

LETI: Future Academic Spaces

International Contest of Young Architects

Technical Assignment

**For developing public spaces of St. Petersburg Electrotechnical
University named after Lenin**

LETI

LETI History and Essential Information

June 15, 2021 is the 135th anniversary of St. Petersburg State Electrotechnical University or LETI. It is the oldest and largest education and research center in electrical and radio engineering, telecommunications, electronics, computer science and engineering, micro- and nanotechnology and other sciences and technologies.

It is known as the oldest electrotechnical university in Europe, and the word "first" is often used in the references to it. First Russian engineers in electrotechnics and radio were its graduates. It became the home for first science schools in electrical and radio engineering and electronics. In the 20th century it was the birthplace of high-frequency electrothermics, electroacoustics and ultrasonic defectoscopy, first industrial electric drives were designed and tested there.

Its original name was Electrotechnical Institute of Emperor Alexander III. Renamed as Leningrad Electrotechnical Institute (LETI) it was involved into the major power engineering projects of the Soviet Union, first hydro power plants were designed by its professors and engineers. During World War II its researchers stayed in the besieged Leningrad. They produced innovative insulation materials and took part in laying electric cables on the bottom of the Ladoga Lake to connect Leningrad to the grid. They won the "battle for light" for the fighting city. In the post-war years, LETI graduates participated in the North Pole expeditions, worked in the drifting ice stations of the Arctic and Antarctic. Scientists of LETI laid foundations of vacuum and solid-state electronics, nuclear spectrometry, and developed unique devices for space research.

LETI engineering school is famous for its close ties with the industry. LETI was one of the first universities in the country, which integrated education, research and production activities into one system.

Today LETI is a world-class innovative university with a well-developed infrastructure for learning, scientific and innovative activities.

LETI takes an active part in the national and international research and education programs. Its premises are used for international conferences, workshops and other events. It welcomes lecturers and students from other countries and participates in the programs of cross-border academic mobility.

The university's distinguishing feature is its commitment to academic traditions, respect for history and people who made that history. LETI campus has three museums:

- Memorial flat of Alexander Popov, the first elected rector and inventor of radio,
- Memorial laboratory of Alexander Popov and
- History Museum of Electrotechnical University.

LETI Campus development

The first university building was completed in 1903 (architect A. Vekshinsky, Building 1). Along Professor Popov street (former Pesochная (Sand) street) it borders on the Botanical garden, one of the oldest public gardens in Europe. It was started as the Apothecary garden in early 1700s by Peter the Great, founder of St. Petersburg.

Soon after Building 1 construction architect Marfeld completed the adjacent building of the students' hostel (Building 2) and architect Vekshinsky – residential house for university professors (Building D). Prof. Popov, Russian inventor of radio, lived and died there. Today his flat is the memorial museum of Popov, the first elected rector of the university.

Two other curious buildings in 'brick' style were built by architect Marfeld for the then Ministry of Interior – Building 7, 'the Crosses', which accommodated the Ministry archives; and Building 4, with flats for the Ministry officers who worked in the archives. Today both belong to the LETI campus.

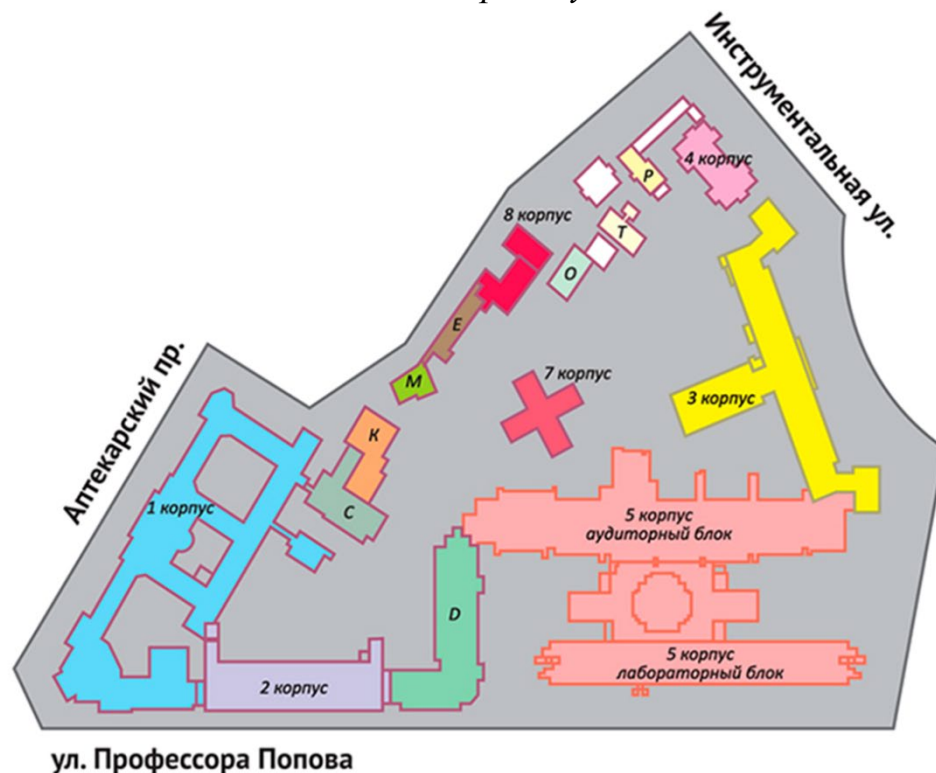
Building 3 was added to the campus ensemble in 1956. It is the main administrative building, with rector's office, museum of LETI history and rounded top floor hall for concerts and events (arch. Alexandrov and Speransky).

The largest and most sophisticated Building 5 designed by architect Leviash (1974) completes the basic architectural ensemble of the LETI campus.

Recently Bld. 5 and Bld. 3 were connected by the corridor.

There are smaller service buildings on the premises, like electric substation, boiler house and garages, some of which are planned for removal.

LETI Campus layout



Campus spaces. Changes in attitude

During the long history of LETI its spaces were used for different purposes. It can be said that the utilitarian function prevailed. In early days of the university the cozy inner yards of Building 1 were used for storing firewood. St. Petersburg winters are long! The university was quite dynamic in changing its engineering infrastructure and research equipment. So empty spaces were quite convenient for storing obsolete and bulky stuff.

Today space requirements have changed. It has become evident that the quality of public spaces influences the education process.

Students need good conditions not only at studies, but also between and after them. Places for self-studies, in-between lectures pastimes, also for informal team meetings are necessary. And all these places need to meet requirements of information space.

Information space integrates visual communication of internal and external academic environment to ensure equal information access, social comfort, aesthetic attractiveness. It performs functions of orientation, knowledge transfer and influences behavior patterns.

Well-designed spaces contribute into the positive image of the university and shape corporative culture.

Learner-friendly environment: what we mean?

Social infrastructure – an important factor of social adaptation and comfort.

It includes campus public places, libraries, hostels, medical aid rooms, gyms, centers of creative activities, etc.

Rest and free time – spaces for self-studies, rest and quiet communication. Such places are important both for relaxation and concentration between practices and lectures.

All rooms and spaces can be categorized as places for lectures, practice + experiment, research, sports and exercise, self-study rooms (e.g., traditional library), administrative and support offices, assembly hall and **rooms and places for free time activities**.

Public place as we see it – a multifunctional, attractive and comfortable place for different pastimes (informal communication, extracurricular self-development zones), which provides a balance for the core academic activities.

Contest objective: establish new public places, which motivate students to spend more time on the campus; new ‘points of gravity’ for communication and creative activities.

Technical assignment for developing new public places of St. Petersburg Electrotechnical University

Nominations and locations:

1. Vologdin Garden.

Inner yard of Bld. 5 with adjacent alleys and passageways near Bld. D.

2. The Forum.

Central area between Bld. 3, Bld. 5, Bld. 7 bordered by the façade of the future university building (Bld. O).

3. American lounges

(Note: Some sources say that in designing these spaces architect Leviash was inspired by students' lounges of American universities)

Lobby of the Bld. 5 main entrance connected to the parallel corridors with lounges.

4. Entrance area and the Cube

Including:

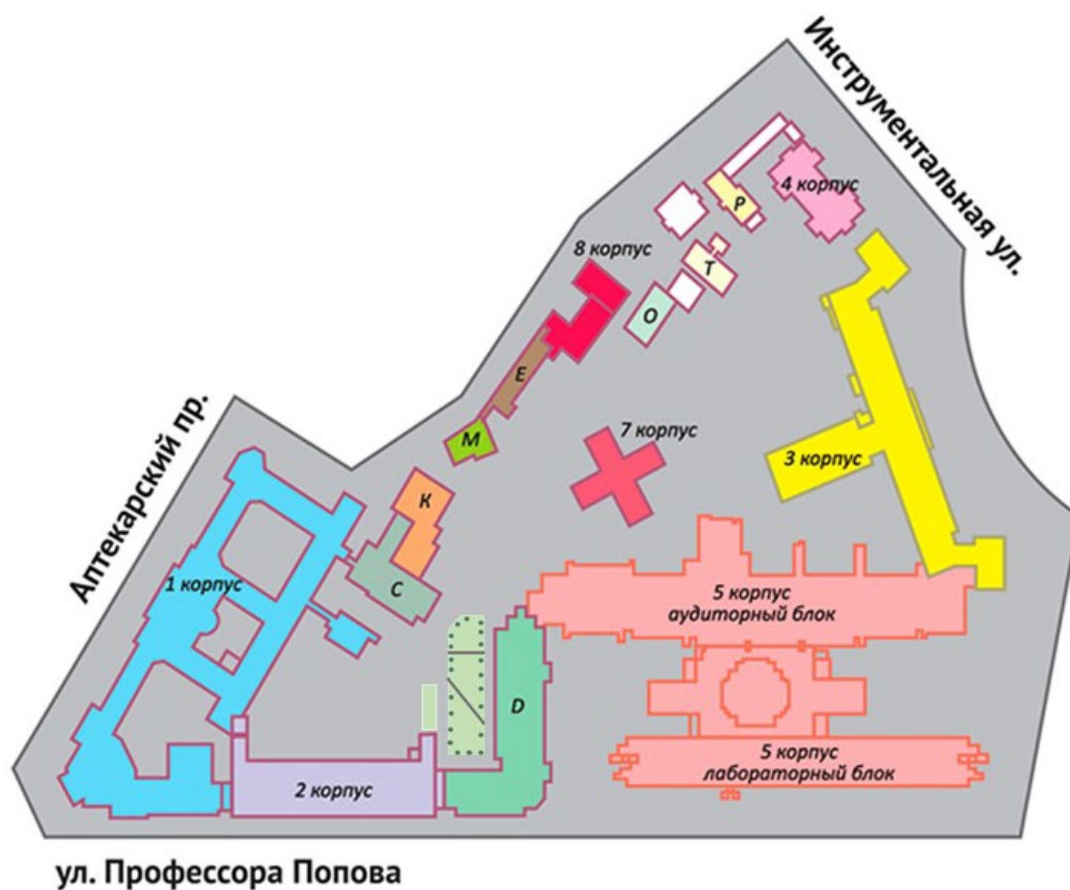
- Entrance pillar with university name in 2 languages, near the main entrance with turnstiles from Prof. Popov str.
- The brick cube structure near the stairway of Bld. 5. It is the ventilation shaft, which is conventionally used for placing campus topography information.

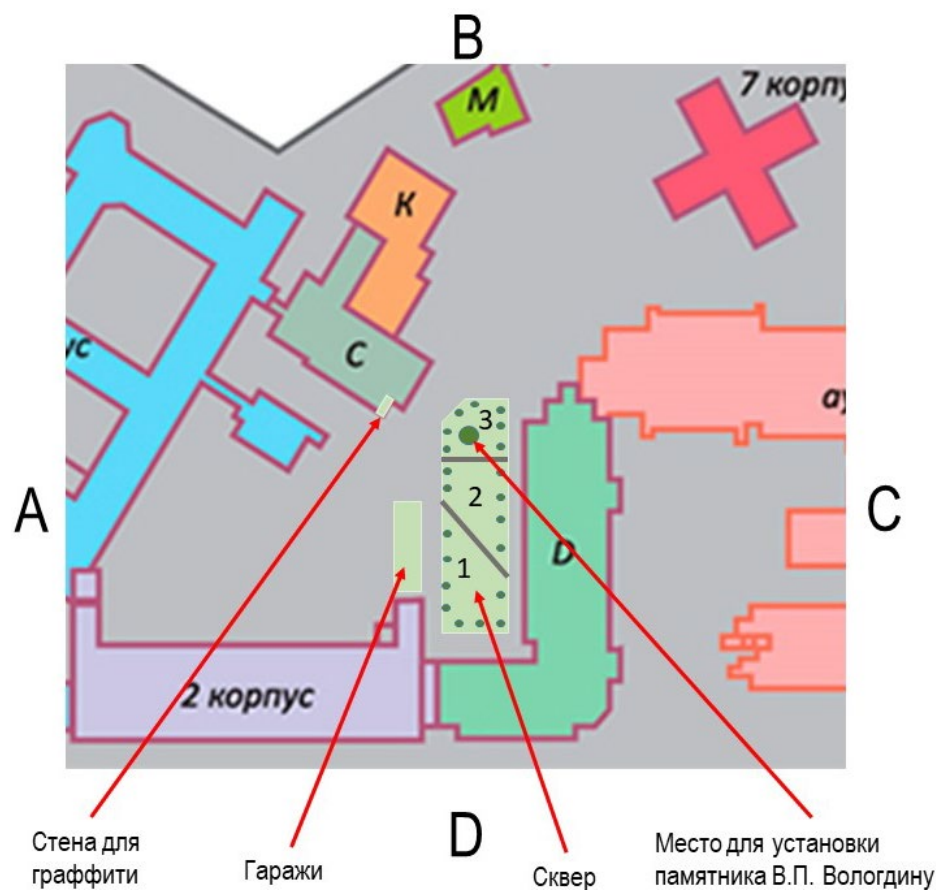
These four locations make four nominations of the Contest for young Architects

1. Vologdin Garden.

Inner yard of Bld. 5 with adjacent alleys and passageways near Bld. D.

General campus layout





The area includes 3 green spaces with trees.

The 4 garages on the adjacent territory will be removed.

Views of the location:

From side A



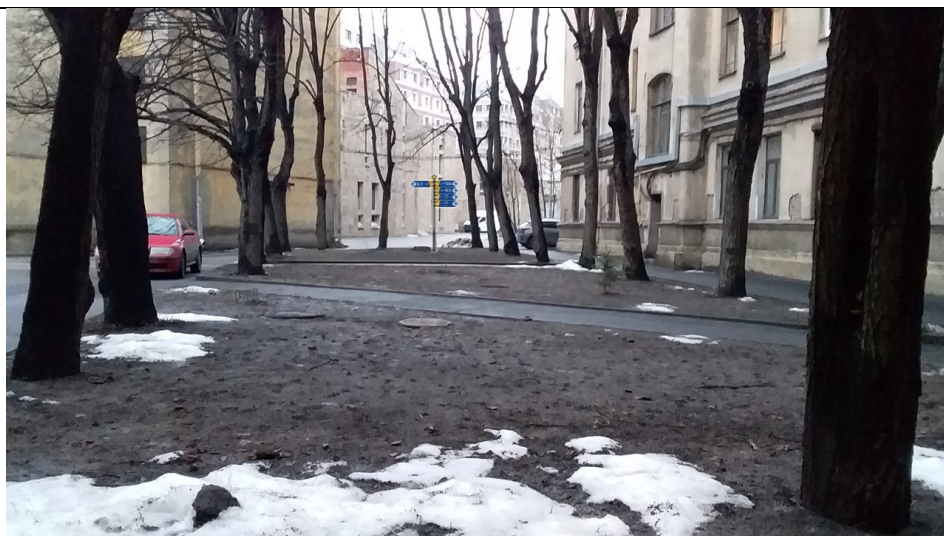
From side **B**



From side **C**



From side **D**



Passageway with garages (they will be removed):

From side A



From side B



Laboratory building where Vologdin worked (possible graffiti wall):

From side C



Monument to Vologdin (in its previous location, now kept in a storage place)



Parameters: bust – 0,8 m h, pedestal 1,6 m h, base 0,36 m w

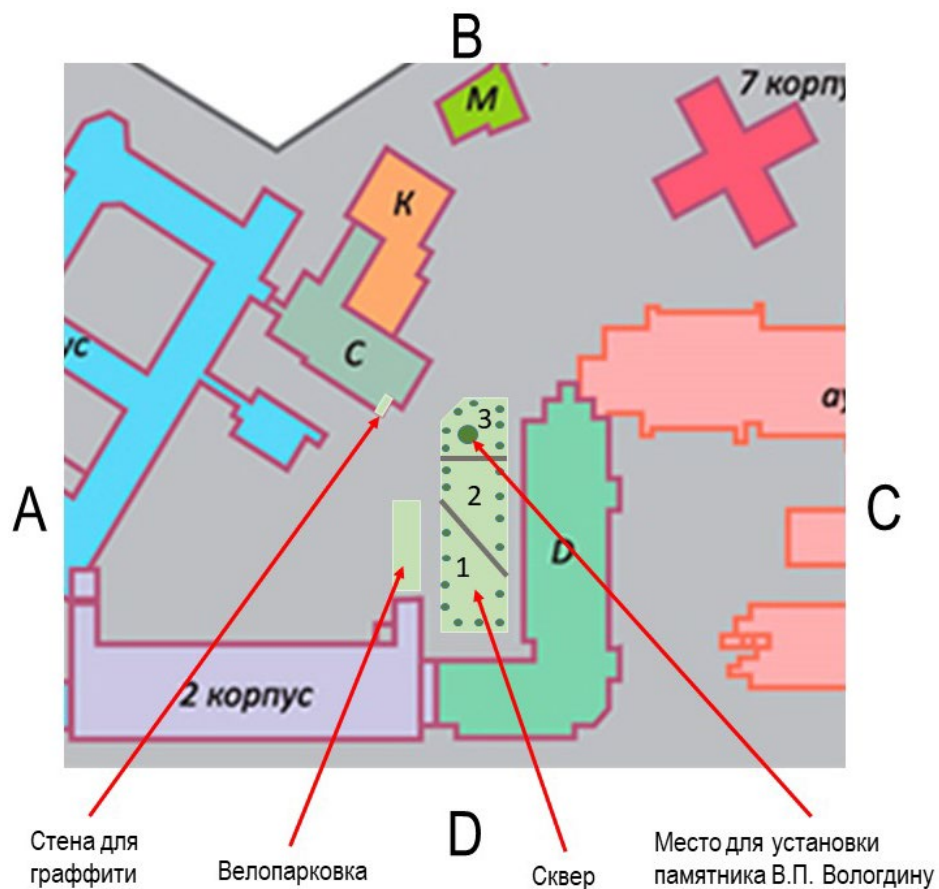
Assignment: develop design of this area, including the monument location, the main function of this area is green and quiet recreation zone for students and staff.

Issues to be foreseen in the design project:

- Landscaping of the site,
- Weather-resistant garden furniture,
- Site design of the Vologdin monument.

The adjacent territory:

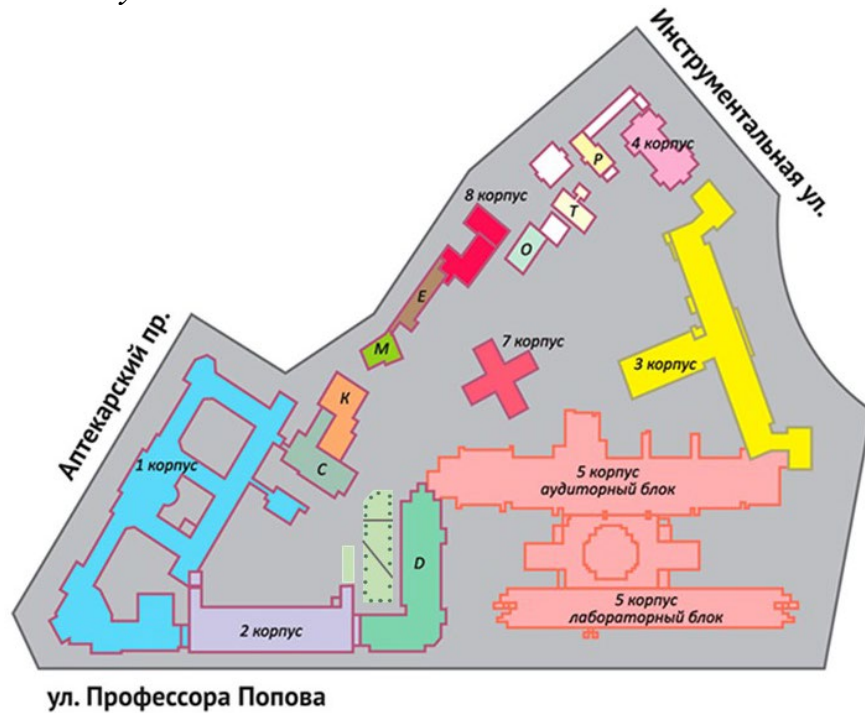
- Parking place for bicycles (instead of garages),
- Graffiti design for the wall facing the Vologdin garden. Motif of the graffiti – Vologdin inventions and laboratory where he worked.



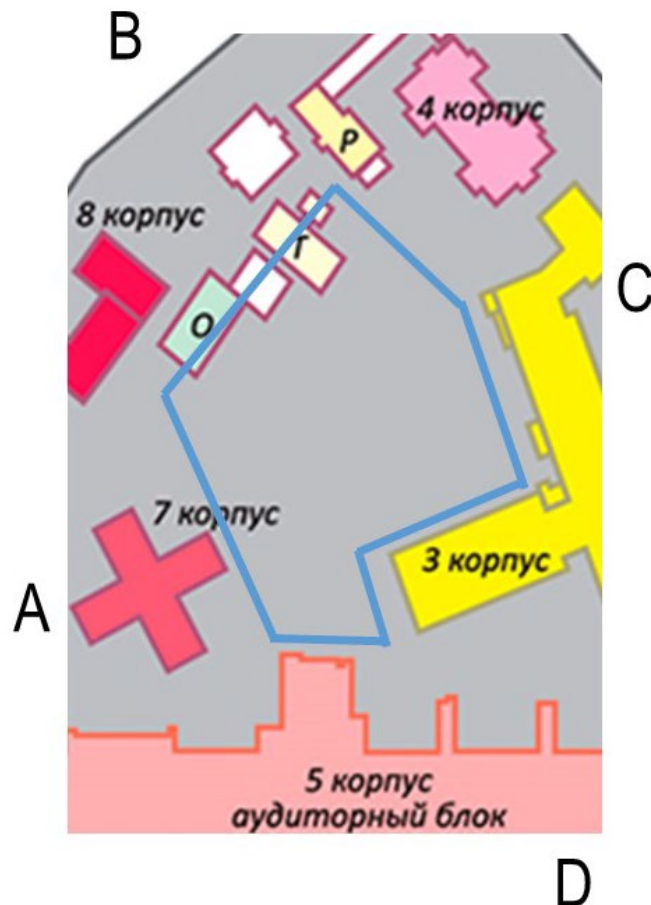
2. The Forum.

Central area between Bld. 3, Bld. 5, Bld. 7 bordered by the future façade of the new university building.

2.1. General layout



2.2. Enlarged project area with denoted A, B, C, D sides.



At present this site has 8 flowerbeds, walkways, 14 garden benches, bushes, 15 chestnut trees and 4 birch trees.

Views of the project site.

From side A



From side B



From side C



From side D



Assignment: design site development plan with the core function of free-time activities and recreation, including festivals, university celebrations and other events of the LETI community and guests.

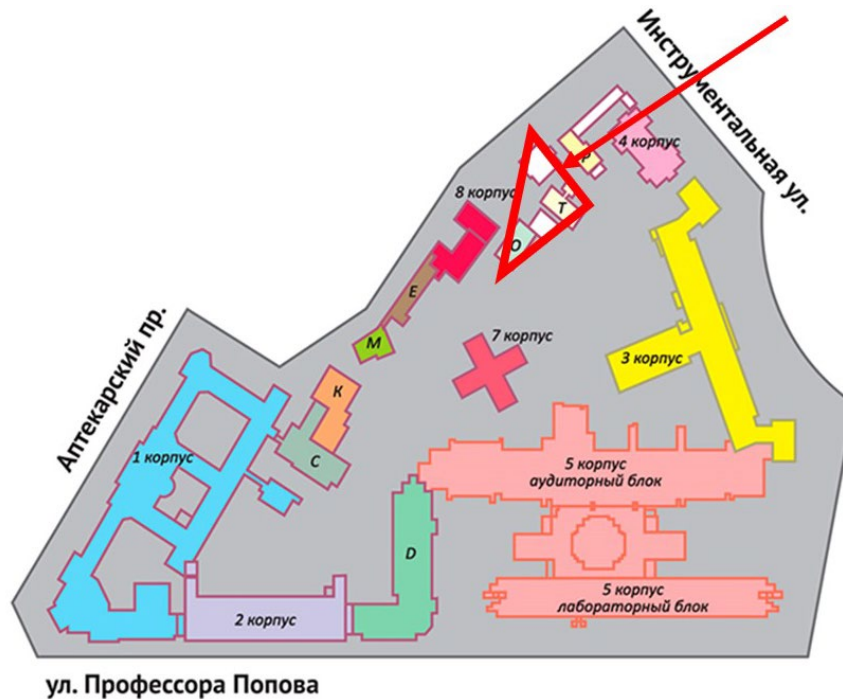
The new site solutions should foresee: additional landscape improvements with new hardscape elements to make this space more usable for the academic and professional forum events.

Additional requirement: most of the greenery, including some flowerbeds, should be preserved.

New development proposal: a new university building is planned in the current Bld. O and technopark location.

Propose architecture & design solution for its façade, taking into account historic background and environment. The construction permit foresees an 8 – 9 storied building with the total area of approx. 23000 m².

Site for the construction of a new university building



3. American lounges

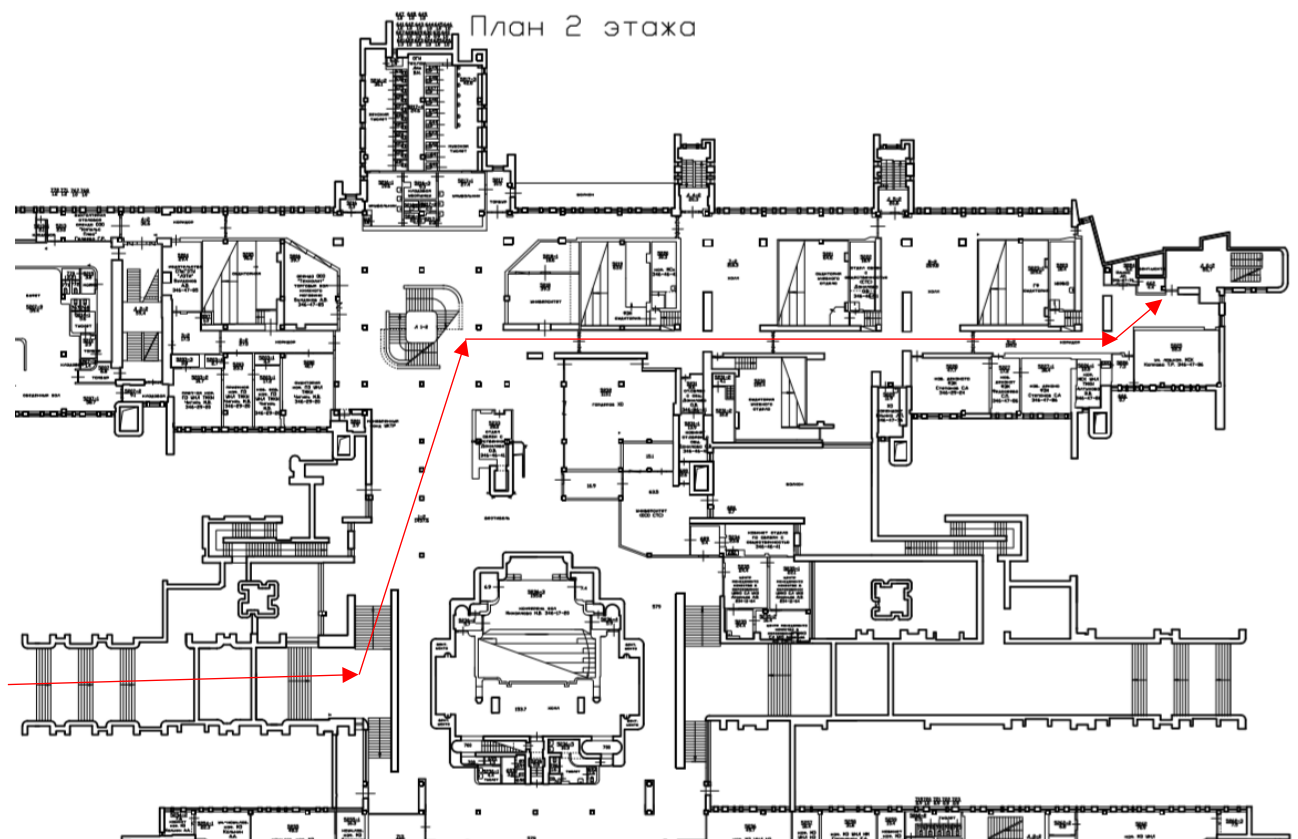
Lobby of the Bld. 5 main entrance connected to the parallel corridors with lounges.

Today the lobby is the main entrance to the university. This is the first indoor space entered by newcomers. It is the venue for university admission campaign. Beside students and university staff it is used by all visitors coming to the Conference hall, canteen, Students' Council and LETI Admission office.

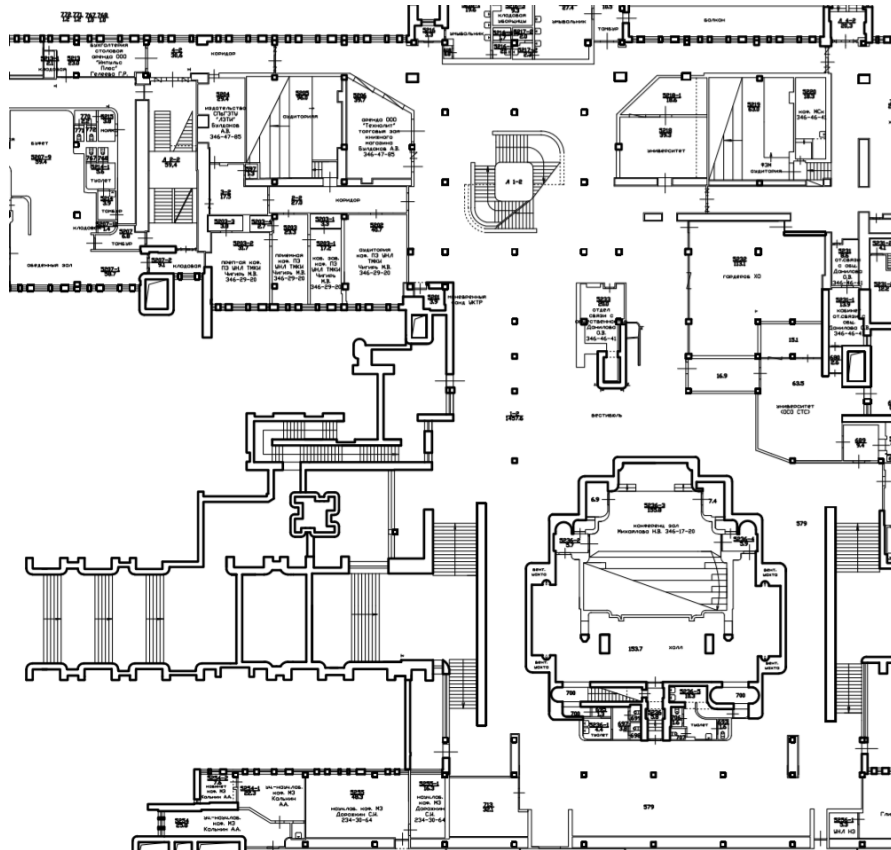
During the university admission campaign each faculty and the Admission committee has a mobile office in the lobby, which is designed as an electronic kiosk.

The lobby also serves as the passage way to the main administrative building (Bld. 3). Corridor leading from the lobby to Bld. 3 has three lounges, which have desks for self-studies.

Lobby, corridor and lounges



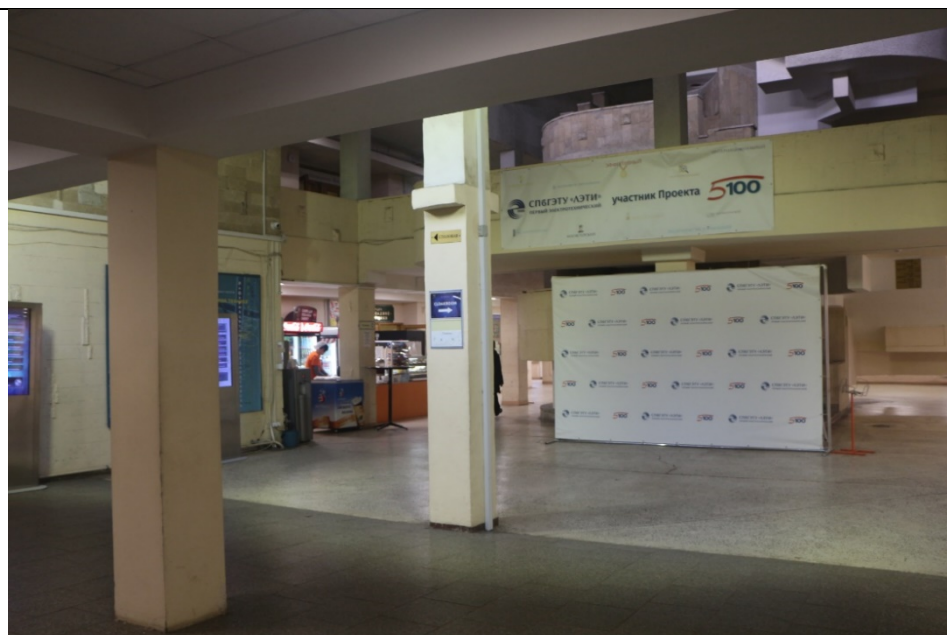
Lobby

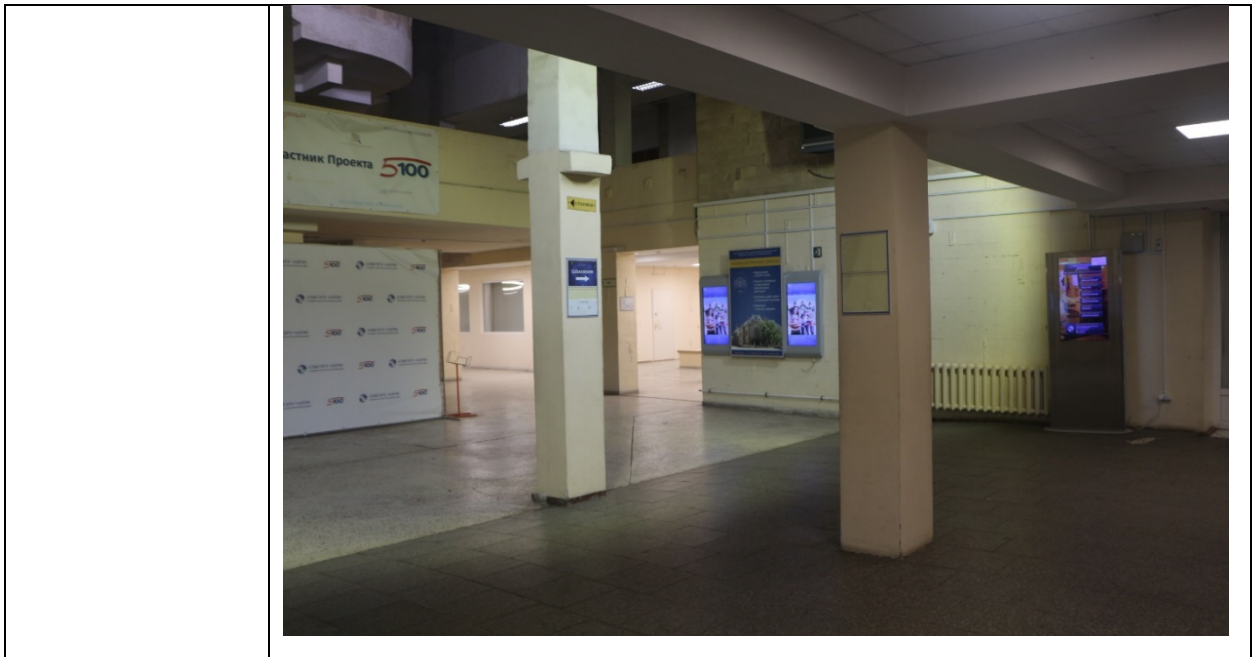


Bld. 5 Lobby









Corridor and lounges for students

LETI needs to modernize indoor spaces used by students, to upgrade them into comfortable public places for different purposes (self-study, group discussions of students' projects, informal meetings, etc.).

Three open halls of Bld. 5 have to be converted into such spaces (colored boxes in Fig. 1).

Basic requirements to interior design:

The overall style is minimalism, with added accents (e.g., zoning indicated by color, topical signage on walls, which make a lounge different from others, etc.) creative solutions are very welcome.

All three halls should be designed in accordance with one concept. This concept reflects to the engineering background of the university and its research directions. E.g., the lounges can be given certain names, which are correlated with design solutions).

Details of the interior help to concentrate, each lounge renders the message of hospitality and creates friendly atmosphere.

Fig.1 Parallel corridors with lounges

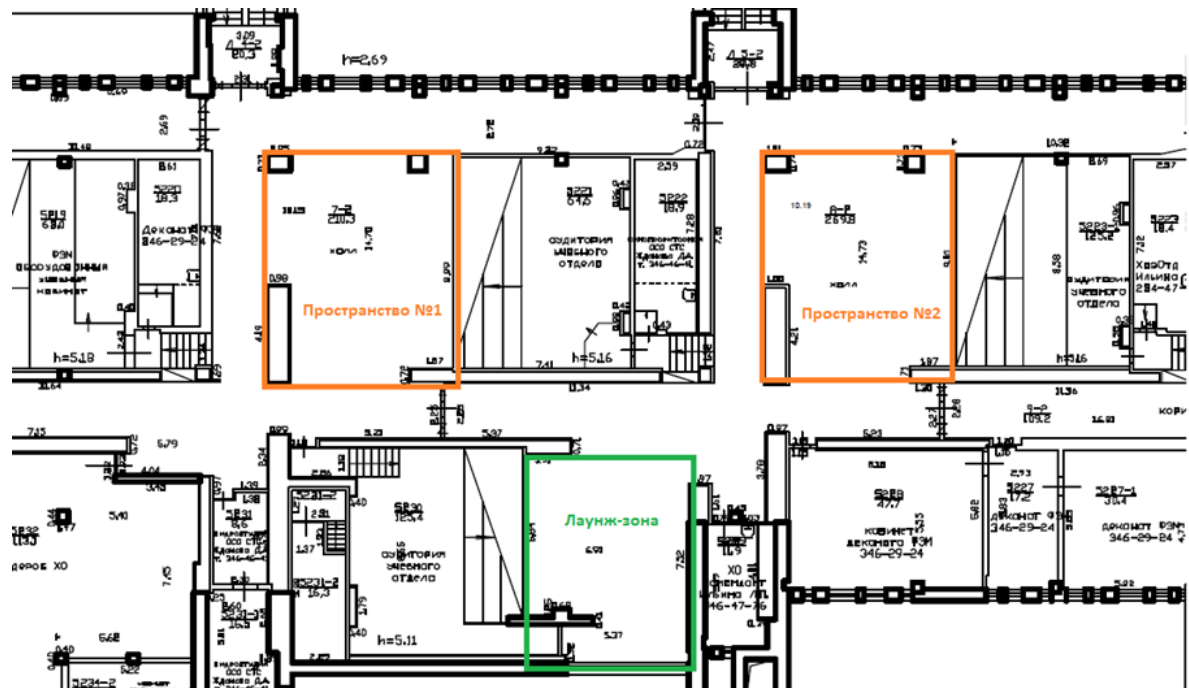


Fig. 1

Functional zoning suggestions:

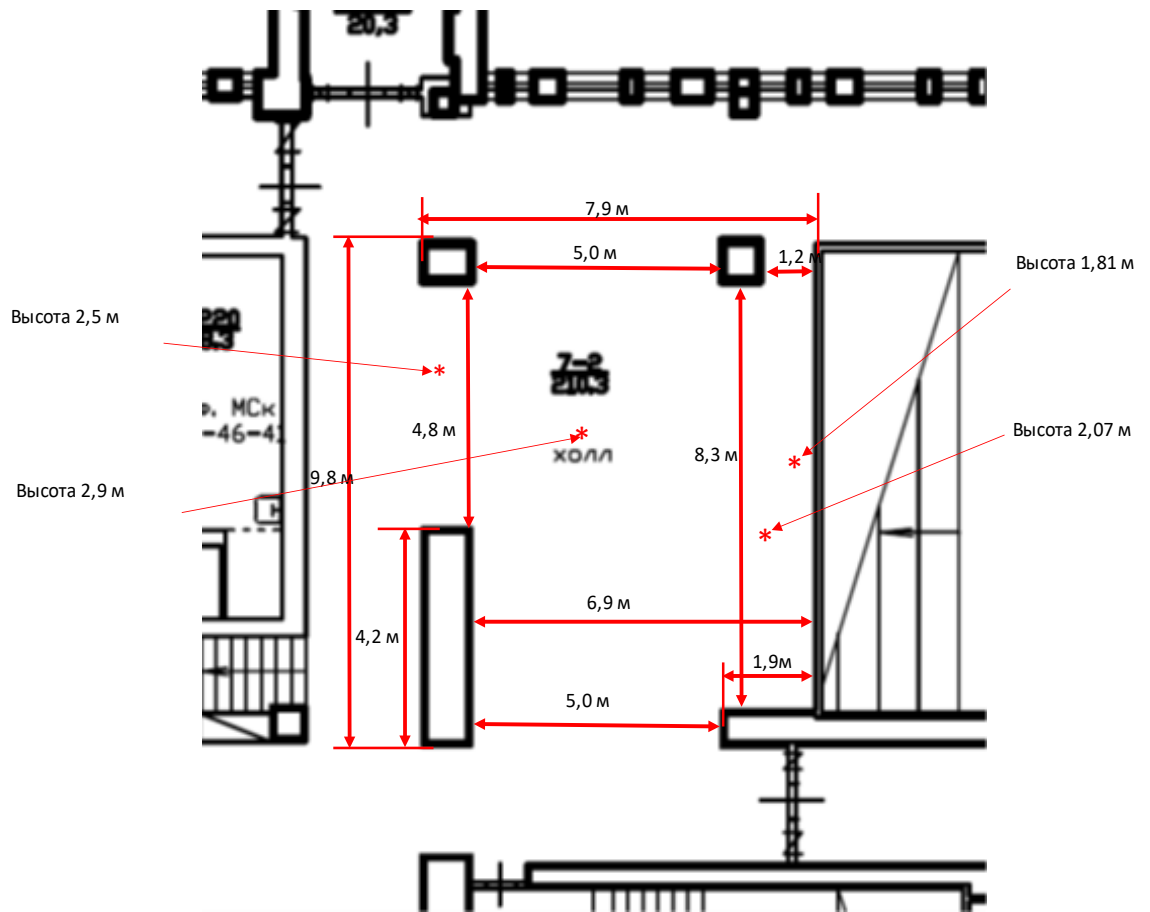
▪ Lounges 1, 2 (denoted by **color** in Fig. 1, also see Fig. 2)

These two lounges have the same area. On the right side their ceiling is slanted.

Their proposed primary function is self-study, but small-group meetings are also possible. Therefore, they can be divided into the following zones:

- joint work, communication;
- self-study.

Lounges 1 and 2 measurements (Fig. 2) and pictures



Lounge 1



Fig. 2

Lounge 2



Fig. 2/1

Suggested furniture:

Comfortable and ergonomic chairs, benches, desks with access to power sockets. In the community zone – long tables. In the self-study zone – individual workplaces.

Sitting places can also be arranged around columns.

Minimalistic design can be accentuated by plants or technical artefacts. Wall and floor color scheme can be lounge-specific. Decorative elements can be added to the wall design, e.g. techno patterns, formulas, quotations, etc.

Floor coloring can be used to identify the lounge boundary (visual separation from the corridor)

▪ Lounge 3 denoted by **color in Fig. 1**

On the left side the ceiling is slanted.

The primary function of this lounge is networking and communication.

Its two zones can be designed for:

- private talks and meetings;
- community zone with the presentation facilities, e.g. movable platform for a presenter, multimedia screen and portable seats/chairs for the audience;
- green zone with plants is desirable.

Lounge 3 measurements, layout and picture

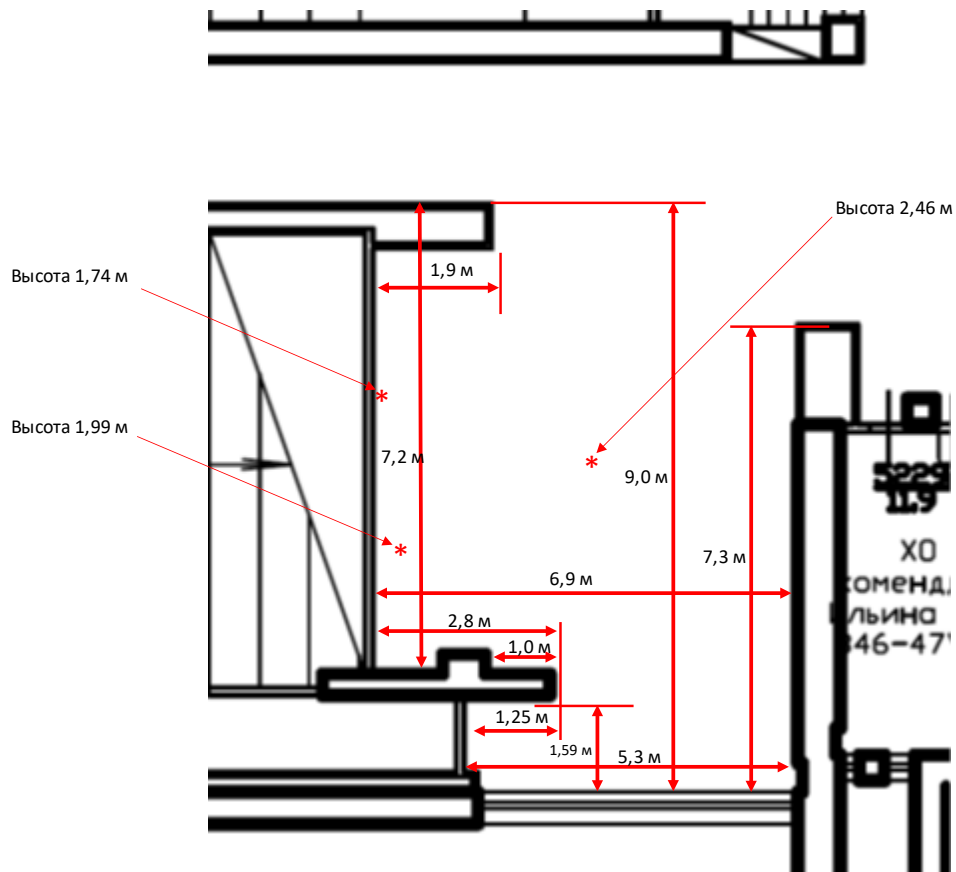


Fig. 3

Lounge 3 furniture and equipment:

Comfortable ergonomic seating places, small tables, ‘small lecture room’ arrangements. Many points of access to power sockets.

Brighter colors can be used in the Lounge 3 color scheme, but the overall stylistics is in tune with Lounges 1 and 2.

General suggestions for the 3 lounges

- high-speed wi-fi,
- multimedia screens,
- water coolers (dispensers with hot and cold water),
- Bins for separate garbage collection (in the corridors).

Lighting arrangements:

- diode, neon or spot lights
- functional light zoning.

Not to be used in the lobby and lounge design:

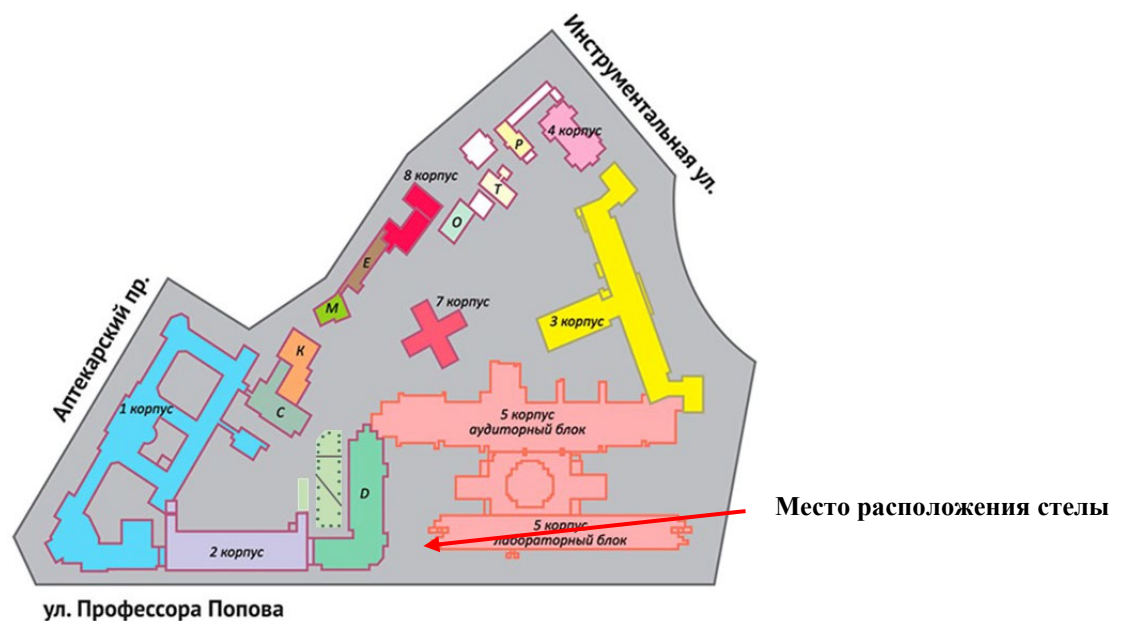
- bag chairs,
- shapeless furniture,
- artificial leather seats,
- hard, bulky and heavy benches and chairs,
- dark graphite walls, which can be used for drawing.

Assignment: develop integrated design for the lobby, corridor and three lounges. Multifunctional spaces for studies, presentations and informal meetings.

4. Entrance area and the Cube

Including:

- Entrance pillar with university name in 2 languages, near the main entrance from Prof. Popov str.
- The brick cube structure near the stairway of Bld. 5.



Entrance pillar



Requirements to the pillar design:

1. Full name of the university in Russian and English.
2. No specific shape requirements, but it should be clearly visible from the street.
3. Color scheme in the university corporate colors or black and silver.
4. The pillar should be in tune with the university entrance ensemble.



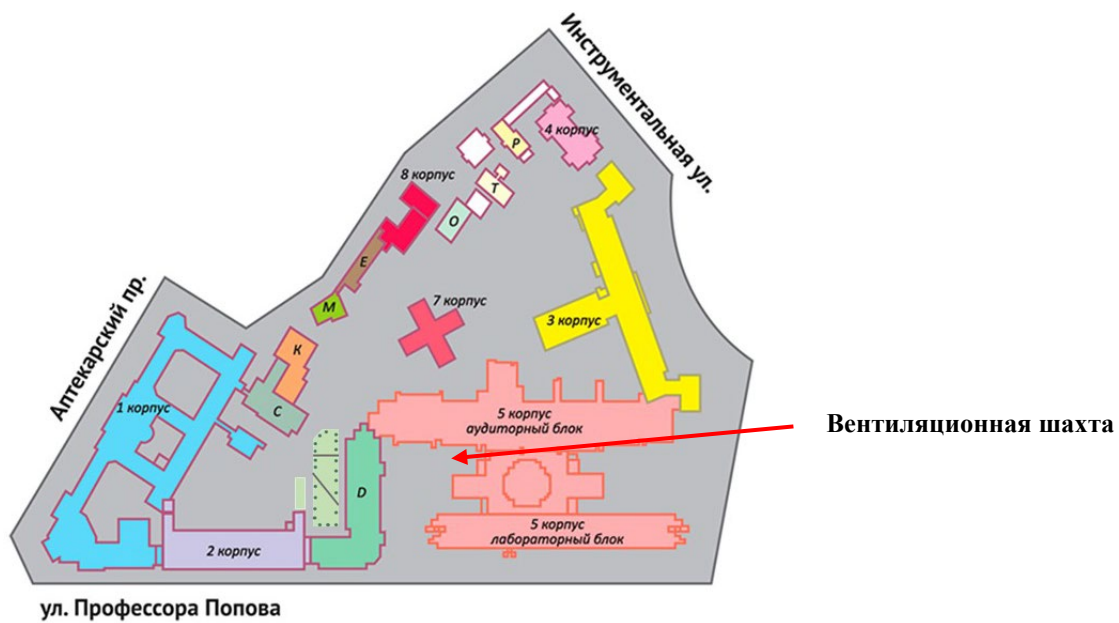
-The Cube functional design solutions.

The cube structure is a ventilation shaft, which is conventionally used for placing campus topography information.

Requirements to the cube design:

Walls and top surface of the cube should be used for placing topographic and other information about the campus in two languages. It is desirable to use corporate symbols and emblems in the design.

Assignment: design the entrance zone including the information pillar (stela, block or another signage solution) and the cube as the hospitality area and modern information space, which presents LETI campus and its topography.



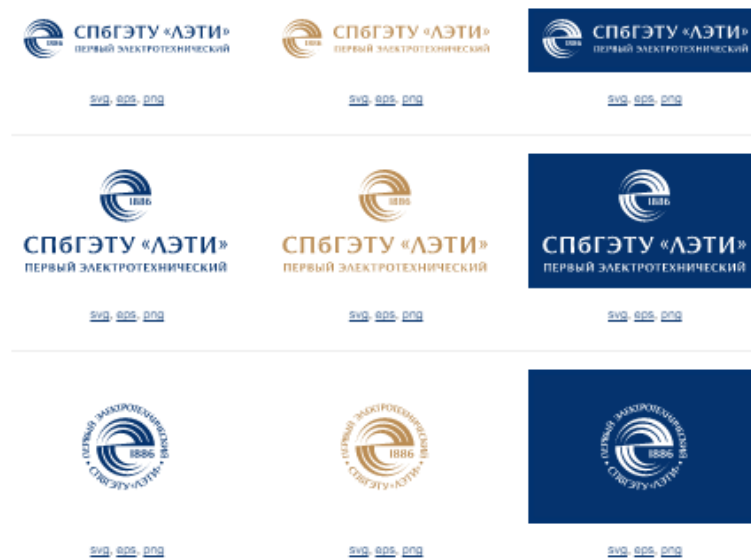
LETI Corporate Insignia

Фирменный стиль СПбГЭТУ «ЛЭТИ»

На данной странице представлена информация и файлы, на базе которых строится фирменный стиль Санкт-Петербургского государственного электротехнического университета «ЛЭТИ» им. В.И.Ульянова (Ленина) СПбГЭТУ «ЛЭТИ».

Стандарты использования логотипа

Кириллическая версия логотипов



Латинская версия логотипов



Коды фирменных цветов

C:100% M:75% Y:0% K:37%	R:5 G:51 B:110	#05336a
C:0% M:30% Y:70% K:40%	R:187 G:141 B:84	#bb8d54
C:0% M:0% Y:0% K:70%	R:109 G:110 B:113	#6d6a71