



CONTEST TASK

MULTI COMFORT STUDENT CONTEST 2019

Milan, Italy

ABOUT THE MULTI COMFORT STUDENT CONTEST

The Multi Comfort Student Contest is an 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 Dubai attracted more than 2,200 students in 28 countries.



ACKNOWLEDGMENTS

Special thanks to Milan Municipality, professors participating in the Teachers Day and Saint-Gobain Italy for all the support during the drafting of this task.

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DELLA PROVINCIA DI MILANO

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1. GENERAL INFORMATION

1.1. CONTEXT OF THE COMPETITION

Milan is facing a new development stage. By 2030, more than 12,000 people will be over 85 years old while more than 50,000 will represent the young population between 19 and 34 years old.

The plan under development for this city is looking for an inclusive growth, for everybody and everywhere. There is no chance to leave someone behind and efforts need to be focused in the city center as well as on the outskirts. At the same time, the growth needs to be sustainable and aiming to improve the quality of life of all people living in Milan.

By 2030, Milan Municipality expects this city to be a hub for global network connecting people and places through new platforms, attracting people offering personal, professional and social opportunities, increasing its respect towards the environment and fostering a growing sustainable attitude in the continuous regeneration process within the city development.



Crescenzago, Milan.

The task of the 15th international edition of the Multi Comfort Student Contest developed by Saint-Gobain in close collaboration with Milan Municipality is the Rejuvenation and urban reconnection of Crescenzago metro station area in line with #milano2030 vision.

The participants are required to create a vision for a future and sustainable development of Crescenzago metro station area integrated to the urban space and taking into account the regional context of the site. The project will require the renovation of three existing buildings connected with a new mix-used development including residential, public spaces and services. The project must to be innovative, sustainable, energy efficient and aligned with the Multi Comfort criteria.

The proposed solution should:

- Embrace the vision of Milan Municipality for 2030 (#milano2030)
- Fit in the surroundings of the site and drive the neighborhood further
- Be affordable from an economic stand point
- Propose a solution for a constructive sustainable community development in Milan

1.2. WHO CAN PARTICIPATE?

Participants can be students of architecture, design and construction engineering or other disciplines from universities in countries where the contest is organized. Participation is open for all students from 1st to 6th year of study as an individual or in teams of up to 2 members per team. Upon request of local Saint-Gobain organization and depending on the specificity of the countries up to 3 members per team can be accepted.

A student cannot be part of two different teams submitting projects for the same edition of the contest. Only one project may be submitted per team. A team cannot participate in 2 different National Stages.

1.3. AWARDING ORGANIZATION

The awarding organization is Saint-Gobain with the participation of local Saint-Gobain organizations where the national stages of the contest are held.

International Manager for Multi Comfort Students Contest:

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

Local SG leaders in each country:

- List of contacts available at www.multicomfort.saint-gobain.com > [Multi Comfort Student Contest > Contacts](#)

1.4. FORM AND ORGANIZATION OF THE COMPETITION

The Multi Comfort Students Contest is a 2 steps competition:

FIRST STEP

- o National Stages in all countries where the contest is organized.

SECOND STEP

- o International Stage organized in June 2019 where all winning teams from National Stages will participate.

FIRST STEP

1.4.1 NATIONAL STAGES IN THE COUNTRIES ORGANIZING LOCAL CONTEST

1.4.2 Takes place in each country where local Saint-Gobain organizations are organizing the contest.

1.4.3 For the 15th edition of the competition, the list of countries participating can be found at <https://multicomfort.saint-gobain.com> > [Multi Comfort Student Contest](#) > [Contacts](#). This list can be modified until 31.03.2019.

1.4.4 The winning projects will receive awards. The number and amount of prizes will be decided by each local organization and will be announced by each country separately.

1.4.5 The winning projects from each country will be invited to participate to the International Stage.

1.4.6 PARTICIPATION TO NATIONAL STAGES

1.4.7 Is open to all students independent of their formation (architectural, engineering or other disciplines)

1.4.8 Students learning in the academic year 2018-2019 at universities from the country organizing the National Stage. Students on scholarship, exchange programs, others forms, can participate at the National Stage organized in the country where they are studying during 2018-2019 academic year.

1.4.9 Participation is open for all students from 1st to 6th year of study as an individual or in teams up to 2 members per team. Upon request of local Saint-Gobain organization and depending on the specificity of the countries up to 3 members per team can be accepted.

1.4.10 A student cannot be part of two different teams submitting projects for the same edition of the contest. Only one project may be submitted per team. A team cannot participate in 2 different National Stages.

1.4.11 REGISTRATION & OFFICIAL COMMUNICATIONS FOR NATIONAL STAGES

1.4.12 All teams taking part in the Students Contest have to register online at <https://multicomfort.saint-gobain.com> > [Multi Comfort Student Contest](#) > [Registration](#)

1.4.13 Registration will be done by team. Failing to register or providing incomplete or false information will result in disqualification from competition.

1.4.14 Closing date for registration for National Stages is 31st March 2019. Local organization can change this date to fit better with the local universities schedule. Please check this data with your local organizer.

1.4.15 All official communications regarding the general organization of the competition and the international stage will be sent by email to all participants registered online for this edition

1.4.16 National Stage proceedings

The exact way in which the projects will be submitted to the national stage as well as the final local stage schedule will be decided by the respective local organizations. The recommendation is to use the same poster format as in the International Stage.

SECOND STEP

1.4.17 INTERNATIONAL STAGE

1.4.18 The International stage of the competition will be organized in Milan, Italy from June 5TH to June 8th, 2019.

1.4.19 A maximum number of 60 teams will be invited to the International Stage depending in the number of countries participating. The maximum number of winning teams from one country National Stage that can participate to the International Stage is 3.

1.4.20 The maximum number of students per team that can participate to the International Stage is 2 students (Upon request of local Saint-Gobain organization and depending on the specificity of the countries up to 3 members per team can be accepted).

- 1.4.21 During International Stage the participating projects will be displayed at the exhibition for analysis and discussion. Furthermore, the authors of the project will have the possibility to explain the concept of the project in front of the jury and to all the participants during a short presentation (5-6 min). All presentations will be webcasted live.
- 1.4.22 The presentations will be followed by the jury's deliberations and the awarding ceremony for the winners.
- 1.4.23 An international jury will nominate the winners of the three prizes for the International Stage. In addition, the jury can award some special prizes for extraordinary ideas provided by the participants. The decision of the of the jury is not subject to appeal.

1.5. PRIZES

Each of the two stages of the competition can assign up to three monetary prizes for the first, second and third place. Additionally, other prizes might be awarded by the local organization.

National Stages:

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

International Stage:

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

In case of the National Stages and International Stage the Organizer: Saint-Gobain with the participation of local Saint-Gobain organizations can decide to award more or less prizes than specified according to the jury evaluation of the projects.

1.6. TIME SCHEDULE

Distribution of invitations for competition submissions as part of an information event:

- October 2018

NATIONAL STAGES

Registration for National Stages

- All registrations have to be completed online at www.multicomfort.saint-gobain.com > [Multi Comfort Student Contest](#) > [Registration](#). Any participating team that fails to do so or provides incomplete or false information will be disqualified from competition.
- Closing date for registration to National Stages is 31st March 2019. Local organization can change this date to fit better with the local universities schedule. Please check this data with your local organizer.
- All official communications regarding the contest will be sent by email to all participants registered on www.multicomfort.saint-gobain.com > [Multi Comfort Student Contest](#) > [Contacts](#)

Completion of National stages

- All National Stages should be completed by 1st May 2019 (including the local prizes awarding). The exact date of each National Stage will be communicated by the Local organization. Please check this data with your local responsible person. Sufficient time should be taken into account by those organizations that would require visa for the participation to the final stage.

Submission of the material for the international stage

- Submission of the material for the international stage should be done by latest 10th of May 2019.
- Each participating team will provide all the documents as requested at point number 3: Formalities for Submission.

INTERNATIONAL STAGE

- The International Stage of the competition will be organized in Milan, Italy, from June 5th to June 8th, 2019.

Further information will also be provided at the lectures held at the participating universities by the local Saint-Gobain companies. For more information, please contact your local Saint-Gobain organization who will provide you with details.

1.7. TRAININGS

Several online trainings will be organized by Saint-Gobain, starting November 2018 until March 2019. The exact dates will be communicated through the official newsletter of the contest to all participants that have registered on www.multicomfort.saintgobain.com > [Multi Comfort Student Contest](#)

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 as defined by 2030 Milan vision is a key part of all the criteria mentioned below and shall 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 implementing organization.

INTERNATIONAL STAGE JURY

- The international jury will consist of: external architects and experts, Saint-Gobain and Milan representatives.
- The jury composition will be:
 - External architects: 2 persons
 - Saint-Gobain representatives: 2 persons
 - Milan Municipality representatives: 2 persons
 - Multi Comfort Expert: 1 personSo far, for this edition, the participation of the following jury members has been confirmed: Stefano Boeri, Architect and Urban Planner; Leopoldo Freyrie, Architect and Fulvio Irace, Critic of Architecture.
- 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 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 (but not from the same country as the awarding team), taking into account the judging criteria described above.
- Votes will be handed by participants to organizer latest by 22H00 on 6^h of June 2019.
- 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 shall bear the transport expenses, as well as the costs of accommodation and lodgings for the 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 House 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"), Milan 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 conditions presented here.

2. DETAILS OF THE TASK

2.1 GENERAL INFORMATION ABOUT MILAN

According to the Roman historian Livy, a Celtic village was first founded in this area in the 6th century BC. Conquered by Roman legions in 222 BC, Mediolanum (this was the Roman name for Milan) attempted to rebel, becoming an ally of Carthage, Rome's enemy. But the Romans won and, towards the end of the 1st century BC, Milan became a part of the state of the Caesars. With the subdivision of the Roman Empire, Milan became one of the two capitals of its Western part, in 286 AD. It was a very important center for the consolidation of the new Christian religion.

The barbaric invasions from Northern Europe and Asia were one of the reasons of the fall of the Roman Empire. Milan was sacked in 539 AD and its role of capital was lost. From 1277 to 1447 the Visconti family gave the city a political and cultural supremacy which brought international renown, and it is under their rule that the construction of the Duomo and of the Castle began. After 1447 there were three brief years of republican rule. Then in 1450, Francesco Sforza, duke and captain of the Milanese army, took over command of the city. The Sforza family's rule coincided with the Renaissance years in Italy and with one of Milan's moments of major artistic creativity. In the last years of Sforza rule, in the early 16th century, Northern Italy became one of the territories contested by the French and the Spanish monarchies. The Spanish prevailed, and the city was governed by them for nearly two centuries (1535-1706). This was not a time of development. The great European wars of the late 17th and early 18th centuries brought Milan under the domination of the Austrian Imperial dynasty of the Hapsburgs: the city experienced a recovery which encompassed its economy, the functioning of its public administration, arts and culture, education and scientific development. In the course of the wars that followed the French Revolution of 1789, Milan came under French control. This was a brief period characterized by great artistic

and ideological zeal which bequeathed the city with its first town-planning schemes, together with major public works such as the Arena and some of the new 'Porte' (city gates). The Austrians returned to Milan after Napoleon's defeat in 1815, but they were no longer enlightened reformers; in 1848 the city rebelled against the Austro-Hungarians, and in 1859 it became part of the Savoy Kingdom, which was to become.

With the unification of Italy, in 1861, Milan could broaden its reach for new markets and it rapidly became a financial and industrial center. The city attracted workers from other Italian regions, but its growth also sowed the seeds of social tensions which did erupt in 1898 and were fiercely repressed by cannon fire. Milan's city center was soon taken over by banks and insurance companies, causing great changes in the urban landscape. Elegant residential districts were also built. The Fascist party was founded in Milan in 1919. With the exception of industrial workers and a few groups of intellectuals, the city itself did not oppose the birth of the dictatorship. It was during Fascism that a series of pompous works such as the Stazione Centrale were built, but there were also some examples of innovative architecture; the Triennale was one of them. After the II World War, Milan headed the national reconstruction, since it had been devastated by Allied bombardments. The city has emerged, then, as Italy's major center for commerce, finance, publishing and, recently, as the Italian capital of the media, design, fashion and advanced service sectors.

With rapid industrialization in post-war years, the population of Milan peaked at 1,743,427 in 1973. Thereafter, during the following thirty years, almost one third of the population moved to the outer belt of new suburbs and satellite settlements that grew around the city proper. There were an estimated 1,368,590 official residents in the municipality of Milan at the end of 2016 and 3,218,201 in its province-level municipality. However, Milan's urban area extends well beyond the limits of its administrative commune and was home to 5,270,000 people in 2015, over 1,891 square kilometers (730 square miles).

Milan is considered a city with strengths in the field of the art, commerce, design, education, entertainment, fashion, finance, healthcare, media services, research and Tourism. Its business district hosts Italy's Stock Exchange and the headquarters of national and international banks and companies. In terms of GDP, it has the highest in Italy. The city hosts numerous cultural institutions, academies and universities, with 11% of the national total enrolled students. Milan is the destination of 8 million overseas visitors every year, attracted by its museums and art galleries that boast some of the most important collections in the world.

Milan is nowadays facing a new development stage where the youngest population is the one that grows the most. The city will have more than 50,000 persons between 19 and 34 years by 2030, with a growing interest to find Milan as a city that offers new personal and professional opportunities.

Milan Municipality has developed a program with five clear objectives for 2030:

- A metropolitan and global connected city
- A city full of opportunities, attractive and inclusive
- A resilient, livable and green city
- One city, 88 neighborhoods to be called by name
- A city that regenerates itself

Crescenzago is one of the neighborhoods to be called by name and recognized as a place that offers quality public spaces, services, green areas and key elements for the daily life.



2.2 MILAN GEOGRAPHIC POSITION AND CLIMATE

Milan is located in the north-western section of the Po Valley. The city's land is flat, the highest point being at 122 m (400.26 ft) above sea level. It has a humid subtropical climate according to the Köppen climate classification. Milan's climate is similar to much of Northern Italy's inland plains, with warm sultry summers and cold foggy winters. It's having one of the lowest number of days with precipitation per year in Europe. The city is protected by the Alps and Apennine Mountains from major circulations coming from northern Europe and the sea.

Daily temperatures average during winter is (0 °C [32 °F]) and the city receives around 7 days of snow per year. Milan is often shrouded in heavy fog and air pollution levels rise significantly during wintertime due cold

air clings to the soil. In summer, humidity levels are high and peak temperatures can reach temperatures around 35 °C (95 °F). Usually this season is having clear skies with more than 13 hours of daylight. Spring and autumn are generally pleasant with temperatures between 10 and 20 °C (50 and 68 °F, with higher rainfall during April and May. Relative humidity ranges are between 45% (comfortable) and 95% (very humid) throughout the year. Wind is generally absent and wind speeds vary from 0 to 14 km/h (0 to 9 mph), except during summer thunderstorms when winds can blow strong.

Climate data for Milan (Linate Airport, 1971–2000, Extremes 1946–present) [hide]													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	21.7 (71.1)	23.8 (74.8)	26.9 (80.4)	32.4 (90.3)	35.5 (95.9)	36.6 (97.9)	37.2 (99)	36.9 (98.4)	33.0 (91.4)	28.2 (82.8)	23.0 (73.4)	21.2 (70.2)	37.2 (99)
Average high °C (°F)	5.9 (42.6)	9.0 (48.2)	14.3 (57.7)	17.4 (63.3)	22.3 (72.1)	26.2 (79.2)	29.2 (84.6)	28.5 (83.3)	24.4 (75.9)	17.8 (64)	10.7 (51.3)	6.4 (43.5)	17.7 (63.9)
Daily mean °C (°F)	2.5 (36.5)	4.7 (40.5)	9.0 (48.2)	12.2 (54)	17.0 (62.6)	20.8 (69.4)	23.6 (74.5)	23.0 (73.4)	19.2 (66.6)	13.4 (56.1)	7.2 (45)	3.3 (37.9)	13.0 (55.4)
Average low °C (°F)	-0.9 (30.4)	0.3 (32.5)	3.8 (38.8)	7.0 (44.6)	11.6 (52.9)	15.4 (59.7)	18.0 (64.4)	17.6 (63.7)	14.0 (57.2)	9.0 (48.2)	3.7 (38.7)	0.1 (32.2)	8.3 (46.9)
Record low °C (°F)	-15.0 (5)	-15.6 (3.9)	-7.4 (18.7)	-2.5 (27.5)	-0.8 (30.6)	5.6 (42.1)	8.4 (47.1)	8.0 (46.4)	3.0 (37.4)	-2.3 (27.9)	-6.2 (20.8)	-13.6 (7.5)	-15.6 (3.9)
Average precipitation mm (inches)	58.7 (2.311)	49.2 (1.937)	65.0 (2.559)	75.5 (2.972)	95.5 (3.76)	66.7 (2.626)	66.8 (2.63)	88.8 (3.496)	93.1 (3.665)	122.4 (4.819)	76.7 (3.02)	61.7 (2.429)	920.1 (36.224)
Average precipitation days (≥ 1.0 mm)	6.7	5.3	6.7	8.1	8.9	7.7	5.4	7.1	6.1	8.3	6.4	6.3	83.0
Average relative humidity (%)	86	78	71	75	72	71	71	72	74	81	85	86	77
Mean monthly sunshine hours	58.9	96.1	151.9	177.0	210.8	243.0	285.2	251.1	186.0	130.2	66.0	58.9	1,915.1

Source: Servizio Meteorologico^{[62][63][64]}

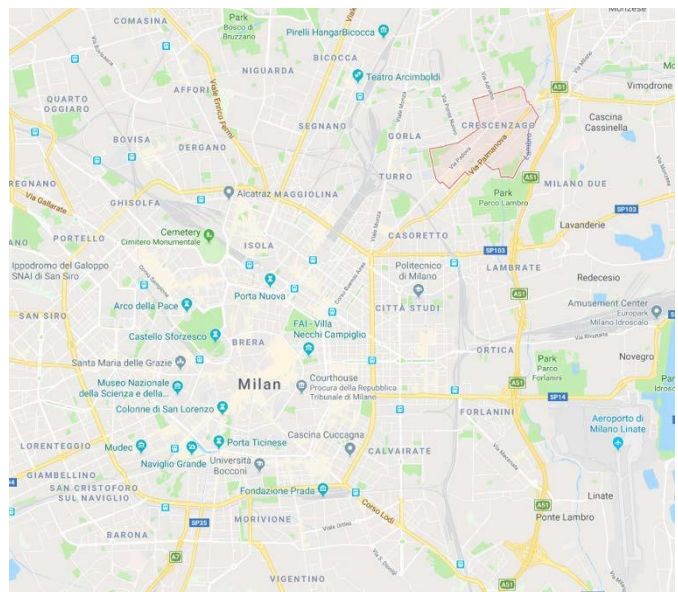
For more information, please download the annex related to the climate available in the official website of the competition: www.multicomfort.saintgobain.com/multi-comfort-student-contest

2.2. GENERAL INFORMATION ABOUT THE LOCATION OF THE SITE

Crescenzago is a district of Milan in Italy, part of the second zone administrative division and north-east of the city centre. In 1923, it became officially part of Milan but there are some evidences found dating back to the Bronze Age, proving the area has been inhabited since prehistoric times.

The first experience of union with Milan dates back to 1808 as a result of a decree by Napoleon, with which another 36 municipalities were annexed to the city in order to increase the municipal revenue from taxes, but the provision was canceled in 1816 by the Austrians, which recognized again the administrative autonomy of Crescenzago.

The town is traversed by the Naviglio Martesana canal which descends towards Milan. The district houses several historical buildings, most notably a 12th Century abbey and several villas from the 18th Century. It also has notable green areas, such as part of the Lambro park, as well as industrial archeological features.



This once independent town over the years has become a part of dormitory suburbs, hosting mainly low income and social housing developments. The Crescenzago metro station is part of the subway green line 2 and connects with the city centre, reaching the southern part of Milan.

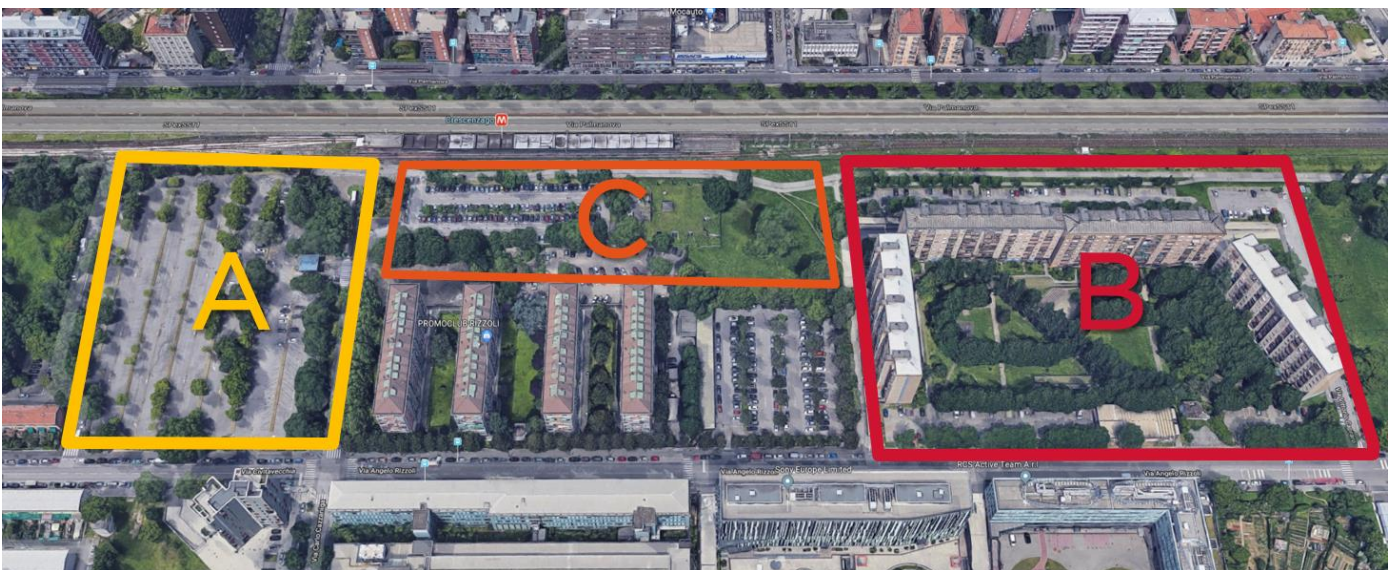
2.3. GENERAL INFORMATION ABOUT THE TASK

The task of the 15th international edition of the Multi Comfort Student Contest is the Rejuvenation and urban reconnection of Crescenzago metro station area in line with #milano2030 vision. The students are required to develop a vision for a future development of the area in the nearest neighborhood of Crescenzago metro station, proposing:

- For plot A – new mix-use development (non-residential on ground & first floor, and affordable residential (up to 5 floors above the ground in total))
- For plot B – renovation strategy of three existing multi-family buildings focus on increase of comfort & wellbeing of inhabitants, while decreasing buildings overall energy consumption and long term environmental impact. The strategy should take into account the exploration of innovative tools and/or techniques allowing a fast and “non-invasive” renovation
- For plot C – connection of plot A and plot B, integrating services and public spaces, taking into account the surroundings of the neighborhood.

The participants will have to create a sustainable architecture integrated into the urban space while responding to Saint-Gobain Multi-Comfort Criteria and taking into account the climatic conditions and regional context of Milan.

Beside construction, the social and economic aspects have to be considered and the proposed solution should give a new impulse in the existing urban area.



PLOT A: NEW RESIDENTIAL

The two most common challenges for nearly all European cities are the need for rehabilitation of existing “high energy consumption, low comfort” buildings (Task part Plot B) and urban densification programs, the latter is the task required for Plot A.

The plot A will include the design of affordable buildings in the area today dedicated to a parking:

Plot A – approx. 30000m²; Maximum Plot Coverage: 65%; No. Of Units: 300,

Target for affordable houses:

- New family with or without children
- Families with a family member with permanent disabilities with or without care-givers



- Workers with temporary contracts or students coming from other cities
- Large families: more than 5 people
- Single parents with children younger than 18 years old
- Retired people

Surfaces of apartments and other units:

- The apartment cannot be smaller than **28 sqm** (280 sqf)
- In case the apartment is to be destined for people with disabilities the total apartment surface cannot be smaller than **45 sqm** (450 sqf) and the accessibility has to be preserved.
- Units not to be used as residential apartments cannot have a surface smaller than **20 sqm** (200 sqf)

BUILDING REGULATION PLAN EXTRACT

1. Distances and heights

- In new buildings the minimum distance between the new building and the neighboring one has to be 5 meters. This measure has to be taken from the façade of the new building or the further out balcony, up to the beginning of neighboring property.
- The minimum distance between existing buildings and the new building has to be 10 meters.

2. Characteristics of apartments:

Minimum height of different rooms:

- Average height of main rooms cannot be lower than 2,70 meters (8,858 f)
- Average height of accessory areas in the apartment cannot be lower than 2,40 meters (7,974 f)
- Average height of service areas in the apartment cannot be lower than 2,10 meters (6,889 f)

3. Minimum surface within the different rooms in apartments

The minimum surface for each room within the apartment cannot be smaller than the following data:

- Single bedroom: 8,00 sqm (80 sqf)
- Double bedroom 12,00 sqm (120 sqf) – the closed is not considered as bedroom surface
- Living room: 14 sqm (140 sqf)
- Living room with kitchen: 17,00 sqm (170 sqf)
- Kitchen: 5,00 sqm (50 sqf)
- Office room: 7,00 sqm (70 sqf)
- Restrooms: at least one side cannot be shorter than 1,20 m (3.937 ft). In the restroom there must be a washbasin, a shower and a toilet and bidet (these last even combined in one piece of sanitary-ware)

All apartments must have a kitchen area and one or more restrooms.

- Building Density: No particular requirement is defined for this kind of residential buildings but the overall projects will be evaluated as integrated in the global context

- Parking: The area to be dedicated to car parking is: 1 m² of parking for every 10 m³ of construction plus 10% dedicated to bicycles.

PLOT B: RESIDENTIAL RENOVATION

Propose a frugal thermal and acoustic rehabilitation strategy to provide:

- 40% Decrease of energy demand (Existing buildings were built in 1981, external concrete prefabricated wall, central heating with strong problem in having a homogeneous heating of all the apartments, no insulation on the external walls, flat roof with 10 cm of insulation following requalification for removal of asbestos in the roofing)
- Improved indoor comfort conditions for thermal and acoustics
- Conceptual connection with proposed new development on plot A

Even partial relocation of inhabitants during renovation works creates big challenge for Milan Municipality



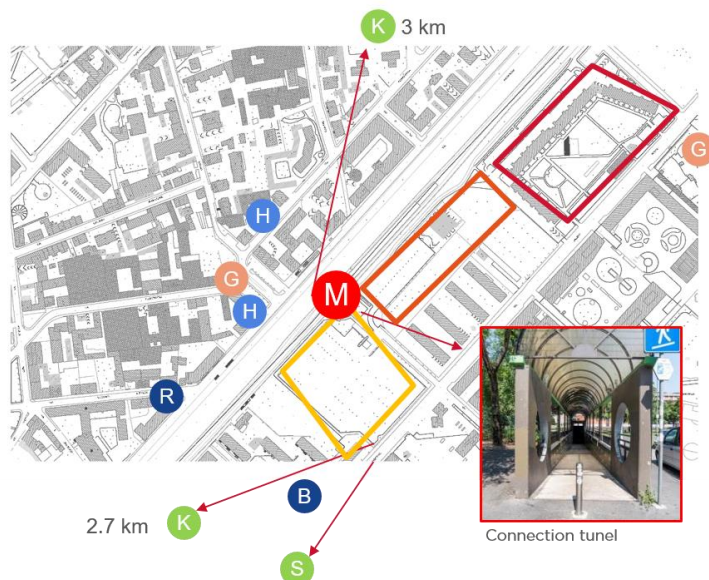
PLOT C: CONNECTION AREA FOR PLOT A AND PLOT B

There are no plans of changing principle residential function of the area, however its current situation is characterized by the lack of basic proximity commerce and social services: no supermarkets, no stores. Milan Municipality asked for an open/on air space where the weekly street market can be organized (in the street market, there are grocery, vegetables, plants and clothes stands)
 One of the key objective of the revitalization program, which students have to develop, is to propose an attractive vision for treatment of public spaces in small neighbourhood of this kind.

Adopted to the specificity of the local plan (central pedestrian connection to & from the metro station), it should provide all necessary commerce and services for local community of Crescenzago.

An important feature of this new development is - sustainability, understood both as preservation and enrichment of currently available green areas (incl. forestation) and in its socio economic dimension (nearly zero energy buildings, hosting with flexibility functional program satisfying current needs of the community and giving a space for its further evolution).

Additional none residential program proposal should be located in Plot A (level 0 and +1, it should represent between 16-33% of total build new floor area) and Plot C should provide attractive connection between the program and character of Plot A and B.

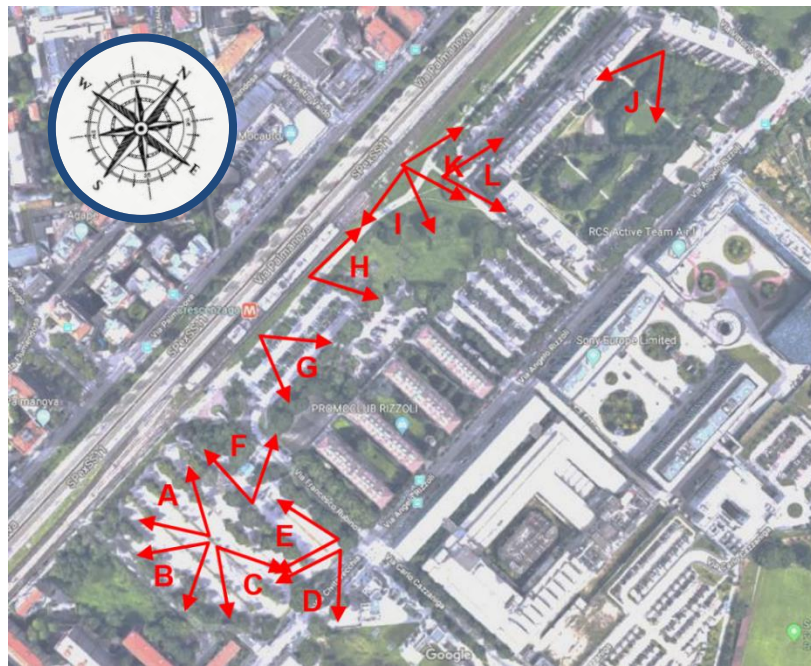


PUBLIC SPACES

- Metro station
- School, Kindergarten
- Grocery store, Petrol station
- Restaurant
- Bar
- Hotel

In front of the building to be renovated there is a new building: the headquarter of RCS company (an important editorial group). This building (designed by Stefano Boeri Architect) covers a surface of 90.000sqm and 1100 people work there.

ILLUSTRATIONS



2.4. TYPE OF CONSTRUCTION, TECHNICAL PARAMETERS

2.5.1 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

2.5.2 THERMAL COMFORT

TECHNICAL PARAMETERS FOR ENERGY EFFICIENCY

- The following thermal criteria will be targeted:
 - New construction
 - An annual heat demand <15kWh/m².
 - An annual cooling demand <15kWh/m².

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).

2.5.3 ACOUSTIC COMFORT

TECHNICAL PARAMETERS

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).

2.5.4 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.

2.5.5 FIRE SAFETY

All products for façade should be non-combustible materials

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

2.6.1 Minimum Mandatory Requirements (mandatory)

The following minimum requirements: points A, B, C, D, and E 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.

B. MASTER PLAN

- Basic (draft) schematic presentation of the general organization scheme for the analyzed 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 analyzed areas -Views, perspectives and/or photographs of physical models as seen fit by the participants to better explain their project
- These point is required for plots A, B, C

C. NEW RESIDENTIAL FUNCTION (PLOT A)

- Will be provided only for one building with residential function
 - 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)

D. CALCULATION (PLOT A)

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

E. DESCRIPTION OF THE DESIGN CONCEPT (PLOT A)

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

- 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 Rw, 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.

F. DESCRIPTION OF THE DESIGN CONCEPT (PLOT B)

The participants are expected to provide a description of the Design Concept. The participants are expected to provide sufficient information to allow the jury members to analyze:

- Design concept
- Strategy to achieve thermal comfort ((Example: construction U values, airtightness concept, shading measures, etc.)
- Safety strategy
- Evaluation of the proposed measured effects on acoustic comfort, indoor air quality, natural daylight
- Overall sustainable concept

In order to explain the requirements mentioned above the participants can present: text, diagrams, calculations, drawings, construction details or information as they seem feat.

3. FORMALITIES FOR SUBMISSION

The following formalities have to be fulfilled for the participation in the national stage and international stage of the Multi Comfort Students Contest 2019.

3.1. Formalities for submission - National Stages

The participants needs to register on line at www.multicomfort.saint-gobain.com > [Multi Comfort Student Contest > Registration](#). The registration will be opened on October 1st, 2018.

All participants registered will receive the official communications via the official online newsletter. Any participating team that fails to register or provides incomplete or false information will be disqualified from competition.

The exact way in which the projects will be submitted to the national stage as well as the final local stage schedule will be decided by the local organizations. The recommendation is to use similar banner (roll up) to the International Stage.

3.2. Formalities for submission - International Stage

The formalities for the international stage shall be finalized by latest 10th of May 2019. Each of the participant teams shall submit online and to the Saint-Gobain contact person from their country the following information:

1. Banner (Roll up) of the project with the following characteristics

- PDF file version 9M or lower
- Resolution 300 dpi
- Dimensions of the poster 180cm x 80cm (height 180cm, width 80 cm).
- Format file provided by Saint-Gobain with the following data:
 - ✓ Team country (e.g. Austria)
 - ✓ University (e.g. University of Ljubljana)
 - ✓ Name of the drafter (or all names in the case of a team submission)
 - ✓ Presentation order (e.g. 23)
 - This number represents the order of presentation for the International Stage and will be provided by Saint-Gobain.

Maximum number of posters that can be submitted for each team is 1 (one). This data will be used by Saint-Gobain to print and prepare a roll-up display for each team for projects exhibition during the International Stage.

2. An electronic presentation of the project. The file will have the following characteristics:

- A single file - Power Point Presentation
- Extension PPT or (PPTX). Other file types will not be accepted.
- The file name should be: Country X_ Name1_ Name2_ Name 3.
- Maximum dimension of the file, not archived, has to be less than 50 MB. All presentations bigger will be cut to required dimension.

This file will be used during the International Stage for the official presentation of the project in front of the jury. The file can include a video file of maximum 1 min.

3. Individual pictures of each member of the team (students and professors) in tiff format, scheme CMYK, resolution 300 dpi. A short biography of the professor needs to be included.

4. Three tiff files containing pictures or details of the project in 300 dpi resolution:

- First picture: buildings preview (usually 3D model)
- Second picture: architectural plans (graphics, sections, drawings, models others.)
- Third picture: insulations (ideas, drawings etc.)

Participants of the International stage will receive via mail the detailed information to submit. This data will be used for the edition of the book "Multi Comfort Students Competition - Best of 2019 Projects".

SOURCES AND REFERENCES:

- www.aboutmilan.com/history-of-milan.html
- <https://ciaomilano.it/e/sights/storia.asp>
- <http://tourism-milano.com/short-history.html>
- <https://en.wikipedia.org/wiki/Crescenzago>
- <https://weatherspark.com/y/62545/Average-Weather-in-Milan-Italy-Year-Round>
- [http://download.comune.milano.it/19_05_2018/Cinque%20obiettivi%20per%20la%20Milano%20del%202030%20\(1526737260486\).pdf?pgpath=/SA_SiteContent/SFOGLIA_NEWS/Notizie_Primo_Piano/Tutte_notizie/urbanistica_verde_agricoltura/milano_2030_periferie_centro](http://download.comune.milano.it/19_05_2018/Cinque%20obiettivi%20per%20la%20Milano%20del%202030%20(1526737260486).pdf?pgpath=/SA_SiteContent/SFOGLIA_NEWS/Notizie_Primo_Piano/Tutte_notizie/urbanistica_verde_agricoltura/milano_2030_periferie_centro)
- <http://www.pim.mi.it/milano2030/>

ABOUT SAINT-GOBAIN

Saint-Gobain designs, manufactures and distributes materials and solutions which are key ingredients in the wellbeing of each of us and the future of all. They can be found everywhere in our living places and our daily life: in buildings, transportation, infrastructure and in many industrial applications. They provide comfort, performance and safety while addressing the challenges of sustainable construction, resource efficiency and climate change.

<https://www.saint-gobain.com/en>

