



Invitation for Competition Submissions

MultiComfort House Student Contest Edition 2018

International, two-stage, open competition

Acknowledgments:

Special thanks to Dubai Municipality and Dubai Properties Group for all support during the drafting of this task.

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1. General information

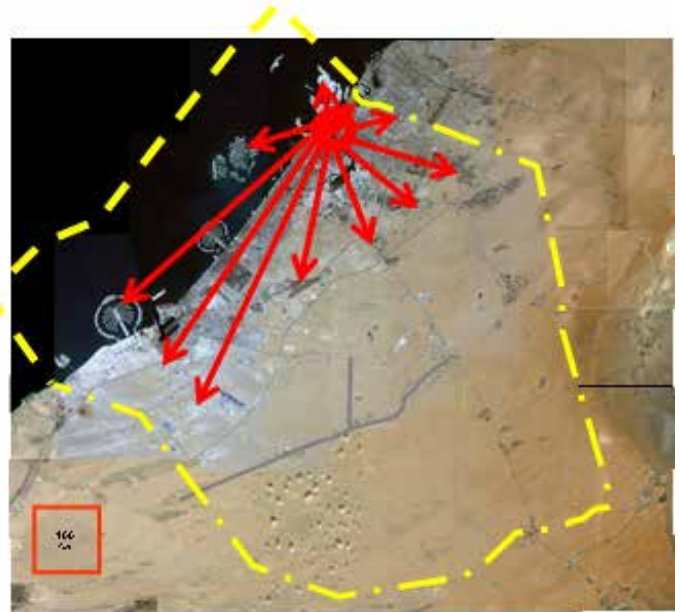
1.1. Context of the competition

As the world is becoming increasingly urban and cities are becoming larger and more densely populated thus increasing our energy consumption as well as the CO2 emission, specific actions to reduce the negative effects are required.

Overall, the building sector is responsible for 40% of the total energy consumption and CO2 emissions in the world demanding a new way of designing each new project and each new renovation.

Sustainable development of the cities is today a key question all over the world.

With a population that increased over 100 times in the last 70 years while its urban fabric expanded 400 times in the same time period, Dubai is today one of the pioneer cities when it comes to sustainability



Dubai Expansion
Source: Dubai Municipality

The task for 14th International Edition of MultiComfort House Students Contest developed by ISOVER in close collaboration with Dubai Municipality and Dubai Properties Group is the development of a vision for a transcultural vibrant community development located in the perimeter of Cultural Village of Dubai.

The participants will have to create a sustainable architecture integrated into the urban space while responding to Saint-Gobain MultiComfort Criteria and taking into account the climatic conditions and regional context of the site and Dubai. The design should be sustainable, innovative (original and creative) and should drive the city further.

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

The architecture has to fit in the surrounding of the site. Urban space solutions for the immediate surroundings of the site will be proposed.

The overall scope of the task is to propose a solution for future constructive approach to a sustainable community in Dubai

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 (see 1.4). 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 or to a National Stage and Online Entry Stage.

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 MultiComfort House Students Contest:

Mr Gabriel Golumbeanu

Email: gabriel.golumbeanu@saint-gobain.com

Local responsible:

The contact details for the local Saint-Gobain organizations could be found at:

<http://www.isover-students.com/Contacts.c156>

1.4. Form and organization of the competition

The MultiComfort House Students Contest is a 2 steps competition:

FIRST STEP

- o National Stages in all countries where the contest is organized.
- o Online Entry Stage for students from countries non-organizing local contest.
- o The winning teams of the National Stages as well as the winning team of the Online Entry Stage will be invited to attend the International Stage.

SECOND STEP

- o International Stage organized in May 2018 where all winning teams from National Stages and Online Entry Stage 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 14th Edition the following countries will organize National Stages: Belarus, Belgium, Bulgaria, Columbia, Croatia, Czech Republic, Estonia, Egypt, Finland, France, Germany, Italy, Jordan, Kazakhstan, Kirghizstan, Latvia, Lebanon, Mexico, Romania, Russia, Slovakia, Slovenia, Spain, South Africa, Turkey, UK, Ukraine, UAE. Until 31.03.2018 the list above can be modified.
- 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 2017-2018 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 2017-2018 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.
- 1.4.11 A team cannot participate in 2 different National Stages or to National Stage and Online Entry Stage.

1.4.12 Registration & Official communications for National Stages

- 1.4.13 All participants (students or teachers) taking part in the Students Contest have to register online at **www.isover-students.com**.
- 1.4.14 Registration will be done individually by each participant. Failing to register or providing incomplete or false information will result in disqualification from competition.
- 1.4.15 Closing date for registration for National Stages is 31st March 2018. Local organization can change this date to fit better with the local universities schedule. Please check this data with your local organizer.
- 1.4.16 The contact details for the National Stages responsible can be found at: **www.isover-students.com/content/view/91/133/**
- 1.4.17 All official communications regarding the contest will be sent by email to all participants registered on **www.isover-students.com**

Electronic Information Form
ISOVER Multi-Comfort House Students Contest
Edition 2018

Please fill in the data according to your quality certificate's header etc.
Please provide full names in latin characters.
All fields are mandatory. Each participant should register individually.

Team member

Name: Gabriel Godeanu
Email: gab@fhnw.ch
Telephone: +333
University: Tbilisi University
Year: II

Teacher

Name: [empty]
Email: [empty]
Telephone: [empty]
University: Dule, University of Architecture, Civil Engineering and Geodesy

Other participants

Name: [empty]
Telephone: [empty]

Submit

Registration form MCH
Students Contest 2018

1.4.18 National Stage proceedings

- 1.4.19 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.

1.4.20 ONLINE ENTRY STAGE FOR STUDENTS

- 1.4.21 Is open to all students independent of their formation (architectural, engineering or other disciplines) learning in the academic year 2017-2018 in universities situated in countries that do not organize national stages (see point 1.4.1-1.4.3).
- 1.4.22 The winning team of the 1st Prize of this stage will be invited to participate to the second step of the contest - International Stage.

1.4.23 Participation to Online Entry Stage

- 1.4.24 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.
- 1.4.25 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.
- 1.4.26 A team cannot participate in 2 different National Stages or to National Stage and Online Entry Stage.

1.4.27 Registration & Official communications for Online Entry Stage

- 1.4.28 All participants taking part in the Online Entry Stage of MultiComfort House Students Contest have to register online at **www.isover-students.com**.
- 1.4.29 Registration will be done individually by each participant. Failing to register or providing incomplete or false information will result in disqualification from competition.
- 1.4.30 Closing date for registration for Online Entry Stage is 1st March 2018, 17.00 CET.
- 1.4.31 Responsible Saint-Gobain person for Online Entry Stage is Mr Gabriel Golumbeanu, **gabriel.golumbeanu@saint-gobain.com**.
- 1.4.32 All official communications regarding the contest will be sent by email to all participants registered on **www.isover-students.com**.

1.4.33 Online entry stage proceedings

- 1.4.34 Each team participating to Online Entry Stage will submit to the organizer the following:
- 1.4.35 A pdf document of maximum 30 pages containing the description of the Design Concept in English as better seeing fit by the authors, taking into account the requirements from point 2.6.
- 1.4.36 The pdf export of MCH Designer calculation of their project.
- 1.4.37 The documents will be uploaded on the dedicated section of **www.isover-students.com**.
- 1.4.38 Closing date for submission of the projects is 15th March 2018, 17.00 CET. All project submitted after this date will be ignored.
- 1.4.39 A jury formed by Saint-Gobain experts will decide the winning teams of the 1st, 2nd and 3rd Prize for Online Entry Stage. The announcement of the winning teams will be done until 16th April 2018 and will be posted on **www.isover-students.com**.
- 1.4.40 The winning team of the 1st Prize will be invited to join the International Stage on 12.05.-15.05.2018.

SECOND STEP

1.4.41 INTERNATIONAL STAGE

- 1.4.42 The International stage of the competition will be organized in Dubai, between 12.05.2018-15.05.2018. A maximum number of 60 teams will be invited to the International Stage as it follows: a maximum number of 59 teams from the winning teams of the National Stages and the winning team of the 1st Prize of the Online Entry Stage.
- 1.4.43 The maximum number of winning teams from one country National Stage that can participate to the International Stage is 3.
- 1.4.44 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).
- 1.4.45 The local Saint-Gobain organization can decide to reduce the number of students per team or the number of teams invited to the International Stage according to their own strategy.
- 1.4.46 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 five-minute presentation. All presentations will be live webcasted on **<http://www.isover-students.com>**.
- 1.4.47 The presentations will be followed by the jury's deliberations and the awarding ceremony for the winners.
- 1.4.48 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.

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.

- **Online entry Stage**
 - o 1st prize € 1,500
 - o 2nd prize € 1,000
 - o 3rd prize € 750
- **International Stage:**
 - o 1st prize € 1,500
 - o 2nd prize € 1,000
 - o 3rd prize € 750
 - o Special prizes € 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 2017

NATIONAL STAGES

Registration for National Stages

- All registrations have to be completed online at **www.isover-students.com**. 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 2018. 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.isover-students.com**.

Completion of National stages

- All National Stages should be completed by 1st May 2018 (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 1st of May 2017.
- Each participating team will provide all the documents as requested at point 3. Formalities for submission.

ONLINE ENTRY STAGE

Registration for Online Entry Stage

- All registrations have to be completed online at **www.isover-students.com**. Any participating team that fails to do so or provides incomplete or false information will be disqualified from competition.
- Closing date for registration for Online Entry Stage is 1st March 2018, 17.00 CET.

Completion of Online Entry Stage

- Closing date for submission of the projects is 15th March 2018, 17.00 CET. All project submitted after this date will be ignored.
- The jury formed by Saint-Gobain experts will decide the winning teams of the Online Entry Stage.
- The announcement of the winning teams will be done until 6th April 2018 and will be posted on **www.isover-students.com**.
- The winning teams will be contacted by International Manager for MultiComfort House Students Contest by email and phone in order to arrange all details for the participation to the International Stage.

INTERNATIONAL STAGE

- The International Stage of the competition will be organized in DUBAI, between 12.05.-15.05.2018.

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 2017 until March 2018. The exact dates will be communicated through the official newsletter of the contest to all participants that have registered on **www.isover-students.com**.

1.8. Jury

The following evaluation criteria will be used for judging the projects for all **National Stages, Online Entry Stage, and International Stage**.

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

- **Sustainability approach related to economic, ecologic and social aspects is a key part of all the criteria mentioned below and shall be taken into account at all levels of evaluation. Moreover, Dubai expectation aims at promoting innovative solutions and projects that brands the city.**
- **Architecture: 50%**
 - o Design excellence, functional concept and regional aspects, layout,
- **Technical criteria: 20%**
 - o Constructions comply with the Saint-Gobain MultiComfort criteria (thermal, acoustic and daylight targets) as well as fire safety strategy.
- **Construction details: 20%**
 - o Quality and consistency of the proposed construction details with regards to building physics (thermal and acoustic bridges, airtightness and moisture management).
- **Products usage: 10%**
 - o Correct usage and mentioning of Saint-Gobain ISOVER, Izocam, Saint-Gobain Glass, Ecophon and other 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.

Online Entry Stage Jury

- A jury formed by Saint-Gobain specialists (architects and engineers) will select the winning team.

International Stage Jury

- The international jury will consist of: external architects, Saint-Gobain and Dubai representatives, and former winners of the Student Contest.
- The jury composition will be:
 - o External architects: 2 persons
 - o Saint-Gobain representatives: 2 persons
 - o Dubai Municipality representatives: 2 persons
 - o Former winner of the Student Contest : 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.
- None of the jury members taking part in the International Stage will not participate in any of the National Stage Jury of the 14th Edition of the contest.

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 22.00 hours on 13th of May 2018.
- 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:**
 - o The costs of the submission of entries to the National Stages shall be taken over by the participants.
- **Online Entry Stage Jury**
 - o The costs of the submission of entries to the National Stages shall be taken over by the participants.

- **International Stage:**

- o The organizer shall bear the transport expenses, as well as the costs of accommodation and lodgings for the participants at the International Stage.
- o 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.
- o 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.
- o Transport for the winning team of Online Entry Stage to International Stage will be organized from and back to the capital of the country in which the University from which the participants have registered is situated.
- o 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 MultiComfort House Students 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 ISOVER employees, IZOCAM employees or other attendees), hereby grant full and unrestricted authorization to Saint-Gobain (the "Organizer"), Dubai Municipality and Dubai Properties 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 Dubai

Dubai is the largest and most populous city in the United Arab Emirates (UAE). It is located on the southeast coast of the Persian Gulf and is the capital of the Emirate of Dubai, one of the seven emirates that make up the country. Abu Dhabi and Dubai are the only two emirates to have veto power over critical matters of national importance in the country's Federal Supreme Council. The city of Dubai is located on the emirate's northern coastline and heads the Dubai-Sharjah-Ajman metropolitan area. Dubai will host World Expo 2020.

Dubai emerged as a global city and business hub of the Middle East. It is also a major transport hub for passengers and cargo. By the 1960s, Dubai's economy was based on revenues from trade and, to a smaller extent, oil exploration concessions, but oil was not discovered until 1966. Oil revenue first started to flow in 1969. Dubai's oil revenue helped accelerate the early development of the city, but its reserves are limited and production levels are low: today, less than 5% of the emirate's revenue comes from oil.

The Emirate's Western-style model of business drives its economy with the main revenues now coming from tourism, aviation, real estate, and financial services. Dubai was recently named the best destination for Muslim travelers by Salam Standard. Dubai has recently attracted world attention through many innovative large construction projects and sports events. The city has become iconic for its skyscrapers and high-rise buildings, in particular the world's tallest building, the Burj Khalifa.

Source: Wikipedia



2.2. Dubai geographic position and climate

Dubai has a tropical desert climate, Köppen classification Bwh, because of its location within the Northern desert belt. Summers are extremely hot and humid, with an average high around 41 °C (106 °F) and overnight lows around 30 °C (86 °F). The highest recorded temperature in Dubai is 55 °C (131 °F) in 2002. Most days are sunny throughout the year. Winters are warm and short with an average high of 23 °C (73 °F) and overnight lows of 14 °C (57 °F). Precipitation, however, has been increasing in the last few decades with accumulated rain reaching 150 mm (5.91 in) per year. The weather in Dubai can bring short and irregular rainfall as is typical for the Middle East. Most of the rainfall occurs in the December to March period. The weather between December and March remains warm and is considered to be the most comfortable climatic conditions of the year.

Out of the 12 months about 3-4 are comfortable for outside activities during both day and night. About 3-4 the outside activities are possible during the night and for the rest of 3-4 outdoor activities are drastically limited during both day and night.

Climate data for Dubai													[hide]
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	31.8 (89.2)	37.5 (99.5)	41.3 (106.3)	43.5 (110.3)	47.0 (116.6)	47.9 (118.2)	48.5 (119.3)	47.5 (117.5)	45.1 (113.2)	42.4 (108.3)	38 (100)	33.2 (91.8)	48.5 (119.3)
Average high °C (°F)	24.2 (75.6)	25.6 (78.1)	28.6 (83.5)	33.2 (91.8)	37.8 (100)	39.7 (103.5)	41.2 (106.2)	41.4 (106.5)	39.1 (102.4)	35.6 (96.1)	30.7 (87.3)	26.3 (79.3)	33.4 (92.1)
Daily mean °C (°F)	19.3 (66.7)	20.6 (69.1)	23.2 (73.8)	27.2 (81)	31.4 (88.5)	33.6 (92.5)	35.7 (96.3)	36.0 (96.8)	33.4 (92.1)	30.0 (86)	25.4 (77.7)	21.3 (70.3)	28.09 (82.57)
Average low °C (°F)	14.4 (57.9)	15.5 (59.9)	17.7 (63.9)	21.2 (70.2)	24.9 (76.8)	27.5 (81.5)	30.2 (86.4)	30.5 (86.9)	27.7 (81.9)	24.3 (75.7)	20.0 (68)	16.3 (61.3)	22.5 (72.5)
Record low °C (°F)	6.1 (43)	6.9 (44.4)	9.0 (48.2)	13.4 (56.1)	15.1 (59.2)	18.2 (64.8)	20.4 (68.7)	23.1 (73.6)	16.5 (61.7)	15.0 (59)	11.8 (53.2)	8.2 (46.8)	6.1 (43)
Average precipitation mm (inches)	18.8 (0.74)	25.0 (0.984)	22.1 (0.87)	7.2 (0.283)	0.4 (0.016)	0.0 (0)	0.8 (0.031)	0.0 (0)	0.0 (0)	1.1 (0.043)	2.7 (0.106)	16.2 (0.638)	94.3 (3.711)
Average precipitation days	5.4	4.7	5.8	2.6	0.3	0.0	0.5	0.5	0.1	0.2	1.3	3.8	25.2
Average relative humidity (%)	65	65	63	55	53	58	56	57	60	60	61	64	59.8
Mean monthly sunshine hours	254.2	229.6	254.2	294.0	344.1	342.0	322.4	316.2	309.0	303.8	285.0	254.2	3,508.7
Percent possible sunshine	75	75	68	75	85	81	74	78	86	82	86	75	78.3
Source #1: Dubai Meteorological Office ^[3]													
Source #2: climatebase.ru (extremes, sun), ^[4] NOAA (humidity, 1974–1991) ^[5]													

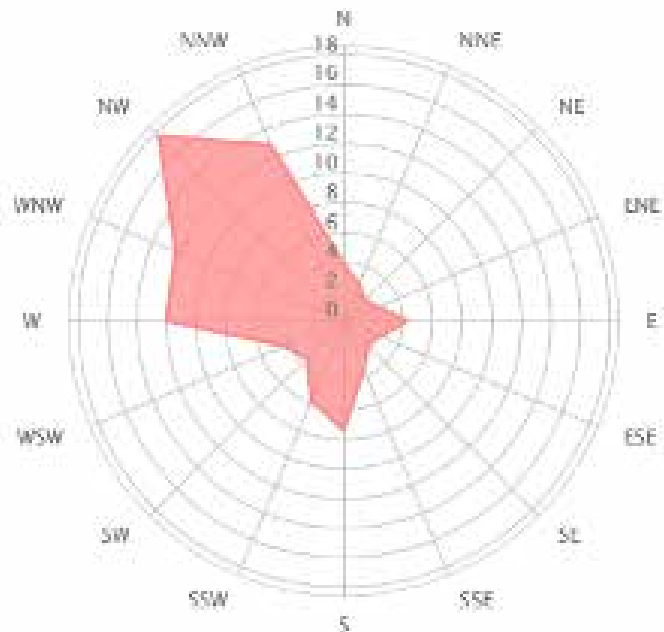
Climate data for Dubai												
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average sea temperature °C (°F)	23.4 (74.2)	21.9 (71.4)	23.2 (73.8)	25.5 (77.9)	28.8 (83.8)	31.6 (88.8)	32.7 (90.9)	33.5 (92.3)	33.1 (91.5)	31.3 (88.4)	28.6 (83.4)	25.4 (77.8)
Average Ultraviolet index	6	8	10	11+	11+	11+	11+	11+	11	8	6	5
Source #1: seatemperature.org ^[6]												
Source #2: Weather Atlas ^[7]												

The climate of Dubai is warm and sunny due to its position near the line of the Tropic of Cancer. During the winter season it has an average daytime temperature of 25 °C (77 °F). Night-time temperatures near the coastline range between 12 °C (54 °F)-15 °C (59 °F), while in the desert they are 5 °C (41 °F) with the nights being relatively cool throughout the year. Humidity averages between 50% and 60% near the coast areas. In the summer, the weather in Dubai is very hot, dry and humid, with temperatures reaching 45 °C (113 °F) for many days. Even the sea temperature reaches 37 °C (99 °F), with humidity averaging over 90%. Rainfall in Dubai is infrequent and does not last for a long period. It mostly rains during the winter period between December and March in the form of short downpours and an occasional thunderstorm. On average, rain falls only five days a year.

February is the wettest month in Dubai with an average of 35 millimetres (1.4 in) of rain. The weather in Dubai is extremely dry in the month of June with little or no rain. March and December also record some amount of rainfall. The rainfall during January, April, July, October and November are about average while the amount of rain in May, August and September are comparatively lower.

Source: Wikipedia

Wind direction distribution in (%)
Year



Wind direction distribution Dubai. Source: Dubai Airport

To view monthly wind pattern, click the following link: <https://www.windfinder.com/windstatistics/dubai>

2.3. General information about the location of the site

Al Jaddaf, is a locality in Dubai. Historically, and as per aerial photo from 1962, the Al Jaddaf Area was vacant desert land.

It seems that Al Jaddaf, which literally means The Rower, became primarily a dhow building area in late 20th century A.C. The Area also included a modern facility for boats maintenance which is still the only site for the building and maintenance of boats.

As of 2017, there is a large dhow being constructed in the area, intended to break the world record for size currently held by Kuwait.

All the above ships repaired and building facilities are supposed to be removed from the site and replaced at Dubai Maritime City next to the Dubai Dry-Docks close to former Port Rashid at the sea front.

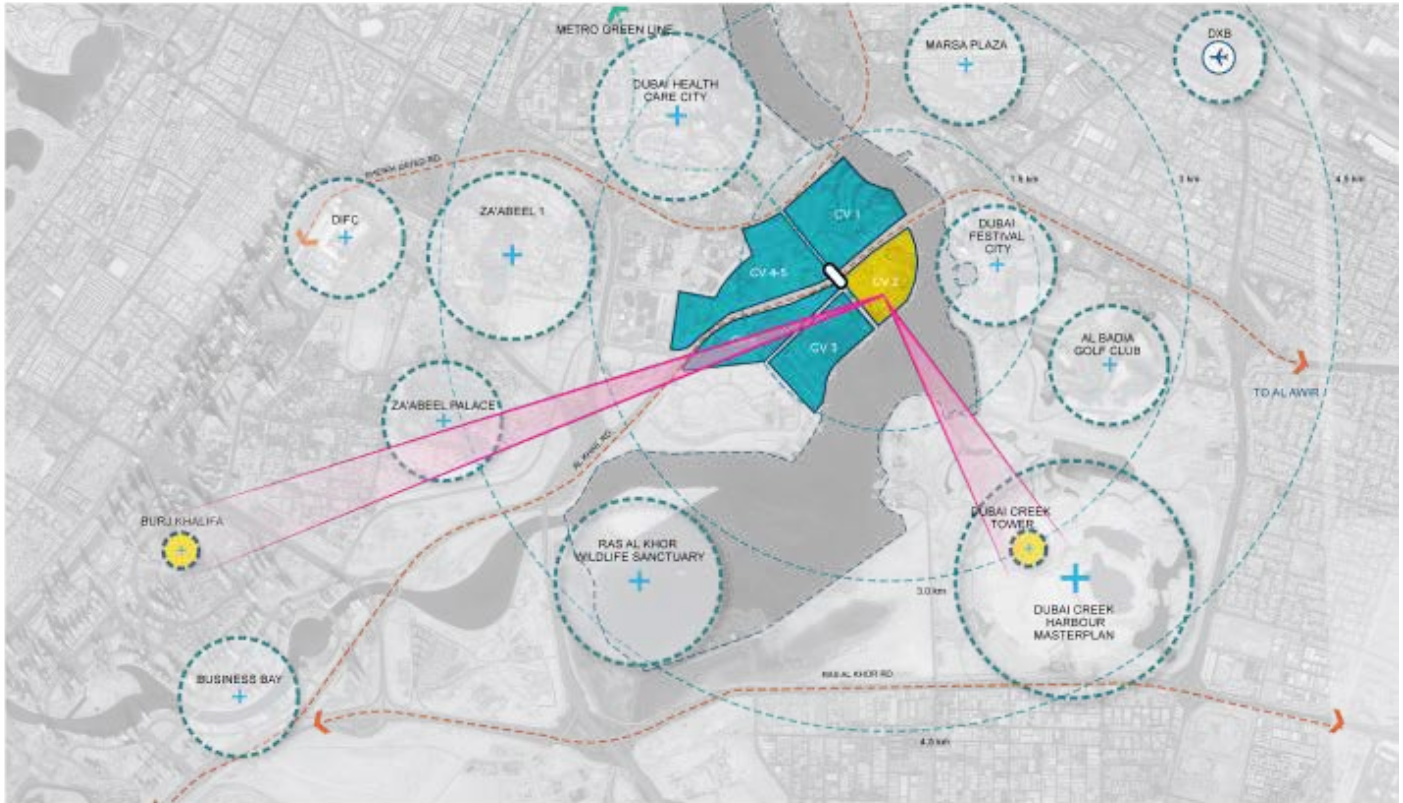
The Dhows (or Al Boom) are traditional timber ships used to sail between the shores of the Arabian Gulf to East Africa, India and China since the 11th century A.C. The Dhows became modernized since mid-20th Century where its sails replaced by motorized engines.



Contest site, Source: Dubai Municipality

Culture village

Culture Village at Al Jaddaf encompasses 4 phases. The Saint-Gobain Contest Site is part of Phase-2 - a new thriving destination within Dubai, with a land area of 19 hectares approximately and a total Gross Floor Area of 400,189 m². The goal is to create a dynamic and vibrant development offering attraction to the residents and visitors, while maximizing the benefits of the strategic public transport, proximity to the waterfront, and history of the site. (CV: Culture village 1 to 4)



Contest location Source: Dubai Municipality/ Google Maps



Contest location Source: Dubai Municipality/ Google Maps



Contest location Source: Dubai Municipality/ Google Maps

The heights of the buildings are stepped in such a way to maximize the views to the waterfront. High-rise residential towers are located along the western plots to take advantage of both the city skyline to the west and the waterfront views to the east. The mid-rise residential units are located in such a way to allow for view corridors from the residential towers and the park to the waterfront.

The signature twin towers on the south portion of Parcel C take advantage of the great views toward the Harbor Creek Tower. The building massing along the waterfront is also low and stepped to allow for an intimate human scale along the promenade.

The project is designed to take advantage of the valuable waterfront promenade as the primary attraction, which also connects to Culture Village 1 and Culture Village 3.

Ease of public access from the Metro Green Line directly to the waterfront is provided by a series of bridges and covered walkways delivering visitors directly to the Dhow Center on the waterfront.

Direct access for the residential is also provided with a series of bridges and connections to the waterfront promenade. An additional pedestrian bridge is provided for a connection to Culture Village1.



Contest site, Source: Dubai Municipality



Contest location Source: Dubai Municipality



Contest location Source: Dubai Municipality

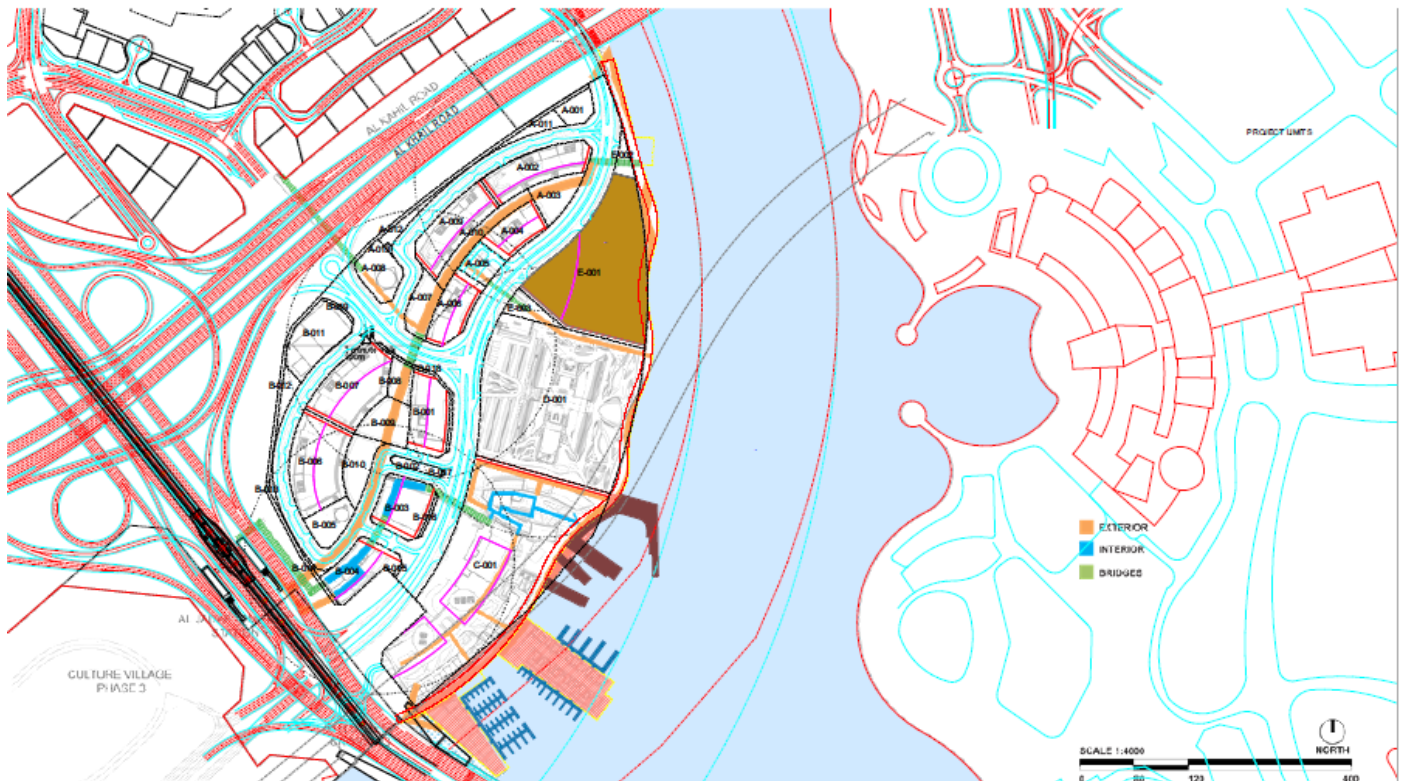


Sheikh Mohammed Bin Rashid Library/ Under construction by Dubai Municipality



Contest location - connectivity Source: Dubai Municipality

A network of pedestrian circulation accommodates the needs for both residents and visitors. A semi-private park spanning the residential parcels allows for a seamless park experience for the residents with the convenience of service retail shops and cafés. Direct circulation links and bridges stitch the project together delivering residents and visitors to the waterfront within Parcels C and E. Connections to Culture Village 1 occur along the waterfront promenade and a pedestrian bridge from Parcel A; the waterfront promenade connects to Culture Village 3 as well.



Contest location - Pedestrian circulation, Source: Dubai Municipality



Contest location - Cycling routes, Source: Dubai Municipality

The major roadway in to the Culture Village 2 is served from an entry point along Al Khail Road for northbound traffic along the 6th Street Crossing and East-bound Al Khail Road. Access to the site is also provided via the main roadway from Culture Village 1 and Culture Village 3. Local or Secondary Roads allow access to the residential towers on Parcels A and B. Access Roads are provided for immediate access to the mid-rise on Parcel A, the office and hotel on Parcel B and all the parcels along the waterfront parcels C, D and E.



Contest location - Roads network, Source: Dubai Municipality

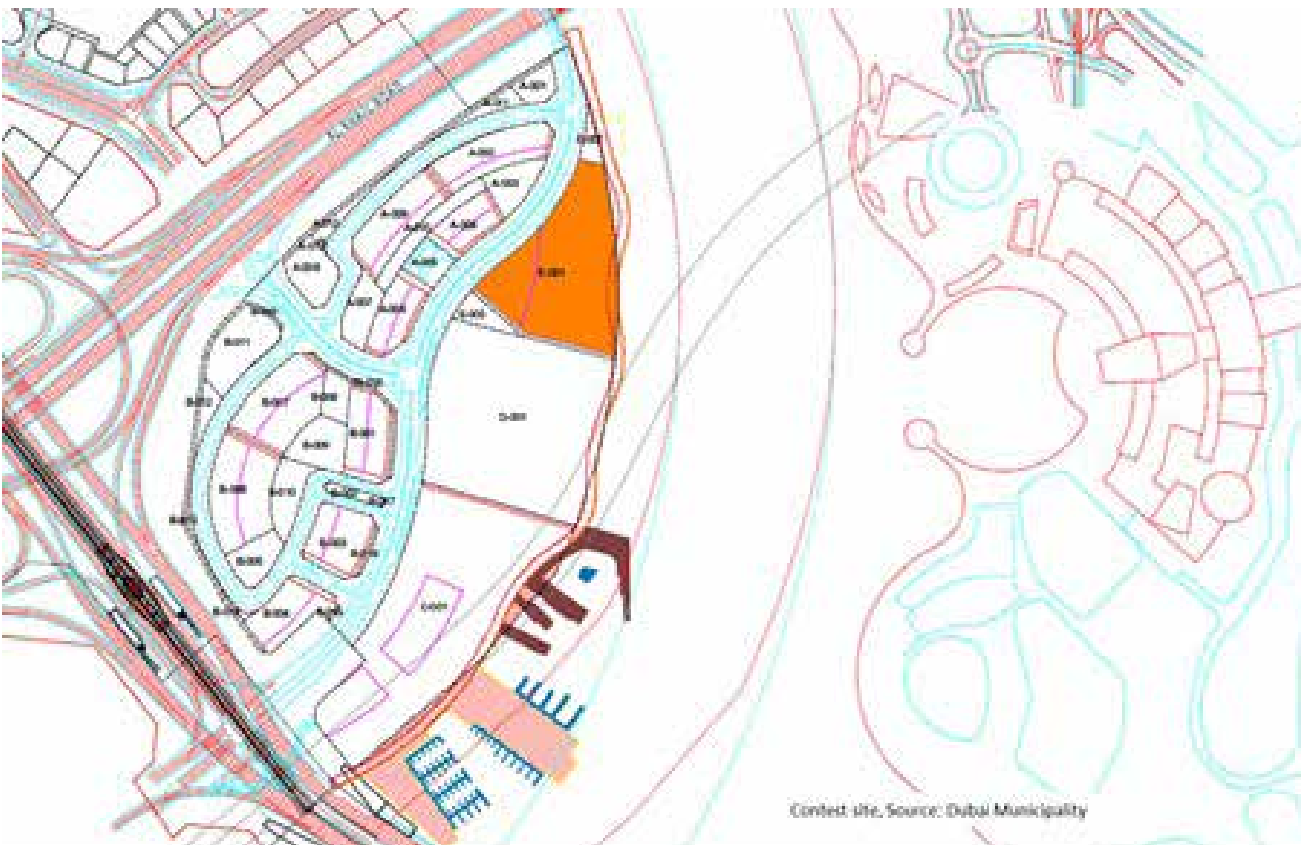
Participants are strongly recommended to read the Teachers Day Proceeding Document in order to have a better understanding of the site.

More images, information and dwg files are available on www.isover-students.com at Documents Contest Task 2017.

2.4 General information about the task

The students are required to develop a vision for a transcultural vibrant community development located in the perimeter of Cultural Village 2 of Dubai. The design will have to propose a viable combination of residential and public spaces (cultural, commercial, others) while respecting the plot characteristic and its history. Special focus will be given on developing the sustainability dimensions as well as the comfort ones.

The site allocated to the students is the E-001 parcel – orange part of the plan below.



Contest location - Roads network, Source: Dubai Municipality



Contest location – general view proposed masterplan Dubai Municipality

The main characteristic for this parcel are presented in the table below:

Plot E – Plot Details
Land Use Mixed Use: Residential (88%) & Retail (12%)
Plot Area parcel E001: 26,936 m ²
Maximum Plot Coverage:62%
Maximum GFA: 40,000 m ²
Max. Building Height: 45 m
Residential Apartments Type: Studio, 1 – 3 Bedroom
No. Of Units: 242
Average surface per person is about 50-70 m ² .

The figures above can be used as reference values but students can adjust them according to their own needs or vision. The “Land Use” can be adjusted by the participants according to their need in both terms of % or functionality. However it should be remembered that the main use of the area should be residential and the overall objective is the make the area attractive. The number of buildings is up to the students to decide.

The students are encouraged to develop their own image of the water front development, the existing developments from the plans are just a draft proposal and the expectation is that the students should improve them or modify according to their own vision. Also there is the need to take in consideration the height of the water tide which is 2m.



Residential:

The territory is conceptually proposed to be developed by taking advantage of the water front without interfering with the view of the closely by situated MFH buildings. The maximum height is limited to 45m. The proposal will be multifamily houses (MFH) - no single family or row houses.

These apartments will be later sold by the developer. The target client is ‘cosmopolitan community’ (non-Emiratis working young residents from diverse socio-cultural background and nationalities. Users can be single, couple or young couples with one baby.

Out of the total number of apartments max 10% can be designed to serve the artists that will be working/ exposing in the cultural places proposed by the students. These apartments will be long term rented (up to 6 months) to the

persons providing spectacles in the proposed cultural places.

Special attention will be given to maximizing the comfort of the inhabitants for all 4 comfort dimensions by taking into account the local climate data and the specificities of the place. Calculation and construction details will be ask for one of the MFH buildings.

The residential spaces will have as target to comply with the Saint-Gobain MultiComfort Criteria presented below.

Public/cultural

This is entirely up to the decision of the authors to propose according to their vision. This public space should contribute to make this area a vibrant areal also during the harshest summer time when the temperature exceed 45 degrees in the shadow. No calculation and no details are required, only the indication of the function or 3D image.

Commercial Spaces

This is entirely up to the decision of the authors to propose according to their vision. Together with the public space should contribute to make this area a vibrant areal. No calculation and no details are required, only the indication of the function or 3D image.

Cultural heritage can be integrated in the design taking advantages of the existing ships yard. In this sense the participants can propose to keep it while integrating it in the overall design, to keep just the ship and integrate it by giving it a public/cultural or commercial function or just proposing an image linking with the former usage of the area.

Special attention will be given to integration of the transition/ public path between the library, cultural places and residential area.

Cultural heritage should be integrated in the design. It can be done either by preserving the existing functions/ construction on the site or by making reference to it by the new design itself

The proposed structure of the walk ways should allow an open access to the water front for all users / visitors there for a strategy for outdoor safety, social comfort and privacy should be proposed including open outdoor spaces.

2.5. Type of construction, technical parameters

The high-performance thermal, acoustic, fire protection and daylight requirements have to be considered in order to achieve the Saint-Gobain MultiComfort criteria. A presentation of the MultiComfort concept is available for download at www.isover-students.com.

In the course of the competition, lectures on this subject will be held at the faculties as well as online trainings. The MultiComfort criteria for the residential function are presented below.

As in Dubai the outdoor temperatures almost never drop below 10 degrees Celsius, not even in the winter, and the average daily values stay above 15 degrees Celsius it is fairly easy to construct buildings without any demand for heating energy. Students can therefore focus entirely on reducing cooling demand. Given the average daily temperatures of far above 30 degrees Celsius for months at a time during the summer, everything must be done to keep the cooling load as low as possible. Among the solutions that the participants can investigate are:

- Good heat protection to reduce transmission loads to a tenable level
- White surfaces that reflect infrared light
- Triple-glazed sun protection glass with a low g-value (around 25 percent)

to reduces transmission and solar loads into the building via the windows. This glass should be in neutral colours with great light transmissivity in the visible spectrum. Further reducing the g-values may worsen the quality of daylight.

- Extended eaves to reduce direct sunlight on most of the façade.
- Outdoor temperatures in the cooling period are so high that an automatic heat recovery bypass does not help, nor does overnight ventilation. In contrast, windows that can be opened do help for the four coldest months to provide passive cooling

			HOUSING	
			Cold & Moderate	Hot
HEATING ENERGY DEMAND (kWh/m²a)			<15 kWh/m²a	
COOLING ENERGY DEMAND (kWh/m²a)			<70 kWh/m²a	
AIR-TIGHTNESS n50 (V/h)			0.8	1.0
DAYLIGHTING (Daylight autonomy %)			60% (3)	
			Min.	Targeted
SUMMER COMFORT (overheating % of season)			10% (2)	5% (2)
ACOUSTICS	Between dwellings	Airborne - $D_{nT,a}+C$ (dB)	≥58dB	≥63dB
		Impact - $L'_{nT,a}+C$ (dB)	≤45dB	≤40dB
	Between rooms of one dwelling	Airborne - $D_{nT,a}+C$ (dB)	≥45dB (4)	≥48dB (4)
		Impact - $L'_{nT,a}+C$ (dB)	≤50dB	≤45dB
	From exterior noise	Rural & Urban - L_{den}	25 dB	20 dB
SUSTAINABILITY			EPD for all 5G products	

Figure 14 : Saint-Gobain MultiConfort Criteria

A specific session on how to design in order to achieve these levels will be given during the online trainings sessions. Participants are expected to present in their design the main strategies they have used in order to target / achieve Saint-Gobain MultiComfort Criteria.

2.5.1. Construction

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

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 MultiComfort concept for new construction and renovation can be found at **www.isover-construction.com**

Further Information can be found on the official contest website **www.isover-students.com/content/view/137/161**

2.5.2. Thermal comfort

2.5.2.1 Technical parameters for energy efficiency

The following thermal criteria will be targeted:

New construction

- An annual heat demand <15kWh/m².
- An annual cooling demand <70kWh/m².

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

2.5.2.2 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 colour 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 neighbours.

The participants are advices to analyse 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 requirements (mandatory)

The following minimum requirements: Points A, B, C, D 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.

- Visualisation 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

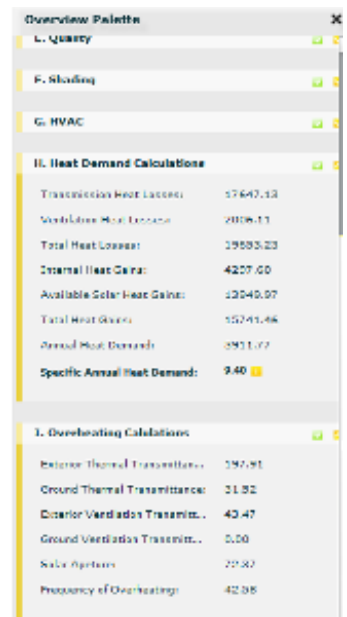
B. Residential function

- 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. In case of a new level on top of the existing the participants should provide details from both parts of the construction (renovation and new construction)
- Suggested scale: 1/200 for plan/elevations/sections and 1/20 for details (or otherwise convenient to transmit enough information)

C. Calculations

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

Falling to provide the requested information above will lead to the disqualification of the project from the competition.



Overview Palette	
I. Quality	
F. Shading	
G. HVAC	
II. Heat Demand Calculations	
Transmission Heat Losses:	17647.12
Ventilation Heat Losses:	2006.11
Total Heat Losses:	19653.23
External Heat Gains:	4207.60
Available Solar Heat Gains:	12040.97
Total Heat Gains:	16248.57
Annual Heat Demand:	2931.67
Specific Annual Heat Demand:	9.40
III. Overheating Calculations	
Exterior Thermal Transmittance:	197.91
Ground Thermal Transmittance:	31.32
Character Ventilation Transmittance:	40.47
Ground Ventilation Transmittance:	0.00
Solar Apertures:	27.82
Frequency of Overheating:	42.08

D. 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 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.

3. Formalities for submission

The following formalities have to be fulfilled for the participation in the national stage and international stage of the MultiComfort House Students Contest 2018.

3.1. Formalities for submission - National Stages

The participants can register online at: **www.isover-students.com**. The registration form will be opened starting 15th October 2017.

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 poster to the International Stage.

The contact details for the local Saint-Gobain organizations can be found at www.isover-students.com/content/view/91/133/.

3.2. Formalities for submission - Online Entry Stage

The participants can register online at: www.isover-students.com, latest by is 1st March 2018, 17.00 CET. The registration form will be opened starting 15th October 2017.

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.

Each team participating to Online Entry Stage will submit to the organizer the following:

- A pdf document of maximum 30 pages containing the description of the Design Concept in English as better seeing fit by the authors, taking into account the requirements from point 2.6.
- The pdf export of MCH Designer calculation of their project.

The documents will be uploaded on the dedicated section of www.isover-students.com. Closing date for submission of the projects is 15th March 2018, 17.00 CET. All project submitted after this date will be ignored.

3.3. Formalities for submission - International Stage

The formalities for the international stage shall be finalized by latest 2nd of May 2018. Each of the participant teams shall submit to Saint-Gobain contact person from their country the following information:

1. Project in electronic format with the following characteristics:

- PDF file version 9 or lower
- Resolution 300 dpi
- Dimensions of the poster 180cm x 80cm (height 180cm, width 80 cm).

Maximum number of posters that can be submitted for each team is 1 (one). The poster of each project will contain in the upper right corner 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)
 - o This number represents the entry order for the presentation of the projects on 13th of May 2018.
 - o A draw will be organized and the results will be communicated to the participants at the International Stage by 3rd of April 2017.

This data will be used by the local ISOVER organization 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
 - o Extension PPT or (PPTX). Other file types will not be accepted.
- The file name should be: Country X_Y Prize, Name1_Name2_Name 3.
 - o Example: Serbia, 2nd Prize, Ilian Dragutinovici_Igor Pancic
- Maximum dimension of the file, not archived, has to be less than 50 MB.
 - o 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 in tiff format, scheme CMYK, resolution 300 dpi.

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.)

This data will be used for the edition of the book "MultiComfort House Students Competition - Best of 2018 Projects".

