

SOLAR DECATHLON EUROPE 2021

TEAM AURA - AUVERGNE-RHONE-ALPES

DECEMBER 2020 D#2

GRE - GRENOBLE

# PRES

## TEAM AURA GOES ... TERRITORIAL!

# KIT



# 1.1. PRESS RELEASE

SDE21 GOES URBAN ?

TEAM AURA GOES TERRITORIAL !

**Designing a sustainable territory, without densifying the city.**

**Grenoble, 03\_12\_2020**

*Team Aura is once again participating in the Solar Decathlon Europe! This international student competition aims to raise awareness, educate and inspire people about urban energy transition, sustainable construction and building renovations. For the 2021 edition, more than just using renewable energies in new buildings, the goal is to optimise the actual urban structure, in converting and expanding existing buildings rather than to demolish and reconstruct them.<sup>1</sup>*

A Guiding Concept

As Philippe Chiambaretta said, the Anthropocene is

*«a scientific concept which postulates that the earth has entered a new geological era, where human activity has become the dominant geophysical force. Beyond the scientific debate, the Anthropocene is a social issue, the name of an environmental consciousness, which confers an enormous responsibility on humanity: to find the tools to meet the challenges of today's way of life.»*

To (re)build a fertile territory and a sustainable society, is by far the biggest challenge of the 21st century that humanity must take up. In 2020, objective indicators show, one after the other, an advanced and increasing state of degradation of the planet, and irreversible changes are already underway. It is no longer a question of avoiding them, but of limiting their impact. Team AuRA believes in the collective capacity to change the course of things, and so will do its part.

Awareness towards change

To this end, the ambition is to bring out, in the coming years, several projects and stories that will enable us to consider different ways of living in the Anthropocene. The first opus of this long-term study will be to **revitalise rural areas, as an alternative to megacities and as a territorial balance vector.**

The subjugation of megacities with a complex and globalised supply system comes at the price of an abandonment of sovereignty and a lack of resilience in the face of constraints. This dependence raises questions, all the more so in view of a future that is, to say the least, indecisive, of which we can affirm that the increase in climatic, environmental, social and health constraints, as well as the scarcity of material and energy resources, will be among its main characteristics.

Team AuRA believes that there is a territorial balance to be established between large metropolises and less densely populated areas in France. Thus, rather than working on the densification of the city, the team develops the Distributed Urbanism notion and addresses the following question : What is the most sustainable way of making territory today?

To these regards, we will be working on different scales :

- Territorial scale: put forward possible alternatives to the metropolises relying on the peri-urban and rural areas existing building stock.
- Local scale: encourage resilient, fertile and self-sufficient communities' development.
- Architectural scale: propose an architectural project based on sobriety, energy efficiency and the use of renewable energy. This intent directly refers to the three Negawatt scenario pillars, developed to reduce carbon emissions.

An elaborate project for SDE2021

In this respect, the AuRA team's project, developed as part of SDE21, is located at the Col de l'Arzelier in the commune of Château Bernard, about 35 minutes from Grenoble. This mid-mountain pass, located at an altitude of 1154 metres, is experiencing an economic decline since the closure of its ski lifts in 2018. **The project developed by the team AuRA** aims to revitalise this area and to develop its potential to welcome new permanent inhabitants. The building that supports the SDE21 project is a characteristic former hotel from the 1970s. It will be renovated, integrating housing, common areas and activities. In order to limit entropy, the designed projects will only be using geo-based or bio-based matters, as well as re-used materials.

Team AuRA

After taking part successively in the SDE 2010 (the Armadillo Box© project was ranked 4th) and 2012 in Madrid (the Canopea® proposal won the competition) and being members of the

<sup>1</sup> Refer to : <https://sde21.eu/>

organisation of the 2014 edition of Versailles, we are today thrilled to announce that the Team Auvergne-Rhône-Alpes (Team AuRA) has been selected for the coming Solar Decathlon Europe edition, taking place in Wuppertal in 2022.

The team will be jointly guided by both the Grenoble National School of Architecture (ENSAG) and the Grands Ateliers Innovation Architecture (GAIA) which is the biggest French technical platform dedicated to innovation and experimentation in the field of architecture. These two institutions have been historically deeply involved in the previous SDE adventures the team AURA participated in. The team will also include the Saint-Etienne National School of architecture (ENSASE), the University of Grenoble (UGA), the ENSE3 school, the ENSAM Chambéry school, the Association des compagnons du devoir et du tour de France (AOCDF), the IUTGEII Grenoble, the IAE of Grenoble, the URBAN school of Lyon and HES-SO.



Fig.001. Former projects designed and built by the Team AuRA



Fig.002. Existing building the Team AuRA is working on

## Média channel we are aiming to reach

### • Newspapers

National : Le Monde, Le Figaro, Le point, Libération  
Regional : Le Dauphine Libéré, Energie.com, La Chambre de commerce de Grenoble, Les Affiches de Grenoble et du Dauphiné, Présences, L'essor isère

### • Web magazines

General: gre-mag.fr, ici-grenoble.org, lesmondaines.com, Le courrier de l'architecte

University magazine : (H)auteurs UGA, Newsletter de la doc (ENSAG)

### • Radio stations

France inter, France culture, BFM radio, France Bleu isère, Radio ISA, Virgine Radio

### • TV

Tf1, France 2, BFM TV, Grenoble TV, France 3 R-A, ARTE, Sept à Huit

## Key Words

Anthropocene - Urbanism - Architecture - Engineering - Rural - Universities - Solar Decathlon - SDE21 - Mobility - Agriculture - Team Auvergne-Rhône-Alpes - Megacities - Alternatives - Reuse materials - Solar Energy - High performances buildings - Team AuRA - Students - France - Grenoble - Lyon - Construction - Experimentation - 1:1 scale model - Competition - Innovation - Cross Universities program - Germany - Wuppertal - Constructives cultures

## Contact

Website : <http://team-aura.org/fr/>

Facebook : [Team AURA](#)

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For further informations, please contact :

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## 1.2. LIST OF TEAM MEMBERS

Title	First Name	Surname	Degree	University course/Research field
Faculty Advisor	Nicolas	Dubus	-	ENSAG / Architecture
Project Manager	Christophe	de Tricaud	-	ENSAG / Architecture
Project Architect	Guillaume	Pradelle	-	ENSAG / Architecture
Project Engineer	Thomas	Jusselme	-	HEIA / Engineering
Structural Engineer	n/a			
Electrical Engineer	Pierre-Francis	Canat	-	IUT / GEII / Electricity - Energy
Student Team Leader	n/a			
Health & Safety Team Coordinator	n/a			
Safety Officers	n/a			
Site Operations Coordinators	Sébastien	Roussel	-	GAIA / Experimentation platform
Contest Captain	n/a			
Instrumentation Contact	Pierre	Canat	-	IUT / Electricity
Communications Coordinator	Manon	Lebodo	Master	IAE / Communication-Marketing
Sponsorship Manager	Pascal	Gantet	-	GAIA
GAIA Director	Maxime	Bonnevie	-	GAIA / Experimentation platform
Steering committee president	Pascal	Rollet	-	ENSAG / Architecture
Students / Phd				
Team Member	Chloé	Duclos	Master	ENSAG / Architecture
Team Member	Clara	Monceau	Master	ENSAG / Architecture
Team Member	Anne	Maréchal	Master	ENSAG / Architecture
Team Member	Axelle	Chalon	Master	ENSAG / Architecture
Team Member	Marie	Cointre	Master	ENSAG / Architecture
Team Member	Laura	Catheline	Master	ENSAG / Architecture
Team Member	Laurine	Bouchière	Master	ENSAG / Architecture
Team Member	Joris	Briot	Master	ENSAG / Architecture
Team Member	Stanislas	François	Master	ENSAG / Architecture
Team Member	Christophe	Oger	Master	ENSAG / Architecture
Team Member	Laura	Lecuyer	Master	IAE / Communication-Marketing
Team Member	Manon	Le Bodo	Master	IAE / Communication-Marketing
Team Member	Clémence	Le Gulludec	Master	IAE / Communication-Marketing
Team Member	Arnaud	Duffaux	Master	IAE / Communication-Marketing
Team Member	Rebecca	Hamon	Master	IAE / Communication-Marketing
Team Member	Laurine	Rajon	Master	IAE / Communication-Marketing
Team Member	Laura	Seegner	Master	IAE / Communication-Marketing
Team Member	Joris	Pain	Bachelor	IUT / GEII / Electricity - Energy
Team Member	Bastien	Barbier	Post Graduate program	ENSAM Chambéry / Engineering
Team Member	Rania	Benbouzid	Post Graduate program	ENSAM Chambéry / Engineering
Team Member	Elodie	Fournel	Post Graduate program	ENSAM Chambéry / Engineering
Team Member	Raphael	Derop	Post Graduate program	ENSAM Chambéry / Engineering
Team Member	Zakaria	Khoubid	Post Graduate program	ENSAM Chambéry / Engineering
Team Member	David	Nizard	Post Graduate program	ENSAM Chambéry / Engineering
Team Member	Antoine	Da Costa	Post Graduate program	ENSAM Chambéry / Engineering
Team Member	Bastien	Pétrone	Bachelor	IUT / Dut GTE - Thermal regulation
Team Member	Fabien	Blazy	Bachelor	IUT / Dut GTE - Thermal regulation
Team Member	Hugo	Ciurko	Bachelor	IUT / Dut GTE - Thermal regulation
Team Member	Ilyes	Slimani	Bachelor	IUT / Dut GTE - Thermal regulation
Team Member	Quentin	Berger	Bachelor	IUT / Dut GTE - Thermal regulation
Team Member	Loïs	Broquet	Bachelor	IUT / Dut GTE - Thermal regulation
Team Member	Youssef	Hamza	Bachelor	IUT / LP BP3E - Thermal regulation
Team Member	Yoann	Muguet	Bachelor	IUT / LP BP3E - Thermal regulation
Team Member	Jade	Pochon	Bachelor	IUT / LP BP3E - Thermal regulation
Team Member	Leopold	Oudinot	Bachelor	ENSE3 / Engineering
Team Member	Paul	Protois	Bachelor	ENSE3 / Engineering
Team Member	Lola	Dussosoy	Bachelor	ENSE3 / Engineering
Team Member	Lucas	Hajiro Neves Mosquini	Phd	HEIA / Engineering

## LIST OF TEAM MEMBERS

## Teachers

Team Member	Valérie	Disdier	-	EUL / Urbanism
Team Member	Lou	Herrmann	-	EUL / Urbanism
Team Member	Jeremy	Cheval	-	EUL / Urbanism
Team Member	Daniel	Hilaire	-	IUT / Electricity
Team Member	Fabien	Vassenay	-	IUT / Electricity
Team Member	Alain	Cornier	-	ENSAM Chambéry
Team Member	Jean-Christophe	Fluhr	-	ENSAM Chambéry
Team Member	Jean-Marc	Meurville	-	ENSAM Chambéry
Team Member	Sandrine	Falcy	-	IAE / Communication-Marketing
Team Member	Sonia	Blanc	-	IAE / Communication-Marketing
Team Member	Jules	Gaillard	-	ENSASE / Architecture
Team Member	Stéphane	Ploix	-	ENSE3 / Engineering
Team Member	Mathieu	Chabanol	-	IUT / Thermal regulation
Team Member	Benoit	Delinchant	-	G2ELAB / Energy efficiency

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**NOTE:** Each team needs to fill in all team officers/roles that they have already designated. Roles that are not designated yet, need to be filled with "n/a". All students and faculty members who have no special SDE21 should be added to the category "Team Members".



## 1.3. PROJECT DESCRIPTION

### 1.3.1.1. Team's Organisation and Objectives

The team will be jointly guided by both the Grenoble National School of Architecture (ENSAG) and the Grands Ateliers Innovation Architecture (GAIA) which is the biggest French technical platform dedicated to innovation and experimentation in the field of architecture. These two institutions have been historically deeply involved in the previous SDE adventures the team AURA participated in. The team will also include the Saint-Etienne National School of Architecture (ENSASE), the University of Grenoble (UGA), the ENSE3 school, the ENSAM Chambéry school, the Association des compagnons du devoir et du tour de France (AOCDTF), the IUTGEII Grenoble, the IAE of Grenoble, the URBAN school of Lyon and HES-SO.

Team AURA has two main objectives :  
Training students to welcome other specialists in their own project so that the best of every knowledge can widen the architectural spectrum. Multi-disciplinarity is favoured. The team heavily relies on crossdisciplinarity collaboration. Architects, ethnologists, historians, structural engineers, urban planners and environmental designers, landscape architects and economists are working together to devise a multicultural approach.

Disseminate to a large public our vision of resilient territories and our vision of sober and enjoyable architecture. We have 4 identified targets :

- Building/energy professionals and institutional authorities
- Megacities general public
- French students
- Children

### 1.3.1.2. Project Development and Current State

- Territorial scale : What alternatives to metropolises and megacities ?

There is a real territorial balance to be established between large metropolises and less densely populated areas in France. The team asserts that an equitable balance will increase the whole territory resilience to meet energy, health and climate constraints which are set to increase in number and intensity in the coming decades. So, rather than working on the densification of the city, the notion of Distributed Urbanism will be developed.

- Local scale: How to promote the development of communities that are resilient, fertile and at least partially self-sufficient?

Here is the program imagined by Team Aura: create a housing cooperative within renovating the existing building stock and integrate public spaces to reinforce the community spirit.

We think that housing cooperative is an organisation that enables to create more resilient communities. If the housing cooperative is popular amongst some countries such as Canada, it is currently not the case in France. Yet, this model is not new as he was encouraged by the French authorities in the late 19th century. We think that developing this model halfway between property and leasing is an essential way to go against property speculation.

Plus, it is a model that will enable to bring the architectural and environmental concerns back in the centre of the construction project. It is also a way to forge social ties and to experiment a housing method of governance that is more democratic. Ultimately, this allows to replace the user as an actor of the conception of their housing.

- Architectural Scale: Sobriety, energy efficiency and use of renewable energies in renovation projects: towards an architecture compatible with the rarefaction of resources.

The design method proposed to students is based on simplicity and favours the development of good design concepts on the long-term by different students' teams. These methods allow the testing of valuable but perfectible solutions.

For example, we will work on a CORE-SKIN-SHELL tripartite decomposition of the building, in order to use the most adapted production process for each of the different parts. The idea is to mix high-tech and low-tech so that high performance standards can be reached and local preserved. In continuity of the Armadillo Box® project, the Canopea® project and the Terra Nostra project, Team AURA will keep working on this concept for the existing building stock renovation.

Particular attention will be paid to the reuse of building materials, In addition, the team will use bio and geosourced resources and will rely in particular on the expertise of its research laboratories to integrate earth materials in its proposals.

### 1.3.1.3. Dissemination Activities and Current Impact

Since April, we have expanded our social networks in order to reach a larger public. We currently have four social media channels: Facebook LinkedIn, Twitter and Instagram, and we are planning to create a YouTube channel.

On the Team Aura Instagram account, we decided to harmonise our feed with 3 different types of content: pictures, graphic images and concepts/definitions, to share and educate our followers on our team and project. This enables to have a clear structuration of the content and by sharing the Team Auray weekly posts in our personal accounts, we have been able to gain almost 50 followers in less than two months. We aim to reach a higher number of likes and comments in order to have more interactions with our followers through this channel.

In order to be more precise in the results of our communication actions on social networks, here is a table that shows the number of subscribers and the average coverage and interaction per publication (rounded) for each social media (on the 25th of October):

Social Media	Followers	Interaction per publication (mean)	Interaction rate (mean)
Facebook	2 228	32	1,77%
Instagram	216	52	28,25%
Twitter	13	4	27,47%
LinkedIn	46 relations	18	13,72%

We are also updating the Team Aura website in changing the slogan and our graphic chart, and publishing some articles as exemples, to harmonise information.

### 1.3.1.4. Collaboration Institutions and Sponsoring Companies

Les Grands Ateliers Innovation Architecture (GAIA) are a fundamental Team AURA support. This is a technical platform initiated by ENSAG and built by the French government in Auvergne-Rhône-Alpes region, so that schools of art, of engineering and architecture can experiment with real materials and gain a better understanding of the work of all built environment role players. Ever since its construction, several hundred experimental projects have been developed here.

The GAIA have deployed legal and administrative instruments enabling to facilitate the funding and the management of innovative projects. For this purpose, a GAIA foundation has been created and allows partners to benefit tax exemption of 60% of the value of their donation. This device is a considerable help in gathering the necessary budget linked to demonstration unit construction operations. In order to raise the necessary funds for our SDE participation, our experimented sponsorship program manager will rely on our consequent private and public partners network that have been supporting us for over 10 years.

As one of the team main objective is to reduce their carbon emissions by using reused materials, Team Aura is also supported by Bellastock, a pioneering structure in France on the theme of reuse. They are working on an experimental architecture, working for the development of the VENUE and its resources. Working as a TEAM on issues related to material cycles and RETURN, the cooperative is committed to sharing its know-how with the general public. It thus initiates innovative, ecological and solidarity-based projects, and proposes alternatives to the traditional act of building; it organises the material and prefigures territorial transformation.<sup>1</sup>

<sup>1</sup> Refer to : <https://www.bellastock.com/>

## 1.4. PROJECT IMAGES

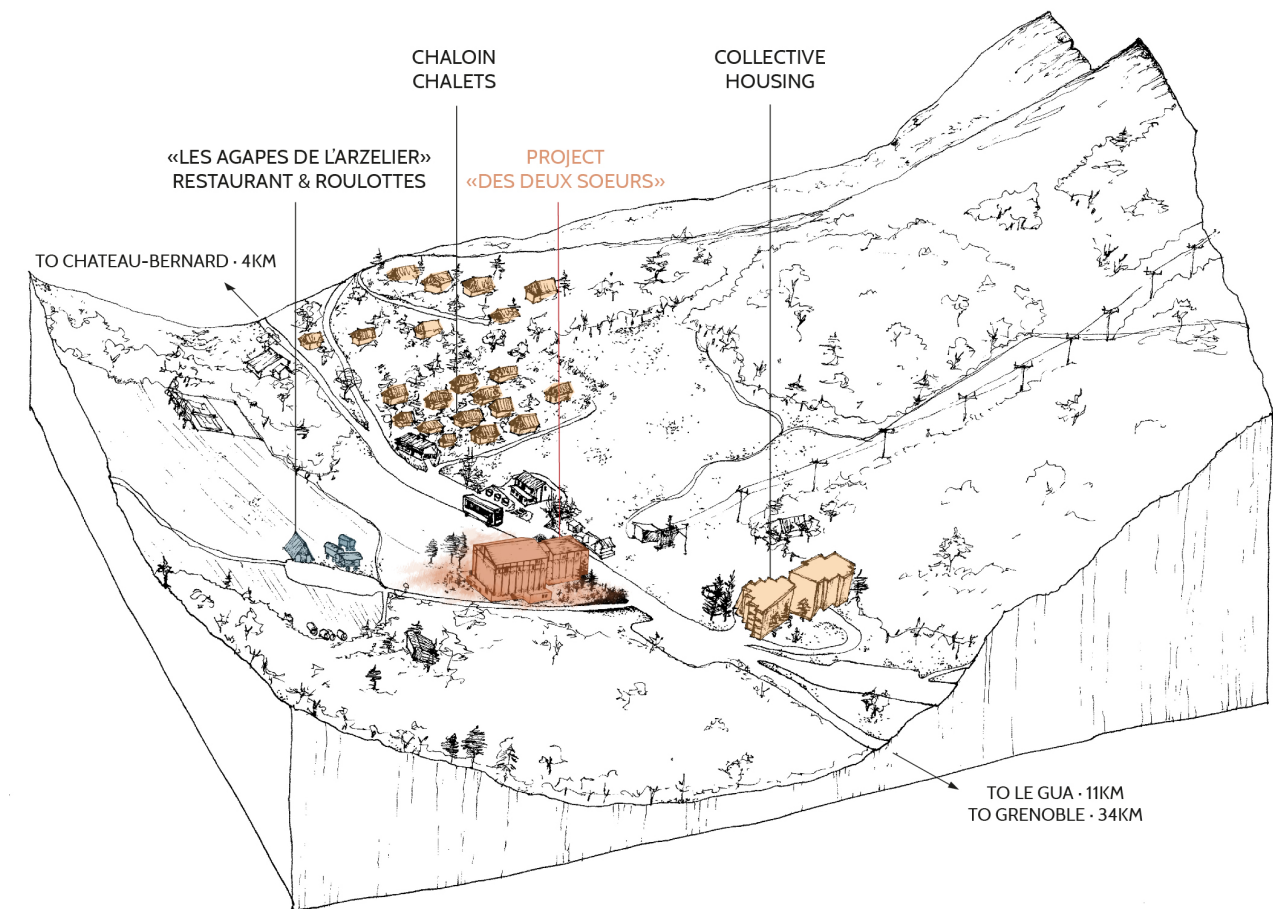


Fig.003. Project site : The Arzelier Pass



Fig.004. Existing building : The two sisters's hotel entry



Fig.005. The two sisters's hotel with in the background, the two sisters: the rocks Agathe and Sophie