



CONTEST TASK

MULTI COMFORT STUDENT CONTEST 2020

Saint-Denis, Paris, France



GRAND PARIS

ABOUT THE MULTI COMFORT STUDENT CONTEST

The Multi Comfort Student Contest is a two stage international competition based on the principles of Saint-Gobain's Multi Comfort Program. It was organized for its first time in 2004 by Saint-Gobain Isover in Serbia and became an international event in 2005. Last edition in Milan attracted more than 2,200 students in 34 countries.



ACKNOWLEDGMENTS

Special thanks to Plaine Commune and Saint-Denis, Réseau Rêve de Scènes Urbaines (RSU), Emmanuel Sala, President of "Maison Coignet", professors participating in the Teacher's Day and Saint-Gobain France for all the support during the development of this task.

SPONSORSHIPS



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1) GENERAL INFORMATION

1.1 CONTEXT OF THE COMPETITION

Saint-Denis, medieval city and industrial place with great working-class, has deeply evolved and adapted to the needs of its time. Rich in history and patrimony, during the last 30 years has undergone an unprecedented change. With a representative demographic growth, nowadays Saint-Denis has more than 109,000 habitants and welcomes new ones thanks to a policy of building housing -including social- very dynamic and a living environment constantly improving.



The Olympic and Paralympic Games (2024) and “Grand Paris”, a project that aims to transform the metropolitan area of Paris into a major world metropolis of the XXI Century in order to improve the living environment of the inhabitants and build a sustainable city, are accelerators for the development of Saint-Denis. create

In the 16th international edition of the Multi Comfort Student Contest the task is to design Sustainable Development Park combining residential, educational and recreational functions. The 2019 challenge is to convert the zone of post-industrial site of Coignet Enterprise in Saint-Denis into green living, learning and recreation area respecting both traces of historical heritage of the place and modern neighborhood sustainable development needs.

Students will be asked to propose:

- Masterplan explaining the organization of whole site, its character, internal and external functional connections.
- Design of Residential/Educational function composed of 250-300 flats and an elementary school (with kindergarten) of 18 classes.
- Preservation and revitalization ideas for historical objects on the site.

1.2 WHO CAN PARTICIPATE

Participants can be students of architecture, design, construction engineering or other disciplines from universities in countries where a National Stage is organized by Saint-Gobain.

Participation is open to all students from the 1st to 6th year of study as an individual or in teams made out of 2 students. During some editions, depending on the size of the task and the local Saint-Gobain organization, 3 members per team can be accepted under request.

A student cannot be part of two teams or participate in two different National Stages during the same edition of the contest. Teams participating are allowed to submit just one project each edition.

1.3 ORGANIZATION

Saint-Gobain is the organizer of the competition with the participation of Saint-Gobain Local organizations in the countries where a national stage is held.

International Manager for the Multi Comfort Student Contest:

- Pamela Hernandez / pamela.hernandez@saint-gobain.com

List of contacts / Saint-Gobain Local Leaders in countries participating:

- List of contacts available at: >[Multi Comfort Student Contest](#) > [Contacts](#)

Official website of the Multi Comfort Student Contest

- www.multicomfort.saint-gobain.com

1.4 FORM AND ORGANIZATION OF THE COMPETITION

The Multi Comfort Student Contest is a two stage competition:

- 1) **National stage** > Competition organized by country with local universities
- 2) **International Stage** > Competition among the winners of the National Stages

NATIONAL STAGE

- Saint-Gobain organizes National Stages in countries where the company is having presence and with local teams in charge of the organization.
- The list of countries participating this year are available on www.multicomfort.saint-gobain.com > [Contacts](#). This list can be modified until March 31st, 2020.
- **National Stages must be held in all countries between March 1st and April 30th, 2020.**
- The organization of National Stages is in charge of the local teams. It is up to the Saint-Gobain Local Leader to decide form and awards. The number and amount of prizes will be decided by each local organization and announced locally.
- The winning project from each National Stage will be invited to participate in the International Stage

PARTICIPATION NATIONAL STAGES

- Participation is open to all students from 1st to 6th year of study taking part of the academic year 2019-2020. Students on scholarship and exchange programs can participate.
- Participants must represent the university and country where they are studying at the moment of the competition.
- Students can participate as individuals or in teams of 2 members per team. During this edition, teams up to 3 members are accepted under request of SG Local Leader.
- A student cannot be part of two teams or participate in two different National Stages during the same edition. Teams participating are allowed to submit only one project each edition.
- The decision of the jury during National Stages is final and irrevocable, no subject to appeal.

REGISTRATION AND OFFICIAL COMMUNICATION NATIONAL STAGES

- All teams participating must register online at <https://multicomfort.saint-gobain.com> > [Multi Comfort Student Contest](#) > [Registration](#). Registration is mandatory for participation.
- Registration is done by team. The leader of the team will need to create one account for the team and enter the information required. Failing to register or providing incomplete or false information will result in the disqualification from the competition.
- **Closing date for registration is March 31st, 2020.** Local organization can change the date to fit better with the local university schedule. Please check data with your local organizer.
- For your National Stage please register and stay in close contact with your Saint-Gobain Local Leader. National Stages may have their own local communication channels.
- The exact way of submission and evaluation for the National Stage and dates will be decided by the respective local organizations. The recommendation is to follow the same requirements (5 min presentation and roll up poster) as for the International Stage.
- All National Stages must be completed by May 1st 2020.

INTERNATIONAL STAGE

- The International Stage of the Multi Comfort Student Contest will be held in Paris, France. The exact date will be confirmed soon.
- A maximum number of 60 teams will be invited to the International Stage depending on the number of countries participating. The maximum number of students allowed per team during this edition is 3 up to Saint-Gobain local leader request.
- The maximum number of teams accepted by country is 3 depending on availability and resources of local organizations.
- During the International Stage, teams will have 5 minutes to present their project to the jury and all projects will be displayed at the exhibition (roll up poster). All presentations will be webcasted live.
- The international stage is a 3-day event where, among others, following activities take place: welcome ceremony, exhibition of projects, presentation of projects, jury deliberation, awarding ceremony, gala lunch and feedback session. The agenda and activities can change or be adapted each edition.
- An international jury will nominate the winners (1st, 2nd and 3rd prize) and they can also award up to 2 Special Prizes for extraordinary ideas or specific mentions provided by the participants. The decision of the jury at the International Stage is final and irrevocable, not subject to appeal.

1.5 PRIZES

Both stages, National and International, can assign up to three monetary prizes for the first, second and third prize. Additionally, if it's the interest of the local organization, more prizes may be awarded.

National Stages

Information about the amount and number of prizes for the International Stage will be provided by the local Saint-Gobain organizations.

International Stage

- | | |
|------------------|---------|
| - 1st prize | € 1,500 |
| - 2nd prize | € 1,000 |
| - 3rd prize | € 750 |
| - Special prize | € 500 |
| - Students prize | € 500 |

In case of the national and international stage, Saint-Gobain and its local organizations can decide to award more or less prizes than specified according to the jury evaluation of the projects.

1.6 TIME SCHEDULE

All information about this year's contest and distribution of invitations for competition submissions will be launched in October 2019.

NATIONAL STAGES

- Closing date to complete registration on line is March 31st, 2020. Local organizations can change this date to fit better with local universities schedule.
- All National Stages must be completed by May 1st, 2020 (including local prizes awarding). The exact day for the National Stage, as well as procedure and all official dates, will be communicated by the local organization. Please stay in close communication with your local leader. Sufficient time should be taken into consideration for those countries that will require a visa for participation to the International Stage.

- Submission of complete material must be uploaded by latest May 10th, 2020. Each team must provide all the documents requested at point 3, Formalities for submission.

INTERNATIONAL STAGE

- The International Stage of the competition will be held in Paris, France. The exact day will be confirmed soon.

Further information regarding the international stage will be provided by mail to participants and through the [Multi Comfort Student Contest Website](#)

1.7 TRAININGS

Several online trainings will be organized by Saint-Gobain from November 2019 till February 2020. The exact dates and time will be sent by mail to all registered participants and communicated through the [Multi Comfort Student Contest Website](#)

Additional trainings might be organized by local organizations. Stay in close communication with your local leader in order to get this information.

1.8 JURY

The following evaluation criteria will be used for judging the projects for both National and International Stages.

A. Participation criteria

- Minimum requirements: Projects that do not present the minimum required pieces as described in point 2.6.1 will be disqualified.

B. Judging criteria

The sustainability approach related to economic, ecologic and social aspects is a key part of all the criteria mentioned below and will be taken into account at all levels of evaluation.

- **ARCHITECTURE: 50%**
Design excellence, functional concept and regional aspects, layout.
- **TECHNICAL CRITERIA: 20%**
Constructions comply with the Saint-Gobain Multi Comfort criteria (thermal, visual and daylight targets) as well as fire safety strategy.
- **CONSTRUCTION DETAILS: 20%**
Quality and consistency of the proposed construction details with regards to building physics (thermal and acoustic bridges, airtightness and moisture management).
- **PRODUCTS USAGE: 10%**
Correct usage and mentioning of Saint-Gobain products and solutions in the project.

NATIONAL STAGE JURY

- The selection of the national winners will be carried out by a national jury. The composition of each national jury will be decided by the local organization team.

INTERNATIONAL STAGE JURY

- The international jury will consist of: external architects and experts, representatives of Plaine Commune and Saint-Denis municipality and Saint-Gobain representatives.

- The jury composition will be:
 - External architects: 2 persons
 - Saint-Gobain representatives: 2 persons
 - Local Partners representatives: 2 persons
 - Multi Comfort Expert: 1 person

- Depending on the availability of the persons, the organizer can modify the number or the composition of the jury without any other prior advice. The precise structure of the International jury will be communicated prior to the International Stage.

- Jury members participating in the International Stage can't be part of any National Stage's jury.

STUDENTS PRIZE

- The Students Prize (value of € 500) will be awarded by the organizer based on the votes received from all participating teams at the International Stage.

- Each team will receive 1 (one) vote to be awarded to the team with the best project in their opinion taking into account the judging criteria described above. Teams cannot vote for their own project or from projects coming from the same country.

- Votes will be handed by participants to organizer by latest at 20:00 the day of presentations.

- The team with the highest number of votes will be awarded with Students Prize.

- In case of several teams with the same number of votes the value of the prize will be shared between these teams.

1.9 TRANSPORT AND TRAVEL EXPENSES

NATIONAL STAGE

- The costs of the submission of entries to the National Stages shall be taken over by the participants.

INTERNATIONAL STAGE

- The organizer will be in charge of transport, accommodation and participation expenses for participants at the international stage.
- Transport for the winners of the National Stages to International Stage will be organized from and back to the capital (or another city - according to the local teams' decision) of the country in which the University from which the participants have registered is situated.
- Participants are responsible for obtaining passports and/or visa for the travel. The organizer will provide necessary support in terms of invitation, accommodation certification, etc.

1.10 LEGAL

Participants of the Multi Comfort Student Contest (the ‘Competition’) hereby undertake that any information/data contained in their projects does not interfere with the intellectual property rights of any third party, and that they either own or have full authorization to use and disclose such information/data.

The participants to the national stage or international stage competitions, regardless of their position (students, teachers, Saint-Gobain employees or other attendees), hereby grant full and unrestricted authorization to Saint-Gobain (the ‘Organizer’), local Municipality free of charge, to use, to present, to publish their projects, project presentations and all material submitted by or representing the participants, including, but not limited to, photos or videos taken of the participants at the contest and/ or material provided by the participants to the Organizer for the contest, for an unlimited period of time

Competition participants acknowledge that the decision of the jury is final. All participants hereby accept the incontestable and definitive nature of the jury’s decisions.

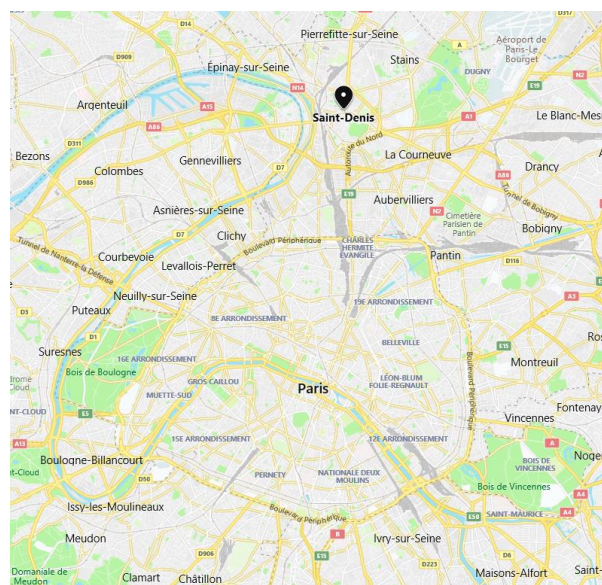
By participating in the competition, the participants acknowledge and accept the [Privacy Policy](#) and the [Legal Terms and Copyright Agreement Assignment](#).

2) DETAILS OF THE TASK

2.1 GENERAL INFORMATION ABOUT SAINT DENIS

Saint-Denis is a commune in the northern suburbs of Paris, France. Located 9.4km from the center of Paris, is a formerly industrial area currently changing its economic base. Saint-Denis has been closely associated with the French royal house. Several French kings were buried at a certain moment in the history in the Basilica of Saint-Denis, a gothic church that was consecrated in 1444.

The King Louis XIV (1638-1715) started several industries in Saint-Denis: weaving and spinning mills and dyehouses. During the French Revolution, not only was the city renamed ‘Franciade’ from 1793 to 1803, but the royal necropolis was looted and destroyed. During the 19th century, Saint-Denis became increasingly industrialized. Transport was much improved: in 1824 the Canal Saint-Denis was constructed, linking the Canal de l’Ourcq in the northeast of Paris to the River Seine at the level of L’Île-Saint-Denis, and in 1843 the first railway reached the area. By the end of the century, there were 80 factories installed.



The presence of so many industries also gave rise to an important socialist movement. In 1892, Saint-Denis elected its first socialist administration, and by the 1920s, the city had acquired the nickname of la ‘ville rouge’, the red city. Until Jacques Doriot in 1934, all mayors of Saint-Denis were members of the Communist Party.

During the Second World War, after the defeat of France, Saint-Denis was occupied by the Germans on 13 June 1940 and liberated by General Leclerc on 27 August 1944. After the war, the economic crisis of the 1970s and 1980s hit the city, which was strongly dependent on its heavy industry.

During the 1990s, however, the city started to grow again. The 1998 FIFA World Cup provided an enormous impulse; the main stadium for the tournament, the “Stade de France”, was built in Saint-Denis, along with many infrastructural improvements, such as the extension of the metro to Saint-Denis-Université. The stadium is used by the national football and rugby teams for friendly matches. The “Coupe de France”, “Coupe de la Ligue” and “Top 14” final matches are held there, as well as the Meeting Areva international athletics event.

Saint-Denis is served by Metro, RER, tram, and Transilien connections. The Saint-Denis rail station, built in 1846, was formerly the only one in Saint-Denis, but today serves as an interchange station for the Transilien Paris – Nord (Line H) suburban rail line and RER line D. Today it has a population of 109343 habitants in an area of 12km².

Since 2000, Saint-Denis works together with eight neighboring communes in Plaine Commune, a territorial public establishment (EPT) that groups 9 cities in the north of Paris. They are associated around a common project, on a spaces that knows the unprecedented mutations in the Paris region. Plaine Commune is also a Territory of Culture and Creation in Greater Paris. The territory of Plaine Commune extends to the northern limit of Paris, in Seine-Saint-Denis, with a very rich population of great diversity, a strong presence of economic activity, a dense transport network, important waterways (the Seine and the Canal) and two departmental parks. More than 429,000 people live in Aubervilliers, Epinay-sur-seine, St. Denis, La Courneuve, Pierrefitte-sur-Seine, St. Denis, St. Ouen-sur-Seine, Stains and Villetaneuse. The territory, whose surface is half of Paris, hosts 196,000 jobs, but also a high unemployment rate and population among the most precarious in the country. Plaine Commune is also the youngest population in Île-de-France, two universities (43,000 students). Since the end of the 90s, the territory is in full renewal, on an economic, urban (mobility included), social, cultural and environmental plan. The territory of Plaine Commune, will host the 2024 Olympic and Paralympic Games with the arrival of new facilities such as the Olympic nautical centre (Aubervilliers) and the Olympic village (located on Saint-Denis, Saint-Ouen and L’Ile-Saint-Denis). After the Stade de France and the 1998 World Cup, the JOP2024 is the second major event that will accelerate the transformation of the territory.

2.2 SAINT-DENIS GEOGRAPHIC POSITION AND CLIMATE

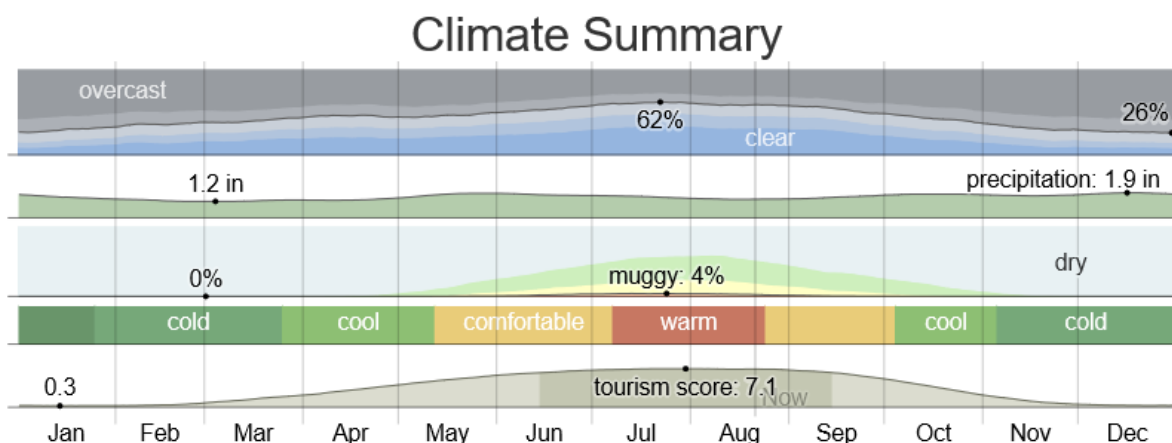
Saint-Denis is located in a lowland. The summers are short, and partly cloudy and the winter are long, very cold, windy and mostly cloudy. Over the year, the temperature typically varies from 35°F (1,5°C) to 78°F (25,6°C) and is rarely below 24°F (-4,4°C) and 88°F (31,2°C).

The warm season lasts for 2.9 months, from June 13 to September 10, with an average daily high temperature above 71°F. The hottest day of the year is August 4, with an average high of 78°F and low of 59°F. The cool season lasts for 3.7 months, from November 16 to March 7, with an average daily high temperature below 51°F. The coldest day of the year is February 8, with an average low of 35°F and high of 46°F. Rain falls throughout the year in Saint-Denis. The most rain falls during the 31 days centered around December 16, with an average total accumulation of 1.8 inches (45cm).

The wetter season lasts 8.2 months, from October 6 to June 13, with a greater than 26% chance of a given day being a wet day. The chance of a wet day peaks at 31% on December 22. The drier season lasts 3.8 months, from June 13 to October 6. The smallest chance of a wet day is 20% on August 23.

The cloudier part of the year begins around October 12 and lasts for 5.6 months, ending around March 31. On December 30, the cloudiest day of the year, the sky is overcast or mostly cloudy 74% of the time, and clear, mostly clear, or partly cloudy 26% of the time.

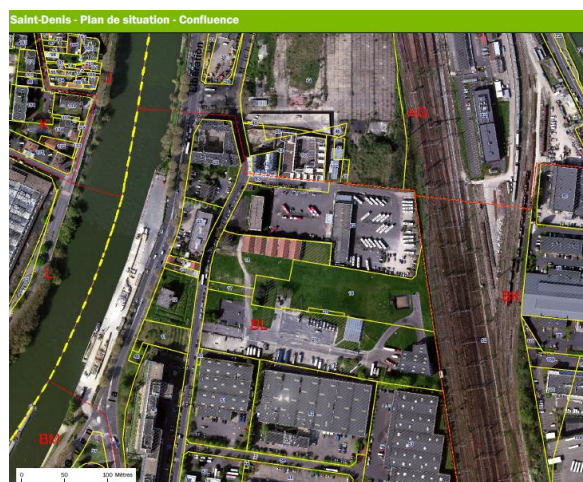
The windier part of the year lasts for 6.1 months, from Mid-October to Mid-April, with average wind speeds of more than 9.8 miles per hour (15,7 Km/h). The calmer time of year lasts for 5.9 months, from Mid-April to Mid-October.



Source: <https://weatherspark.com>

2.3 GENERAL INFORMATION ABOUT THE LOCATION OF THE SITE

The site located in Saint-Denis (northern suburbs of Paris) on the south edge of ZAC Confluence, covers few neighboring plots, stretched between Seine river on the west and railway tracks on the east site. Its most significant part is the former industrial site of Coignet cement plant and a four-story house at 72 rue Charles Michels. This building design by, local architect, Theodore Lachez, built in 1853 is the very first iron reinforced concrete structure anywhere. Known today as Maison Coignet has been classified a historical monument since 1998, however for many years remains abandoned.



Despite relatively central location, roughly 500 meters Saint-Denis train station and 1500 meters from Stade de France (stadium hosting major sports events like 1998 FIFA World Cup or 2016 UEFA European Football Championships) and good road access through Boulevard de la Liberation and Rue Charles Michels, this once full of life, iconic for Paris industrial suburbs area remains sadly underused.



2.4 GENERAL INFORMATION ABOUT THE TASK

In the 16th international edition of the Multi Comfort Student Contest the task is to design Sustainable Development Park combining residential, educational and recreational functions. The 2019 challenge is to convert the zone of post-industrial site of Coignet Enterprise in Saint Denis into green living, learning and recreation area respecting both traces of historical heritage of the place and modern neighborhood sustainable development needs.

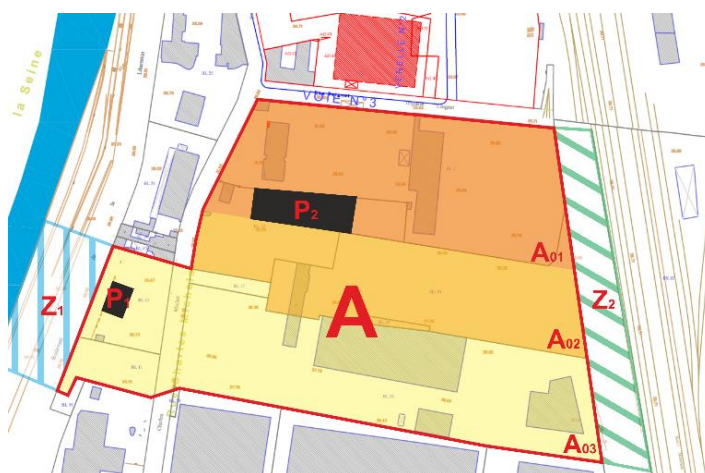
Students will be asked to propose:

- Masterplan explaining the organization of whole site, its character, internal and external functional connections.
- Design of Residential/Educational function composed of 250-300 flats and an elementary school (with kindergarten) of 18 classes.
- Preservation and revitalization ideas for historical objects on the site.

2.4.1 Masterplan

Current local urban development plan of Saint- Denis ([PLU Saint-Denis](#)) envisages creation urban park (of approx. 3 ha) in place of former Coignet plant. Development of this new green area is necessary for an area where residential function is kept on being densified in recent years. However, affordability of such an endeavor for the municipality is always challenging.

Therefore, the need for development of additional residential units which could, at least partially finance this project as well as construction of an elementary school also needed in the area.



Created green area should become one of the local centers of gravity, attracting inhabitants and visitors to spend their time in this enclave of nature, or just stop by on their passage from historical center of Saint Denis and, located on the north, residential area to neighboring business area and located further south Olympic village and Pleyel tower area.

It should enable functional connection over (or under) the railway track and with the Seine river along the east-west axis, maintaining majority of the everyday communication on north-south, south-north direction (e.g. by adding new connection supporting existing Boulevard de la Libération and Rue Charles Michels). The challenging land configuration of the plot should be treated as an occasion to optimize layout of necessary functions (e.g. by stacking them where possible). Protection from local nuisance sources should be provided (e.g. railway track noise). Historical objects on the site: Maison Coignet (P₁) and warehouses from 1864 (P₂) should be preserved and re-opened for a public use.

Re-opening to the public of Maison Coignet, situated on 7-metre high retaining wall facing Seine should be seized as an opportunity for re-opening the site to the river.

2.4.2 Residential & Educational functions

Development of the mix use residential/educational function should respect density limits for the different plot parts ($A_{01}<80\%$, $A_{02}<60\%$, $A_{03}<20\%$) and follow specific local code requirements.

Residential

Overall quantity of 250-300 apartments should be created with majority (over 60%) of these over 60 m², and a corresponding number of parking places provided (0.7 per apartment). Maximum allowed construction height above the ground is R+6 (ground floor + 6 floors). There should be no apartment on ground floor level (facing streets).

The following surfaces are recommended minimum surfaces, broken down into length × width (excluding partitions):

Kitchen: 8 m² either (3.30 × 2.30),

Bathroom: 3 m² (1.60 × 1.90),

Child room: 9 m² (2.7 × 3.40),

Master bedroom: 12 m² (4.0 × 3.0) + size 1 cot for baby,

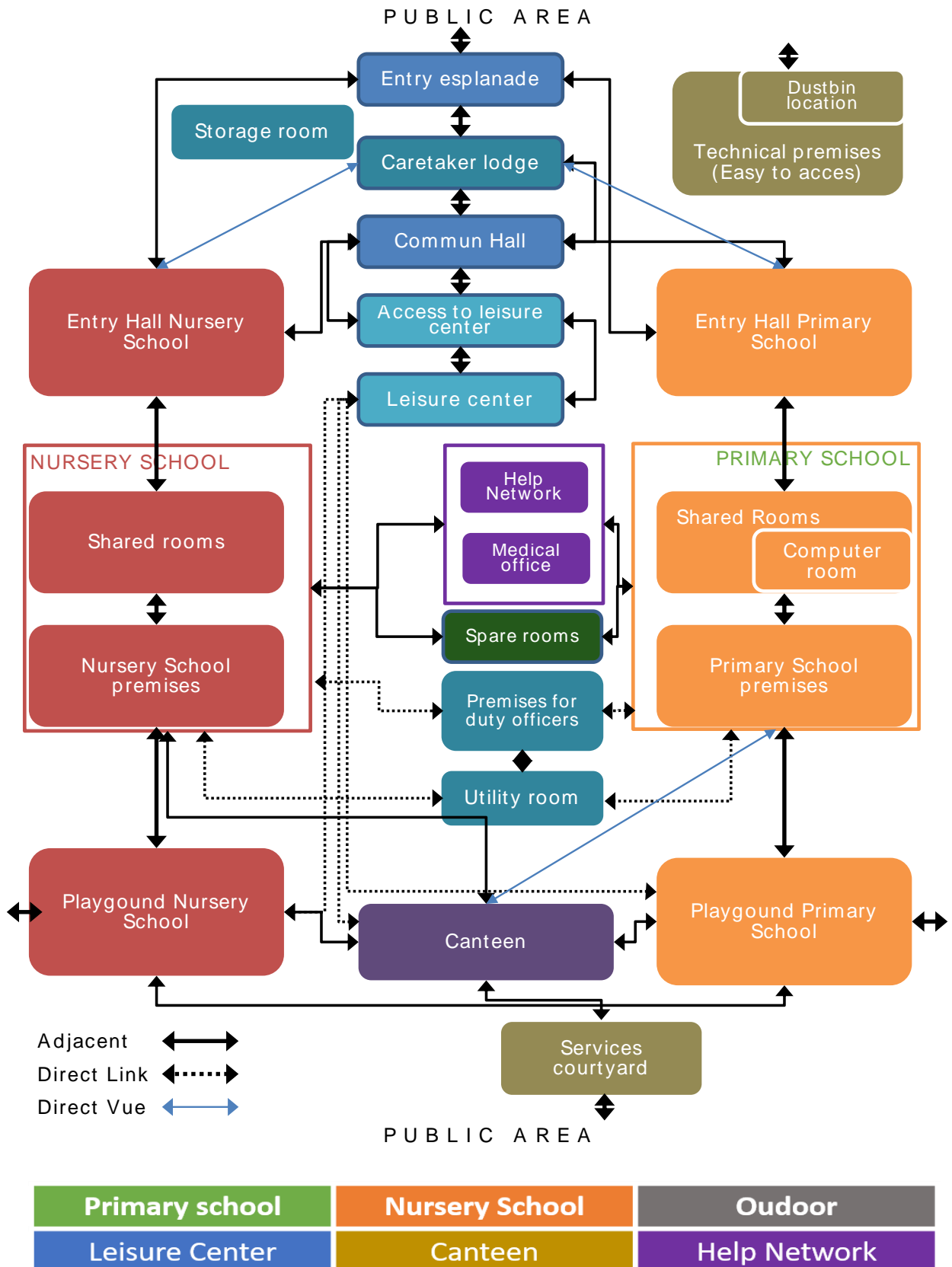
Living room should have at least 9 m² and a ceiling height of at least 2.2 m.

WC: 1 m² (1,25 × 0,80) (Attention to new standards for people with reduced mobility - a wheelchair must be able to stand next to the toilet)

Minimum size of the apartments by type		
type	Nb of rooms	surface mini.
T1	1	18 m ²
T1 n°2	1	30 m ²
T 2	2	46 m ²
T 3	3	60 m ²
T 4	4	73 m ²
T 5	5	88 m ²
T 6	6	99 m ²
T 7	7	114 m ²

Education

According to local development plan there is a need for 18 classrooms school program composed of: Nursery school of 8 classes (for children between 3-5 years of age), Primary school of 10 classes (for children between 6-10 years of age) and an activity center (open to public outside of school hours). Detail information about surfaces, functional layout & requirement in School Requirement.ppt on contest web page. The diagram shows general principle of functional link, between these elements and their key components.



2.4.3 The Heritage

Though in its form and layout rather traditional, built in 1853 Maison Coignet, the first iron reinforced concrete structure anywhere, is the monument of an innovation which, in fact, has shaped modern construction and architecture. In the first report published in The Annals of Construction of 1857, apart from reservations about safety and soundness of this new construction method (which history proven wrong), the economy of the new process is highlighted (due to the use of materials of little value and the demand for skilled workers). The same strive for optimization of the construction process is now one of the fundamentals of sustainable construction approach.

After more than one and the half century this, as we would call it today, prototype house requires protection and revitalization. Together with the warehouses (only remaining part of Coignet plant) it not only speaks about historical aspect of the site, but could provoke reflection on evolution of available construction methods and notion of being 'modern' in time....

2.5 TYPE OF CONSTRUCTION, TECHNICAL PARAMETERS

A. CONSTRUCTION

The construction method can be chosen freely by the participants, but the integration of Saint-Gobain products as part of the construction build-up is very welcome.

Free planning assistance can be found at:

- Construction CAD details online data base: www.isover-construction.com
- Air tightness website: www.isover-airtightness.com
- Designer Calculation Tool and Brochures containing literature about Multi Comfort concept for new construction and renovation can be found at www.isover-construction.com
- Further Information can be found on the official contest website

B. THERMAL COMFORT

TECHNICAL PARAMETERS FOR ENERGY EFFICIENCY

The following thermal criteria will be targeted:

- New construction
- An annual heat demand $<15\text{kWh/m}^2$.
- An annual cooling demand $<15\text{kWh/m}^2$.

The participants have to run MCH Designer or other programs that allows them to prove the requested criteria.

TECHNICAL PARAMETERS FOR PROTECTION AGAINST OVERHEATING

In order to provide a good environment, the proposed target for the summer comfort is that the overheating (temperatures above 25°C) measured as % from the total period is below 10%.

In order to achieve these values students will integrate both passive measures (ex: sun louvers, usage of light color for the exterior surfaces) and active measures (ventilation active cooling measures).

C. ACOUSTIC COMFORT

Noise is extremely damaging to human health. Providing a good environment from acoustic point of view is crucial for the human wellbeing. Sleep deprivation, as a result of high levels of noise, has

adverse effects on human. The sound sources that bother annoy or disturb the most in residential functions are: road traffic and neighbors.

The participants are advised to analyze also the level of noise generated by the technical equipment (such as HVAC) and if necessary to propose solutions to reduce it (sound insulated HVAC ducts, sound absorbers installed on the ducts).

D. INDOOR AIR QUALITY

In order to provide the best conditions for the inhabitant's low levels of CO₂ concentrations (maximum 1000ppm) inside the apartments should be achieved. To reach this concentration of CO₂ the participants should provide a level of the ventilation rate of 30mc per hour per person.

E. 2.5.5 FIRE SAFETY

All products for façade should be non-combustible materials

F. 2.5.6 NATURAL DAYLIGHT

A good level of natural light is mandatory for a good quality of life. There for in the rooms where different activities are taking place during the day (ex: kitchen) a natural daylight autonomy of 60% should be achieved. A daylight simulation for the existing situation will be made by Saint-Gobain and provided to the participants in order to evaluate their project.

2.6 COMPETITION REQUIREMENTS

The following minimum requirements: points A-E and F for descriptions and plans must be considered. 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.

A. MASTER PLAN

- Basic (draft) schematic presentation of the general organization scheme for the analysed plot. The scope of this scheme is to provide overall idea of the allocation of the main functions and their distribution. The participants can present this in the best way they see fit.
- Visualization of the experience of living in the analysed areas -Views, perspectives and/or photographs of physical models as seen fit by the participants to better explain their project

B. NEW RESIDENTIAL FUNCTION

The following information should be presented based, at least, on **an example of one residential building**

- Floor plans
- Elevations
- Sections
- Longitudinal section
- Cross section
- Construction details

- Roof, external wall, partition walls, windows, ground and intermediary floors details
- Attention should be accorded to thermal/acoustic bridges as well as to airtightness and moisture protection
- Other details as see fit by the participants.
- Suggested scale: 1/200 for plan/elevations/sections and 1/20 for details (or otherwise convenient to transmit enough information)

C. EDUCATION FUNCTION

Participants are not requested to develop detail proposal for this function, however its functional connections, character of architecture and construction should be explained in the overall plot development idea.

D. HARITAGE BUILDINGS

According to French regulation for objects classified as historical monuments their preservation need to maintain their original character and way of construction. However, both change of the original function and addition of new volumes (inside or outside) is possible. Without necessity to provide detail technical solution, participants should explain the way and character in which these two buildings will be restored for a public use.

E. CALCULATION

Will be performed only for the building for which the details solutions have been presented. Calculation can be done using MCH Designer, PHPP or other tools. Participants will insert a calculation overview in the project.

F. DESCRIPTION OF THE DESIGN CONCEPT

Beside the minimum requirements the participants are expected to provide sufficient information to allow the jury members to analyse:

- Design concept and functional solution
- Energy supply and overall sustainable concept
- Strategy to achieve thermal comfort
Example: construction U values, airtightness concept, HVAC system, passive/active shading measures, cooling, etc.
- Strategy to achieve acoustic comfort
Example: Constructions R_w , main measures for sound protection from technical noise, etc.
- Strategy to achieve indoor air quality
Example: Proposed type of ventilation (mechanical and/or manual), ventilation blueprint, proposed solutions, etc.
- Fire safety strategy
Example: Evacuation path, separation, material fire reaction, etc.
- Natural daylight strategy
- Strategy for outdoor safety, social comfort and privacy

In order to explain the requirements mentioned above the participants can present: Exterior/Interior 3Ds, text, diagrams, calculations, drawings or information as they seem fit.

3) FORMALITIES FOR SUBMISSION

The following formalities must be fulfilled for the participation in the National and International Stage of the Multi Comfort Student Contest 2020.

3.1 FORMALITIES FOR SUBMISSION – NATIONAL STAGE

Participants must register online at www.multicomfort.saint-gobain.com > [Multi Comfort Student Contest](#) > [Registration](#). The registration will be opened on October 1st, 2019.

The exact way in which projects will be submitted to the National Stages will be decided and communicated by the local organizations. The recommendation is to follow the same requirements as for the International Stage (5 min presentation and roll up poster). We strongly recommend to all participants to stay in close communication with the local leader and follow local communication channels.

General information about the competition as well as details for the International Stage will be communicated by email to all registered participants.

3.2 FORMALITIES FOR SUBMISSION – INTERNATIONAL STAGE

The formalities for the international stage shall be finalized by latest May 10TH, 2020 and communicated via mail to winners of all National Stages.

International section will be activated for winners invited to the international stage where they will submit by latest May 10th, 2020 the following information

1) PRESENTATION OF THE PROJECT

During the International Stage students will have 5 minutes to present their project to the jury. The presentation will require the following characteristics:

- Format: Power Point Presentation / extension PPT or PPTX / One single file / Any other format won't be accepted
- Dimension of the slides 16:9
- Maximum weight of the file: 50 Mb
- A video of 1-minute maximum will be accepted. This video needs to be inserted on the presentation and maximum weight of the presentation should be respected.
- We strongly recommend you to limit your number of slides.
- The name of your file must be as follows:
Presentation number_ Country_ Name 1_ Name 2_ Name 3

2) ROLL UP POSTER

The poster of your project will be printed by the organization team and will take part of the exhibition of projects during the International Stage. The Roll Up Poster will require the following characteristics:

- Format: PDF file / 300 DPIs (high resolution)
- Dimensions: width 80cms, height 200cms
- Maximum weight of the file: 20 Mb
- The roll up poster must include the official header of the International Stage mentioning country, university, name of students and presentation number. This header will be provided by the organization team and cannot be modified.
- Teams can submit only one roll up poster
- The name of your file must be as follows:
Presentation number_ Roll Up_ Country _ Name 1_ Name 2_ Name 3

3) PHOTOS

Individual photos of each member of the team are required (students and professor) separately. Photos will require the following characteristics

- Format: JPG or JPEG file / 300 DPIs (high resolution)
- Maximum weight of the file: 5 Mb
- The name of each file must be as follows:
Presentation number_ Country _ Name 1

4) SUPPORT IMAGES

3 support images of your project are required:

- Format: JPG-JPEG or PDF file / 300 DPIs (high resolution)
- Maximum weight of each file: 10 Mb
- One image per description
 - o Buildings preview (Usually 3D model)
 - o Architectural plans (Graphics, sections, drawings, models, other...)
 - o Insulations (Ideas, drawings, others...)
- The name of your file must be as follows:
Presentation number_ Type of image_ Country

5) TEACHER'S BIOGRAPHY

A short biography of your teacher is required.

- Format: Word file
- Size of the biography: 300 words maximum
- The name of your file must be as follows:
Presentation number_ Biography_ Country_ Teacher's Name

The presentation number indicates the order of presentation during the International Stage and will be communicated by local leaders latest on April 30th, 2020.

Most of these documents will be used also for the electronic booklet. Failing in sending all these materials on time and with the correct specifications will result in the disqualification from the competition.

SOURCES AND REFERENCES

- o https://en.wikipedia.org/wiki/Saint-Denis,_Seine-Saint-Denis
- o <https://weatherspark.com/y/47882/Average-Weather-in-Saint-Denis-France-Year-Round>
- o <https://plainecommune.fr/>

