

Hungry EcoCities
S+T+ARTS Residencies

Deliverable 1.1 – Thematic Knowledge Hubs
Version 1.0

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History of changes

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1. Abstract

In this deliverable the consortium reports on the formalization of the Thematic Knowledge Hubs as part of work package 1. The knowledge hubs consist of members from the consortium and a number of selected external experts from industry, academia and the arts. The knowledge hubs will collaborate as a group throughout the project to feed, guide, process and scale the outcomes of the experiments. The focus hereby lies on setting the stage (content driver for the residency challenges) and preparing the ground to work on the expected outcomes and dissemination of the project.

The main objective is to set up the Hungry EcoCities Knowledge Hubs with thematic experts. These groups lead to the integration of all elements of the entire Hungry EcoCities (HEC) system, and it supports the art-driven projects with tools and expertise from both the industry and academia.

Since the start of the project online and physical meetings were held, various organizations were visited and exchanges were organized. The definition of a Knowledge Hub in our project is a (virtual) place or group dedicated to capture, share and exchange experiences with national and international partners in order to accelerate innovation and development.

During the period September-December 2022 the following Knowledge Hubs were formed:

- 1/ Knowledge Hub Carlo Ratti Associati (CRA) in Turin, Italy
- 2/ Knowledge Hub Studio Other Spaces (SOS) in Berlin, Germany
- 3/ Knowledge Hub EatThis/Rem Koolhaas in Westland, the Netherlands

The Knowledge Hubs will collaborate as a group throughout the project to feed, guide, process and scale the outcomes of the different experiments.

The first task of the knowledge hubs is to deliver a vision statement for the project Hungry EcoCities, which serves as the core content input for the upcoming call for artists planned to launch in March 2023.

2 – a. Knowledge Hub EatThis/RK, the Netherlands

EatThis is a private company network founded in order to connect horticulture companies with society in the search for sustainable solutions for food production. It consists of a board and a member structure, currently bringing together over 40 food producing and supporting companies across the globe. Although member companies come from countries as far as Costa Rica and Czech Republic, the vast majority of them are situated in an area west of Rotterdam in the Netherlands - called Westland.

The EatThis knowledge hub takes the industry approach in its knowledge hub, organizing and facilitating frequent and open-ended gatherings and discussions between companies and consortium members to embed the voice and desires of the industry in the scope of the project and the briefing towards the residents.

The core team of the EatThis knowledge Hub consists of:
Rem Koolhaas – architect and founder of OMA and AMO
Stephan Petermann – creative lead and board member EatThis
Aart van den Bos – project lead EatThis
Renee Snijders – co-founder EatThis
Ed Smit – co-founder EatThis
Peter van der Sar – EatThis management

The EatThis core team has initiated several actions to involve experts and end-users in the project and strengthen the network of the consortium partners.

The Future Leaders group of EatThis consists of eight future leaders in food production from 5 countries in Europe. They spend a full day discussing the Hungry EcoCities project and feeding the knowledge hub with their inputs. They remain involved throughout as part of the knowledge hub.

Moreover, during a 2-day Westland Tour in October 2022 with consortium members, 6 companies were visited, who also are part of the knowledge hub of EatThis.

Finally, through their recurring Unconference gatherings, a wider group of companies is involved in the activities of the knowledge hub. The last Unconference, organised on November 24th 2022, was dedicated to the Hungry EcoCities topics.

Core members of the knowledge hub EatThis:
Marcin Krason (Krason), Thijs Hoveling (Bejo), Florian Steiner (Biohof Kirchweidach), Sjors Beijer (Klasmann Deilmann), Mike Gitzels (Gitzels), Matthijs Bodegem (Koppert), Milan Kula (Farma Bezdinek), Peter Maes (Koppert), Stijn Baan (Koppert Cress).

Images from various field visits the Knowledge Hub EatThis has conducted in the first months of the project Hungry EcoCities (more images are included in Annex 1 to this deliverable):



2 – b. Knowledge Hub SOS, Germany

Studio Other Spaces (SOS) was founded by artist Olafur Eliasson and architect Sebastian Behmann in Berlin in 2014. Their shared interest in spatial experimentation led them to the holistic approach that defines Studio Other Spaces. In their work, they continuously move between overall perspectives and on a highly detail-oriented level, exploring all aspects of a project through each stage of development – from before its inception, to its life or reuse.

SOS projects foreground the atmospheric and intangible qualities of their specific locations; approach materiality through research and experimentation; and emphasize physical movement as a means to shape space. Rather than focusing on the design of isolated structures, Studio Other Spaces precisely choreographs environments that invite visitors to reflect on how they connect with their immediate surroundings.

The SOS approach to the Hungry EcoCities project builds on previous multidisciplinary projects by the studio such as *Future Assembly* shown at the 2021 Venice Biennale, Italy, and the exhibition *The Design of Collaboration* (2020–2021) in Merano, Italy.

For the Hungry EcoCities project, Studio Other Spaces is supported by STATE Studio. Together they have formed an *Assembly* team consisting of various members from both SOS and STATE Studio. The Assembly has been selected with the purpose of focusing on different topics, including research, text editing, vision development – and to guide the project during the establishment of the SOS Knowledge Hub and identification of the contemporary urgencies within the agri-food system.

The Assembly team:

Olafur Eliasson, Studio Other Spaces – Co-Founder

Sebastian Behmann, Studio Other Spaces – Co-Founder

Eva Maria Mikkelsen, Studio Other Spaces – Project manager

Anna Engberg-Pedersen, Studio Other Spaces – Research and Communications

Taylor Dover, Studio Other Spaces – Advisor

Lauren Gemmo, Studio Other Spaces – Research editor

Christian Rauch, STATE Studio – Founder & Managing Director

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Throughout the first phase of WP1 in autumn 2022, SOS initiated several investigations to begin the project and get an overview of recent research and knowledge on the EU's, and specifically Germany's, food sector. SOS instigated a series of research conversations with relevant partners from various fields, such as agriculture, the food industry, AI, and journalism.

Research partners, among many others:

Melina Shannon Di-Pietro, MAD Academy (DK), Inga Krieger, Restaurant Ernst (DE), Ana Gerlin Hernandez Bonilla Måbeck, Cuisine Lab, Geneva (CH), Daniela Motisuke, Sous les Fraises (FR), Prof. Tilo Hühn, ZHAW, Institut für Getränke- und Lebensmittelinnovation (CH), Lauren Maurer, Restaurant Studio Olafur Eliasson (DE)

The current outcome of the investigations and research has directed SOS' inquiry of the Knowledge Hub to focus on local food cultures and their entanglement with global food systems.

In September, SOS participated in the first Consortium meeting in Brno where Sebastian Behmann presented the initial ideas of the focus for the SOS Knowledge Hub. In October, SOS joined the 2-day visiting program in the Netherlands, which inspired to further investigate and understand the potentials of alternative farming methods. In November, SOS took part in the Unconference hosted by EatThis, where Sebastian presented the overview of SOS' research and findings of urgencies in the food sector.

Planned for the next year, SOS will host the upcoming Consortium meeting in March 2023, working further on identifying the contemporary urgencies, preparing for the first open call match making process and fellowship program (WP4).

2 – c. Knowledge Hub CRA- Carlo Ratti Associati, Italy

CRA - Carlo Ratti Associati is an international design and innovation office, based in Turin, Italy, with branches in New York and London. Drawing on Carlo Ratti's research at the Massachusetts Institute of Technology, the office is currently involved in many projects across the globe. Embracing every scale of intervention – from furniture to urban planning – the work of the practice focuses on innovation in the built environment. Hence, it is a project-based company, leveraging on research and development, that has as a fil rouge running through all its activities, the idea of pushing the boundaries.

CRA is the only design firm whose works have been featured twice in TIME Magazine's Best Inventions of the Year list respectively with the Digital Water Pavilion in 2007 and the Copenhagen Wheel in 2014. Innovation is the force that has driven the company to create start-ups: at its core, it has an entrepreneurial soul that - thanks to the use of technology mingled with design - has led to an ecosystem of international companies including Makr Shagr, a company producing the world's first robotic bar system, and Scribit, a portable write & erase robot.

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CRA has been involved in several projects dealing with food production throughout the years. Future Food District at Milano Expo 2015 was an experimental pavilion that explored how digital technologies can change the way people interact with food and encourage more sustainable consumption patterns. The Hortus project in 2017 explored supermarket with shared hydroponics developed for Eataly in Bologna, Italy showcases digitally-augmented, shared hydroponic farming, imagining a future in which people might grow their own food at the local supermarket. Imagining farmscrapers in a corporate tower for WUMART in Shenzhen, China in 2021, whose facade matches a gigantic, vertical hydroponic farming facility.

CRA is built upon three coexisting souls: CRA think, CRA design, CRA make

CRA think's mission is to advance the vision of all the companies in the CRA Group and make it accessible to the world through cultural projects, including speaking engagements, press office, social media, editorial production, educational initiatives, curatorial projects, and design research. CRA think plays an active role in the international debate on new technologies and their impact on urban life while exploring the double convergence between the natural and the artificial.

Drawing on the ideas developed at CRA think, **CRA design** is an international design and innovation practice embracing every scale of intervention, exploring the intersections between the natural and the artificial in the built environment, and often tapping into digital technologies to develop projects on every scale of intervention.

To complete the cycle from ideas to implementation, **CRA Make** operates as the construction unit of the CRA Group. The mission of CRA Make is to use advanced manufacturing technologies to realize CRA projects in a sustainable and efficient manner. The Make team leverages Digital Fabrication, Natural Material Innovation and Offsite Manufacture in order to shape the future of construction. CRA Make operates a 1.000 sqm Research, Development and Assembly facility where Designers, Engineers and Craftsmen come together to turn ideas into reality.

For the Hungry Ecocities project, all three are involved in various stages of the project. CRA think leads WP1 contemporary urgencies framework while CRA design & CRA make host & supervise WP4 residencies.

CRA core team joined events organized in September in Brno, followed by 2-day EatThis partners visit in October in The Netherlands, and took part in online conference mid-November. These events gave a detailed insight to state-of-art of technology and trends in controlled environment agriculture. Consequently, contributed to studio's long-list of research questions that were further narrowed down to form a specific approach in the project.

The CRA-Carlo Ratti Associati Knowledge Hub Italy chooses the direction of finding synergies between the built environment and food production. How can we use farming to accelerate the convergence between living and technological systems? Can farming contribute to territorial regeneration in urban and peri-urban areas? Can we integrate farming into urban architecture?

How can we enhance both efficiency and social relations in food production? Can we bring new farming technologies to the street market or in the supermarket?

Knowledge sharing laboratory in CRA

One of the most important drivers of CRA is our culture. The company wants to create an environment that allows people to flourish and achieve their full potential. It aims to protect and improve the environment for all team members, so they work in a positive space. This will help the practice to attract and retain talented and ambitious people, who can thrive. Innovation is key to CRA culture, as the company always try to challenge itself so to raise the quality bar of its work.

The success of any company depends upon the most basic aspect – information sharing among employees. Whether it's verbal or digital, sharing leads to the creation of a stronger knowledge base and fosters an organized knowledge management system. [The latest paper published on Nature](#) by Carlo Ratti and MIT Researchers, shows that the lack of co-location during the COVID-19 lockdown caused the loss of weak ties—ties between distant parts of the social system that enable the flow of novel information and innovation. Therefore, we suggest residencies taking place in CRA Knowledge Hub to be in-person to benefit from mutual learning and studio's existing infrastructure, hardware and knowledge.

CRA Knowledge Hub is set up as a laboratory to bring together different skills in an organic and coordinated way. It will be a multidimensional team and serves dual purpose: provoke internal knowledge sharing and discussion through a set of meeting lunches. These are studio's weekly moments to eat together and discuss with invited external guests' relevant topics.

Secondly, throughout the Hungry Ecocities project we will reach out to two types of external guests - a group of leading academics and practicing designers who can advise and foster reflection on the future of urban agriculture; and technical experts who can share their experiences on available tools and services. The guest list could include, but is not limited to: Dickson Despommier, Carolyn Steel, Francesco Mutti, Slow Food Movement, technical experts Orto 2.0, Agricola Moderna (Milan), The Ferme Abattoir (Bruxelles) and others.

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3. Reflection and Lessons learned

Following a joint project kick-off in September in Brno, the three knowledge hubs started to form independently from each other, yet with regular contact to discuss and share experiences. The project deliberately did not prescribe a common approach to organizing the knowledge hubs and allowed all three hubs to identify the best suitable form for themselves.

Reflecting on this process, we see distinct approaches have occurred which resonate with the available resources and infrastructure at the hubs.

Carlo Ratti Associati, being the largest organization of the three, started by collecting knowledge, expertise and experiences on the topic internally and organized the own company around working in this project. They will start reaching out to external experts and collaborators in a later stage.

Studio Other Spaces, being a relatively small setup but benefiting from the existing larger infrastructure of Studio Olafur Eliasson, took an intensive research approach since they have a lot less existing expertise and experience in this field. This led them to frequent discussions with both own as well as external experts to develop an approach for the project.

EatThis/RK is a knowledge hub consisting of a network organization with member companies and therefore has taken a very different approach again. They started by gathering inputs from both the 'ground up', from the companies in the sector, as well as develop visionary ideas led by Rem Koolhaas and Stephan Petermann. Next, they confronted the inputs from the field with the visions from the creative lead and started merging them into a common approach. Since the network aspect is so dominant here, numerous representatives from companies throughout Europe have already been part of this knowledge hub and have fed not only EatThis, but also the other hubs in joint meetings and gatherings.

The coming period we will further define the contemporary Urgencies and discuss in more details with experts from in – and outside the sector so we can provide the required input for WP2.



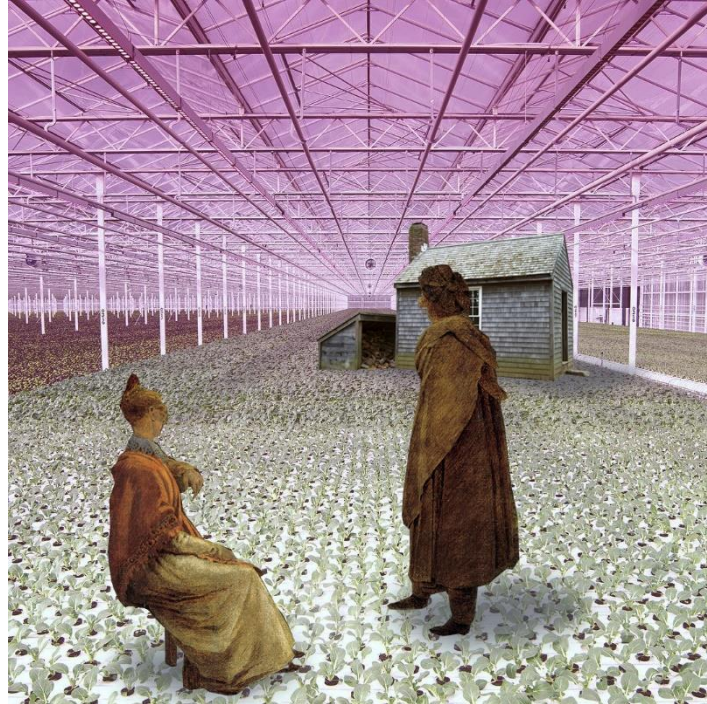
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Annex 1 – Images of different meetings and visits as part of Workpackage 1

Group picture – Brno, Czech Republic – Consortium meeting (Sept.2022)



Indoor farming in a historic perspective



Visiting Program – Art Studio's to the Netherlands (October 2022) – Westland Museum



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Visiting Program – Art Studio's to the Netherlands (October 2022) – Tomato World



Visiting Program – Art Studio's to the Netherlands (October 2022) – Tomato World





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Visiting Program – Art Studio's to the Netherlands (October 2022) – Clemens Driessen (Philosopher / Assistant Professor WUR)



Visiting Program – Art Studio's to the Netherlands (October 2022) – Koppert Cress



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Visiting Program – Art Studio's to the Netherlands (October 2022) – Koppert Cress

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Visiting Program – Art Studio's to the Netherlands (October 2022) – Pats Drones



Visiting Program – Art Studio's to the Netherlands (October 2022) – Pats Drones



Visiting Program – Art Studio's to the Netherlands (October 2022) – Koppert Partner with Nature





Visiting Program – Art Studio's to the Netherlands (October 2022) – Koppert Partner with Nature



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