

Archduke Rudolf Barracks - Project of the Academic Park (Казарми архікнязя Рудольфа – проект академічного парку)

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"... Rejection of monofunctional areas is a prerequisite for the integration of different types of people and activities. If we return to favor of such opportunities will be decisive factors in the planning and design in the mid-scale and very small. *Jan Gehl, Life between buildings.*

Cracow University of Technology Campus of the name of Tadeusz Kosciuszko in Krakow, Warszawska street nowadays is in the old barracks Archduke Rudolf. Land and buildings have been adapted for educational functions, there is a majority of University faculty, library and Rector. Unfortunately, the effect of these transformations is to produce a hostile area and inaccessible to students. Former maneuvering was transformed into a park area but now its main function is parking. Thus, this area is mostly subordinated to cars and their needs and it is not friendly for students and visitors of campus.

The project aims to raise spatial standards of university to make it a friendly place for all people residing there, enriching it with education and exhibition in an open museum team and information.

The project is also designed to develop the academic mission of a university technical education to the dimension of the cultural impact of tourism on the broad social groups, promotion of technological history, cultural heritage, attitudes of respect for the wider tradition, patriotism, technical and engineering, incentives to undertake technical studies.

The project also puts a strong emphasis on magnify university patron figure of Tadeusz Kosciuszko in Poland known mainly from military activities, meantime he was also a great engineer-architect. This aspects of biography Kosciuszko and the history of engineering, will be exhibited in the gardens of university.

Location

Campus is an extremely attractive place is situated in the historic 120-year-old barracks, built during the Austro-Hungarian Monarchy, at 24th Warszawska street. It is situated 15 minutes walk from Main Square and 5 minutes from Central Station. Park complex character of the area and the history that makes it very attractive tourist place located within the influence of the antique city.

Historical Archduke Rudolf barracks team in Krakow

The barracks were part of a huge team Fortress Krakow. It is the largest in Poland, the largest in the former monarchy and one of the world's largest example of nineteenth-century ring fortress. It consisted of several hundred objects, including dozens of forts, connected by a system of special roads and greenery, and with the great barracks and logistics teams. The historic complex of the old fortress is network surface structure of over 400 km² in Krakow and the surrounding municipalities. Most of the fort buildings still exist, discovered acting only for cultural tourism (industrial and military) superstructure.

Arising in the period 1850 - 1870 Fortress ring system, with numerous works of defense was a key component of defending the borders of the Austro-Hungarian Empire, on Vienna the operating direction. Its construction has changed significantly the spatial structure of the city. Already realizations core fortress forts and forts forward (Kosciuszko, Luneta Warszawska) has created the need to build housing facilities for a growing crew of the garrison.

The first barracks built in 1855 in the Wawel, designed by Feliks Księgarski, built a military hospital and barracks block. Next, create new teams in barracks Piasek district. In 1858 Feliks Księgarski develops a large building barracks Emperor Francis Joseph on Rajska Street, intended for infantry regiment. In the 60's Street. Siemiradzkiego formed a smaller team barracks intended for the National Defence Forces. Finally, the 70's and 80's the nineteenth century is the realization of the military district, the proximity of the railway line, railway passenger and freight task and facilitate the functioning of the team. The district was defended by three largest forts of Fortress Kraków - Fort III Kleparz, Luneta Warszawska, Fort V Mogilski).

Stages of development of the Cracow University of Technology:

Phase I - construction of a core team of the barracks, designed by architect Antoni Łuszczkiewicz, 1878-1880.

Phase II - expansion team of the band barracks, storage-marketing and construction of the garrison, the magazine of war materials by rail in 1880-1882

Phase III - to supplement the basic team building barracks for the officers' casino building and completion of infrastructure works technical network (system of roads, underground and green), 1905-1907.

Phase IV - maintenance and adapt to the needs of the Polish Army in 1918-1939

Phase V - the period after World War II, gradually taking over the complex of the barracks by the Cracow University of Technology. In place of the demolished buildings, rise a new cubature objects.

Archduke Rudolf Barracks alluded to its urban structure to the Vienna Arsenal. This property consisted of two parts - east, with buildings: the staff, three battalion buildings, arrest, magazine (later officers' mess), coach house and stables and the west, containing the armories, artillery with the horse stables, sapper materials warehouses.

This project involves the eastern part, preserving the monumental nature of large, permanent regimental barracks, built according to the latest era in its functional and formal standards.

Questionnaire

Campus project was not only based on historical materials, to meet the expectations of key users, a survey was conducted among students and university staff. The survey was to identify what are the most problematic area of consideration and understanding users needs and their expectations for these areas.

The most frequently mentioned problems of the current situation include:

- the dominance of car communication and its collision with other traffic participants of pedestrians in particular, too many parking spaces in the courtyard;
- lack of an orderly, pleasant and well-kept greens, accessible to users;
- minimal number of seats and place to study, especially for students;
- lack of clear information about the campus (location of objects, signatures object).

Respondents also drew attention to too much concrete space, "a small number of available entrance on the campus (especially from the Avenue of the Three Bards)", "random" structures, and "trap" for disabled people, not enough places for small catering and stationary bike (especially with monitoring or indoor).

Ideas of users:

- create space for open-air exhibition of work and achievements of students (mockups, models, machines, best diplomas, drawings and sculpture gallery), of integration between students of different departments;
- organization of cultural events (festivals, exhibitions, competitions, picnics, departments days, conferences and scientific meetings);
- the emergence of mainstream, well-maintained greens, the location of the garden fountain,
- create a clear communication system;
- create links between information systems, existing objects, history, and green areas.

The main idea that emerged from the projects is the need to create MEETING SPACE, and the exchange of ideas between students, professors, artists, art enthusiasts and other stakeholders, and it becomes a direct contribution to create the image of "FRIENDLY COLLEGE".

Project description transform campus for the "museum-Educational Centre in the historic garrison Team Fortress Krakow - the seat of Cracow University of Technology, 24th Warszawska Street and create the garden of the academic, assumes:

1. Renovation of the building of the former Brig with its equipment, which gives him the functionality of a modern museum and make it available to visitors;
2. Execution of works on repair of the facade of the building of the Faculty of Civil Engineering.
3. Conduct of promotional and informational project and the newly established museum-Educational Center.
4. Recomposition old square maneuvering to restore the nature of the garrison of the main axes of compositional and thus reduce the impact of communication functions.
5. Restore ornamental garden in front of a WIEK faculty on the street side of Warszawska and open the gardens for a visitors.
6. Creating a academic garden available for students, faculty and visitors with emphasis on educational functions of the Technical University campus. With an emphasis on the subordination of all the features of an object for the purposes of the people staying there.

Design the garden of the academic

The project is maintained existing structure of green even though it is not an original idea but created in the 50s and 60s of last century. From the original layout of terrain comes tree behind building of the Faculty of Architecture and on the Szlak street so it should be kept unchanged. Felling should be only trees in poor health, some of the trees are for the natural expiration without continuing.

Provided snippets are limited to the necessary minimum, only for health reasons and due to improper selection of species (16 trees). Some of the trees have been provided to the natural expiration without continuation (several pieces). Has also been provided for planting 81 trees in most of the

spherical crowns, in line repeated the original planting their barracks. The project provides for restitution of land and fencing belonging entirely to the Cracow University of Technology - especially the south-west of the garden before the Department of Electrical and Computer Engineering.

The gardens on the side Warszawska street on the front of faculty buildings WIS, WIL, WIEK, emphasizing representative character regain prestige of the university. Monumental buildings dominated by dense lumps once a prospect Warszawska street, being its optical closure. The project has been restored historic system of the gardens. Openwork fence will allow at visual penetration its space from the street, it can intrigue, interest the composition of green - to encourage input.

The proposed fence will be uncover the university and clearly emphasizing the entry into the campus, which will affect the improvement of visual communication the University with surrounding terrain. Proposed opening of two equal inputs from the Warszawska Street and entrance from the Kleparz. Ultimately, provided for an additional entrance from the side of Szlak Street at the Department of Chemistry. Inputs and tracks leading from them emphasized planting of greenery and placed by them information and education boards.

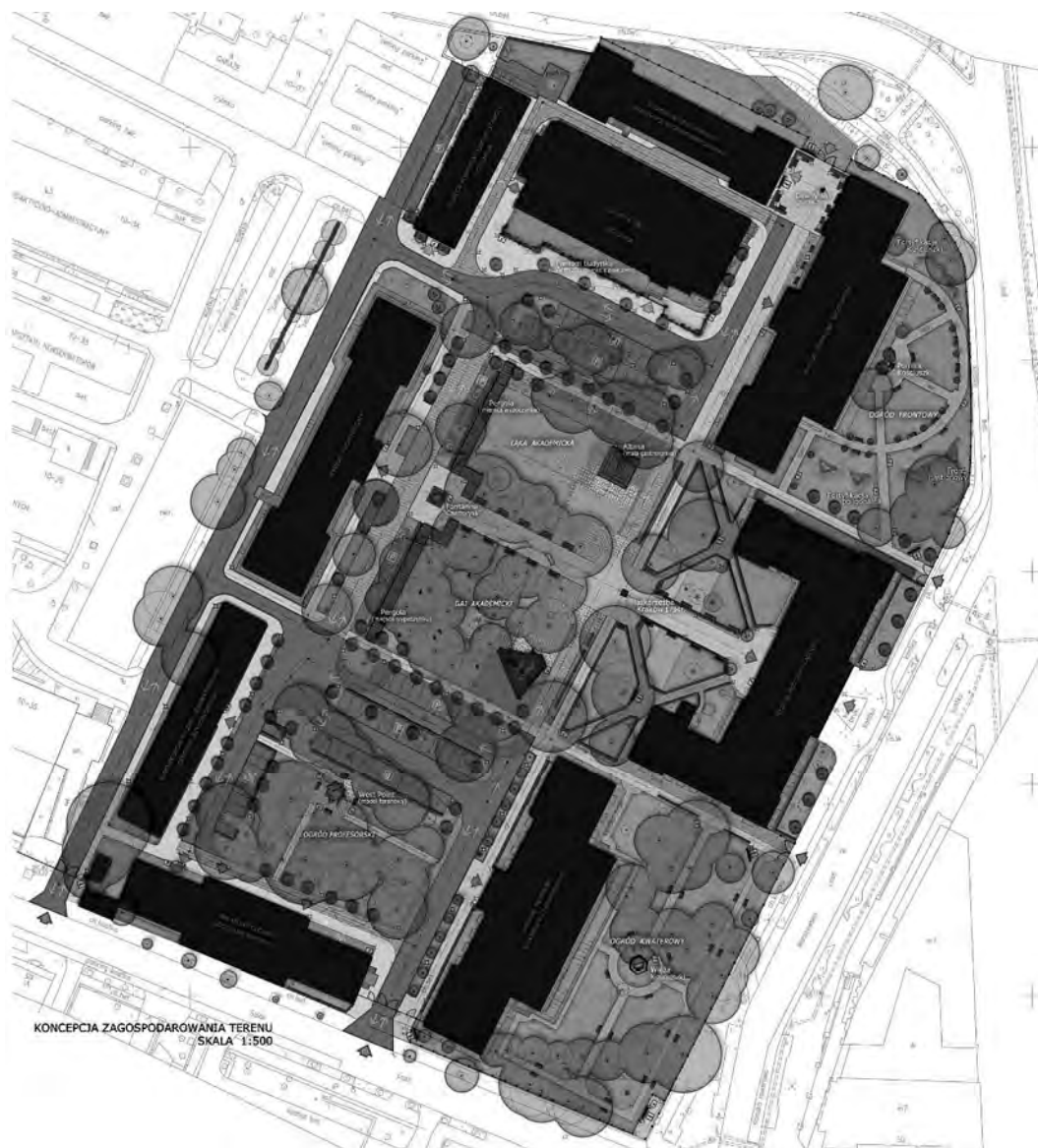


Photo 1. Design of the campus

Communication system - consistently geometric, raster, and retaining the axes and directions in the inner and the outer part of the University. Raised will be the rank of the axis for walking and cycling traffic along the side facade of the building WIL. Left will be cross axis of symmetry of the system (WIL-Architecture building), but with weakening of fences in relation to the surrounding green areas. The intention of the authors is to change the nature of the currently tight closed avenue to the central opened part of the academic forum, recurring the idea in the reducing character the old, open, exercises square.

Will be highlighted three main communication routes:

- The sequence of longitudinal eastern gateway Szlak Street to the gateway towards Western Avenue.
- String, inside-the library building to the pavilion, conference and exhibition boiler.
- Western outer longitudinal string - long avenue barrack, formed after reconstitution of entry from the Szlak street.

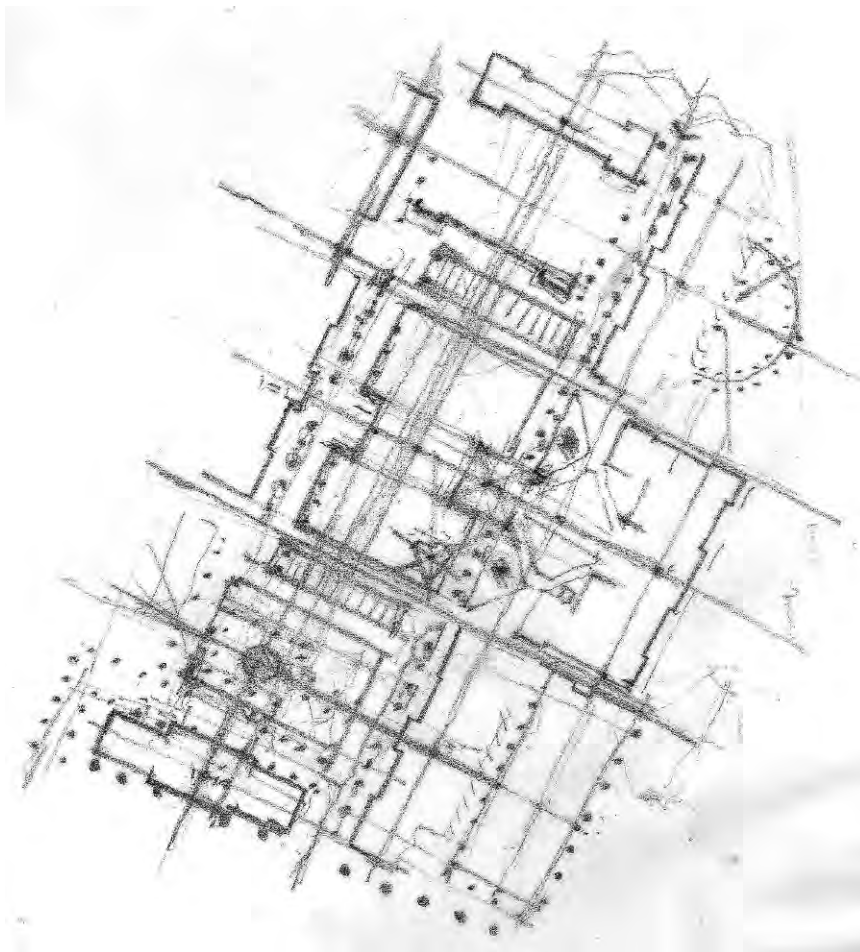


Photo 2. *Analysis of the axis of the campus*

The project entails the restoration of land of historic gardens in front of WIEK and WIS faculty and the recomposition within the old courtyard, with emphasis on the axis connecting the buildings around the courtyard. The area was divided into five areas: central garden, garden in front of WIEK, a garden in front of the WIS, garden behind the WIL building, professorial park behind the building of the Library.

Garden south-east front of the building WIEK with an area 28 are, will be ultimately quarters garden reconstructed on the basis of the project from 1878. This area is visible from urban areas, he will have teaching and exhibition functions, mainly for the purpose of cultural tourism is also available for the academic community. In center of the garden will be provide a model of field fortification project of patron of the University - so called. "Tower of Kosciuszko."

Gardens north-eastern front of the WIS with an area of approximately 20 are, arranged in coaxial radially with the teaching and exposure function mainly used by service tourism activity. In his area will be presented three models of fortification systems, existing at the time of Kosciuszko: bastion, forceps and polygonal. In the center of the composition will be stand the bust of Tadeusz Kosciuszko.

Garden Center, a building WIL - existing quarter garden with diagonal layout of paths with an area of approximately 18 are. Gardens were created in the interwar years and defined in the 60 - the last century. This area should be designed for the academic community and tourists, with two tables, information and education board, 3 desks board, in the center will be placed a relief with a plan Krakow with Kosciuszko trenches from 1794. Before the side entrances to the building WIL introduced plazas to improve pedestrian traffic and giving the possibility to stop before located there the information boards. The paths that connect to the transverse axis, are introduced into the square opening in the broad courtyard of the former parade ground.

Garden Center - Forum of the University of area of 37 are. Early this area was "empty" square parade now has a form of "green grove" with added buildings canteens, reading magazines and bar, which along with the paths and streets makes impression of a big maze, unintelligible and unfriendly for the academic community. In addition, it deepens the impression of ubiquitous parking, fences, hedges around the green areas that make them inaccessible to persons residing in the university square.

In this situation, the project involves idea of "cleaning" university forum. Will highlight the compositional axis connecting the campus through the paths and trees. Inserted is a double avenue of trees running around the court referring to the avenue of the paddock. Road will be straightened in order to repeat the central axis of the garden layout, ordering the same space and giving it a fixed, repeatable system. The square was divided into two apartments:

- shrubbery by Łupinka intended to be academic meadow,
- square created after the demolition of the current periodicals reading room, intended for exhibition area the for students projects, engineering monuments as well as the integration of students from different departments.

On the runs through the garden central axis connecting the building WIL and the Faculty of Architecture, will be placed a fountain with a plan Czartorysk Fortress and a bas-relief Krakow from the year 1794 emphasize the central assumptions.

Before the building of the Faculty of Architecture has provided a pergola as a meeting place for the academic community and form view closed from the WIL faculty.

In the area of the square is the tall green from different periods of development underpinned campus hedges and shrubs which introduces chaos and illegibility of the system. The project provides removal of shrubs obstructing views, which are often in very poor condition. Trees in good health will be subject to beauty treatments, while those in poor condition or planted as a result of poor selection of species will be removed. Hedges will be sparse to create points of coming to the grass surface.

These treatments have led to create wide interior of a meadow character and grove highlighted, which will integrate students from different departments, referring to the academic gardens institutions such as Harvard, Oxford, MIT.



Photo 3. *The present state of the University courtyard*



Photo 4. *Inspiration – Harvard garden*

The courtyard will be surrounded by a row of spherical trees being reference to maneuver square, emphasizing the facades of buildings. View from the north will be reduced by trellis repeated facade of the Detention curtained by cafeteria.

Projected straighten of roads, green squares and the subordination of the existing axes system, will change the location of parking and increase number of parking spaces, they will be partially masked by planting low-ball trees, giving shade for parked vehicles.

Expected is a standardized color of all paved surfaces hardened and partially hardened on campus. According to the real nature of the barracks foundation color (red walls and roofs + green background + bright, gray-cream color of the square) provide for a clear two-tone pavement, gravel roads and gravel-grass surfaces.

Garden south-western area of about 15 are, behind the former store, casinos, today's Libraries and will eventually Rectorate. The partially hardened area where the building axes will be highlighted: WIEK faculty, Libraries - Department of Foreign Languages unlike the directions will be included in the turbine system located at the site close to the "golden ratio" of the garden surface, adorned with a terrain model of the central fort fortress West Point - the most important and effective work defense designed by Tadeusz Kosciuszko – international and clear sign of his genius and the Polish engineering thought First Republic of Poland. Garden was planned as a professors garden with preserved of the majority of trees planted there.

Design Centre of the Museum – Detention

A museum located is in a former regimental arrest. The building structure is tripartite, composed of two tree-route ledge with a narrow inner passage and large halls and also tree-route ledge prison corps, with the cell sequences and a great one-space communication hall, evenly and bright lit and with large skylight roof. At the beginning of the 90 was introduced on a piece of mezzanine - 3rd storey, available by steel spiral staircase.

The project envisages three stages of the project:

Stage I

- basic functional adaptations, restore entrance to the administrative part of the University (escape routes), the introduction of elevators, security barriers, the alignment of wooden sidewalks in the gallery and plastering the surface of the great hall in the body of the prison.
- adaptation of a high standard 1 hall University Museum for media center, adapt 4 cells to the needs of exposures and the possibility of projection on a white interior wall surfaces (the project "live, virtual frieze"). Optional – possible is introduction of a single model suspended from the ceiling with a vertical projection on the floor of the entrance part.

Stage II

- Organize a reception area space with alternative stairs, and adaptation all cell in the eastern part of the building.
- Arrange for exploring the path from the entry to the exit by reception block in the eastern part of the building, visit the exposition opened on the lower stoe of the great hall of a prison transport (wall exhibition, fortress building model exhibitions) and a visit route of cell (two of them - will be a full reconstruction of the prisons cells, other will be expositional annexes, dedicated to the development of engineering in an age of First Industrial Revolution).

□ From the 1st floor will be able to watch at top fortification models, wall exhibitions, there also will be the next cell rout as exposure annexes to the board, model and multimedia exhibition dedicated technology in the time of the Austro-Hungarian monarchy , World War I, Polish between the two World Wars , and the formation of Cracow University of Technology.

□ On the first floor you also will take part in a big media show, watching the spectacle - vivid frieze era, cast for 6 multimedia projectors on the interior walls of this great hall. Crowned of hall will be hanged in the skylight, models of aircrafts from the late nineteenth and early twentieth century, with more than 14-meter long airship model SL-2, well harmonized with architecture of the skylight. This unexpected great model aerostat, who as first execute a patrol flight over the southern Polish in 1914, has a chance to become an objective, almost legendary attractor, drawing viewers, especially younger ones, to the Museum of PK (on the same basis as fully-scale Liberator model in the Warsaw Uprising Museum .)

□ After leaving the great hall, the path leads to the floor in the eastern part of the building, where you can see movies (multimedia room) and see the exhibits depicting the history of Cracow University of Technology and its alumni. Paths leave the floor with new staircase leading to the space on the ground floor reception area.



Photo 5. *Visualization of the interior of the museum*

The present project is focused mainly on issues related to raising the prestige of universities, to show the history of engineering as well as bringing a wider range of people the achievements of university patron Tadeusz Kosciuszko. But the project was not only subordinated to the issue, it also implies a greater adaptation of the university land to the function of people staying there to become a friendly place for students, professors and visitors.

Therefore, this project could become the model for the implementation of the image of college health and devotion to her land in the "possession" of the academic community.

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