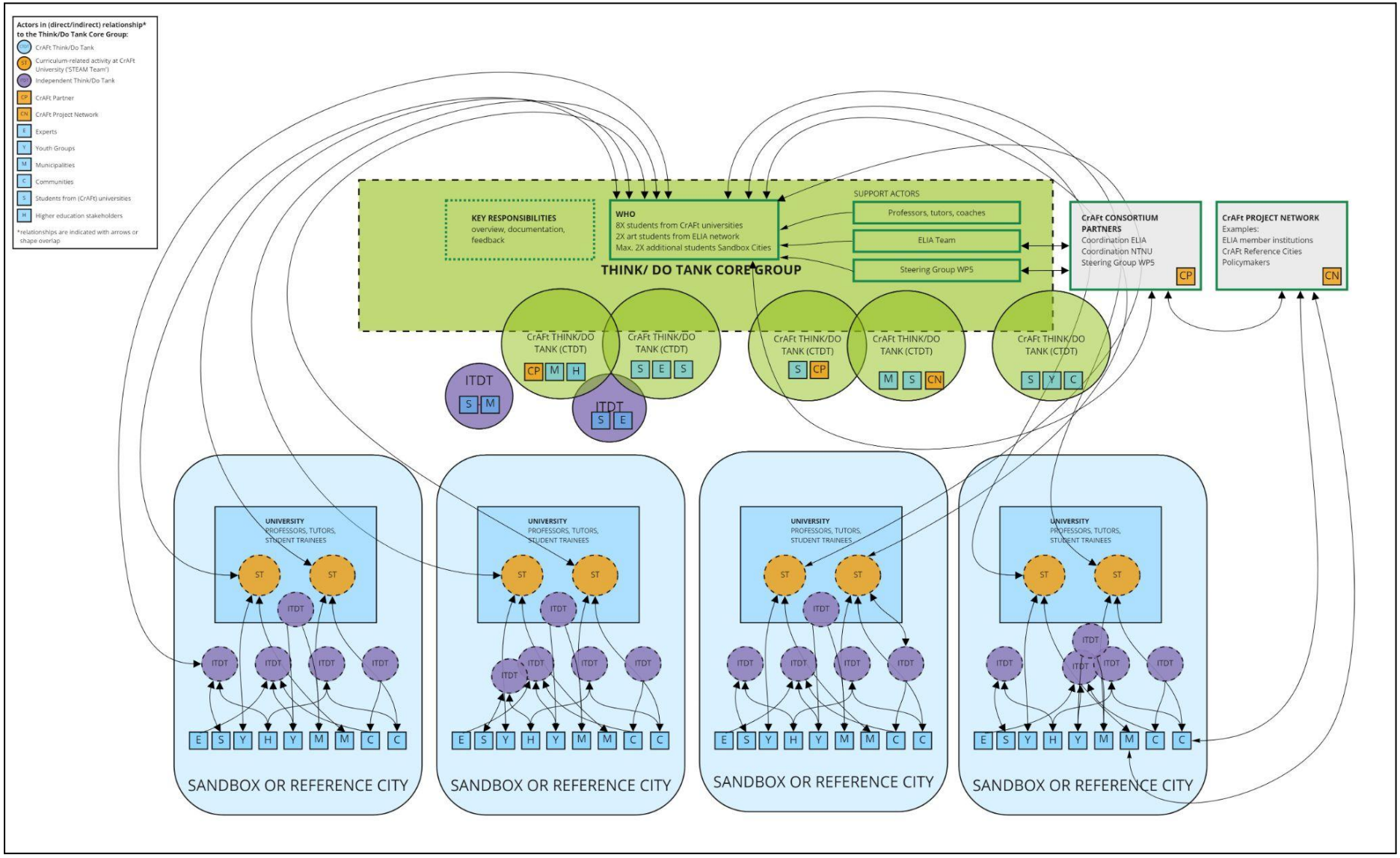


Figure: Governance Model Relationship Diagram (D5.1: Model of Governance for Next Generation CrAFt Think/Do Tank of Students)

Some key terminology includes:

- Think/Do Thank Core Group ('Core Group')
- CrAFt Think/Do Tanks ('CTDT')
- Curriculum-related Think/Do Tanks at CrAFt Partner Universities ('STEAM Teams')
- Independent Think/Do Tanks ('IDTD')
- Steering Group WP5 ('Steering Group')

It is important to note that while in the title 'STEAM Teams Management Plan', 'STEAM Teams' refers to all types interdisciplinary CrAFt student activities engaging with the Sandbox and Reference Cities, a different wording will consistently be used in the following chapters in order to guarantee continuity with the framework presented in the Governance Model. The term 'STEAM Teams' will only be used when referring to layer 3 student activities as defined in the Governance Model: curriculum-related Think/Do Tanks at CrAFt Partner Universities ('STEAM Teams'). All other interdisciplinary CrAFt student activities engaging with the Sandbox and Reference Cities will instead be referred to as interdisciplinary student Think/Do Tank activities.

The continuity in terminology between the two documents will contribute to a smooth set-up and implementation of the different student activities by the CrAFt partners, which is the main goal of the Management Plan. It is advised to refer to the Governance Model and its Relationship Diagram prior to reading this Management Plan.

2.2 Design Principles

Conceptually, the Management Plan is aligned to the design principles outlined in the Governance Model and implements them in various managerial and operational choices. An excerpt from the Governance Model outlining the design principles can be found below.

Governance Model, Chapter 2.1 Design Principles (excerpt):[4]

> The governance model strives to put into practice the European Commission's New European Bauhaus key principles:
> Beautiful are the places, practices, and experiences that are:
> - Enriching, inspired by art and culture, responding to needs beyond functionality.
> - Sustainable, in harmony with nature, the environment, and our planet.

[4] D5.1: Model of Governance for Next Generation CrAFt Think/Do Tank of Students, pages 10–11.

- Inclusive, encouraging a dialogue across cultures, disciplines, genders and ages.

The governance model describes a set of design principles. In combination with the NEB principles, these will serve as a compass/check list for all student activities connected to CrAFt:

- Including a plurality of voices
- Student-driven (towards self-organisation, where possible)
- Practising interdisciplinary collaboration
- Reciprocity
- Learning by doing
- Experience over production/process over product
- Participation over observation
- Documentation of processes/reflection
- Innovation through experimentation
- Experimentation over execution

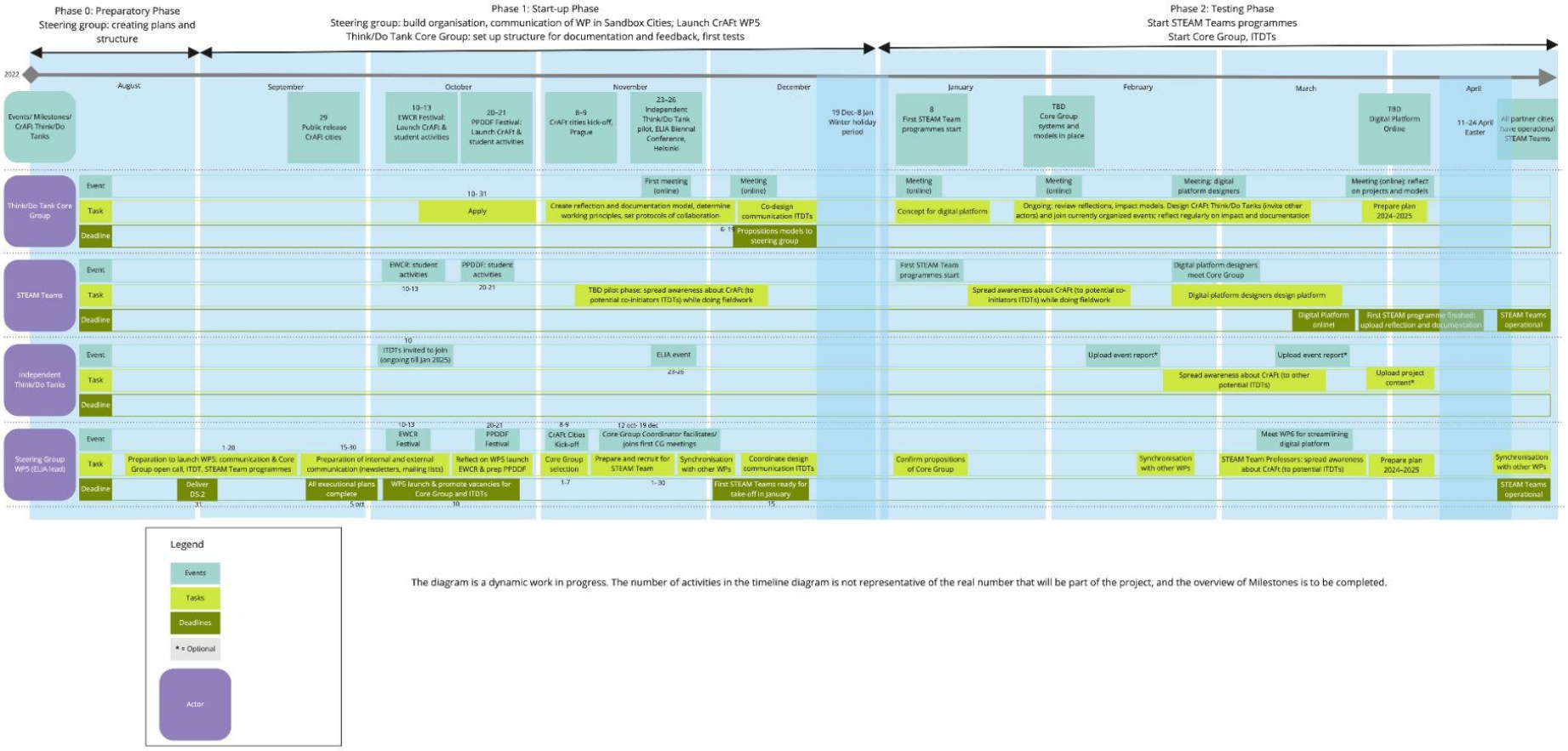
The Management Plan further evidences how these design principles are put into practice. For example, reflection and feedback on many different projects and explorations is one of the main tasks of the Core Group. Experimentation, and so-called 'failure' is essential for innovation through experimentation and learning by doing. One of the first tasks of the Core Group, as elaborated upon below (see chapter 5.1), is to define protocols of collaboration and a model for respectful and comprehensive documentation of the learning processes (including the challenges, difficulties, and 'failures'), so that the explorative projects become input for governance and collaborative models towards a just transition.

Additionally, the principle 'including a plurality of voices' is implemented in multiple ways. For instance, by selecting Core Group students through an open call and following the guidance of CrAFt's Inclusiveness and Diversity Management Plan (D7.2). Also, based on their specific contexts, Think/Do Tanks and STEAM Teams can be held in different or multiple languages (not just in English) in order to be more inclusive.

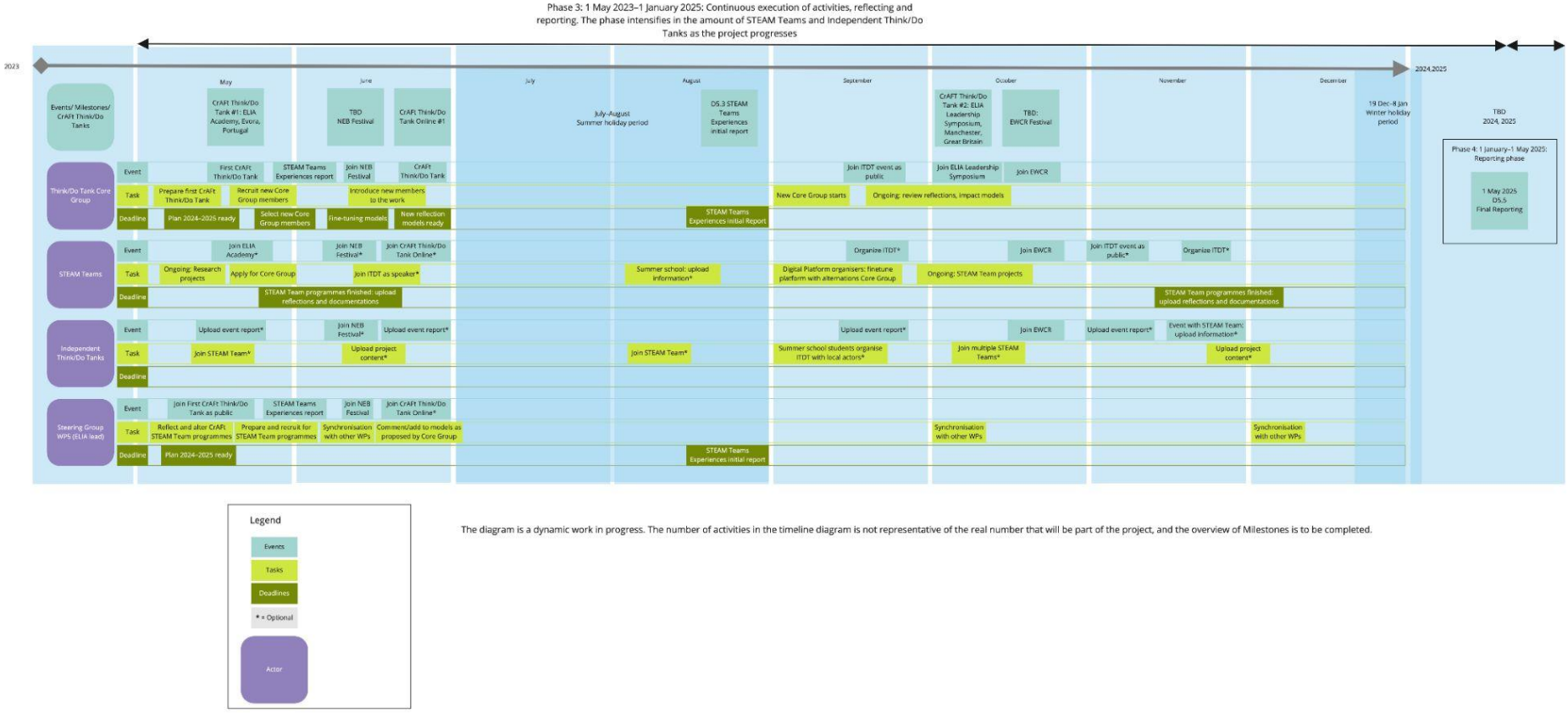
The Management Plan is an operational framework rather than a fixed proposal. Indeed, key for the exploration and implementation of the design principles is a Management Plan that is based on **flexibility.** The budget, timeline, and collaborative process are not fixed in advance, but rather are a framework for the multitude of collaborations that together shape the student engagement within CrAFt. This flexibility asks for a hands-on approach that is based on agency and trust, two other values that are essential for a just transition. Flexibility also means that this Management Plan is a dynamic document that might be amended as the project progresses, in agreement between the Core Group and WP5 Steering Group, to facilitate implementation of the interdisciplinary student activities based on new learning or insights.

3 Timeline

3.1 Timeline Diagrams



The diagram is a dynamic work in progress. The number of activities in the timeline diagram is not representative of the real number that will be part of the project, and the overview of Milestones is to be completed.



The diagram is a dynamic work in progress. The number of activities in the timeline diagram is not representative of the real number that will be part of the project, and the overview of Milestones is to be completed.

3.2 Introduction to the Timeline Diagram

The timeline diagram (see above) provides a schedule integrating the different aspects of the Management Plan. It is meant as a tool to guide the involved actors in the implementation of the Management Plan, including setting up the interdisciplinary student activities/bodies and implementing the feedback loop. It can also be used to track progress by checking if the objectives of the Governance Model and the forthcoming operational steps of the Management Plan are acted out and maintained. For example, one of the objectives of WP5 is to explore and develop governance and collaborative models that can be replicated or used to work towards a just transition. To reach this goal, an ongoing reflection on the design principles, documentation, and impact models is key. The schedule shows the different tasks, deadlines, and events that make sure input, reflection, iteration, and reintegration of the model is maintained.

The diagram is not fixed, but exists to be used by the Core Group as a tool. Flexibility, a key condition for the Governance Model, enables the Core Group to work towards an increasing agency over the processes of WP5, and makes it accessible for bottom-up initiatives, shaped in Independent Think/Do Tanks, to join. The expectation and aim is that the number of Independent Think/Do Tanks, STEAM Teams, and events will increase over time. The diagram itself can be seen as a departure point, not unlike a canvas that will fill up as student initiatives unfold throughout the project.

Chapters 3.3 and 3.4 explain and elaborate on the two axes of the timeline diagram: layers and phases.

3.3 Timeline Layers

The vertical axis contains five different layers. The first layer shows key overall milestones and events. The remaining four layers are each dedicated to the planned events, tasks, and deadlines specific to one of the key actors in the implementation of the Management Plan: the Think/Do Tank Core Group, the STEAM Teams, Independent Think/Do Tanks, and WP5 Steering Group. The main actors have already been described in detail in the Governance Model (chapters 3 and 4).

Layer one: Milestones, Events, and CrAFt Think/Do Tanks

Encompassing overall milestones and events, layer one acts as a meeting point for the actors represented in the remaining four layers. These actors will have opportunities to connect to milestones and join the events in layer one, which include the CrAFt Think/Do Tanks as key interdisciplinary CrAFt student events. Participation will also open up opportunities for further synergies; for instance, connecting students from

ITDTs and STEAM Teams in CrAFt Think/Do Tank events could result in spin-off initiatives.

Layer two: Think/Do Tank Core Group

The Core Group, as described in the Governance Model, is most closely connected to CrAFt's central organisation and has a direct exchange with the WP5 Steering Group. The Core Group plays an essential role in putting the objectives, values, and design principles of CrAFt into practice and is responsible for the maintenance of the quality of the reflective and documentation models in use. It also co-organises CrAFt Think/Do Tanks (input from STEAM Teams and Independent Think/Do Tanks, but also from the Reference Cities might be used in this context).

Layer three: STEAM Teams

The curriculum-related activities of the Sandbox Cities partners NTNU, UNIBO, CVUT, and AUAS are represented in this layer. Projects that are embedded in the local context and apply interdisciplinary working structures, in this context called STEAM Teams, are key to all work done in WP5. Many of them already exist but have never been connected. In this respect, the STEAM Teams will contribute essential information to CrAFt by sharing documentation and reflections on their activities on the CrAFt website. STEAM Team students and/or further actors involved in the STEAM Team projects will be invited to participate in the CrAFt Think/Do Tanks as speakers, workshop leaders, or public. They might also further connect with Independent Think/Do Tanks.

Layer four: Independent Think/Do Tanks

As is stated in the Governance Model, 'CrAFt functions as an open platform, therefore, anyone (youth, cultural centres, policymakers, neighbourhood centres, community kitchens, or the industry) is welcome to organise an Independent Think/Do Tank for and with students'.[5] The Independent Think/Do Tanks are embedded in local issues, urgencies, and questions. Their events can, for example, take the form of a one-time conversation or a long-term research project. The ITDTs follow the guidelines and principles of CrAFt and deliver documentation and a reflection on their activities to the Core Group. The Core Group also can invite representatives of the ITDTs into the CrAFt Think/Do Tanks.

Layer five: Steering Group WP5

The Steering Group WP5 is made up of representatives from all CrAFt consortium partners and plays an important role as the connector between the STEAM Teams, the Core Group, and the other CrAFt work packages. Synchronisation moments with all

[5] D5.1: Model of Governance for Next Generation CrAFt Think/Do Tank of Students, page 24.

other work packages and partners of CrAFt occur regularly throughout the project and are integrated into the timeline. This will identify for instance how to link the think/do tanks to the local work in the CrAFt sandbox cities, communication needs, and linking results into the overall guidance packages and results.

3.4 Phases of the Timeline Diagram

This section identifies and elaborates on the most important milestones for each timeline phase. Please note that this chapter does not provide a comprehensive list, but only the highlights. For the complete overview, please refer to the timeline diagram.

Phase 0

1 May–15 September 2022, Preparatory phase

Milestone: deliverables D5.1, D5.2

In this preparatory phase, the planning and structure of all upcoming phases is developed (as part of Task 5.2 and 5.3 of the project) and described by the WP5 Steering Group in Deliverable 5.1 and 5.2. The Steering Group prepares the information that is needed for the launch of the CrAFt student activities, such as described in this document. It will start with the implementation of the Management Plan by beginning with the development of the recruitment plan for the Core Group and the structure of communication and exchange between the different actors. Also, the Steering Group finds synergies between their work and the deliverables of other work packages (such as WP6 Storytelling, Dissemination, and Exploitation, WP7 Project Management and Liaising, and WP2 The Climate-Neutral and Smart Cities Guidance Package: NEB Edition)

Phase 1

31 Aug–31 Dec 2022, Start-up phase

Milestone: soft launch CrAFt Student Activities

In the Start-up Phase, the main actors are the Steering Group and the Core Group. CrAFT student activities will have a soft launch during the European Week of Regions and Cities (EWCR), 10–13 October. Student-driven activities organised by the Steering Group partners in collaboration with students from their respective universities that are happening throughout the day will be used to promote the different type of CrAFt student activities: the STEAM Teams, the Core Group, the Independent Think/Do Tanks, and the CrAFt Think/Do Tanks. Therefore, this is also the moment that the vacancy for the Core Group and the Independent Think/Do Tanks is open. After the soft launch, the partners will disseminate calls and project information in their networks.

Milestone: launch CrAFt Student Activities

The official launch of the CrAFt student activities will be announced during the Public Participation and Deliberative Democracy Festival (PPDDF), in an online session on 21

October. This will happen in parallel to announcements on the CrAFt communication channels. The theme of the 2022 PPDDF is 'Youth Participation'[6].

Milestone: first meeting Core Group

The recruitment and selection process of the Core Group will be followed by the first online meeting of the Core Group, which will be facilitated by a member of the Steering Group. The Core Group's first focus will be on translating the design principles into a working model for documentation, reflection, and impact. Also, Core Group members will define their own working structure, with some guidance from a facilitator and Core Group coach. This will happen during multiple online meetings throughout phase 1.

Milestone: developing curriculum-related CrAFt STEAM Teams Programme

In this phase, the Steering Group, in collaboration with the Core Group, defines what constitutes a CrAFt STEAM Team. The partner universities prepare, if necessary, content alterations to existing programmes, in order for the CrAFt STEAM Teams Programme to start as such in January 2023. Agreements with STEAM Team universities are prepared, detailing their commitment to share feedback with the CrAFt consortium.

Phase 2

1 Jan–1 May 2023, Testing Phase

Milestone: STEAM Teams Programme operational in partner cities (May 2023)

In all partner cities, the STEAM Teams have their first start (if the work was not already ongoing). The duration of the different STEAM Team programmes is defined by the university. For this group, CrAFt serves as an umbrella that collects feedback, facilitates reflection on learnings, and creates connections. (This corresponds to CrAFt Milestone #5, 'Steam Teams have had first constituting workshops and start collaborating'.)

Milestone: Core Group has the system and model for feedback in place

During phase 1, the Core Group worked on the feedback and documentation model for all CrAFt student activities and the ITDTs. In collaboration with the Steering Group, they finalised these documents to become public. During phase 2, the Core Group connects to the STEAM Team AUAS Digital Society School as part of the development process for the digital overview that follows and functions according to the desires of the models.

Phase 3

1 May 2023–1 Jan 2025

Milestone: first CrAFt Think/Do Tank

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6 https://cop-demos.jrc.ec.europa.eu/events/4th-public-participation-and-deliberative-democracy-festival

In the beginning of phase 3, the first CrAFt Think/Do Tank will take place, organised by the Core Group and inspired by the reflections and documents that the STEAM Teams and Independent Think/Do Tanks have uploaded to the CrAFt website. The Core Group is continuously reviewing and reflecting on all the research that is uploaded. In preparation for CrAFt Think/Do Tanks, they invite at least one STEAM Team student and/or another actor who were involved in STEAM Teams in different locations to take part in the CrAFt Think/Do Tank (if budget allows). As described in the Governance Model, these events can take many different shapes.

The First CrAFt Think/Do Tank takes place in relation to the ELIA Academy in Portugal; the Core Group will organise a session. Local students will be activated to join and participate in the event. In this way, multiple learnings are brought together and the network grows.

Milestone: STEAM Teams Experiences (initial version)

The initial version of the STEAM Teams Experiences report will be published in August 2023. This is Deliverable 5.3 of the CrAFt project and will be co-created by the Core Group and Steering Group. It will use input from the uploaded to the website.

General structural information

During this phase, all activities as described in phases 1 and 2 will continue and increase in number. These activities will be monitored by the feedback and impact models. The models will be taken under revision twice a year by the Core Group. Before implementing the new models, the Steering Group will give their expert opinions on the alterations.

Phase 4

1 Jan–1 May 2025

Milestone: final reporting

Phase 4 is the reflective and reporting phase. The Core Team and the Steering Group will work with an overarching impact model that reflects internally (student level) and externally (city or regional level). The final reporting efforts also include the publication of Deliverable 5.5 STEAM Team Experiences (final version).

4 Curriculum-Related Interdisciplinary Activities at the CrAFt Universities ('STEAM Teams')

4.1 Operational Principles

STEAM Teams refer to curriculum-related activities of the CrAFt partner universities, which have committed to the CrAFt STEAM Team community. This requires commitment by the activity organisers to an exchange process with the Core Group, including: formally joining the CrAFt STEAM Team community; reflecting on the implementation of the design principles into the activity; an introductory CrAFt session at the start of each STEAM Team iteration; participation in the Think/Do Tank reflection and feedback model; contribution of content for the central STEAM Team dissemination effort. The details of this process will be defined and published by the Core Group with the support of the WP5 Steering Group after it has been instated.

STEAM Teams will benefit from being part of the CrAFt STEAM Team and Think/Do Tank community. CrAFt Think/Do Tank events and the CrAFt Think/Do Tanks digital overview will provide opportunities for exchange, showcasing, and (peer-)learning, which can contribute to further development of STEAM Teams within the universities and overall capacity building.

The STEAM Team students will be introduced to the opportunities offered by this community, as well as to the contributions expected from them, right at the start of their activity. This introduction would, for instance, be in the form of a workshop around the objectives, design principles, and feedback and documentation model that the local STEAM Teams will implement in their projects. The workshop might be guided by Core Group members who are students at the respective university. The introduction is preferably a workshop, not a one-way presentation, to implement the learning by doing and also to let CrAFt principles speak to students' imagination.

The STEAM Team programmes will be designed and executed independently by the CrAFt university partners (located in the three Sandbox Cities and Trondheim). All four CrAFt university partners should create a STEAM Team Action Plan defining the planned activities that will commit to the CrAFt STEAM Team community and principles for the duration of the CrAFt project. The design principles, as elaborated on in D5.1 and in chapter 2 of this document, are guiding tools for the universities to develop STEAM Team programmes. The exact practical implementation of the design principles will be described by the CrAFt university partners for each activity, once they commit to the CrAFt STEAM Team community. Some examples of how the design principles within the STEAM Teams would be implemented are listed below:

Reciprocity - including a plurality of voices - practising interdisciplinary collaboration

STEAM Team activities are planned for the longer term and consist of a series of events or activities, not one-off workshops. This allows the possibility for STEAM Team students and the other actors involved to grow towards a basis of trust, to understand and open up to each others' perspectives, and develop connections that can help to make a change.

Practising interdisciplinary collaboration - process over product

Both these design principles can be put into practice by using particular formats, tools, and methods in the STEAM Team activities. For instance, classes could work with (self-) reflective tools to understand individual positions and collaborative working processes better.

Student-driven (towards self-organisation, where possible)

This design principle will be put into practice through autonomous work, from the beginning to the end of the students' research and/or project, fostering student agency. It is important to note that while the student STEAM Teams have autonomy in how the work is done (process), they need to operate within the overall goals, themes, or questions posed by the STEAM coordinators (city and/or university coordinators).

4.2 STEAM Team Examples

Annex 1 contains a list of curriculum-related interdisciplinary student activities currently offered by the four university partners, all of whom are using principles based on CrAFt and NEB values, some of which will develop into official CrAFt STEAM Teams as the project progresses.

The list in the annex not only serves as an overview of examples of STEAM Team activities taking place as part of CrAFt but can also be seen as a living document that will collect similar university programmes throughout Europe and beyond, in order to stimulate exchange about CrAFt amongst students, professors/lecturers, and other actors. This database will become a tool for the expanding work and values of CrAFt and NEB, specifically related to the integration of interdisciplinary student engagement. It can, for example, be used by universities, policymakers, and cultural institutes to inquire how to create programmes that work towards a beautiful, inclusive, and sustainable future. Direct networking will also be possible through the addition of contact information and the offer by the CrAFt partners to supply more information on any of their curriculum-related programmes, if needed. The information in this annex

will be published on the CrAFt website, together with the methodologies and governance models.

Example: Experts in Teamwork

For the purposes of this Management Plan, we are highlighting one example: Experts in Teamwork (EiT)[7], developed by NTNU and operated for over 20 years. This programme is fully centred on the development of interdisciplinary teamwork skills and is obligatory to all Master's students at NTNU. The programme employs many tools, workshops, and methods, all of which guide the students through the sometimes challenging processes of collaborative work, such as reflective models and dialogue techniques.

During EiT, students are often involved with partner organisations in the field, generally around NTNU campuses or nearby. Learning by doing and participation over observation are other design principles that are put into practice here and starting points for the development of skills needed for an inclusive, sustainable, and beautiful future.

In EiT, students are divided up into courses, called villages, with 30 students in each course. In these villages, students are assigned to interdisciplinary teams of five or six people. All faculties at NTNU offer villages (see the following figure).

The expected learning outcomes and learning methods are the same in all villages. What differentiates the villages is that each has its own overall, socially relevant theme. The village supervisor defines the village theme together with a societal problem owner, which should be open and interdisciplinary so that it appeals to students from a variety of subject areas, addresses relevant issues in civic and working life, and is linked with social actors that students can relate to during their project work. Based on their interest in these village themes, students select the villages they would most like to participate in. A goal is that each student in the team will have the opportunity to apply their academic competence in the project, and that the project creates value for society.

This programme is an excellent example of the implementation of CrAFt's objectives and values put into practice - the already existing project in fact inspired the creation of the CrAFt project. The further implementation of CrAFt in this programme will benefit and deepen the understanding and experiences of students, professors, and other actors involved in the fieldwork.

[7] Experts in Teamwork (EiT) – NTNU, https://www.ntnu.edu/eit/

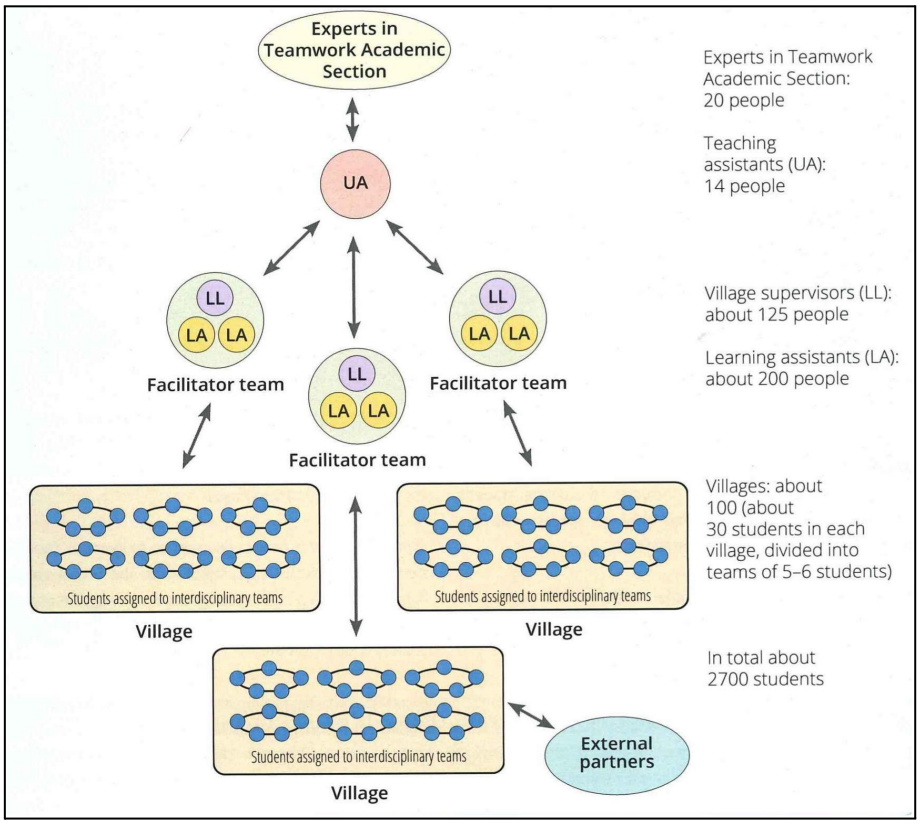

Figure: The organisation and the scope of Experts in Teamwork. Model developed by Nina Haugland Andresen in the Experts in Teamwork Academic Section at NTNU.[8]

[8] Sortland, Bjørn; Andersen, Nina Haugland; Anderson, Martha Kalvig; Brandshaug, Sigrid Westad; Espenes, Thomas Christian; Hagen, Einar; Gylland, Gunhild; Ramskjell, Bjørg Riibe; Rustad, Hanne; Skancke, Lars; Søyland, Tove Bredesen; Tranås, Rune; Veine, Sven; Verhulst, Elli. (2019) Experts in Teamwork 2020. Handbook for village supervisors and learning assistants. 2019. ISBN 9788279842132.

5 Think/Do Tank Core Group

5.1 Operational Principles

The Think/Do Tank Core Group functions as the international overarching umbrella that keeps an overview of all the student activities within the CrAFt project. All work they do is student driven and aims to work towards as much student agency as possible. On an operational level, this means that the Core Group starts with defining their own working structure and internal protocols for collaboration. These protocols and structures are not set in stone for the whole CrAFt period, but should be open to alterations and reflections. The collaborative process of the Core Group puts the design principle of experimentation over execution into practice.

The Core Group's responsibility is to be the guardian and champion of the CrAFt design principles for interdisciplinary engagement of students in CrAFt (WP5). The first step to put these into practice is the development of the reflection and documentation model that will be used by all the actors that are part of CrAFt WP5. The Core Group will develop (together with the CrAFt partners) the structure for the digital access tool within the CrAFt website on which the actors upload the reflections and documentation of their work, activities, and events. Of course, the design principles should also be implemented in the working structures of the Core Group itself.

Additional responsibilities of the Core Group as described in D5.1:

- Building a next generation, interdisciplinary international network
- Maintaining a multiplicity of perspectives; maintaining opportunities for exchange and dialogue with other project stakeholders
- Functioning as internal Reference Group for the CrAFt project, alongside a reference group of professionals
- Setting up an operating structure for the Core Group and processes for the fulfilment of its tasks (together with facilitators from NTNU/ELIA)
- Participating in the conceptualisation of CrAFt Think/Do Tanks and maintaining connections with them throughout their implementation

5.2 Recruitment Plan

The Think/Do Tank Core Group students will be composed of ten students—two from each university and two recruited from within the ELIA network (art practice students). The formal basis for the engagement of the students will be a paid internship agreement with the universities and ELIA, respectively. It is expected that students can be involved for one or two years, depending on when during their studies they join.

Selection will occur bearing in mind the CrAFt principles of inclusivity and diversity (see D7.2 CrAFt Inclusiveness and Diversity Management Plan). There will be an open call for participation at the four partner universities and the ELIA network (in principle targeting ELIA member institutions located in the Sandbox Cities and Trondheim), providing all Bachelor's and Master's students with the opportunity to participate. Recruitment will first take place in October and will then be repeated in the Spring of 2023 and Spring of 2024 (Core Group members will be involved in recruitment for the second and third round, giving them additional agency).

By embedding the students' participation in a paid internship agreement, access is facilitated for those with a limited budget while adhering to the principle of reciprocity.

We are expecting that Think/Do Tank Core Group members will be able to continue their studies while being part of the Core Group. Their participation can be likened to an honours programme or additional course. Where possible, participation should be valued with additional ECTS as well.

5.3 CrAFt Think/Do Tanks - Flagship Events

The CrAFt Think/Do Tank Governance Model shows that the involvement of students in CrAFt is open for interdisciplinary activities organised by students at universities, or independently, in many forms and with a great deal of flexibility. With the CrAFt thematic and inquiry as the basis for any Think/Do Tank, there is an open invitation to organise a Think/Do Tank and feed the results back to the Core Group. One of the tasks of Core Group is to collect and consider the information and to provide this next generation input to the Sandbox Cities and the consortium. The Core Group acts as one of the official Reference Groups for the project.[9]

In addition to this reflective task, the Core Group itself also acts as initiator of a few CrAFt Think/Do Tanks. During the project period, with the support of the ELIA team and the Steering Group, the Core Group will initiate four 'branded' CrAFt Think/Do Tanks in a physical setting and six online Think/Do Tanks in the form of a series. In line with the design principle 'student-driven', the Core Group has the agency to decide which events take place, which guests/facilitators are invited to the events (there is a specific budget line for this, which the students can allocate), and what formats the events will take.

[9] CrAFt Task 7.4 Reference groups with other relevant European initiatives: 'NTNU will coordinate the CrAFt Reference Group with relevant EU initiatives (see Sec.1.2.2). The next generation Think/Do Tank (T5.3) will be engaged as a second Reference Group for CrAFt.'

A modest budget has been assigned to the CrAFt Think/Do Tanks, which allows for professional facilitation of these events and for travel and accommodation when visiting the physical Think/Do Tanks for some of the members of the Core Group. To multiply the impact of the physical CrAFt Think/Do Tanks and to minimise the budgetary impact, these will be piggy-backed on existing events, such as ELIA signature events in 2022, 2023, and 2024, EU conferences, and events at the universities. The Core Group and Steering Group will allocate the locations jointly. A first pilot event will be organised in Helsinki at the ELIA Biennial Conference in November 2022, in addition to the soft launch at the EWRC and the official launch at the PPDDF.

6 Independent Think/Do Tanks

6.1 Operational Principles

The Independent Think/Do Tanks (ITDT) fulfil an important role in the execution of working towards the exploration and development of governance models of inclusivity in the context of CrAFt.

One of the design principles that guides the ITDTs is the aim to include a plurality of voices. Therefore, an operational principle is that the ITDTs are embedded and sometimes initiated by local actors, and often but not solely framed by local urgencies and questions. A better understanding of the complexities of the many conditions of different localities is essential to understand how to work towards a green transition. This is the reason that the ITDTs have a very flexible structure: who initiates them, what shape they have, the duration, and the impact are all as open as possible. For a detailed description of their structure, see chapter 4, section D, of the Governance Model (D5.1).

The ITDTs can be initiated by students who are active in STEAM Teams or by Core Group members who feel the need to connect more strongly to the stakeholders with whom they already work. They can also be initiated by students who are not yet involved in the structure of CrAFt, but who (as part of their student work or independent from the university programme) want to organise gatherings, workshops, other events or interventions as a Think/Do Tank. If they like, students can involve other stakeholders in the cities, such as citizens, shop owners, politicians, or keepers of neighbourhood gardens. The ITDTs can take shape as one-time gatherings or become a longer project over time. They can also be a means to continue a STEAM Team activity that is finished.

In order to welcome a diversity of people to initiate ITDTs, the communication and promotion of CrAFt and the Independent Think/Do Tanks will need to address the audience in an inclusive way. It might mean that (digital) flyers or other promotional tools need to be spread in multiple languages, or that visuals play an important role in spreading the message. (See also chapter 7 about communication tools.)

The design principle of reciprocity is essential for the participation and initiation of Independent Think/Do Tanks. Why would students and other stakeholders join the Independent Think/Do Tanks? One reason is contributing to real change, sometimes in their personal daily life. In this way, CrAFt aims to bridge gaps between cities (policymakers) and students (the next generation).

The operational structure of CrAFt aims to bring policymakers, citizens, and students together in order to discuss and work towards change. WP5 will connect to WP3 (co-create and test in Sandbox Cities) to understand how to use Climate City Contracts

between universities and cities, and how to use these as a tool to bring citizens into the conversation with policymakers who have the power to bring change on a more structural level. CrAFt's aim is to go beyond the possibility of giving a diverse group of people a seat at the table: it aims to let these people design the table together.

7 Feedback, Documentation, and Dissemination

7.1 Feedback and documentation model

Following the objective of CrAFt to explore and develop collaborative governance models, feedback and documentation models are at the heart of the project. Both the feedback and the documentation models need to have a clear technical and content-driven framework for the participants to work within. The participants will upload the documentation and feedback via the CrAFt website (see 7.2), which will function as a tool for gathering experiences and reflections and an inspirational database for the actors in WP5 and anyone who is interested.

The feedback model can be divided into two strands: feedback on the impact of the student activities on a NEB-inspired transition to climate-neutral cities (external) and feedback on the Think/Do Tank Governance Model (internal). The external feedback, to which all actors involved will contribute, reflects on the collaborative processes implemented, impact on the local environment, and how external stakeholders like citizens or policymakers have been involved or affected. This strand of feedback questions, for example, the durable impact of activities. The internal models reflect on the collaborative and interpersonal processes experienced by the students in STEAM Teams or other forms of Think/Do Tanks. The former will be made public on the CrAFt website; the internal feedback will only be shared with the Core Group and Steering Group partners to develop and improve the student activities (including the STEAM Teams). However, key insights, learnings, and feedback will be published in a generalised way and implemented in D5.4 and D5.6 (initial and final version of the regular report on Next Generation CrAFt Think/Do Tanks).

For the development of the indicators used in the external feedback model, the Core Group will take the design principles of D5.1 and the NEB-inspired impact model (D1.3) for the transformation of cities towards climate neutrality as the basis. For the internal reflections, the design principles of D5.1 will be leading. The design principles, for example, experience over production and process over product, ask for a qualitative rather than a quantitative approach. Practising these principles means going beyond a solution and product oriented approach. Insights on the challenges, methods, and tools developed during the process are rather qualitative and key for the development of models of governance for change. The feedback model (both strands) aims for triple-loop learning and, as such, is aligned with CrAFt project methodology.

Though the documentation of the projects will, just like the feedback models, have a clear guideline for the participants to upload their work, they will also leave space for

sharing multiple learning outcomes and documenting feedback in the form of collage, video, or spoken word, to name only a few options.

In order to welcome new STEAM Team students to CrAFt, a comprehensive introduction that includes contextualising and working with the feedback and documentation model, will be provided to each cohort. The introduction might be in the form of a workshop or a video message from the Core Group that activates the students and includes discussions about the objectives, values, and functioning of the feedback models. The specifics of the internal communication will be developed by the Core Group.

7.2 Digital Access

All the documentation, reflections, and impact models coming from the interdisciplinary student engagement activities will be made available via the CrAFt website. This digital overview will function as a tool which the STEAM Teams and the Independent Think/Do Tanks can use it to upload their content in a clear technical framework. It eventually will function as an inspirational and promotional space for future stakeholders to join and is a tool for community building, through the option to stay up to date with all events and connecting with others interested in the initiative. On an internal level, the overview is a tool for the Core Team to reflect with; to understand the challenges, urgencies, and conditions of the different localities that the STEAM Teams and ITDTs encounter in their explorations towards the development of governance models.

The digital overview takes inspiration from the New European Bauhaus website which—during the co-creation phase of Spring 2021—provided a very easily accessible format for sharing information with all those interested in the NEB. Following the co-creation phase, the site is now showcasing a few projects in a searchable database format (see https://new-european-bauhaus.europa.eu/index_en).

After the Core Group first task is delivered (design of the structure and content for the documentation, reflection, and impact models) they will be involved in co-creating the digital overview and make any possible technology/system choices and discuss more detailed integration with the project website or other systems. Following the design principles of including a plurality of voices and the core value of inclusivity, the information needs to be easy to use for a diverse range of people. On an executional level, this means that the manner of uploading, the user design of the website, and the language and visuals need to be functional for multiple stakeholders like future university students, local actors who were involved in ITDTs, or universities who are not yet familiar with CrAFt but are inspired to join.

7.3 Dissemination

The general, European-wide dissemination efforts of the Think/Do Tanks and STEAM Teams will align to the WP6 strategy (storytelling, dissemination and exploitation). Think/Do Tanks and STEAM Teams will share (audio)visual and/or written content with the Core Group which can be used in the project's promotion and dissemination efforts. This will also feed into the CrAFt storytelling campaign (a European-wide multimedia campaign) (T6.1).

Dissemination will also aim to broaden the CrAFt learning community of students and universities and strengthen connections between its participants. The project will share experiences and learnings from student Think/Do Tanks and STEAM Teams internationally for enhanced visibility and inspiration, at the same time hoping to recruit independent Think/Do Tanks to join the community. Special promotion of the branded CrAFt Think/Do Tanks will also take place.

In addition to the overall dissemination efforts of the project, Think/Do Tanks and STEAM Teams are encouraged to put in place their own local dissemination plans.

8 Management

The involvement of students in CrAFt is managed by a Steering Group of the university partners NTNU, AUAS, UNIBO, and CVUT, led by ELIA.

The CrAFt budget supports the activities of WP5 and the interdisciplinary involvement of students in CrAFt. Budget elements will consist of:

- staff time
- internship remuneration for students
- facilitators of Think/Do tanks (physical and online)
- Core Group coaches
- online learning community (digital space for collaboration and submitting feedback)
- travel and accommodation to Core Group meetings (once per year)
- Core Group travel and accommodation when visiting (some) physical CrAFt Think/Do Tanks (once or twice per year)

The Steering Group will work to multiply the available budget in a number of ways:

- assigning tasks to Steering Group members (for instance, coaching)
- piggy-backing on existing events to attach Think/Do Tanks to (for instance, ELIA signature events, EU conferences, theme events at the partner universities, etc.)
- requesting support by hosting venues and institutions, if they are not part of CrAFt
- working with existing STEAM programmes at the partner universities

Last but not least, the Think/Do Core Group will be charged to creatively find additional resources to increase budget and impact.

9 Risk Analysis

This section identifies risks which could negatively influence the STEAM Teams Management Plan and consequently the overall implementation of the Governance Model for Next Generation CrAFt Think/Do Tank of Students (D5.1). The risk analysis includes risk level estimates and mitigating actions foreseen by the project consortium.

It is important to note that the risk analysis in the overview below is complementary to the overall CrAFt Risk Management Plans (D7.5, D7.7, D7.11), which will be produced and published during the project. It aims to specify in detail the foreseen risks and mitigation strategies exclusively for the implementation of the student activities within WP5 of the project.

Risk	**Probability**	**Impact**	**Mitigation**
Following the design principle of flexibility, the WP5 plan, structure, schedule, and budget remain open for amendments and additions as the project progresses. This could result in difficulties in maintaining the red thread/continuity between the student activities and in gathering documentation. The CrAFt brand could suffer as a consequence.	Medium	Medium (most relevant for phase 1 and 2)	Applying the triple-loop feedback model to the implementation of the WP5 activities—including regular moments of reflection with the WP5 Steering Group and the Core Group—to identify issues in early stages and amend implementation strategies accordingly. Project deliverables D5.3 and D5.5 will be key moments of reflection. If needed, WP5 will work closely with WP6 to recover the CrAFt brand value through specific communications strategies.
Insufficient capacity Core Group due to inability to recruit sufficient student members and/or low retention of Core Group students in the Sandbox Cities and Trondheim. This could result in loss of information and/or inability to guarantee (continuity in) the delivery of Core Group tasks.	Low	High	Broadening the recruitment campaign to universities in CrAFt Reference Cities and the full ELIA network of 270 higher arts education institutions. Increased monitoring of the Core Group by a consortium representative to guarantee continuity.
Insufficient resources to carry out the STEAM Teams and CTDT activities.	Medium	High	Integrating activities within existing (and otherwise funded) initiatives, events, and programmes, therefore reducing the financial and human resources needed. Fundraising additional resources from local stakeholders and municipalities.

Conflicts in collaborations, either internal to the Core Group or between the Core Group and the WP5 Steering Group.	Medium	Medium	Mediation by specialists in collaborative (and/or STEAM) work structures mediate (for instance from NTNU's Expert in Teamwork programme).[10]
Local STEAM Teams and TDTs have low impact on decision making by the municipalities (potential barriers: technical, legislative, communicative, political, low implementation/replication potential of activity outcomes).	Medium	High	In partner cities (Sandbox Cities and Trondheim), partners initiate dialogue with municipalities and students to explore the issue. TDTs in other cities are encouraged to do the same. Learnings will be integrated in D5.3 and D5.5, and potentially also in D2.3 Climate-Neutral and Smart Cities Guidance Package: NEB Edition.
Difficulties or delays in organising the STEAM Team activities due to technical issues (timing, logistics).	Low	High	STEAM Teams will be organised in four cities. If STEAM Teams in one city are delayed or fall through, the results from the parallel STEAM Team activities in the other three cities will be able to carry the project. If there are issues in all cities, the Governance Model and/or Management Plan are not adequate and will be re-evaluated; this will serve as major project learning and be integrated in the project deliverables.
External factors (like new Covid-19 lockdowns or socio-economic consequences of the war in Ukraine) make it impossible for the project partners, Core Group, STEAM Teams, and/or TDTs to go ahead with the interdisciplinary student activities as planned.	Low	High	Using tools and methods developed during the previous pandemic lockdowns so that alternative (likely online and/or hybrid) activities can take place. Amendments of the Management Plan in response to the needs of the students and partners.

[10] https://www.ntnu.edu/eit

10 Next Steps/Reflection

This STEAM Teams Management Plan represents an important stepping stone in the preparation and launch of the interdisciplinary engagement of students in the CrAFt project. Although this Management Plan was developed in the very early phases of the CrAFt project, the consortium has already identified a number of learning points.

D5.2 documents that important work is already being done at the universities when bringing together students from different disciplines in addressing the larger problems of this time. However, we have found that already existing programmes are not connected to each other and that the teams involved are not learning from each other. There is no immediate need to reinvent new programmes, however, there is much added value in connecting these programmes to each other and learning with each other. In writing this Management Plan, this has become very evident to us, considering the already rich content of the overview in the annex. Communities such as the CA2RE (Community for Artistic and Architectural Research) have shown that such intercollegiate networks can be highly valuable to participants as well as to the field as a whole.[11]

The curriculum-related annex is considered a starting point for the continuous reflection and sharing of what the CrAFt community (including universities from Reference Cities) is working on. The Core Group's main task in this regard will be to maintain the overview and reflect on and revise the structure to allow for optimal exchange. This document will evolve into a rich overview and outcome of the CrAFt project, hopefully able to inspire other educational institutions to further develop interdisciplinary student work in general, but in particular on issues of sustainability and the city. Such a database of information could function well beyond the lifetime of the CrAFt project.

Through the preparation of the STEAM Teams Management Plan, it also has become clear that the degree of flexibility of the (operational) working structure is key to designing a feedback model that is based on the design principles of CrAFt WP5. It might be difficult for a consortium to not set everything in stone at the outset, but the learning will be found in the undefined space. This working structure will benefit from having space to unfold, quite similar to how the New European Bauhaus initiative unfolded initially and was given space to be co-created.

That said, well-considered tools will be essential for the 'success' of this project; flexibility needs to have a clear framework. A good example of this is the timeline which can function as guidance and record, but not as rigid prescription.

[11] See more on CA2RE at https://ca2re.eu/.

After only a few months underway, it is also clear that the tools (and language) in WP5 need to be carefully considered and designed in order to be easily used by, and accessible to, multiple students from diverse backgrounds across the whole of Europe. The timeline from D5.2 and the relationship diagram from D5.1 are examples. To make them more appropriate and easy to use for a diverse range of people, a next step will be to revisit and possibly alter them together with the Core Group. In this way, the tools are not only developed for them, but ultimately with them (inclusivity in practice).

The importance of one-on-one connections and dialogues should not be underestimated in the development of both of the early work processes, plans and deliverables in WP5. The one-on-one interviews with the partners provided much insight to develop the plans D5.1 and D5.2. Such informal moments and conversations will need to be implemented in the work of the Core Group.

Regarding continuity and discontinuity, it is expected that this part of CrAFt will experience both of these when it comes to the human effort involved. Continuity in the composition of the Steering Group and the Core Group would normally be considered an asset, because learning can then be collective and focused on deepening rather than repeating. Discontinuity, however, is a certainty in the Core Group where we know that not all students will be able to be engaged for more than one year. This can be considered a positive challenge, because a change in team composition also ensures the input of new voices throughout the project.

Annex 1 List of Activities at Partner Universities

Curriculum-Related Interdisciplinary Activities at the CrAFt Universities (‘STEAM Teams’)

This document is a draft that forms the basis for an online database of all CrAFt Interdisciplinary Activities at the CrAFt Universities. It is a dynamic document, a work in progress which will grow with input universities across Europe throughout the project. As part of this management plan, this overview functions as a departure point and illustration of the information to be collected.

4.2.1 Norges Teknisk-Naturvitenskapelige Universitet (NTNU) Trondheim, Norway

Name Activity	**Specifics**	**Start-Finish**	**Description**	**Learning goals**	**Connection with the local yes/no & how**	**Professor/ Contact Person**	**Recruitment start-finish**	**Website**	**Deliverable**	**ECTS yes/no, Other formal forms of ‘rewards/ benefits’**
Experts in Teamwork	Master course Compulsory for all students Location: Norway or EU Open for exchange students	M1-M1 (Spring semester, 3 weeks intensive) M1-M5 (classes throughout whole semester, 1 day / week)	Experts in Teamwork (EiT) is a master’s degree course in which students develop their interdisciplinary teamwork skills.	Interdisciplinary teamwork skills Research skills implemented in real life	Connection of local: Yes EiT encourages students to use real projects to be their study case. EiT invites local stakeholders to co-teach.	Markus Schwai Wang Yu Hamish Hay Bjorn Sortland	N/A	https://www.ntnu.edu/eit	Written documents Initiated projects, drawings, designs, mock-ups, process descriptions	ECTS Yes 7.5 standard ECTS Network building
Urban Ecological Planning (UEP): Project Course	Master course Compulsory for all students. Course is fieldwork based. Location: Norway (first 4 weeks of semester 1 and last 5 weeks of the same semester), and the global South city for fieldwork for 8 weeks of semester 1 . Open for exchange students.	Semester 1 (August 2022) Field trip to Kochi between 15 September and 10 November. Then sessions at NTNU from 14 November to end of semester 1. Finshi: December.	In the UEP course, students acquire knowledge, develop values, technical and social skills that help them work in complex urban contexts to remagine settlements and communities. The focus is on urban informality. Students work in small groups to undertake integrated site analysis and context relevant solutions formulation. Through practice and critical reflections, students develop skills and experience about teamwork,localization of SDGs, and use of creative tools and methods to communicate their ideas to stakeholders and actors.	Experiential learning based on ‘live’ projects. Research-to-solution skills Transdisciplinary learning, teamwork and critical self-reflection. Knowledge integration, creative methods of expressing learning policy recommendations	Yes Working with local stakeholders, the project team identifies specific sites within a city. Student groups are allocated a project site on which to work. Students work with stakeholders to do interviews, observations, mapping, and problem analysis. Then local actors and stakeholders work with students to co-create context informed solutions to the identified problems. The outputs are communicated and shared with local actors and stakeholders through reports and exhibitions.	Gilbert Siame Rolee Aranya	End of Spring for Norwegian and EU applicants. Early December for international applicants.	https://www.ntnu.edu/studies/courses/AAR4525/2022#tab=omEmnet	Written documents Initiated projects, drawings, designs, mock-ups, Change process plans and descriptions	ECTS yes

Live Studio, Projects in the real world	Extracurricular course Application open to BA and MA students Location: Norway or abroad	Interventions can be anything from one month to one year.	Often student initiated and always student driven building/ planning/ interaction activities triggering changes in the urban/ rural public and private realm	R&D implemented in real life. Experience based-learning, group work, real(istic) projects under real challenges	Connection of local: Yes Projects in the private/ public realm, some temporary, others continuous. Cooperation with private industry, municipalities, associations or private initators	Markus Schwai Steffen Wellinger	One semester before start	https://www.ntnu.edu/ad/live-studio	Built interventions and/ or processes in the urban realm	ECTS: no Other benefits: Practice, experience
International inclusive placemaking summer school	Extracurricular course application open to BA and MA students Location: Norway or abroad	M8-M8	Out of the lab into the city. Bring students from different countries and backgrounds together to work with local stakeholders on a real project in the city.	Transdisciplinary learning, teamwork with external partners, skills of co-creation Teach students to embrace the complexity of the urban environment	Connection of local: Yes Students work with local stakeholders such as municipalities, local universities, local industries, and communities	Wang Yu	End of Spring semester	https://www.ntnu.edu/documents/21392748/0/SiNoPSE+Final+Report.pdf/e4a5ad78-8308-7248-532a-057fe9d03dd1?t=1589973049455	To understand the urban complexity in terms of interaction between different urban stakeholders. (not documented formally)	ECTS: No Participants of the summer school will get a certificate issued by the organizer
Planbussen	Curricular program MA MA studio and course;/ open to MA students Location: Norway	Spring semester January - June	Intensive fieldwork in municipalities, in relation to urban and rural development.	Experience based-learning, interaction with local stakeholders	Connection of local: Yes Intensive fieldwork in municipalities. Research is presented to the locals, and work is presented to municipalities.	Markus Schwai	Autumn semester	https://sites.google.com/view/planbussen/hjem	Contributions to local planning/ development initiatives in written/ drawn form. Initiation of local interaction initiatives	ECTS: Yes
Community for Artistic and Architectural Research 'CA2RE'	Community and subprogram: Intensive study program for doctoral candidates Open to anyone Next location: Glasgow (2022)	2x a year, Spring and Fall training events (5 days) Conferences (3 days)	Brings together senior staff and early-career researchers from art practice and architecture to improve research quality through intensive interdisciplinary peer reviewing at key intermediate stages of artistic and architectural research.	Improve evaluation competencies in Design Driven Research Evaluation	Connection of local: no (limited: connection to local institutions and their relations; topics)	Markus Schwai & ELIA, icw ARENA, EAAE	3-4 months before event	https://ca2re.eu/	Network, Biannual peer reviewed conferences with a strong focus on open and interdisciplinary discussion of stated problems and proposed methods in Design Driven Research Evaluation.	ECTS: no
URBAN-NORWAY-CHINA	RCN-founded INTPART project International summer schools Student Think/do Tank International Hackathon	M10-M10 International intensive course M1-M12 Student Think/do Tank M11-M11 International Hackathon	URBAN-NORWAY-CHINA supports the Norway-China cooperation on sustainable urbanization, in particular cross-disciplinary educational and training activities	Cross-culture, interdisciplinary teamwork Youth engagement to mission cities	Connection with Locals: Yes The course will use Digital Twin City project in Ålesund and will work local municipality, real estate developers, researchers and local communities to investigate the impacts of digital twin on citizen participation	Wang Yu Hamish Hay	Before the semester	https://www.ntnu.edu/smartcities/data-driven-co-creation	A project report and a final presentation	Yes

4.2.2 Stichting Hogeschool Van Amsterdam (AUAS), Amsterdam, the Netherlands

Name Activity	Specifics	Start-Finish	Description	Learning goals	Connection with the local yes/no & how	Professor/ contact person	Recruitment start-finish	Website	Deliverable	ECTS yes/no, Other formal forms of 'rewards/ benefits'
Future Proof City	HBO BA Minor, fulltime Open for application for 2023 Location: Amsterdam	5 sep 2022 through 3 feb 2023 Closed 6 feb 2023 through 7 jul 2023	Students learn to identify scenarios for a futureproof city. They learn about the city as a complex system with economic, societal and technical challenges. Working on a NEB challenge and contributing to CrAFt.	Experience based learning Interdisciplinary learning	Yes, students work on real challenges in spacial projects in the city of Amsterdam. They develop products/designs/ scenarios for possible solutions to tackle local challenges.	André de Ruiter	31 oct 2022	https://www.kiesopmaat.nl/modules/hva/FT/142635/	A research plan, a solution direction and a possible professional product or design proposal as an answer to the problem	ECTS: YES (30)
Urban Management	Master, part time Open for application Location: Amsterdam	5 sept 2022 through 21 aug 2024	Master programme targeted at diverse urban professionals in the Netherlands. It offers them the knowledge and skills to tackle complex issues (e.g. climate adaptation) in co-creation with local stakeholders	Interdisciplinary teamwork, co-creation Action research methods to develop context specific understanding of issues and design workable solutions Connecting and engaging diverse groups	Connection of local: Yes Intensive collaborations with citizens, policy makers and the industry	Sharona Ceha Maayke Jansen Gertjan de Groot Annemarie Breet Jurgen Hogendoor Andrew Switzer	Finish aug 2022	https://www.hva.nl/opleiding/master-urban-management/master-urban-management.html	MA thesis portfolio	ECTS: YES
Urban Innovators Training Programme	Developed as part of the European Urban Regenerators Knowledge Alliance (EUREKA) Erasmus+ project. Open for application Location: Amsterdam, with international partners	30 sept 2022 - 30 sept 2023	This programme is multidisciplinary, practice-based and case-oriented. It trains Urban Innovators to manage the transformation of urban spaces. The learning process is structured around four Urban Living Labs, each based in one major European city: Amsterdam, Venice, Timișoara and Bilbao.	Interdisciplinary teamwork International collaboration Experience/participatory based learning in Urban Living labs on real-life urban challenges Self reflection and professional development	Connection of local: Yes Working on real-life urban challenges in cities and engaging with local communities and actors.	Els Beukers Stan Majoor Sharona Ceha	Finish Aug 2022	https://www.hva.nl/urban-governance/gedeelde-content/projecten/um-algemeen/eureka.html	Certificate	ECTS: NO
HVA in de stad/ HVA in the City	A platform for education and research activities in the city Location: Amsterdam	Every semester	The Platform 'HvA in de Stad' helps students, lecturers, researchers and knowledge partners to use the city as a rich learning environment for the HvA. The various neighborhood hubs involved offer space for co-creation and visibility of the projects.	Interdisciplinary teamwork Students work with citizens and local authorities on real life urban challenges in specific neighborhoods in the city.	Connection of local: Yes Intensive collaborations with citizens, policy makers and the industry.	R.R. Fit Community manager HvA in de Stad	Every semester	https://www.hva.nl/hvaindestad	Depends on course	Depends on course

DesignLab (in development)	MA/BA Program Starts in january 2023 Location: Amsterdam	Starting second semester 2022/2023	Connecting different university fab-labs for inter- and multidisciplinary cooperation on social and metropolitan issues on the basis of design methods The DesignLab will become an HvA-wide facility with a focus on design - from design to prototypes - from various disciplines.	TBD	Connection of local: Yes Students will work on real life urban challenges.	Rutger Schuurman Mareile Zuber Marco van Hout Andrew Switzer	New program: starts January 2023			
Green Office of AUAS (GO HvA), Global Goals Jam	September 2022 Registration open Location Amsterdam	16 and 17 September 2022	Students and staff work together on concrete actions with impact. In September 2022 GO HvA is organizing the Global Goals Jam together with the Digital Society School and the UNDP. Participants worldwide will work in multidisciplinary teams, in order to create short- term interventions for local challenges using a design-thinking toolkit.	The Global Goals Jam is a two day event where creative teams work together on local challenges related to the Global Goals. Using a tailored toolkit, we will create interventions aimed at short term targets in support of the long term goals.	Connection of local: Yes Local interventions which address local challenges. Collaboration with partners from the local industry	-	Before 16th of September 2022	https://www.hvaduurzaam.nl/s/ . .	short-term interventions with long-term impact.	NO
Design across Cultures	International young and mid-career talent, development opportunity for young professionals. Location: online, based at Digital Society School, part of AUAS in Amsterdam	Last Track was in 2020, new Track might start related to CRAFT in 2023 (TBC)	Project clusters, or 'Tracks' exist out of multidisciplinary teams of designers, developers and researchers working on challenges that meet the United Nations Sustainable Development Goals. In this track, we want to design productive online-offline dialogues between real-life people and communities, aimed at enhancing conversations for organizations for which collaboration is key to working on the SDGs.	The capacity to engage in constructive conversations in which creative, collective intelligence can be developed to solutions and scenarios for implementation of SDG's in daily life.	We create proof of concepts, prototypes and do applied research for designing dialogue at distance (geographically or culturally).	Nick Verouden Anneke van Woerden Anna Aris Nick Verouden Anneke van Woerden Anna Aris Digital Irene Pena Abellan Valentina Zwertbroek Irene Pena Abellan Valentina Zwertbroek	New Track might start in 2023 (TBC)	Nick Verouden	TBD	NO

Next-Level - Innovation for sustainability and inclusion	Location: Amsterdam	4-29 oktober 2022	The Next-Level - Innovation for sustainability and inclusion combines Design Thinking and Innovation in the framework of Entrepreneurship. Participants in the Short Term Program will have the unique opportunity to experience business-related models and search for emerging trends in technology, innovation and sustainability. The program includes three weekly online sessions and a final week full of exciting classes and activities in Amsterdam. Our distinguished lecturers from Belgium, the Netherlands, Germany and Canada will take the participants from around the world through an intensive study and cultural program. Participating students can earn up to 5 ECTS in the Next-Level - Innovation for sustainability and inclusion program. The Next-Level - Innovation for sustainability and inclusion is a collaboration between Hogeschool van Amsterdam (HvA), The Netherlands, Karel de Grote University College (KdG), Belgium, the Hochschule der Medien (HdM) Stuttgart, Germany and Faculty of Organization and Informatics, Croatia							5 ECTS

4.2.3 Czech Technical University in Prague (CVUT), Prague, Czechia

Name Activity	**Specifics**	**Start-Finish**	**Description**	**Learning goals**	**Connection with the local yes/no & how**	**Professor**	**Recruitment start-finish**	**Website**	**Deliverable**	**ECTS yes/no, Other formal forms of 'rewards/ benefits'**
NEXT PLANET	ATELIER PROJECT at Faculty of Architecture, Prague open to BA and MA students (local and erasmus)	Start 10 2022 End 06 2023	New program with visiting professor Winy Maas. The focus is to explore the possibilities of architecture and design to respond to global challenges.	Experience based learning Winter semester: Global problems Summer semester: Current topics of the Czech Republic.	TBD: It's a new project so information is to be developed	Winy Maas	Before the semester start (09 2022)	https://www.fa.cvut.cz/cs/studium/atelier/45505-atelier-maas .	Winter semester: 3D installation at the final exhibition in January. Summer semester: 3D installation at the final exhibition in June.	ECTS yes
EuroTeQ Engineering University	CTU is a member of the alliance of European technical universities: EuroTeQ Engineering University. open to BA and MA students (local and international)	Started 1.11.2020 End: 31.10.2023	Partner schools offer a catalog of a total of sixty virtual (online) courses in English. There are also a number of language courses for beginners in local languages. Courses are mostly online to allow virtual mobility between partners.	Ambition is to create a new model of engineering education, support international mobility, introduce a new set of micro-credentials and most of all, a new EuroTeQ Honors award and a EuroTeQ Professional certificate.	it depends on the specific course	Ing. ALEŠ MAREK, Ph.D.	It depends on the specific course	https://international.cvut.cz/euroteq/ . . . Web EuroTeQ: https://euroteq.eurotech-universities.eu . .	it depends on the specific course	ECTS yes

ATHENS (Advanced Technology Higher Education Network, Socrates)	workshop Urban Palimpsest open to BA and MA students (local and international) Location: Prague	Project is already finished	The intensive workshop called Urban Palimpsest combined guided tours, theoretical lectures and analytical work. It was structured with non-architectural fields of study in mind, so that the participants became familiar with the basic ways of reading and analysing the urban structure on the basis of its characteristic features.	Course participants became more conscious observers of the built environment in which they move on a daily basis during their time in Prague	Connection of local: Yes Students moved in a real urban environment and tried to understand what shapes and influences it.	Ing. arch. JANA ZDRÁHALOVÁ, Ph. D. zdrahalova@fa.cvut.cz	Project is already finished	https://www.fa.cvut.cz/en/gallery/life-of-fa/33799-fa-joined-the-athens-programme . .	presentation	ECTS yes
Rethink Architecture: Experience Sustainability	Interdisciplinary workshop Location: Prague	14.9.2022 - 18.9.2022	Five-day workshop guided by experienced mentors. Interdisciplinary groups of 5 will try to develop designs for the space around Palata, a home for the visually impaired in Prague.	Building a network Interdisciplinary cooperation, discussing the project with colleagues	Connection of local: Yes The project deals with the design of the surroundings of the Palaty house, a home for the visually impaired in Prague	Rethink Architecture info@rethinkarch.cz	Recruitment already finished	https://www.rethinkarchitecture.cz/zazijudrzitelnost . .	Project, spacial intervention	ECTS NO

4.2.4 Alma Mater Studiorum - Universita di Bologna (UNIBO)

Name Activity	**Specifics**	**Start-Finish**	**Description**	**Learning goals**	**Connection with the local yes/no & how**	**Professor**	**Recruitment start-finish**	**Website**	**Deliverable**	**ECTS yes/no, Other formal forms of 'rewards/ benefits'**
SIMUR - Sustainable and Integrated Mobility in Urban Regions	MA program Open for application followed by a selection of cv profiles Location: Imola (Bologna)	January 2023-April 2023; Internships from May 2023 until July 2023	The Master's Degree aims to train technicians specialized in the design and management of urban and regional mobility in the road, rail, and airport sectors.	Research methodologies based in reality	At the end of the master's program, there will be a period of internship at a local facility (university, municipality, professional firm, etc.), at which he or she will put into practice the theoretical skills acquired during classes.	Claudio Lantieri	June 2022- October 2022	https://master.unibo.it/sustainable-and-integrated-mobility-in-urban-regions/en . .	Final report on the internship activities, included technical and graphical documentes related to the design projects developed.	20 CFU (University Educational Credits) for the internship + 5 CFU for the final examination

FIU - Fondazione Innovazione Urbana / Foundation for Urban Innovations	Foundation working as an “open and widespread lab” focusing on urban innovation. Open for application followed by a selection of cv profiles	Several call for participants, periodically open (for example, a relevant workshop organized and developed in 2021 was “UTOPIE REALIi”: http://www.fondazioneinnovazioneurbana.it/45-uncategorised/2702-utopie-reali-immaginiamo-insieme-la-rigenerazione-dei-quadranti-nord-ovest-di-bologna)	FIU that aims to connect municipalities, MA and PHD students and companies. Possible cooperation between UNIBO and FIU in technical workshops to be defined (if possible)	FIU is a lab for analysis, communication, development, and co-production focused on urban transformations. The goals are organized into 3 main pillars that highlight the path the City of Bologna: - Urban Center (informational activities to promote the territory and urban culture); - Mapping the present (analyzing and documenting urban transformations with a focus on open data); - Civic Imagination Office (activating participatory paths of coproduction, such as District Labs and Participatory Budgeting).	Workshops, seminars, courses, and other activities organized by FIU in cooperation with different local entities	Involved: Claudio Lantieri, Cecilia Mazzoli, Leonardo Cameli, Annarita Ferrante, Anna Chiara Benedetti	TBC based on the specificiity of the activity to be organized	https://www.fondazioneinnovazioneurbana.it/	Depending on the activity (e.g. design project, reports, technical drawings, etc)	ECTS: Yes, depending on the activity and its duration (number of hours)
PhD Programme in “Architecture and Design Cultures” at UNIBO	Conferences organized annualy by the PhD students (for example, the 2022 conference is entitled “Envisioning Transitions: Bodies, buildings and boundaries”, which will be held on December 2022: https://eventi.unibo.it/transitions).	Deadline for registration TBC annualy.	Organization of international conference on a specific topic, involving faculty from different foreign universities, pertaining to the different disciplinary areas of the PhD program (Architecture, Planning and Urban Design, Construction Technologies and Building Performances, Advanced Design, Cultural Heritage, Architectural Humanities, Aesthetics).	Networking between different universities and publication of scientific contributions in the Conference Proceedings book	Cooperation between UNIBO students (but no connections with other non-academic local entities)	Involved: Cecilia Mazzoli	TBC based on the conference programme	https://phd.unibo.it/architettura/en	Publication of Conference Proceedings	ECTS: just for the organizing PhD students committee
Seminars in the framework of PhD programme of different UNIBO Departments (DA, DICAM, DIN)	Seminars organized by PhD program faculty members. Open only to UNIBO PhD students	TBC	Organization of seminars on specific topics, pertaining to the different disciplinary areas of the PhD program.	These seminars, which can be selected by PhD students from a set of cross-sectorial activities, aim to increase knowledge in specific research fields relevant to their research activities.	Activities organized by UNIBO, possibly in cooperation with different local entities	Involved: Cecilia Mazzoli and Annarita Ferrante (for DA); Claudio Lantieri and Andrea Simone (for DICAM); Giovanni Semprini (for DIN)	TBC based on the seminar programme	Events organized by the DA: https://phd.unibo.it/architettura/it/eventi-passati-seminari	Depending on the activity to be developed	ECTS: Yes, depending on the activity and its duration (number of hours)

Summer and Winter Schools by UNIBO	Programmes are open to students and young graduates from Italy and around the world, and in some cases, to specific professional figures. Deadline for registration TBC annualy.	Deadline for registration TBC annualy.	The Summer and Winter Schools are intensive programmes offering a wide variety of subjects, designed to meet the new needs for cultural and interdisciplinary learning.	The curricula include classroom lessons and workshops, as well as opportunities for discovering the culture and traditions of Emilia Romagna region. Most of them are delivered in English.	Activities organized by UNIBO, possibly in cooperation with different local entities	Involved: Cecilia Mazzoli, Claudio Lantieri, Annarita Ferrante	TBC based on the school programme	https://www.unibo.it/en/teaching/summer-and-winter-schools/information-summer-winter-schools	Depending on the activity to be developed during the school (e.g. design project, reports, technical drawings, etc)	UNIBO runs two types of Summer and Winter School: - leading to learning credits that can be recognized by universities (ECTS/ University educational credit); - without granting of learning credits.
Post-graduate vocational training programmes by UNIBO	Programmes are open to international post-graduated students.	Deadline for registration TBC annualy.	University Post-Graduate Vocational Training Programmes target people who are already working or who in any case have already initiated a professional career. The flexible, customized learning formulas with modular timetables are designed to ensure the participation of worker-students. Moreover, most of the courses also accept unemployed students, provided they have already gained some form of significant work experience.	Updating knowledge and learning new skills are key factors for tackling the complexities of the job market.	The programmes and the activities could be organized in cooperation between UNIBO and other non-academic local bodies	Involved: Cecilia Mazzoli, Claudio Lantieri, Annarita Ferrante	TBC based on the school programme	https://www.unibo.it/en/teaching/postgraduate-vocational-training-programmes/post-graduate-vocational-training-programmes	At the end of the course, certificates are issued to confirm the acquired skills and in some cases university learning credits are also awarded.	ECTS: No