



CONTEST TASK

ARCHITECTURE STUDENT CONTEST 2025

Nord-Isère, France

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ABOUT THE ARCHITECTURE STUDENT CONTEST BY SAINT-GOBAIN



The **Architecture Student Contest**, formerly known as the Multi Comfort Student Contest, is a two-step competition: the **National Stage** and the **International Stage**. The competition is a great chance for architecture students to gain professional experience while discovering the importance of sustainability in modern construction. It was first organized in 2004 by Saint-Gobain Isover in Serbia and became an international event in 2005. The last edition in Helsinki attracted **1,300 students** from **29 countries**.

The goal of the Architecture Student Contest is to provide students with a **unique experience** more **closely related to a “real” client request**. Thus, students can **propose ideas under realistic constraints** while addressing sustainability criteria.

ACNOWLEDGMENTS

Special **thanks to our partners**: the World Green Building Council, OneClick LCA, the Grands Ateliers, the city of Villefontaine, the village of Chimilin, the Communauté de Communes Les Vals du Dauphiné, the French National Assembly, professors participating in the Teachers' Days and Saint-Gobain Solutions France for all the support during the development of this Contest Task.

SPONSORSHIPS



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1. BACKGROUND

The Nord-Isère¹: A Region in Transformation

The Nord-Isère, the northern part of the Isère department in southeastern France, offers a captivating blend of rural charm, industrial heritage, and innovative spirit. Situated within easy reach of Lyon, France's third-largest metropolis, the region is poised for significant change due to the Lyon-Turin high-speed railway project. This description delves into the unique character of the Nord-Isère, exploring its demographics, economic activities, environmental aspects, and the anticipated impact of the new railway line.

The Nord-Isère enjoys a strategic location, between the city of Lyon and the majestic French Alps. Lyon, just 30-40 kilometers south by car or train, acts as a major economic hub, offering diverse employment opportunities, cultural attractions, and educational institutions. This proximity grants the Nord-Isère easy access to a large talent pool, potential customers for local businesses, and a vibrant urban environment.

A Mix of Rural and Industrial: The Nord-Isère boasts a rich tapestry of activities. Agriculture remains a vital part of the region's identity, with rolling hills dedicated to vineyards producing renowned Beaujolais wines and orchards brimming with fruits. Charming villages dot the landscape, offering a glimpse into traditional French life.

Beyond agriculture, the Nord-Isère has a strong industrial heritage. Historically, the region was a center for textile production and metalworking. Today, pockets of industry persist, focusing on sectors like food processing, chemicals, and high-tech manufacturing (for example, the company [Mafelec](#), based in Chimilin, specializes in designing and manufacturing control and signaling solutions). This industrial legacy has shaped the character of some towns, leaving behind a unique blend of traditional architecture and modern facilities.

A dynamic demographic landscape: The Nord-Isère's population reflects a diverse demographic landscape. Smaller villages tend to have an aging population, with residents enjoying a slower pace of life. However, towns closer to Lyon, like La Tour du Pin (very close to one of the project sites, the village of Chimilin), are experiencing an influx of young families and professionals seeking a more affordable and family-friendly alternative to the larger city. This demographic shift presents both opportunities and challenges for the region.

Economic Relevance: Balancing Tradition and Innovation

The Nord-Isère's economic relevance stems from its multifaceted nature. Agriculture remains a significant contributor. Additionally, the existing industrial base provides jobs and contributes to the regional economy.

Nevertheless, tourism², particularly in areas renowned for their natural beauty or historical sites, plays a growing role. The Nord-Isère boasts a stunning natural environment. The landscape is

¹ <https://www.nidenergies.centralesvillageoises.fr/le-territoire-nord-isere-durable>

² Interesting site that make reference to tourism in the area: <https://www.isere-tourism.com/> ; <https://www.grenoble.cci.fr/chiffres-cles-de-lisere-2024>; <https://tourisme-valsdudauphine.fr/en/home-page/> (Chimilin); <https://villefontaine.fr/tourisme-patrimoine/>

characterized by rolling hills, fertile valleys, and the meandering Isère River, a vital source of water and biodiversity. The region is home to numerous protected natural areas, like the Regional Natural Park of Chambaran, offering opportunities for hiking, cycling, and outdoor recreation. The region's forests also provide habitat for diverse birdlife, including owls, hawks, and songbirds. Protecting these natural treasures is crucial for maintaining the region's ecological balance and attractiveness.

However, the Nord-Isère faces the challenge of balancing traditional economic activities with innovation. Encouraging entrepreneurship, attracting new businesses, and focusing on sustainable practices will be crucial for the region's future prosperity. Les Grands Ateliers, another of the site for the contest, and a center dedicated to sustainable construction and innovative design, exemplifies this forward-thinking approach.

The Lyon-Turin Railway: A Catalyst for Change

The Lyon-Turin high-speed railway project is poised to be a major game-changer for the Nord-Isère. The project aims to connect the French and Italian high-speed rail networks, significantly reducing travel time between Lyon and Turin. This improved connectivity has the potential to unlock economic opportunities for the region.

Potential Benefits:

- **Increased Tourism:** Faster travel times could attract more tourists from Lyon and beyond, boosting the local economy and creating opportunities for tourist-related businesses.
- **Enhanced Business Connectivity:** Improved rail links could facilitate business partnerships and trade between France and Italy, benefiting local companies.
- **Improved Job Market:** The construction phase of the railway line is expected to create jobs in the region. Additionally, increased connectivity could attract new businesses to the area, leading to more long-term employment opportunities.

Potential Challenges:

- **Social Impact:** The project could disrupt local communities, particularly Chimilin with the proposed viaduct. Careful planning and community engagement are essential to minimize negative social impacts.
- **Economic Uncertainty:** While the project holds potential economic benefits, the long-term economic impacts on the region remain uncertain. Careful planning and development strategies are needed to ensure that the Nord-Isère benefits fully from the improved connectivity.

Intercommunal Cooperation: Mutualization of Competences and Opportunities

France counts with a type of local government called *Communauté de Communes*. These entities are responsible for coordinating and managing public services, to enhance cooperation and development for a group of municipalities within a specific geographical area. Among their responsibilities are included: attracting investment, promoting sustainable development, develop essential public services, support social services, and organize cultural and recreational activities.

Within the context of the Architecture Student Contest, the *Communauté de Communes Les Vals du Dauphiné*³ (where Chimilin is one of its 36 municipalities) intervenes on the follow up of construction and rehabilitation projects. It has recently defined its 2024-2030 Territory Project where within its first pillar it aims to valorize the old buildings promoting public/private renovations⁴. Therefore, proposals for the renovation project in Chimilin can serve of inspiration for other similar renovation projects within its perimeter.

Le Pisé⁵: A Traditional Construction Technic using Raw Clay

For many centuries, building in this region have use the construction technique locally called *Pisé*. This type of construction, with its strong heritage identity, requires special care and expertise when it comes to renovation. Although, neither building in the Contest Taks is constructed under this technique, it brings a cultural inspiration.

A Territory at a Crossroads

The Nord-Isère stands at a crossroads. As the Lyon-Turin railway project progresses, the region and its municipalities have a unique opportunity to leverage its strengths and address its challenges. By embracing innovation and sustainability, the Nord-Isère can create a vibrant future that balances economic growth with environmental protection and a high quality of life for its residents.

The **Saint-Gobain Architecture Student Contest** can play a crucial role in this transformation. By encouraging students to design innovative and sustainable solutions for the village of Chimilin and Les Grands Ateliers. The contest can spark creative thinking about how the Nord-Isère can adapt to the changing landscape and capitalize on new opportunities.

This contest has the potential to be a catalyst for positive change, shaping a future where the Nord-Isère retains its unique character while embracing its potential as a dynamic and connected region.

³ <https://www.valsdudauphine.fr/> and [reglementary documents](#) (in French)

⁴ Check the [VDD Projet de Territoire 2024-2030](#) page 16, (in French)

⁵ <https://www.tera-terre.org/terre-et-territoires/> (in French)



Map of the Communauté de Communes Les Vals du Dauphiné

2. ABOUT NORD-ISÈRE AND ITS CLIMATE

Historical Perspective: A Legacy of Agriculture and Industry

The Nord-Isère's history is intertwined with agriculture and industry. Evidence suggests settlements in the region dating back to the Gallo-Roman era, with agriculture playing a vital role in sustaining these communities. During the Middle Ages, the region saw the rise of feudal lords who built castles and controlled the land. Agriculture remained the primary economic activity, with vineyards established and viticulture gaining importance.

The Industrial Revolution in the 19th century marked a turning point for the Nord-Isère. Coal mines opened, fueling industrial growth. Textile production, particularly silk weaving, became a major industry, drawing workers to towns like La Tour du Pin. This period left a lasting mark on the region's built environment, with factories and worker housing becoming prominent features of some areas. The 20th century saw a diversification of the Nord-Isère's economy. While agriculture remained important, the decline of the coal industry led to a shift towards other sectors like food processing, chemicals, and high-tech manufacturing.

The Lyon-Turin high-speed railway project is seen as a catalyst for development in the region. The challenge is to leverage this project to create opportunities for smaller villages like Chimilin, while preserving their character and historical heritage. Today, the region continues to grapple with balancing its industrial past with a focus on innovation and sustainable practices.

Vision for the Future: Key Elements for the Region

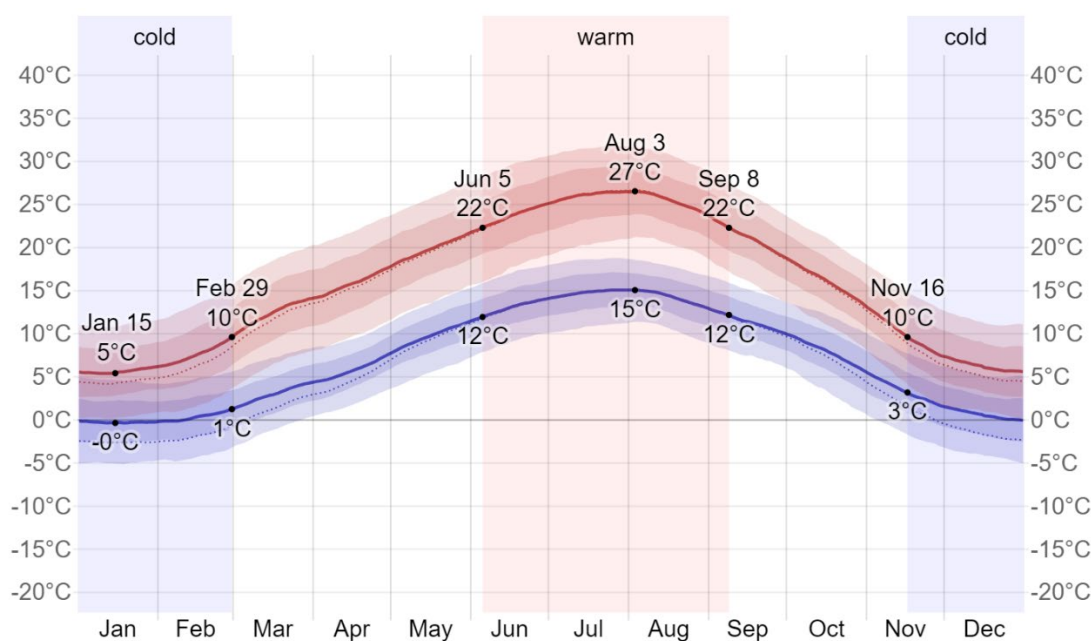
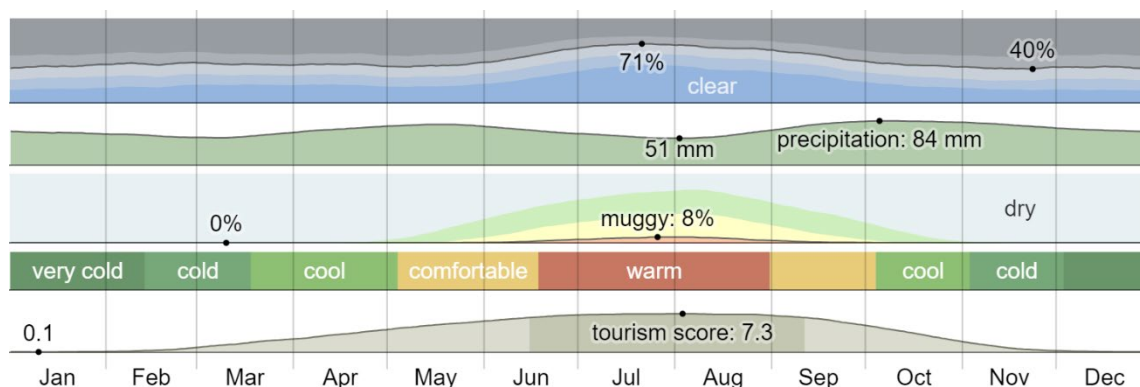
- **Sustainable Construction:** The emphasis is on building design that minimizes environmental impact by using local materials, incorporating energy-efficient practices, and considering the building's lifecycle.
- **Territorial Specificity:** The vision encourages architects to consider the unique characteristics of the region, such as its history, local materials, and existing infrastructure, when designing new buildings.
- **Adaptability and Multifunctionality:** Buildings should be designed to be adaptable and accommodate multiple uses over time, responding to the evolving needs of the communities they serve.
- **Innovation and Experimentation:** Les Grands Ateliers serves as a model for fostering innovation in sustainable building practices and architectural design.

Overall, the vision for the Nord-Isère region is one of a dynamic and forward-looking territory that embraces sustainability, innovation, and collaboration to build a prosperous future for its residents.

Weather and Climate: A Temperate Haven with Seasonal Variations

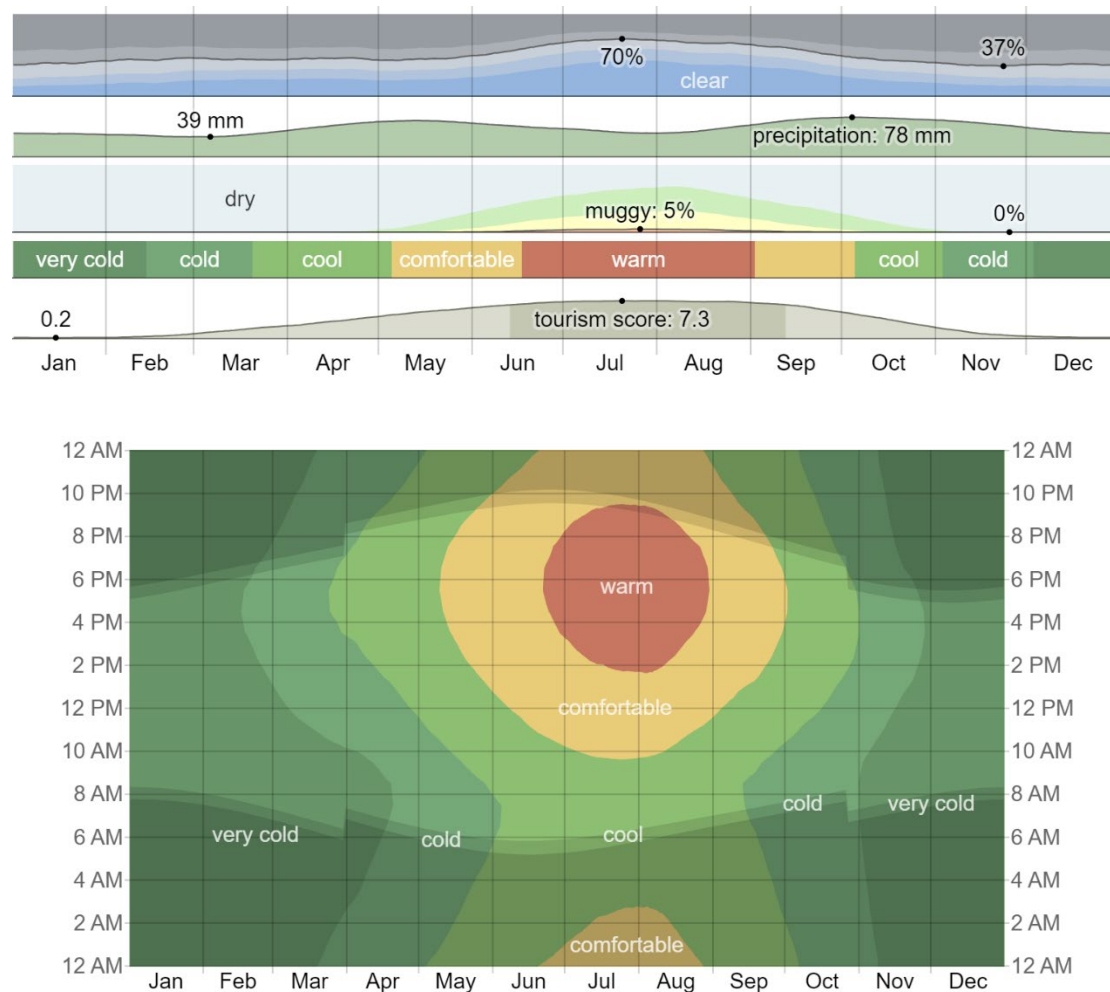
The Nord-Isère enjoys a temperate climate, characterized by warm summers and mild winters. Here's a breakdown of the key weather elements.

In Chimilin⁶, the summers are warm, the winters are very cold and wet, and it is partly cloudy year-round. Over the course of the year, the temperature typically varies from -0°C to 27°C and is rarely below -5°C or above 32°C.



⁶ <https://weatherspark.com/y/51948/Average-Weather-in-Chimilin-France-Year-Round>

In Villefontaine⁷, like Chimilin, the summers are warm, the winters are very cold, and it is partly cloudy year-round. Over the course of the year, the temperature typically varies from -0°C to 27°C and is rarely below -5°C or above 33°C.



By incorporating these additional sections, the description of the Nord-Isère provides a more comprehensive picture of the region, enriching the context for the Saint-Gobain Architecture Student Contest.

For the energy simulation, the teams can use the weather file provided by Saint-Gobain.⁸

⁷ <https://weatherspark.com/y/51738/Average-Weather-in-Villefontaine-France-Year-Round>

⁸ The climate data files for the city of Villefontaine and the village of Chimilin are provided. The extension to use for SG-SAVEI software is EPW.

3. SPECIFIC INFORMATION ABOUT THE TASK

The task for this unique edition of the international student competition organized by Saint-Gobain Group in close cooperation with the city of Villefontaine, the Grands Ateliers, the village of Chimilin, the French National Assembly, the Alliance HQE-GBC, is to **develop a residential area** (visiting students, and professors) in an area located near the Grands Ateliers, and the **renovation of an old school building** in Chimilin into a multi-use building for local associations and organizations.

Les Grands Ateliers⁹

General information:

- Started activities in 2002, as a place for experimentation and prototyping of architectural projects on 1:1 scale
- Hosts 100 architecture students/year.
- Works with various stakeholders to experiment with new materials and construction methods.
- Two existing buildings that serve as technical spaces.



Figure 1: [Google image](#) from Les Grands Ateliers

Opportunities:

- 2ha to develop a sustainable construction campus.
- Space for a wide variety of buildings to be imagined (e.g., exhibition areas, conference center, student housing, restaurant).
- In proximity to the Compagnons de France¹⁰, who also take construction courses at Les Grands Ateliers. See how to integrate their activities into the concept of the project.
- How to integrate the aspect of new technologies in construction in the proposal.

Challenges:

- Provide a coherence for new and existing buildings and the different uses in the new campus.

Students' task:

- On the 2ha, ASC teams will have two tasks:
 - a. Propose the new building for residential/office use for students and teachers.
 - b. Propose only volumetrics and distribution for other building uses or other services (greenhouses, vegetable gardens, services for tomorrow).
- The building to propose will serve as residence for visiting students and professors for both Les Grands Ateliers and the Compagnons de France.

Available documentation:

- Program – Sustainable Construction Campus (with information on the buildings and spaces required)

⁹ <https://www.lesgrandsateliers.org/concept-des-grands-ateliers/>

¹⁰ <https://compagnons-du-devoir.com/>

- Plans for the Les Grands Ateliers and Astus, and photos.
- Cadastral plan (with zone limits), aerial view, and topography plan.
- Weather file for the city of Villefontaine for the energy simulation

Village of Chimilin¹¹

General information:

- 1500 inhabitants.
- Selected for the program [Village d'Avenir](#) (National program to support smallest municipalities on their projects)
- 27 associative organizations that carry many activities during the year.

Opportunities:

- Revitalize the village by the renovation of an existing and abandoned old school building.
- Looking for ideas to densify and dynamize due to the Lyon-Turin project
- Renovate a building that invites the community and visitors to have reunions and activities.



Figure 2: [Google image](#) of the building to renovate in the village of Chimilin

Challenges:

- Limited budget for any architectural intervention, thus low-cost proposals are welcomed.
- Chimilin is a cross-roads village for connectivity in the area, thus the building might be used by more organizations nearby.

Students' task:

- Renovate the building and its interior space into a multi-activity space, where different associations can use it during the year.
- The building should be thought with flexibility and modularity, to potentially change use in the future, while maintaining internal comfort (thermal, acoustic, light, IAQ).

Available documentation:

- Scanned plans of available façade, floor, sections of the existing building
- Cadastral plan
- List of associations, artisans, and businesses

The public actors are looking for ideas as based for future proposal and developments. The projects must be addressing the requirements and comply with the technical guidelines prepared by Saint-Gobain.

¹¹ <https://chimilin.fr/>

The goal of the Architecture Student Contest is to provide students with a unique experience more closely related to a “real” client request. Thus, students can propose ideas under realistic constraints while addressing sustainability criteria. The task of the 20th Saint-Gobain Architecture Student Contest is to provide building ideas and solutions on projects located in Nord-Isère region in France. The challenges of this edition are:

- a) Zone A: to renovate and change the use of an abandoned school building in Chimilin into a building that provides space for multi-use activities for associations and organizations.
- b) Zone B: to design a new residential building for students in Les Grands Ateliers and propose a volumetry of uses for the rest of the site.

Although, the buildings in the task are in two distinct places, teams should create a link between them via a common identity and create synergies between their proposals. Teams can draw inspiration from the region, culture, and/or provide new proposals to give coherence to the challenge of building or renovating buildings across all villages in the territory. The idea is to create through architecture a new identity for this territory meant to be revitalized and to become attractive beyond its frontiers.

To complete information shared in this document, you can have a look at the **three following videos**, available on the [Architecture Student Contest YouTube channel](#).

- a) A general presentation of the Contest Task with drone views of two plot sites: [here](#).



- b) 360° view of the plots for an immersive experience “on the field”. Click on the screen and move to see the 360 views:
 1. 360° view of Les Grands Ateliers [here](#)
 2. 360° view of existing building in Chimilin [here](#)

ZONE A: Renovation of an Existing Building in Chimilin

The village of Chimilin is supporting several construction projects to make it more attractive for visitors. It responds to tourist demand by building a 40-room hotel close to the highway-toll with a restaurant. There is a strong support at the territorial level of Auberge type of restaurants (or Farm Inn). These are farms where a good part of its activities is dedicated to catering, or sometimes even to hotels. Thus, a real proposition for tourist that want to experience the area. Chimilin aims to keep and maintain their building stock along with new modern construction to increase the attractiveness of the village. On the image below you can observe the master plan for Chimilin, which identifies the zone of the building to be renovated, and its distance to the City Hall of Chimilin.



Figure 3: Google map view of Chimilin. The zone in blue indicates the site of the building to renovate.

- The building used to be a school that was abandoned due to existence of cracks in its façade. The building has a ground floor area of 250m², over three levels.
- For the new use, the village of Chimilin welcomes proposals that allow for multi-purpose spaces where the various associations and organizations can gather during the year.
- The proposal should also consider the modularity and flexibility of spaces (cultural, workspace, association meetings, etc.), as the village might change the use in the future.
- Within the proposal, teams should take into account support functions like administrative area, cafeteria, meeting rooms, leisure spaces, storage space for associations' materials, playrooms, or other functions which answer the village's request and the types of associations.
- For the renovation, teams can propose adaptations not only to the exterior façade, but also to the internal distribution. Moreover, teams need to consider aspects to make this building more sustainable regarding energy consumption, material selection, and well-being and comfort of users.



ZONE B: New Construction and Volumetry Proposal for Les Grands Ateliers Campus

On the image below, you can observe a master plan of Les Grands Ateliers, which identifies the zone (in blue) that can be intervened.¹²

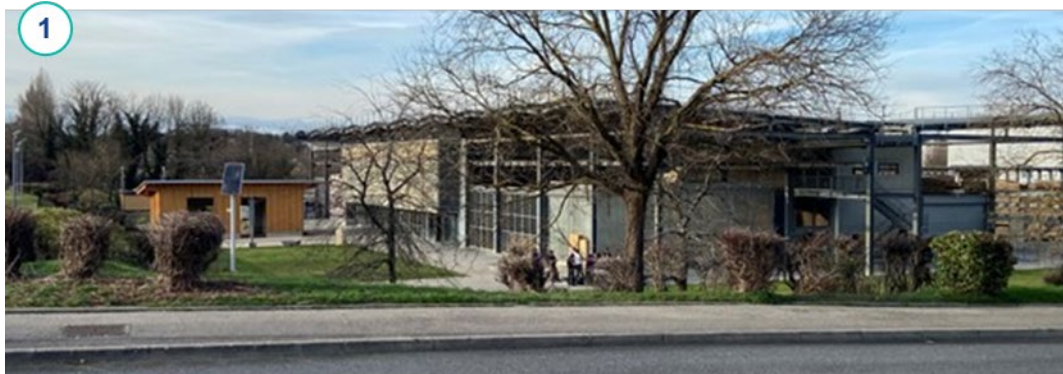


Figure 4: Google map view of Les Grands Ateliers. The zone in blue indicates the site for the campus where the new construction should be located, as well as the area for the volumetry of other uses.

- The new campus will allow not only for students and professors to work, but also welcome visitors to see their activities and expositions of their work.
- The new building will serve as a residential building for students and will include a “laboratory for co-creation” with offices and meetings rooms. The expected capacity of the building is approximately 64 students and researchers.
 - The accommodation program indicates the spaces and surface needed. Teams should also take into account other common areas like living room area, enjoyment/play area, bike room/storage, laundry room, etc.
 - The laboratory for co-creation program indicates the spaces and surface needed: office spaces, multi-purpose rooms, meeting rooms, etc. The laboratory for co-creation will have to be accessible both on the ground floor from the Astus platform slab and from the road and the car park.
- For the rest of the campus, located in the 2ha surface, students should propose:
 - A “prototype village”: a landscape outdoor space where prototypes can be installed and monitored.

¹² Please check the provided material on Les Grands Ateliers: site limits, plans, and program for new buildings.

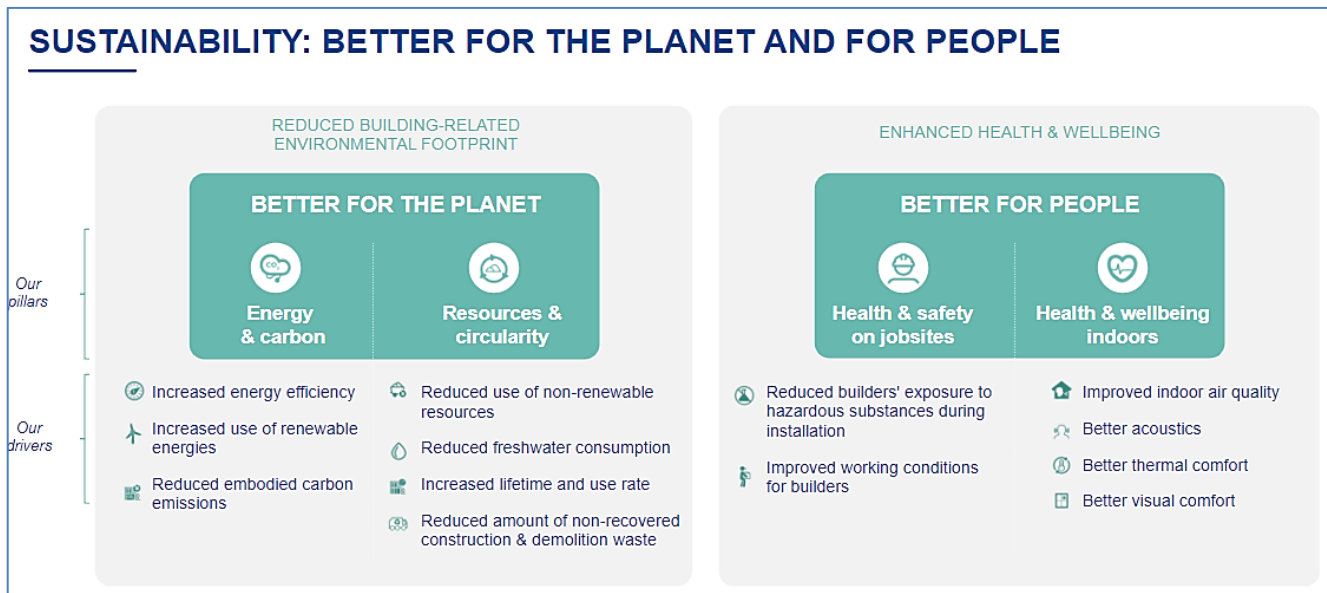
- Schematic volumetric proposals for other future services within the campus. For example, a small conference center, expanded area for restauration, exhibition areas, external recreational areas for students and visitors, any other space that would complement a small campus (infirmary, ...).
- Students might leave areas for future development.
- Teams should evaluate and propose ideas for entrances to the campus from nearby routes and promote internal mobility.
- Teams are welcome to propose elements to enhance the student experience in the new campus (e.g., views, link to nature).



Again, although the buildings in the Contest Task are in two distinct places, teams should create a link between them under a common identity and create synergies between their proposals. The idea is to create through architecture a new identity for this territory meant to be revitalized and to become attractive beyond its frontiers.

4. TECHNICAL PARAMETERS

The technical parameters for sustainability are based on **Saint-Gobain's Sustainable Construction Guidelines**, which address contributions that are Better for the Planet (energy & carbon, and resources & circularity), and Better for the People (health and well-being of installer and occupants).



Thermal Comfort

The project should maintain a good internal environment, the proposed project sure ensure comfort around the year. A sound bioclimatic approach with passive strategies can server as a good foundation to optimize thermal comfort. In order to achieve this, students will integrate both passive measures (e.g., sun shading, light colors for exterior surfaces, green roofs and facades...) and active measures (e.g., ventilation).

To supply the energy needed teams can propose renewable energy and heating systems that fit the city strategy. Also, project can mention how they propose the building and energy consumption/production of the building could be monitored.

Indoor Air Quality

To provide the best indoor conditions for the inhabitants, low levels of CO₂ concentrations (maximum 1000 ppm) inside the rooms should be achieved. To reach this low CO₂ concentration, the design should guarantee a minimum ventilation rate of 30m³ per hour per person. Also, propose a strategy to achieve an excellent indoor air quality, e.g., air renewal with mechanical or natural ventilation (e.g., night cooling), selection of low emissive products, active products to capture VOCs and formaldehyde, moisture management.

Acoustic Comfort

Noise is extremely damaging to human health. Providing a good indoor environment from the acoustic point of view is crucial for human wellbeing. Sleep deprivation, because of high levels of noise, has adverse effects on humans' health. The sound sources that bother, annoy, or disturb the most in residential functions are road traffic and neighbors. Technical parameters – selected partitions (as examples) should be designed in line with requirement of French Acoustic Regulation. A1 level is recommended.

Partition	Factor	Class A2 (mandatory)
Wall between units (airborne noise)	$D_{nT,w}$ ($R'_{A,1}$, ie. including flanking transmission)	≥ 53 dB
Ceiling between floors (airborne noise)	$D_{nT,w}$ ($R'_{A,1}$ ie. including flanking transmission)	≥ 53 dB
Ceiling between floors (impact noise)	$L'_{nT,w}+$ $C_{1,50-2500}$ (ie. including flanking transmission)	$L'_{nT,w} \leq 58$ dB

Fire Safety

All products in the façades and the roof should be made of non-combustible materials. Consider, for example, evacuation paths, fire barriers, material selection (reaction to fire), system selection (fire resistance), etc. Fire sections between stories and apartments shall fulfill EI 60 requirements.

Natural Daylight

A minimum level of natural light is necessary to achieve a good quality of life. Therefore, a natural daylight autonomy of 60% should be achieved. The windows/floor surface ratio should not be lower than 1/8. Consider size and orientation of windows, high performance glazing products (solar factor). Calculations should support the assumptions taken.

Carbon Emissions & Energy Consumption

The building shall be designed to be highly energy efficient. At least, the following levels of performance shall be achieved (passive house standard¹³):

- Annual energy demand for heating < 15 kWh/m² (passive house standard)

¹³ https://passiv.de/en/02_informations/02_passive-house-requirements/02_passive-house-requirements.htm

- Average U-value for all opaque constructions (roof, external wall, floors on the ground) < 0,15 W/(m²K) (passive house standard)
- U value for windows < 0,8 W/(m²K), with g-value around 50%
- Air tightness: q₄ < 0,6 m³/(h m²)

A particular attention shall be paid to energy simulation¹⁴ and the embodied carbon¹⁵.

- 1) Strategy to achieve thermal comfort, e.g.: performance of the building envelope (insulation and airtightness), sun shading measures, ventilation, etc.
- 2) A calculation of the energy demand should be done for one year (Jan-Dec). Students will explain how they were able to reduce and optimize the energy performance of their project design. Student can research and propose low carbon energy supply (e.g., solutions such as locally produced renewable energies (geothermal, photovoltaic) or heat pump might be appreciated).
- 3) A calculation of the carbon emissions over the whole building life cycle shall be carried out with the tool provided for free during the competition by OneClick LCA. Students will explain how they have been able to reduce/optimize the embodied carbon while progressing in their project design, e.g., lightweight constructions, wood construction, product reuse. Student must consider the French regulation (RE2020) thresholds for carbon of 490 kgCO_{2eq}/m²/year.¹⁶

Resources & Circularity

Over its whole life cycle, a circular building minimizes the use of primary non-renewable raw materials and the generation of non-valorized waste. To achieve those two overarching goals on primary raw materials and valorized waste, the following five points shall be considered:

- 1) A circular building shall be **designed for longevity**: it shall be flexible in use and easily adaptable over time, possibly allowing for usage reorientation; and it shall be made of durable and resource efficient materials, products, and systems, easy to repair, maintain or replace and to reuse or recycle at their end of life; thus, prefabrication could be an option depending on the context.
- 2) Resource efficient materials, products, systems are made with a minimum use of non-renewable primary raw materials; they shall incorporate a maximum share of recycled or renewable raw materials; their installation shall generate a minimum amount of waste; regarding the valorization at their end of life, reuse shall be the preferred option followed by recycling; to be easy to reuse or recycle, systems shall be easy to dismantle and

¹⁴ For the energy simulation students can use any software (EnergyPlus, Design Builder, TranSys Comfie and the PHPP can also be used). Saint Gobain will make available a specific plug in for OpenStudio SketchUp, SG SAVE International. SG SAVEI is a plug in to SketchUp. More information on how to obtain the plugin will be available in the contest website.

¹⁵ Carbon emissions associated with materials and construction processes throughout the whole lifecycle of a building or infrastructure. Calculations should include all phases as available within the OneClick LCA tool.

¹⁶ https://www.ecologie.gouv.fr/sites/default/files/documents/2021.02.18_DP_RE2020_EcoConstruire_0.pdf

components easy to sort out; and products and materials shouldn't reduce exposure to hazardous substances to avoid their further dissemination in the built environment¹⁷.

- 3) Renovation and extension of existing buildings shall be preferred over demolition/deconstruction and new built.
- 4) Selective deconstruction shall always be preferred over demolition at buildings' end of life; to facilitate the deconstruction and the valorization of the waste, a detailed inventory shall be kept over time of all materials, products and systems used to build, maintain, and renovate the building, and of their composition.
- 5) To support the choice of alternative options, decisions shall be based according to their actual environmental impacts at building level; those impacts shall be calculated over the entire life cycle of the building (LCA at building level).

¹⁷ Off-site prefabricated building elements, modular construction and lightweight systems (in particular for facades and internal partitions) belong to the solutions that allow to meet these criteria. Students can further propose products with high recycled content.

5. COMPETITION REQUIREMENTS

Participants are advised to choose appropriate scales for all drawings, design ideas and directions to allow appropriate detail and clarity to be reviewed by the judges. Also, teams should include in their submittal (project presentation in PDF) a complete description of their project following the respective guidelines.

Master Plan

- Clear representation of the zones, at scale 1:500, providing the understanding of general organization of the Project proposal.
- Relevant details of specific areas should be provided.
- Visualization of the experience of living in the analyzed areas - Views, 3D perspectives and/or photographs of physical models as seen fit by the participants to better explain their proposal.
- Relation and link to nearby areas.

Building A - Renovation

- Development of architectural proposal, at the level of draft, for the proposed design program for the intended use.
- Floor plans, elevations, relevant sections that can allow to understand the proposal, at scale 1:200.
- Short description of project options and renovation solutions to be implemented, with focus on the specific technical solutions for the specific services.
- Few 3D views to help the understanding of design proposal.

Building B – New Construction for Residential Function in Campus Location

- Floor plans, elevations, relevant sections that can allow to understand the proposal, at scale 1:200.
- Technical details at scale 1:20 or otherwise convenient for adequate understanding.
- 3D views to help the understanding of design proposal, and the surrounding volumetry of other campus buildings.
- A life cycle analysis should be done at building level, using available tool (One Click LCA).

- Calculations for energy efficiency, that can be done with any energy simulation tool. (If student use SketchUp students can use the SG developed plug-in SAVE-I)¹⁸.

Roll-Up

For the International Stage of the Saint-Gobain Architecture Student Contest, teams should synthesize their project presentation into a poster format, called Roll-Up. This format should be clear in the following aspects:

- A brief description of their concept proposal
- A 3D view of the master plan
- Provide between 2-4 3D views of both buildings (renovation and new construction)
- Provide elements of how they addressed sustainability criteria.
- Brief synthesis of main assumptions and final results from the energy and LCA calculations.

All the material required for the International Stage of the Architecture Student Contest (types of media and documents, format, size, weight of the files, etc.) are detailed in the “Rules, Organization and Legal Terms” document, which is available on the [Architecture Student Contest website](#). It is mandatory for every participant to read this document carefully and to observe the rules and requirements as explained in it.

¹⁸ For energy efficiency, students can use any energy modelling software. Teams can use Saint-Gobain's Plug-In SG SAVE International that includes a SG material database. The weather data to use for calculations should be the one for Lyon. A whole life carbon calculation will be made using the OneClick LCA tool : tool and trainings will be provided for free. Recommendations to use the LCA according to international standards.

6. JUDGING CRITERIA

General Judging Criteria

There are various aspects which are key and unique to the Architecture Student Contest.

- The first aspect is that the Contest Task addresses two building proposals: a new building and the renovation of an existing building within a plot assigned by the Municipality.
- The second aspect is the sustainability considerations.
- Lastly, the respect of minimum requirements, correct usage of Saint-Gobain products and solutions in the project, and the quality and consistency of the proposed construction details with regards to building physics.

Tackling these aspects are important and will be considered by the jury during the National stage and to pass to the international stage, under the criteria below:

NEW CONSTRUCTION 60%	RENOVATION 40%	CRITERIA OF EVALUATION
ARCHITECTURE (30%)	ARCHITECTURE (20%)	<ul style="list-style-type: none"> • Design excellence that considers local identity and cultural context. • Efficient functional concept that responds to program needs, providing clear building information. • Provides a master plan with connection of buildings to the exterior public spaces, and nearby buildings.
SUSTAINABLE CONSTRUCTION (30%)	SUSTAINABLE CONSTRUCTION (20%)	<ul style="list-style-type: none"> • Design clearly addresses sustainability criteria: passive design, carbon & energy, resources & circularity, and health & wellbeing. • Shows quality in several construction details with regards to building physics (thermal and acoustic bridges, airtightness, and moisture management). • Correct usage and mentioning of Saint-Gobain products and solutions in the project.

Important: Indications on the judging criteria to be assessed during the National and the International Stages is available in the “Rules, Organization and Legal Terms” document.¹⁹

¹⁹ The document includes roles and responsibilities at the National Stage (e.g., projects must comply with minimum requirements), judging roles and responsibilities for the International Stage, jury methodology for pre-selection prior to the international stage, methodology for finalist selection, communication of projects at International stage, and type of prizes.

