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# Rise and Development of St. Petersburg State University – A Case Study

***Mariia Slastunova***

Post-Graduate Student,
Institute of Education,
National Research University, Higher School of Economics, Moscow, Russia

***Prof. Ravinder Rena***

Professor of Economics,
Faculty of Management Sciences,
Durban University of Technology,
ML Sultan Campus, Republic of South Africa,
Visiting Professor, Department of World Economy, Saint Petersburg State University, Russia

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## ABSTRACT

**Purpose:** The main purpose of the article is to analyze the perspective role of the development of new campuses with its alterations in the infrastructure of universities from the point of view of a convenient learning environment for students and development zone of an urban cluster and the infrastructure of the district uniting research centers of the university and attract key partners from the real sector of the economy. The purpose of this study was to analyze the development of St. Petersburg State University (SPbU) territory and the technological valley "Innovative Scientific and Technological Centre (INTC) SPbU "Nevskaya Delta", and analyze the current state of arrangement and location of the university campus and its dormitories. **Methodology:** This study used an exploratory and thematic analysis of the St. Petersburg State University and the construction of a new development area is used as a basis for this project. When considering the construction of the university campus, the current problems of the university related to the location of dormitories and main buildings of the university were also considered. The prospects for the construction of a new campus were analysed and recommendations were made. The methodology of this research is based on the systematic literature review. **Findings:** The paper assessed the relevance of the development area plotting at St. Petersburg and considers the relationship between the university and the city as complementary parts of improving the city's areas. Summing up the results, it can be concluded that campus solutions cause transformation not only in the university sphere but also have a positive effect on the infrastructure of districts and the city as a whole. **Originality:** This paper provides a comprehensive picture of rise and development of the SPbU. The functional interaction between the city and the university campus was examined, comparing them with the already-built spaces of the university and those planned for construction.

***Keywords****: University campuses; spatial environment; St. Petersburg State University; university-city relations, innovative educational environment*

## INTRODUCTION:

The canvas of higher education in Russia has undergone significant transformation in recent years as manifested not only in the realm of academics but also in the physical evolution of university campuses. Over the past five years, a notable shift towards modernization and the implementation of innovative pedagogical models have led to the construction of new and architecturally progressive university campuses across the nation.

Architecture of higher education in Russia has become an intriguing field of study, reflecting shifts in educational philosophies, technological advancements, and socio-economic changes. The motives driving these modifications are as diverse as technological innovation, factor claims of sustainability, and aspirations to create conducive learning environments that foster intellectual growth and creativity. By examining these unique developments, this paper intends to contribute substantially to the understanding of how physical spaces in the higher education realm intertwine with educational philosophies, societal expectations, and the changing face of modern education. These changes are facilitated by real developments undertaken by the state in supporting projects to build new university campuses. The launched projects “5-100” and “Priority 2030” in the sphere of reorganisation of higher education in the Russian Federation are aimed at increasing scientific and technological potential, expanding inter-institutional networking and integration of university science with scientific organisations and the real sector of the economy, and developing international cooperation.
Within the framework of the national project "Science and Universities" is included the goal to create 30 world-scale university campuses in the Russian Federation by 2030.
The planned creation of an "intellectual belt" of a series of university campuses was facilitated by the Resolution of the Government of the Russian Federation No. 1268 "On the implementation of the project for the creation of innovative educational environment (campuses) using the mechanisms of public-private partnership and concession agreements". In Pushkinsky District, the St. Petersburg State University development area, the technological valley "Innovative Scientific and Technological Centre (INTC) of St. Petersburg State University "Nevskaya Delta" and ITMO Highpark are planned for construction.

For this purpose Russian university campuses should solve the following tasks:

1) Planning and infrastructure: create a comfortable learning environment for students;
2) Technological infrastructure: the developmental area should evolve into an initiative emphasizing urban cluster and infrastructural growth, combining universities with research centers in the region.
3) Partner engagement: attract key-partners from the real sector of the economy.
4) Logistics planning: construction of a convenient transportation system for students and citizens alike.

The purpose of this study is to analyze the development of SPbU territory and the technological valley "Innovative Scientific and Technological Centre (INTC) SPbU "Nevskaya Delta”, and analyze the current state of arrangement and location of the university campus and its dormitories. The new campus of SPbU is presented as a possible solution to solve these challenges and to utilize the gained experience in the development of new world-class campuses in Russia and abroad. To compare the current arrangement of the university with the future development project. To describe the development area of the southern district of the city of Saint Petersburg and to identify the impact of the university on the development of the city.

## THE OBJECTIVES OF THE STUDY:

1) This article contributes to the increasing demand of the state for the construction of advanced university campuses of world scale and development territories.
2) The paper assessed the relevance of the development area plotting at St. Petersburg and considers the relationship between the university and the city as complementary parts of improving the city's areas.
3) The functional interaction between the city and the university campus was examined, comparing them with the already-built spaces of the university and those planned for construction.

## LITERATURE REVIEW:

There were a few research studies that are pertinent to this research study that was reviewed herewith. According to the den Heijer’s study, campus functional models are based on five mandatory aspects of university processes: academic (education and research), residential, service (cultural and leisure) functions, business cooperation, and infrastructure (den Heijer, 2012).
University buildings play an important role in urban planning. Historically, many of the world's most famous cities have developed thanks to university campuses. Universities and the globalization of education have contributed to the attractiveness of cities and to accelerated urbanization processes. By building a campus and developing a comfortable environment, the university justifies its entrepreneurial model.

The STRELKA lab study shows that up to 90% of visitors to campus public spaces are local residents. Campuses accommodate commercial facilities, cultural centers, museums, and city attractions. The quality of life of residents, cities and universities increase through small business development and urban services. The partnership between the city and the university is considered mutually beneficial. State-university partnerships involve joint initiatives in which each part plays an integral role such as: social projects, networking platforms, organising internships, business hubs, start-up projects, etc.

The location of a university plays a key role in the choice of a place where human capital will be concentrated. Economist Enrico Moretti has found that an increase in the number of college graduates in a region leads to higher wages for workers at all levels of education. Other studies typically conclude that a better-educated population leads to higher productivity (Hajrasouliha, 2017). According to Moretti, places where the U.S. government set aside land for colleges more than a century ago still employ more educated workers compared to other areas. (Moretti, Enrico, 2004)

The ideal model of a university campus, based on global practices, is a high-tech comfortable and developed infrastructure. This should be like a residential area with hotels and accommodations, cafes, recreational spaces, offices, co-working, and student study spaces.

An inspiring and attractive learning environment has a strong attractiveness when an applicant chooses a university. The following factors are important for the applicants: availability of a comfortable student house, convenient transport links, and leisure, recreational, cultural, and green areas near the campus (Hajrasouliha, 2017).

## METHOD AND DATA:

The methodology of this research is based on the systematic literature review. The data was collected from different journals, books, and internet sources related to the study. The data was also collected from archives of St Petersburg State University and analysed accordingly. The website google.scholar.com was used to search for sources of suitable literature. The following search terms were used to find relevant articles: "university campus", "world-class campus construction", "university campus and city", "university and city", "university educational environment", "university dormitory". In the analysis of the work were added independent studies of the construction of university campuses of such organisations as - Platform Center for Social Design, Consulting Company in the field of strategic planning VEB.RF and KB Strelka, Center for Strategic Developments CSR. Articles referenced within the papers pertinent to the chapter were also taken into account. The data was collected from St Petersburg State University and analysed accordingly. The final selection of literature for review was based on the following parameters:

a) Number of Citations
b) Originality of approach, indicating if the work reiterates ideas of predecessors or introduces unique perspectives.
c) Relevance to a higher education context

## ANALYSIS AND DISCUSSIONS:

### Premises of construction of a new SPbU campus:

More than a hundred years ago, SPb Uuniversity administration had already tried to establish a new territory for the development of St. Petersburg State University due to the lack of space allocated for classrooms. In 1915, a commission chaired by Count Alexey Bobrinsky, a member of the City Council, decided that the Main Building of the University (the Building of the Twelve Colleges) did not fulfil its intended purpose. The New Admiralty building was then chosen as the territory for the further development of the university. However, the project failed due to the revolution of 1917.

The issue of expanding the university territory and creating a new development area was addressed again in the Soviet period. In 1959, N.S. Khrushchev ordered the construction of the Physics Faculty complex in Petrodvorets. Then, the Faculty of Physics and the Faculty of Chemistry were created| established in the Physics Faculty building.

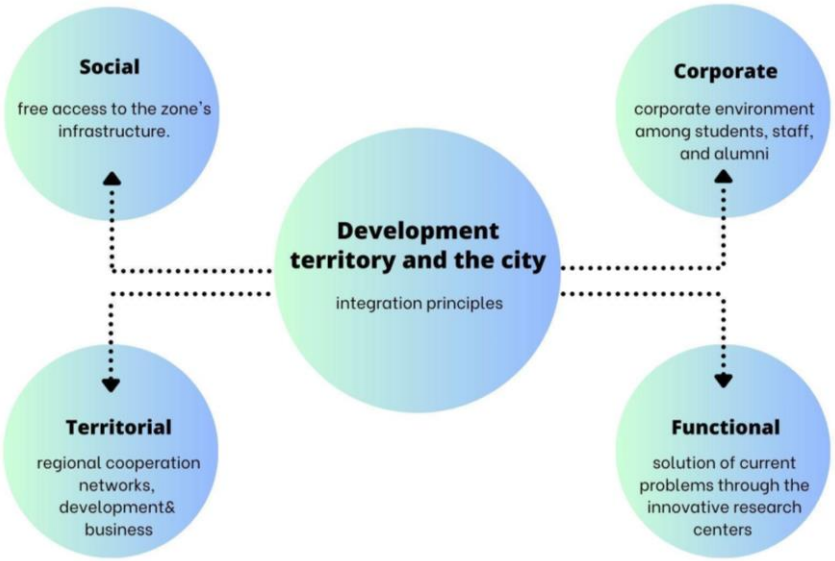
The idea of creating a unified territory for the development of SPbU and the construction of a university campus returned in 2013. An interdepartmental working group consisting of the heads of educational and scientific departments, as well as representatives of the administration of St. Petersburg and the Leningrad region, was created to consider proposals and project plans for the construction of the university campus.

In 2019, it was decided that the SPbU Development Territory would be based in the Pushkin district of St. Petersburg. Pushkinsky District is located in the southwest of the city of St. Petersburg. The distance from the city center is 30 km.
Today, SPbU has faculties housed in over 170 historic buildings located in both the central part of St. Petersburg and its suburbs. The distance between individual buildings of SPbU can exceed 30 kilometers.

**Advantages and disadvantages of the location of the university:**
Based on the key results of the social survey conducted by the social design center "Platform", the brand of the oldest university in Russia is associated with the city center of St. Petersburg (64% of respondents). One of the important criteria when university applicants choose a university is its location (Hajrasouliha, 2017).
Campus location has a great influence on the student's social life, access to cultural activities, and the overall quality of life. For example, a university located in a vibrant city may provide students with a wide range of extracurricular activities, internship opportunities, and a diverse cultural scene.
Additionally, the proximity of the university to students' homes or transportation hubs can impact their convenience and ease of commute. A centrally located university may offer better accessibility to public transportation, making it easier for students to travel to and from campus. The proximity of the university to potential job markets, research institutions, and industry hubs can also impact students' career prospects. Students may have more internship and networking opportunities and be exposed to a broader range of academic and professional resources. This can enhance their learning experience and increase their chances of success after graduation.
In Russian practice, universities in Moscow and St. Petersburg are considered to be the most attractive for enrolment, as it acts as an adaptation platform for living in a big city and building life prospects. University has long ceased to be only a place for obtaining knowledge; instead today it is the social capital of students, where the live interaction between students, professors, and the university community becomes essential, specifically after COVID-19 (de Boer, 2021).
The onset of the COVID-19 pandemic had a tremendous impact on universities, by rapidly transforming the traditional mode of on-campus learning to remote learning. This transition was important due to the need for safety and public health concerns. However, this shift also highlighted the essential aspect of universities - the live interaction between students, professors, and the university community. Live social interactions play a key role in many aspects of university life. It's not only about gaining knowledge but also about forming social connections, creating networks, engaging in debates, experiencing diversity, and developing social skills. These interactions are of paramount importance not only for educational purposes but also for the personal development and wellbeing of students.
After the pandemic, the importance of these interactions has been even more accentuated. During COVID-19, the lack of live interactions has been correlated with increased levels of stress, anxiety, and feelings of isolation among students. It also affected students' motivation and overall learning experience.
In light of this, the significance of having dormitories and their surrounding areas near the university campus becomes even more crucial. The proximity of student accommodations to the campus encourages and facilitates live interactions among students, professors, and the university community.
Some of the dormitories of St. Petersburg State University are located in Peterhof, which is approximately 30 km away from the city center. Most of the university faculties are situated in the city center. This means that students residing in these dormitories have to commute daily from the suburbs to the city center for lectures.
According to a survey conducted by the Center for Monitoring the Quality of Education at SPbSU in the 2021-2022 academic years, the percentage of students participating in university activities does not exceed 32%. The lower participation rate may be attributed to the fact that students living in the Peterhof dormitories face challenges in attending additional events or activities due to the significant distance between their accommodation and the main campus. The travel time from the dormitory to the campus takes approximately 2 hours, limiting the students' ability to engage fully in extracurricular opportunities.
Therefore, when relocating, the university administration should take into account transportation and logistical problems that may arise. The city, which is interested in the development of the Southern District (Pushkinsky District), has responded to the planned university buildings by presenting a plan to improve transport interchanges. By 2024, a high-speed tram line will be built on the Kupchino – Shushary - Slavyanka section of the route, the Kolpino Highway will be widened to four lanes, and a new speed skyway between the campus and subway station will be constructed.

The unity of territories with the academic environment is a fundamental principle in applying the model of construction of the world's leading campuses. A campus is a city within a city with many utilitarian functions, each of which must satisfy students, faculty, and residents of the neighbourhood where the campus is located (Mackean, 2011).
Based on the listed comments on the construction of the project, the SPbU development territory has following integrational and fundamental principles of its organization (figure.1):

**Figure: 1 Framework for the construction of new campuses of St Petersburg State University**




**Source:** Authors' own creation

- Social - accessibility in the localization area of the performance of the University's social function. Access to educational, intellectual, cultural, and sports infrastructures.
- Corporate - creation of a unified developed corporate environment among students, staff, and alumni.
- Territorial - creation of regional cooperation networks (innovation clusters, development territories, techno-parks).
- Functional - ensures the solution of current problems by concentrating and unifying intellectual, technological, and scientific-practical potentials.

The researchers Bers T. H., Smith, K. E., pointed out the importance of forming positive educational experiences for students during university education (Bers and Smith, 1991). The university campus and educational environment are key elements of this process (Mackean, 2011; Stanton et al., 2016). Several foreign researchers suggest that the architectural appearance of a university shapes the university life of students, and the quality of the educational environment of a university campus determines students' academic performance and well-being supporting the relationship between university and dormitory social and living conditions and students' academic performance (Mayhew et al., 2016; Hajrasouliha & Ewing, 2016).
At the initial stage of designing a development area, an important component is the application of the principles of participatory design of spaces (Chapman, 2006). During the discussion of the SPbU development territory construction project, the original design of the campus was amended during the design phase. For example, recreational areas were added, and classrooms were reduced in size (from 60 square meters to 40 square meters). University infrastructure is crucial for the organization of quality educational processes and the development of the scientific potential of students (Mackean, 2011).

**Modern campus development - enhancing educational infrastructure:**
The advantages of building a high-tech and modern campus such as described above are embodied in the new projects. Below the project of development of the territory of INTC development is considered.

**Figure: 2 Architectural Plan of the "Innovative Scientific and Technological Centre (INTC) of St. Petersburg State University "Nevskaya Delta".**


**Source:** Studio44 (2023). Architectural Firm, Saint Petersburg https://studio44.ru/projects/territoriya-razvitiya-sankt-peterburgskogo-gosudarstvennogo-universiteta/

The concept of the development territory envisages: 25,000 students (18,000 of whom are studying in bachelor's and master's degree programmes); 4,000 scientific and pedagogical staff, scientific and technical personnel; the area of educational and laboratory buildings - not less than 483,000 sq. m.; 4,000 people of the supporting staff; about 50,000 square meters of space is required for the University's statutory activity support services; a scientific and technological medical complex with a laboratory block for 1000 beds, as well as a university clinic, including an outpatient diagnostic department and a 300-bed hospital with the possibility of expansion; the university clinic is designed for 550 doctors and 1,050 nursing and intermediate medical personnel; based on the given parameters, the area of the entire medical complex is not less than 75 thousand square metres.

The concept provides for the possibility of accommodation for 100% of students, including residents of St. Petersburg and the Leningrad Region. Therefore, the concept envisages the creation of a dormitory for 25 thousand places within an area of 395,000 square meters.

For holding both university and city events, at a national and international level, it is envisaged to build a congress center with a capacity from 100 to 5,000 people occupying an approximate area of 30,000 square metres.

The concept reflects another proposal of the universalists - a modern sports infrastructure: this includes a swimming pool, an indoor skating rink, an indoor multifunctional complex, and an outdoor stadium. The area of these objects according to the calculations of the interdepartmental working group should be not less than 37 thousand square metres.

In addition, several kilometers away from the development area, there should be a technological valley of at least 100 hectares with the possibility of expansion, which also has to meet very strict requirements.

Following the concept of the interdepartmental working group, the total area of facilities of the development territory alone (excluding the facilities of the technological valley) would occupy more than one million square metres. At the meetings of the interdepartmental working group, the minimum requirements for the location of the development territory and the technological valley were determined: development area - at least 150 ha, technological valley area - at least 100 ha; availability of an undeveloped or sparsely built-up area around it; absence of objects hindering the functioning of the development territory and technological valley; the presence of recreational or park areas in the immediate vicinity; availability of stable transport links with the ring road and the airport; the possibility of connecting the objects of the development territory and technological valley to engineering infrastructure facilities.

On 25 June 2018, the project of the development territory was reviewed and approved at a meeting of the University's Board of Trustees. In February 2019, the College of Honorary Professors of SPbU appealed to the Chairman of the SPbU Board of Trustees with a request to accelerate the decision on the creation of the University's development territory. The construction is planned to be carried out in 2022-2026. The estimated cost of the facilities is 45 billion roubles, of which 19 billion roubles will come from the federal budget and 26 billion roubles from investors within the framework of public-private partnership mechanisms. (Romanenko, K. R., & Lisyutkin, 2018)

The city and the campus form a unique infrastructure contributing to the development of the territory's attractiveness both for attracting talented young people and for improving the region as a whole. Thus, an inter-university campus is an area containing residential, educational, and social facilities for undergraduate, postgraduate, and faculty members of all higher education institutions in the city. Campuses include open public spaces and even form entire urban neighborhoods. Acceleration of development in the socio-economic sphere during the construction of the campus will increase the city budget by 1.7 billion rubles (STRELKA lab, 2022).

According to the plan, we could see a large number of small and medium-sized enterprises (figure 1), which can positively affect the growth of tax revenues in the municipal budget of the city. New jobs will be created. The quality of public infrastructure will increase due to the construction of a higher comfort zone. The cost of commercial and residential property in the Pushkinsky district will increase. Thus, the campus appears as a promising territory attractive for business activities.

For innovative universities at the present stage, it is not so much the academic function that is important, but the actively developing function of cooperation with business. It is the infrastructure jointly formed by the university and business that becomes a platform for the development of university technological entrepreneurship and the formation of the innovative core of the city. This function implies not only cooperation with the existing business but also the construction of innovative business. The responsibility for the fulfillment of a function depends on many factors.

Firstly, a management system for the development of higher education in the country, that includes categorizing universities based on their ownership (private, federal, regional, etc.), has been established. In Russia, over 90% of universities fall under federal subordination. In contrast, countries leading in education exports exhibit a more diverse landscape. The regulated ownership and management structure in Russia imposes significant limitations on universities' ability to collaborate with businesses, particularly concerning infrastructure development, as well as with regional and municipal authorities.

Secondly, the level and quality of urbanization in a country have an impact on universities located in cities. In countries with high levels of urbanization and well-developed urban services like rental housing and diverse dining options, some universities delegate certain service functions to the city itself. Meanwhile, certain university service functions, such as museums or theatres, which require specialized knowledge and expertise, may be developed within the university. In some cases, universities, especially private ones functioning as business entities, take on the role of "developers" for various service functions (Davarian, 2021).

Consequently, the level of societal trust plays a significant role in influencing both overall economic and social development, as well as various individual aspects of this process. In many cases, universities find themselves taking on service functions because of the limited trust that businesses have in academic institutions. Conversely, universities might be hesitant to trust businesses as well. Russia, as a whole, is known for having a low level of trust, and this factor has been recognized as one of the most critical aspects of the country's development process for several years.

These points provide insights into the management and development of higher education in Russia, the influence of urbanization on universities, and the role of societal trust in shaping university functions and collaborations.

## CONCLUSION:

Based on the analysis conducted in this research paper, several conclusions can be drawn regarding the impact of the SPbU development area and the technological valley "Innovative Scientific and Technological Centre (INTC) of SPbU "Nevskaya Delta." Firstly, the construction of modern dormitories within the new development area can significantly improve the comfort of students' lives. This accommodation upgrade can enhance the overall learning experience for students and increase the level of participation in university activities. Secondly, the establishment of innovative laboratories will provide scientists with improved research facilities, leading to more sophisticated and impactful research outcomes. Thirdly, reducing the distance between individual faculties can foster greater collaboration and interdisciplinary research between different fields of science. This can lead to breakthroughs and advancements through cross-pollination of ideas. Fourthly, the active participation of the university in the organization of the city's economy can be instrumental in driving economic growth and development within the region. Additionally, the emergence of new classrooms specifically tailored to the needs of various activities can enhance the educational experience for students and promote effective learning.
Furthermore, changes in the conditions of academic staff's labour content can be expected, potentially leading to increased job satisfaction and improved work productivity.
Given the significant resources required for campus construction projects, it is recommended that such projects be implemented within the framework of concession public-private partnerships. Thus, a financing system can ensure the successful realization of these projects and their sustainability in a market economic environment.
In conclusion, the SPbU development area and the technological valley "Innovative Scientific and Technological Centre (INTC) of SPbU "Nevskaya Delta" hold great potential for resolving current challenges. These projects not only contribute to improving the living and research conditions for students and scientists but also foster interdisciplinary collaboration, boost the local economy, and create new investment opportunities in the region.

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This is to bring to your kind consideration that this research work has no conflicts of interest.

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