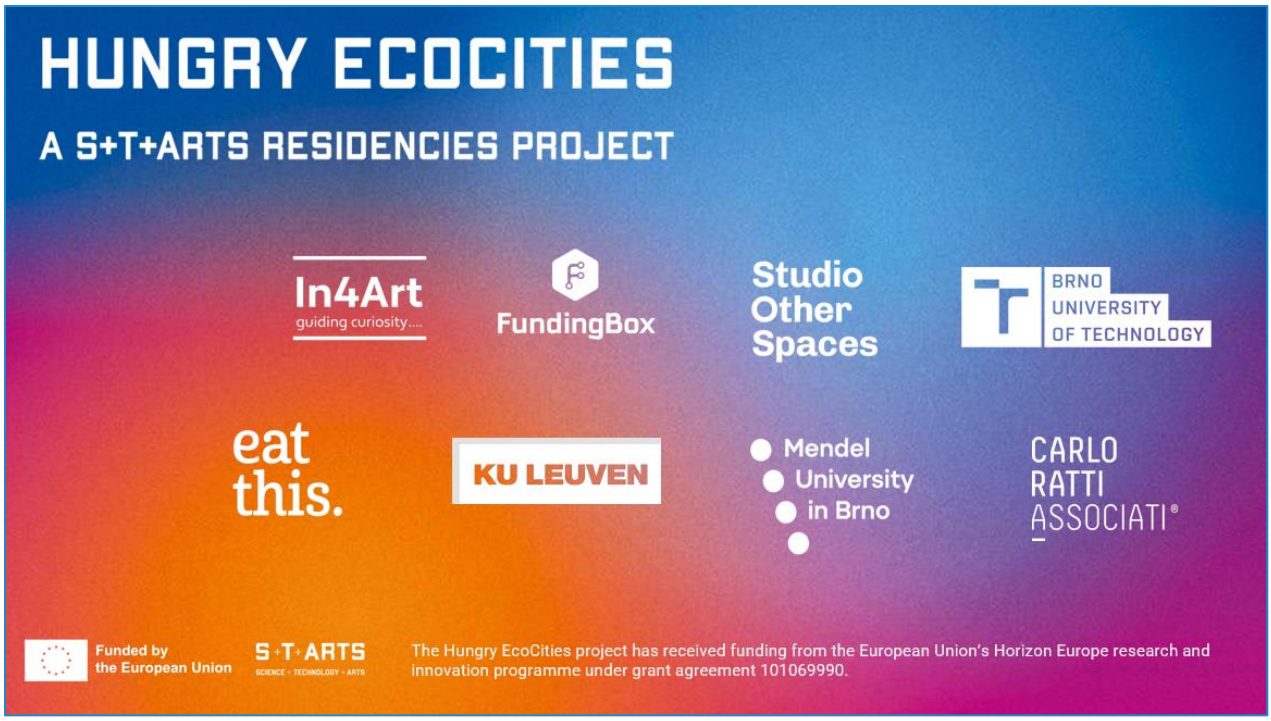

Deliverable 1.4 – Matchmaking method (intermediate)
Version 1.0

Grant Agreement Number	101069990
Project title	Hungry EcoCities
Start date of the project	Sep 1st 2022
Duration of the project	42 months
Date of submission of the report	August 2024
Workpackage No.	1

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Reviewers: Pavel Chaloupsky (Mendel University)

Objective of the deliverable

This deliverable is a follow-up deliverable of D1.3 and describes the activities in developing the matchmaking method and methodology in the Hungry EcoCities HTEs and PPEs.

History of changes

Date	Version	Author	Comment
12.06.24	0.1	Klara Kaluzikova	Setup of deliverable
14.08.24	0.2	Rodolfo Groenewoud van Vliet	Draft text
19.08.24	0.3	Lija Groenewoud van Vliet	Full draft
28.08.24	0.4	Pavel Chaloupsky	Review
30.08.24	1	In4Art	Final

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1. Abstract

From experience with S+T+ARTS projects over the last years, we have learned that matchmaking is very important to design and execute well in multi-disciplinary collaborative projects like Hungry EcoCities. Especially since we are introducing two high-risk factors in this: we are [1] introducing artists as agents of change and [2] focusing on highly experimental, highly innovative topics. In this particular project related to food system transitions.

Throughout Hungry Ecocities, we will work with over 20 artists, 10 SME enterprises, and 8 project partners on 19 different art-driven innovation experimental projects for food system transition.

Each of these 19 projects will be carried out by what we call a core team. The core team consists of at least one artist, in some projects one SME, and in all projects a matched combination of most fitting project partners (usually 3 to 4).

The core teams are jointly responsible for the development of the experiments. Because we have two very different typologies of experimental projects in Hungry EcoCities: Humanizing Technology Experiments and Path to Progress Experiments, we have designed two types of matchmaking as well:

1. The Core Team approach
2. The HEClab approach

The Core Team approach is the matchmaking approach we deploy in both types of experiments. It comes from the idea that close collaboration between well-matched individuals around project goals is a good way to achieve high-level results.

In addition, and because we introduce the SME as an additional element in the Paths-to-Progress Experiments, we have developed the HEClab approach to matchmaking. This is a semi-automated digital matchmaking process, which will be conducted on the HEClab to match artists with SMEs. At the time of writing this deliverable (August 2024), the matchmaking process on the HEClab has not yet started (October-November). For that reason, we only introduce the method in this deliverable and will reflect on the operational results in the final version of this deliverable on Matchmaking methods.

2. Type 1 Matchmaking HEC: Artist – Consortium (evaluation)

For the management of the Humanizing Technology Experiments, we chose to use a core team approach to match the most fitting consortium partners with the artists. This approach means that a limited number of people from different partner entities form a small collaborative team around the artist for daily and continuous collaboration and discussion.

In this chapter we will describe what the core team approach is and how the core team members are selected and matched to the project. We will also reflect on the performance of this approach now that the Humanizing Technology Experiments are concluded, highlighting what went well and what did not go well.

Core team approach

The core team approach is a way to identify a small group of individuals, from different background and perspectives, who agree to unite in pushing for the goals and activities part of the project. Jointly they take ownership over the performance and push for results. The core team, in this case, is naturally led by the artist and managed by a consortium partner. The artist is both steering the core content of the project (the ideas and direction) as well as the main executor of the experiments (preparing, setting up, interpreting, reporting). This because the artist receives a grant for this role. Around the artist, the core team members are selected based on their capacities, the project needs, and the underlying idea of collaboration. By making several project partners co-responsible for the execution of the experiment, we aimed to enhance the level of collaboration, cross-pollination and efficiency for each of the Humanizing Technology Experiments.

The matchmaking process involved 3 steps:

1. Matching the experiment to a project vision
2. Matching the experiment to technological needs
3. Matching the individuals in the core team

Matching the experiment to a project vision was to select the core team member(s) from the partner studio's in Hungry EcoCities. The studio core team member(s) acted as artist/creative mentors, overseeing the artistic process and supporting the projects with knowledge exchange, discussion, tools and, in some cases, means of production. The visions developed by the studio's were leading to match projects to studios.

Studio Other Spaces (SOS), developing the vision for Local Condition, was matched to the projects *The Council of Foods, Symposio and Future Protein* for these reasons. The person representing SOS in the core teams was Sebastien Behrmann, assisted by Eva Mikkelsen and Aulona Krasniqi.

Carlo Ratti Associati (CRA), developing the vision for Urban Food Systems, was matched to the projects *Acoustic Agriculture, Ecoshroom, Future Protein* and *Symbiosis.ai*. From CRA, a team of experts were divided over the core teams to represent the studio. This team was led by Monika Loeve and Chiara Borgi, and assisted by Gabriele Sacchi and Vincent Leung.

EatThis, developing the vision for Mega Scale, was matched to the projects *Culinary Journeys (*resulting in Vegetable Vendetta*), Food Dysmorphia (*resulting in WTfood*), Future Protein* and *MVPxFFF*. From EatThis, the representatives in the core teams were Stephan Petermann and Aart van den Bos.

With the completion of step [1], all Humanizing Technology Experiments were enforced with (a) dedicated studio(s) supporting the project creatively and artistically. The next step was to add a representative from the technical universities to the core teams in order to assess, support and advice on the technological needs and wants in each endeavor.

KU Leuven, represented by Leuven.AI researchers Jens Burger, Robin de Croon, Robert Boute and Jeffrey Turk, bring in expertise on AI model development, AI model coding, application and optimization. For these reasons, they were added to the projects *Culinary Journeys, Food Dysmorphia, Symposio* and *Council of Foods*.

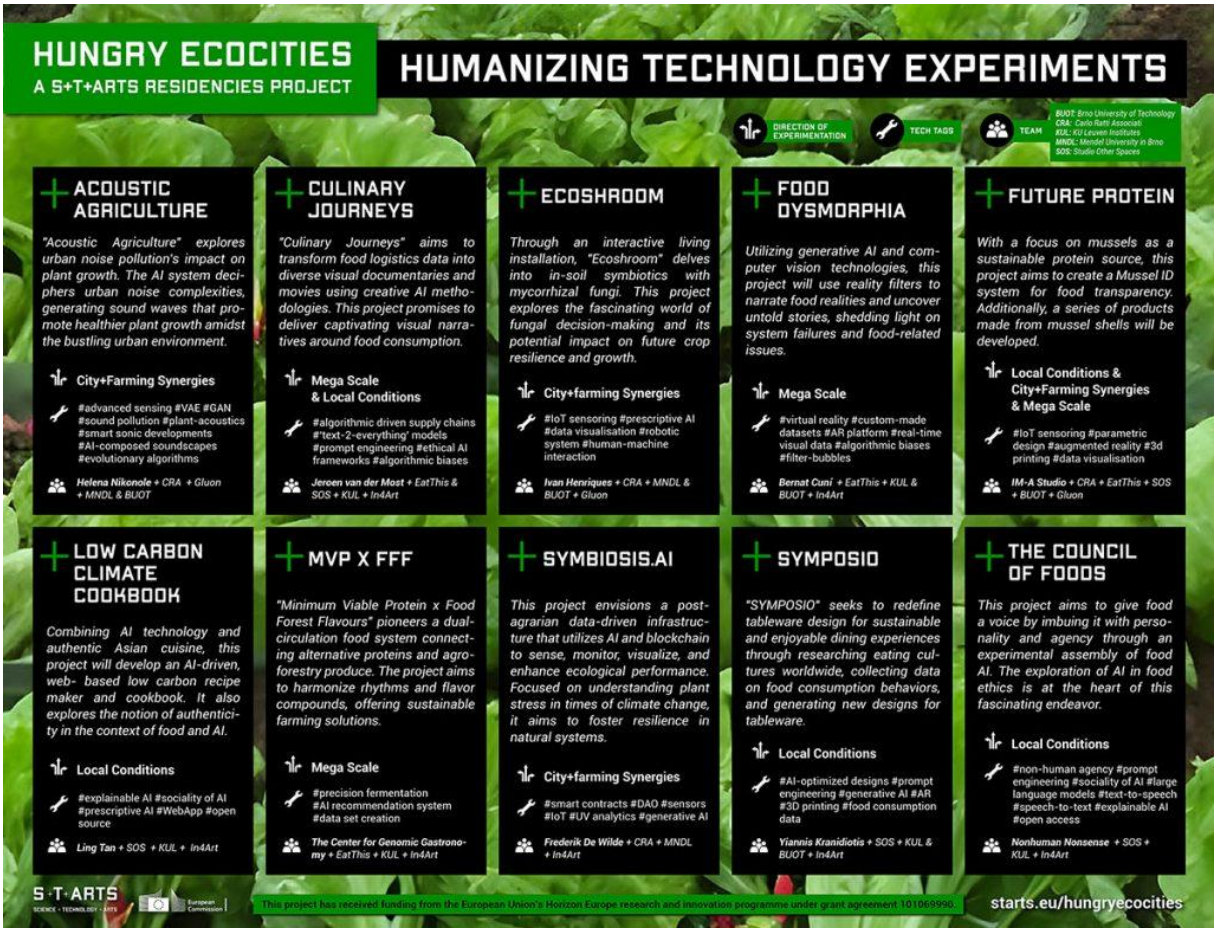
Mendel University of Agrosciences in Brno, represented by researchers Pavel Chaloupsky and Dalibor Huska, bring in expertise on plant science, plant communication and growth conditions. For these reasons, they were added to the projects *Acoustic Agriculture, Ecoshroom, Symbiosis.AI.*

Brno University of Technology, represented by researcher Pavel Smrz and his team of IoT, VR and AR researchers, bring in expertse on hardware systems, battery systems, sensoring systems and IoT systems. For these reasons, they were added to the projects *MVPxFFF, Food Dysmorphia, Future Protein, Symposio.*

With the completion of step [2], all Humanizing Technology Experiments were enforced with a dedicated researcher supporting the project technologically and scientifically. The next step was to divide the different individuals according to matching characters, interests and specific knowledge over the teams, leading to each team having one dedicated studio mentor and one dedicated scientific/technical mentor.

The core teams were completed with a mentor for art-driven innovation from In4Art, overseeing the core team functioning and supporting the project with knowledge and network related to innovation and application development.

As a result of this type 1 matchmaking process, each Humanizing Technology Experiment started working with a core team consisting of at least 4 members: the artist, the artistic mentor, the scientific/technological mentor and the innovation mentor.



Performance in Humanizing Technology Experiments

After completing the experiments in June 2024, it is possible to reflect on the chosen core team approach for the projects. In this part, we will highlight the strengths and issues we faced throughout the process, reflecting across 9 very diverse projects from start to end.

Strengths of the approach:

- Commitment of all stakeholders is very high when there is frequent and cross disciplinary contact on the project progress
- In-depth knowledge on the project progress is high across the members of the core team and their respective organizations
- The lines are short and communication is easy and direct between stakeholders
- Assessment of choices to be made, required input from experts to make decisions and reflections on content produced are at high level because all stakeholders are continually involved.
- Intense collaboration between various members of the core team is achieved
- Relationships are built and networks are expanded because of the intense collaboration

Issues of the approach:

- Differing paces between core team members can lead to frustration or disappointment in situations where the artist, because of their extensive time allocation to the project, goes faster than the core team members.

- Poor collaboration skills. In the situation where one or more of the core team members show poor collaboration skills (in communication, listening, arguing or pushing for an own agenda), the goals of the project can become blurred and the team starts functioning poorly.
- Misunderstanding due to different disciplines and cultural backgrounds. Working intensively across cultures, backgrounds and disciplines can lead to misunderstanding in communication. Where some can come across as harsh, direct or uninterested, others can come across as vague, overpromising or underperforming.
- Ownership. While open and transparent collaboration is a key asset for high quality experimentation throughout the process, the matter of ownership over the outcomes can become complicated because it may be fuzzy who did what exactly to reach the result. For the next phase, conversations and clarifications on IP will be addressed continuously throughout the project to avoid conflicts.
- Unforeseen needed expertise and development due to the evolving experiment. While a match in the first instance on the topic seemed evident, throughout exploration and experiments, in some cases it turned out that other skills and expertise was needed. To overcome the issues, external expertise and network was sought, but it led to another division within the core team.

All the above lessons learned have led to a series of specific clarifications. For the next phase, we will even more clearly communicate expectations, responsibilities, and the mentoring/support offer (in terms of facilities and expertise). We aim to not only define these clarifications as a starting point for the next phase but also to frame and communicate them in a “Brief” document. This document will serve as a vademecum, a handbook, for the core team, outlining the key agreements and parameters of the collaboration as part of the IMP creation.

Overall, we conclude that the chosen approach worked well for the execution of the Humanizing Technology Experiments, given the level of in-depth knowledge amongst project partners on the contents of the projects and the many exploitable outcomes produced (with reference to deliverable D5.11, where all outcomes are discussed). However, to improve this approach in future projects, clearer agreement on committed investment of times and resources at the beginning and continuous discussion on the ownership of results or the interest in results beyond the project lifetime is needed to avoid conflict and misunderstanding in some cases.

3. Type 2 Matchmaking HEC: Artist – SME – Consortium (planned)

For the Paths to Progress Experiments, the matchmaking will be approached differently than for the Humanizing Technology Experiments. The reason for this is the introduction of a new entity: the SME. With SMEs in the project, and with the ambition to develop further advanced prototypes in this second round, we decided to develop a new matchmaking process for this purpose. We will call this type 2 matchmaking HEC.

This matchmaking approach involves lessons learned from the Better Factory project (where also Artists and SMEs were matched), as well as continuing using the Core Team approach.

As this matchmaking process is in the early stages of execution (this deliverable is submitted the day before the start of the SMEs in the Path to Progress Experiments), we will limit ourselves to describing the planned matchmaking process in this chapter. We will reflect on what happened and the performance in the final matchmaking method deliverable (D1.5).

Planned matchmaking process steps summary:

Step 1 – Building a core team for the SME (September 2024)

In September 2024, the starting month for the SMEs in the Paths to Progress Experiments, we will build core teams for each project based on a similar process as we conducted in the Humanizing Technology Experiments. As addition, the physical kick-off will mostly take place at the location of the SME, to show the commitment of the consortium and understand the situation and testing environment at hand. After these discovery sessions, each project will be matched to a project vision and, through that, a creative studio. Each SME will be individually mentored and assisted throughout the process by the art-driven innovation mentor. Additionally, for each project the relevant scientific need and/or technical need is assessed leading to the allocation of scientific experts from the universities in the consortium.

Step 2 – Matchmaking on the HEClab between artists and SMEs (Q4 2024)

Starting in October 2024, a matchmaking process will commence on the HEClab. Preselected artists from the open call will be matched to SMEs in the program through a content driven overlap between SME needs and artist capabilities. This process will lead to the selection of 2 finalist artists per SME project, both getting the opportunity to get better acquainted with the SME and presenting their ideas in from of the jury in January 2025.

Step 3 – Adding the artist to the core team (Q1 2025)

After the jury day, the matched artists are added to the core teams of the SME projects, which now is expanded with one person.

Step 4 – Evaluating the core team composition after the artist joins (March 2024)

Based on the addition of the artist, the core team compositions are evaluated and possibly updated. The entering of the artist will come with the addition of goals, needs and wants in each project. Therefore, the appropriate creative, scientific, technical and innovation support will be re-assessed.

4. Reflections and Lessons learned

Matchmaking is a very important element of cross-disciplinary collaboration, especially when the goal is to work on innovative experiments in high risk and highly uncertain environments, like we are doing in Hungry EcoCities. Good communication, clear collaboration expectations and fit between people working on the project is essential for a project to gain speed and momentum. Since these projects, by nature, have to be performed under huge time and budget constraints, the capacity of the core team members to help and strengthen each other means the difference between poor and good performance. At the same time, usually people have never collaborated or know each other before getting together in our experiments, making it even harder to successfully match people.

The extend to which teams are open to evaluate themselves, be open and honest with each other and do not take intermediate changes to the core teams personal, defines to a large extend how effective these teams can be matched. In those teams where people feel obliged to take part, have limited or no interest in the content nor fitting expertise or experience, and find it difficult to accept this, the performance will inevitably suffer.

We have experienced this in several Humanizing Technology Experiments and, luckily, managed to change core team compositions for several for the better along the way. Also, in several cases, it became clear that the core team members could not bring to the table that specific expertise or competence needed for the experiment, leading to extending the core teams or subcontracting specific parts of the project. The sooner this becomes clear, the easier it is to accept it and find a fitting solution. In those experiments where this became apparent in a later stage, we feel the results could have been more impressive if this would not have been the case.

Annex – Artist feedback

As part of the artists deliverable D5 HEClab questionnaire, we also asked the following question:

> ***"Any other comments/ recommendations/ learnings you want to share related to the HTE residency or the HEClab?"***

We have received the following input related to the HTE residency, which is taken into account for improving the matchmaking and mentoring in the PPE.

- As we discussed, there's quite a barrier of entrance to entering the project due to the amount of information you have to process and deliver. Although I understand the reasons for that.
- The efficiency in coming to a high-quality project end result, might also gain from more clarity in milestones, process, roles, expected shared goals and sticking to an initial pitched proposal. Then again, the end result of Culinary Journeys / Vegetable Vendetta did come into being through the dynamic process over the course of the past year…
- More interaction with other projects.
- Curious how the project will develop and what farmers, people who are really in touch with food think about HEC. Excited!
- First of all, it was a wonderful experience! We enjoyed working on this project and collaborating with studios, mentors, and other artists. Many novel ideas emerged from various conversations during the project, and we see great potential for them to develop further. The consortium is fantastic, with so many inspiring and talented people. It was a pleasure to be a part of these discussions, we've learnt so much from each.
- We feel we haven't been able to use the tech support from the consortium that much. Possibly, we haven't been focused on that too much, or it was difficult to find the right way to communicate with the scientists.
- Be clear from in the beginning (application onwards) with what you expect from the artists - Context (expectations, desires), The kind of collaboration you look for (e.g. interaction, dynamics, …)
- Our group had a chance to interact with both Eat.This and growers in Westland, and benefited immensely from these interactions. But the lack of inclusion of actual food producers [in the core team] from start to finish is a missed opportunity for reality-check
- It is essential to find moments where the artists can deploy their well honed artistic-research strategies and not only the strategies that are derived from "innovation" and technology development. One suggestion to draw attention to the contribution of artistic research and practice during the residency is to create a public moment where the artistic as well as the technological aspects of the project are foregrounded and disseminated.

About Hungry EcoCities

Funded by the European Union

S+T+ARTS
SCIENCE + TECHNOLOGY + ARTS

Horizon Europe Research and Innovation Action – This Hungry EcoCities project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement 101069990.

The project is part of the S+T+ARTS programme. S+T+ARTS is an initiative of the European Commission to bring out new forms of innovation at the nexus of arts, science and technology.

Hungry EcoCities aims to explore one of the most pressing challenges of our times: the need for a more healthy, sustainable, responsible, and affordable agri-food system for all enabled by AI. More info: starts.eu/hungryecocities.nl