

PROGRAM
for public, open, anonymous, one-stage, architectural-urban competition for conceptual design:
CREATIVE-INNOVATIVE MULTIFUNCTIONAL CENTER "LOŽIONICA", MOSTARSKA PETLJA, BELGRADE

Belgrade, August 2021

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Announcer / Contracting Authority

Government of Republic of Serbia
Office for Information Technology and eGovernment
<https://www.ite.gov.rs/>

Competition implementer

Union of Architects of Serbia
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INTRODUCTION

In recent years, the Government of the Republic of Serbia has set the development of creative industries as one of its priorities, bearing in mind that they represent a significant sector in the Serbian economy. In order to support the rapid development of the sector with the systemic support from the state through a constant open dialogue between public, private and NGO sector and experts, but also a dynamic cross-sector contacts and cooperation, and better connections with other branches of the economy, a platform *Serbia creates* was founded. The platform represents an idea of a new way of presenting Serbia, by affirming the modern Serbia values - creativity, innovation and formation of a broad platform for creative and talented individuals, artists and innovators to enter the international scene and market. Moreover, the priority goals are also the access to a significantly wider audience and market, promotion of education, openness, innovation and creativity as important values of a knowledge-based economy that contributes to building a new image of Serbia and redefining cultural diplomacy. This new concept aims to recognize, assert and highlight artistic and any creative production and success in the fields covered by the economy. One of the most important projects that will be implemented within this initiative is the project of the Creative-Innovative Multifunctional Center in the area of the former "Okretnice, ložionice i vodotornja (Turntable, Railway Depo and Water tower) of the Belgrade Railway Station", next to the Mostarska petlja (Mostar loop), which will preserve the value of extremely important spatial ambient and cultural and historical heritage of specific "industrial archeology" which testifies to the development of the railway in Belgrade and Serbia.

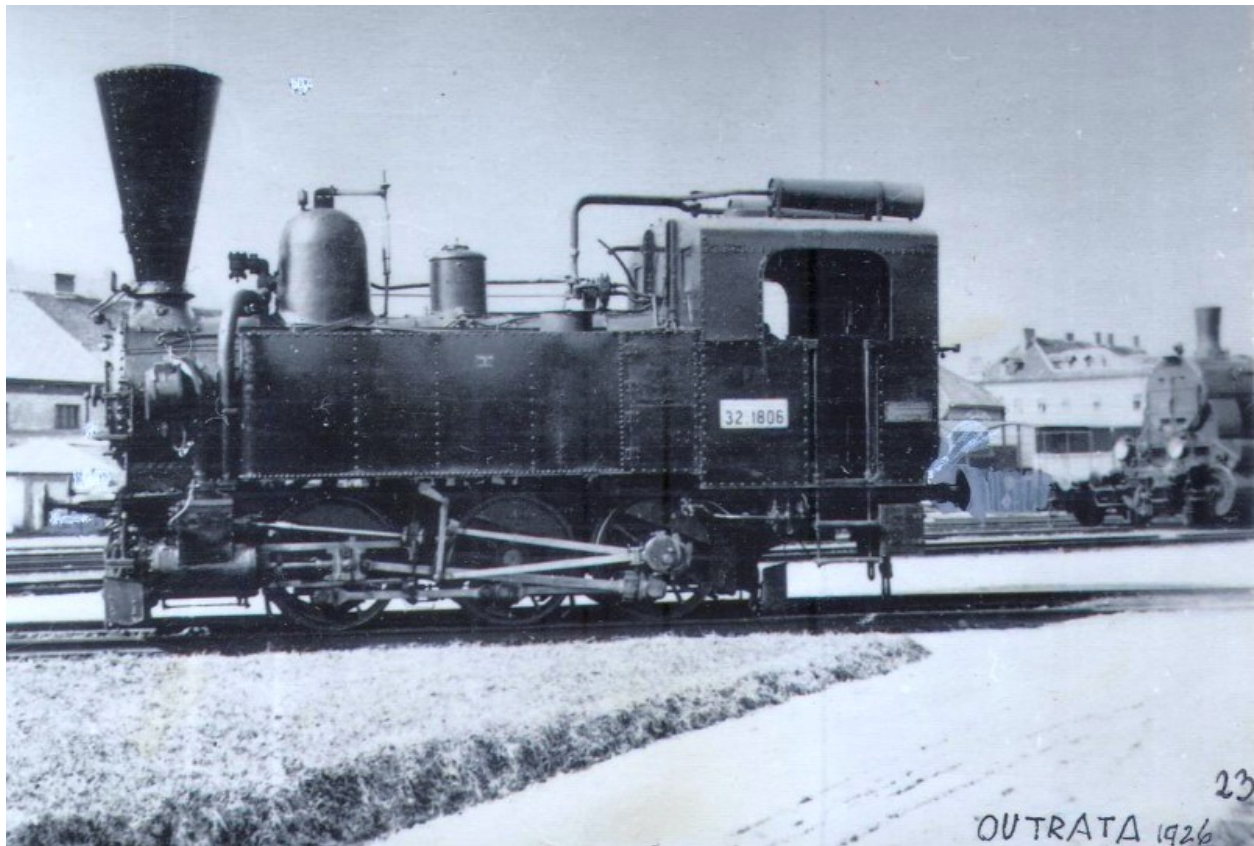


Figure 1: Locomotive "Pula", built in 1884. <https://www.zeleznice.in.rs/forum/viewtopic.php?p=19260>

- 1. SUBJECT AND SCOPE OF THE COMPETITION**
- 2. PURPOSE AND OBJECTIVE OF THE COMPETITION**

1. SUBJECT AND SCOPE OF THE COMPETITION

The subject of the competition is the conceptual architectural and urban design of the Creative-Innovative Multifunctional Center "Ložionica" in Belgrade, which includes:

- 1) Creative-Innovative Multifunctional Center in the building "Ložionica" (Railway Depo) that is being reconstructed, with the accompanying open space of the former "Okretnica" (Turntable)
- 2) business annex for the needs of the Office for Information Technology and eGovernment, and
- 3) reconstruction of the Vodotoranj (Water Tower) with open space along the Mostarska petlja, which are subject to the survey spatial-program analysis for the verification of the spatial scope and connection with the main area of the center.

The scope of the competition is the locality of the former Okretnica, Ložionica and Vodotoranj, Savska Street, Belgrade, and a part of the space below and along the Mostarska petlja, which is the subject of the survey spatial analysis.

2. PURPOSE AND OBJECTIVE OF THE COMPETITION

The purpose for announcing this competition is the intention of the Government of the Republic of Serbia to implement the project of Creative-Innovative Multifunctional Center at a specific location of former Okretnica, Ložionica and Vodotoranj, as one of the strategic projects to support development in the area of innovation and creative industries. The first specialized Creative-Innovative Multifunctional Center in Serbia will be formed by preserving the authentic remains of the technical culture heritage, their program revival as well as with additional contents that should satisfy both current and future needs of the IT and eGovernment institution.

Okretnica, Ložionica and Vodotoranj, in the complex of the former Main Railway Station, represent a cultural asset and enjoy the of primary protection status.

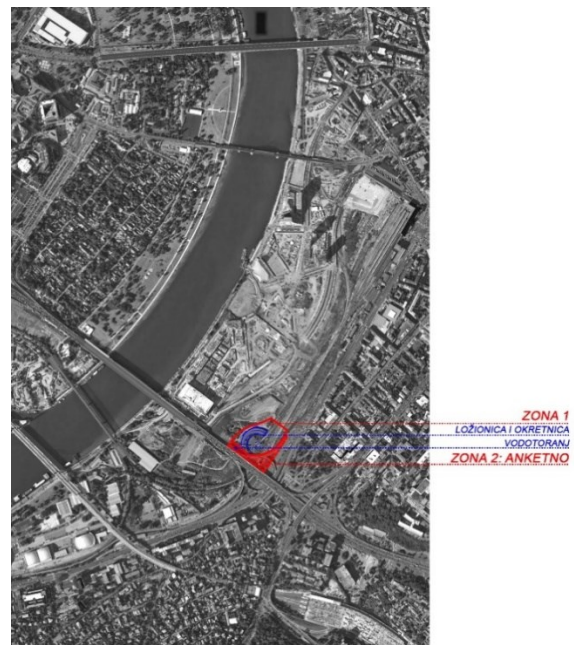
The objective of the competition, in accordance with the competition task, special typological and program requirements, location potentials and especially the importance of the inherited structure (cultural property), is to choose the highest quality architectural and urban solution for the Creative-Innovative Multifunctional Center, which integrates all specifics of the existing cultural property into a modern, authentic and distinctive multifunctional complex, which corresponds to the environment, enhances the values of the ambient and contributes, in the meta-context of the city, to a new creative, progressive and innovative spirit. The special goal of the competition is the protection and reconstruction of the cultural heritage of the complex "Okretnica, Ložonica and Vodotoranj", in order to preserve the collective memory of the function of this space and the historical moment to which this space belonged.

The intention is to obtain a competitive solution that, through the current potentials of the space in line with the cultural-historical context, development tendencies of modern activities and the significance and development of the subject space, accomplishes the symbolic idea of new connections, modern communications and progress. The complex structuring and anticipation of the future Creative-Innovative Multifunctional Center in the development of *creative industries* also aims at generating a new and modern platform of wider significance.

The chosen solution will be the basis for the preparation of design documentation for the needs of the realization of the Creative-Innovative Multifunctional Center "Ložonica".



Figure 2: Cadastral plan with the border of the competition



- Figure 3: Orthophoto with the border of the competition

3. LOCALITY BACKGROUND

3. LOCALITY BACKGROUND

3.1 Cultural-historical context: right bank of the Sava river within the entity "Stari Beograd"

The wider spatial scope of this competition is located in the hinterland of the Sava riverfront (right bank of the Sava River) and belongs to the wider zone of the entity "Stari Beograd" - the oldest preserved part of the capital that reflects the historical development and growth of the city from the city nucleus towards the Sava and Danube river banks. According to urban characteristics, typology of lot coverage, monuments, ambient and other values, the entity Stari Beograd is the most complex and most attractive area of Belgrade, and from the aspect of cultural heritage it has immeasurable value for culture and tradition.

The competition location belongs to the spatial, geomorphological and administrative unit on the right bank of the Sava River, within the planning and spatial unit between Branko's Bridge, Karađorđeva Street, Savska Street, Savski trg (Sava Square), Vojvode Mišića Boulevard, Belgrade Fair complex and the Old Railway Bridge (Savski Venac municipality). In terms of planning, the location belongs to the *Spatial Plan of the special purpose area for the development of a part of the riverfront in the city of Belgrade - the area of the Sava riverfront for the "Belgrade Waterfront" project*. According to this Plan, the construction of a new part of the city with significant capacities and a different urban-morphological character, visual and ambient characteristics compared to the existing ones in the urban fabric of the city, began in 2015. Belgrade Waterfront is a mixed-purpose project with a total construction area of 1.8 million m². The planning area includes residential, catering, retail facilities, hotels, educational and cultural institutions, as well as creative-innovative multifunctional hub located in the Ložionica facility on the site of the former Steam Locomotive Turntable. Within the planning area there are dominant high elevations, and the highest one is Kula Beograd (Belgrade Tower), under construction, 168m high (residential - business tower with a multifunctional plateau and an observation deck).

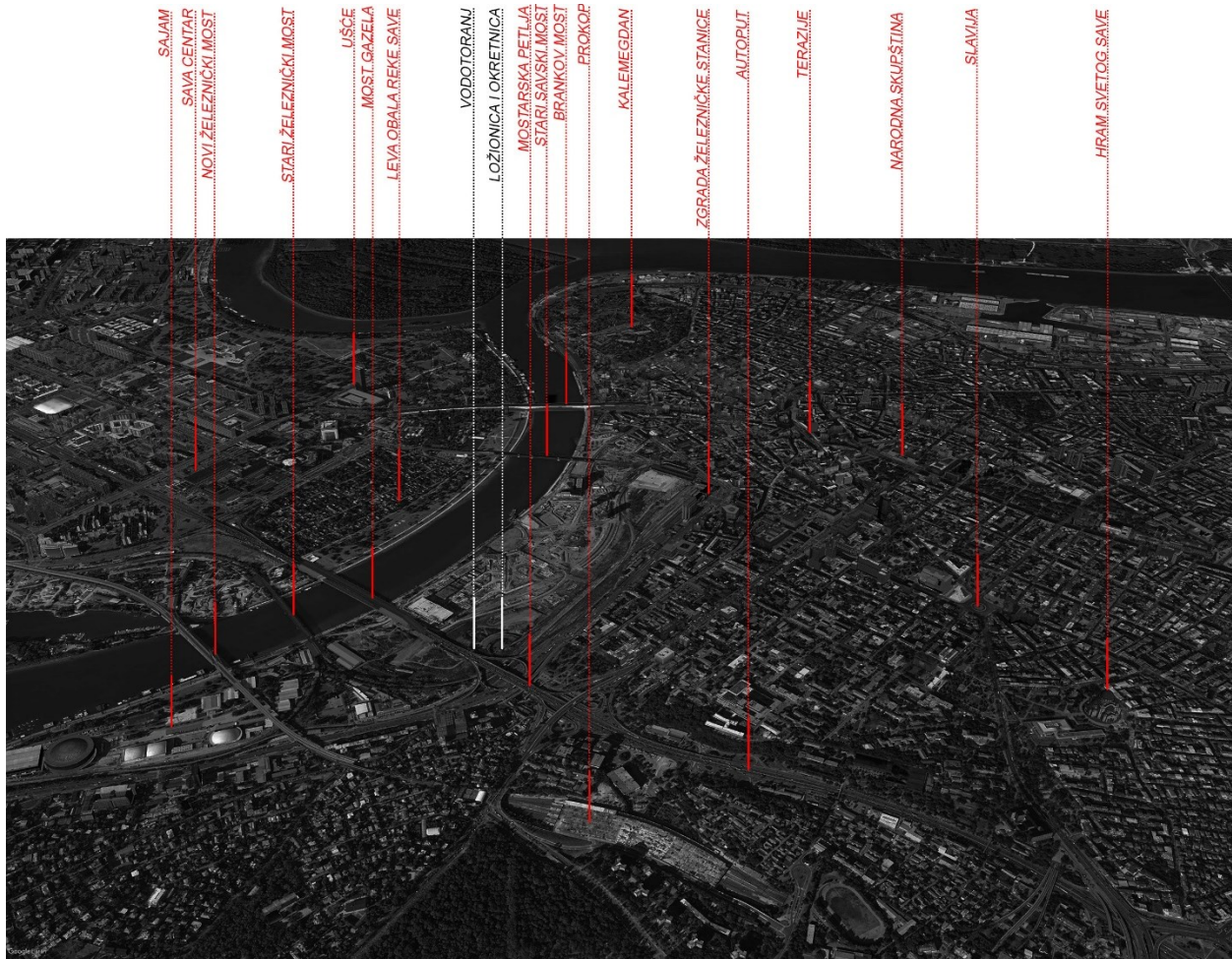


Figure 4: MACRO CONTEXT: position of the competition location in relation to the wider environment of Belgrade

In the records of property under primary protection, Savamala area covers a wider area defined by streets: Brankova, Kraljice Natalije, Dobrinjska, Admirala Gehrata, Balkanska, Hajduk Veljkov venac, Sarajevska, Vojvode Milenka, Savska, Karadjordjeva, Zemunski put to the Sava river bank, along the Sava river bank to Brankova, including the pylons of the Bridge Kralja Aleksandra Prvog, although today in the orientation of the citizens of Belgrade Savamala encompasses areas from Brankov bridge along Karađorđeva Street (from the Sava river to Gavrića Principa Street and up to the Railway Station and Savski trg, the border of the spatial-cultural-historical unit "Savamala"). This whole area represents an authentic urban space. Savamala was named after the river Sava and the Turkish word mahala, which means neighborhood. The beginning of the development of the Sava borough or, as the Turks called it, the Sava jaliya, is the time of the enactment of Hatisharif in 1830 and the independence of the Serbian government, in whose opinion the only part of the city that was far enough from the Turkish town and where the seal of Turkish authorities was not impressed with particular attention was the area towards the Sava River. The starting point of Savamala's development is the intervention of Prince Miloš Obrenović, on the regulation and development of the entire area within the scope of today's cultural-historical unit. The cultural and historical significance of the Savamala area from the end of the 19th and the beginning of the 20th century occupies an important place in the history of the city of Belgrade and the Republic of Serbia. From the restoration of the Serbian state after the Turkish rule until the creation of the Kingdom of Yugoslavia, in less than a hundred years the former periphery of Belgrade, Sava mahala and Sava estuary became the center of economic and financial power of the Serbian state thanks to its position at the border crossing between Serbia and Austria. The once undeveloped Sava

riverfront gradually took shape in line with the growing economy. Bara Venecija was filled in, space was created for the needs of the railway, land subdivision was done, the construction of the port and quay began, trade warehouses, shops, hotels, private palaces, financial facilities were built and public spaces were developed. At the end of the 19th century, Bara Venecija (then more often called Ciganska bara), was a terrain that stretched from the mouth of the Topčiderska river to the Mali Pijac (Small Market) in Karađorđeva Street. In the period between the two world wars, it was the name of a much smaller area, from the old railway bridge to Karađorđeva and Železnička streets.



Figure 5: Aerial photograph of Bara Venecija area with clustered tracks, installations and railway facilities, 1934 . <https://scindeks-clanci.ceon.rs/data/pdf/1450-605X/2015/1450-605X1516009V.pdf>

The economic momentum of the Sava riverfront was additionally stimulated by electrification, construction of railway infrastructure (railway, bridge and station), tram lines, commercial buildings and representative residential buildings. Such economic growth leads to the formation of a local center with an authentic ambiance, which consisted of the "Belgrade Cooperative", the hotel "Bristol" and a number of other important buildings, such as residential buildings of: Dimitrije Marković, brothers Krsmanović (Karađorđeva No. 59), merchant Đurić (Karađorđeva No. 40), merchant Milišić (Karađorđeva No. 42), merchant Nikolić (Karađorđeva No. 44), merchant Perović (Crnogorska No. 8), Luka Ćelović (Kraljevića Marka No. 2) and merchant Đorđe Vučo (Karađorđeva No. 61). All these buildings were designed by the most important architects of Serbia from the beginning of the 20th century: Andra Stevanović, Nikola Nestorović, Jovan Ilkić, Dimitrije T. Leko and others.

Due to the development of new ideas, private entrepreneurship and construction, from the end of the 19th and the beginning of the 20th century, the area of the Sava riverfront went through a rapid transformation and urban development, creating a completely new image of the city. Geopolitical changes after the First World War, the disappearance of Austro-Hungarian Empire and the emergence of a new state of the Kingdom of Serbs, Croats and Slovenes, led to the degradation and neglect of the Savamala area. Belgrade became the capital of a far larger state, the Sava River was no longer the border between two states, and the city started to expand to the left bank of the Sava.

The formation of the idea of building a railway through Serbia date back to the rule of Prince Aleksandar Karađorđević, when that idea was first examined in 1851, since at that time a significant part of Europe was connected by a railway network. Several attempts were made during the following decades, but preparations for the construction of a railway link between Austria-Hungary and Serbia began only after the Berlin Congress, in 1878. In 1884, the railway was put into operation, and a railway station facility was erected in Bara Venecija. Thus European influence was finally established in Belgrade by connecting it by rail with the West. During the first half of the 20th century, especially in the years between the two world wars, the railway grew to the extent that it began to hinder the development of the city, while no long-term development plan for the Belgrade railway junction was adopted. This does not mean that the plans were not made, but that they were not adopted, and thus not implemented. From the second half of the 20th century until today, the ideas of building and developing the Sava riverfront were always on the mind of the builders of Belgrade.



Figure 6: Railway facilities in Bara Venecija, the state in 1932-1933. <https://scindeks-clanci.ceon.rs/data/pdf/1450-605X/2015/1450-605X1516009V.pdf>

3.2 Locality background, architectural and cultural heritage

Monument status of the space

The competition location is within the planning area (*Spatial plan of the special purpose area for the development of a part of the Sava riverfront in the city of Belgrade - the area of the Sava riverfront for the "Belgrade Waterfront" project*) which is located on the right bank of the Sava river within the entity "Stari Beograd". On the opposite side, the same Spatial Plan covers the left bank of the Sava river within the entity "Novi Beograd Riverfront Zone". Both entities are entered in the records of property under primary protection. A significant number of identified cultural assets and individual assets that enjoy the primary protection status have set the historical value, identity, construction and urban character of Belgrade.

Right bank of the Sava river

The entity "Stari Beograd", the oldest preserved part of the capital, whose architectural and urban heritage documents the history of Belgrade and the Republic of Serbia, is entered in the records of property under

primary protection. Within this entity, there is a large number of identified cultural assets and property that enjoy the primary protection status. The development of Serbian Belgrade outside the borders of Šanac, which began in the 1830s, was directed towards the area of the Sava riverbank, where the creation of the Serbian trade and traffic center began. Stari Beograd is an authentic metropolitan space that contributes to the historical, architectural, artistic, stylistic and urban identity of Belgrade and the Republic of Serbia.



Figure 7: View of the location

3.2.1 Industrial heritage - "industrial archeology"

Industrial heritage consists of material remnants of industrial culture with historical, technological, social, architectural, cultural and scientific value. The concept of industrial archeology appears in the mid twentieth century, at the same time as the industry in Europe began to stagnate. Industrial archeology is the systematic study of material evidence related to the industrial past, and as an interdisciplinary science it studies all types of historical sources: documents, artifacts, human settlements as well as natural and urban landscapes created for or by industry, with the aim of affirming that category of heritage in the context of social and technical history in order to understand our industrial past and present. Serbia's industrial heritage is part of Europe's scientific and cultural heritage.

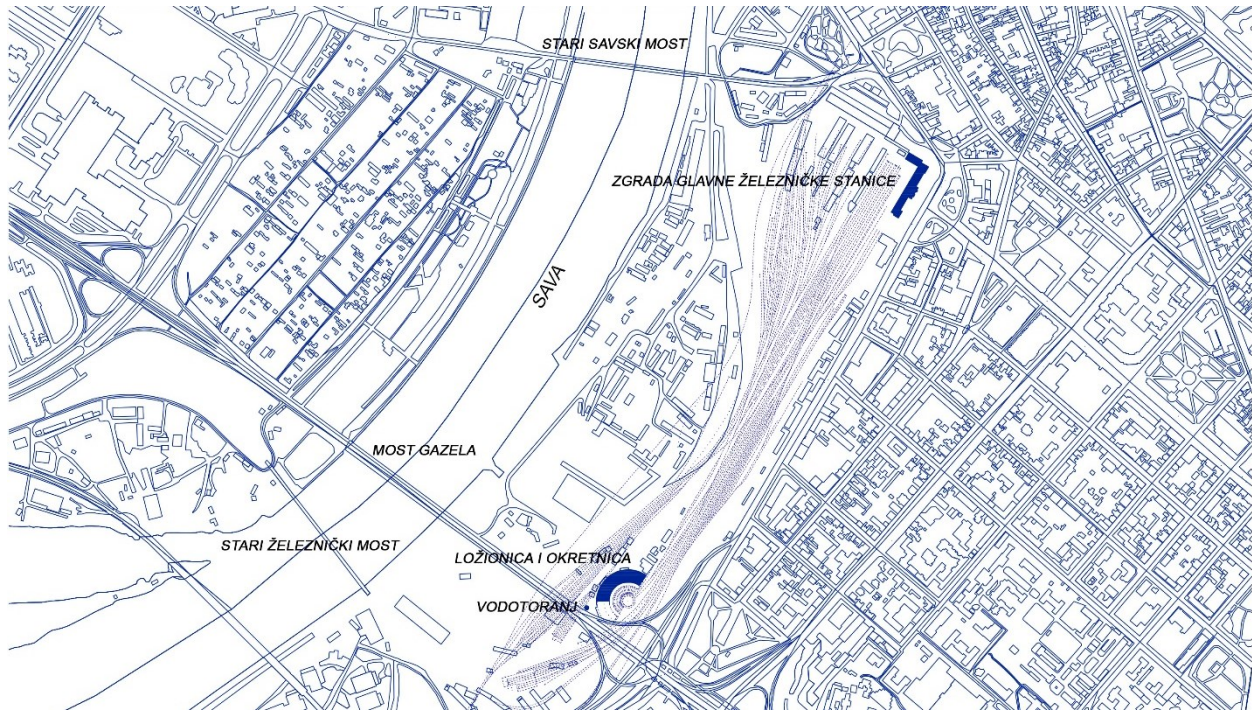


Figure 8: Industrial heritage of Belgrade: Railway station, Okretnica, Ložionica and Vodotoranj

The importance of preserving evidence and memory of the innovations in one milieu and historical moment, contributes to the understanding of future progress, innovation and good quality economic and social transformation. The image of the historical phenomenon of the railway, which influenced all aspects of life, landscape and character of Belgrade, is an important resource for shaping the location in question.

3.2.2 Belgrade Railway Station

The railway station "Belgrade" was designated as a cultural monument (*Decision on designating certain immovable property as cultural property*, "Official Gazette of the City of Belgrade", No. 19/81) and as a cultural asset of significant importance (*Decision on designating immovable cultural property of exceptional importance and cultural assets of significant importance*, "Official Gazette of the SRS", No. 28/83). The borders of the immediate surroundings that are protected form the outer edge of the cadastral lot number 1532. The railway station building was erected in 1884, after the first railway connection deployment in Serbia. With its specific solution, it is a testimony to the technical and architectural development of Serbia in the last decades of the 19th century. It represented one of the most monumental buildings and symbols of Belgrade at that time. The project development, which included a specific architectural program and contents adapted to European technical achievements, was carried out by the architect Dragiša Milutinović, according to the conceptual design of an Austrian, von Flattich.

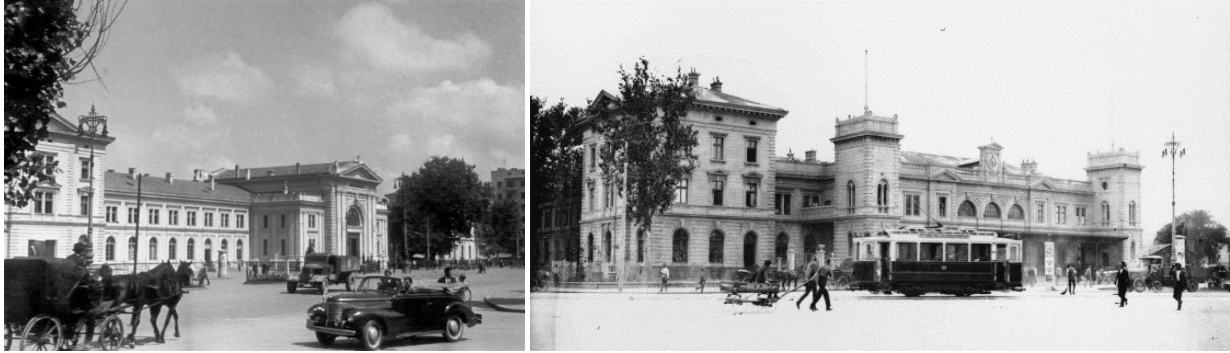


Figure 9 and 10. Railway station building. <https://www.zeleznice.in.rs/forum/viewtopic.php?t=87&start=300>.

The building of the railway station is located on Savski trg No. 1, in the area of the former Bara Venecija, which was "snatched" from the Sava River twice during the 19th century. The first time when the swamp was partially regulated by the construction of several small embankments, which was managed by Atanasij Nikolić, and the second time when it was mostly filled with earth from Prokop and drained for the construction of the station building, in the early 1880s. The building was erected in 1884, in the year of the construction of the first Serbian railway.

For the history of domestic railways and Serbian engineering in general it was certainly a turning point, an endeavor which, apart from construction, touched on state and socio-political and trade issues of crucial importance for the newly proclaimed Kingdom of Serbia, then under the rule of King Milan Obrenović. Even the fever of anticipation, before the opening of the first Belgrade terminal and the Belgrade-Niš railway, as well as the vision of lucrative possibilities for the exploitation of neglected Serbian mines made the former conservative Belgrade instantly dynamic. With the development of the railway, the city entered the era of progress, "Western fashion", but also a sudden material rise.

The opening of the Belgrade Railway Station was in fact directly conditioned by the decisions of the Berlin Peace Treaty of 1878, after the Serbian-Turkish War, according to which the Serbian government and the then prince Milan Obrenović committed to implement the agreement on the rapid inclusion of the Serbian railway in the system of Austria-Hungarian railways. Exhausted by the failed war campaign, economically and financially weak, Serbia was forced to seek the help of foreign concessionaires, and after political storms and shocks, the infamous affair of bribing Serbian ministers and members of parliament ("Bontu affair"), the contract was concluded with a joint stock company from Paris.

From 1880 to 1884, thanks primarily to the financial and professional assistance of foreigners, the Kingdom of Serbia got the first railway line between Belgrade and Niš. The great undertaking of including Belgrade and Serbia in the network of western and eastern traffic routes was also assisted by domestic engineers Jovan Smederevac, Vaso Atanacković, and later Dragutin Milutinović, Svetozar Zorić, Miloš Savčić, Jefta Stefanović and others. More than two hundred guests from all over Europe attended the protocol opening of the station, as well as the departure of the first train. On 20 August 1884, a court train took off to Zemun on the railway route Belgrade - Sava Bridge with King Milan, Queen Natalija and Crown Prince Alexander on board, and was seen off ceremoniously with military music playing until the train crossed the newly built iron Sava bridge. Three days later, when the ceremonial opening of the Belgrade - Niš railway was performed, the railway station was decorated with tricolors and greenery.

According to all important and valid architectural criteria of the last quarter of the 19th century, the station building with its functionality, with aligned architectural construction and ideas, and the latest technical achievements of that time, was a representative structure that promoted Belgrade's presence on the map

of Europe. The engagement of a foreign architect who made sketches in the capital of European historicism - Vienna, according to which the design of the station was elaborated, also demonstrated the intention of the investor. His identity, however, is not reliable and sources do not agree on whether it is von Schlicht or von Flattich, most likely Wilhelm Flattich, the author of the Southern Station within the Vienna Ring. The realization, as well as the work of elaborating the draft into a detailed design, was entrusted to a certain extent to the then professor of the Technical School, Dragutin Milutinović, and his associates. The building is a spread out one-storey structure at the junction of two streets, from which a storey higher and slightly more protruding projection grows in the correct order, both in the middle and on the sides of the main facade towards Savski trg, and on the wing towards Karađorđeva Street.

The eclectic approach to architectural elaboration conditioned the use of neoclassicism and neo-renaissance elements. The exterior architectural elaboration, which is generally well balanced and reduced to the rustication of the ground floor, the use of triangular tympanum is more pronounced only at the central projection of the main facade - the focal point of the whole composition, shaped as a monumental and arched portal surmounted by a tympanum that follows the roof form. In it, the impressive relief with winged lions holding a cartouche with the coat of arms of the Kingdom of Serbia represented a kind of crescendo of plastic decoration and acted as a unique portal - "triumphal arch" which symbolically opened Serbia to the world.

At the time of its creation, the Belgrade station was designed as a front station, it had three tracks for passenger and fifteen tracks for freight trains, two covered platforms and several auxiliary buildings. Compared to the buildings that would be erected in Belgrade at that time, but also long after that, under the same urban planning circumstances, the station building, apart from its size and function, stood out with another important attribute. With its portal skillfully placed in the axis of today's Nemanjina, and then Spomenička Street, the building undoubtedly represented its visual focal point, causing a kind of emotional reaction well defined by B. Maksimović: "Apart from its architectural value, the station evoked another kind of emotion - with its unique function in the city and the metropolitan architecture, being the only connection between Belgrade and Europe and the East, it acted as an excerpt from a distant, big city." After the regulation of Karađorđeva Street in 1907 and its expansion by an additional 20 meters, Savski trg was mainly designed in 1911, according to the urban development plan of the French architect Eduard Leger, as follows: "By stabbing the compass into the main entrance to the vestibule and drawing a 120m radius line." The space in front of the station was conceived as a ceremonial "vestibule" of the capital, with two green squares between traffic flows and a complete architectural frame of buildings.

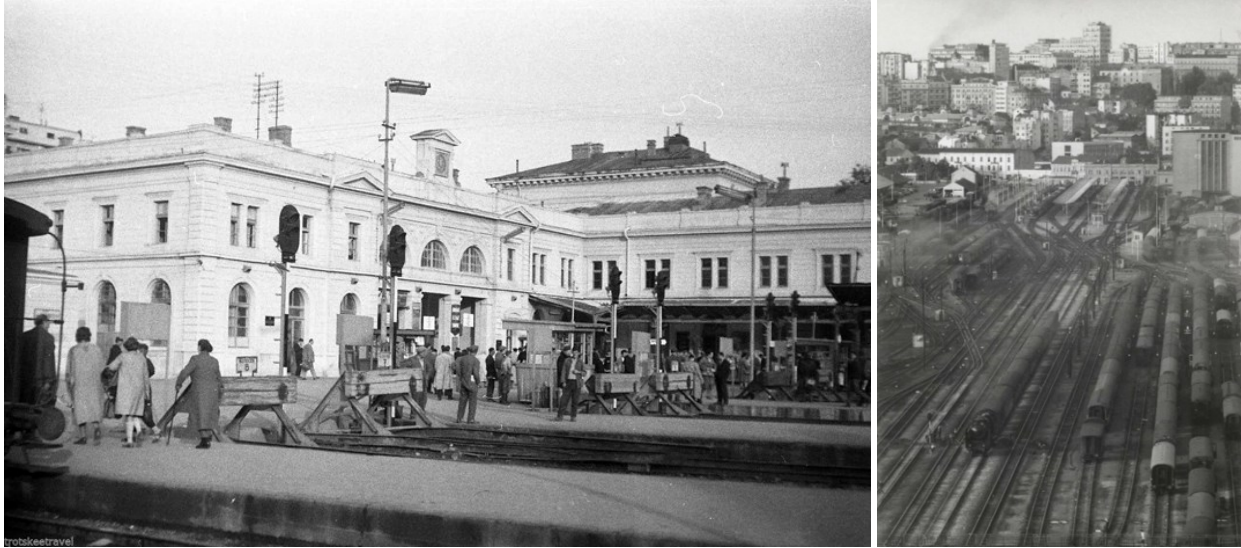


Figure 11 and 12. View of the Railway Station building and the railway track.

<https://www.zeleznice.in.rs/forum/viewtopic.php?t=87&start=10>. <http://klubkolecionara.blogspot.com/2009/12/125-godina-zeleznice-u-srbiji.html>.

As it turned out, however, it was actually one in a series (after the cobblestones of Makedonska and Kneza Mihaila Streets, the reconfiguration of Terazije and the regulation of the intersection near "Mostar") of severely criticized works of this young director of the then Technical Administration Gradac. The commentators of "Srpski tehnički list" focused on the inadequately solved traffic problem and mostly noticed the still unresolved lack of excessive width of the road in front of the Railway Station, as well as the fact that was elaborately formulated by B. Maksimović in 1933, that "a pedestrian is exposed to over 50 meters long threat from vehicles (about a minute walk!) when crossing the road between the tram and the railway station (...) ". Due to Leger's regulation of the square, the old hotel "Petrograd" was demolished and a new and larger one was built in its place according to the design of Petar Popović, a symmetrical front structure, in the neo-baroque and neo-renaissance spirit.

On the other hand, according to equally well-founded observations, the construction of the Railway Station and the railway marked the infamous beginning of the isolation of the Sava part of Belgrade from the river. Although skillfully chosen from the point of view of aesthetic and visual action, the place where the station is located did not prove to be suitable from the practical point of view. Its location along the Sava dock, as Branko Tanazević pointed out in 1919, was not bad in itself, but rather due to the almost impossible connection with the commercial part of the city, which, as far as freight traffic was concerned, was bypassed due to heavy descents and steep streets. For that reason, Karadjordjeva street has become congested and too "tight and inconvenient for the connection of the Sava dock with the railway station". In addition, the traffic importance of the station openly clashed with the previous commercial importance of Liman and the Sava dock. Over time, it has largely minimized modes of "water" transportation and lively activities around the river.

The solution of this chronic problem of the city was suggested only in recent times by the urban-architectural design of the station "Beograd-Centar" (Belgrade-Center) in Prokop.¹

¹Part of the text is taken from: "Belgrade Architectural Encyclopedia of the XIX and XX centuries", (Volume one / Architecture / Railway station), author - Slobodan Bogunović.

3.2.3 Okretnica (Turntable) and Ložionica (Railway Depo) of the Belgrade Railway Station

The content and form of the station complex, i.e. station junctions, railway installations and buildings, emerged gradually, developing step by step from the erection of the station in 1884 until 1940, and beyond. Until 1930, a large part of the area of Bara Venecija was covered with railway facilities, normal and narrow tracks, wide junctions for passenger and freight traffic, shunting tracks and their connections with a railway depo. The construction of a new group of freight tracks and shunting junctions in the period from 1924 to 1930 occupied the space which was intended for the construction of the city tissue, i.e. the expansion of Savamala according to the Master Plan.

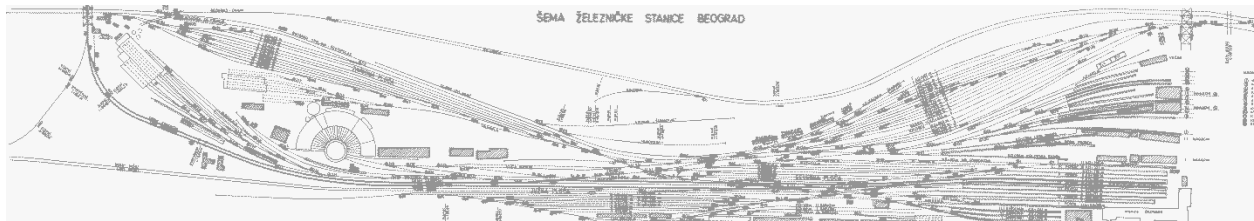


Figure 11. *Layout of the Belgrade railway station.* Railway Museum.

Building of the first narrow-track railway depo - Ložionica ("locomotive barn" as it was called in texts), a water station and a coal loading ramp began in 1884 behind the Post Office, at the same time as the main station building. The rolling stock, locomotives and wagons were located in it. It was in operation until the construction of a new railway depo after the First World War. The creation of the new state of the Kingdom of Serbs, Croats and Slovenes changed the position and importance of the Belgrade railway junction in the new, much larger, network of state railways. The old railway depo did not meet the growing needs of the railway, so the construction of a larger and better one began. The design of the new railway depo at the Main Railway Station in Belgrade was done by engineer Nikola Raičković. It was built in 1925 and completed in 1926, and started working a year later. It had the function of a railway depo, tool shop and turntable. The locomotives were repaired and serviced in the railway depo.

Ložionica had a large modern semicircular hall intended for accommodation and construction of steam locomotives on the track, with 31 places, a new turntable and an administrative building. Ložionica had a reinforced concrete structure, such as semicircular railway depots, and the 31 places were used for accommodation and access to the station tracks of steam locomotives (locomotive shed) with a new turntable in front.



Figure 13 and 14. *Belgrade railway station complex - part near Ložionica, before the construction of "Gazela" bridge. In the forefront: Chemical laboratory of the Railway Institute, Ložionica with turntable and water tower and sawmill with forge, recorded no later than 1962, Railway Museum.*



Figure 15. View of the central part of the semicircular hall of the Ložionica Belgrade - Belgrade Railway Station Complex (photographed by G. Matijević, June 1995, F.F.15 / 95). Railway Museum.

The Ložionica complex included a forge, a sawmill, a mechanical workshop, a foundry, a towing service and a gas factory (water softening building) and other ancillary facilities (warehouses, toilets, dining room, winter garden, guard apartment, carpentry and locksmith workshops, electrical workshop, transformer, coal ramps). In addition, a representative administrative building was built in the complex of Ložionica, which housed the management of Ložionica, as well as two facilities intended for a steam bath. The crossing over the turntable, i.e. the communication link between the other buildings in the Ložionica complex, was a pedestrian bridge. At the same time, a "disinfection channel" for disinfecting the carriages was built in the block. Ložionica, Okretnica and Vodotoranj are a testimony to the development of the Belgrade railway junction and the Main Railway Station in Belgrade. Architectural forms and their connections indicate the development of the railway, and are at the same time a testimony to technological progress and today represent one of the rarely preserved facilities of the industrial railway architecture erected before the Second World War.



Figure 16 . and 17. *Photos of Ložionica from 2007 and 2017* Museum of Science and Technology.
<https://www.muzejnt.rs/nasledje/lozionica-zeleznicke-stanice>.

3.2.4 Vodotoranj (Water tower)

Building water towers for various purposes has been common throughout the history. During the first half of the 20th century, such facilities for supplying locomotives with water were necessary for the maintenance of railway traffic, and at that time it was customary for them to be located next to the tracks. Water supply towers were an integral part of the traffic apparatus and its infrastructure, so the water tower in Belgrade near the Belgrade Railway Station was one of many in Serbia. In the past, steam locomotives had access to the Belgrade Railway Station, and a water tower was technologically necessary for filling the steam locomotives. The steam locomotives operating system implied large amounts of water.

In fact, three buildings superseded each other on the site of today's water tower. The first one was erected before the First World War, but was destroyed during the war operations. According to the project that was realized from 1924 to 1926, a new water tower was built on the same location, because the need to maintain the railway traffic was in constant expansion. War operations during the Second World War damaged the building again, so the reconstruction followed immediately after the end of the conflict. The old building was renovated, but with a much different, more perfect shape, and it has been there since 1945.

Unofficial data show that the immortal Milutin Milanković also participated in the design of the tower that existed between the two wars. Milutin Milanković made a huge contribution to astronomy, but he was also an exceptional civil engineer. It is certain that Milanković was the designer of the hangars at the Old Airport, one of which is still preserved today. However, there are no documents that would confirm his participation in the construction of this tower. There is a written document from February 1990 in the Railway Museum, a letter by Professor Dragan Trifunović proposing the protection of the water tower near "Gazela" as a project of the Academy member Mr. Milanković, because it is of great importance as a cultural monument. However, so far no document has been found that would directly confirm Milanković's engagement in designing the tower. The water tower next to the Gazela bridge, of an unusual shape, is not functional.

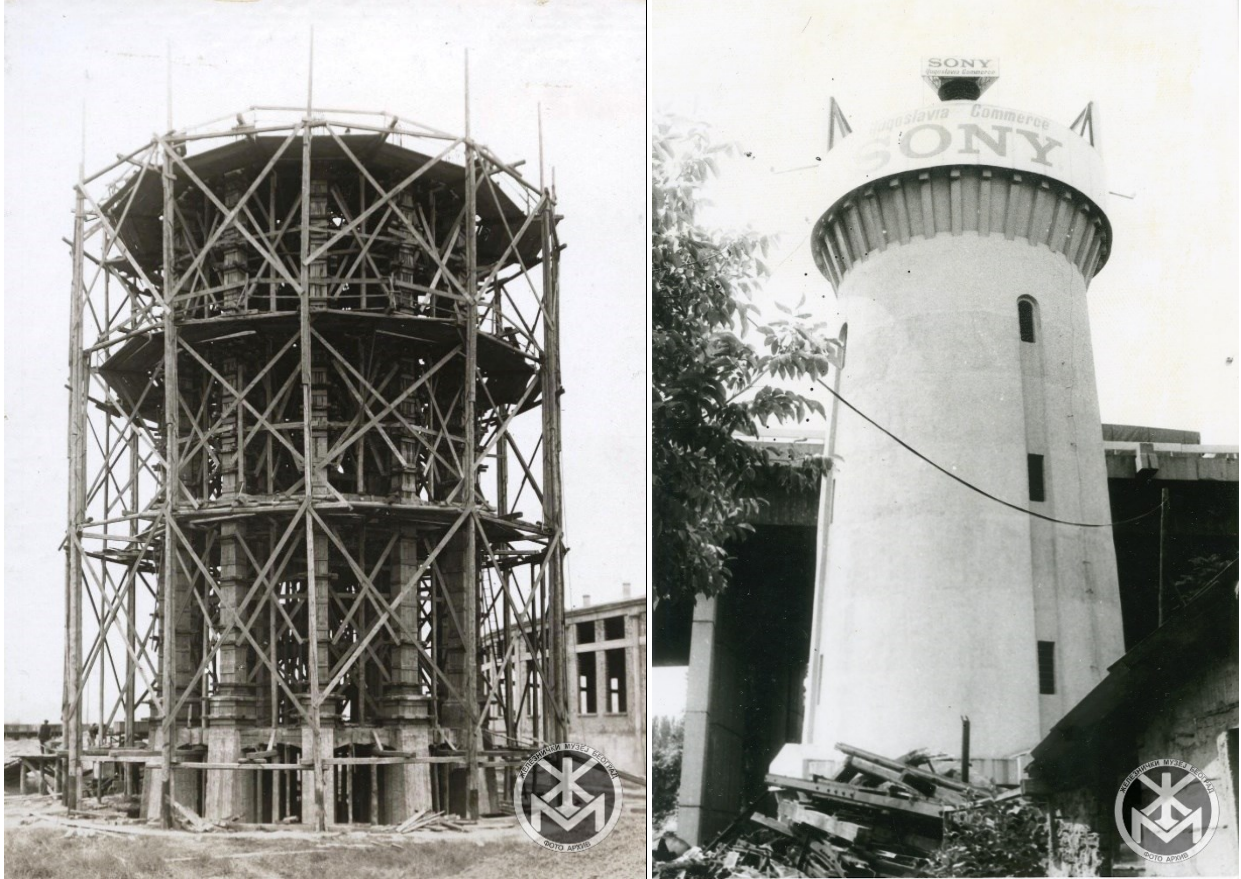


Figure 18. Construction of the water tower, 1925. Railway Museum.

Figure 19. Vodotoranj - Belgrade Railway Station Complex (photographed by G. Matijević, June 1995). Railway Museum.

3.2.5 Locomotives

From the beginning of the nineteenth century to the present day, various types of locomotives, wagons and other carriages have run on the railway tracks. Various types of energy were used to ignite the railway compositions, but steam traction was maintained as the basic one for a long time. The improvement of diesel, diesel-electric and electric locomotives and their introduction into traffic led to the withdrawal of the steamers, first from the main and later from the regional railways. Steam locomotives were withdrawn from regular railway traffic in our country in 1973.

The first steam locomotives arrived in Serbia in 1882, during the construction of the first railway on the Belgrade-Niš route, and were used to tow operational trains during construction. There were two three-axle locomotives from Germany, they reached a speed of 40 kilometers per hour, and after the completion of the railway construction they were used for towing freight trains. The first ceremonial train on that railroad set off three years later, in 1884, and was pulled by the locomotive "CS No 1", which arrived from Germany just before the opening of the railroad and had a maximum speed of 55 kilometers per hour. In 1885, this railroad was visited by the Orient Express, which would later become one of the most famous trains in the history of world railways. As early as 1889 the Serbian railway had 532 km of tracks, 27 locomotives, 127 passenger wagons, 293 closed wagons, 88 wagons for cattle transport and 321 wagons for various purposes.

After the First World War there were most steam locomotives in Serbia. Some of them were ordered by the state even before the beginning of the war, while others arrived in the country as reparations for the war damage inflicted after the end of the war. The pre-war "Yugoslav Railways" had more than 3,000 steam

locomotives on their territory and about two hundred different types of locomotives were part of that fleet. Between the two wars, but also long after them, the steam-powered locomotive was the main driver of railway compositions in railway traffic, and the characteristic sound of the steamer with the inevitable whistle was the "trademark" of trains roaring along the Sava riverbank before arriving or departing from the station.

In the middle of the 1930s the Yugoslav state railways also had an unusual steam locomotive, which was called "Flying Belgrader" due to its high speed. It was produced in Berlin, but domestic experts changed its original appearance and improved the aerodynamics. On the first test run in October 1937, on the route from Belgrade to Zagreb, this locomotive achieved an average speed of 122, and on some sections it even made incredible 146 kilometers per hour. Thus, it was ranked among the European super-express steam engines, but, unfortunately, only rare photographs remained of it.

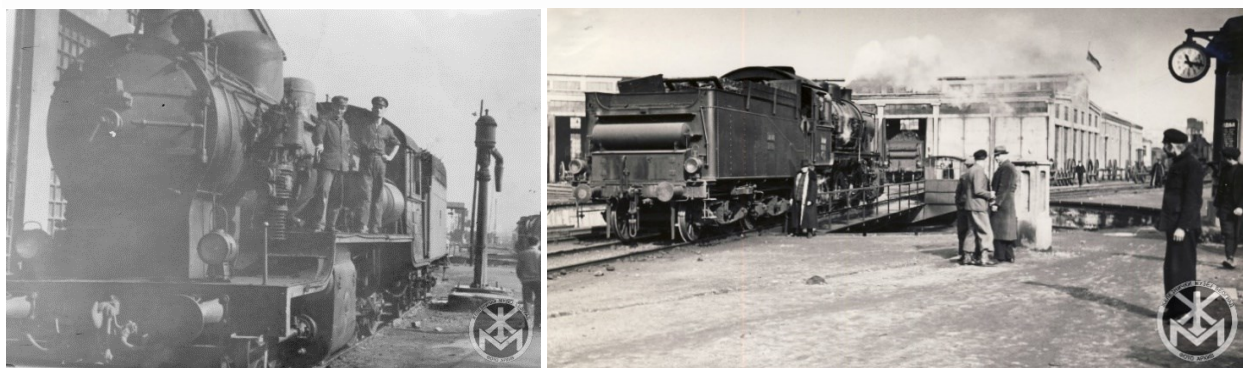


Figure 20. *Melentijević Milorad, on the locomotive on the left in Ložionica Belgrade, 1944-1945* Figure 21. *At the turntable of the Ložionica, in 1939 Railway Museum*

Numerous examples of steam locomotives have been preserved to this day and can be found in the Belgrade Railway Museum, but also in the Požega Railway Museum, which is part of the museum in Belgrade, which exhibits more than five hundred original exhibits of narrow track steam locomotives, even one hundred and fifty years old. One of the world's rarities can be found there - the steam locomotive "Rama" produced back in 1873 in the German factory "Kraus" in Munich. The locomotive "King of Serbia", which is also called "Milan" after the Serbian sovereign Milan Obrenović, is kept there, and it is the first steam locomotive built in the Balkans. It was made by hand in the locksmith workshop of the Majdanpek mine in 1882, only the wheels and axles were procured from England, but it could not boast of high speed - it went only 20 kilometers per hour. In Požega, you can also see the locomotive "Kostolac", a specific steam locomotive which was called "Two-headed dragon" because of the two chimneys, and which was produced in Philadelphia.

Until recently, specimens of the oldest locomotives from the museum's collection were located in the part of the space of the former Ložionica, which served as the Depot of the Railway Museum. The oldest locomotive "Pula" from the collection of the Railway Museum, made in 1864, and "Presek" from 1884, were destroyed and taken away.

3.2.6 Bridges

Bridges occupy an important place in the overall picture of Belgrade and its views. Together with the construction and urban fabric on both sides of the Sava River, they form an inseparable part of the cultural and historical heritage. The Sava bridges not only connect the old and the new part of the city, but they also had a significant historical role. In this context, all future interventions on the bridges and in their immediate surroundings must be directed towards preserving and improving all aesthetic and constructive characteristics of buildings from this typology.

The "Gazela" bridge was designed and realized in the period 1968-1970, as an integral part of the construction of the highway through Novi Beograd (Belgrade-Zagreb highway). The main design of the bridge was made by the Professor of the Faculty of Civil Engineering and Academy member, Milan Đurić. Simultaneously with the bridge, the Mostar traffic loop was realized (in 1970), according to the design of the Architect Branislav Jovin and the Engineer Jovan Katanić. At the time it was built, the Gazela Bridge was a world-class technical achievement.

Gazela is the busiest Belgrade bridge over the Sava River . More than 165,000 vehicles cross it daily, although the bridge is designed for about 40,000. It was built from 1966 to 1970 as part of the city highway and the highway Bratstvo i jedinstvo (Brotherhood and Unity), which was supposed to connect the then republics of SFRY - Macedonia, Serbia, Croatia and Slovenia. Reconstruction of the bridge, in several phases, lasted from 2010 to 2012. The bridge is 332 m long and 27.5 m wide, and the total width of the road is 21.8 m (three lanes in each direction, 10 m wide with a 1.5 m divider). There are two pedestrian paths, three meters wide, along a part of the length of the bridge. Gazela rises 22.8 m above the Sava during the middle water level.

Mostarska petlja or colloquially only "Mostar" is the largest traffic loop in Belgrade. Traffic flows into it from six directions, two of which are the busiest directions in Belgrade - the Gazela Bridge from the west and from the south from the direction of the Fair, i.e. Bulevar vojvode Mišića. The loop is located on the European roads E-75 and E-70. The construction of the Mostar loop began in 1967 and it was completed in 1974 on the site of the settlement of Jatagan mala. It was originally intended to serve as a part of the city highway Bežanija - Autokomanda, but as the bypass around Belgrade was not completed, the city highway became a part of European highways.



Figure 22. *Gazela* bridge

https://en.wikipedia.org/wiki/Gazela_Bridge#/media/File:Gazela_bridge_over_river_Sava,_Belgrade_04.jpg

4. GENERAL CHARACTERISTICS OF THE LOCALITY - WIDER AND IMMEDIATE ENVIRONMENT

4. GENERAL CHARACTERISTICS OF THE LOCALITY - WIDER AND IMMEDIATE ENVIRONMENT

The location where the construction of the Creative-Innovative Multifunctional Center "Ložionica" is planned, which is the scope of this competition, is located in the center of Belgrade, on the right bank of the Sava river and belongs to the Sava Amphitheater. According to urban characteristics, position in relation to the river, bridges, and the old part of the city, typology, monuments, ambient and other values, this area is a very complex and attractive area of Belgrade. From the aspect of cultural heritage, it has an exceptional value for the city culture and identity, having in mind the remains of "industrial archeology" which are connected to the old Belgrade Railway Station.

Current planning documentation in the area of the competition scope

The competition location is at KO (Cadastral Municipality) Savski Venac, within the scope of the *Spatial Plan of the special purpose area for the development of a part of the riverfront in the city of Belgrade - the area of the Sava riverfront for the "Belgrade Waterfront" project*. The border of this spatial plan includes two spatial, geomorphological and administrative units divided by the Sava River, with the competition location belonging to the area on the right bank of the Sava River, the area between Branko's Bridge, Karadjordjeva Street, Savska Street, Savski trg, Bulevar Vojvode Mišića, Belgrade Fair complex and the Old Railway Bridge (Savski Venac City Municipality).

The area of the Spatial Plan is divided into five spatial-functional units, and the competition scope belongs to Unit II - the area between the Old Sava Bridge, the "Gazela" Bridge, the new Savski bulevar and Savska Street. This unit is determined by the cultural heritage - the building of the Railway Station and the complex of Turntable, Ložionica and Vodotoranj - whose protection, reconstruction and restoration is planned in order to preserve the memory of the former function of this space. Within this unit, the plan envisages the formation of new public complexes of national and city importance, intended for culture.

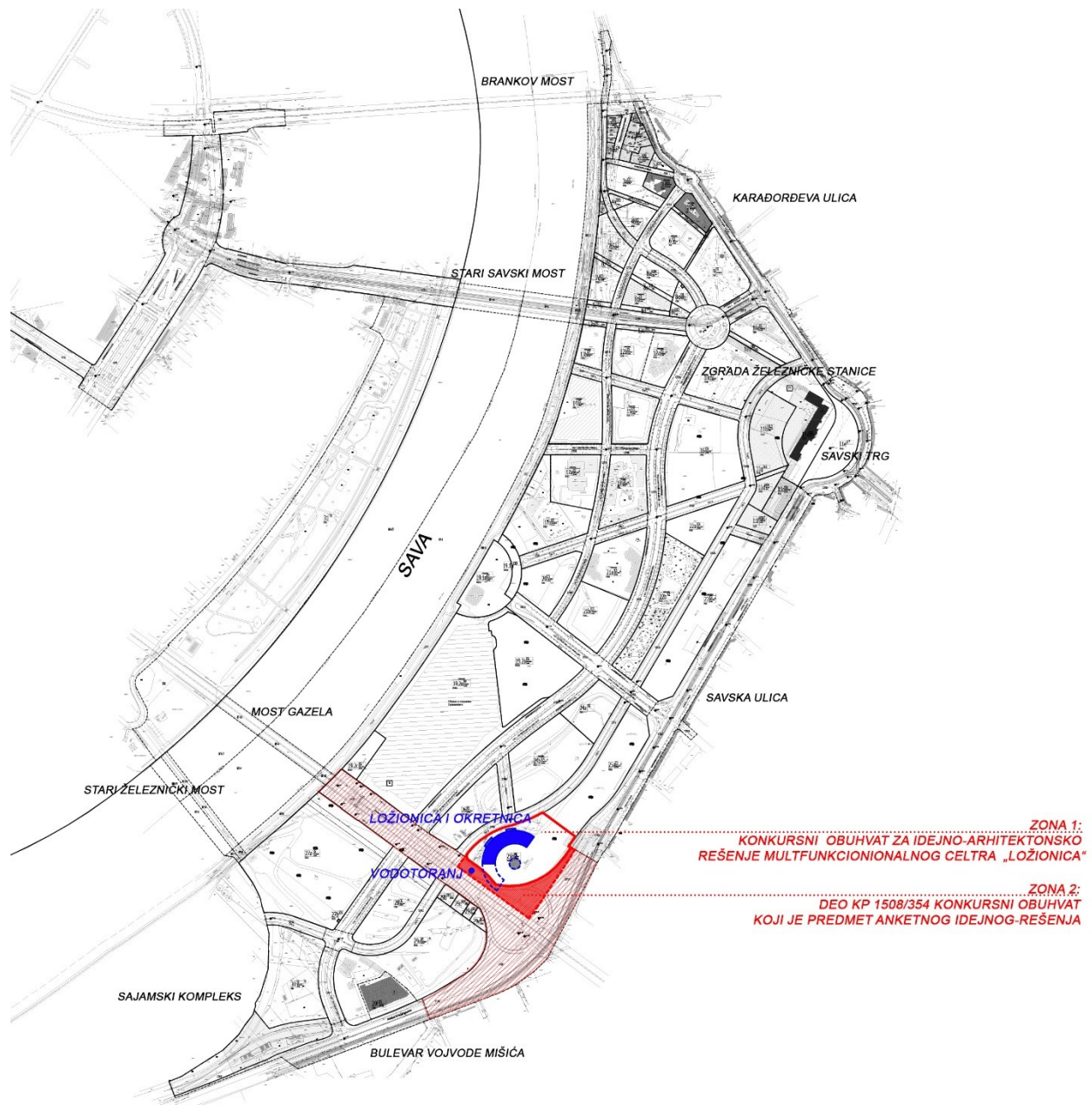


Figure 23. Excerpt from the Spatial Plan of the special purpose area for the development of a part of the riverfront in the city of Belgrade - the area of the Sava riverfront for the "Belgrade Waterfront" project.

The competition location is located on the site of the former Okretnica, Ložionica and Vodotoranj, right next to the Mostarska petlja. The subject of the competition includes two coverage areas: Zone 1, where Creative and innovative multifunctional center is planned, which includes reconstruction of both the Ložionica building and open space of the former Okretnica, as well as the construction of office annex, and Zone 2 as the location of inquiry spatial - programming solution with cultural content related to the Vodotoranj building.

4.1 Wider and immediate environment - current state

Ambientally speaking, the competition location is primarily determined by the Mostarska petlja and the Gazela bridge on one side and by the pronounced linear character of Savska Street, and on the other side by

the built structures of the Belgrade Waterfront stretch. In the horizontal plan, geometrically, the location is of a specific character precisely because of the spatial definition by the Mostarska petlja and Savska Street, which runs parallel to the Sava River. Gazela Park on the other side of the street due to delevelling, strong profile of Savska Street and Mostarska petlja and high traffic intensity does not have a spatial dialogue with the competition location.

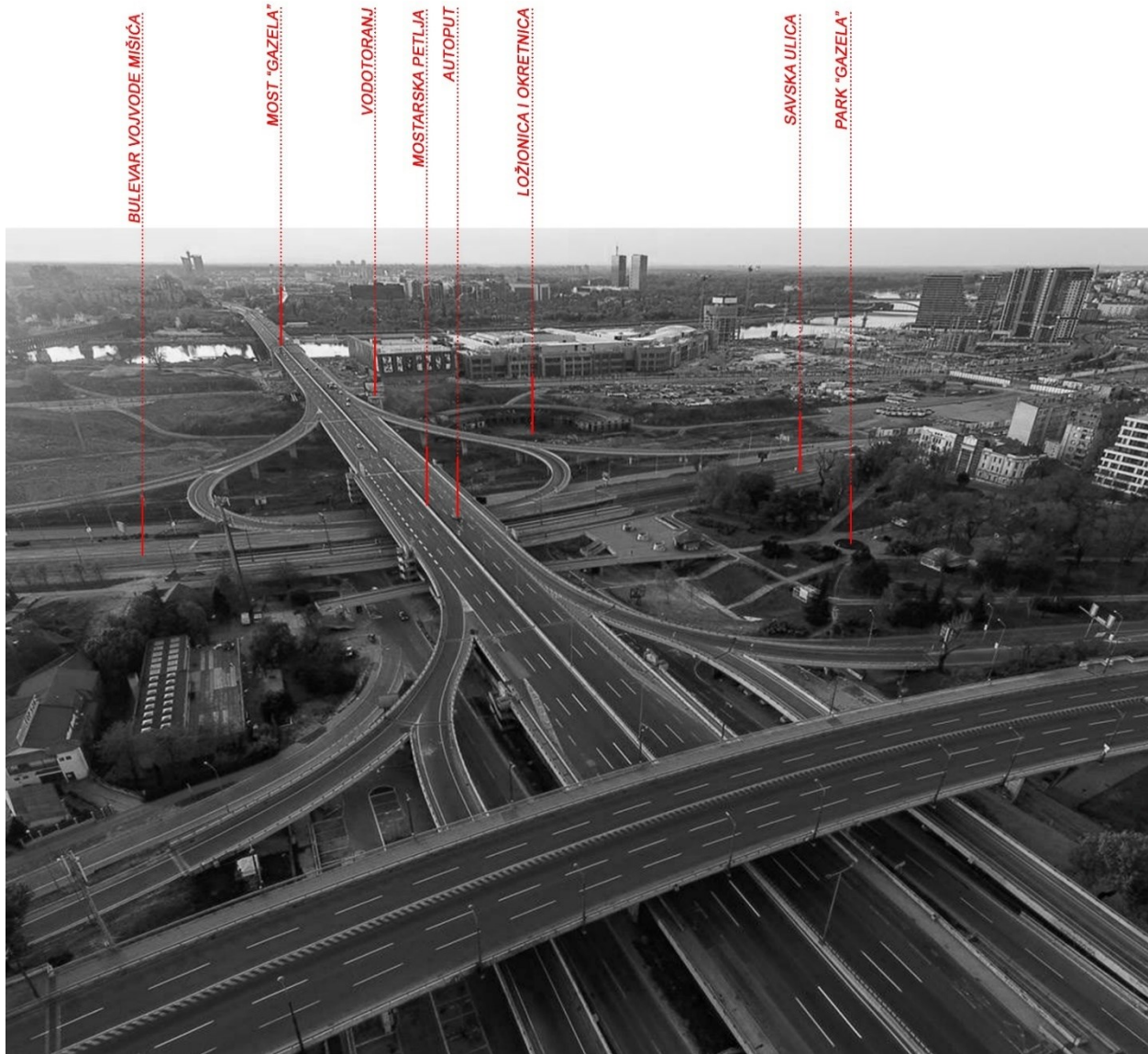


Figure 24. View of the immediate surroundings of the competition location. <https://mondo.rs/Foto/a1354577/Mostarska-petlja-50-godina-od-kako-je-otvorena-najveca-saobraćajna-petlja-u-Beogradu-FOTOGRAFIJE.html>

The area between the location and the Sava River has a great influence on the character of the location, i.e. the entire area of the hinterland that defines the Belgrade Waterfront stretch. The current picture shows a space that is partly built, partly in preparation for construction, and partly still desolated and untreated.

Several important elements define the current situation when it comes to the wider and immediate environment:

1. The strong profile of Savska Street has determined that Gazela Park and buildings on the other side of Savska Street do not participate significantly in the ambient image of the location.

2. The proximity of the river of about 400 meters does not currently participate significantly in the character of the location, bearing in mind that right next to the riverbank a shopping center "Galerija Beograd" was built, on 300,000 m², as part of the Belgrade Waterfront, which to some extent intersects the visual connections of the river and the competition location. Moreover, the space between the river and the competition location is largely in the phase of preparation for construction.
3. Mostarska petlja defines the geometry of the location, but visually, and in terms of other benchmarks, it participates in the perception of the space. In the vertical plan it significantly contributes to the character of the location. Bearing in mind that the Vodotoranj has direct contact with the elevation of the Mostarska petlja, this additionally enhanced participation of this traffic loop in the definition of the spatial volume of the location.
4. In terms of the immediate environment, although they no longer exist physically, the memory of the space records a track of rails that ran parallel to Savska Street, which still determines specific sensibility of the location - a line parallel to Savska Street, and on the other side proximity and contact with Mostarska petlja reinforces the impression of speed, modernity and urbanity, although the immediate environment is in the process of construction and preparation for construction. The following photographs (Figures 25 and 25a) show the condition of the site before the removal of the rails and the current state.



Figure 25. *Mostarska petlja, just before the removal of railway tracks, 2017*
<https://i.pinimg.com/originals/6b/d8/ca/6bd8cab9a6bfa837005c2b2e2bbf798b.jpg>



Figure 25a. *Mostarska petlja*, recording from July 2021

In the immediate vicinity of the space there are monumental and representative examples of the architectural and industrial heritage of Belgrade:

The State printing house, a cultural monument, located in Bulevar vojvode Mišića 17, cadastral lot No. 738/1 KO Savski venac; the boundary of the immediate environment that is protected consists of the outer edges of the cad. lot No. 738/1 KO Savski venac. The building was built according to the design of the architect Dragiša Brašovan between 1936 and 1940, in the area of urban, industrial and traffic zone complex near Mostar. The State printing house is one of the anthological works of Serbian modern architecture and an example of current trends in European modern architecture.

Parni mlin (Steam mill), a cultural monument, located in Bulevar vojvode Mišića 15, cadastral lot No. 725 KO Savski venac; the boundary of the immediate environment that is protected consists of the outer edges of the cad. lot No. 725 KO Savski venac. Parni mlin was built in 1902 as the first mill in Serbia and the first mill to introduce electric propulsion. In the period between the two world wars it was one of the largest and most important in Yugoslavia. Today, together with industrial facilities in its immediate surroundings, it represents the architectural and spatial climax in the area around the Mostarska petlja. It was reconstructed and converted into a hotel.

Belgrade Fair complex

The location of the Belgrade Fair is very attractive and easily accessible because it belongs to the Central Zone, located on the main longitudinal axis of the city's development, within the most frequent radial direction (Bulevar vojvode Mišića). In the immediate vicinity of the Fair Complex there is a large sports and recreation center Ada Ciganlija. Bulevar vojvode Mišića, as one of the busiest roads in the city, is a link between the competition location, the Belgrade Fair Complex and Ada Ciganlija.

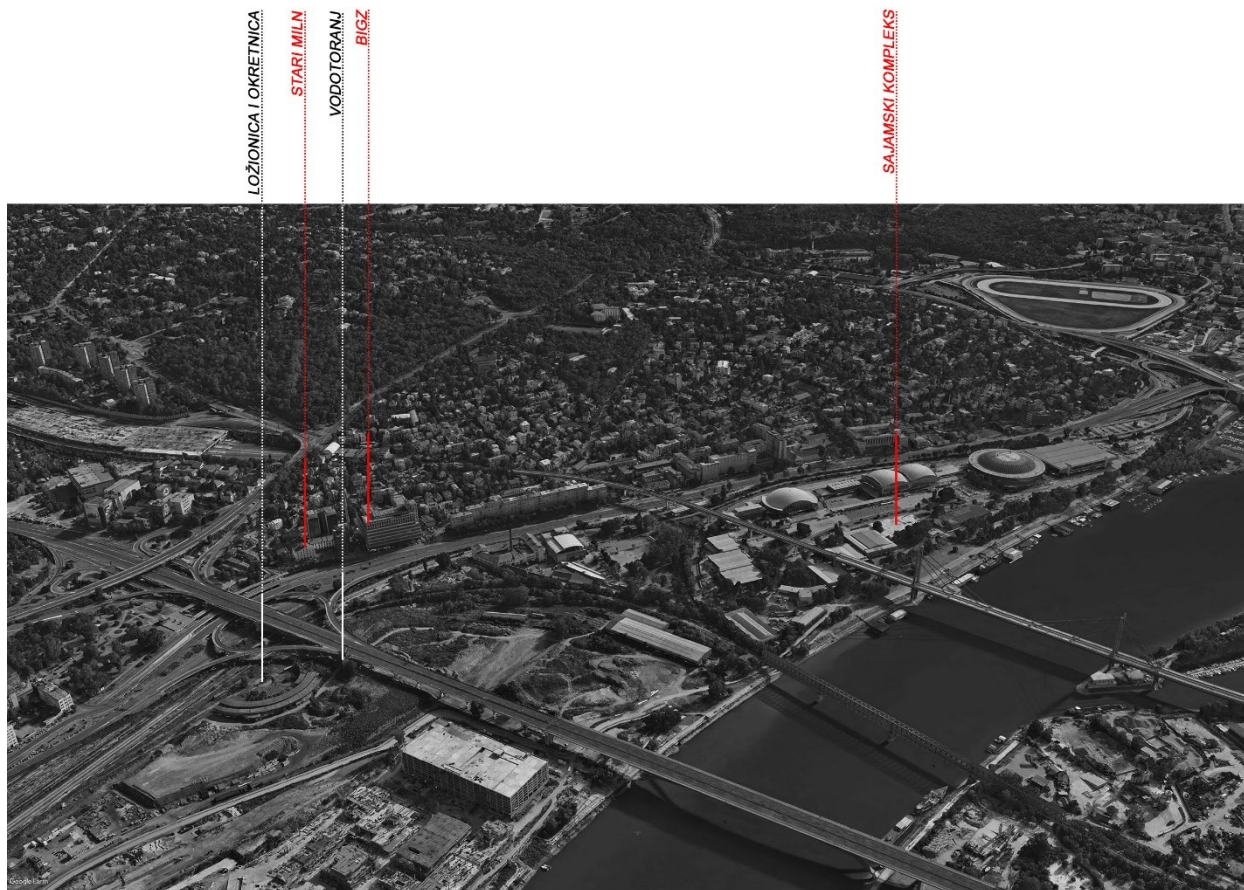


Figure 26. Architectural and industrial heritage of Belgrade.

The Belgrade Fair complex was realized according to the design of the design team consisting of architect Milorad Pantović and engineers Branko Žeželj and Milan Krstić. The Fair facilities were opened in the summer of 1957, when the first fair exhibition was held. The halls of the Belgrade Fair are among the most valuable works of Serbian post-war architecture and represent a testimony to the technical, technological, scientific and innovative upgrading of society in the late fifties and early sixties of the twentieth century.

The space of the Belgrade Fair is a valuable urban unit of the epoch of modern architecture and it is necessary to preserve the existing values of the urban-architectural concept and to further improve it in terms of remodeling and improving the standards of complementary contents, respecting the authentic values of urbanism and modern movement architecture.

Tradition, spirit of modern times and various economic events have made the Belgrade Fair the largest and most successful fair institution in Serbia and Southeast Europe. Through its manifestations, the Belgrade Fair has networked Belgrade and Serbia with many international manufacturers from various fields and industries, presented numerous latest technologies and top quality products.



Figure 27. Immediate surroundings of the competition location.

4.2 Wider and immediate environment - planned state

When it comes to the wider environment of the competition location, several important facts should be pointed out. First, the location belongs to the Sava Amphitheater, which is one of the most significant spatial units in the meta-context of Belgrade. The Sava Amphitheater is an integral part of the views from the plateau near the monument "Pobednik" at the Belgrade Fortress, along the Sava River, then towards the Čukarica slope, and generally, towards the Senjak-Košutnjak ridge. Views from the Vračar ridge towards the Sava Amphitheater and Novi Beograd are realized along the corridor of the street network perpendicular to Savska Street and directly depend on the height of the frontage in it. These visual penetrations, although along narrow-profile streets, have a significant effect on the perception of the space. Existing plans prescribe the preservation of views from Kneza Miloša Street to the river and the area of Novi Beograd, i.e. the preservation of corridors defined with Nemanjina, Vojvode Milenke, Miloša Potcerca and Višegradska streets, by constructing lower-rise buildings on their routes.

Secondly, the views from the river are especially important, where from the amphitheater form of the space is completely seen, i.e. the flow of the terrain on the right bank of the Sava River. The Gazela bridge is spatially dominant, visually determining the space of the Sava amphitheater in relation to the remaining city fabric, and directly and geometrically through the Mostarska petlja gives the character to the location.

The area of the Sava amphitheater, primarily with its exceptional position in relation to the riverbanks and urban fabric, then the natural advantages of space (relief, presence of water, sunshine, fresh air flow from the river), for decades represented the greatest spatial value as one of the most important resources of Belgrade. The Sava amphitheater has always been a challenging zone for the formation of a new city center, and in that sense the subject of many architectural and urban competitions. Extremely attractive as a

location, with its central position and the river as an axis, the Sava amphitheater has always been the most important location for the integration of the two Sava riverbanks.

The competition location is well connected via the Mostarska petlja with the Novi Beograd zone and the left riverbank. The newly planned roads will be even more directly connected with Bigz and the Fair complex, as well as the old part of Belgrade on the stretch of the Old railway station - Kalemegdan.

Its predominant purpose defined by the current *Spatial Plan of the special purpose area for the development of a part of the riverfront in the city of Belgrade - the area of the Sava riverfront for the "Belgrade Waterfront" project* is housing, commercial zone and city centers. Beside the commercial zone and housing, there are also areas intended for traffic, public services, facilities and complexes, as well as green areas.

In terms of land development, the Plan prescribes the preservation of the existing character of Savska Street through the planning of blocks characteristic of the Belgrade city center. Along the new Bulevara Vudroa Vilsona (SAO 1 road from the Spatial Plan), higher and high storey buildings are planned, with a maximum height of 80 m. Building of few-storey blocks is planned in the immediate vicinity of the Railway Station, with a maximum building height of up to 20 m.

In general, the use and arrangement of the riverfront primarily as a public urban space that connects other public spaces with its linear form, represents its peculiarity in relation to the rest of the urban fabric. The plan envisages the development of a network of public urban spaces, with the aim of activating the potential of the riverfront as a public urban space, accessible to all categories of visitors. In that sense, the idea is to increase the size of public spaces on the riverfront by planned interventions. The improvement and formation of the system of public spaces is planned by raising the attractiveness and accessibility of the existing public spaces, primarily by improving the general conditions of pedestrian movement. Linear public urban spaces that dominate the riverfront - promenades and quays, streets of different traffic rank, along which various facilities and public spaces are concentrated (piazzas, parks, squares, street intersections), should become urban hubs with a concentration of different facilities and micro-location activities. Public spaces at the riverfront, on land and in the water area (in addition to the dominant ones, quays - promenades), according to the valid Spatial Plan, should include: zones of representative buildings, street stretches, piazzas, squares, parks, spaces for sports and recreation, theater and performance facilities, as well as arranged spaces for large gatherings and traditional events.

The crown elevation of 77.00 m above sea level was adopted for all fortifications and quays in the planning area.

5. SPECIAL CHARACTERISTICS OF LOCALITY

5. SPECIAL CHARACTERISTICS OF LOCALITY

5.1 Natural characteristics of locality

The climate in Belgrade is moderately continental, with four seasons and about 2,096 hours of sunshine a year. The average precipitation is 669.5 mm per year. The highest number of days with precipitation is in April, June and December. The subject area belongs to the topo-climatic zone Center, which is characterized by an average annual temperature of 12.3°C, in the total range from about -20.0°C to about 40.0°C, in extreme situations. The number of days with a temperature exceeding 25°C is 95 per year. Mean monthly temperatures recorded at a meteorological station (hereinafter: MS) "Belgrade" range from 0.0°C in January to 22.1°C in July. During the summer months, there are days with temperatures above 35°C (summer heat), as well as tropical nights (with temperatures above 20°C) from June to August. The data indicate favorable climatic conditions throughout the year, there are not many days with strong frost in winter, and summers are moderately warm. The recorded values of absolute maximum temperatures in all months during a year are above 20°C, while in the period from May to October their values are above 34°C. In July and August, the average number of days with a daily temperature above 30°C is 11. The specificity of the planning area, to which the competition location belongs, is that it is located in the part of the city above which the thermal island of Belgrade is formed, more pronounced at minimum than at maximum temperatures. The annual flow of precipitation has predominant characteristics of the continental type, with a maximum in June, and in the annual course of precipitation, two highs and two lows are observed. The highest number of days with precipitation is in April, June and December, a total of 139, of which 38 with snow.

Belgrade is a windy area exposed to southeast, northeast, north and northwest winds. Silences are rare and are most common during the summer. The most common and strongest is the southeast wind - Košava, which blows throughout the year, with its maximum in September and during winter, with an average speed of 25 to 45km/h, and storm surges of up to 130km/h, to which, taking into account the orientation, the competition area is not directly exposed. The coldest winter winds are north and northwest, to which the competition area is exposed. The northwest wind blows most often in the summer months. The southeast wind reaches its highest speeds in the winter months, and the northwest wind in March and April. During the spring, the coldest are the north and northwest winds, and in the summer the west wind. Winds from the northern quadrant increase the humidity, while those from the southern one decrease it.

5.2 Green areas

The following public green spaces have been recorded in the area of the Spatial Plan: green spaces along the left bank of the Sava river (quay) (2.64 ha), park on the left bank of the Sava river from the old bridge to the "Gazela" bridge (10.6 ha), green spaces along the right bank of the Sava river (quay) (6.4 ha), Bristol Park (1.3 ha), square - Savski trg (0.3 ha) and square in Travnička Street (580 m²). Green areas as spaces of natural, cultural and aesthetic values are a place of meeting, contact, communication, education, recreation and enjoyment of the inhabitants, which has a positive effect on the psychophysical health of people and the affirmation of the social dimension of the city. They represent habitats that have a significant positive role in regulating air quality and temperature, conservation and purification of water and water resources, mitigation of climatic extremes, noise reduction, they are an important habitat of many species, etc., and thus represent the "climate infrastructure" of the city.

The largest green area is the Savski Park, the first part of which currently covers 1.8 hectares while the second part is planned, which will make a total area of 2.7 hectares. Savski Park includes facilities for recreation, leisure and interactive children's playgrounds.

Some green spaces include or are part of the spatial cultural - historical units, and therefore enjoy the same degree of protection, namely:

- within the Bristol Park there is a cultural asset "Cross from the Small Market" (Decision on amendments to the Decision on declaring certain real estate on the territory of the City of Belgrade as cultural property, "Official Gazette of the City of Belgrade", No. 16/87); and
- the park on the left bank of the Sava river from the Old Sava Bridge to the "Gazela" bridge is an integral part of the cultural asset under the primary protection "Riverfront Zone of Novi Beograd".

The erection of one-sided single-row tree lines is planned along Savska Street.

Environmental Protection

The Sustainable Development Strategy provides a broad framework for integrating environmental aspects into all sectors of the plan, from land use, through land and housing policy, traffic improvement planning, water, energy, waste management, etc. Modern trends imply the establishment of an active policy of preventive environmental protection, which includes assessing the environmental impact of all planning solutions, programs and activities, which is not only a condition for improving the quality of life, but also a significant stimulus to economic development.

Noise level

Having in mind that the location in question is situated next to the Mostarska petlja and the Gazela bridge, and on the other side along Savska street, which implies a high noise level, it is expected that in line with the city development trends, the highway and the Mostarska petlja will be supplied with sound barriers in the near future.

5.3 Traffic

In terms of traffic, the immediate environment of the competition locality is extremely frequent, with a high concentration of different types of traffic and it still, to a lesser extent, represents the city transit zone. The relocation of the Railway and Bus Stations, as well as the expected completion of all elements of the Belgrade bypass, will lead to the exclusion of certain categories of traffic - railway, intercity bus and freight transport - from this area in the relatively near future, which will significantly improve the quality of the area and finally make its potentials achievable.

Current condition

In the area within the boundaries of the Spatial Plan, on the right bank of the Sava river, where the competition location belongs, almost all types of traffic and traffic subsystems meet and intertwine. The most important traffic generators are the Gazela Bridge and the Mostarska petlja.

The primary street network of the area consists of the first order state roads (highway, main roads), streets of the first and second order, and the secondary access roads and the local street network.

The primary main traffic route on the right bank of the Sava River is represented by the streets Karadžorđeva - Savska - Bulevar vojvode Mišića, with an approximate length along the border of the subject zone of about 2,580 m. The mentioned traffic route has a dominant role in terms of access to the zone, because all the streets within the zone on the right bank of the Sava river are connected to it. The newly built Bulevar Vudroa Vilsona is parallel to Savska Street, and the transverse streets are developing as roads that connect Savska Street and the riverfront.

The planning area can be accessed from two other primary city traffic routes, i.e. from the "Gazela" bridge, as part of the highway section of the city street network and from Branko's bridge as part of the longest longitudinal main city route Ugrinovačka - Bulevar Mihaila Pupina - Brankova - Dečanska - Bulevar kralja Aleksandra. Access from the two mentioned city bridges can be achieved indirectly, through a lower rank street network, which is in the function of connecting the city bridges and the surrounding fabric.

The newly built infrastructure on the right bank of the Sava river consists of the promenade Sava Promenada, which stretches along 1.8 km. Bulevar Vudroa Vilsona with three lanes in each direction is the central road connecting Karadjordjeva Street with the Belgrade Fair. According to the Plan, about 14 km of new roads will be built in this zone, designed primarily for sustainable modes of transport, so the plots are connected by a network of bicycle paths and wide sidewalks, which is important from the aspect of connection to all parts of the city.

Planned condition

As this is a central urban area, where accessibility is limited due to the density of content and users of space, like in many European and world capitals, the accessibility of this area will have all the features, advantages and limitations of central urban areas. In accordance with the above, the planning solutions in this spatial plan are also based on solutions that provide the opportunity of introducing a system of metro lines and lines of other subsystems of public passenger transport. The planning elaboration for positioning of the metro corridor through the subject area is in the finale stage.

Savska Street is planned with a 14 m wide pavement and a sidewalk on the east side with a variable width of 1.5 m to 5 m in the zone of Savski trg. From Savski trg to Risanska Street, the regulation of Savska Street contains two 7 m pavements, a landscaped tram zone 10 m wide midway, with 3 m wide greenery on one side and 6 m on the other, east side, sidewalks on both sides with variable width, from 3.2 m to 6 m on one side and from 3.5 m to 9.43 m on the other, east side of the street. From Risanska Street to the Mostarska petlja, Savska Street in its profile contains two 10 m pavements, landscaped tram zone 10 m wide midway, with 3 m wide greenery on both sides, and sidewalks on both sides, 3 m wide on one side and with variable width, from 3.9 m to 4.1 m on the other, east side of the street. The erection of one-sided single-row tree lines is planned along Savska Street.

Gazela Bridge (state road IA rank no. 1) remains in its current state without planned interventions. In the bridge zone, a protective belt is planned and a 20 m wide belt in which the construction of high-rise buildings is prohibited. During the realization of roads and other traffic contents in the bridge zone, it is necessary to perform appropriate protection of the bridge pillars.

Railway traffic

With the realization and putting into function of the railway station "Beograd - centar" in "Prokop", the railway traffic was moved from the central city area. All existing tracks and the function of the Belgrade railway station have been abolished.

According to the planned solution, the two-track railway from the direction of Topčider ends in the zone of road access to the Belgrade Fair, and a railway station with the necessary tracks is planned at that position.

Public city passenger transport

On the right bank of the Sava river, public city passenger transport takes place along the perimeter roads of Savska, Karađorđeva Streets, and the access road to the Old Sava Bridge. Transport is performed by bus and tram subsystems of public city transport. The area on the right bank of the Sava river is in a favorable position from the aspect of access and service by public city transport, because more than 20 lines of the public city passenger transport system overlap in that area.

All lines that concern the zone within the boundaries of the Spatial Plan have at least three stops that enable contact with the space in the zone of the Sava Amphitheater, which allows access to the area from different sides. Bus line no. 60, which runs along Savski nasip Street, then lines 36, 46, 51, 601, 511 with a stop on Bulevar Vudroa Vilsona, as well as all bus lines with a stop on the Mostarska petlja are important for good connections of this zone with all city hubs.

According to the development programs of Belgrade public passenger transport system, it is planned to keep all existing stops and public transport lines in the planning area, and to reorganize the public passenger transport system (lines and stops) in accordance with the planned solutions.

BELGRADE METRO SYSTEM

Belgrade metro Line 1 includes 22 stations, of which Gazela Station is the tenth station counting from Železnik departure station. The aboveground part, i.e. the exit from Gazela Station is planned at the competition location.

The Republic of Serbia and the City of Belgrade plan to build a metro system in Belgrade as one of the development priorities of urban and suburban public transport. Metro system, which would complement the *BG: Train* system, as another fast transit system, should become the basis of public transport and play a key role in the spatial development of Belgrade. Future metro and *BG: train* system will be integrated with other modes of public transport: bus, trolleybus and upgraded tram system.

The feasibility study from 2019 defined the main characteristics, general performance of the metro system, the route of the first two metro lines and their construction phase. The project defines 2 metro lines for the initial metro network: Line 1, from Železnik to Mirijevo, with a total length of 21.3 kilometers and 22 stations, and Line 2, from Zemun to Mirijevo, with a total length of 19.2 kilometers with 20 stations.

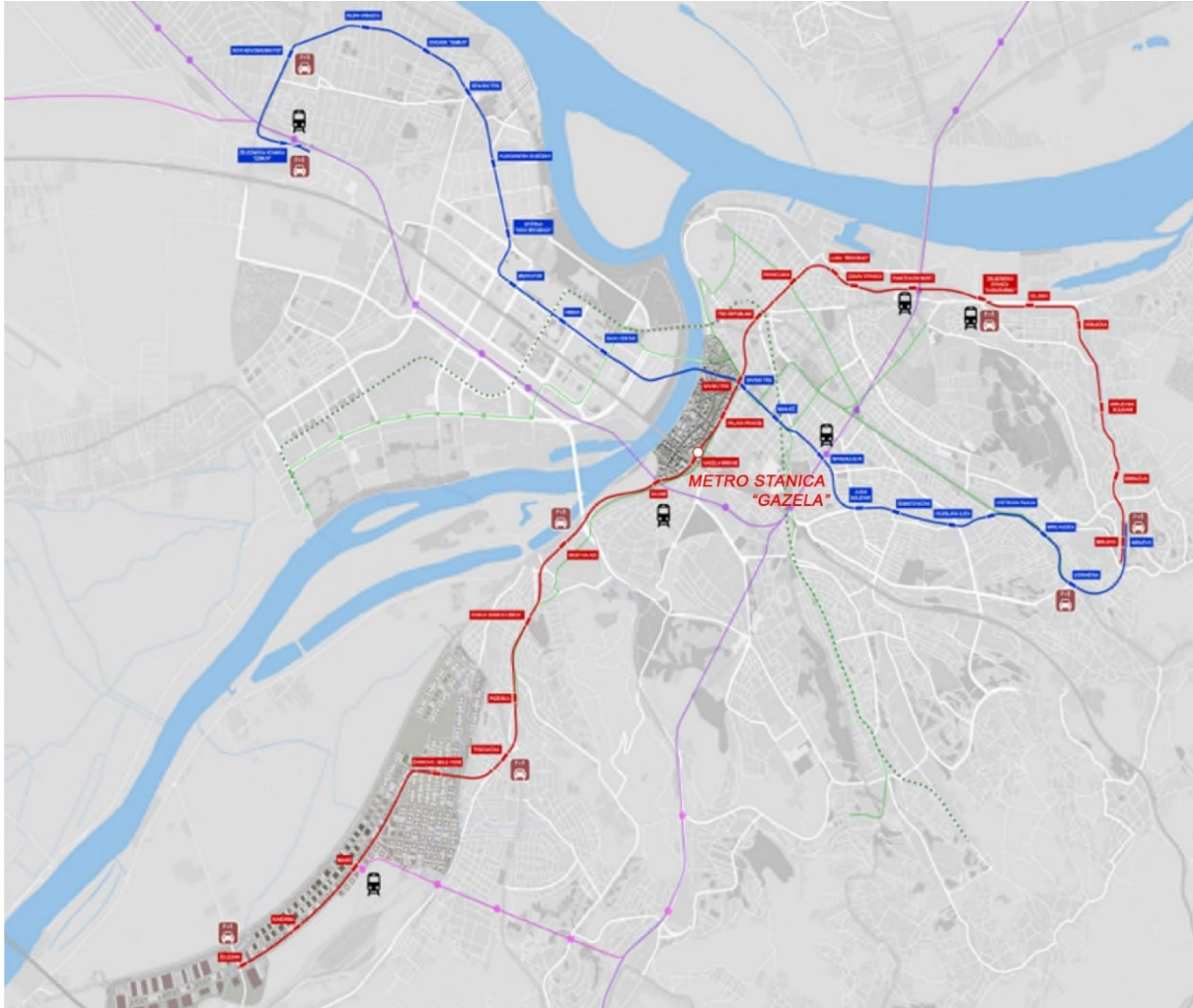


Figure 28. Line 1 (red) and Line 2 (blue)

The project of the metro line 1 serves as a longitudinal connector of the north-south part of the city, namely the Danube river in the north-east and the Sava river in the south-west, passing through the historic center. From the northeastern sector of lower density, line 1 on the right bank of the Danube serves the dense area of the old town, and then connects with the future development on the bank of the Sava river.

Metro stations are facilities that connect the street level of the city with the transport system, offering its users clear, efficient, safe and comfortable routes, although often in a limited urban environment. In the design of the Belgrade metro there are three typologies of stations, which will be subsequently adapted to the design; 16 stations planned for phase 1 of the project: stations on the ground, stations in the open (shallow) excavation and stations in the deep excavation.

Gazela Bridge station is located at the level 77.53, with the top of the track at 55m above sea level, with planned depth -22.53m, and typologically belongs to the "stations in the deep excavation with 2 mezzanines". Its exit will be the subject of an architectural-urban competition for stations on line 1.

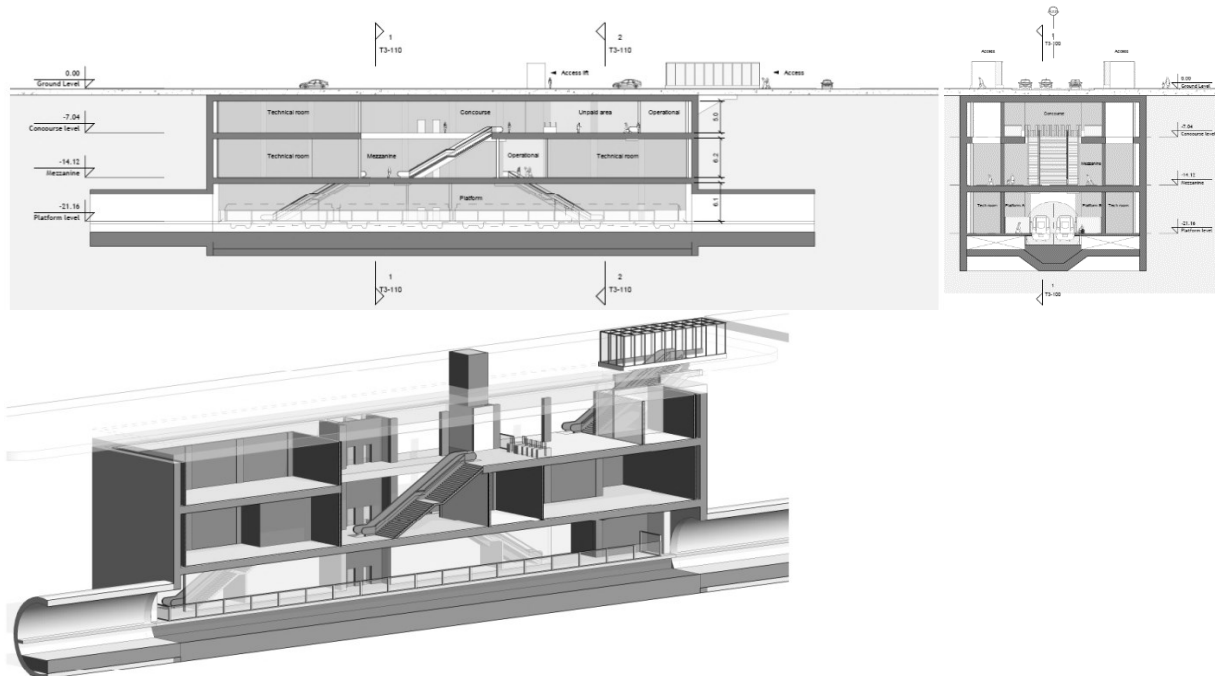


Figure 29. Layout of a station in a deep excavation with two mezzanines

Pedestrian and cycling traffic

Pedestrian movements of different intensity take place along all the streets in the gravitation zone. Beside the pedestrian paths along existing traffic routes, pedestrian movements also take place along other pedestrian corridors, through park and green areas, and within the areas of bus and train stations. Pedestrian flows of higher intensity can be noted along Savska, Nemanjina, Karađorđeva Street and Bulevar Vudroa Vilsona. Pedestrian movements along the banks of the Sava river can also be characterized as more intense, all the way from the Beton hala to the zone below the Gazela Bridge.

Cycling paths stretch along the bank of the Sava river and are connected with paths on the other side of the river over Branko's Bridge, with bicycle elevator erected on its structure. The mentioned cycling paths are parts of the first bicycle corridors in Belgrade, Dorćol - Ada Ciganlija on the right bank of the Sava river, and "Gazela" - Zemun on the left bank of the Sava and Danube rivers. As in the case of pedestrian movements, cycling paths have a problem of continuity and intersection with other types of traffic, primarily with pedestrian traffic due to the shared use of paths. The plan also envisages a new network of cycling paths that will supplement the existing cycling flows.

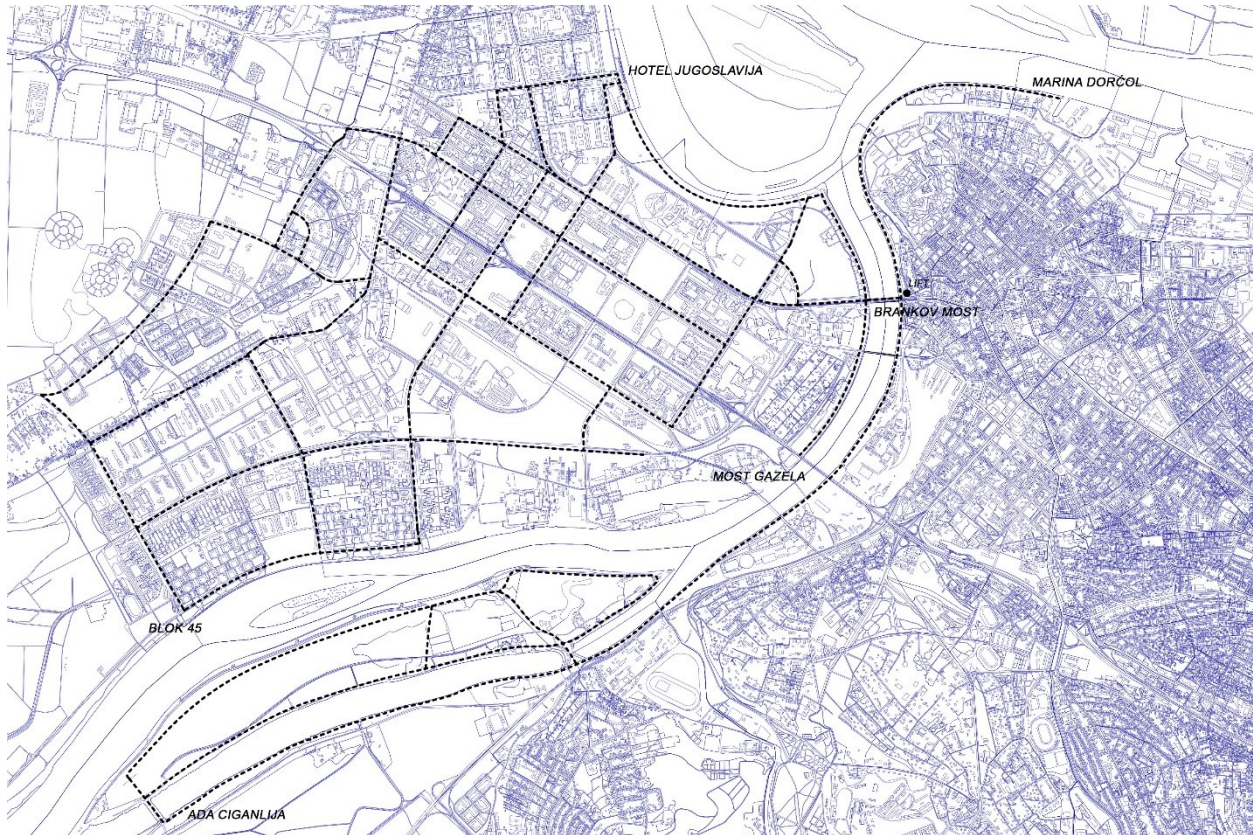


Figure 30. Map of cycling paths in Belgrade

5.4 Infrastructure

The subject area, as a central extremely frequent city and traffic area, is a place of intersections of different capacity infrastructure networks. The competition location and its immediate environment are currently undeveloped and decayed, with the prevailing poor rating of the facilities. The existing technical infrastructure is of uneven quality. Bearing in mind that the wider environment of the competition location will be developed in accordance with the planned circumstances, which implies a completely new infrastructure, the infrastructure systems will be harmonized with the capacities and planned needs.

6. LOCALITY CHARACTERISTICS - COMPETITION SCOPE

6. LOCALITY CHARACTERISTICS - COMPETITION SCOPE

6.1 Current state - site and construction fund on the site

Ložionica and Vodotoranj are one of the few preserved buildings characteristic of the ambient and buildings of industrial heritage, from the period of the initial development of the railway in Serbia in the 19th century. The current picture of the existing condition of the competition location demonstrates an undeveloped space where the remains of the Ložionica building are located. At the end of August 2018, the Ložionica, which housed some of the exhibits of the Railway Museum, including old locomotives from the 19th century, was severely damaged and a large part of its elements were destroyed. The locomotives "Pula" from 1864 and "Presek" from 1884 were destroyed, as well as one hand-forged wagon. The damaged remains of the locomotives were transferred in October 2018 to the garage of the "Blue Train".



Figure 31 . and 32. *The current state of the Ložionica and Okretnica complex*

The remains of the Ložionica building are in poor condition and require complete reconstruction. Out of the radial stretch for 31 places for locomotives, today there are 24 left, because a part of the building towards the Mostarska petlja has been completely demolished. There is a part of the front facade of the Ložionica, i.e. its structure, as a trace of the destroyed part of the building (7 places for locomotives). All the windowpanes on the building were damaged, and therefore external influences additionally damaged the space. Parts of the space were completely collapsed and devastated.

All additional spaces located in the Ložionica complex, including a forge, a sawmill, a mechanical workshop, a foundry, a towing service and a gas factory (water softening building) and other ancillary facilities (warehouses, toilets, dining room, winter garden, guard apartment, carpentry and locksmith workshops, electrical workshop, transformer, coal ramps) are demolished. Also, there is no longer an administrative

building in which the management of Ložionica was located, or the two facilities that were intended for a steam bath.

The crossing over the Okretnica, i.e. the communication link between the other buildings in the Ložionica complex, was enabled by a pedestrian bridge and drawbridge, which no longer exist. In the area of the Okretnica there are traces and remains of the central circular ring which was used for turning the locomotives. The old railroad tracks have been completely removed and do not exist preserved as a possible fund for reconstruction. There are remnants of earth deposited in the area of the competition location during the digging of a deep channel for wireway, and the construction works on the surrounding blocks, but the remaining earth is being removed, so the site will soon be free of additional soil and debris.



Figure 33, 34 and 35. *The current state of the Vodotoranj*

Vodotoranj is preserved in good condition. There are visible traces of long-term non-maintenance, but the solidity of the structure and the existing condition indicate the possibility for good quality reconstruction. The interior and the exterior of the Vodotoranj have been preserved with traces of damage and dilapidation. The outer end of the Vodotoranj is visually disturbed by billboards and their lighting, and their complete removal is planned.

Attached to the tender documentation are photos of the current state from June 2021.

The Faculty of Civil Engineering prepared an Expert Report on the load-bearing capacity, stability and usability of the structure of the railway depot building - Ložionica and the Vodotoranj on 13 July 2021. The following is extracted from the report:

Depot structure description - projected condition

The structure is of reinforced concrete, in the form of spatial frames oriented in two directions - radial and tangential. The formed frames thus form 21 radial segments, while the 10 segments that existed in the originally designed and constructed structure were demolished, as can be seen from the technical documentation dating from 1945. Functionally, the unit of 21 segments was divided in the manner shown in Figure 1 (in the attached Report of the Faculty of Civil Engineering). The width of the segment on the front façade corresponds to a grid of 4.45 m between the pillars, while on the rear façade the grid between the pillars is about 7.3 m. In the radial direction, the structure consists of three-nave frames, with a span of $3 \times 9 = 27$ m, with a central nave that is 1.65 m higher than the side two. In archival drawings, these frames are called "main binder". The height of the beams of the lower frames is 42 cm, while the beam of the middle frame is of variable height (max 60 cm) and forms the slopes of the roof planes. All beams have vertical haunches in the zones of support on the pillars. In the tangential direction, the structure consists of 4 frames

- two inner ones that form the middle nave and two facade ones. Each of the frames consists of two beams (at different heights), with the beams in the facade frames being of smaller height (65 cm upper and 45 (25) cm lower one), while the middle frames are formed of higher beams (65 cm and 85 cm high and 35 cm wide). The dimensions of these elements are taken from the cross section. The roof structure is formed with a reinforced concrete slab that relies on the mentioned system of radial and tangential beams, as well as on additional, secondary beams that form the beam grill. In the front and middle nave, one secondary beam was projected in the radial direction (in one segment between the main binders) respectively, while in the back nave, due to slightly larger grid between the pillars, 2 secondary beams were projected. In the tangential direction, the secondary beams exist in the middle and back nave. The pillars of all the frames are mostly rectangular in shape, of different dimensions, predominantly 40x50 cm. The reinforcement of all elements is smooth, of unknown quality.

The archival drawings detail the short elements on the pillars, their geometry and reinforcement. The roof slab is reinforced as a slab (continual) in one direction, with reinforcement $\varnothing 10(12)/12.5$ in the field and above the supports - radial main and secondary beams.

Macroscopic overview of the depot structure

Visual macroscopic overview of the structure was performed on 6 July 2021. Orientation in the field was performed on the basis of archival drawings of the foundation. The number of radial segments corresponds to the state from the archive, from axis 1 to 22. The part of the structure from axis 23 to 29 does not exist, except for the front facade frame which is free in space. Groups of 3 to 5 radial segments are bounded by a masonry wall that physically separates these segments, former functional units.

The greatest damage to the front façade frame was observed in sections 5 and 6 (more details in the Report). Typically, the damage is located on the beams above the door opening, as well as in the nodes, i.e. beam-pillar connections. In the zones of the nodes and on the lower side of the beam, a complete loss of the protective layer of concrete reinforced with the rabbit mesh is obvious, and in some nodes the structure of the concrete cross section is evidently disturbed.

In general, damage to the façade frame occurred in two ways - 1) by the action of a combination of deterioration mechanisms and 2) damage caused by mechanical means. Concerning the deterioration mechanisms, the observed damage to the pillars is typical for the action of low temperatures (frost), to which the structure has been exposed seasonally for decades. Also, having in mind that gutter verticals were placed along the pillars, the leakage of water from the gutters also contributed to the observed damage, mainly on the surface of the pillars. The other cause, especially important for damage to the beams, is the action of mechanical influences. Namely, on the lower edges of the facade beams there were steel profiles that served as door guides. By unprofessional dismantling, and the action of physical force, the steel profiles on most of the beams were removed, damaging the lower sides of the beams and especially the corners, i.e. connections to the pillars.

The designed and constructed reinforced concrete roof structure of the front nave exists on parts 1,5,6, and it does not exist on parts 2,3 and 4. It is not known in which historical period it was removed. The slab is cut along the edges of the perimeter beams, as well as the reinforcement for the connection with the beams. Secondary reinforced concrete beams in the radial direction of the lower nave were cut, Figure 9. During the first field visit (June 2021) it was established that these beams do not exist, but that in thirds of the span instead of the central RC beam there are metal bars that probably represented the supports of the tin roof covering absent at that time, but which clearly existed based on photo documentation from 2016 -2017. The as-is state during the field visit in July 2021 is that there are no metal bars. They relied on the beams of the tangential frame, which is why "niches" were formed in the masonry parapet.

The reinforced concrete structure of the middle and back nave is extremely damaged, Figure 10. This applies to the roof slab as well, and to the radial and tangential beams. Concrete is peeled off from the lower side of the slab and beams, not only the concrete of the protective layer, but also in depth, i.e. along the height of the slab/beam, making the reinforcement of the lower zone visible throughout the circumference. Adhesion between the longitudinal reinforcement and concrete is practically non-existent for most of the beam length. For the safety of people, a net has been placed on the underside that keeps the pieces of concrete falling off. The reinforcement of all elements is in an advanced stage of corrosion. The protective layer on the sides of the beams is completely lost, the transverse reinforcement is present and visually accessible. There is no efficient "support" of the longitudinal reinforcement in the zones of the radial frames, the transverse reinforcement is sparse, loose and sometimes interrupted.

Vodotoranj – designed and as-is state

Vodotoranj was designed as a reinforced concrete structure, with a series of circularly oriented pillars and a metal dome at the top, which was demolished during World War II, Figure 14. There is no technical documentation, no drawings or text, which would give more detailed information about this structure.

The appearance of that time, but also today's appearance, indicate that it is a masonry structure, plastered on the outside. However, the picture from the construction phase indicates the possibility that it is a reinforced concrete structure that is lined i.e. built of brick on both the outside and the inside, which "hides" the RC structure. As for the damage to the structure, they are relatively small, superficial, in the form of parts of mortar that have fallen off the outer surface. There are no visible cracks in the masonry wall from the outside. In the next phase of the project, it is necessary to determine the type of structure by cutting off grooves or core drilling and inspect the interior of the water tower.

Conclusion

Macroscopic visual expert examination determined that the structure of the depot building is in extremely poor condition. Apart from the dominant deterioration processes due to the exposure of the structure to the influences of the external environment, the unprofessional and violent dismantling of parts of the structure in the last few years has also contributed to this. Given the condition, load-bearing capacity and stability of the structure are questionable and must be proven on the basis of tests defined by the program (section 2.6) and if necessary subsequent calculation (section 2.5) if there is a deviation in material quality from the assumed one. The limit state of usability and durability has been reached, for functional and aesthetic reasons. The service life of the structure was achieved due to advanced corrosion and reduced cross-section of reinforcing steel on a number of elements. Extension of the service life is possible, with extensive work on the repair of the structure.

Having in mind the condition of the structure and the calculated bearing capacity of the cross sections, it can be said with certainty that apart from the own weight of the existing structure and the installation of horizontal and vertical linings, no additional load of existing elements is possible, even after rehabilitation. The final decision on how to repair the existing structure should be made after providing the relevant data inputs/background and subsequent load-bearing capacity calculation for vertical and horizontal loads.

Before continuing the work on testing the structure, it is necessary to hire a professional and authorized contractor in order to remove all parts of the structure, cladding, masonry that are unattached and prone to fall, and to install appropriate protective elements, in order to create conditions for further safe work.

The structure of the Vodotoranj is in relatively good general condition. Elementary tests of the structure and certain non-destructive repair measures will ensure adequate durability and extend the service life of that structure.

The entire Report of the Faculty of Civil Engineering of the University of Belgrade on the existing condition of the construction fund at the competition location is attached to the Tender Documentation.

6.2 Special conditions and specifics of the spatial unit Okretnica, Ložionica and Vodotoranj

Competition scope is defined in relation to the tendency to maintain a consistent reminiscence and visual image of the former spatial and functional unit of the Okretnica, Ložionica and Vodotoranj, as well as to use the new conditions of planning regulations in terms of spatial accessibility, infrastructure and program changes.

Apart from the authenticity that arises from the fact that "Okretnica, Ložionica and Vodotoranj of the Belgrade Railway Station" as a heritage of technical culture are recorded as an asset that enjoys the status of primary protection, the competition location has several spatial specifics. The first specificity is that the competition location is located about 380m from the Sava quay and that the Spatial Plan provides for good traffic connection with the riverfront (street SAO10 and SAO11). Another specificity of the space, having in mind the existing condition and planning documentation, is its differentiation and volumetric completeness - on one side the space is concerned with Savska Street, on the other side the space is defined by the existing Ložionica building, on the third side with Mostarska petlja and on the fourth side the space is determined by planned facilities.

The position of the Vodotoranj gives a particular specificity to the competition scope. Vodotoranj is located on the plot which the Mostarska petlja and a part of the Gazela bridge belong to, so in that sense a part of this plot in the competition, together with the Vodotoranj, were used as a survey. Vodotoranj has a direct spatial contact with the Mostarska petlja, which makes the treatment and relationship, not only to the Vodotoranj but also to the whole complex, very specific. Bearing in mind that the newly planned street SA011 spatially separated Vodotoranj from the Okretnica-Ložionica complex, it is necessary to approach the treatment of this issue carefully.

In addition to the above, in terms of potential and development trends, the competition scope belongs to the city unit with a very specific place in the concept of Belgrade's development, and the spatial position in relation to the central commercial and tourist facilities, as well as Novi Beograd, determine its significant potential.

Overall, the location is becoming attractive to tourists, not only in terms of cultural heritage but also for future complementary facilities. The proximity of the Mostarska petlja indicates a good traffic connection with the other side of the river, and with the active inclusion of riverfront belts and the new diverse and highly attractive functions and facilities, connecting this Creative-Innovative Multifunctional Center with other compatible facilities can be significant.



Figure 36. View of the Ložionica area

7. COMPETITION BRIEF

7.1. SUBJECT OF THE COMPETITION, GENERAL GUIDELINES AND RECOMMENDATIONS

7.1. SUBJECT OF THE COMPETITION, GENERAL GUIDELINES AND RECOMMENDATIONS

The scope of the competition is defined in two spatial units, i.e., zones:

Zone 1: includes the location of the old Okretnica (turntable), on the corner between Savska Street and Mostarska petlja (Mostar loop), and the existing remains of the Ložionica (coaling station) building, on the following parcels: 1605/1 (Ložionica building), 1508 / 394, 1508 / 250 1508/249, 1508/248, 1508/243, 1607/1, 1606, 1604, KO (cadastral municipality of) Savski venac, in the total area of 22.627m².

Zone 2: is a part of the cadastral parcel 1508/354 on which the Vodotoranj (water tower) is located and covers the area of 8971,44m².

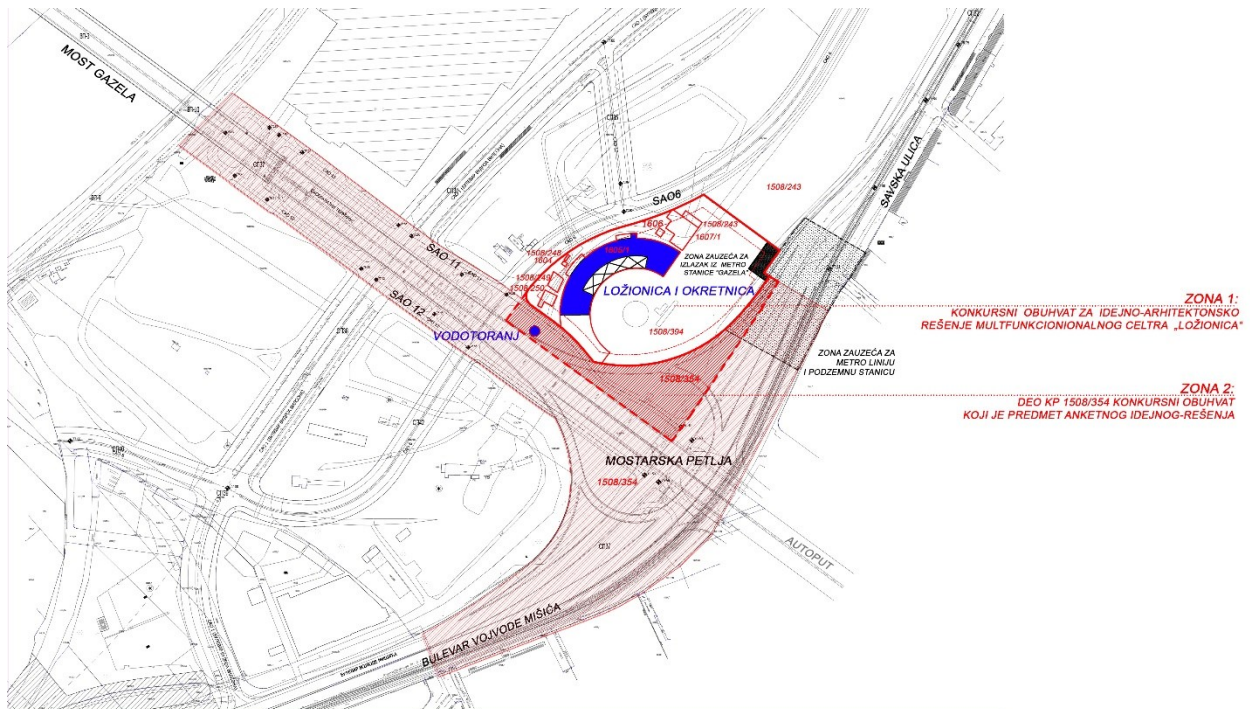


Figure 37. : Two zones of the competition scope: Vodotoranj belongs to the plot on which Mostarska petlja is located, a part of which is marked on the map in the scope of the competition given in a survey form

Given the fact that the newly planned road SAO 11 spatially separates the building of Vodotoranj from the parent complex, a significant part of the parcel 1508/354 has been included in the competition in the

form of a survey competition, i.e., as a test of spatial potentials for the establishment of visual, functional and program integration with the parent Cultural-Innovative Multifunctional Center.

With the Spatial Plan of the special purpose area for the development of a part of the riverfront in the city of Belgrade - the area of the Sava riverfront for the "Belgrade Waterfront" project, the planned roads SAO 11 and SAO 12 enable access to the subject zone from the existing intersection "Mostar". These secondary network roads are planned as one-way routes with a profile consisting of a 7 m carriageway, 2 m and 3 m one-sided sidewalks and 1 m one-sided shoulder towards the pillars of the "Gazela" bridge. The Plan defines that it is necessary to perform a proper protection of the pillars of the "Gazela" bridge, during the construction of the mentioned roads and other traffic contents.

Zone 1

Parcel	Designated purpose	Surface area m2
1605/1	Building structure	3,619
1605/1	Land	973
1508/394	Land	16,974
1508/250	Land	146
1508/249	Land	150
1508/248	Building structure	12
1508/243	Land	112
1607/1	Land	589
1606	Land	37
1604	Land	15
TOTAL	Zone 1	22,627

Zone 2 – part of the plot 1508/354

Parcel	Designated purpose	Surface area m2
1508/354	Land – total parcel area	76,848
	Vodotoranj	73
	Land – total area of survey competition scope (incl. Vodotoranj)	8,971
TOTAL	Zone 2	8,971

The subject of the competition covers two zones: Zone 1 where the Creative-Innovative Multifunctional Center is planned, including the reconstruction of the Ložionica building and the open space of the former Okretnica, as well as the construction of a business annex, and Zone 2 as the location of a survey-type, spatial-program solution for a cultural content associated with the Vodotoranj facility. Both of the above zones form one visual and program unit, so the scope of the competition should be treated integrally.

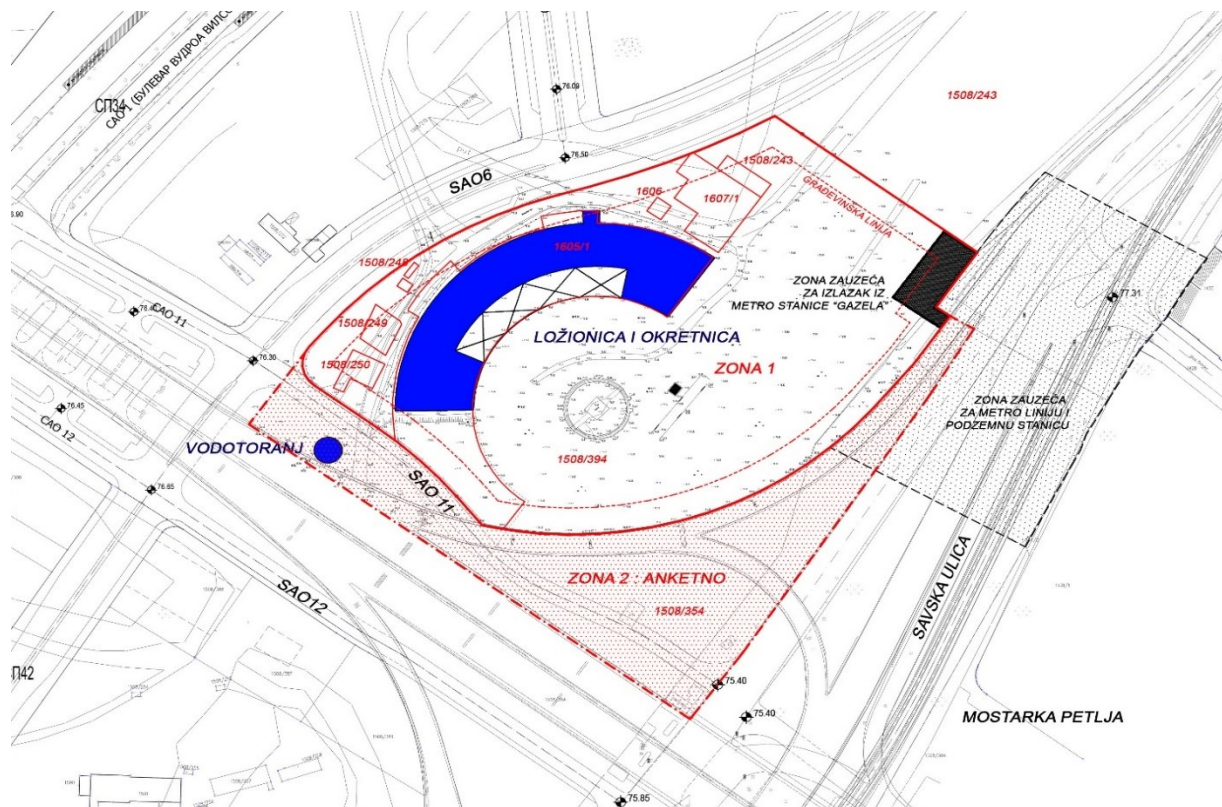


Figure 38 Two zones covered by the competition: Zone 1 (space occupied by Ložionica and Okretnica) and Zone 2, the coverage of which is given as a survey coverage

Respecting the fact that this is a very valuable urban space in the cultural-historical sense, but also in terms of the context of location, immediate environment, the importance of nearby facilities, as well as in terms of the wider neighborhood, all interventions should be carefully analyzed in order to obtain a better solution that would improve the artistic and functional characteristics of the ambience. The competition solution should affirm modern tendencies in architecture, design and arrangement of public buildings and spaces.

It is extremely important to consider the position of the location in relation to other spatial cultural and historical units, and especially its place in the views of the city, both from the Belgrade and Novi Beograd side. An important element of the location is its potential in terms of contact with the Sava River, providing views of the immediate surroundings, the river and Novi Beograd. In addition, it is necessary to consider the qualities offered by the specific position and the size/shape of Vodotoranj.

The subject of the competition is the conceptual (preliminary) design of the Creative-Innovative Multifunctional Center "Ložionica", in particular:

Within zone 1: protection and preservation of the Ložionca facility in the existing size and volume through a change of purpose, with an accompanying annex - facility or facilities that represent a program support for the Ložionca facility that is the subject of reconstruction and open space that integrates all spatial subunits.

Within zone 2: to plan an open space section as a part belonging to Vodotoranj, but also to the conceptual zone 1, thereby establishing the visual and program merging of zone 1 and zone 2 into a single whole. Zone 2 is given in the form of a survey with the maximum coverage, in order to maintain the consistency and integrity of the concept of cultural and historical heritage of Okretnica, Ložionica and Vodotoranj.

7.2. URBAN PLANNING –PARAMETER-RELATED CONDITIONS

7.2. URBAN PLANNING –PARAMETER-RELATED CONDITIONS

Urban planning – parameter-related conditions are defined by the Spatial Plan for the special purpose of arranging a part of the riverfront in city of Belgrade, currently in the phase of final drafting. According to the planning documentation, the competition location belongs to the Zone "KL 6 - Okretnica, Ložionica and Vodotoranj".

Basic designation of the area	Creative-innovative multifunctional center and commercial space
Parcel occupancy index	40% According to urban-planning parameters, a total occupancy rate of 40% is allowed on the site. It is obligatory to retain the existing part of Ložionica, which constitutes a part of the total occupancy of the plot.
Position of the facility on the parcel Construction line Distancing from adjacent facilities	<p>The construction zone is defined by construction lines (given in the attachments in the folder II "DIGITAL GRAPHIC DOCUMENTATION" file "03 Situation (site) pan from the Spatial plan"). Construction lines represent the maximum construction zone within which the dimensions of the above-ground parts of the building can be placed. The construction line of the underground part of the building can cover a maximum of 80% of the parcel.</p> <ul style="list-style-type: none"> - it is not allowed to insert/expand parts of buildings (bay windows, entrance canopies, etc.) beyond the defined construction lines. - construction of one or more buildings on the plot is allowed. - the distance of the building from another building in relation to the facade with openings in the immediate vicinity, must be at least 2/3 of the height of the higher residential building. The height of the opposite residential building in block 25a is 32m in total, and according to the Planning Documentation it is along the construction line which is 10m away from the plot boundary. Only bay windows or overhang if they do not have openings, can be extended to the construction line which is at a distance of 10 m from the border of the plot with block 25a. <p>Other above-ground parts of the building towards other boundaries of the plot should be planned within the space defined by the construction lines.</p> <p>The existing remains of the Ložionica buildings are kept in the existing dimensions. It is possible to demolish the annex that exists on the north side of the 7th field towards SAO6 Street, given the fact that it is in extremely poor condition and that it originally did not exist according to the archive data, but was built in one of the subsequent phases of adding space.</p>
"Gazela most" metro station exit area	<p>Gazela station will be the tenth station of Line 1 of the Belgrade metro. The above-ground part of Metro Line 1, i.e. the exit from Gazela Station is planned at the competition location.</p> <p>According to current studies, the above-ground space required for the exit station is maximum 15x30m in size and it is indicated in the attachment as - "Occupancy zone for exit from the Gazela metro station" (given in the attachment II "DIGITAL GRAPHIC DOCUMENTATION" folder "05 Documentation for the attachments, scale 1_500 and 1_250").</p> <p>Towards to the adjacent block 25a in the underground and aboveground part it is necessary to leave a zone of 10m (part of block 25b - as shown in Figure 39) for the needs of underground and/or overground passage to the metro station Gazela towards the river Sava, marked as "Zone of underground occupancy for the underground and/or overground passage from the Gazela metro station" (indicated in the attachments). Therefore, in these two zones (occupancy for the</p>

metro station and the passage to the river) it is not possible to place a facility either underground or aboveground. The upper line of the 10m-distance from the border of the neighboring block 25a is also the construction line for the competition location. The underground garage can be positioned at a distance of 10m from the boundary of the plot with block 25a.

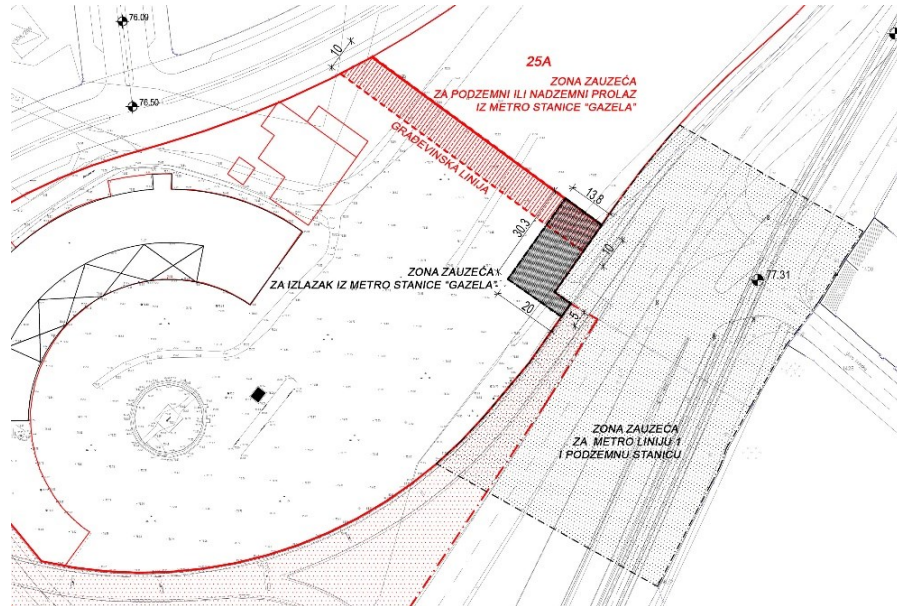


Figure 39. Occupancy zone for metro line and underground station, occupancy zone for exit from Gazela metro station and occupancy zone for overground or underground passage to the Sava river

<p>Number of floors / building height</p>	<p>The existing dimensions and volume of the remains of Ložionica and Vodotoranj are retained. The maximum height of the business annex - facility/facilities in the construction zone is defined by the Spatial Plan (in the phase of final drafting) and is limited to 32 meters. Regarding the number of floors and the position on the parcel, it is necessary to take into account the distance from the neighboring buildings. According to the Spatial Plan, in the adjacent block 25a, which is 10m away from the border of the plot, the height of the building is planned to be 32m.</p>
<p>Conditions for vehicle and pedestrian access to parcel</p>	<p>It is necessary to provide the location with adequate traffic and pedestrian access in accordance with the purposes and capacities, as well as functional connection with the immediate and wider contact zone.</p> <p>In the central part of the planning area a high-capacity central road SAO 1 (Woodrow Wilson Boulevard) is planned, which is part of the primary network as a first class street. All other roads within the planned street network are part of the secondary network with the basic role of functional connection and servicing of individual locations.</p> <p>It is important to point out that the planned roads SAO11 and SAO12 enable access to the competition location from the existing traffic loop "Mostar". The spatial plan envisages that during the realization of the mentioned roads and other traffic contents, it is necessary to perform the prescribed protection of the pillars of the "Gazela" bridge. The competition location is surrounded by Savska Street, SAO 6 Street, so vehicle access to the location and facilities can be achieved from Savska Street by SAO 11 Street and via SAO Street 6. Movement and access of fire, utility and delivery vehicles is possible along the block via these roads.</p>

	<p>The newly planned SAO 10 street connects the competition location diagonally with the river bank. The SAO 6 road is planned as an entrance to the Belgrade Fair complex. In this regard, this street is a good link between the Creative-Innovative Multifunctional Center and the Fair events.</p> <p>Pedestrian access to the plot and the building will be possible from Savska Street, which can be important for solving the survey part of the competition, i.e., the part that also treats the area around Vodotoranj.</p> <p>.</p>
Parking	<p>According to the valid Spatial Plan, it is necessary to design a minimum of 150 PM (parking spaces) within block 25b. According to the applicable standards and in accordance with the program framework, it is necessary to design an underground garage with the capacity to meet all the planned contents.</p> <p>It is necessary to solve the parking within the plot for the maximum number of vehicles, above ground and in the underground garage. Special attention is to be paid to the typology of the garage and the position of the entrance and exit, having in mind all applicable standards and regulations, and the size of the garage. It is not recommendable to form a garage directly under the very central part of the former Okretnica. In line with the terrain configuration and technical conditions, it is possible to build two levels of underground garage (two levels of underground garage are planned in block 25a), but it is recommended that, if possible, the required capacity of garage spaces be solved in one garage level.</p> <p>It is possible to use public parking in a public area in the area of the bridge "Gazelle", with a capacity of 70PM, for the needs of events in the survey competition zone, but this number of parking spaces is not part of the required parking capacity for Creative-Innovative Multifunctional Center "Ložionica"</p> <p>Note: the flood elevation of the terrain is 74.00 m above sea level.</p>
Conditions for free and green areas	<p>The percentage of green areas in direct contact with the ground is at least 10%. If possible the recommendation is that at least, final and lower floors, should be arranged and landscaped as green roof terraces, and it is also recommended that if there are spatial conditions, quality "educated" deciduous saplings be planted in cassettes with an orientation size of 2.5 x 2.5 m.</p> <p>If due to the underground floors it is not possible to form the required percentage of free surface for landscaping, the prescribed amount of greenery should be compensated for within the roof green areas, by vertical landscaping and the installation of decorative planters. Representative landscaping is mandatory for free ground floor areas.</p>
General conditions and shaping	<p>The competition solution should primarily show a high conceptual level in the treatment of protection and revitalization of cultural heritage in dialogue with new structures that affirms modern trends in architecture, a high level of shaping and arrangement of public urban buildings and spaces, respecting the context of location, significance and representativeness of the future spatial unit. Special attention is to be paid to the position of the Creative-Innovative Multifunctional Center "Ložionica" in the future projection of the city and the wider environment and the fact that this is a very valuable urban space in cultural and historical terms, but also a potential economic generator. The position, size and manner of shaping the Business Annex should contribute to the formation of a whole that is representative and recognizable in both macro and micro context.</p>

7.3. SPECIAL GUIDELINES AND RECOMMENDATIONS FOR TREATMENT OF BUILDING AND CULTURAL HERITAGE

- 7.3.1 Conditions of the Institute for the Protection of Cultural Monuments
- 7.3.2 Recommendations for spatial treatment of Ložionica
- 7.3.3 Recommendations for spatial treatment of Okretnica - open spaces
- 7.3.4 Recommendations for spatial treatment of Vodotoranj with belonging free space
- 7.3.5 Recommendations for spatial treatment of the Annex

7.3. SPECIAL GUIDELINES AND RECOMMENDATIONS FOR TREATMENT OF BUILDING AND CULTURAL HERITAGE

At the time of construction, the railway station in Belgrade was considered the greatest achievement in terms of the time and technology, and together with the former facility of the Ložionica, Okretnica and Vodotoranj, it should represent the semantic starting point of intervention in spatial and competition concepts. The idea of technological innovation needs to be incorporated into the proposed solution in a recognizable and affirmative way.

Cultural heritage is a special kind of resource, a source of identification and cultural capital that is one of the fundamental elements of spatial and urban development and arrangement of an environment. The competition solution should affirm urban continuity and enable integrative protection of cultural heritage, but also its management as a generator, not only of cultural, but also of tourist and wider economic development.

Protection of the character of the Ložionica buildings, reminiscence of the functioning of Okretnica, Ložionica and Vodotoranj and redefining the architectural ensemble, respecting the specifics of "industrial archeology" and controlled new construction, which supports and improves the values of the inherited structure, should be the priority of the competition considerations. The existing structures that make up the heritage from the domain of industrial archeology are unique and rare examples of remains that testify to the progress, development and, generally, to the avant-garde development of Belgrade and the economic space of the whole country. The idea of speed, communications and technological innovations is implemented in the aesthetic image of the remains, which is fully compatible with, but also inspiring for the future spatial composition.

In the context of preserving environmental values, bearing in mind that the competition location poses the outer edge of the former Belgrade railway station complex, with which it once formed an infrastructural and functional whole, it is necessary that newly built facilities, their mutual relations, as well as all interventions in arranging and equipping facilities and surrounding space, be aligned with the collective memory of the complex's primary function. The specific position and possibility of dialogue with the infrastructure of the Gazela Bridge, Mostarska petlja, Gazela Park and the vicinity of the Sava River, as well as the planned, important facilities in the immediate or wider vicinity (such as Bigz, Fair Complex, and the Sava Center on the other side of the river), make exceptional design potential. The goal of all interventions in the space should be the formation of visually adequate topics, from the macro context to the micro-environment. It is necessary to plan the construction, through a modern author's expression, as a unique form and functional whole, at the level of each element of space, with a special emphasis on harmonizing what is perceived as the potential of heritage.

Respecting the wider context of the location and its immediate surroundings, the importance of the heritage of technical culture, as well as the fact that this is a very valuable urban space in terms of opening the city to the Sava River, any and all interventions should be carefully analyzed in order to obtain the best possible solution that will improve program, visual and functional characteristics of the ambiance. Having in mind that the subject location can be determined, in terms of space, and in the sense of modern theories of space such as the theories of Marc Auger to a certain extent, as a modern concept of "non-place", it is exceptionally important to consider all potentials of the location, its specifics and possibilities for qualitative transformations.

The architectural-urban solution of the Multifunctional Center "Ložionica" should thematically integrate the existing, inherited elements with the newly designed indoor and outdoor spaces, and through authentic authorial expression it should strive to achieve a creative and innovative dialogue between the integrity of industrial heritage and modern architectural concepts.

In accordance with program and spatial needs and modern trends in the development of this typology of facilities, participants are expected to organize spaces intended for different types of activities within the center, innovatively, creatively, functionally, substantively and in an ambiance-friendly and technologically modern way, in order to optimally use capacities and potentials of the location, forming a rational and attractive architectural solution and creating a flexible and communicative space of modern character that meets the needs of all types of modern multifunctional space. Participants are also expected to make the overall character of the proposed solution of the new spatial composition representative, in accordance with cultural and historical values, ambiance and disposition of the surroundings and to highlight the point of identity of the wider spatial whole in the spirit of this type of facilities. In addition, by highlighting the position, the center should contribute to the recognized quality of the space, both visually and substantively.

In light of the very specific configuration and character of the subject location (primarily the position of the remains of Ložionica which are to be completely retained), its spatial character in relation to the environment, a rational and functional spatial organization is expected, in order to enable better functioning of all planned activities.

7.3.1 Conditions of the Institute for the Protection of Cultural Monuments

The conditions for undertaking technical protection measures for the reconstruction of the Ložionica, Okretnica and Vodotoranj buildings were issued by the Institute for the Protection of Cultural Monuments in 2021.

The conditions related to the scope of spatial interventions are as follows:

1. Okretnica, Ložionica and Vodotoranj should be solved as a single unit that should be realized either through a common purpose or through shared spatial-shape communications
2. Protection and preservation of buildings in the existing size and volume, through a change of purpose which would give impetus to economic and cultural development. The structures of Okretnica, Ložionica and Vodotoranj should be kept in their "as is" state, without restoring them to their original condition.
3. It is necessary to fully preserve the integrity and physical structure of the buildings, the shape of the roof and the materialization of the exterior cladding.
4. Given the fact that there are no more rails at the location, it is possible to use their visual character for thematization on the ground floor, outdoor space, and interpret them in an original way. Fan-shaped rails and traces of rails towards the main Belgrade Railway Station have determined the visual identity of the Sava Amphitheater for decades.

The construction of the Annex should emphasize the values of the existing building to the greatest extent, without supporting its visual, stylistic and aesthetic characteristics. In the spatial sense, the Annex to Ložionica must be a transparent building of modern authorial expression, whose dimensions and shape must not dominate or be competitive in size or volume to the existing structures of Ložionica and Vodotoranj.

Complete Terms and Conditions can be found in the attached documentation.

7.3.2 Recommendations for spatial treatment of Ložionica

The remains of industrial architectural heritage buildings - Ložionica with the belonging Okretnica, form a contingent of distinct ambient values and specific characteristics, giving this location immeasurable potential for preserving the collective memory in the context of current trends of (complete) transformation of urban tissue in Belgrade. The position of this space in the spatial views of Belgrade has the potential to become one of the symbols of the city, so it makes this space especially sensitive, and all interventions related to it extremely important, both in ambient and semantic sense.

Based on the existing documentation and available photographs, the participants were given an insight into the former appearance of Okretnica, Ložionica and Vodotoranj buildings, and technical data on the construction and structural assembly of the building are given in the Report of the Faculty of Civil Engineering - University of Belgrade. Evoking the memory of the ambience and function of the former Okretnica (turntable) complex is a very important aspect of the solution; it is expected that it will be delicately conceived and harmonized with other competition requirements. Participants are not expected to consistently interpret and repeat the stylistic characteristics of the former building, but to come up with a thoughtful solution that primarily develops a semantic narrative about the space, the spirit of the place and its tradition, which may include the implementation of segments of the physical structure of the former building, though solely at the previously existing positions in relation to the structure of the object. Affirmative modern approaches in the reinterpretation of spatial, façade and compositional elements of the former Ložionica building are also desirable, all with the aim of conceiving a new cultural and architectural narrative about the significance of this space.

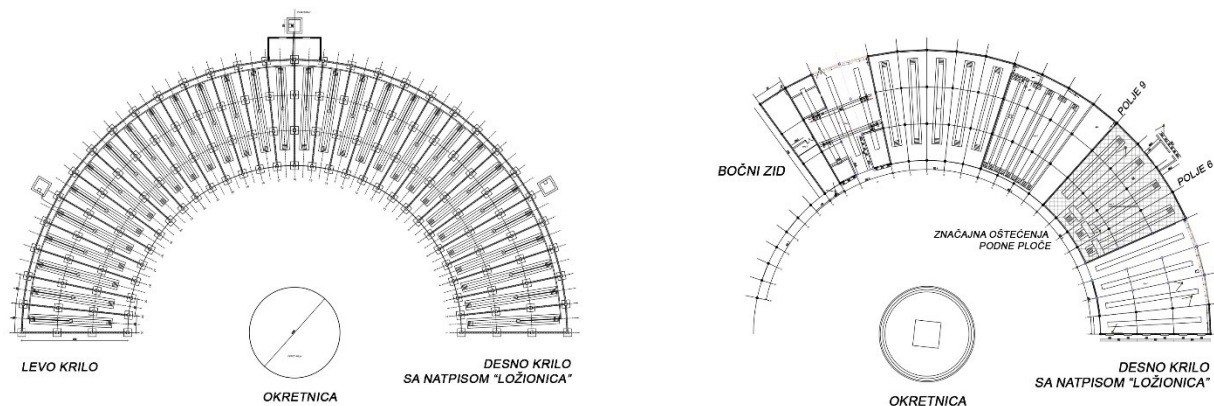


Figure 40. Archival condition of the Ložionica building, foundation base (left) and the existing condition of the Ložionica building, ground floor base (right)

The existing remains of Ložionica are in exceptionally poor condition. In response to that, where necessary, it is important to foresee and any all interventions that are as close as possible to the authentic state, i.e., interventions that support the original state in geometry and interpretation.

The facades of the building need to be reconstructed fully in accordance with the concept of geometry, rhythm and form of the Ložionica building. This means that the reconstruction works need to interpret the original appearance of the northern and southern arched facades, as well as the side facades, the roof and the structural system to the greatest extent possible; the missing glass surfaces may undergo minor changes that will not impair the readability and recognizability of the former facility of Ložionica. The interior must not endanger the image and character of Ložionica, but contribute to its readability.

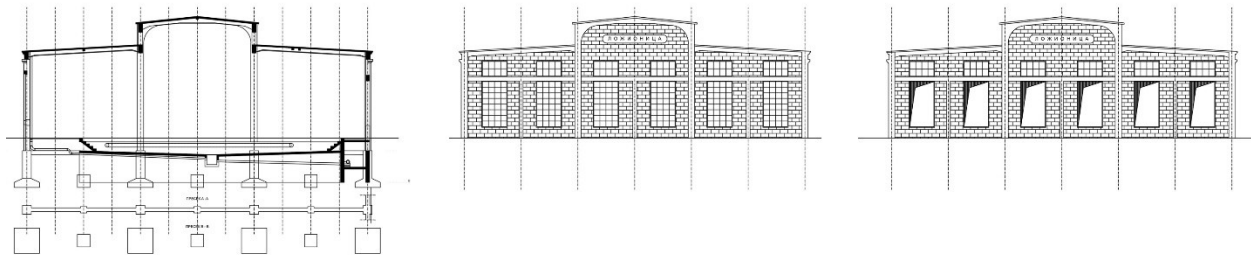


Figure 41. Cross section (left), archival condition (middle) and existing condition (right) of the side facade with the inscription "Ložionica" ("right wing")



Figure 42. Ložionica, Okretnica and Vodotoranj: the original appearance of the outer northern arched façade can be partially seen in the photograph. Railway Museum.

The south-eastern side façade with the inscription "Ložionica" should be foreseen for full reconstruction and preservation in order to bring it as close as possible to the original condition.

The other side façade, as well as the two arched façades, should support the original structure, geometry, rhythm of the opening and divisions to the greatest extent possible. The other side façade (in the archival documentation named "the left wing") towards Mostarska petlja, i.e., towards SAO11 Street, can be interpreted in the spirit of the reconstruction concept, i.e., the demolition of the existing full-brick side wall can be planned, given the fact that it was added in one of the interventions that were frequently undertaken in the past to keep up with the technological process. The free continuation of the structure of the inner radial facade is retained and it is necessary to think very carefully and interpret these remains in harmony with the complex as a whole.

On the external arched façade, full brick walls were added in fields 6-9 at a later stage. It is possible that according to the archival condition, these additions from the north side be returned to the original (archival condition).

The south façade should have a treatment that largely retains the character and recognizability of Ložionica from the period of construction. The southern arched façade had a façade door - panels for opening and closing the fields through which the locomotives entered. In the design, it is necessary to interpret the grid, geometry and rhythm of the opening in a conceptually adequate way.

The shape of the roof is retained.

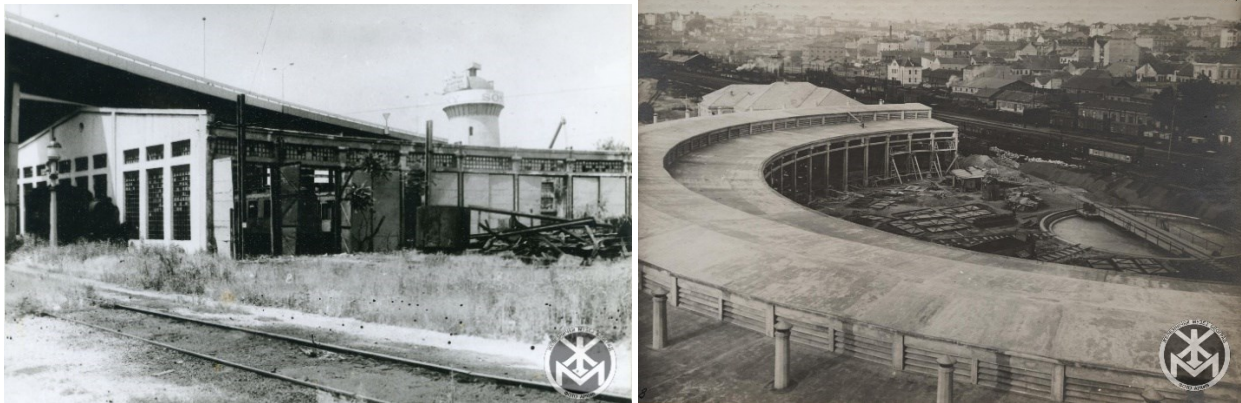


Figure 43. View of the left wing of the semicircular hall of Ložionica - Belgrade Railway Station Complex (photographed by G. Matijević, June 1995, fs. 15/95) Figure 44: Novi Beograd Ložionica in operation, 1925. Belgrade Railway Museum.

All planned contents need to be spatially and functionally incorporated into the possibilities provided by the facility and location, in accordance with current regulations, especially in terms of safety, so that the intervention becomes an integral part of the spatial-ambient whole of distinct ambient values. Elements of the former technological process can be thematized through a part of interior/exterior arrangements.

7.3.3 Recommendations for spatial treatment of Okretnica - open spaces

Open areas should represent a vital space for gathering and activating users and visitors, and serve to connect different contents and functions in an interactive way. The open space (square - plateau) should integrate all spatial elements of the creative-innovative hub and the business annex, and bring new perspectives on the role that the Ložionica building will play, both within the center and in exchange with the urban environment it is a part of. The overlap of the inherited context and the future various functions of the creative-innovative hub and the business annex is essential for the work of the entire complex. To that effect, these spaces should be structured and shaped so as to gather users, but also to be filled with content, activities and specific reminiscence of avant-garde and prosperity that are thematically contained in the narrative of the industrial heritage. Therefore, open spaces should be treated as a real hub - as a unique combination of the use of space and the potential for exchange, from which a specific architectural expression should emerge.



Figure 45. *Okretnica just before the railway tracks were removed*

In preparing a concept of this open space, careful contextual reading of the place, from macro to micro context, is a must. Bearing in mind that the open space in front of Ložionica has a rich history, a very specific spatial geometry in the traces of the remains of rails and Okretnica (turntable) for steam locomotives, it is necessary to interpret the memory of this function through a modern expression and enrich it with new activities. Moreover, this area overlaps pedestrian flows, but also bicycle lines parallel to the Sava Quay, and in that sense it will become a significant point along the Kalemegdan - Ada Ciganlija route.

Open areas can be enriched with other spatial-program elements that define, frame or reinforce the concept of the Creative-Innovative Multifunctional Center. In the process of designing, it is necessary to bear in mind that the open space should integrate and contribute to the construction of one specific and authentic image and, functionally, receive different contents. In that sense, it should be treated polyvalently: as a space for various events: from a space for concerts, performances, pop-up exhibitions, open-air markets or a mini amphitheater for performing formations or other types of performances to a space for rest and work. Preferably, this space should be in the full sense a "hub" for a variety of users and functions.

When designing these spaces, it is necessary to pay special attention to the logical flows of movement, simple maintenance, accessibility for people with special needs as well as to necessary urban furniture. Of special importance is the spatial, visual and program connection of this open space of Okretnica with the spatial unit 2: the space around Vodotoranj. As this Zone 2 is given as a survey possibility, suggestions are welcome for different treatments and subzones, or whatever it takes to maintain the integrity of the Okretnica, Ložionica and Vodotoranj complex.

In the area of Okretnica, there are traces of the foundation of a central circular plate used for turning locomotives. As the geometry of the rails, the circular turntable with a bridge, as well as the continuation of the rails that led to the railway station, still make the strongest symbol of this complex in memory, it is necessary to interpret this visual image in a modern way without returning the facility to its original state.

The existing graphic-technical documentation is attached to the competition documentation *INFORMATION GRAPHIC ATTACHMENTS/Okretnica - graphic documentation*.

7.3.4 Recommendations for spatial treatment of Vodotoranj with belonging free space

Providing a solution for Zone 2 is given as a survey possibility, which means that it is up to the competition participants to propose a solution that best programmatically, spatially and visually integrates the two zones into a single Creative-Innovative Multifunctional Center. First of all, it is necessary to define the Vodotoranj zone in terms of a space directly belonging to the complex, as well as the treatment of the other areas of space that touch upon Zone 1. The outer space of Vodotoranj can be treated as part of the entire given area, or in relation to the concept, a smaller spatial stretch/section can be suggested depending on the thematization and the idea of treatment of this space together with the parent space.

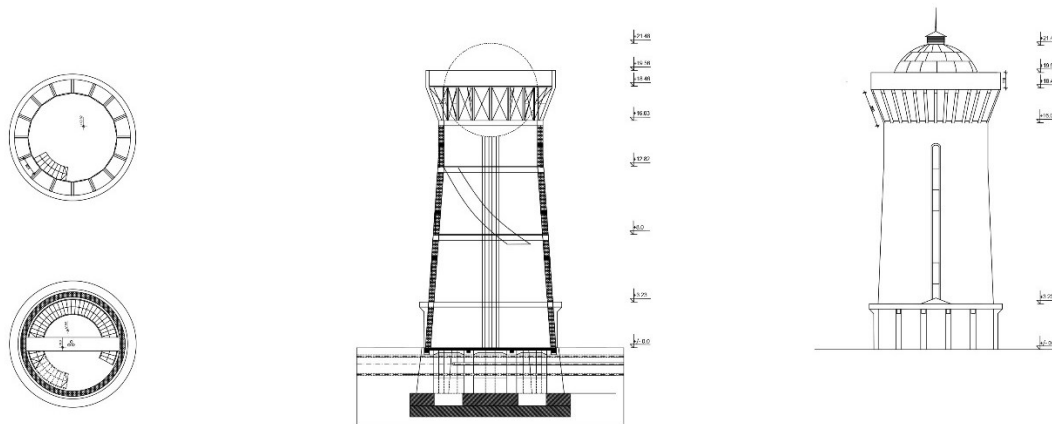


Figure 46. *Vodotoranj: bases (left), cross section (middle) and appearance (right)*

Given the fact that the spatial coverage of Zone 2 is presented partly below the bridge and the Mostarska petlja, so the conditions for use are limited by the conditions of using the infrastructure (Mostar loop), this space is treated as a ground level surface and artistically primarily as support for the main Zone 1. Vodotoranj is to be reconstructed in such a way as to retain the original elements as much as possible. On the Vodotoranj tower itself, it is possible to intervene delicately and without changing the shape and structure, by adding temporary light materials and structures that would not endanger the character of the space, structure, surface and the aesthetics and characteristics of Vodotoranj. These interventions are allowed only in support of the new Vodotoranj program, which should correspond to the contents and events in the main space, but also offer different qualitative and avant-garde contents with a specific configuration and space.

7.3.5 Recommendations for spatial treatment of the Annex

The Business Annex within the Creative-Innovative Multifunctional Center "Ložionica" complex should in all respects support modern concepts of buildings that contribute to and develop new trends in architecture, open to quality interpretations of modern creative and innovative business principles. The building/buildings of the Business Annex should primarily achieve a delicate and original dialogue with the Ložionica building and the common open space of the former Okretnica, i.e., build an integral unit in which industrial archeology not only becomes an exhibit, but actively participates in building a new spatial and program structure of specific and recognizable aesthetics.

It is recommended that the Business Annex of the building be treated as unobtrusive in interaction with the Ložionica building and the outdoor space, and that the internal structure of the Annex space should participate in the integrity of the space and enable transparency, connectivity and communicability of both the users and the entire space structure.

When designing the Business Annex:

1. Special attention is to be paid to the layout of the Annex in relation to the Ložionica building and the south-eastern side façade with the inscription "Ložionica" (so-called right wing), which is to be retained and reconstructed in its original form, and which should be as visible as possible from all points, especially from the direction of Savska Street. No spatial element of the new complex can endanger the visibility and readability of the façade with the inscription "Ložionica". This facade is a representative of the entire former complex of Okretnica, Ložionica and Vodotoranj, so it should be a symbol of the multifunctional center.
2. It is possible to make different space connections between the Annex and the Ložionica building but in such a way that they do not violate the principles of reconstruction that must preserve the identity and character of Ložionica. These connections can be warm if they are logical, purposeful and if they contribute to the concept, but also the functionality of future use.
3. Spatial disposition and volume of the Annex should contribute to the affirmation of the whole complex, establish good spatial relations with the environment and especially in the contact zone with the ground floor and views from the recommended roof gardens, terraces or other spaces that contribute to the specific connection with the river, the contours of Novi Beograd and the old part of the city.
4. The spaciousness of the Annex can be treated in different ways, with recommendations to achieve good views of the Sava River and Novi Beograd. The volume and shape of the building should achieve a quality spatial assembly with Vodotoranj, the open space of the former Okretnica and Ložionica, and contribute to the establishment of a recognizable urban whole. It is especially important to establish a quality spatial relationship between the Annex and Vodotoranj, bearing in mind the need to achieve visual integrity, given that Street SA0 11 has spatially separated Vodotoranj from the rest of the multifunctional center.
5. In relation to the immediate environment, it is necessary to position the Annex well in order to provide good vistas, but also the standard and comfort for workspaces in terms of lighting, ventilation and all other standards applicable to a modern business concept which is one of the imperatives for the Business Annex. Special attention is to be paid to the fact that according to the mass plan given in the Spatial Plan, the planned buildings in the surrounding blocks are extremely high (block 25a - 32m, block 26 - maximum 100m and block 24a - maximum 60m).
6. The symbols of speed and progress reflected in the Mostarska petlja, the Gazela bridge and the rich past of the railway are just some of the topics that correspond to the modern program framework of the multifunctional center Ložionica, and in that sense the Annex with its contemporary expression should contribute to the authentic spatial composition.

7.4 PROGRAM ELEMENTS AND CONTENTS

- 7.4.1 Program concept and content structure
- 7.4.2 Special program conditions, program recommendations and guidelines

7.4 PROGRAM ELEMENTS AND CONTENTS

The conceptual architectural and urban solution of the Creative-Innovative Multifunctional Center "Ložionica" includes:

- 1) creative-innovative hub in the Ložionica building that is to be reconstructed, with the belonging open space of the former Okretnica
- 2) business annex for the needs of the Office for Information Technology and Electronic Administration and
- 3) reconstruction of Vodotoranj and open space along the Mostarska petlja, which are the subject of the survey spatial-program analysis and verification of the spatial coverage and connection with the main space of the center.

The concept of creative-innovative hub - introduction

A hub is understood as the core, central, or main part of an activity or something: the center. Current architectural concepts typologically determined by the business-creativity relation (popularly creative economy) in the context of modern emerging analog and digital forms of intangible and tangible work, in a changing global landscape, become an important part of sustainability and growth of creative economy. Unlike more traditional workspaces, hubs are different from what is called "clusters", referring to a group of like-minded people. In contrast, hubs are defined as a place, whether physical or virtual, that brings together creative people and provides space and support for networking and business development of different individuals and groups of people. All hubs aim to make a qualitative difference in businesses, economies, and communities. Creative hubs are far more than just a common space, because they always support the wider community. They serve to understand the new economy and new business models, which is why they have become a global phenomenon. Statistics show that they have a great positive impact on jobs, new products and services, urban development and non-formal education, talent development, regional research and development of new social and economic networks, innovative organizational models. Forms of creative hubs are diverse and differ in whether they are incubator (business incubator, for example), collaborative (co-working) or incentive (accelerators), or a combination of the three, or some transitional models that with their content and polyvalent form of organization are a combination of activities of people focused on creativity, innovation and communication with the different and the diverse.

Creative-innovative hub is a format that combines social, innovative, creative, tourist, economic, economic, cultural, IT, digital aspect of the activities of different entities that seek unification and cooperation. World experiences and practices show a wide range of concepts of creative and innovative hubs, from buildings housing creative practitioners and companies, to temporary laboratories and incubation spaces that encourage innovation, as well as various networks that bring people together through the annual programs of events. Some spaces specialize in a particular field, but most often they network a wide range of disciplines. Each creative center is unique and specific, because its model is determined by geographical location, cultural context, community requirements and a unique funding model, so they are defined and shaped by their unique characteristics.

Such hubs/centers create and offer:

- new models of creative economies
- engage physical and/or virtual space for networking and development of organizations, companies and projects
- new economic ecosystems
- new jobs
- opportunity for social connection and cross-sectoral cooperation
- new innovative products and development of ideas, higher productivity
- development of digitalization and global digital possibilities
- space for innovation and risk-taking towards innovation
- development of talent and knowledge-based economy
- formal and non-formal forms of education
- opportunity to improve the image of the local creative economy and positioning in the wider market
- presentation, promotion and investment opportunities
- development and education of a new audience
- a platform for stakeholders
- urban regeneration
- research opportunities
- new models of organizational structures
- creative togetherness
- use of resources according to the needs of the industry
- development of new initiative projects
- higher quality of products and services
- promotion of IT sector and creative industries in the country and abroad.

Vision and goals of the Creative-Innovative Hub "Ložionica"

The creative-innovative multifunctional center Ložionica is planned as a multi-purpose space for creative, IT and innovative content, focused on creative industries and the knowledge-based economy. This dynamic center should represent and promote the best that Serbian innovation activity and creative contents can offer. The intention is for the Creative-Innovative Multifunctional Center to be a place that will provide an opportunity for Serbian creative business, contents and entities to connect, cooperate, improve and thus present themselves in the best way to the professional, but also to the widest domestic and world audience. In addition, empowering talent networking, promoting knowledge, excellence and creativity are the mission of this center.

In recent decades a large number of abandoned industrial buildings across Europe and globally have been successfully revitalized by being architecturally adapted, revived with new contents and repurposed for

new functions and new use (museums, cultural centers, new residential and/or business premises, etc.). Immovable cultural heritage has a special socio-economic importance, beside its cultural one, they also represent the urban cultural landscape of the city, which arises from the interaction of social groups and their environment and in relation to which they build a layered identity and cultural meanings.

Among the successfully realized creative hubs are:

Medialab-Prado, Madrid, Spain, 2008. (Langarita Navarro Arquitectos)

<https://www.dezeen.com/2013/07/05/medialab-prado-by-langarita-navarro-arquitectos/>

Lochal Library, Tilburg, Netherlands, 2019. (Civic Architects)

<https://www.archdaily.com/909540/lochal-library-mecanoo-plus-civic-architects-plus-braaksma-and-roos-architectenbureau>

Locomotive Workshop, Copenhagen, Denmark

<https://www.lvcph.dk/?lang=en>

Watershed, Cape Town, South Africa, 2014. (Wolff Architects)

<http://www.wolffarchitects.co.za/projects/all/watershed/>

Tramshed, Cardiff, Wales, England, 2014. (Loft.co, Ellis Williams & Austin Partnership)

<https://www.loftco.net/portfolio/tramshed-cardiff/>

Brussel Art Factory, Brussels, Belgium,

<https://www.brusselsartfactory.be/A-propos>

The format/model of the Creative-Innovative Hub "Ložionica" is planned as a state-owned limited liability company, i.e., as a facility for public purposes. To a lesser extent, it will also have a commercial aspect with accompanying content.

The goal is for the Multifunctional Center "Ložionica" to become a landmark of Belgrade, a destination that equally attracts Belgraders and tourists, foreign and local; a place of creation and encounter which, with its authenticity and creative energy, becomes the center of new tendencies in all directions of creativity. In addition, the goals are strengthening and capacity building within the creative industries and IT sectors, social interaction, networking and affirmation of talented and innovative individuals and groups through the promotion of sustainable development.

The target groups are:

- young entrepreneurs in the field of information technology (IT) and creative industries
- economic entities from the domain of IT and creative industries
- freelance community in the domain of creative industries
- artists
- digital nomads
- various entities-associates-subcontractors-indirect users belonging to creative industries
- tourists
- NGO sector
- general public
- expert public

Reasons, needs and ideas for the formation of this format of the Creative-Innovative Multifunctional Center in the spaces of the former Okretnica and Ložionica:

1. Such a center does not exist in Serbia, and there is a real need for it given the fact that entities in the domain of creative industries are scattered and poorly connected, i.e., they act independently and unconnected (both locationally and functionally), and have a need for and integration center – a hub, which would integrate all their activities, contents and offers.
2. There is a need for such a space that offers content of creative industries and IT sectors, from the perspective of the audience also - the public that is a consumer of such content.
3. The future multifunctional center Ložionica provides: a new incentive for creative industries, IT industry, attracts tourists throughout the year with its content, offers new opportunities for creativity, innovation and digitalization of content, support for promotion, the possibility of unified communication and presentation of creative industries and IT sector in Serbia, encourages creative and cultural diplomacy, creates new opportunities for business development within the creative industries as well as permanent education of the public.
4. Adaptation and revival of old buildings (industrial heritage) and change of their purpose is a model that has proven globally to be purposeful and productive, and above all sustainable.
5. The existing facility of Ložionica, with all historical connotations, is fully appropriate in its structure, position, size and infrastructure in the environment for this purpose subject to the necessary adaptation/reconstruction.
6. Elements of the style of the inherited structure, the narrative of the heritage from the domain of technical culture and reminiscences of the avant-garde of the railway in the period when it was constructed in Serbia give immeasurable potential for branding and maintaining authenticity of such a hub.
7. The spatial specificity of the competition location, which is also a kind of traffic "hub" is a resource for quality interaction of a wider spatial scope with the future Creative-Innovative Multifunctional Center.

The concept of the Business Annex

The Business Annex is intended primarily for the needs of IT and eGovernment. Given that this sector is evolving and that its concept of work is in the process of definition, all these spaces should primarily feature flexibility to allow for different spatial organizations and the ability to easily change the structure of groups that are technologically related to different business processes. The accompanying contents of the workspaces are similar and compatible with the hub spaces, and in that sense they can be programmatically supplemented and shared.

Therefore, connections and easy availability of Ložionica and the Annex are desirable. The Annex should be a representative of modern digital concepts in business and as such provide support to the creative hub.

7.4.1 Program concept and content structure

In relation to the users and the program set, four spatial-program units are defined, as follows:

1. **UNIT 1 | PROGRAM UNIT: CREATIVE-INNOVATIVE HUB „LOŽIONICA“**
2. **UNIT 2 | PROGRAM UNIT: BUSINESS ANNEX**
3. **UNIT 3 | PROGRAM UNIT: OPEN SPACE - OKRETNICA**
4. **UNIT 4 | PROGRAM UNIT: “VODOTORANJ”**
5. **UNIT 5 | PROGRAM UNIT: ACCESSES AND ENTRIES INTO THE COMPLEX. PARKING AND UNDERGROUND GARAGE**

UNIT 1 | PROGRAM UNIT: CREATIVE-INNOVATIVE HUB „LOŽIONICA“

The existing Ložionica building, with an area of 3,619 m², remains in its current volume.

Note: in part of the space it is possible to envisage a gallery/floor, provided that it is necessary to take into account the total BRGP (gross building area) of the complex, heights and retention of the character of the building and the concept of Ložionica from the period when it was used as such.

Typologically, these spaces belong to public use. The basic requirements of space organization are functionality, flexibility, simple and good connection with open space, compliance with the needs of various models of space use and the nature of the primary purpose. It is necessary for the movement through the space to be clear and logical. Within a competition solution, it is necessary to foresee unobstructed entry-exit, emptying-filling and evacuation of all spaces intended for visitors and the public. To the extent that this does not endanger the quality functioning of primary purposes, it would be beneficial to envisage the possibility of interconnection and interactive functioning of individual spatial units, both within the Unit and with **Unit 2**. In particular, please insist on activating external space that integrates all spatial elements.

The users of other spaces are young entrepreneurs, business entities from the domain of IT and creative industries, freelancers and artists from various fields, tourists, professional public and other indirect consumers of the hub. In terms of content, **UNIT 1** consists of the following program-functional units:

*The following square footage are indicative but not binding. Depending on the concept, it is possible to correct the assumed square footage, but it is important to meet the functional needs. A different redistribution of areas is possible if they contribute to better quality use of space, innovation and improvement of space.

CREATIVE-INNOVATIVE HUB „LOŽIONICA“

Main (entrance) lobby

The main entrance lobby is a multipurpose space intended for gathering all users. This space should have the possibility of alternative use for other purposes such as: exhibitions, gatherings, promotions, etc., and during periods of the day when the working spaces of the center are not active. The main purpose of the lobby is to collect and “classify”, i.e., divide, the heterogeneous flow of visitors. In the entrance lobby, various visitors who come from outside, meet in a pre-conceived manner. In addition, the main lobby has the purpose of optional reception of interested visitors at different times of the day, who want to get information or are consumers of various programs that are implemented within the center. In the lobby space, it would be useful to envisage an info desk and/or display for information and promotion of various contents of the center.

The main lobby includes the possibility of being used as a gallery space for temporary exhibition activities, for holding mini fairs, promotions, and optional additional programs such as media library, digital or analog exhibitions in memory of the Ložionica complex, a small souvenir shop ... The main lobby together with the open space should be treated as a “Creative-Innovative Multifunctional Center” hub.

The lobby should be envisaged as a free space for communication and "respite", with the affirmation of the potential of visual connections of the horizontal plan of open and closed spaces. The lobby should also enable adequate emptying and filling of larger spaces -

especially multifunctional halls, as well as be able to form a whole with them for larger events. In that sense, it should have logical connections with other spaces, the exhibition-gallery space as well as with other spaces/communications which connect it with a multifunctional hall, hospitality and sales spaces, i.e., it should be practically a link and a generator of all spatial routes and directions. Accompanying lobby facilities/contents should be adequately connected to the main lobby and the multifunctional hall.

Accompanying facilities/contents of the lobby:

- cloakroom (lockers and/or counter with accompanying storage space)
- the main toilet block in one or more toilet groups should have the capacity to serve a multifunctional hall

400m²

Multifunctional space/hall

A multifunctional space of amphitheater type with the possibility of projection and multifunctional arrangement for about 500 people (sitting and standing).

Purpose: training center/lectures, conference/congress space, event space, indoor concert space, space for performing activities...

This space should be provided with a flexible organization of seats/stands, designed in a way to provide adequate visibility in various formations, as well as accommodation and use of modern multimedia equipment for the implementation of these activities.

It is necessary to simulate some of the specific possibilities of using the space, through diagrams and/or spatially. It is also possible to foresee a mobile stage space.

It is recommended that the multifunctional hall be positioned in such a way that it has a good and direct connection with the Main Lobby to enable connection and organization of larger events, as well as the possibility of using the basic and accompanying contents of the Main Lobby. Due to the large capacity, it is necessary to provide a good functional connection with the toilet block and cloakrooms.

Accompanying spaces for the multifunctional hall:

- Technical rooms (sound and lighting management, video, projection booth ...)
- Handy storage rooms (for mobile furniture and equipment and other props)
- Participant's dressing rooms

If it is possible to place the holding and store rooms for the needs of the multifunctional hall within the underground floor, provided that the servicing of the hall is simple and efficient.

Note: take into account the acoustic properties due to the possibility of holding concerts and keep in mind the possibility of setting up a stage, as well as simple and fast supply (equipment entry and evacuation of visitors)

The Multifunctional space with accompanying technical part and handy warehouse and dressing rooms for participants, around

600m²

Exhibition & display space

Space intended for various exhibitions, art settings, performances, settings that include new modern technologies, gallery content.

All segments of the exhibition space are to be treated flexibly with the possibility of forming larger spatial units or smaller exhibition/performance units, depending on the program of activities that may vary.

Exhibition space for a permanent exhibition on the history of the Okretnica, Ložionica and Vodotoranj (digital-analogue)

Exhibition space for occasional art exhibitions

Exhibition space for performing arts Total for exhibition spaces around

300m²

Public co-working space

Offices of various entities from the sphere of creative industries, IT and partner organizations, offices of thematic associations/organizations, workspace for individual freelance associates-professionals.

This space is to be treated flexibly with the possibility of connecting offices. The interior space should be foreseen as easily adaptable to different users and for different needs.

Six smaller offices for 4-6 people should be foreseen in addition to a

larger landscape space that can be arranged in different ways

Total for Co-working space

200m²

SPACE FOR WORKSHOPS AND LABORATORIES, RESEARCH EDUCATIONAL SECTOR

Workshop

Workshops for different purposes (design, art, new technologies, music, applied and fine arts)

It is necessary to foresee 3 rooms for different workshops that can be organized as larger units. One workshop is to be planned to occupy a floor area of about 50m².

150m²

FAB LAB / creative laboratory

100m²

Research/experimental studio

A studio for audio-video production, photography and new technologies in AV production, a studio for post-production

50 m²

Digital center/ IT hub

50 m²

Premises for the presentation of creative and business content and meeting rooms

Three smaller and 2 larger rooms for presentations

200 m²

Space for conceptual contents intended for children

50 m²

Research-Education Sector

The program-functional unit of the research-education sector is intended primarily for employees, and some parts for visitors.

Premises for research and educational work include spaces for the following purposes:

- Research and Education Center Offices (2 offices)
- Archive and small library, with workspace
- Lecture hall - multifunctional hall

Research and Education Center Offices

Research and educational offices are planned with two (2) workstations and a meeting space with 8 workstations within the office. The aim of this office is to maintain contact with various research centers, institutes, laboratories, universities, domestic and international, in order to organize various research and educational programs in the hub.

Archive and library

For the needs of the archive and library department, a space is to be foreseen of about 50m². The library and archives are planned to be formed during various research projects. The library is primarily digital with an analog section that is also used as a polyvalent space together with a lecture hall

Lecture hall (multifunctional hall) for about 20 users

All these 3 spatial units are flexible and function as one space when needed.

150m²

COMMERCIAL CONTENTS

Retail outlets: *Shopping center*

Food market, art craft market, fashion market, pop-up stores, concept bookstores, concept stores and other commercial facilities.

This space should reflect the specifics of the center, with the recommendation of good connection with the main lobby and open spaces so that it can function independently even when the center is not working. This space should pose as a program support to open space.

300m²

Hospitality section

Restaurant, cafe shop, pop-up food

It is necessary to plan 1 or 2 restaurants with their capacity, cafe shop, one or more cafes.

Hospitality section, total about

500m²

Mini distribution kitchen for catering service

(for events and larger gatherings)

Including a handy storage room, cloakroom and rest room for service personnel.

50m²

Ložionica Management

Center management: management and administration

3 offices: director, business secretary and administration

Space for the artistic director and the creative team (4 employees in total)

This space unit may have a separate toilet and a kitchenette.

100m²

Service and technical premises

Depending on the spatial disposition and capacity designed according to the standards, the designed contents should be equipped, according to the standards and in support of good functioning of the space (services, toilets, storerooms, etc.) taking into account the high performances of the space, quality use and maintenance of the facility.

In accordance with the purpose and capacity of the planned facility, it is necessary to approximately foresee and adequately position the premises for the needs of energy and infrastructure services of the facility. These spaces can be, if the spatial disposition allows it, shared with the Unit 2, which will contribute to the rationalization of the space.

All spatial units need to be equipped with toilets, mini archives, maintenance rooms in accordance with the standard and spatial disposition, but also in conformity with the concept of multifunctionality.

COMMUNICATIONS

Communications need to be designed to follow the program scheme logically and in the spirit of the concept. Windshields, staircases, possible platforms and elevators should enable efficient movement and good organization and connection of functional units.

The stated capacities of individual spaces can be partially modified in accordance with the concept and organization of the space, so as not to disturb the overall relationship of functional zones. The total gross area of the creative-innovative hub "Ložionica" (with the possible addition of a gallery/ floor) should not exceed a gross area of 4500m².

UNIT 2 | PROGRAM UNIT: BUSINESS ANNEX

Unit 2 is being developed as a facility/facilities, i.e., an annex to the reconstructed remains of Ložionica. This annex is intended primarily for the needs of the Office of Information Technology and Electronic Government.

Office for Information Technology and e-Government: 320 employees (top management (10), middle management (20), lower management (40), employees (250))
NGO offices: 100 employees.

The Office for Information Technologies and eGovernment performs professional tasks related to: design, harmonization, development and functioning of electronic administration systems and information systems and infrastructure of state administration bodies and Government services; development and application of standards in the introduction of information-communication technologies in state administration bodies and Government services, as well as support to the application of information and communication technologies in state administration bodies and Government services; design, development, construction, maintenance and improvement of the computer network of state bodies; jobs for the needs of the Center for ICT System Security in republic bodies (CERT of the state bodies); providing services for the design, development and operation of Internet access, Internet services and other centralized electronic services; planning the development and procurement of computer and communication equipment for the needs of state administration bodies and Government services; coordination and support for international cooperation and doing business in the global market for digital, innovative and creative activities, monitoring and promotion of public and private sector connections in the areas of digital innovative creative economy through the Platform "Serbia Creates", with the aim of sustainable and integrated economic growth, as well as other tasks determined by special regulations. The organizational structure of IT and eGovernment in the future will be structured in 8 sectors with the planned number of employees.

BUSINESS ANNEX

Entrance lobby

100m²

ACCOMPANYING SPACE FOR EMPLOYEES' ACTIVITIES

Amphitheatre

To be planned for about 200 spectators

150m²

Press conference room

Multifunctional hall for various events and filming session	100m²
Premises for training and presentations	
4 premises, each 40-50m ²	200m²
Conference halls – smaller	
4 halls (for up to 10 people, 25m ² minimum)	100m²
Conference halls - larger	
2 halls (for up to 20 people, 50m ² minimum)	200m²
Media room	50m²
Cubicles for individual business meetings	
Three to four cubicles for individual meetings	50m²
Specific “think tank” spaces	
Several spaces for individual separation for the purpose of creative thinking, i.e., small spaces where people who need silence can isolate themselves. Different treatment of these spaces is possible, from transparent to completely isolated when peace and quiet are needed.	
<u>Three to five such spaces need to be planned</u>	50m²
Employee rest area	
Living room for employees, mini gym, 1 or 2 bathrooms, chill out zone These spaces can be grouped or individual, depending on the program-spatial concept.	150m²
Kitchen for employees	
The kitchen should be envisaged as self-service, with a part for quick food reheating/processing.	50m²
Employee cafeteria	
With a self-service (coffee machines) part and a part for buying coffee and food to go over the counter	50m²
“SRPSKI STATION F”	
<i>Srpski Station F</i> is a special sector of the Office for IT and eGovernment, which develops and tests new creative business models, educations and experimental researches in the IT industry. It is necessary to design this space so that it represents a setup that can be adapted in line with development, and that it can house the following contents:	

- Open Data hub - a space for workshops, lectures, "small hub" dealing with open data.
- Space for mini offices of large IT companies (Microsoft, Oracle, etc.) that would have their own teams
- "Startup campus" - a space for gathering young people, providing encouragement for developing startups, support to new innovations in the field of IT industry
- IT hub - a space for university and high school students of specialized IT departments, a place where they can have free training, networking, etc.
- Space for presentations and trainings, used by eGovernment employees, students and clients.
- Mentorship offices - space for mentoring activities and education, specializations (we bring Google, Apple, Microsoft, Amazon to have 1-on-1 meetings with young people, talk about their services, applications, mentoring ...)

a total of 6 premises x 35m² = 200m²

200m²

Rooftop garden/patio – a roof top terrace featuring a coffee shop

Part of the roof space of the building in line with the technological possibilities and the concept of the proposed solution, as well as with the potentials of the location and the character of the environment, conceived as a representative open space, intended for employees, guests and spectators.

If the plan envisages a part of the garden that will be open to the public, it should be connected, logically with communication corridors and supply spaces.

It is necessary to establish a good connection and provide access to these spaces without interfering with building personnel.

The space of the roof terrace should be planned as a functional open area with an adequate amount of green areas and low-growing plants. This space should be designed in such a way that, at the level of everyday use, it provides a pleasant environment for both visitors and employees, as well as periodic organization of various events for a larger number of visitors - promotions, cocktails, celebrations, including cultural events with smaller stage performances.

It would be good to reconsider the possibility of setting up a transformable smaller summer scene, of an alternative character.

Access to the rooftop terrace should be foreseen through communications for the visitors that are well connected to the public space, but also from the space intended for activities and employee spaces.

Cafe-bar and restaurant:

should be designed as a representative content intended for daytime and evening gatherings, adequately functionally and visually connected to the rooftop terrace, part of which, in the summer, would be used as a cafe garden/patio.

The cafe should have enough room to sit 40 guests, a bar area and a kitchen with a handy storage room.

The restaurant should have a capacity of about 150 seats.

The kitchen should be foreseen in the size and disposition that enables the preparation and serving of drinks, beverages and simple cold dishes. Dimension the capacity of the kitchen and bar counter for daily functioning, but also, if necessary, to provide service to visitors (without food preparation) during various events (cocktails, celebrations, etc.) that would take place on the Rooftop terrace. Kitchen supply should be enabled through the technical entrance without overlapping with the communications used by visitors.

It is necessary to plan also toilets and cloakrooms for guests of cafes and restaurants, as well as a rooftop hall which can be covered.

Restaurant and cafe, with an adjoining kitchen and with about 150 seats in the closed and open space, with a cloakroom and toilet. Rooftop hall which can be covered

Total approx. 700m²

Note: all passable terraces (intended for use), enter the total square footage of BRGP

Accompanying spaces

Storage space for employees, printing rooms, storage space (for office supplies, archives, materials for cleaning and maintenance of the building), toilets for employees and visitors.

Technical premises for servicing and current maintenance of the facility

Space for installation equipment

Premises for hygienic maintenance of the facility

Support staff change room

In accordance with the purpose and capacity of the planned facility,

It is necessary to foresee and adequately position the premises for the provision of power supply and infrastructure services to the facility.

Communication routes within the Business Annex

The entrance/entrances to the annex, i.e., the business part, should be clearly positioned, easily accessible from the public space, in accordance with the concept of the proposed solution. The entrance lobby should be representative in accordance with the purpose of the building.

The official entrance is intended for employees of all sectors, as well as for parties who gain access to other areas of the annex. The entrance lobby of the official entrance, should be designed in such a way that, in a functional sense, it meets the needs of its intended purpose.

Technical entrance - with possible vehicle and transport access should optimally enable servicing of all spaces that may require equipment and inventory that are larger in size.

Vertical and horizontal communications

Communication routes within the facility should be organized so as to ensure the efficient movement of different groups of users: employees, different users of space, visitors attending different events, technical staff, service, delivery and transport. All communication spaces should be planned in appropriate dimensions, with a logical definition of the system of connections and movements.

Vertical and horizontal communication routes should be designed as comfortable and safe, in accordance with the concept and character of the proposed solution; communications are to be planned as rational and comfortable, in conformity with regulations.

All movements and directions within the facility are to be conceived as simple and understandable for users and visitors, and with possible different thematizations and connections with the external space, and as efficient and rational movements/directions for employees within the center.

Depending on the solution, elevators intended for visitors, employees and freight elevators are to be designed as separate units.

TOTAL ESTIMATED GROSS AREA OF THE ANNEX

9500 m²

Recapitulation of estimated BRGP:

TOTAL ESTIMATED GROSS AREA OF THE BUSINESS ANNEX	9.500 m ²
TOTAL MAXIMUM ESTIMATED AREA OF THE CREATIVE-INNOVATIVE HUB	4.500 m ²
TOTAL MAXIMUM ESTIMATED AREA OF THE MULTIFUNCTIONAL CENTER	14.000m ²

UNIT 3 | PROGRAM UNIT: OPEN SPACE - OKRETNICA

The open plateau/square should provide for various utilizations of the space, such as:

Concert space

Multi-event space: space for concerts, performances, popup exhibitions, fairs, open-air markets

Mini amphitheater serving as a performance space

POP UP retail shops and display stands – temporary

Networking space - space for outdoor work (with solar chargers) with the possibility of covering

Conceptual garden/patio

Skateboard ramp/street artist space

Space for leisure and entertainment

Bicycle parking space

Water surface (fountain, sprinklers or similar) surrounded with space for sitting /relaxing, yoga and *japandi* style (Japanese garden) or similar.

Benches with chargers

Mobile phone booth

Service point with ATM, city map, automatic currency exchange machine

Outdoor board games

Outdoor book store as a (bus) stop for book exchange

Space for sports facilities, a small outdoor gym, a climbing wall and the like

Space for alternative art contents

Outdoor drinking fountain

Gazebo

Optional - Outdoor rest rooms (as needed for various events)

Picnic area

Chargers for electric scooters

Depending on the concept, the open space should contain greenery and green areas that support the whole spirit of the space.

The entire space should be suitable for use by people with special needs, with good access for delivery vans and trucks for the installation of equipment for events, as well as easy to maintain, with quality materials and adequate urban furniture.

Parts that are intended for longer dwelling to be in the shade - with the possibility of mobile coverage (plan parts of the space with the possibility of coverage for shading and use in different occasions)

Note: all these spaces should function as a whole, have a specific recognizable visual image. Insist on the universality of space and possibilities for various transformations.

UNIT 4 | PROGRAM COMPLEX: “VODOTORANJ”

The space of Vodotoranj should programmatically form a unit with the main space of the hub. Vodotoranj should feature the following contents:

Exhibition space

Possibility of visual presentation and branding of the multifunctional center

Possibly, one can envisage the position for external 3d mapping/ for outdoor presentation of contents/events

The open part of the space, which is the subject of the survey part of the competition, can be treated in different ways. It is necessary to propose concepts that contribute to the integrity of the Okretnica, Ložionica and Vodotoranj space. It is possible to suggest more significant connections of this area with the spaces and contents of the open plateau. It is possible to propose additional open contents that support the program character of the multifunctional center, landscaping that contributes to ambient values, urban furniture, equipment and lighting, fully taking into account the position which is next to the Mostarska petlja, bike paths that will connect the old part of the city, the City Fair and Ada Ciganlija.

Specific treatment of greenery, possible landscaping elements, digital technologies and program recommendations are open in this part of the content scope. The integrity of the spatial and program concept is a priority and one should insist on integrating the multifunctional center.

UNIT 5 | PROGRAM UNIT: ACCESSES AND ENTRANCES TO THE COMPLEX. PARKING SPACE AND UNDERGROUND GARAGE

Pedestrian access to the plot and facilities is possible to envisage from Savska Street, from the newly planned streets SAO 11 and SAO 6, as well as from the “Gazela” underground metro station,

Vehicle access to the plot is possible to plan from SAO 11 Street (newly planned street which will be directly connected to Mostarska petlja) and SAO 6 Street. The movements of delivery and cargo vehicles should be in accordance with the planned access to the garage for passenger vehicles, in such a way that they interfere with each other as little as possible.

Bike accesses will be an important aspect of the site supply activities.

The Gazela metro station will largely contribute to fast and efficient access to the location.

Underground garage

The garage for passenger vehicles is intended as a parking space for visitors/spectators and employees.

According to the Spatial Plan, it is necessary to provide 150 parking spaces within the underground garage, however, considering the planned capacities and spaces, it is recommended to provide as many parking spaces as possible in the underground garage, i.e., at least **200 parking spaces** for employees and visitors.

The spatial plan also enables surface parking, and in that sense it is possible to envisage surface parking, but it is necessary to place the required number of parking spaces in the garage according to the program framework of at least 200 spaces. It is necessary to check the required parking capacity in relation to the program and to have in mind that it is recommended that surface parking be treated additionally, as it is desirable for shorter stays.

Access to the underground garage should be planned from SAO11 Street and/or SAO6 Street via a vehicle-pedestrian access ramp. The garage is to be planned as a completely underground part of the building with one underground level. Building underground garages is not allowed under the Ložionica building and under part of the former Okretnica with the bridge. In addition, when designing the garage, take into account the defined occupancy zone for the Metro station and the possible underground passage from the metro station. Given the size of the garage, it is necessary to provide a sufficient and statutory number of entrances and exits from the garage. If it is possible and adequate to the concept, a part of the technical and maintenance spaces should be placed within the underground garage. It is also necessary to take into account any and all maintenance, safety and direct connection systems (hot and cold) with the premises of the multifunctional center.

The underground garage should in all respects meet the regulations provided by the *Rulebook on technical requirements for protection of garages for passenger cars from fire and explosions*. Special attention is to be paid to the typology of the garage, size (medium or large garage) and in that sense it is necessary to provide the required number of entrances and exits.

Of the total number of parking spaces, it is necessary to foresee a minimum of 5% of parking spaces for persons with disabilities of the prescribed dimensions (for perpendicular spaces 3.7 m x 4.8 m, i.e., 5.9 m x 5.0 m for two connected parking spaces). Although the dimensions of standard parking spaces are 2.3 x 4.8 m, it is recommended that in accordance with the trend of increasing the dimensions of cars, parking spaces with minimum dimensions of 2.5x5 m be designed. It is also necessary to provide places for charging electric cars.

Garage entry/exit positions should be provided in such a way that vehicle movements (including delivery and transport vehicles) and pedestrian movements are mutually harmonized.

The technical access ramp serves different needs of the day-to-day functioning of the center, possibly the transport of accompanying equipment for various events in the Creative-Innovative Multifunctional Center. The movements of delivery and cargo vehicles should be balanced with the planned access to the garage for passenger vehicles, in a way that these two interfere with each other as little as possible.

Entrance positions should be designed in such a way that they best correspond to the entire spatial ensemble, that the visibility of access/entrances is good, that key points that supply the entire Creative-Innovative Multifunctional Center are clearly positioned.

Entrance zones intended for the public, users and employees should be logically structured, designed adequately for the purpose, with visual and ambient characteristics in accordance with the aspiration to affirm the institution as a flexible, communicative, open institution while respecting the character and quality of the environment.

A clear concept of communication is extremely important in this hybrid type of space that must be treated extremely flexibly.

7.4.2 Specific program recommendations and guidelines

Creative-innovative multifunctional center "Ložionica" should function in accordance with the program units and needs of their designated purpose, so that its spatial-program enables independent functioning

of the Creative-Innovative Hub and the Business Annex, but also, if necessary and in accordance with the functions thereof, provides the possibility of connecting and integrating functions. This means that for the needs of the Business Annex, the spaces of Creative-Innovative Hub can be used, and that the functions of the Hub and the Annex can be programmatically connected.

A large number of planned activities in the multifunctional center are variable in nature, so in that sense the basic recommendation is to carefully structure the spaces to enable their flexibility, the possibility of networking and the formation of smaller or larger functional units. Adequate internal organization should be supported by clear and logically envisaged communication routes and open spaces, which should also thematically support functional units.

Participants are expected to make sure that, given the modern trends and specifics related to creative industries, the overall character of the space and the program scheme is appropriate to the spirit and specifics of such a complex center.

7.5 GUIDELINES, RECOMMENDATIONS AND OBLIGATIONS FOR PREPARATION OF COMPETITION SOLUTIONS

- 7.5.1 Special spatial and visual recommendations and guidelines
- 7.5.2 Guidelines and recommendations for traffic areas, parking spaces and pedestrian traffic, access and supply routes within the site
- 7.5.3 Guidelines and recommendations for landscaping green and free areas
- 7.5.4 Guidelines and recommendations for phased construction
- 7.5.5 Guidelines regarding environmental and sustainability principles
- 7.5.6 Guidelines and recommendations for the treatment of installations and equipment of the spaces
- 7.5.7 Obligations applicable to the formation of spaces

7.5 GUIDELINES, RECOMMENDATIONS AND OBLIGATIONS FOR PREPARATION OF COMPETITION SOLUTIONS

7.5.1 Special spatial and visual recommendations and guidelines

The obligatory element of the competition is the good visibility of the Ložionica facilities. Special importance is to be given to the right wing of the façade with the inscription "Ložionica". Visually, Okretnica, Ložionica, Vodotoranj and the new annex should form a harmonious and recognizable whole. It is recommended that the Business Annex be set up in such a way as to leave the Okretnica plateau and the visibility of the Ložionica open as much as possible.

It is recommended that on the underground level, the garage is not designed below the Ložionica building or below the center of Okretnica (turntable), due to the possible deterioration of the stability of the building.

All additional structures - gallery/floors must be solved independently of the existing structure of Ložionica.

Since, according to the Report of the Faculty of Civil Engineering, the structure and the remains of Ložionica are in exceptionally poor condition, it is possible (because of the simplicity of the structure) to replace the existing elements and assemblies with other structures, identical to the original ones.

In terms of space, the recommendation is that Vodotoranj be treated integratively with Ložionica and the Business Annex and that together, they make up one striking visual ensemble.

7.5.2 Guidelines and recommendations for traffic areas, parking spaces and pedestrian traffic, access and supply routes within the site

Access to the facility as well as all other areas inside and outside the facilities, intended for pedestrian communication should be planned so that they are accessible to all categories of users, in accordance with accessibility standards for unimpeded movement and access for people with disabilities, children and the elderly. Access to the ground floor level for people with special needs is to be ensured via external or internal ramps.

For the movement of passenger vehicles, traffic lanes should be planned with a minimum width of 2.75 meters, while for the movement of freight/fire trucks it is necessary to design traffic lanes with a minimum

width of 3.5 meters for one-way movement of vehicles. It is necessary to take into account all regulations defined by the *Rulebook on technical standards for protection of high buildings from fire*.

It is recommended to separate the traffic flows of delivery and passenger vehicles. Access should be provided to the delivery vehicle for the purpose of staging various performances in the creative hub and the open plateau, fully in conformity with the capacity and volume of the space.

Norms for defining the minimum number of parking spaces

- 1PM (parking space) per 60m² of BRGP /(gross floor area) for cultural institutions
- 1PM per 7 seats for cinemas and theaters
- 1PM per 2 set tables with 4 chairs of the hospitality facility
- Per 66 m² of BRGP for retail spaces
- Per 80 m² of BRGP for business spaces
- Per 100 m² of BRGP of storage spaces or one PM per three employees

Exit from the metro station at the competition location according to the existing feasibility study for Metro Line 1, i.e., the above-ground part, will be the subject of design in a public architectural competition. In the existing studies, the exit from the metro station is not treated intrusively and voluminously, and having in mind that typologically speaking, the metro exits are designed in the spirit of industrial design, with exceptional communicative and visually modern treatment, the metro exit will not visually block the view of the multifunctional center. The recommendation is that the exit from the metro station be well and optimally connected with the pedestrian communications of the center, and that all flows of supply to the competition location and movements in the center be integrated in an efficient way. To that effect, the area that was given as the occupancy zone for the metro exit, needs to be treated as a place from where there will be a significant influx of people towards the multifunctional center. It is recommended that without meddling with in the design of the exit part, the pedestrian connections with the metro schedule be indicated in the design.

7.5.3 Guidelines and recommendations for landscaping green and free areas

Considering that the open space of the multifunctional center is an important integrative and program part of the competition, the arrangement of green and free surfaces should conceptually follow a high level of design. All interventions, including landscaping, must be carried out in accordance with the designed ambient character of the center, but with the recommendation that it needs to become an important benchmark in relation to the environment. Greenery should be formed in accordance with the planned purpose, requirements and function of the space, in order to improve the micro-climatic values of the space. A maximum number of green areas should be foreseen in line with the technical and spatial possibilities. It is recommended that in accordance with environmental trends, the possibility of forming roof greenery, vertical greenery landscaping and the installation of decorative planters be considered.

7.5.4 Guidelines and recommendations for phased construction

Given the complexity of the proposed spatial unit of the Creative-Innovative Multifunctional Center "Ložionica", it is obligatory to propose the possibility of phased construction as part of the competition design. Guidelines for phased construction are:

Phase 1: The Ložionica facility that is the subject of reconstruction including the belonging plateau and the logical, functional part of (or the entire) underground garage shall be treated as a mandatory first phase. The first phase will also include the reconstruction of Vodotoranj and the associated ground floor, which constitutes the survey part of the competition.

Phase 2: The second phase of the construction pertains to the Business Annex with the logical functional part of (or the entire) underground garage. Bearing in mind that the Business Annex can be treated as one or more units, if the concept of the competition solution allows it, it is necessary to indicate in the conceptual (preliminary) design the possibility of phased realization of the annex itself.

If the division into two phases of the underground garage (due to entrances and exits and the communications themselves) loses a lot of useful space, it is possible to treat the supply of the underground garage of phase 1 temporarily, solving it with temporary structures, and to subsequently establish an integral and rational space system within phase 2, by completing the underground garage.

In the drawings, it is necessary to indicate the line separating phase 1 and phase 2.

Attached to the Program is the table "Budget Estimate" through which it is necessary to state the estimated costs in phases in the way they are structured in the competition solution.

The total investment value of the works for both phases that are planned is EUR 25-30 million and this should be kept in mind when designing solutions, materials and technology for execution, which must be adapted to the facts on the viability, i.e., feasibility of the project.

7.5.5 Guidelines regarding environmental and sustainability principles

The principle of sustainable architecture implies the rational use of construction land, the use of ecological materials, the rational use of energy and water, the optimization of the process of functioning and maintenance of the facility, as well as the improvement of living and working conditions in the interior.

The recommendation is to reduce the consumption of non-renewable resources, promote the use of renewable energy sources, as well as minimize waste through a sustainable approach/design, thus creating an overall healthier and more rational working and living space.

It is also recommended that participants in the competition should pay special attention to contextuality and authorial architecture in the given situation, where peculiarity, aesthetics, diversity and creative freedom, all combined, find an opportunity to establish a new relationship between the design and space production techniques, while discovering new use values of future cities. In addition, the issue of sustainability implies thinking "outside the box" of the local situation, so in that sense it is recommended that the competition designs should demonstrate a clear attitude towards the ecological principles of sustainable architecture.

7.5.6 Guidelines and recommendations for the treatment of installations and equipment of the spaces

Within the facilities, it is necessary to provide all standard premises and installations for heating, ventilation, water supply and electrical installations required by this type of facilities, in accordance with the regulations on technical safety, fire protection and human environment protection.

From the point of view of infrastructural equipment, for the subject contents it is possible to provide connection to the city utility infrastructure (electric power, telecommunication, water supply, sewerage, hot water and gas network) in the required capacity.

When creating a competition conceptual design, please keep in mind that it is necessary that in all parts of the space the level of equipment follows the standard and typology of these spaces.

7.5.7 Obligations applicable to the formation of spaces

-Recognizable architectural-urban solution in accordance with the purpose, characteristics and significance of the location that corresponds to the environment;

- Affirmation and promotion of the complex of the former Okretnica, Ložionica and Vodotoranj and its significance, through reconstruction, interpretation and reminiscences of its recognized values in accordance with the concept of the proposed solution;

- The architectural-urban solution of the complex should be conceptualized in a way that it is suitable for the location within the valuable ambient whole both in terms of physical structure and visual characteristics and programmatically, in terms of the disposition of individual contents;
- Representative character of the complex in the spirit and with the characteristics of modern architecture;
- When forming the spatial solution, special attention is to be paid to the planned size and volume in relation to the visually present traffic infrastructure: Mostarska petlja and Gazela bridge;
- Defining the volume/shape and all elements of leveling and regulation, respecting the given competition framework and urban-parametric conditions/limitations given in point 7.2. of the Competition task;
- The primary requirements of the organization of the space are the possibility of various flexible uses, good spatial structuring and easy orientation, simplicity and efficiency of the concept of communication;
- The movement of users and visitors of the space should be logical, in line with the dynamics and the way of using different contents and the number of visitors. In terms of traffic, arrival and departure routes should be clearly and simply organized;
- The design solution of the entire space, both indoor and outdoor, should ensure the realization of modern models of space use and hybrid multifunctional models that combine traditional and modern treatments of work and other space, all in order to highlight and integrate the remnants of industrial heritage;
- Good functional connection of space at each level, i.e., horizontally and vertically;
- Use of materials with adequate environmental characteristics, in accordance with the program and purpose of exploitation and with regulations applicable to safety;
- It is desirable to form rooftop terraces that are available for use, having in mind the height allowed by the plan, as well as the possibility of opening good views of the Sava River and Novi Beograd. This should be ensured in a way that does not disrupt the organization and flexibility of the entire facility;
- The designed solution should foresee the highest level infrastructural equipment to satisfy the comfort needs of visitors and users of the space;
- All approaches and maneuvering spaces need to ensure the unimpeded movement of persons with reduced mobility and persons with disabilities;
- The traffic matrix from the valid planning documentation, given in the competition documentation, is a fixed element for the competition solution.

8. EVALUATION CRITERIA

8. EVALUATION CRITERIA

In addition to respecting and satisfying the conditions from the program and the competition task, and the compliance of the competition solution with the given urban conditions and recommendations, the jury will evaluate the competition works based on the following general criteria:

- Clear spatial concept, recognizable in the basic idea, comprehensiveness of the solution
- Relation to context, architectural and cultural heritage,
- Quality of the solution in relation to the characteristics and significance of the purpose,
- The character and quality of the improvement of urban identity,
- Distribution of purposes and contents in space, functionality of the proposed solution, program concept
- Urban-architectural and landscape shaping and ambient characteristics of the solution,
- Cost-effectiveness of the solution in both the construction and exploitation phase,
- Application of ecologically and energy sustainable solutions for preservation and improvement of environmental quality (application of ecological design),
- Implementation of the solution in accordance with the competition conditions,
- Persuasiveness of argumentation - clarity of communication through graphic attachments.
- The concept of the solution in relation to the phasing of implementation.

9. COMPETITION RULES

9. COMPETITION RULES

9.1 Competition participation terms and conditions

In accordance with Art. 28 of the *Rulebook on the manner and procedure for announcing and implementation of the urban-architectural competition* ("Official Gazette of RS", No. 31/2015), the right to participate in the competition have natural persons with a university degree in architecture, regardless of their location and personal characteristics, or legal entities that appoint a person with a university degree from the field of architecture.

The competition participants have the freedom to include in their teams experts from other professions who would contribute to the improvement of the competition solutions with their professional views and knowledge, as well as students. The participant in the competition cannot be a person who is directly engaged in the preparation and implementation of the Competition, i.e., a person who is related to or directly cooperates with the person engaged in the preparation and implementation as well as a person who is in the administration or is employed by the body announcing the Competition.

Mandatory conditions for participation in the competition:

- The competition work must be submitted on time and in the manner determined by the competition announcement notice.
- The competition work must be made in the manner of technical-formal processing and contain all parts determined by the competition announcement notice

9.2 Terms and conditions for the realization of the competition

The competition is announced in accordance with the Rulebook on the manner and procedure for announcing and conducting the urban-architectural competition ("Official Gazette of RS" No. 31/2015). Every competition participant who has taken over the competition documentation acquires the right to participate in the competition. By submitting the work, each participant accepts the propositions of this competition.

9.3 Contents of the competition study

Participants are required to submit the competition work in electronic form, and detailed instructions for naming documents and on how to mark competition entries are given in Chapter 9.4. All files are submitted in pdf format, and text attachments to the main volume in *doc* format for more efficient publication.

The content of the competition work includes:

1. A book/volume with textual explanation and graphic attachments
2. 2D graphic attachments

3. 3D graphic attachments
4. 3D animation
5. Material for electronic exhibition

The competition work and all enclosures submitted with it must be prepared in the Serbian language. Within the textual explanation (volume) of the work, each participant is obliged to submit a short textual explanation of the work of up to 500 characters in English for the purpose of international publication of all competition papers.

All participants are required to submit the following documentation as part of the competition study:

1. A book/volume with textual explanation and graphic attachments

in .pdf format, dimensions 42x29.7cm (A3), horizontally oriented pages (landscape), with illustrations in 150 PPI resolution. The volume should contain:

- Description and explanation of the solution
The explanation should be clearly structured and prepared according to the required objectives and criteria contained in the Program
- All graphic attachments should be reduced to A3 format.
- Tabular presentation of realized areas with recapitulation by spatial-program units, as well as recapitulation of urban planning parameters
- Completed table no.1 (given in the attachments): Table 1 is an estimate of the investment value
- Graphic attachments explaining the competition solution

2. Graphic attachments

Zone 1 and Zone 2

- Competition area in the context of the wider environment S = 1: 1000
- Competition area in the context of the immediate environment 1: 500
- Situation plan - with roof base S = 1: 500
- Situation plan - ground floor S = 1: 500
- View from Savska Street, integral S = 1: 500
- 3D displays of the solution from the given directions (photos for editing) given in the Attachment to the competition documentation: folder II GRAPHIC DIGITAL BASES: "06 Orthophoto with the boundaries of the tender area and positions of the given directions for editing" - in photographs it is necessary to simulate the volumes (masses) of neighboring objects given in the dimensions in the file: "Situation_immediate environment and volumes"
- 3D displays chosen by the competition participants

Zone 1

- Situation plan of the roof with regulating and leveling elements 1: 333.33
- Situation plan of the ground floor with ground floor arrangement 1: 333.33
- All bases S = 1: 250
- Characteristic cross sections S = 1: 250
- All appearances S = 1: 250
- 3D displays of the interior and exterior, a minimum of 1 attachment each

Zone 2

Bearing in mind that zone 2 is given as a survey, the list of attachments is mandatory, and depending on the proposed solution, the authors may provide other attachments that explain the concept of the solution of this zone.

Mandatory attachments:

- Situation plan of the roof with regulating and leveling elements S = 1: 500/1: 333.33
- Situation plan of the ground floor next to the Vodotoranj with ground floor arrangement S = 1: 250
- Basis/bases showing possible spatial interventions in accordance with the proposed function S = 1: 250/1: 333.3 / S = 1: 500
- Characteristic cross-sections through Vodotoranj with the corresponding part of the ground floor S = 1: 250
- 3D displays of the interior and exterior, a minimum of 1 attachment each

Graphic attachments – 2D displays, graphic attachments – 3D displays are submitted as files in .pdf format, dimensions 42x29.7cm (A3), horizontally oriented (landscape), in resolution 150 PPI

3. Material for electronic exhibition

in .jpg format, a total of 5 attachments, 2000px-width-horizontally oriented in the RGB system, horizontally oriented, in a resolution of 150 PPI. The work code should be written, as defined in section 9.4. This attachment must also be anonymous.

All the above elements and attachments of the competition study, textual and graphic attachments of the above content, are mandatory parts of the competition work. Papers that do not contain the above listed and required elements and attachments will not be considered.

- Other graphic attachments – at sole discretion

9.4 Preparing competition work for submission

All graphic attachments, each sheet in the volume and posters must be marked with a unique code in the upper right corner of each sheet (Arial font, Bold, size 50pt for graphic attachments, or 24pt for the volume). The unique code must consist of two letters and five digits (Arabic numerals), chosen by the author. The sheets should be marked with ordinal numbers in the lower right corner. The font of the texts in the volume is Arial, size 11pt. The language of the competition is Serbian (Latin script).

The competition work is to be submitted:

- in one or two zipped/compressed folders (electronic .zip, not exceeding 25 MB), marked solely with the chosen code consisting of five digits (Arabic numerals) and two letters (e.g.: AB12345). If the content of the competition work is larger than 25MB, form another packed folder, which must be marked with a number in continuation of the selected code, and then the zipped folders will be marked, e.g.: AB12345_1 and AB12345_2.

The packed ("zipped") folder/s, not larger than 25 MB, should contain:

- A book / volume with textual explanation and graphic attachments, dimensions 42x29.7cm (A3), as defined in chapter 9.3 under 1. in .pdf format
- Graphic attachments, defined in Chapter 9.3. under 2., in .pdf format
- Material for the electronic exhibition, defined in Chapter 9.3. under 3., in .jpg format

- A separate packed ("zipped") folder, not larger than **25 MB**, may be submitted separately marked with the same code with the addition of the word "animation" (e.g. „AB12345_animacija“) and should contain:

- 3D ANIMATION lasting up to 1 minute

The competition participant should submit the competition work electronically to the e-link: <https://konkurs-lozionica.rs/>

The deadline for submission of competition works is **29 October 2021**, until 23:59 (GMT +1).

The competition work not received by the Competition Announcer within the deadline set for the submission of works, i.e., the work which was received after the day and hour by which the competition works can be submitted, will be considered untimely and will not be considered. Each participant is allowed to submit only one competition work without variant solutions. After the deadline for submission of competition works, the participant can neither withdraw nor change his/her competition work.

Technical shaping, i.e., processing of the competition study according to the description, requirements and dimensions is the obligatory content of the competition work. Works that do not contain the above listed and required elements and attachments will not be considered.

9.5. Author's envelope - Contents of the competitor's statement

Along with the electronic submission of the competition work, the participant is obliged to send by mail a sealed non-transparent envelope marked "AUTHOR" and marked on the back with the selected work code consisting of two letters and five digits (Arabic numerals), font Arial, Bold, 24pt. The envelope is to be sent to the address: **Union of Architects of Serbia, Kneza Miloša 7a/III, 11 000 Belgrade, Republic of Serbia (Udruženje arhitekata Srbije, Kneza Miloša 7a/III, 11 000 Beograd, Republika Srbija)**. The author's name must not be written on the envelope, so as not to violate anonymity.

The envelope should contain:

- A text document in A4 format that contains:
 - The selected code of five digits (Arabic numerals) and two letters of the alphabet;
 - Name(s) of the author(s) with signature(s);
 - Statement of acceptance of the competition terms;
 - Name and surname of the person authorized for representation (may or may not be one of the authors);
 - E-mail address for submitting the jury's decision;
 - Address and contact phone;
 - A statement in which the author or the author's team declares whether it wants the work to be exhibited at a public exhibition under a code (anonymously) or under the author's name;
 - A statement in which the author or the author's team declares the manner of distribution of the award in percentages, with data and instructions for payment for all the above listed persons
- Printed small poster for electronic exhibition reduced to dimensions 29.7x 21cm (A4), horizontally oriented (any of 5 posters for electronic exhibition, reduced to A4)

The deadline for sending the envelope is **29 October 2021**, until 23:59 (GMT +1).

Ensuring anonymity when sending the envelope "AUTHOR" by mail is possible to achieve:

- by sending it via ordinary mail without a return receipt with the appropriate number of postage stamps (depending on the country of sender);
- by opening a mailbox for receiving return receipts;

- by sending via express mail service (DHL, Fed Ex,...) with a note for anonymous sending (envelope "AUTHOR" inside the envelope for sending, on which there is no indication of the AUTHOR code).

9.6. Competition deadlines

- Commencement of the competition period/date of announcement **10 August 2021**.
The competition documentation can be downloaded free of charge from the website of the Union of Architects of Serbia: www.u-a-s.rs or from the link: <https://konkurs-lozionica.rs/>
- Participants can ask questions about the competition until **6 September 2021**.
Questions and requests for additional information or clarifications can be submitted exclusively through the official website: <https://konkurs-lozionica.rs/>
The answers of the jury to the questions, solely those related to the announcement and the program of the competition, will be posted on the official website of the Competition **within seven days**.
- The deadline for submission of competition works is **29 October 2021** until 23:59 (GMT +1).
- Announcement of the results of the competition by **15 November 2021** until 23:59 (GMT +1).
The results will be posted on the website of the Union of Architects of Serbia: www.u-a-s.rs or <https://konkurs-lozionica.rs/>
- Awarded and unawarded works, in electronic format, will be posted on the website of the Union of Architects of Serbia www.u-a-s.rs and on <https://konkurs-lozionica.rs/> within 30 days from the date of announcement of the results of the Competition. Along with the works, the basic data will be published (code of the work, award, name (s) of the author(s), unless otherwise indicated in the Competition application form.

9.7. Type of awards and prize amounts

If at least 10 works arrive by the set deadline and if they meet the competition propositions, the following prizes will be awarded in the total amount of the net prize fund of USD 56,000 with the following allocation:

- First prize USD 28,000
- Second prize USD 14,000
- Third prize USD 7,000
- Two acquisitions - purchases, USD 3,500 each

** Note: prizes and acquisition prizes in the net amount are paid at the UN Operational Rates of Exchange or, shortly, UNORE.*

The jury will distribute the prizes in accordance with the provisions of the Rulebook, with the possibility of a different distribution of prizes within the envisaged prize fund.

The Contracting authority undertakes to pay for the selected and awarded competition works according to the decision of the Jury, and in accordance with the Competition Documentation – competition notice, within 45 days from the date of confirmation of the Jury Decision by the Contracting Authority.

9.8. Composition of the Jury

President of the Jury:

Professor Goran Vojvodić, Graduate Architectural Engineer, representative of the Union of Architects of Serbia

Members of the Jury:

Ana Ilić, LL.B. (Law Graduate), Senior Advisor to the Prime Minister of the RS for Creative Industries and Tourism, representative of the Contracting Authority

Jovan Mitrović, Graduate Architectural Engineer, representative of the Contracting Authority

Professor Saša Begović, Graduate Architectural Engineer, representative of the Union of Architects of Serbia

Ass. Prof. PhD. Snežana Vesnić, Graduate Architectural Engineer, representative of the Union of Architects of Serbia

Rapporteurs:

- Ass. Prof. PhD. Maja Dragišić, Graduate Architectural Engineer.
- Sonja Dedić, Graduate Architectural Engineer.

Jury Secretariat

Union of Architects of Serbia

9.9. Final provisions

- The author of the competition work is the participant who created the competition work and thus under his/her own name published the author's work by submitting it to the competition. The author team consists of the signatories of the competition work, co-authors, and thus the holders of all joint copyrights. The participants' copyrights are defined in accordance with the law governing copyright and other related rights
- By submitting the competition work, the authors (author team) cede the transfer of all property rights of the author to the Contracting Authority if the work in question has been awarded or purchased
- Awarded and purchased works can be used in whole or in parts and through the development of planning and technical documentation will be adapted to the situation on the ground, or to spatial and technical capabilities and constraints.
- The Contracting Authority has no obligation to hire the author as the performer of the works on drafting the planning and technical documentation.
- During further elaboration of the project, the Contracting Authority shall consult the authors of the awarded and/or purchased works, selected for further elaboration, and the authors will provide consulting services to the extent necessary. Any possible cooperation of the parties will be regulated by a special agreement.
- Authors reserve the right to publish their works.
- The Contracting Authority has the right to use all submitted works, to publish them and promote the results of the competition.

ATTACHMENTS– BASES AND ACCOMPANYING DOCUMENTATION

I INFORMATION AND GRAPHIC ATTACHMENTS

- 01 Photogrammetric image of the location
- 02 Archival graphic documentation
- 03 Archival photos
- 04 Publication: "Analysis of the economic effects of the creative industries sector on the Serbian economy" / "Creative-industries-2021 Report-ENG"

II DIGITAL GRAPHIC DOCUMENTS

- 01 Cadastral - topographic plan
- 02 Cadastral - topographic plan with roof base
- 03 Situation (site) plan from the Spatial Plan
- 04 Drawings_ Archive and existing condition of buildings
- 05 Base documentation for the attachments - Scale1:500 (Zone 1 and Zone 2) and 1:250 (Zone 1)
- 06 Ortho photo with the boundaries of the competition area and the positions of the given directions for editing
- 07 Study of geodetic works
- 08 Investment evaluation table for Ložionica competition

III GUIDELINES BY COMPETENT INSTITUTIONS

- 01 Conditions of the Institute for the Protection of Cultural Monuments of the City of Belgrade
- 02 Report of the Faculty of Civil Engineering on the condition of the structure

IV EXCERPTS FROM VALID PLANNING DOCUMENTS

- 01 Spatial Plan of the special purpose area for the development of a part of the riverfront in the city of Belgrade - the area of the Sava riverfront for the "Belgrade Waterfront" project - excerpt from the draft
- 02 The plan of designated purposes from the Spatial plan

V PHOTO DOCUMENTATION

- 01 Location photos - current state
- 02 Historical photographs
- 03 Video material
- 04 Railway Museum – Art pictures

We express our gratitude to the Railway Museum in Belgrade and the Archives of the City of Belgrade for the archival material and historical data.

In Belgrade, 10 August 2021

Jury:
President:
Professor Goran Vojvodić, Graduate Architectural Engineer.
Members:
Ana Ilić, LL.B. (Law Graduate)
Jovan Mitrović, Graduate Architectural Engineer
Professor Saša Begović, Graduate Architectural Engineer
Ass. Prof. PhD. Snežana Vesnić, Graduate Architectural Engineer