



# STATE OF PLAY REPORT ALBA IULIA MUNICIPALITY



Policy instrument addressed	Integrated Urban Development Strategy of Alba Iulia Municipality
Partner involved in the state of play report writing	Alba Iulia Municipality
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# 1. Brief characterization of the project territory (Alba Iulia)

## 1.1. Brief historical and social background of the area

The municipality of Alba Iulia is geographically located in the center of Alba County, in the western part of the Center Region, and in the central-western part of Romania. Alba Iulia is the administrative center of the county and has a major importance from an economic, educational, social residential, or administrative point of view for the over 100,000 inhabitants of the county.



Source: https://ro.wikipedia.org/wiki/Alba\_Iulia#/media/Fi%C8%99ier:Romania\_location\_map.svg

Alba Iulia is a very accessible city due to the road infrastructure such as the access to DN1/E81 through the city's ring road, DN74, or the future Sebeş-Turda express road. Also, the good accessibility is offered by the double electrified railway line 200 Brasov-Curtici interconnected with the mainline 300 Bucharest – Oradea that transit the county and also from the



point of view of air traffic given the existence of nearby international airports such as those in Cluj-Napoca, Târgu- Mureș or Sibiu.



Alba Iulia is distinguished by its history. The city is the soul capital of the Romanians, the unity of the Romanians is closely linked to the city of Alba Iulia. The Alba Carolina Citadel, a symbol of the city, has extraordinary tourist potential, being one of the most historical places on the territory of Romania, and every year it is the central tourist objective chosen by Romanians from all over the country and from the Diaspora, to celebrate Romania's National Day on December 1<sup>st</sup>.

Regarding the appearance of the first references of the city in history, several sources prove, even before its name was transmitted to us through written historical documents, the existence on this territory

and in its immediate surroundings, of prehistoric settlements dating from the fifth millennium BC. In the northern part of the city was discovered an important Neolithic settlement (5000 - 1900 BC), which was inhabited by tribes of shepherds and farmers. Objects dating from the Bronze Age (between 1700-1000 BC) were discovered in several areas of the city, such as on the Plateau of the Romans, also at Teleac, a locality located 4 km from Alba Iulia. An earthen fortress dating from the first millennium BC was discovered and it is supposed to have been a Thracian tribal center. A branch of the Thracians, the Dacians, laid the foundation of a powerful settlement called Apoulon that becomes in the Roman period, Apulum and has a great development in that period.

Over time, Alba Iulia has undergone numerous transformations, receiving several names such as Bălgrad (in Slavic), Fehervar (in Hungarian), and Weissenburg (in German), due to the influences of the time, but it remained a political, economic and social center of the area. After 1541 Alba Iulia became the capital of the autonomous principality of Transylvania (until 1690).

For two and a half centuries the city experienced a period of rapid economic development and a considerable urbanistic expanse that has left its mark on the development of the city, which is why it has become the host of the most important events that have taken place throughout the history of the Romanian nation.

One of the most memorable events took place at the end of the XVI century, namely the triumphal entry into the city of Michael the Brave, together with his army, on November 1, 1599, three days after the victory at Selimbar. Alba Iulia would thus become after the conquest of Moldavia, the first capital of the three countries united under the scepter of the Wallachian

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voivode. This was the first attempt at political unification of the Romanian countries, hence Michael the Brave led the 3 Romanian countries, from here it is called "voivode and ruler of all Wallachia and Transylvania and Moldavia". <sup>1</sup>

Due to the social unrest that was more and more frequent in Alba Iulia, under the walls of the Habsburg fortress was born the uprising of the serfs, in the second half of the 18th century, in the winter of 1761 (February 14th). The peasants submitted numerous requests to the court authorities seeking compensation for the injustices they suffered from. Among these actions was included the application submitted to the emperor in 1779 by Horia, Closca and Crisan. Although the uprising was defeated and the rulers were brought in chains in the fortress in Alba Iulia on December 27, 1784, it had an important impact on the future of the province. On the morning of February 29, 1785 on the "hill of forks" today called The Field of Horea, tens of thousands of serfs peasants witnessed the terrible execution of the heads of the uprising. After the repression of the uprising, Crişan was caught (January 30, 1785) imprisoned in Alba Iulia, where he committed suicide, strangling himself with the belts of his footwear (February 13, 1785). Horia and Closca were pulled on the wheel, breaking their bones with the wheel starting with their legs. The evidence says that in those moments of suffering Horea's last words were: "I die for the people." From this historical moment, Alba Iulia has also acquired the value of a symbol of the people's struggle for social justice and freedom.<sup>2</sup>

After the First World War, when the Austro-Hungarian Empire collapsed, the political forces of the Romanian nation in Transylvania, supported by the entire Romanian breath, passed to the realization of the ideal of centuries, the union of Transylvania with Romania, the city of Alba Iulia being given this great honor to host the greatest ideal of the Romanians. The tourist who visits today Alba Iulia, which has become an important tourist center for Romanians but also foreigners, can read at the entrance to the building where the great union of The Romanians was signed, the following words: "In the year of the Lord 1918, December 1st, in this place was proclaimed forever and irrevocably by the solemn and unanimous vote of the people, the union of Transylvania with the whole of Daco-Romania. Eternal be the remembrance of this great act." As a recognition of the role that Alba Iulia had in the history of the nation, every year on December 1st, the National Day of Romania is celebrated here, the city of Alba Iulia was declared by the Romanian Parliament in 1994 "a symbol fortress of the great union of the Romanians".

From the point of view of the development of the city, Alba Iulia is, due to its positioning on important transport axes, a well-connected urban center in the territory, with multiple possibilities and opportunities for development. Taking into account the fact that in general the localities have been formed and are developing due to the habitation of areas with resources, potential and accessibility, the main function of the localities and implicitly of the municipality of Alba Iulia is the residential one. The administrative function is the predominant function of Alba Iulia municipality, where the main institutions of local, county and regional administration are located, among which we mention the Prefect's Institution, the Alba Iulia Court of Appeal, the Alba County Council, the Alba Iulia City Hall or the Center Regional Development Agency. Also,

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<sup>&</sup>lt;sup>1</sup> https://www.apulum.ro/index.php/alba/detaliu/istoria-orasului

<sup>&</sup>lt;sup>2</sup> https://www.apulum.ro/



from a religious point of view, the Orthodox Archdiocese of Alba Iulia and the Roman Catholic Archdiocese of Alba Iulia are based in Alba Iulia, the most important in Transylvania.

Industry in the municipality of Alba Iulia appeared in the XIX century and defined the city's economical function. The first industrial unit was the Johanna systematic mill, thus paving the way for the shaping of the food industry sector. Currently, the area of industrial development is focused on the food, ceramics and steel industries.

Agricultural activities have decreased significantly because in the last two decades, the agricultural area of Alba Iulia municipality has decreased by over 500 hectares. For the most part, these agricultural areas were occupied by land with constructions, by introducing new lands in the built-up area of the localities, to build housing. Regarding the composition of the administrative territory of Alba Iulia Municipality, almost a third (27%) is represented by the built-up area of the city, 10% of the built-up area of the 4 localities belonging to it (Bărăbanţ, Miceşti Oarda and Pâclişa), 62% is occupied by the extravilan, and 1% represents isolated bodies.



Alba Iulia aerial view - Source: https://www.facebook.com/DispeceratPrimariaAlbaIulia



# 1.2. Geographical and demographic data

From a geographical point of view, the city is centrally positioned, in the western part of the country, thus creating good accessibility in the intra-Carpathian area of Romania, creating connections to the south and south-west of the country

Due to the favorable position and the fact that it is located at the crossing or intersection of important roads, which ensured the connection with the surrounding areas, in areas rich in deposits of precious metals, in areas with famous vineyards, the municipality of Alba Iulia has known its historical importance. Thus, traffic arteries in Transylvania met in the area of Alba Iulia, which in turn communicated with important economic centers, which boosted its demographic, urban and economic development.

The municipality of Alba Iulia, together with the component localities, is located in the Transylvanian Plateau, at the contact between two major relief units: the Apuseni Mountains and the Tarnavelor Plateau.

Located at an average altitude of 235m², the city of Alba Iulia is located in an interference zone of the hills that descend from the Trascaului Mountains with the plains of the valley of the middle course of the Mures River. More specifically, the major form of relief that defines the municipality of Alba Iulia is that of the depression corridor. The city itself is located on the first terrace of mures, which forms to the east a lowland of 8-10 km long and its attitude 2-4 km. The fortress and the buildings built in recent years on the old settlements are located on the second terrace about 18-25 meters above. The western part of the city is drawn by the forested heights of the Metallic Mountains with the Mammoth Peak (630m). To the east, over the Mures, there are distinguished the reddish clayey hills of the Transylvanian Plateau, eroded by the Mures, Sebes and Secas rivers, these forming a string of boosters. To the south are the peaks of the Sebes Mountains, with the Surian Peak (2245 m) with the Peak of Four (2130 m). Over half of the area of Alba County is represented by the high forms of relief, the mountain area occupying 52%, followed by the plateau areas and hills 26% and the plain areas, including the floodplains of the rivers 22%.

The climate of Alba Iulia and the adjacent territory falls within the temperate continental climate, dominated by western external influences. Topoclimates cause hot summers, long autumns and mild winters. The average annual frequency of atmospheric calm registers quite high values in Alba Iulia, which is 37.2%. This phenomenon also has a negative effect, given that the phenomenon of atmospheric calm is determined by the persistence of stable air masses, which allows the concentration and stagnation of pollutants above the city and implicitly the accentuation of air pollution.

Favorable physical and geographical conditions had a significant contribution to the complex process of urban evolution.



The geographical position and especially the location on important transport axes, which in turn allow good connectivity with the locality system, define the municipality of Alba Iulia as a well-related urban center in the territory, with multiple possibilities and opportunities for development.

The soils of Alba Iulia are represented by alluvial soils and cabic chernozems, podzolite alluvial clays, usually with a fine texture. Significant areas are covered with very fertile soils, with high humus content, suitable for many agricultural activities.

The main natural resources of Alba Iulia municipality are agricultural lands, construction rocks, etc. At the level of Alba County, the most important natural resources that are in deposit or exploitation are non-ferrous metal complexes, salt, bentonite, limestone, manganese, ozokerite, sandstone, volcanic tuffs, marls, clays, marble, construction stone, sands and gravel, wood.

The municipality of Alba Iulia achieves an intense territorial and socio-economic cooperation relationship with the AIDA area, a territory consisting of 11 administrative-territorial units grouped around the county residence (two municipalities (Alba Iulia and Sebeş), a city (Teiuş) and 8 communes: Berghin, Ciugud, Cricău, Galda de Jos, Ighiu, Meteş, Sântimbru and Vințu de Jos). This territory is also included in the area of influence of Alba Iulia, along with other localities.

The accentuation of the relations between Alba Iulia and Sebes and the city of Teius, cities located at very short distances and which develop independently, anticipates the establishment in the future of the Sebes-Alba Iulia-Teius conurbation. The three urban centers constitute an urban system with a polarizing role for the other component and adjacent localities. At the same time, the city of Alba Iulia is positioned in the center of a quadrilateral defined by four neighbour county residences, of great regional and national importance, in the north, Cluj-Napoca, in the north-east, Targu Mures, in the south-east, Sibiu, and in the south-west, Deva. The development of these four poles is both convergent and divergent, the municipality benefiting from it through its very favorable geographical position.



The administrative-territorial unit of Alba Iulia consists of the municipality of Alba Iulia and 4 districts belonging to:

- a. Barabant
- b. Oarda
- c. Micesti
- d. Paclisa



## 1.3. Demography

Following the results of the Population Census of October 2011, published by the National Institute of Statistics, Alba Iulia had a population of 63,536 inhabitants, 88.6% of them residing in Alba Iulia, and the difference of 11.4% in the 4 localities belonging to it: Bărăbanţ, Oarda, Miceşti, Pâclişa. At the end of 2016, following the information published by the National Institute of Statistics, there were a total number of 74283 inhabitants, and at the beginning of 2017 there were 74425 inhabitants, registering an increase compared to 2011 with over 10,000 people. The majority of the inhabitants are Romanians (87,62%). The main minorities are Roma (1.76%) and Hungarians (1.59%). For 8.64% of the population, ethnicity is not known. From a confessional point of view, the majority of the inhabitants are Orthodox (81.31%), but there are also minorities of Pentecostals (2.15%), Greek Catholics (1.93%), Roman Catholics (1.88%) and Baptists (1.51%). For 8.85% of the population, confessional affiliation is not known.<sup>3</sup>

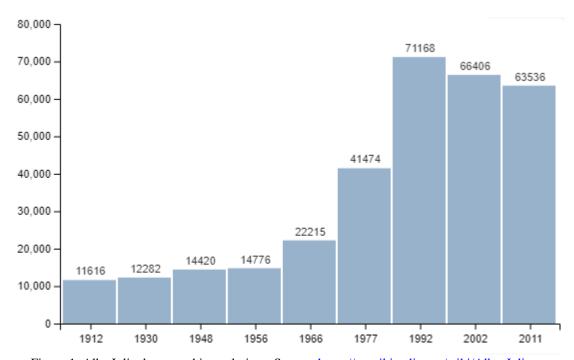


Figure 1. Alba Iulia demographic evolution - Source: <a href="https://ro.wikipedia.org/wiki/Alba\_Iulia">https://ro.wikipedia.org/wiki/Alba\_Iulia</a>

The population divided by sex in the municipality of Alba Iulia is presented according to the last census conducted by the National Institute of Statistics in 2011 with clues specified in the tables below, in which we note that the total number of females is predominant. As for the census by age category, male sex predominates from 0 to 14 years.

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<sup>&</sup>lt;sup>3</sup> Rezultatele finale ale Recensământului din 2011: <u>"Tab8. Populația stabilă după etnie – județe, municipii, orașe, comune"</u>. Institutul Național de Statistică din România. iulie 2013



	AMBELE SEXE	MASCULIN	FEMININ
TOTAL	63536	30175	33361
0-14 ANI	9246	4748	4498
15-59 ANI	43113	20536	31476
60 DE ANI ȘI	11177	4891	6286
PESTE			

Table 1: Population divided by sex in the municipality of Alba Iulia, source: http://www.recensamantromania.ro

The population of Alba Iulia has increased in recent years due to the existence of a higher education institution, namely the "University 1 Decembrie 1918" which has become an appreciated institution since its establishment in 1991. The University defined its mission starting from the national significance of Alba Iulia and the area, the educational ideal is based on the valuable traditions of the Romanian higher school.

The University aims to contribute, through the specific modalities of education, research and creation of values, to the preservation and affirmation of national identity, to the unity in diversity of the Romanian culture, to its active integration into the European and universal circuit of values. Being a state higher education institution, the center of interest is given by the desire of the academic community to provide optimal conditions for students and teachers and the entire activity is directed towards increasing the professional value of the graduates, which is why the permanent improvement of the educational offer, of the study conditions and of the services offered to students is taken into account, making effective use of the human, spiritual and material patrimony at its disposal.



"1 Decembrie 1989" University - Source: <a href="https://alba24.ro/tag/universitatea-1-decembrie-1918">https://alba24.ro/tag/universitatea-1-decembrie-1918</a>

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The higher education institution in Alba Iulia has experienced continuous development, reaching at one point even 7,000 students. In recent years, due to the continuous decrease of high school graduates who managed to pass the baccalaureate, the number of students has decreased, maintaining between 4,500 and 5000. The academic year 2019-2020 was started by a number of more than 5000 students, over 2000 of them enrolled in the first year of studies. Many of them come from different localities of Alba County but also from localities located in other counties such as Hunedoara, Sibiu, Valcea, Gorj or even from the Republic of Moldova, contributing to the growth of the city's population. The University has concluded general collaboration agreements and ERASMUS+ partnerships with a number of over 190 universities and institutions around the world, which means that in Alba Iulia there is also a significant number of foreign students who have chosen to continue their higher education here.<sup>4</sup>

# 1.4. Economy data

In 2007 Romania joined the European Union as a full member and at the same time took part in the process of organizing, making decisions and allocating financial resources within the union. Starting with the first financial programming period, respectively the years 2007-2013, Alba County is part of the Center Development Region together with the counties of Brasov, Covasna, Harghita, Mureş and Sibiu. The Regional Development Agency for center Region (A.D.R.) the managing authority of the regional Operational Programmes has its headquarters and the in Alba Iulia and the presence of the agency brought both Alba County and Alba Iulia a new vision for economic development.

From an economic point of view, it is worth noting that Alba County had in 2010, according to the National Commission for Forecasting, a contribution to the formation of the Gross Domestic Product of Romania of 1,961.5 mil EUR, which in percentage represents 1.72% of the total G.D.P. The period that followed this forecast was a prolific one, the economy of Alba County knowing significant increases, respectively 2,201.88 mil EUR in 2010 and 2,400.12 mil EUR in 2016. Those who have contributed greatly to the growth of gross domestic product are the small entrepreneurs, who have experienced an appreciable development, providing about two-thirds of the jobs nationally. Within the Center Development Region, it should be stressed that in 2015 there were 59,586 enterprises operating, representing 11.6% of the total registered at the national level.

In 2017, following a study made by the capital journal, Alba County had a turnover increased by 123% in the last seven years. Referring to the economic evolution of Alba Iulia, the turnover increased for all branches of the economy in the period 2013-2015. The most significant contribution to the turnover and to the growth and economic development of the city is made by the industry with a percentage of 38.84%, followed by trade with a percentage of 17.9%.

<sup>4</sup> http://erasmus.uab.ro/





Development regions in Romania - Source: <a href="https://ziarulunirea.ro/regiunea-centru-din-care-face-parte-si-alba-este-defavorizata-are-un-pib-pe-cap-de-locuitor-de-sub-45-din-media-ue-256220/">https://ziarulunirea.ro/regiunea-centru-din-care-face-parte-si-alba-este-defavorizata-are-un-pib-pe-cap-de-locuitor-de-sub-45-din-media-ue-256220/</a>

In Alba Iulia, since 1990, a number of 11734 companies have been registered with the Trade Register. Until the date of the update, 5315 companies remained in operation, of which 5079 are still active according to ANAF. A number of 1989 companies registered in Alba Iulia are listed as fiscally inactive. For 2020, a number of 4090 companies have submitted their balance sheet data. The evolution of the number of companies is in continuous growth, in 2005 there were 2939 active companies, and in 2019 reaching up to a number of 4090 active companies. In terms of the number of employees, a slight decrease is observed, in 2005 there were 20557 employees, and in 2019 the total number of employees was 17422. Also, the total turnover has experienced an important evolution, if in 2005 it was 307 mil EUR, in 2019 it reached 847 mil EUR.<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> https://www.listafirme.ro/harta/alba-alba-iulia.htm

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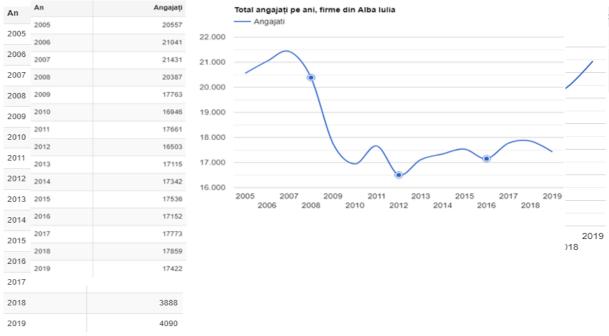


Figure 2. Evolution of companies by years in Alba Iulia - Source: <a href="https://www.listafirme.ro/harta/alba-alba-iulia.htm">https://www.listafirme.ro/harta/alba-alba-iulia.htm</a>

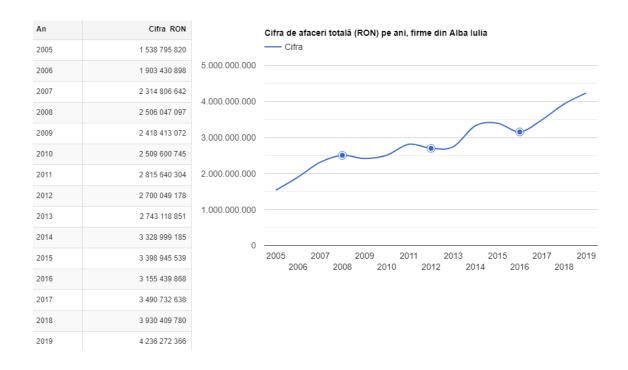


Figure 3. Evolution of employees by years in Alba Iulia - Source: <a href="https://www.listafirme.ro/harta/alba-alba-iulia.htm">https://www.listafirme.ro/harta/alba-alba-iulia.htm</a>



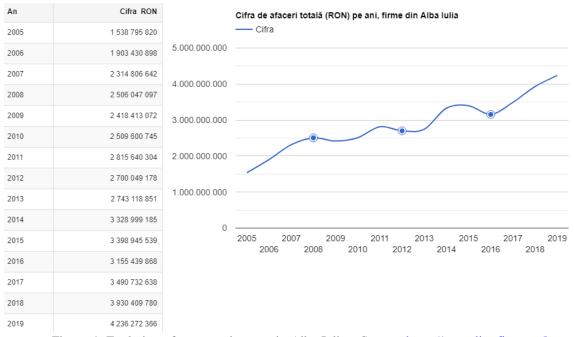


Figure 4. Evolution of turnover by year in Alba Iulia - Source: <a href="https://www.listafirme.ro/harta/alba-alba-iulia.htm">https://www.listafirme.ro/harta/alba-alba-iulia.htm</a>

The economy of Alba Iulia Municipality is supported mainly by economic agents, by certain important companies that have managed to make their brand known not only at local and national level but also internationally. Of these, the most important are Apulum S.A., Florea Group S.A., or Rekord S.A.

Between July 1 and August 15, 2020, a survey on satisfaction with life quality was developed in 41 urban localities in Romania. The survey had a total of 13,380 respondents, from as many households. The total number of people in the households surveyed was 32,978 individuals over the age of 15. Data collection was done in a mixed system: telephone and face-to-face. The data collection period was from July 1 to August 15, 2020. At the level of each locality, between 250 and 500 respondents were selected, depending on the size category of the locality. The selection was made based on the quotas determined by the share of the population by age categories and gender, according to the demographic forecasts calculated by the National Institute of Statistics for January 1, 2020. Only one respondent was selected at the level of one household. In this survey, the citizens of the city declared themselves satisfied with the quality of life they live in Alba Iulia, their perception regarding areas such as: the quality of the environment, the development of the city, the safety in the city, the personal material situation and the general perception of the city were appreciated.



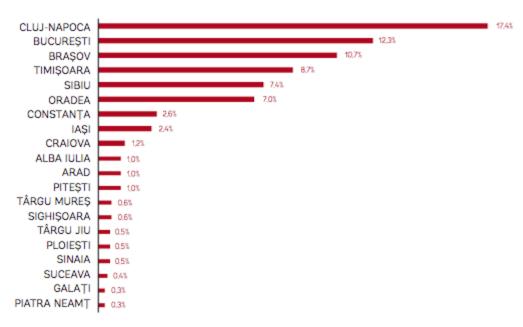


Figure 5. Quality of life in the main cities in Romania - Source: <a href="https://www.caleaeuropeana.ro/barometru-cluj-napoca-inregistreaza-cea-mai-ridicata-calitate-a-vietii-din-romania-alaturi-de-oradea-si-alba-iulia/">https://www.caleaeuropeana.ro/barometru-cluj-napoca-inregistreaza-cea-mai-ridicata-calitate-a-vietii-din-romania-alaturi-de-oradea-si-alba-iulia/</a>

In the hierarchy of the top 20 attractive cities, presented by this urban barometer, Alba Iulia occupies 9th place. To the question "Which is it, from your point of view. of view, the most attractive city in Romania<sup>6</sup>?", 1.4% of those surveyed answered Alba Iulia.

<sup>&</sup>lt;sup>6</sup> https://www.caleaeuropeana.ro/barometru-cluj-napoca-inregistreaza-cea-mai-ridicata-calitate-a-vietii-din-romania-alaturi-de-oradea-si-alba-iulia/



# 1.5. Specific characteristics SWOT

#### STRONG POINTS

- Diversified economic structure.
- Skilled labor in the manufacturing industry;
- Tradition in the porcelain industry;
- Twinnings with localities in the European Community openness of administration to investors;
- The University can be a starting point for diversifying specific services in support of economic development, thus capitalizing on the research-development-innovation activity;
- The existence of historical, art and cultural monuments of great value in the perimeter of the Alba Iulia Citadel that can be a favoring factor of the development of cultural tourism in the area;
- Large agricultural areas enabling different categories of agricultural plants to be grown;
- The growth of the city's population in recent years.

#### WEAKNESSES

- Limited capacity in attracting and using European funds available for development;
- Advanced state of degradation of the buildings owned by the City Administration;
- Insufficient promotion of local products at national and international level;
- The low quality of touristic services that makes tourists turn to other destinations where they benefit from superior services;
- Limited accommodation capacity and tourist facilities;
- Insufficient viable land for potential investors.



#### **OPPORTUNITIES**

- Existence of financing programmes for small and medium-sized enterprises;
- Technical and lifelong learning can also increase labor adequacy to market demand;
- The economic development of Alba Iulia offers the premise of the development of tourism in the locality, both by increasing the number of tourists and by increasing the volume of investments;
- Growing interest in mountain tourist routes and cultural tourism;
- Export demand for traditional, organic and natural products;
- Introduction of new industries and clean technologies that produce goods with high added value;
- Availability of the local authority for the establishment of a business center and an industrial park.

#### **THREATS**

- Frequent amendments to the Fiscal Code and the legislation in the field;
- The aging of the population and the increasing manifestation of the brain drain phenomenon;
- The geographical proximity of large urban centers (Cluj Napoca, Sibiu) with a clearly superior demographic attraction force;
- Regional competition in attracting investments and promoting tourism;
- Lack of job opportunities on the local market, which generates labor migration;
- The financial capacity of the City Council for the strategic takeover of the favorable lands for industrial investments in the neighboring areas.



# 2. Description of policy instruments addressed

## **Integrated Urban Development Strategy (SIDU)**

Starting with the 2014-2020 programming period (with implementation until 2023), the integrated development strategies have become mandatory for the county seat municipalities, beneficiaries of funding under the 4th priority axis of the Regional Operational Program 2014-2020 (according to the Implementation Framework Document of integrated urban development).

The development strategy is a key document whose purpose is to ensure a coherent vision of development at the level of municipalities, cities, and metropolitan areas, transposed into a portfolio of priority proposals, ideally supported by the community and funded by the European Union.

As a planning instrument, the strategy has as a starting point the analysis of local development needs and it must respond to these requirements through a participatory process in which good governance, collaboration and community involvement are pillars of development and ensure the long-term continuity of the development vision.

The main purpose of SIDU is to define as clearly and coherently as possible the priority directions of intervention and it is one of the main development tools for the city. It aims to identify sources of funding and provide a clear vision on the medium and long-term development regarding improving living standards and competitiveness, improving cultural heritage capitalization and promoting, how the city has become attractive for tourists and how the resources will be capitalized to ensure their optimal and responsible use and environmental protection.

SIDU offers a two-way approach: one vertical, coordination with strategic documents at the European, national, regional, county level and a horizontal one - coordination with relevant sectors and actors, at the level of the functional urban area – a technical concept that attests to the reality that a municipality/city has development directions that go beyond its own borders.<sup>7</sup>

Preparing for the 2014-2020 programming period, Alba Iulia has developed SIDU 2014-2023 as a working tool to ensure the needs of the public administration in the process of transforming the municipality into an intelligent city; a green city; a competitive and creative city; a European cultural and touristic objective. Within the strategy, coherent and feasible interventions are planned and based on the development of the local transport system; economic development, energy development, social infrastructure development, employment growth and improving the quality of human resources, quality of living and living, climate change and environmental protection.

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<sup>&</sup>lt;sup>7</sup> SIDU Alba Iulia – 2021-2027?



# 3. Brief presentation of partner involved.

Alba Iulia Municipality's City Hall is a very active administration that welcomes investors, and the city has tremendous potential for economic and tourism growth that is constantly expanding. Alba Iulia Municipality is located in the center of Romania, with a population of 74 000 people. One of the key goals of the Alba Iulia Municipality is to promote communal growth while also creating circumstances for economic and social advancement for the whole community.

Due to significant historic events that have left their stamp on the city, our city, The Other Capital, bears a heavy name in Romanian history. Alba Iulia is a city of national importance that was designated as a European Destination of Excellence by the European Commission's EDEN program in 2012. (<a href="http://vimeo.com/80578477">http://vimeo.com/80578477</a>).



# Effectiveness of Environmental Urban Policies to Improve Resources Efficiency



The City Hall of Alba Iulia Municipality has benefited from financial support from the European Union in recent years and has implemented European projects worth more than 300 million euros, while also being the city's most important investor during the previous five years. The exchange of know-how and good practice examples from more developed partners with relevant expertise and information exchanges are two of our most important working instruments.(https://www.facebook.com/primariaalbaiulia, http://turism.apulum.ro/).

In November 2013, Alba Iulia Municipality was the first city in Romania to obtain a financial risk rating from Moody's, an international credit rating organization. According to the report, Alba Iulia Municipality is a credible organization for all investors and has demonstrated strong management in attracting European funding for the 2014-2020 timeframe. Alba Iulia Municipality received a new rating from Moody's in 2014, and the assessment highlighted substantial improvements in the municipality's financial and budgetary management.

Moreover, Alba Iulia Municipality is considered to have a solid institutional ability for planning urban development and securing financial resources for urban policies and projects, according to a World Bank report released in 2013.

Alba Iulia Municipality is aiming on transforming Alba Iulia into a "green innovative city" by taking a logical and long-term approach to its resources and architectural heritage in order to assure a competitive, equitable, and sustainable economic future.

Alba Iulia Municipality's City Hall joined the Covenant of Mayors, a mainstream European movement involving municipal and regional governments voluntarily committed to increasing energy efficiency as well as using renewable energy sources on their territory. Covenant members have agreed to reach or surpass the European Union's % CO2 reduction target by 2020. Alba Iulia Municipality has also produced the Sustainable Energy Action Plan, which seeks to reduce the city's environmental impact, improve the quality of public utility services, and boost economic competitiveness in order to transform the city into a "green touristic city."

For the next programming period, Alba Iulia Municipality aims to design and submit energy efficiency initiatives with a priority on continuing to preserve and conserve the city's historic relics while also supporting its economic growth. The objectives for the next years are to improve the city tourist potential by using creative instruments that combine historical preservation efforts with modern ICT and entrepreneurial tools that can add significant value to the local economic environment.

The municipality benefits from one of Romania's most modern urban public transportation systems (in 2013, the Public Transport Society of Alba Iulia has won the IRU Bus Excellence Award for best bus operator in Europe), 85 % of schools and kindergartens are thermally insulated, over 17 hectares of urban green areas have been landscaped in the last years, and over 15 kilometers of bicycle routes have been built, 90 percent of the city is connected to the sewage system, a new wastewater capacity is currently under construction.



#### 4. Brief characterization of other existing policy / strategic instruments

#### 4.1. Existing policies at the regional level

**Regional Operational Program of the Central Region 2021-2027.** Starting with the current financing period, the allocation of the Regional Operational Program belongs to the 8 regional development agencies.

Romania has proposed an allocation of 30.6 billion euros, of which - 17.72 billion euros are provided for the ERDF, including Interreg - 4.50 billion euros for the FC - 8.38 billion euros - for the ESF +.

During this programming period, the Center Region, which includes Alba County, will have its own Regional Operational Program which is based on the needs of the development region in various fields of intervention, environmental protection, education, urban development, business environment, innovation-research as well as the promotion of cultural heritage and tourism.

The program will be divided into 9 priority axes: A competitive region through innovation and dynamic enterprises for a smart economy, A digital region, A region with environmentally friendly communities, A region with sustainable urban mobility, An accessible region, An educated region, A region with sustainable tourism, An attractive region, Technical Assistance.<sup>8</sup>

The Development Plan of the Central Region<sup>9</sup> is the main planning and programming document at the regional level. The document sets out the development vision, the overall objective, and the specific objectives to be achieved by the end of the 2021-2027 programming period and the directions for action and the measures needed to achieve the objectives:

- a) Territorial development, sustainable urban development Strategic objective: Increasing territorial cohesion and reducing intra-regional disparities by improving regional transport and communications infrastructure and supporting integrated urban development
- b) Economic competitiveness, research, development, innovation and smart specialization - Strategic objective: Transition to a regional knowledge-based economy through technological modernization and digitalization of enterprises, intensification of economic cooperation and increasing the contribution of research and development of innovation to the economic development of the Central Region

<sup>8</sup> http://regio-adrcentru.ro/programare-2021-2027/

<sup>&</sup>lt;sup>9</sup> http://www.adrcentru.ro/wp-content/uploads/2021/10/4.-Strategia-de-Dezvoltare-Regionala.pdf



- c) Human resources, social inclusion, employment and health-
  - Strategic objective: To increase the social cohesion of the Central Region by improving social inclusion, increasing access to education, health services and facilitating integration into the labor market
- **d)** Environment, energy efficiency and climate change Strategic objective: To increase the quality of life of the inhabitants of the Central Region by reducing CO2 emissions and better resource management, conserving biodiversity and increasing adaptation to climate change
- e) Tourism and cultural heritage Strategic objective: Development of the tourism sector and related economic sectors by capitalizing on the natural and anthropogenic potential of the Central Region and supporting cultural and recreational activities
- f) Rural development, agriculture and forestry Strategic objective: Sustainable development of rural areas in the Central Region by capitalizing on their natural and human potential

#### 4.2. Existing policies at the county level:

**Development strategy of Alba County 2021-2027 -** At the European level, the strategy is aligned with the sustainable and inclusive goals of the Europe 2020 Smart Growth Strategy, as well as the cohesion and competitiveness objectives outlined in the Framework Strategic Planning for the European Union.

#### VISION:

#### In 2030 Alba County is:

- A county that connects, promotes and supports business development by keeping and attracting new companies!
- A county that meets the needs of citizens through adequate, efficient and quality services!
- A county that promotes various opportunities for rest and recreation in a natural setting and an exceptional cultural atmosphere!
- A county where we ensure an integral, transparent and responsible administration, understanding that the decisions we take today will be echoed over several generations!
- The strategic objectives connect the urban and rural system with the values of the natural environment, with the quality of life of the communities, with the economic development, with the degree of accessibility and mobility.

Strategic objective 1: Developing the factors that contribute to increasing the competitiveness of the county's economy

Strategic objective 2: Integrated and continuous development of the factors that ensure the increase of the quality of life in the urban and rural areas of the county



Strategic objective 3: Ensuring a clean, resilient and safe environment for the sustainable development of the county, maintaining the quality of the landscape and increasing its attractiveness for residents and tourists

Strategic Objective 4: Strengthen the development management capacity, accessibility and quality of public services provided by the local public administration

#### 4.3. At local level

Alba Iulia Integrated Urban Development Strategy, 2014-2023 is a strategic planning document valid until 2023, developed for sustainable municipal development, taking into account the wider context of the functional urban area AIDA - Alba Iulia Intercommunity Development Association, which includes 11 administrative-territorial units: Alba Iulia, Berghin, Ciugud, Cricău, Galda de Jos, Ighiu, Meteş, Sebeş, Sântimbru, Teiuş, and Vinţu de Jos. The strategic document provides an overview of the key priorities of Alba Iulia for the 2014-2020 programming period.

Alba Iulia Municipality Sustainable Energy and Climate Action Plan - PAEDC 2030 is a commitment document of Alba Iulia Municipality, adopted by Local Council Decision no. 389/2019, which provides for the reduction of CO2 emissions by at least 40% throughout the municipality, by 2030, according to the targets assumed by the local public administration, in 2016, by adhering to the new objectives of the European initiative "Convention of Mayors for Climate and Energy". This key document defines the concrete measures to reduce emissions, but also the timing and responsibilities assigned, for the next 10 years, being made by the Municipality of Alba Iulia together with the Alba Local Energy Agency - ALEA.

PAEDC 2030 also includes the Climate Change Adaptation Plan - PAASC, which summarizes the activities to reduce the local impact of climate change already felt or imminent.

Sustainable Urban Mobility Plan 2016-2030: consolidated version from 2017, currently under review. The strategic document envisages the development of a transport model that corresponds to the mobility needs of people and economic agents in the city of Alba Iulia and its area of influence, taking into account future trends in mobility development and development policies proposed at the European, national level. and regional. The document aims to ensure accessibility and the provision of sustainable mobility and transport services to, through and in the urban area of Alba Iulia Municipality.

**Alba Iulia General Urban Plan 2012-2022**: is a strategic and normative document that establishes the functional zoning of the city of Alba Iulia and proposes major investment projects of public interest or utility, for a period of 10 years.

**Update of the Zonal Urban Plan** - Alba Iulia Fortress Protected Area: it is a technical documentation that aims to provide the coherent regulatory framework and the coordination of the sustainable development of the urban ensemble with historical and cultural value "Alba Iulia Fortress".

# Effectiveness of Environmental Urban Policies to Improve Resources Efficiency



The energy efficiency improvement program of Alba Iulia municipality - a document that is the basis for reducing the specific energy consumption in the municipality by 2030 and contributes to the achievement of European objectives on improving energy efficiency. The city of Alba Iulia, as a signatory of the Memorandum of Cooperation with ANERGO, has access to energy data and local climatological analyzes, important for the realization of Emission Inventories.

Report Gehl Architects Alba Iulia – A city for people and culture: it is a relevant working tool that will contribute to the city's performance in terms of urban dynamics, being the first step taken by Alba Iulia Municipality to regenerate and revitalize urban public spaces in Alba Iulia municipality, in collaboration with world-class experts. The purpose of the analysis was to exploit the relationships between public spaces and private spaces and how they can influence and develop the long-term behavior of human society. Solutions to improve the quality of life in cities, in the field of urban design and regeneration, resulting from the analysis process, will become the reference framework document for future sustainable urban development projects of local public authority. This is relevant for the municipality in the context of existing and future non-refundable funding sources, with a focus on projects aimed at urban development and regeneration and the process of humanization of the city.



# 5. Future plans in Circular Economy

#### Alba Iulia Municipality Circular Economy Action Plan 2021-2030

In the framework of the new programming period and the development of the Integrated Development Strategy of the municipality more opportunities and project ideas appear to promote the transition to the circular economy.

In the last few years, Alba Iulia Municipality implemented several actions in the direction of sustainable municipal development. Therefore, the development of an action plan in this to establish some key directions and possible actions was necessary for the continuation of the activities in these directions.

Through the **Alba Iulia Municipality Circular Economy Action Plan 2021-2030**, the Municipality prioritizes four directions of action:

**Alba Iulia - City with 0 waste**: This vision involves a city that conserves resources, prevents all types of waste, fixes and maintains items and materials to extend their life, and distributes, reuses, or reconditions products and materials before recycling.

Specific objectives and performance indicators (Alba Iulia- City 0 waste)

- Alba Iulia will reduce the use of landfills by 2030
- Alba Iulia improves the efficiency of virgin resources (new)
- Alba Iulia minimizes annual GHG emissions to 2 tons per person by 2030
- Alba Iulia recovers the maximum value from waste streams
- Alba Iulia maintains the material quality (complexity) of resources
- Alba Iulia ensures that all nutrients in organic waste are returned to natural cycles
- Alba Iulia reduces its dependence on critical materials (rare)
- Alba Iulia improves the flow of information on waste between stakeholders and the city
- Circular companies can thrive in Alba Iulia

**Alba Iulia - Innovative City of the Future**: This strategy includes policies that consider that circular economy relies on the emergence of innovation in all of a city's important areas for the quality of life.

#### Specific objectives:

- Alba Iulia encourages cleantech startups (impact reduction technologies)
- Alba Iulia is a regional leader in the development, testing and scaling of new technologies related to the circular economy.
- Alba Iulia encourages innovation in materials-intensive sectors (production, logistics, transport and waste treatment)

# Effectiveness of Environmental Urban Policies to Improve Resources Efficiency



- Alba Iulia is a scaling place for the development and testing of innovative circular solutions
- Alba Iulia supports research and sustainable development, circular and innovation
- Alba Iulia supports the bottom-up community initiatives on sustainability and circularity

**Alba Iulia - Resilient and Healthy City**: This strategy envisions the Municipality of Alba Iulia as a future resilient city capable of recovering from and preparing for future shocks (economic, environmental, social or institutional). Sustainable development, well-being, and inclusive growth are all promoted by resilient cities.

#### Specific objectives:

- Alba Iulia has clean water and air and low exposure to pollutants
- Alba Iulia has high quality and extensive green areas
- Alba Iulia offers equal access to green areas for all citizens
- Alba Iulia has resilient supply systems (food, energy, water, etc.)
- Alba Iulia minimizes the use of toxic substances in industry
- Alba Iulia ensures access to healthy food for all
- Alba Iulia promotes social cohesion and strong communities

**Alba Iulia - City with opportunities for all**: This direction plans to bring together the circular economy concepts and apply them to create new jobs, entrepreneurial opportunities, and the reduction of social inequities.

#### Specific objectives:

- Alba-Iulia ensures that the unemployed have the right type of training/experience to have significant circular jobs
- Alba Iulia provides employment opportunities for all
- Alba Iulia offers significant jobs related to the circular economy
- Alba Iulia has circular jobs that offer opportunities for economic mobility
- Alba Iulia ensures that circular economy strategies are the lever to alleviate social inequalities
- Alba Iulia gives citizens the power to reduce the consumption of materials and to reuse/recycle their materials and goods



#### 6. Good Practices

# 6.1. Increasing the energy efficiency of educational buildings in Alba Iulia - Sports High School

Location: Alba Iulia, Alba County, Romania

#### Brief description of the project

The investment was necessary for the national and/or European context, as well as in certain objectives assumed by our country in the field of energy efficiency and rational use of resources.

The building sector is the sector with the highest energy consumption of the total consumption achieved by a country. In Romania, 45% of total energy consumption is generated by buildings, especially given that buildings built before 1990 were not designed for current energy standards, and renovations have been rare and superficial. The positive reverse is that the building sector has, in Romania as elsewhere in the European Union, the greatest potential for increasing energy efficiency (source: Romania's Energy Strategy 2016-2030, with a view to 2050).

#### **Objectives:**

- 1. Increasing the energy efficiency within the High School with Sports Program, in the built developed surface of 4,488.40 sqm through thermal rehabilitation works of the anevelopa elements, the heating system and hot water consumption, works aimed at installing alternative systems for the production of electricity and thermal energy for own consumption, rehabilitation works of the lighting installation of the lighting system in the building and related measures repair of the construction elements of the facade, repairs of the roof, including repair of the rainwater collection and evacuation system at the level of the frame type roof, the dismantling of the installations and equipment apparently mounted on the facades of the building, as well as their installation / reassembly after the intervention works, the restoration of the interior finishes in the intervention areas, the repair of the protective sidewalks and the creation of facilities / adaptation of infrastructure for people with disabilities, for a period of 24 months.
- 2. Decreasing the level of greenhouse gases from 214.50 to 92.82 tons of CO2 and primary energy consumption from 1,290,712.36 to 640,498.89 KWh / year, at the end of the project implementation, at the level of the High School with Sports Program.



3. Achieving a minimum level of at least 23.53% of the total primary energy consumption achieved from renewable energy sources, at the end of the project, at the level of the High School.

#### **Results:**

Increased energy efficiency in the building of the High School with Sports Program located on a built-up area of 4498.40 sqm. The level of greenhouse gases decreased from 214.50 to 92.82 tons of CO2 and low primary energy consumption from 1 290 712.36 to 640 498.89 KWh / year, at the level of the High School building with Sports Program. A minimum level of at least 23.53% of the total primary energy consumption achieved from renewable energy sources reached

Source of Financing	Amount in Euros
Total cost of investment	1.280.146 EUR
EU funding	1.255.131 EUR
Regional Operational Program 2014-2020, Priority Axis 3, Investment Priority 3.1 - "Supporting energy efficiency in residential buildings, public buildings and the use of energy from renewable sources in public infrastructure, including public buildings and housing - Operation B – Public buildings	
National funding	25.014 EUR
- Local (Municipality /City of)	
International Financial Institution (ex European Investment Bank)	-

Information about the project:

https://www.apulum.ro/index.php/primaria/detail/comunicat-de-presa-finalizarea-lucrarilor-la-liceul-sportiv-alba-iulia

Contacts for further information and exchanges (address, telephone, mail)

Alba Iulia Municipality

Alba Iulia, Alba County, Romania

office@apulum.ro



# 6.2. Integrated Waste Management System Alba

Location: Alba County, Romania

#### Brief description of the project

The investments related to the waste management infrastructure in Alba County were made by the Alba County Council in two stages:

Stage 1: by implementing the project "Integrated waste management system in Alba county" financed from European funds within the Environmental Sectoral Operational Program.

Stage 2: by implementing the project "Phase of the project Integrated waste management system in Alba county" financed from European funds within the Large Infrastructure Operational Program

The practice was implemented within the Integrated Waste Management System Project financed by the Sectoral Operational Program Environment, Priority Axis 2 - Development of Integrated Waste Management Systems and rehabilitation of contaminated sites and the Project "Phase of the Integrated Waste Management in Alba County" funded by Large Infrastructure Operational Program.

The aims of the project were the construction of an ecological landfill in accordance with European requirements, construction of transfer stations, sorting and mechano-biological treatment facilities, closing and rehabilitating existing storage sites that do not comply with European requirements.

Through the project were built 2 transfer stations: the Tărtăria transfer station with a capacity of 33044 t / year and the Blaj transfer station with a capacity of 15000 t / year. The collected waste is transported to treatment and disposal facilities .

The sorting station has a capacity of 42213 tons / year and ensures the sorting of the dry fraction collected separately. The mechanical-biological treatment plant has a capacity of 85566 tons / year and ensures the treatment of the wet fraction (residual and biodegradable waste).

The warehouse, with an estimated lifespan of 21 years, has 2 cells and a total volume of 1926000 m3. The first cell is built and has a lifespan of 5.5 years and a volume of 543,000 m<sup>3</sup>.

The main beneficiary of this good practice is the population of Alba County.



#### **Results:**

- C.M.I.D Galda de Jos, composed of ecological warehouse (capacity of 543,000 m3),
- Sorting station (capacity 43,000 t / year) and simple mechano-biological treatment station (capacity 85,566 t / year);
- Blaj waste transfer station: capacity 15,000 t / year;
- Tărtăria waste transfer station: capacity 33,044 t / year;
- Closure of seven non-compliant landfills: Abrud, Aiud, Alba Iulia, Blaj, Cîmpeni, Cugir and Ocna Mureş.

Source of Financing	Amount in Euros
Total cost of investment	47,20 mil EUR
EU funding	36.20 million EUR
Environmental Sectoral Operational Program	
Large Infrastructure Operational Program	
National funding	4.32 million EUR
- Regional – Alba County	6.68 million EUR
- Sate	
International Financial Institution (ex European Investment Bank)	-

#### Information about the Project:

https://judetul-alba.ro/sistem-de-management-integrat-al-deseurilor/

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# 6.3. Ensuring sustainable alternative energy sources for Techincal College "Dorin Pavel", Home for the Elderly, Day Center for the Elderly and Programs Directorate

1. Location: Alba County, Romania

2. Brief description of the project

#### **Aims**

The overall objective of the project is to improve the quality of life, sustainable development, competitive and sustainable criteria of Alba Iulia Municipality through diversification of production, technology and infrastructure for electricity production from renewable resources (solar energy), reducing local emissions of CO2, in accordance with agreements and strategic priorities assumed by Romania in relation to the United Nations Framework Convention on climate change and the European Union.

#### **Presentation**

Ensuring sustainable energy for four public institutions: Technical College "Dorin Pavel", Home for the Elderly, Day Centre for the Elderly, Programs Directorate, through the production of electricity using solar potential local trapped due to installation, operational and interconnection with the National Energy system (NES) of 1714 photovoltaic panels with an installed power of 257 kW aggregate

Reducing CO2 emissions in Alba Iulia more than 500 tons or 12,500 tons in 25 years of operation of the solar park installed by this project.

#### **Results:**

Technical College "Dorin Pavel" Alba Iulia - 920 photovoltaic panels mounted, PV power -138 kWp installed, CO<sub>2</sub> emissions reduction = 105 Tons / Year

Home for the Elderly - 524 photovoltaic panels mounted - 78.6 kW

CO<sub>2</sub> emissions reduction = 86.35 Tons / Year

Day Center for the Elderly - 54 photovoltaic panels mounted - 8.1 kW

KWp installed, CO<sub>2</sub> emissions reduction of 6.05 Tons / Year

Programs Directorate - 216 photovoltaic panels mounted - 32.4 kW

**Project duration** 

2009-2011

Budget and Financing

The total value of the project budget is 1,773,710.48 EUR, including VAT



## 6.4. Purchase of public transport electric buses

1. Location: Alba County, Romania

2. Brief description of the project

#### **Aims**

This project aims to renew the fleet of public transport and equip it with intelligent transport systems. Road traffic participants will be given the right conditions to orient themselves towards public passenger transport, which has become more attractive and efficient by introducing 13 electric buses in the fleet of buses serving public passenger transport locally.

#### **Presentation**

The project is part of a national initiative that includes 25 territorial administrative units (ATU) in Romania (Alba Iulia, Botosani, Braila, Brasov, Buzau, Constanta, Craiova, Drobeta Turnu Severin, Focsani, Galati, Iasi, Lugoj, CJ Neamţ, Ploieşti, Piteşti, Reşiţa, Sibiu, Sighetul Marmaţiei, Slatina, Slobozia, Suceava, Târgu Jiu, Târgu Mureş, Timişoara, Tulcea) which within the partnership concluded with MDRAP benefit from JASPERS assistance in preparation and implementation of projects equipping the ATU with electric buses, including recharging points and equipment related to intelligent transport systems, used for the provision of local public transport service.

#### **Indicators concerning the project**

Expected Results: 13 electric buses will be purchased through the joint project for the renewal of rolling stock for urban transport. A slow charging station will also be installed for each vehicle purchased and 4 fast charging stations, a total of 13 slow charging stations and 4 fast charging stations will be purchased.

Project duration

2019 – 2022 – ongoing project

Budget and Financing

The total value of the project, related to the Municipality of Alba Iulia: is 8,664,695.1 EUR

Project contacts

Alba Iulia Municipality



# 6.5. Rehabilitation of major urban public transport network infrastructure in Alba Iulia

1. Location: Alba County, Romania

#### 2. Brief description of the project

#### Aims

A first project financed with European funds involves the rehabilitation of 11.4 km of pedestrian infrastructure, the creation of 6.5 km of bike lanes and 8.9 km of lanes dedicated to public transport, but also the rehabilitation of over 6.5 km of existing public transport infrastructure.

The second project envisages the modernization of 14.5 km of pedestrian infrastructure, the creation of 9.5 km of bike lanes and 9.5 km of lanes dedicated to public transport, the rehabilitation of 8.5 km of public transport infrastructure.

#### Presentation

Rehabilitation of major urban public transport network infrastructure in Alba Iulia, funded by the **Regional Operational Program, 2014-2020**, **Priority Axis 4**: Supporting sustainable urban development, **Investment Priority 4E**: Promoting low carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multimodal urban mobility and mitigation-relevant adaptation measures, **Specific Objective 4.1**: Reducing carbon emissions in county seat municipalities through investments based on mobility plans.

Increasing the quality of life in Alba Iulia municipality starting with 2022, by promoting sustainable multimodal urban mobility and by investments based on the Sustainable Urban Mobility Plan of Alba Iulia Municipality.

Project duration 2020-2022 – Ongoing project Budget and Financing The total value of the project: Part one: 16,294,089.91 EUR Part two: 12,843,554.97 EUR

**Project contacts** 

Alba Iulia Municipality



# 6.6. PlastiCircle: Improvement of the plastic packaging waste chain from a circular economy approach

**The strategic objective** of the PlastiCircle project is to increase the recycling rates and valorization of polymers derived from domestic packaging waste. Four axes divided in several work packages have been devised to achieve this objective.

From a technology standpoint, PlastiCircle is developing solutions in several work packages: WP2 – collection, WP3 – transport, WP4 – sorting, WP5 – recycling. WP6 is focused on integrating and validating the results from these four work packages with a view to achieve the following objectives:

- [O6.1] Assure seamlessly integration of PlastiCircle Modules from WP2 to WP5
- [O6.2] Assure the achievement of results on collection, transport, sorting and recycling
- [O6.3] Test project developments of WP2 and WP3 in Valencia, Utrecht and Alba Iulia
- [O6.4] Demonstrate replicability of the test results in other cities after the Project

Within the project development, a pilot action was drafted. The pilot action involved the implementation of good practice from one of the partners, namely Valencia, Spain.

#### Pilot objectives:

- Informing and raising involvement and awareness of citizens on how to properly recycle plastics and the importance of recycling for the environment, health and the economy. Our logo "You select because you care!" was designed to convey the message that we want the citizens living in the pilot area to play an active part in all the interesting pilot activities and make a direct contribution to our city's look, health and economy.
- Testing innovative collection methods (citizens' platform, smart containers, optimization of collection routes), able to increase the efficiency of plastic packaging collection and recycling. PlastiCircle offered the citizens from the pilot area the possibility of an extensive local test regarding better information and the importance of correct recycling, together with the first test of using a container with a card reader and labeling system. We also wanted to test several solutions for waste transport efficiency.

The pilot is situated in the center of the Alba Iulia city, near the most touristic area. The area of the pilot is situated between Vasile Goldis street, 1 December 1918 boulevard, Revoutiei boulevard and Closca street.

The entire area is a residential area, with about 5000 block apartments (see the map below). It is a quite busy area, with a lot of shops, restaurants, small companies and local businesses. Collecting suggestions from citizens and data on quantities, types of plastics



and the possibility of recycling them, applying locally the concepts of the circular economy.

• Collecting sociological data, obtaining feedback from citizens and detailed information on the quantities and types of waste which can be recycled in order to shape the development of the local waste management system in the near future.

#### **Results:**

#### Communication results

Parameter	Value
K14: Number of people registered/ citizens participations in the project	254/ 476
K15: Number of visits in web supports	2184
K16: Number of followers and engagement in social media	329/ 1385 - organic and 11k sponsored
	engagement
K17 Number of people attending meetings organized such as events or	148
conferences.	
Off-line communication	
Posters at block entrance and shops	>150
Informative flyer	3200
Correct recycling flyer	2600
Brochures	400
Pilot video	> 2000 views

#### Characterization results:

Average results at person level, pre-pilot and during the pilot (participants and non-participants in the pilot): unwanted materials, unsealed bottles, how many are packed into each other, how many are pressed;

	Individual	PRE-PILOT	PILOT USERS	PILOT NON- USERS
K7.1	Unwanted, in number (%)	22	8.9	18.6
K8	Non-empty, in number (%)	12.6	8.1	11.2
К9	Stacked, in number (%)	13.4	7.2	12.3
K10	Compacted, in number (%)	19.6	64	20.1



Average results general level, pre-pilot and pilot, unwanted, compacted and correct sorting

	General	PRE-PILOT	PILOT
K7.2	Unwanted, in weight (%)	18.1	4.3
K12	Compaction level (kg/m3)	55	59
K11	Selective Collection rate (%)	18%	26.8

# Transport results:

	Pre-pilot	•	Optimized route + skipping containers	%
Distance km	3.6 - 3.7	3.5	2.8	22.22%
Duration (min)	28.3	25.3	25	11.66%
Containers	16	16	14	12.50%
CO2 kg/t	9.6	8.7	8.5	11.46%
Consumption, I	4.3	3.9	3.8	11.63%
Operational cost, EUR/t	28.9	28.5	28.4	1.73%

Source of Financing	Amount in Euros
Budget of the project	163.625 EUR
EU funding	160352.5 EUR
Environmental Sectoral Operational Program	
Large Infrastructure Operational Program	
National funding	3272.5 EUR
- Local – Alba County	
International Financial Institution (ex European Investment Bank)	-