

Teachers Training Workshop

Belgrade, June 16-17, 2022

Session 3: Application and impacts

Presentation of Cities and Districts associated to the project: City of Valjevo, Serbia

Lazar Gojković, Jasna Matić Mičić

WELCOME TO VALJEVO



ABOUT THE CITY OF VALJEVO

GEOGRAPHICAL POSITION

The city of Valjevo is located in western Serbia in the Kolubara district.

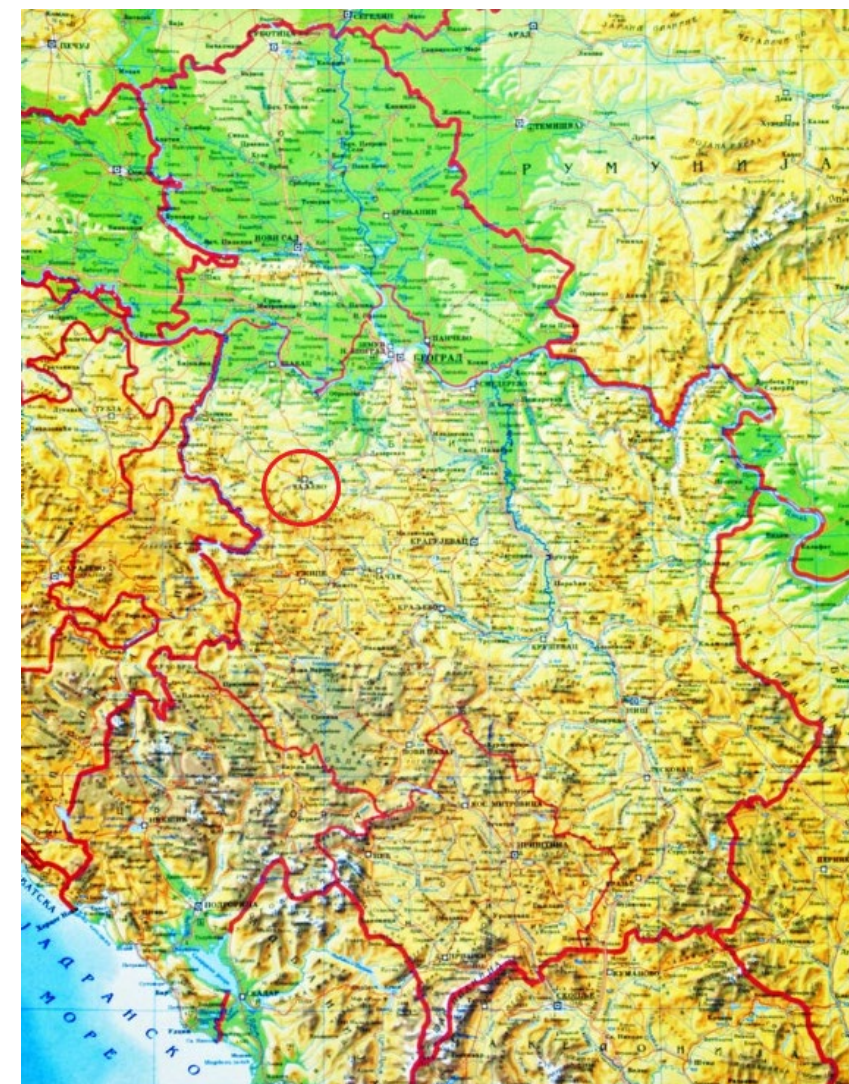
It is located in the upper part of the Kolubara river basin, at the contact between the mountainous and lowland part of Serbia.

It borders the municipalities of Ub and Koceljevo in the north, Osecina and Ljubovija in the west, Bajina Basta and Kosjeric in the south and Mionica and Lajkovac in the east.

The City of Valjevo is located at 44 ° 16 'north latitude and 19 ° 53' east longitude at an average altitude of 195 meters.

The narrower area of the city is at 183 m above sea level, while the peripheral parts are at altitudes from 202 m to 330 m. The area occupied by the City of Valjevo is 915.80 km², where 90,312 inhabitants live, according to the 2011 census in 78 settlements.

The city of Valjevo has 58,932 inhabitants, while 34.75 percent of the population lives in 77 rural settlements.



Valjevo is distant:

- 254km from the Hungarian border,
- 145km from the border with the Republic of Croatia,
- 80km from the border with Bosnia and Herzegovina.

Distance from important highways:

- 23km from the highway Belgrade-Požega (under construction),
- 92km from the highway Belgrade - Zagreb,
- 90km from the highway Belgrade - Nis.

The main roads to the Adriatic Sea, Bosnia and Herzegovina, the fertile Mačva and further to the granary of Vojvodina also pass through Valjevo:

- 142km Valjevo - Novi Sad,
- 64km Valjevo - Sabac,
- 77km Valjevo - Uzice,
- 72km Valjevo - Loznica.

The Belgrade-Bar railway passes through Valjevo, which connects the capital with Montenegro, ie the Adriatic Sea.

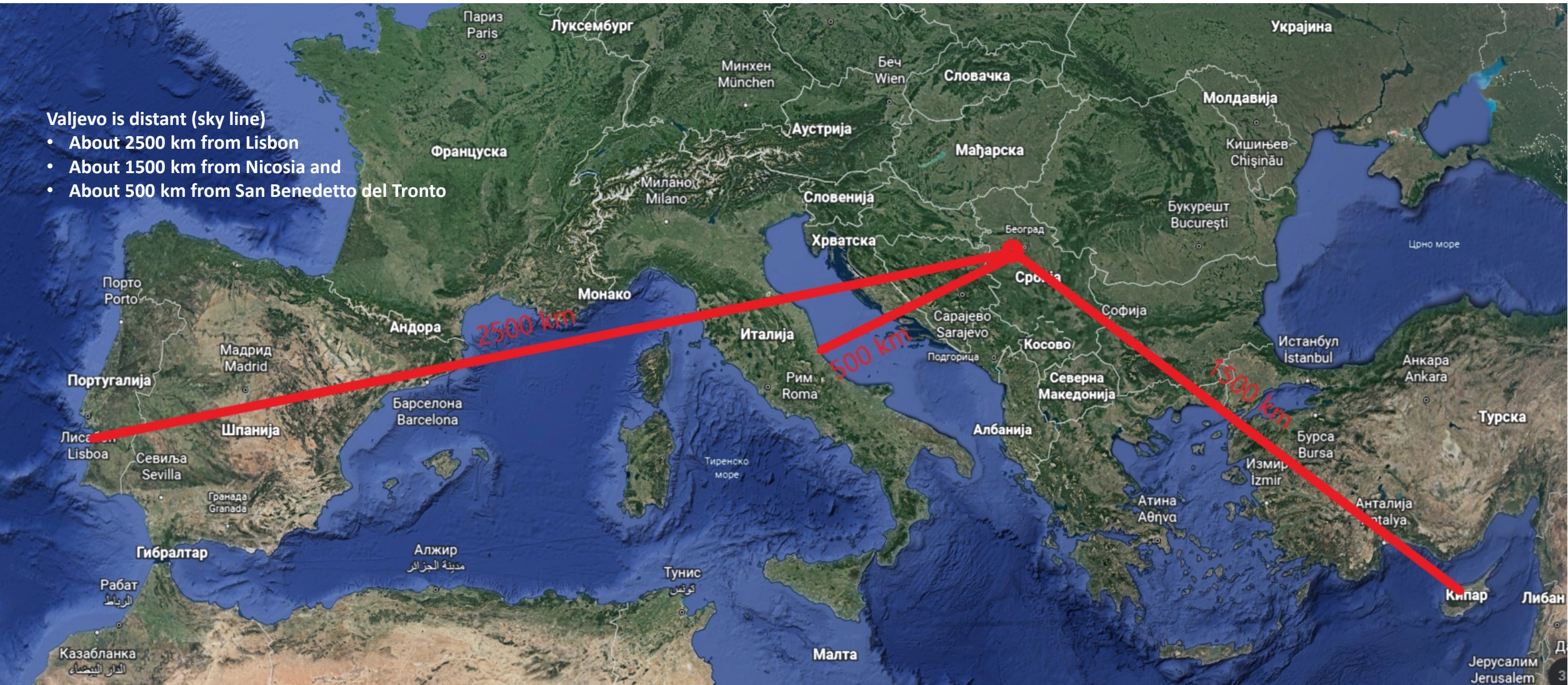
In a few months, Valjevo will be connected to the new Miloš Veliki highway by a fast road.

The nearest airport is in Belgrade (Surcin 89 km), while in Divci, 12 km from the city, there is a sports airport on an area of 29 ha, south of the state road Loznica - Valjevo - Lazarevac.



Valjevo is distant (sky line)

- About 2500 km from Lisbon
- About 1500 km from Nicosia and
- About 500 km from San Benedetto del Tronto



ABOUT VALJEVO

In the heart of Serbia, about a hundred kilometers southwest of Belgrade, rises a wreath of Valjevo mountains. They encircle the valley into which the rivers Obnica and Jablanica flow from the west and merge to create Kolubara. After two or three kilometers, the clear and clean mountain river Gradac flows into Kolubara, and then the river Ljubostinja. On their shores, protected by the surrounding hills, is the city of Valjevo, at the crossroads of roads leading to all parts of the world.

Valjevo is one of the oldest urban settlements in Serbia. The first written documents in which the settlement of Valjevo is mentioned date back to 1393 and are kept in the Dubrovnik archives, because it was often visited by famous Dubrovnik merchants as a crossroads.

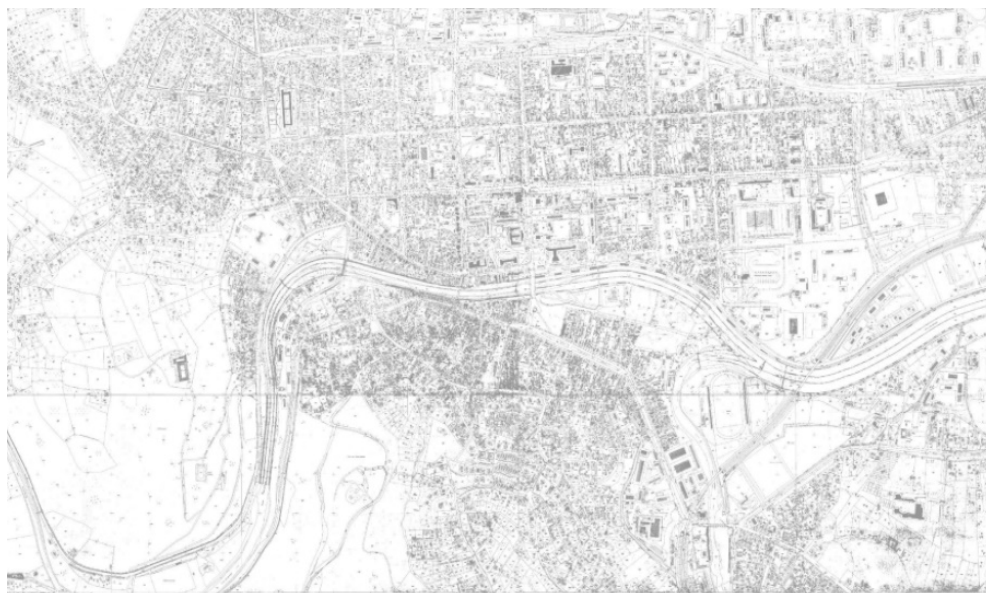
The oldest traces of human habitation in this area date back to the Paleolithic and were discovered in the nearby village of Petnica. Petnica is a village only 7.5 kilometers away from Valjevo, and in it, on the hill Osoj, there is a large dark opening - the entrance to the Petnička cave. Petnička Cave was and remains the largest cave in Western Serbia - the subject of serious speleological interests and the only facility that meets all the conditions for tourist exploitation.



ABOUT VALJEVO

The river Kolubara divides the citizens of Valjevo into Kolubara and Šumadija people, but at the same time it connects two historical periods - the era of Turkish rule and the modern era. The river Kolubara, which is formed just above the city by merging the rivers Obnica and Jablanica, divides the city into two parts, or more precisely two parts of the same town merge into one urban whole.

On the right bank of the river there is the old town bazaar Tešnjar (a name from the past and meant a narrow, narrow street), which is under state protection and with interesting facilities, while on the left side a modern city with regular street projections is being developed by engineers. they drew the empty field on the order of Miloš Obrenović in 1833.



The special value of Valjevo is that from the urban environment you can find yourself in just a few minutes in the beautiful natural environment of the mountain river Gradac or next to the Taorski springs, Petnička cave or walking through the Valjevo mountains.



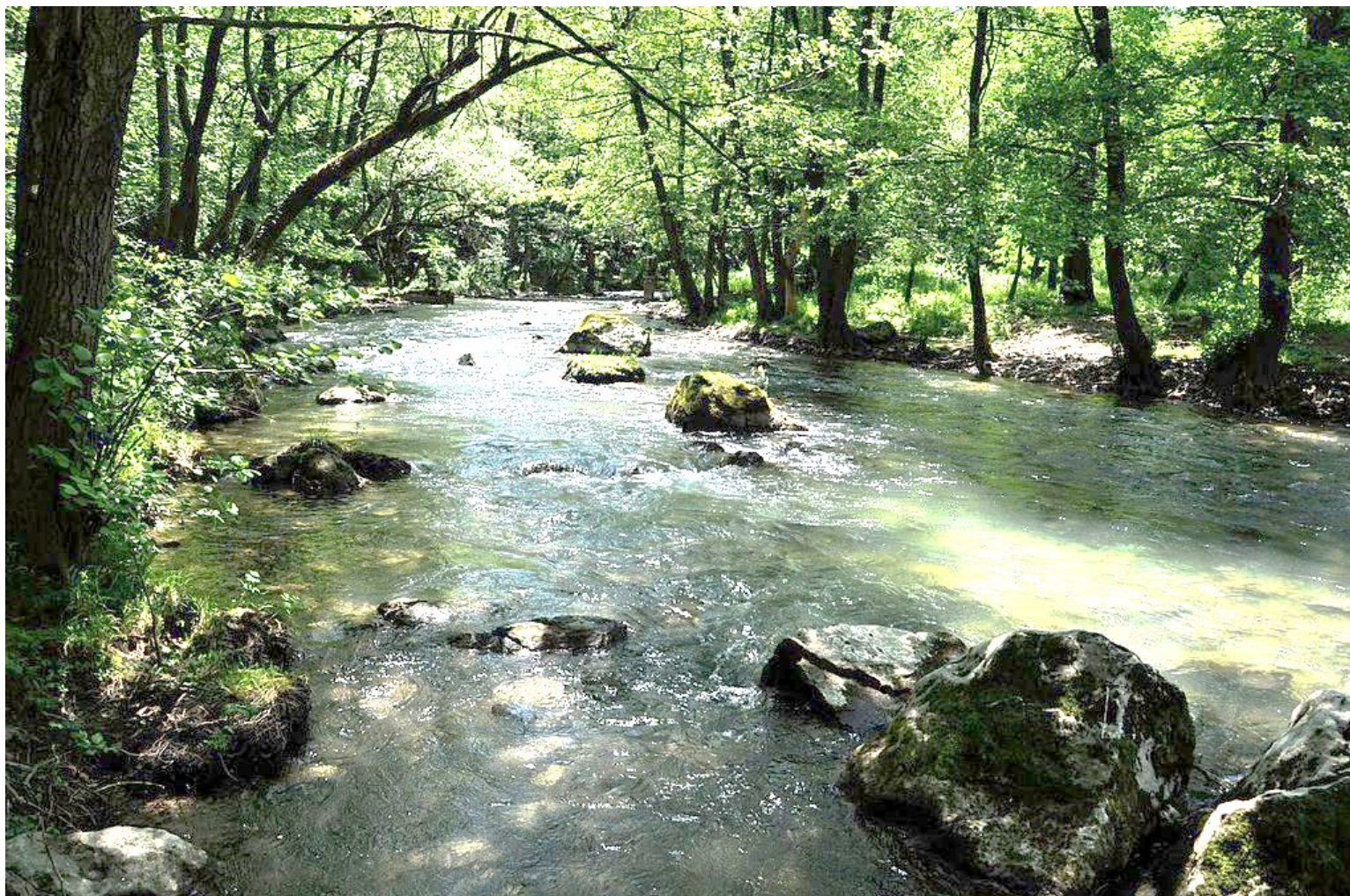
Without exaggeration, but also with false modesty, Valjevo is a city tailored to man, because in addition to the listed natural features, in the city itself, next to the extraordinary Gradac, there are many parks, several picnic areas and the Pećina forest park. All this in just a few minutes walk. Valjevo is and will be an accessible city that provides its residents with the convenience of being able to perform many administrative tasks and obligations within a 15-minute walk, but also to dive into unusual natural beauties.

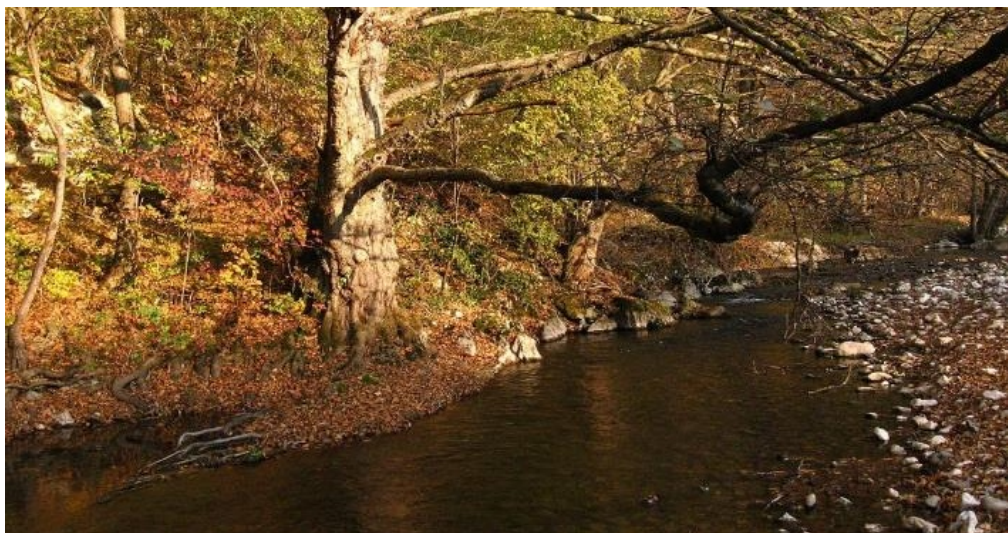
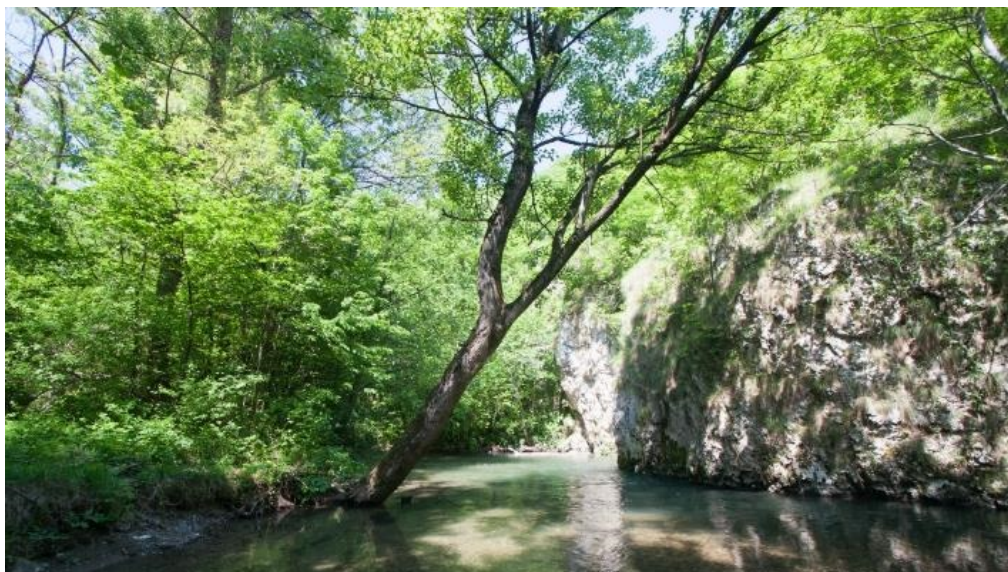




GRADAC RIVER

The Gradac River evokes a sense of pride in every individual born in Valjevo. It is an unwritten rule that true beauty is mostly hidden from the human eye. It is raised on the highest mountains, buried in the deepest caves, or hidden in the densest forests. Sometimes it spreads lavishly in the most desolate places ... The river Gradac bypassed that rule, just as it bypassed the hardest rocks of the Valjevo mountains and offered its unique beauty to the people on their doorstep. It is a part of preserved nature in the immediate vicinity of an urban environment, which is a rare case in Serbia. The river Gradac is the emerald pearl of western Serbia, which with its shades of green proves its clarity and purity. Although it has been declared the cleanest river in Serbia, it is considered one of the cleanest rivers in Europe. The river Gradac is the pearl of this region because of its beauty, beautiful canyon and even more beautiful nature, and on the other hand is the life of this region, because it gives it the purest drinking water. Here you will feel as if you are a part of nature, and the roar of the river is something that will make you always come back here.





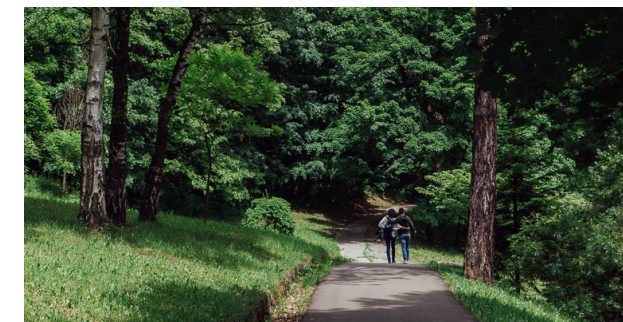
CLIMATE

Klima

	Grad
TEMPERATURA	
Prosečna temperatura vazduha – januar (°C)	0,4
Prosečna temperatura vazduha – jul (°C)	22,6
Prosečna temperatura vazduha – godišnja (°C)	11
Srednji broj mraznih dana – godišnje	87,8
Srednji broj tropskih dana – godišnje	26,2
VLAŽNOST VAZDUHA	
Prosečna vlažnost vazduha – godišnja (%)	75
VAZDUŠNI PRITISAK	998
TRAJANJE SIJANJA SUNCA	
Prosečan broj vedrih dana – godišnje	64,4
Prosečan broj oblačnih dana – godišnje	184
PADAVINE	
Prosečna količina padavina – godišnje (mm)	785,7
POJAVE	
Prosečan broj dana sa snegom – godišnje	30,9
Prosečan broj dana sa snežnim pokrivačem – godišnje	40
Prosečan broj dana sa maglom – godišnje	23,0
Prosečan broj dana sa gradom – godišnje	1,5

NATURAL RESOURCES

The forests on the territory of the City of Valjevo belong to the Podrinje-Kolubara forest area. The total area of forests and forest crops is 27,240.33 ha. In the total area, state forests cover 29% or 7,885.33 ha, and private forests 71% or 19,355 ha. The most common is beech, which covers an area of 5,480.10 ha. The area of the city is divided into two hunting grounds: Jelina Breza and Magleš. They are intended for breeding, protection and use of noble large and small game: deer, wild boar, rabbit, pheasant and partridge. Surface waters: For all watercourses in the area of the city, but also in the downstream course of Kolubara, the water management basis of the Republic of Serbia prescribes high quality classes. The rivers in the source parts of the basin are in I and I / II quality class. The waters of karst springs are very important, from which a total of about 270 l / s is now exploited. Mineral raw materials: In the area of the city, the most common non-metallic mineral raw materials are: quartz sand, limestone, cement marl, diabase, dolomite, magnesite, bituminous shale and decorative stone. These minerals are used in the spheres of chemical processing, production of lime, mineral wool and building stone, bases for high-speed railways and attractive decorative stone. In the southern part of the city there are deposits of copper and antimony, while in the eastern part there are economic ore reserves of gold, silver and copper. Land: The largest part of the area of the city of Valjevo consists of lands of I-IV quality class (70.2%), so that arable land predominates. The land of I and II credit rating class occupies the low valley area of Kolubara and its left tributaries (Rabas and Bukovica). Land of III quality class occurs in the area of Rabas, Bukovica, Počuta and Petnica. Class IV land covers the area of Podgorina, Lelic and Bacevac karst. Lands of V-VIII credit rating class cover about 29.8% of the total area and are spread on terrains with higher slopes in the mountainous area of the town of Valjevo.



HUMAN RESOURCES

The city of Valjevo has 90,312 inhabitants and a birth rate of 8.1%. The number of inhabitants in the urban zone is 59,073 inhabitants, and in the rural area 31,239 inhabitants. The unemployment rate is 21%, which is lower than the RS average. There are 6 high schools in Valjevo, the Business School of Vocational Studies and several private faculties that are a source of highly qualified workforce. Higher education institutions Business Faculty in Valjevo, Singidunum University Faculty of Business Economics - Faculty of Management Valjevo, Megatrend University VIPOS - Business School of Vocational Studies Valjevo Alpha University - Valjevo Center High schools Valjevo Gymnasium Technical School Valjevo Medical School "Dr Miša Ekonomtić V" school "Valjevo" Agricultural school with student dormitory "Valjevo" Music school "Živorad Grbić" Valjevo culture, scientific literacy, education and culture.



ENERGY, ECONOMY

Biomass represents a significant energy potential. Wealth of geothermal springs.

Potentials for the use of solar energy (average daily sum of radiant energy of global solar radiation, in the area of the City of Valjevo, is about 3.8 kWh / m / day, or an average of about 1,400 kWh / m per year).

Oil shale on an area of about 40km. According to the estimated reserves, they amount to about 800,000,000 tons with a kerogen content that ranges from 1-13% in the samples.

With the maximum use of renewable energy sources per year, the City of Valjevo could produce and deliver to the electricity network a total of 259,358 kWh / year, which represents about 80% of the existing electricity consumption of the city.

Valjevo's economy has a long tradition of industrial production, and is recognizable by metal processing. The holder of this production is HK "Krušik".

Food industry and processing with developed agriculture, then textile industry, graphic activity, wood processing, construction and production of non-metals are branches and activities that occupy an important place in the economy of the city of Valjevo.



THEY CHOOSE US

Styrofoam factory Austrotherm d.o.o. began its production in mid-2003.

The Slovak factory of refrigeration devices Gorenje d.o.o. was put into operation in 2006.

In 2004, the Italian company Golden Lady invested in the industrial zone in Beloševac through a greenfield investment, the opening of the Vally factory.

The German family company with a tradition of over a century and a half Bizerba S&E co.KG in early 2022 began construction of its new factory, 4th in a row worldwide.

With the mentioned Letter of Intent, the company "Bizerba S&E co.KG", by the end of 2026, plans to invest 32,750,000.00 euros in tangible and intangible assets and employ 305 new workers.

During 2022, another large German company will be opened in Valjevo - Hansgrohe group. In accordance with the submitted Business Plan for Investment in Serbia, the company "Hansgrohe" d.o.o. Belgrade, by the end of 2028, plans to invest 85,000,000 euros in tangible and intangible assets and employ 1,000 new workers for an indefinite period.

The production processes of both German investors at the location in the Valjevo Economic Zone will apply the highest and optimized production standards, by combining manual assembly and the use of collaborative robots. Labeling plants provide standard printing technology such as digital, offset and flexography. The new building, including the entire production environment, will be designed to meet all environmental standards and use renewable energy sources.



TOURISM

The backbone of the development of the city of Valjevo is certainly tourism and that is why we have, above all, a responsible task to promote in the right way the overall natural wealth that we have with the primary goal of the overall development of the Valjevo region.

Valjevo is an important and dynamic industrial, traffic, tourist and cultural center of this part of Serbia.... in the heart of Serbia, the administrative, economic and cultural center of the Kolubara region and the bearer of regional development.

Valjevo is one of the larger and more developed settlements in Serbia.

Proximity to important roads, potential tourist markets, rich cultural heritage in a relatively small area, ambientally blended into attractive natural areas (gorge of the river Gradac, Jablanica, Valjevo mountains), a number of monasteries, a large number of famous people from this area, events related to national history, enabled Valjevo to stand out as an authentic destination.



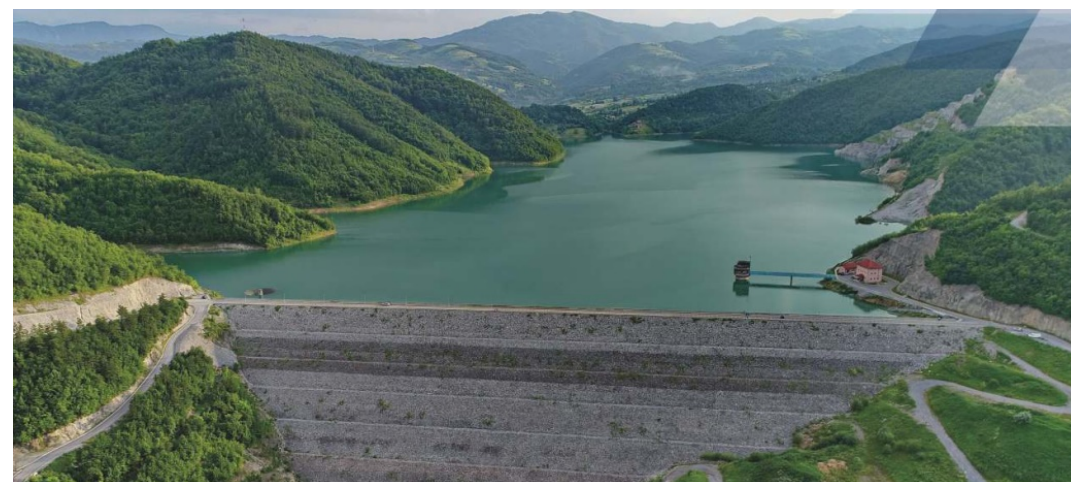
GRADAC RIVER AND LAKE "STUBOROVNI"

Gradac river is one of the cleanest rivers in Europe. This is confirmed by the fact that it is home to otters and trout. Gradac gorge is found in university textbooks as a school example of karst terrain in which two units of Lelički and Bačevački karst stand out, and within them, in addition to a large number of pits and sinkholes, there are 78 caves discovered so far in the gorge.

Thanks to our pride in Gradac and against Mateja Nenadović, at the end of the 19th century, Valjevo was the second place in the Kingdom of Yugoslavia that was lit by street lighting.

Our karst offers another reason to be proud. The deepest pit in Serbia, Dragov Ponor, is 224 m deep and is located in the village of Donje Leskovice, only 17 km from the city.

The benefits that our region enjoys due to the richness of groundwater and surface water, in addition to carelessness for drinking water supplies, are reflected in the possession of one of the most beautiful viewpoints in Serbia - Velika stena, which rises above the Stubo-Rovni hydracumulation, 17 km from Valjevo.



DEGURIĆ CAVE

Degurić Cave is a spring-type cave, whose water from a spring flows into the Gradac River, located in the area of the village of Degurić, in the gorge of the Gradac River, on the territory of the town of Valjevo. It belongs to the group of the largest springs of the Valjevo karst, the entrance has a height of 3.5 m and a width of 7 m. It is the only cave with a constant underground flow in the entire Gradac river basin, with an average flow of 121 l / s. The water temperature along the entire cave is 7 ° C. The water of the cave stream belongs to the hard limestone waters, that, like the intense, dug-in waters, it is saturated, and excretes bigar in the form of overflows, saliva, stalagmites. The cave belongs to the type of cold caves, since the air temperature decreases from 12 ° C at the entrance, over 8 ° C to 300 m in length, to 6 ° C at the first siphon.



EQUESTRIAN CLUB

Along the river Gradac, about four kilometers from Valjevo, in the immediate vicinity of the Degurić Cave, there is the equestrian club "Degurić", founded in 1995, owned by Svetozar Mojsilović. Along the bank of the river, there is also a catering facility, its appearance blends into the ambience. The beautiful ambience is enhanced by a spacious paddock with horses in which riding lessons are held according to the prescribed program under the supervision of an instructor.



PETNIČKA CAVE

Petnička Cave is located 1 km from the village of Petnica. The oldest testimonies about the life of people in western Serbia were found in the cave and its immediate surroundings. The research of this archeological site began in the last century, when the first research was done by Josif Pančić and Jovan Cvijić. In addition to archeological, it has great speleological and paleontological value. The cave consists of about 600m long channels and numerous chambers. It is divided into two parts - the Upper and the Lower Cave. The lower one is much smaller than the upper one, but it has a more passable entrance. The Banja abyss springs from it. The upper cave, on the other hand, is larger and represents a combination of chambers and canals. Its most spacious room (the so-called Concert Hall) has natural lighting that comes from two openings ("views") on the ceiling. All these features, as well as suitable climatic factors, provided ideal conditions for safe shelter for people and life for rare animal and plant species. Archaeological-anthropological research conducted in 1969 confirmed that the archeological site in front of the entrance to the Petnička Cave is the first complete Neolithic habitat in Serbia, 6,000 years old.



SRC PETNICA

The Petnica Sports and Recreation Center is part of the Valis Physical Education Institution, whose founder is the City of Valjevo. Petnica was built and opened in 1983. It is a complex that spreads over 5.6 hectares.

The complex has four swimming pools, grandstands, locker rooms for swimming and water polo club Wallis, as well as four rooms with six beds for athletes and guests. There are also two catering facilities within the Center. There are also sports fields for beach volleyball, indoor soccer, basketball, mini golf, table tennis.



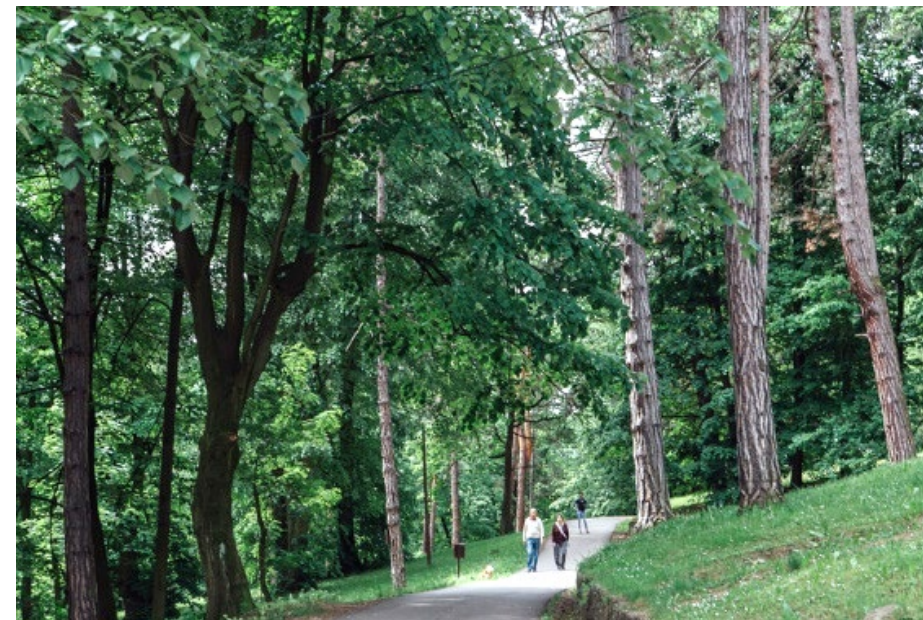
DIVČIBARE

There are few who have not experienced the beauties of Valjevo's Divčibare. And you don't have to spend too many words here.

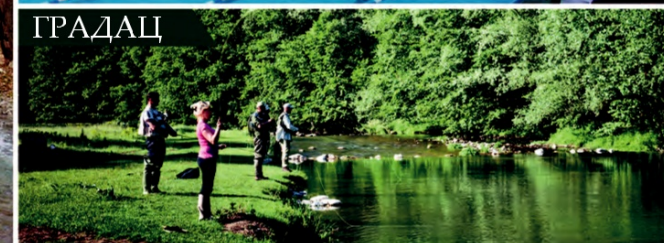
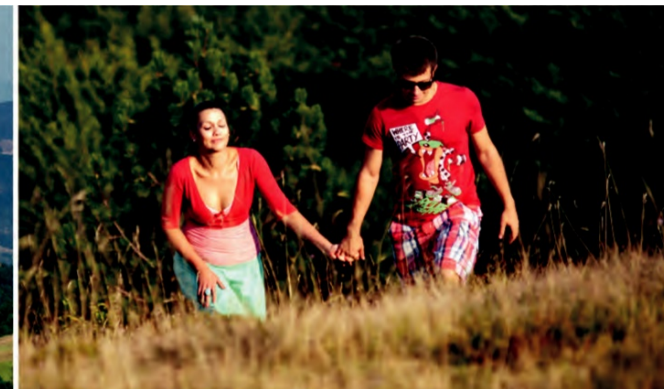
What I want to emphasize on this occasion is that Divčibare brings us the breath of the coast.

Divčibare has been known as an air spa since ancient times, and that status was obtained thanks to iodine in the air.

Due to its good geographical position, air masses from the Mediterranean reach Divčibare and face the air masses of the Carpathians and the Pannonian Plain.



ОКОЛИНА



MONASTERIES

МАНАСТИРИ ВАЉЕВСКОГ КРАЈА

Манастир Пустиња налази се недалеко од села Поћута, у кањопу реке Јаблапице, близу Ваљева (23 км). Фреске овог манастира потичу из 1622. године, међу којима је по лепоти чувена фреска светог Јована Крститеља, која се истиче тачним пропорцијама и изузетним колоритом.

Манастир Ћелије налази се на левој обали реке Градац, у атару села Делић код Ваљева (5 км). Нарочито је познат по свом духовнику и теологу Јустину Поповићу (Ава Јустин), који је 2010. године проглашен за свеца. Северно од олтару сахрањен је знаменити кнез овог краја, Илија Бирчанин.

Манастир Делић налази се у истоименом селу близу Ваљева (11 км). Задужбина је Владике Николаја и његовог оца Драгомира Велимировића. Године 1991. мошти Владике Николаја пренете су овде из манастира Свети Сава у Либертвилу (САД), а 2003. године је проглашен за свеца.

Манастир Јовања се налази у селу Златарић крај Ваљева (7 км), и посвећен је рођењу Јована Крститеља. Старији живопис из 17. века обављао је неколико пута и садржи Крштење Христово, представу Благовести, док доминира композиција Христовог распећа.



Делић



Ћелије



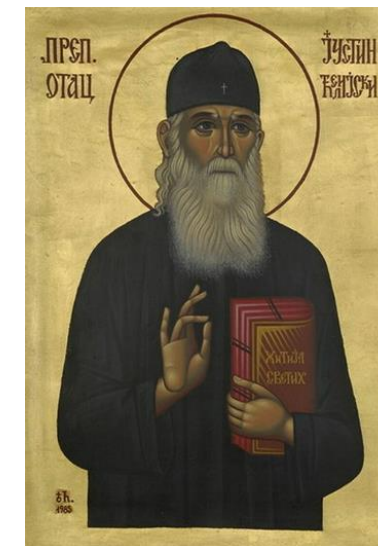
Јовања



Пустиња

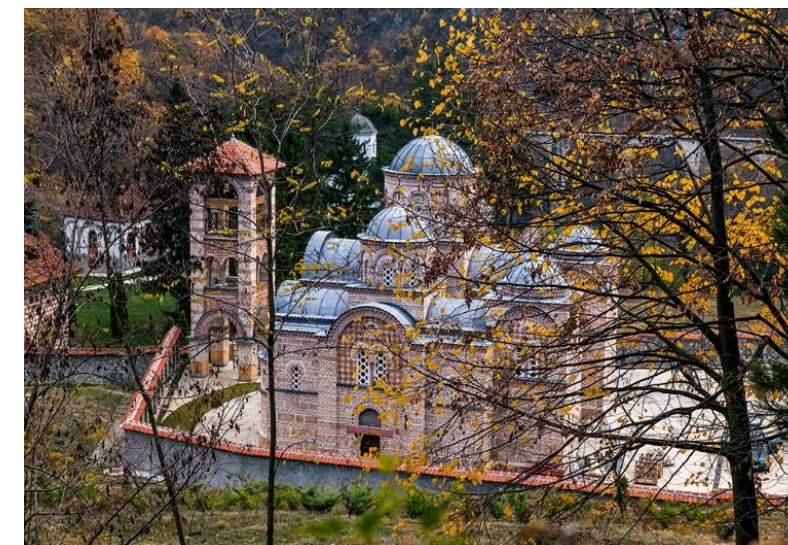


ĆELIJE MONASTERY



Ćelije Monastery, endowment of King Dragutin Nemanjić, from the 13th century.

This monastery was the home of the famous clergyman, sage and healer Ava Justin Popović, to whom a large number of people still come to visit the relics.



LELIĆ MONASTERY

On the other hand, the Lelic Monastery is no less valuable and is inevitable even during a walk. It is located some 11 kilometers from Valjevo, in the village of the same name. It is the endowment of the famous clergyman Bishop Nikolaj Velimirović. It is a beautiful church built in the Moravian style, combined with stone, brick and lime, which especially contributes to its charm.



EVENTS



Teachers Training Workshop
Belgrade, June 16-17, 2022



EVENTS

ФЕСТИВАЛ ДУВАН ЧВАРАКА



SRPSKI KAVIJAR

Оно што је у свету кавијар, то су на српској трезли – ваљевски дувани чварци!
Дувани чварци су постали бренд ваљевског краја. Назив су добили по свом изгледу који подсећа на исецкани дувани. Тајна добрих дувани чварака је у дуготрајном кувању свињског меса и масноће, после којег се прже, а потом цеде кроз ланену крпу.

„Фестивал дувани чварака“ је туристичко-привредна манифестација која је посвећена брэнду ваљевског краја и сваке године окупуља велики број посетилаца. Многи имају прилику да виде како се спремају чварци по рецептури стареј двеста година, али и да дегустирају овај јединствени производ који је изум ваљевских месара и који се ниде на планети не спрема на овакав начин. Одржава се сваке године у октобру месецу.



This is what Valjevo looks like, which we love and which has been a gathering place for traders of various businessmen and occasional travelers for more than six hundred years, but unfortunately for more than three decades Valjevo has been quietly stagnant economically, and in recent years has become one of the most polluted places in the country.

AIR POLLUTION OF THE CITY OF VALJEVO

In our public policy proposal, we want to emphasize the importance of dealing with the problem of air pollution in Valjevo, as one of the most polluted cities in our country.

We describe the size of the problem, the awareness of its existence among citizens, as well as certain actions taken to solve it, no matter how successful or unsuccessful they may be. Some activities do exist, but they are unfortunately insufficient and do not solve our complex problem.

It is necessary to take the necessary activities to solve this problem, so that the city of Valjevo becomes a city where clean air can be breathed freely.



AIR POLLUTION OF THE CITY OF VALJEVO

IS IT POSSIBLE TO BREATHE FRESH AIR?

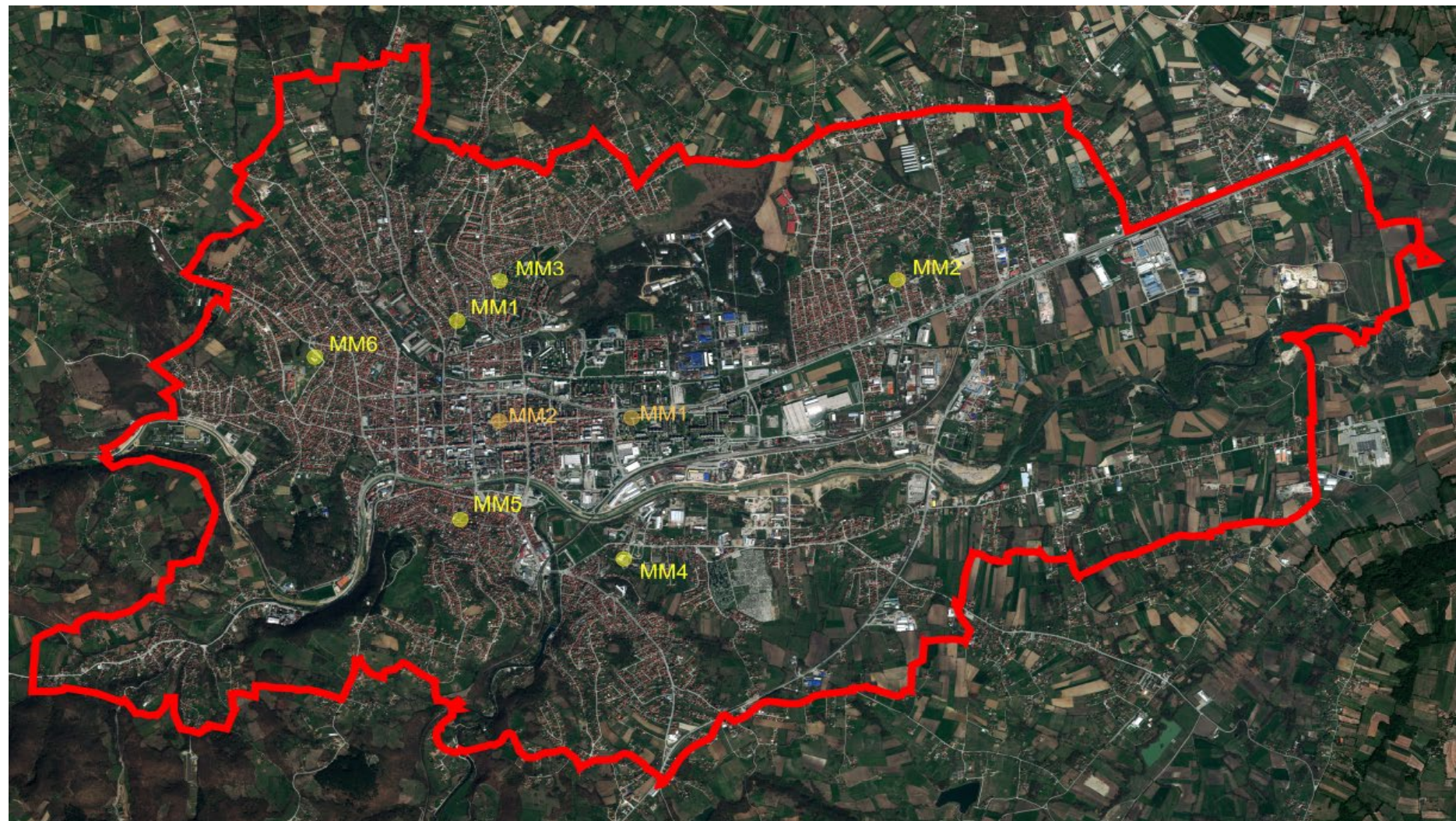


AIR QUALITY IN THE CITY OF VALJEVO

The air on the territory of the city of Valjevo is category III, excessively polluted air, due to exceeding the limit values of the concentration of suspended particles.

MEASUREMENT OF AIR QUALITY ON THE TERRITORY OF THE CITY OF VALJEVO

Air quality measurement on the territory of the city of Valjevo is performed within the state network for quality monitoring and the local network which is under the jurisdiction of the local self-government unit.



Analysis of the results of air quality measurements in the period from 2012 to 2021

Analysis of the results of air quality measurements on the territory of the city of Valjevo in the period from 2012 (when the measurement of the concentration of suspended particles in the air officially began) to the end of 2021 indicates that the average annual concentration of suspended PM10 particles each year exceeded the prescribed limit of $40\mu\text{g} / \text{m}^3$.

Observing the five-year average from 2017-2021, the total average concentration of suspended PM10 particles is about $61\mu\text{g} / \text{m}^3$. The lowest average concentration of suspended PM10 particles was measured in 2021 at $50\mu\text{g} / \text{m}^3$, and the highest in 2018 at $71\mu\text{g} / \text{m}^3$. Observing the number of days during the year in which the average daily limit value of suspended PM10 particles was exceeded, which is $50\mu\text{g} / \text{m}^3$, it can be concluded that the air was excessively polluted, since the total annual average was 140 days a year (allowed 35).

The lowest number of days with exceeding the average daily limit value of suspended PM10 particles was recorded during 2017 and amounted to 117 days, and in the following year, 2018, a full 170 days were recorded.

Air quality assessment

The Air Quality Index SAQ1_11 was used to assess air quality and assess the impact on the health of the population. According to SAQ1_11 (2019), air quality is categorized into five classes: "excellent", "good", "acceptable", "polluted" and "heavily polluted", where the first three classes are within the first air category.

Table 1. Possible impact of air quality on population health

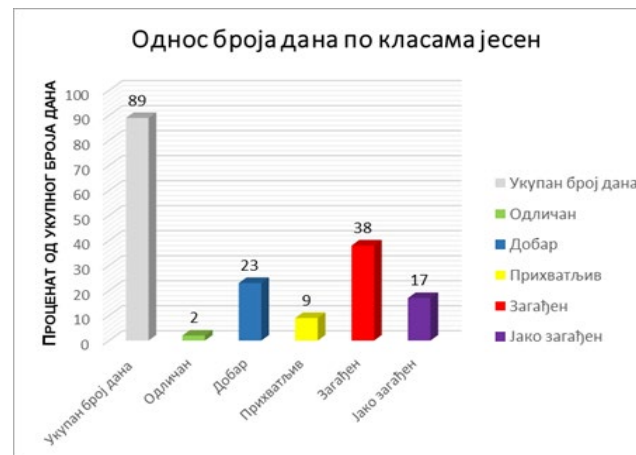
Air quality index	POSSIBLE HEALTH IMPACT
1 EXCELLENT	Air quality is an excellent presence of air pollution poses little or no risk to human health.
2 GOOD	Air quality can have a milder negative impact on human health (people with heart and lung diseases, the elderly and children).
3 ACCEPTABLE	People with heart and lung diseases, the elderly and children may have problems in the form of difficulty breathing, coughing, watery eyes and increased secretions from the nose. The rest of the population is unlikely to feel the negative impact of air on health.
4 POLLUTED	Everyone can begin to feel the negative impact of air on health. People with heart and lung diseases, the elderly and children can feel the negative impact of air on health.
5 HEAVILY POLLUTED	Anyone can feel the serious negative impact of polluted air on health (difficulty breathing, coughing, a feeling of tightness and hissing in the chest, watery eyes, increased secretions from the nose and an unpleasant feeling of scraping / scratching in the throat). People with heart and lung diseases, the elderly and children should avoid any outdoor activity. The rest of the population should avoid prolonged and strenuous physical activity. It is not recommended to open windows and ventilate closed rooms.

Assessment of air quality on the territory of the city of Valjevo by seasons

An overview of air quality on the territory of the city of Valjevo in 2021 by seasons and classes is shown in the following pictures.

The measured concentrations of suspended PM10 particles in the spring-summer period were lower than in the autumn-winter period, ie the negative impact of air quality on the health of the population in that period was minimally expressed.

The measured concentrations of suspended PM10 particles in the autumn-winter period are much higher than in the spring-summer period, ie the negative impact of air quality on the health of the population in that period is significant, especially the negative impact on people with heart and lung diseases, the elderly and children.



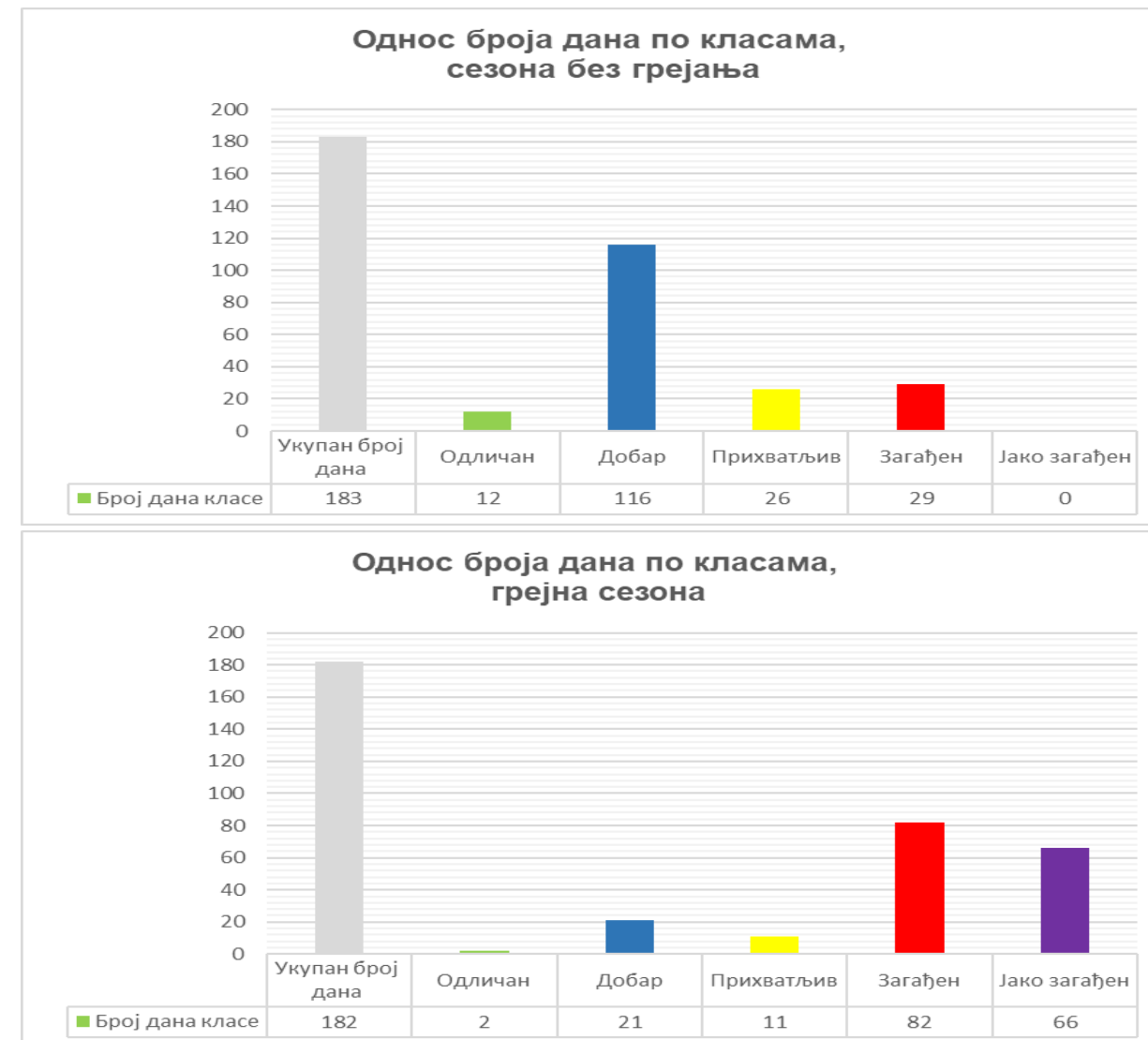
Assessment of air quality on the territory of the city of Valjevo in the season with heating and without heating

Assessment of air quality on the territory of the city of Valjevo in 2021 during the season without heating (from 01.04.2021 to 30.09.2021) and the heating season (from 1.01.2021 to 30.03.2021 and from 1.10.2021. to 31.12.2021) by classes is shown in the following figures.

Exceedances of daily limit values of PM10 are most common during the period October-March, ie. during the heating season. These pronounced changes in the concentration of suspended PM10 particles during the year occur for two reasons.

The first is the natural occurrence of unfavorable meteorological conditions for atmospheric diffusion of emitted pollutants,

The second is a marked increase in the amount of emitted pollutants during the colder part of the year due to fuel combustion, primarily in households. Increased emissions into the air predominantly originate from individual combustion chambers.



Measures to reduce air pollution and its negative impact on the health of the population

Measures to reduce the negative impact of polluted air on the health of the population are based primarily on the management of the main sources of emissions of pollutants into the air, ie. individual fireboxes (heating plants and boiler rooms that are not in the system of JKP "Toplana-Valjevo", fireboxes used within local economic activities and catering facilities and home fireboxes), and include:

The expansion of the existing hot water network enables an even larger number of households to be supplied with thermal energy produced within large plants that control their emissions, which would reduce the number of users of individual furnaces.

Construction of a gas pipeline network which would enable the connection of individual combustion plants, and which would reduce the number of users of individual combustion plants that use fuels with a higher degree of emission of pollutants than gas as energy sources.

Shutdown of boiler rooms, ie all boiler rooms where there are technical conditions for connection to the district heating system must be shut down. Reconstruction is necessary in terms of using more environmentally friendly energy sources for those boiler rooms that are determined not to have technical conditions for connection to the district heating system or to the gas pipeline.

Improvement of the existing facility heating system (public buildings, as well as collective and individual housing facilities):

1. Connection to the district heating system of PE "Toplana Valjevo", all facilities in the central city zone, where there are conditions for connection (close proximity to the main lines of the heating pipeline), or replacement of energy where there are no specified conditions.
2. Overview of buildings (collective housing) that can be easily connected to the district heating system (the heating pipe has reached the buildings, some have a basement), but the buildings / apartments do not have heating installations (lines and radiators), nor external thermal insulation.
3. Assessment of the possibility of connecting public and residential buildings (collective and individual), which are located near the public building (school, kindergarten, etc.), which has a boiler room with a larger capacity and heating capabilities and neighboring buildings.
4. Individual residential buildings (private houses). This group of buildings, which have their own heating, and which use wood or coal as energy, is the most numerous. According to objective estimates, out of the total number of households, about 10,000 (or almost 50%) are in this group. This group emits the largest amount of flue gases, and of course harmful substances. The houses are located in the largest number in the settlements arranged in a ring around the urban core of the city, and they are not reached by the main heating pipes. Such a significant problem can be solved by providing subsidies to citizens for the purchase of new equipment, boilers and stoves, which use wood pellets, gas, or electricity as energy.

The economy, especially industry, also contributes significantly to air pollution. The inspection control that is performed is not enough and it is carried out mostly over the companies that have done the Environmental Impact Assessment Study. The study envisages regular control of harmful gas emissions, so it is performed on that basis.

In other industrial facilities, built earlier, such an obligation does not exist, and controls are not performed. Of course, this approach needs to be corrected because it does not help reduce pollution and create a cleaner and healthier environment, which is otherwise the purpose of inspection control and supervision.

Measurements in the immediate vicinity of the location of HK "Krušik", which is performed by the Environmental Protection Agency and the Public Health Institute Valjevo, as well as direct observation, established that the major pollution originates from HK "Krušik". High emissions of harmful substances are a consequence of the use of extremely low-quality energy (it is estimated that this energy contributes to the total air pollution above the city in the amount of 20-25% of total pollution), so the necessary project documentation for the construction of a new power plant. used natural gas as an energy source.

ENERGY EFFICIENCY

Energy efficiency is directly related to the reduction of energy consumption for heating or the emission of pollutants into the air.

Subsidies or other forms of energy efficiency incentives

It is necessary to implement the subsidies envisaged by the State for increasing energy efficiency (for the replacement of boilers, installation of thermal insulation on the facades of residential buildings and family houses, as well as for the replacement of carpentry).

Raising awareness of the importance of energy efficiency

Raise the awareness of citizens about the importance of energy efficiency through the manifestations of the workshop and educational activities.

Improving energy efficiency in the public lighting system

Implement energy efficient light bulbs of the latest generation in the entire public lighting system.

Energy rehabilitation of public buildings

Develop an action plan for energy rehabilitation of all facilities that are in public ownership in the city of Valjevo, owned by the City of Valjevo.

In the last three years, the Government of the Republic of Serbia has initiated and adopted three PPPNs of crucial importance for the City of Valjevo

1. Spatial plan of the special purpose area of the state road IB order number 27 Loznica-Valjevo-Lazarevac, section Iverak-Lajkovac (connection with the highway E-763 Belgrade-South Adriatic, section Belgrade-Požega) ("Official Gazette of RS", No. 2/2020) - for the construction of a fast road, the connection of the City of Valjevo with the Miloš Veliki Highway
2. Spatial plan of the special purpose area of the regional Kolubara water supply system, "Official Gazette of RS" No. 123/21, for long-term solution of water supply of the entire Kolubara region, but also the CSO Lazarevac and the Kolubara mining basin
3. Spatial plan of the special purpose area of the distribution gas pipeline RG-13 Belgrade-Valjevo-Loznica with elements of detailed regulation, which is about to be adopted these days for gas supply of the entire Kolubara region and CSO Lazarevac, but also the city of Loznica
4. The Government of the RS has passed a Decision for the development of Amendments to the Spatial Plan of the area of special purpose of the state road IB row no. 27 Loznica-Valjevo-Lazarevac, section Iverak-Lajkovac (connection with the highway E-763 Belgrade - South Adriatic, section Belgrade-Požega) - for the construction of BAJPAS, connection of the Southern bypass with the highway Miloš Veliki, connecting the economic zone of Valjevo with the highway and solving traffic collapse in the city of Valjevo.

The City of Valjevo has started drafting a new General Regulation Plan for the CENTER of the City of Valjevo

Decision on the development of the General Regulation Plan CENTER, published in "Official Gazette. Gazette of the City of Valjevo "no. 27/2021, dated 26 November 2021.

The reasons for drafting the Plan are:

- long-term solution of air pollution and general improvement of the quality of the environment through the introduction of protection measures;
- improving the level of infrastructure equipment and harmonization of planning solutions for the needs of construction of infrastructure networks envisaged by the new technical documentation;
- checking the existing construction capacities and raising the level of housing and business standards;
- consideration of the sustainability of traffic areas and parking areas in the central zone of the City of Valjevo;
- reviewing sites for public purposes and creating conditions for sustainable, rational and responsible land management;
- detailed elaboration of the protected area of the old bazaar "Tešnja";
- reviewing the rules of arrangement and construction, ie urban construction parameters;
- harmonization of planning solutions with the conditions and development plans of bodies, organizations and holders of public authorizations;
- creation of a planning basis for the issuance of construction permits, ie location conditions and conditions of competent institutions;
- defining urban parameters for the areas envisaged by the plan for urban-architectural elaboration by the urban project;
- harmonization with laws, bylaws and valid planning documents of a higher order, which are the basis or are important for the adoption and implementation of the plan

BORDER PGR CENTER WITH BORDER PDR TEŠNJAR



Gas is coming soon, and will the population and the city be able to easily and efficiently switch to that type of energy?



VALJEVO IS UNIQUE

The irony is that the city of immeasurable natural and cultural beauty, with river, forest and hilly potentials, is facing such a problem.

WE WANT

to promote tourism and give people from other parts the opportunity to get to know the traditional and Orthodox heritage, but also the natural phenomena and beauty that Valjevo offers.

In the center of these beauties live the citizens of Valjevo, who are currently most affected by the existing pollution. Now it is the duty of all of us to preserve the wealth that Valjevo has, by fighting for the air that is real!

"VALJEVO PEOPLE MUST BE HEALTHY"

IMPLEMENTATION OF NEW IDEAS AND IMPROVEMENT OF SPACES AND FACILITIES IN THE CITY OF VALJEVO



CONCEPTUAL SOLUTION OF THE SPORTS HALL WITH ACCOMPANYING HOTEL ACCOMMODATION IN VALJEVO

All planned functions related to sports are dimensioned according to the conditions and recommendations of the FIBA regulations for holding competitions of all ranks, domestic and international, European, world and Olympic.

Conceptual solution of the combined children's institution in the settlement "Peti Puk" in Valjevo



**PREFABRICATED DISASSEMBLY PARKING TYPE "FAST PARK" AND
GROUND FLOOR ARRANGEMENT OF THE PUBLIC BLOCK AREA
FORMED BY EDGE BUILDING ON THE CORNER OF
KARADORĐEVA AND VUK KARADŽIĆ STREETS IN VALJEVO**



GERONTOLOGICAL CENTER IN VALJEVO





The hospital complex developed over a period of several decades, which caused the shape and style inconsistency of the facilities.

Reconstruction of seven buildings and extension and construction of new buildings should be planned, designed and executed so that the whole complex forms a unique urban and architectural whole.

CONCEPTUAL SOLUTION OF RECONSTRUCTION AND UPGRADE OF GENERAL HOSPITAL IN VALJEVO

Facilities should primarily be user-friendly. The use of space should be simple, to provide a sense of security and a pleasant atmosphere.

The choice of colors and materials should be guided by the principles of "green architecture" both in the exterior and interior. The atmosphere inside the buildings should be filled with light and space dynamics.

When designing buildings, take care that the buildings are harmonized with each other, in a harmonious relationship with the natural environment.



RESEARCH CENTER FOR RENEWABLE ENERGY SOURCES IN VALJEVO



The RS Ministry of Education, Science and Technological Development plans to establish research centers throughout Serbia, where students will be able to dedicate themselves to the study of natural and social sciences and improve themselves through independent projects.

The establishment of a Research Center for Renewable Energy Sources is planned in Valjevo.

It has been proposed that the location for the formation of the research center be the existing, Jablanica Hotel Complex in Obrena Nikolića Street in Valjevo.



WELCOME TO VALJEVO!



WELCOME TO DIVČIBARE!



Thank you for your attention !

