

INTEGRATED ACTION PLAN



MUNICIPALITY
OF RAZLOG



URBACT
Driving change for
better cities



POLITICAL STATEMENT



The IoTchange project enabled the Municipality of Razlog to forge partnerships and gain valuable experience from all participants in the URBACT network.

The digital transformation of the Municipality of Razlog started back in 2009, when 45 km of the main fibre optic route Simitli – Razlog was built. This allowed the town of Razlog and the entire territory of the Municipality to be powered with fibre optic internet that replaced the old relay station. At present, high-speed Internet is provided to every settlement in the municipality, as well as to the Pirin touristic formation, where the largest tourist flow is concentrated.

Razlog has over 55% fibre optic coverage, an entirely private investment of two companies. “A1 Bulgaria” (national telecom) and “VIM TV” (local tv operator). The total length of the fibre optic network built throughout the municipality of Razlog is 123 km, and its construction and expansion is ongoing.

Under the WIF4EU initiative of the European Commission, the Municipality has enabled free Wi-Fi access for citizens and visitors in public areas such as

parks, squares, public buildings, libraries, etc.

At present, the Municipality of Razlog is focused on creating an energy independent Razlog, attracting IoT companies, creating conditions for modernization and technological development.

The Municipality of Razlog is also working to improve its administrative services, making them more accessible through digitalisation.

Particular emphasis is given to the education sector. We can be proud that more and more often in the schools on the territory of Razlog the black boards are replaced with smart boards, investments are made in the purchase of 3D printers, simulators and the overall modernization of schools.

Our participation in the IoTchange project has given us even more inspiration and a strong impetus to continue working for the complete digital transformation of Razlog.

As Deputy Mayor of Razlog Municipality I am aware of the details of the Integrated Action Plan that was developed and I express my political support and satisfaction with the results achieved, as well as my commitment to the implementation and sustainability of the plan.

I express my gratitude and appreciation of the opportunity for Razlog Municipality to be a partner in the IoTchange project and to gain access to information resources by sharing experiences and best practices from European cities and organizations through the URBACT network.

IVAN GUROV

**Deputy Mayor for Economic and Legal Affairs
Municipality of Razlog**



INTRODUCTION



For over 15 years, the URBACT programme has been the European Territorial Cooperation programme aiming to foster sustainable integrated urban development in cities across Europe. It is an

instrument of the Cohesion Policy, co-financed by the European Regional Development Fund, the 28 Member States, Norway & Switzerland.

URBACT's mission is to enable cities to work together and develop integrated solutions to common urban challenges, by networking, learning from one another's experiences, drawing lessons and identifying good practices to improve urban policies.

URBACT III (2014-2020) has been developed to continue to promote sustainable integrated urban development and contribute to the delivery of the Europe 2020 Strategy.

The smart city concept brings together technology, government and different layers of society, utilizing technological enablers, such as the internet of things (IoT) and artificial intelligence (AI). These enablers, in turn, facilitate development of various aspects of the smart city including, e.g., transportation, governance, education, safety and communications. Whereas major efforts are usually focused on smart city transformation in big cities, aspects of such transformation in the context of smaller cities have been widely neglected.

Razlog is part of the IoTXchange (URBACT III) consortium of 8 partners, led by the city of Fundão. The partnership unites 6 small cities (Fundão in Portugal, Ånge in Sweden, Dodoni in Greece, Jelgava in Latvia, Kežmarok in Slovakia, Nevers in France and Razlog in Bulgaria) and one university - Åbo Akademy in Vaasa, Finland. The IoTXchange partnership is aimed at placing IoT as a policy instrument for the sustainable development of small and medium-sized cities, capable of increasing the competitiveness of the local economy promoting quality of life, sustainable environments and delivery of connected services to citizens and visitors.

The present Integrated Action Plan (IAP) is developed by the Urbact Local Group (ULG) with the invaluable support of the IoTXchange partnership as well as in coordination with all relevant projects and local stakeholders. The purpose of the present plan is to serve as a basis for the city of Razlog for the testing of innovative IoT based solutions ultimately aimed at improving the quality of life for local citizens and visitors as well as contribute towards better business environment. Further to that, the IAP provides Razlog Municipality and other relevant stakeholders with a detailed roadmap of projects and actions (developed within the project lifetime).

THE IOTXCHANGE PROJECT

Internet of Things as a policy instrument for the city change. It encourages the creation of a network of European partners committed to the design of digitalization plans based on Internet of Things (IoT) solutions to increase the quality of life in small and medium sized EU cities. URBACT methodology based on transnational cooperation between cities and engagement of local groups offer to our network of 9 cities the conditions to each develop an Integrated Action Plan that will guide us through a new age of digital transformation.

IoTChange is an URBACT Integrated Action Planning Network composed by 8 European partners: the cities of Fundão (Portugal), which is the Lead Partner (LP), Razlog (Bulgaria), Dodoni (Greece), Nevers (France), Jelgava (Latvia), Ånge (Sweden) and Kežmarok (Slovakia) and the Åbo Akademi University (Finland).



CONTEXT





Located in southwestern Bulgaria, the Municipality of Razlog includes the villages of Banya, Bachevo, Godlevo, Dobarsko, Gorno and Dolno Draglishte and Eleshnitsa.

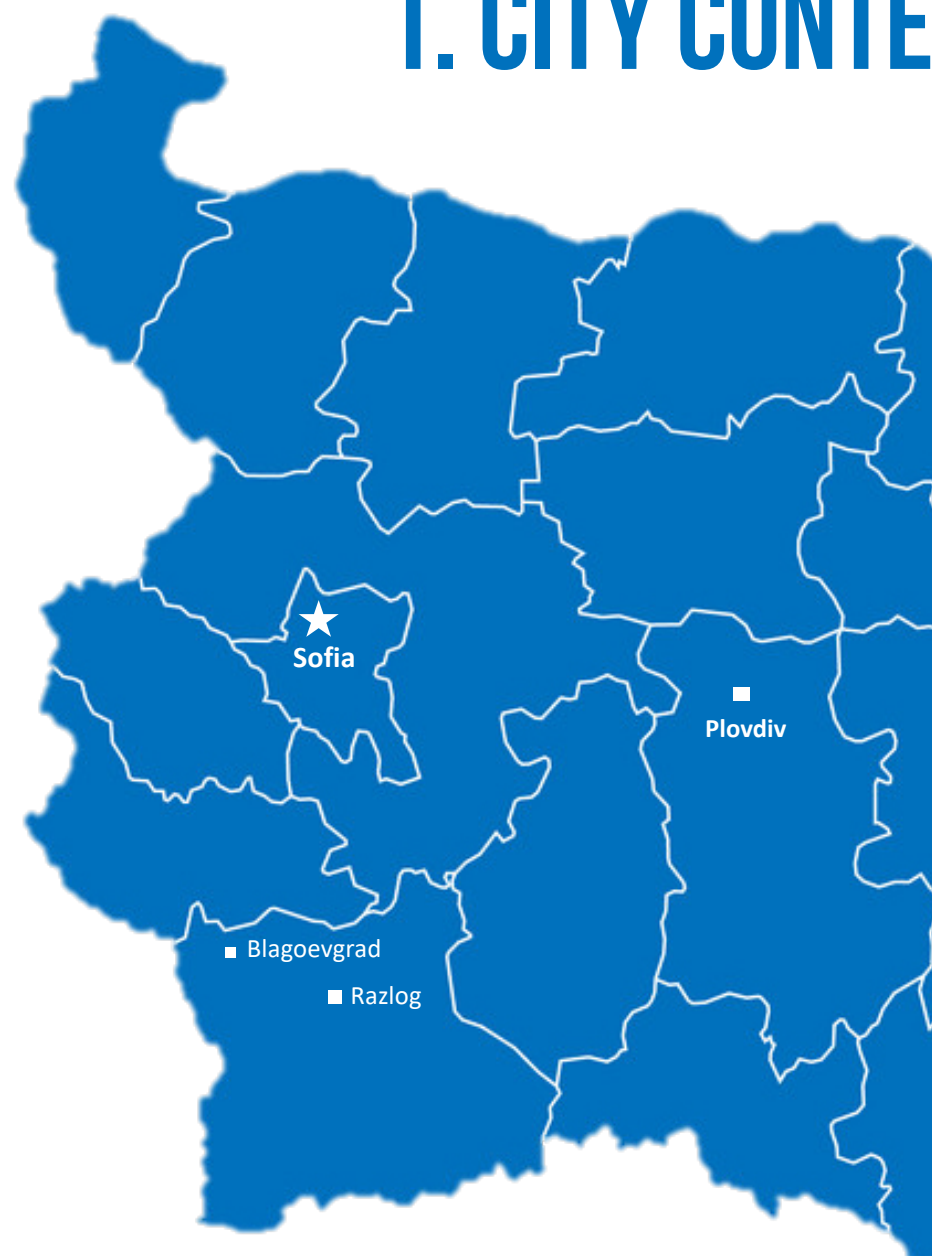


The municipality covers parts of the Razlog Valley, the Rila, Pirin and Rhodope Mountains. Razlog is located near 2 out of the 3 Bulgarian national Parks – Rila and Pirin.



155 km south of the Capital city of Sofia
53 km south-east of Blagoevgrad
141 km south-west of Plovdiv

1. CITY CONTEXT



Razlog Municipality is located in southwestern Bulgaria. Its territory is defined by borders with Belitsa municipality, Rila municipality, municipality Blagoevgrad, Simitli municipality, Kresna municipality and Bansko municipality. Transport connectivity and accessibility of the municipality is ensured along the extensions of the Predel saddle and the valley on the river Mesta. Apart from the republican roads, the internal connections are carried out through municipal roads. The Razlog settlements are also accessible through the narrow-gauge railway line "Septemvri-Dobrinishte".



NATURAL RESOURCES



Designated protected areas

"Krushe" - preservation of the only deposit of archangelic laserpicium in Bulgaria.

"Kyoshkata" – ensuring the protection of a karst spring, from which begins the river Yazo, crossing the town of Razlog from west to east.



860 m.

Average Altitude



- 2 to - 4

Average in January



800 – 1200 mm

Average annual rainfall



Two rivers crossing the Municipality – **Bela Reka and Yazo.**

Hot mineral springs with different temperatures in Banya, Bachevo, Eleshnitsa and Katarino area.



440.3 km²

Total area



75 %

Razlog Municipality deserves to be named as one of the most beautiful Bulgarian municipalities, thanks to its natural resources. The municipality is the only one in Bulgaria where parts of Rila, Pirin, Rhodopes, as well as two of the three national parks are located - the national parks "Rila" and "Pirin", which includes the reserve "Bayuvi dupki Djindjiritsa". The Pirin National Park is included in the UNESCO World Natural Heritage List. Razlog Municipality provides a view at the same time to three mountains, which are separated by the valley of the river Mesta and its adjacent Razlog valley. The unique natural landscapes, flora and fauna define the municipality as the main center and starting point for ecological and mountain tourism.

The significant amount of precipitation and the permanently low temperatures on the ridge of Pirin guarantee long-lasting snow cover, which can be preserved for a period of 8 months, which determines the development of the municipalities of Bansko and Razlog as a center for winter sports.

Population and demographics



-5.8 ‰

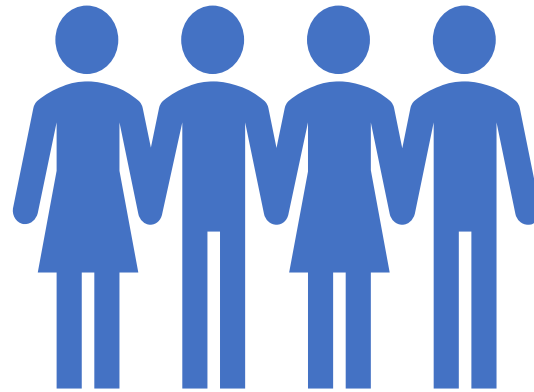
Negative
natural increase



23.4 %
at working age



59.00 %
live in the
municipal center



18,966
inhabitants



13.9 %
Between the age
of 0 and 14



68.9 %
Between the age
of 15 and 64



17.1 %
over 65 years of age

ECONOMIC DEVELOPMENT

The indicators and achievements of the municipal economy are mainly due to trade, tourism and the processing industry. The processing industry is based on the production of pellets, wood and furniture, construction products and electrical products. The sector is located mainly in the town of Razlog.

Agriculture and forestry have significant development potential, especially in terms of organic farming and its links with rural tourism. Despite the completion of active and mass construction in the municipality before 2009, the construction and subsequent sale of real estate continue to play an important role in the local economy.

The tourist activity is evenly distributed between the municipal center Razlog, its suburban territories and the villages in the municipality. There are completed various types of tourist and holiday structures, including golf courses. In the villages on the territory of Razlog municipality, cultural and ecological tourism are successfully combined.

At the moment under construction is gas-conveying and distribution networks for

gasification of Razlog and Bansko. There is perspective in the very next year to begin supplying with natural gas.

Considering the educated population, the education rate is over 50% which is concentrated in the operation of the six main sectors in the municipality. The unemployment rate is 6,9% of the total population in the Municipality, mostly young people looking for their first job. There is a need to reduce the percentage of the unemployment by training programmes, to increase their productivity by supporting them to find the right sector where they can apply their knowledge.

2. CURRENT STATE OF PLAY IN THE AREA OF DIGITALISATION AND ADOPTION OF IOT SOLUTIONS

In general, the term IoT (Internet of Things) refers to the interconnection between digital devices – which number continues to rapidly increase – so that these devices can communicate and interact with others over the network/internet worldwide and they can be remotely monitored and controlled, making them suitable for several types of applications and services. For cities in particular, IoT offers new opportunities to collect and use data to manage traffic, cut pollution, make better use of infrastructure and keep citizens safe and clean, which explains why ‘smart cities’ projects are the most important segment of all IoT projects today, in EU and in the whole world.

In this context, the adoption of IoT as an enabler for better city management, can be seen as a means to an end, namely a sustainable way to support cities in today’s ever digitalizing world to deliver on their main mission – to create better living and working conditions for their citizens and visitors, to better communicate with citizens, to create more favorable business environment, to better manage local resources and to improve the overall quality of services delivered.

Municipality of Razlog Vision for development

Municipal Development
Plan 2014-2020

the Municipality of Razlog shall be a prosperous valley, blessed with unique nature and preserving local traditions and rich cultural heritage, a preferred and loved home of entrepreneurial and hospitable people, attracting investors and visitors from all around Europe.

Local Development Strategy
of the Local Action Group –
Razlog

Increasing the quality of life through further development, diversification and balance of the socioeconomic activities on the territory of the Municipality of Razlog.

Role and purpose of the IAP

- To assess the level of development and readiness on local level (incl. relevant stakeholders) to adopt IoT as a means to contribute towards the achievement of the local development goals as well as support the Municipality to properly leverage IoT solutions.
- To identify the main challenges as well as the main areas, in which the adoption of IoT solutions will bring higher added value.
- To identify the main challenges for the adoption of IoT.
- To identify priority measures and actions for the pilot implementation of IoT on local level, given the relevant opportunities and constraints.
- To draw a roadmap for the implementation of priority actions identified, resources needed and the governance model that will be utilized.

National Context



Good connectivity and availability of ultrafast broadband networks



Availability and growing number of users of digital public services



28th
Out of 28 MS

Scores below average in digital technology integration



More investment in digital skills is needed

	Bulgaria	EU Average
People with basic digital skills	29 %	57 %
Digital skills above basic	11 %	33 %
People using Internet	64 %	83 %
People that have never used Internet	27 %	15 %
Digital Public Services	25h in the EU	-
e-Government users	61 %	64 %

The Digital Economy and Society Index (DESI) developed by the European Commission contains assessments on a number of dimensions (criteria) on Europe's digital performance and tracks the evolution of EU Member States in digital competitiveness.

The DESI country reports combine quantitative evidence from the DESI indicators across the five dimensions of the index with country-specific policy insights and best practices. Key findings from the 2019 DESI report for Bulgaria^[1] are summarized below.

Over the past decade, the Bulgarian Government has identified ICT and eGovernment as priorities and has invested heavily in ICT. With the passing of the Electronic Government Act in 2008, Bulgaria highlighted its commitment to transitioning to a more

digital government and society. The Government has since procured numerous large IT systems to support a government cloud and other ICT systems across government.

While there has been significant progress in implementing the national strategic objectives on eGovernment, significant challenges remain. The provision of ICT and/or digital public services in the public administration remains decentralised and is characterised by inefficient spending, divergent practices and standards, limited and ad hoc inter-sectoral coordination and planning, and fragmentation of ICT teams.

Local Context

On local level, the trends as far as digitalization is concerned are more or less similar to the ones observed on national level. The development of IoT in the region is still incipient and there is no mature digital ecosystem, but there is interest in the areas of aggro-tech (the agricultural sector is still very relevant in the region, in particular for dairy products), tourism (the municipality is neighbor to Bansko, the main ski resort in the country and that attracts a large number of tourists in the winter, part of whom can be attracted to Razlog) and especially education, which is a key strategic priority for the municipality. In terms of infrastructure, the City of Razlog has recently been awarded with a WiFi4EU voucher from the European Commission, in the amount of 15000€, that will be invested in public hotspots. The only public data collection centre is the one at the Municipal Police, which is only used for traffic control.

The main challenge that Municipality of Razlog is facing regarding the development of the IoT in the town of Razlog is that there is lack of collaboration between the local authorities and the private sector. Also, the population is not well informed about what is IoT and have no experience in the field, which may be considered as a barrier.

Razlog Municipality has developed the current Integrated action plan for IoT in order to supplement and contribute for the realization of main priorities defined in existing key strategic documents and

pave the way for further steps up to 2027 focused on the city's sustainable development and growth:

- Integrated plan for urban regeneration and development of Razlog - instrument for urban planning for sustainable and balanced development of the urban territory of the city. Three zones of intervention are identified within this document: zone of public, economic and social impact.
- Municipal Development Plan 2014 - 2020 - major strategic document that sets up objectives and priorities for sustainable and integrated social and economic development of the Municipality for the past 7-year period.

The New Municipal Development Plan 2021-2027 is under development. This planning document define the objectives, investment potential and priorities for sustainable and integrated socio-economic development of the municipality for the period 2021-2027 aiming to achieve a major transformation of the city and its urban environment, creating a smart city. The vision and focus of the IAP will be integrated in the document and this will ensure the future implementation of the defined actions to achieve the set goals.

Strenghts

- Relatively high IT literacy, high educational level.
- Potential for development of tourism and traditions in the development of alternative forms of tourism.
- Good broadband access within the region and availability of public hotspots.
- Relatively high level of usage of internet and digital technologies on behalf of the local population.
- Sufficient capacity of the municipal administration and local actors to develop and implement projects and attract funding from various sources.
- A good track of investments in IoT and innovative technologies within the educational sector and availability of IT subjects within student's curriculum.
- High level of understanding of the local political leadership of the benefits of IoT and Smart City solutions and clear readiness for adoption.

Weaknesses

- Availability of underdeveloped tourist and cultural heritage sites.
- Low level of penetration of digital solutions in all levels incl. public administration, tourism development and promotion, public security, environmental management, etc.
- Poor air quality and high levels of pollution.
- Lack of sufficient sources of environmental data.
- Lack of awareness amongst the local population on the opportunities and benefits of IoT.
- Lack of sufficient local resources to invest in and test innovative digital solutions.
- Lack of sufficient investments from the private sector.
- Lack of sufficient mechanisms for communication and collaboration between different local stakeholders – local government, business sector, education, healthcare, NGOs.

SWOT

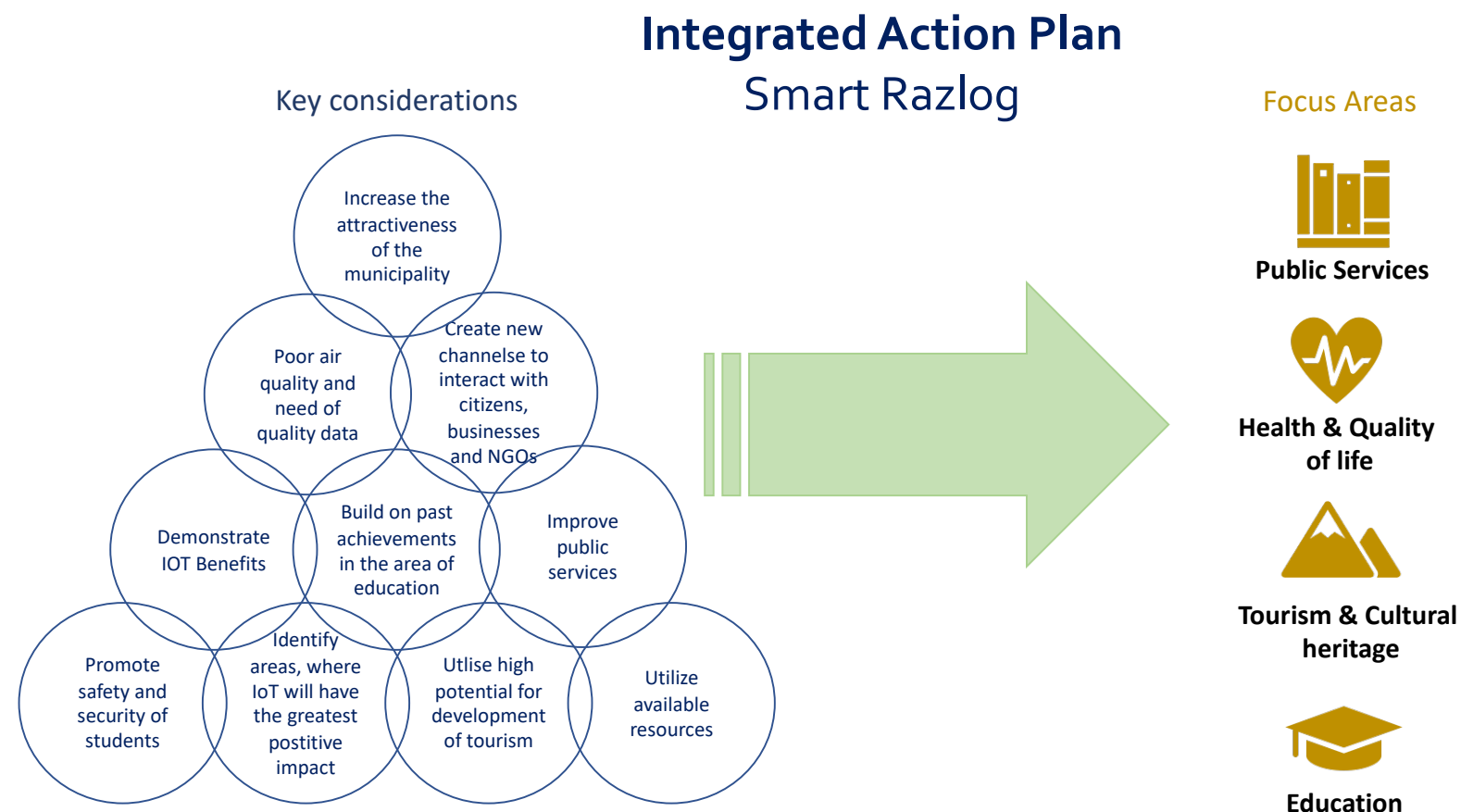
Opportunities

- Clear opportunity to utilize the benefits of IoT and Smart city solutions to contribute to the development of priority sectors that are key to the local economy e.g., tourism.
- Clear opportunity to utilize the benefits of IoT and Smart city solutions to contribute to solving long-standing local challenges incl. monitoring of air quality, environmental data collection, protection of local assets and resources, etc.
- IoT and Smart city solutions are favored in a number of available funding sources within the 2021-2027 programing period.
- The Municipality is well positioned to leverage upon the achievements of other cities within the EU through IoTExchange network.
- "Easy Wins" – the testing and adoption of several quick solutions will strongly contribute towards raising local awareness and demonstrating the potential for adoption of IoT and Smart City solutions in other areas.

Threats

- Current political situation in Bulgaria leading to significant delay in the approval of funding instruments – e.g., Operational programmes, National Recovery and Resilience Plan.
- Potential opposition on the implementation of IoT and Smart City solutions due to ineffective communication.
 - ICT infrastructure is developing too slowly to meet demands.
 - IoT and Smart city development is not clearly articulated as national priority.

3. FOCUS OF THE IAP



The Integrated Action Plan (IAP) of Razlog will play an important role in supporting the municipality of Razlog and the local stakeholders towards overcoming the identified challenges within the SWOT analysis. The IAP will also contribute towards achieving the Municipality's ambition to continuously improve the quality of life and become more attractive place for its citizens, businesses and visitors. Although the IAP alone will not overcome all challenges, it is considered that in concert with the Municipal Development Plan 2021-2027, they will both create the necessary conditions and environment for advancing the local development through the development and implementation of Smart City and IoT solutions and their wider

adoption in different areas of public services, local economic development, environmental and resource management.

In this context, and also taking into consideration the early stage of the development and penetration of IoT in Razlog, as well as considering the resource constraints and the relevant weaknesses and threats identified, the UAG decided, that the IAP should have a very specific focus and its ambition shall be targeted towards bringing the so called "easy wins" in several areas that are considered of utmost importance for the local government and the population as a whole. The identified, focus areas of the IAP are shown above.

THE PROCESS

MUNICIPALITY OF RAZLOG (MR)



The Municipality of Razlog strives to continue investing in its attractiveness and become a preferred place for living and tourism. To that end, the IAP, in concert with the other local development strategic instruments, seeks to establish the basis for unleashing the local potential and satisfy the specific needs of both – local citizens and visitors. Specifically, the IAP has the task of unleashing Razlog’s potential as a smart town – creating the building blocks of a smart ecosystem providing better public services, better quality of life, improved tourism journey and high-quality education.

The Urbact Local Group (ULG) is the cornerstone of the development of the IAP. Uniting the efforts of representatives of various stakeholders (incl. local administration, city council, external experts, schools, local development agency, business

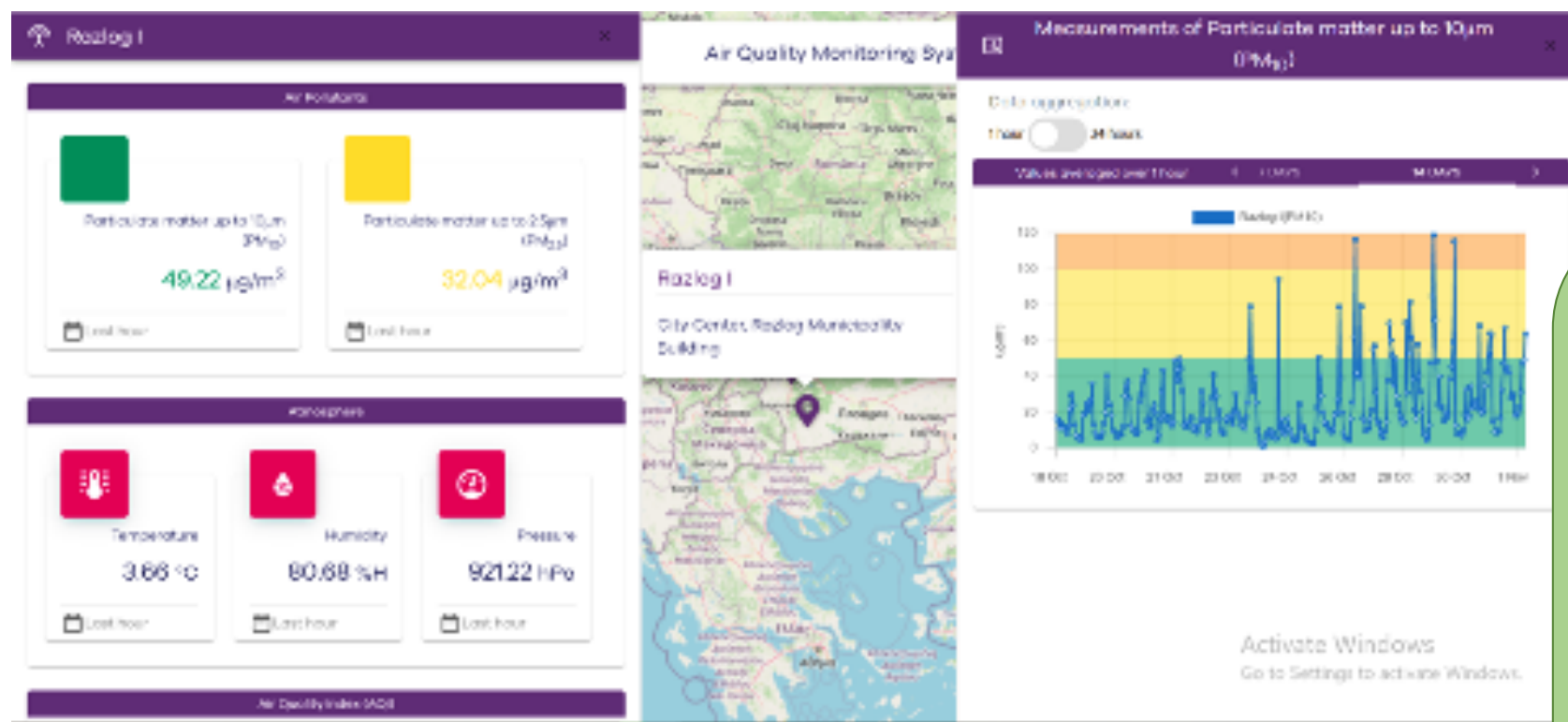
representatives) in a unique cooperation aimed at learning through international exchange, evaluation of the Small-Scale Action and development of the IAP.

The ULG from Razlog has a large composition, with a total of 51 different persons that have participated at least in 1 of the 7 ULG meetings held. The total number of participants in the 8 meetings, however, has been 87, i.e., an average of 11 participants per meeting. The full group of participants includes 22 people from the Razlog Municipality, from several departments and the Deputy Mayor. There are 30 people external to the city council, two from the Razlog History Museum, 6 IT experts from private companies, 5 people from NGOs, 7 teachers and 8 students from 3 high schools.

In summary, the ULG has held the following meetings:



MEETING DATE	TOPIC
27 July 2020	Involving the IoT Start Up in the Local Action Group.
05 February 2021	Presentation of transnational experience of SIIViM 2020 and AboAcademy. Discussion on the current and future state of the project implementation. Discussion on the opportunities for implementation of SSA – problems and weaknesses as well as potential solutions.
20 April 2021	Case study presentation – ServaNet. Discussion on the IAP and SSA progress.
19 August 2021	IAP progress. Discussion of ideas for IAP actions.
05 November 2021	Progress of SSA & IAP.
11 February 2022	IAP progress review.
25 February 2022	IAP progress – action table and sources of funding.
12 April 2022	IAP progress review.
05 May 2022	IAP progress review.



SSA facts & figures



Solution: Urban Air Quality Monitoring



Vendor: Telelink Business Services EAD



Budget: EUR 9 833.18



Procurement: Restricted tender



Time frame: 6 months as of 22nd April 2021



Contact person: Zlatka Stoycheva, Head of EU Projects Department

In the course of the project, the Municipality of Razlog made possible the monitoring of urban air quality in real time through the implementation of a Small-Scale Action (SSA) involving test installation of an Air Station with Sensing Key for air quality indicators and environmental data.

After consultation with its ULG, which members come up with the idea, the Municipality adopted the topic of Real-time Air monitoring for its SSA, since one of the main problems faced in the city is the air pollution through the winter season (8 months) which came from residential heating with wood and coal. The main purpose of the SSA was to raise the awareness of local people about the air quality and the reasons for air pollution in

the territory of Razlog Municipality, and to improve the quality of life on the territory of municipality of Razlog by harnessing IoT technology to advance the access to clean air and to make air quality manageable by data-driven decisions.

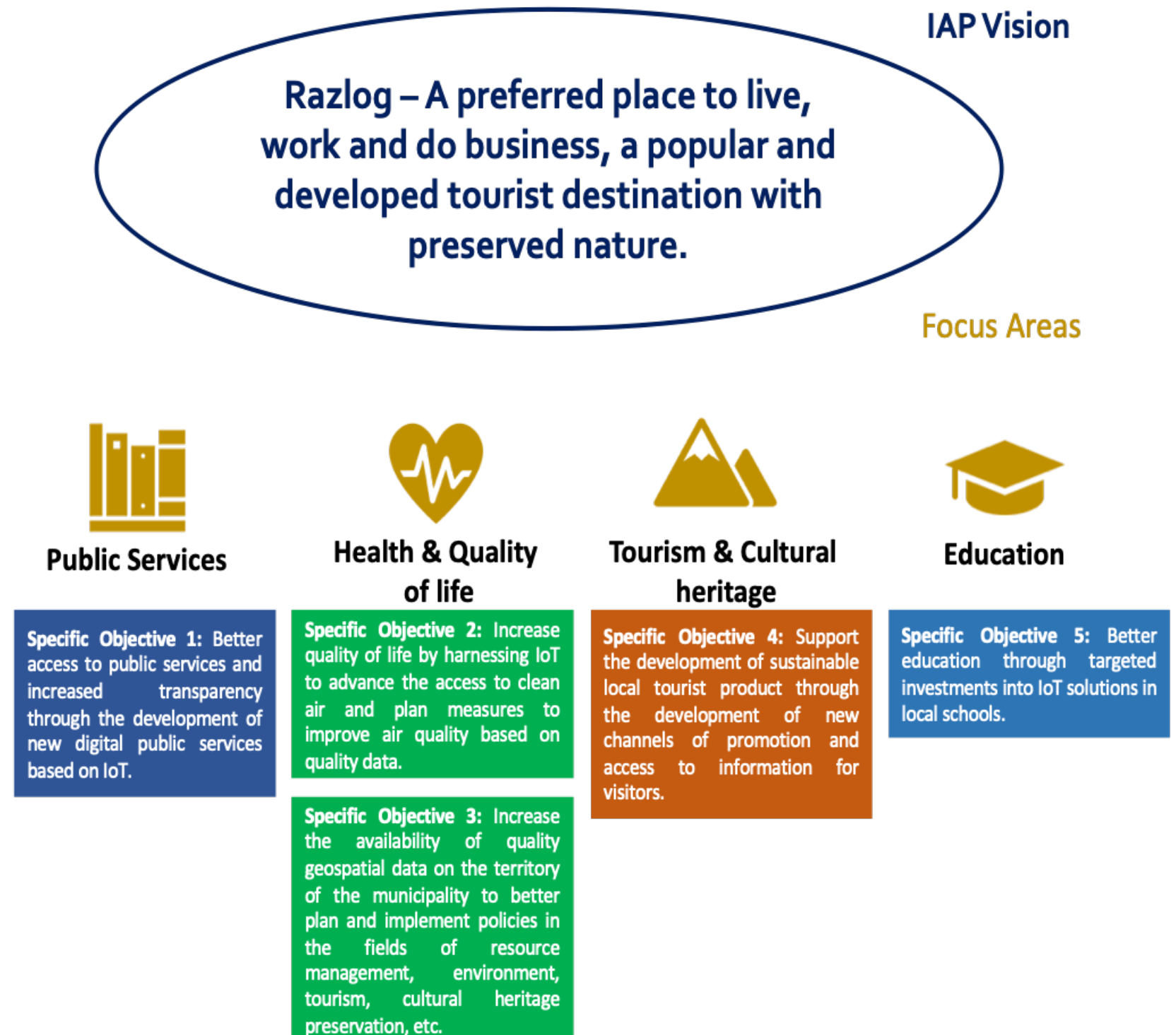
Another major contributor to the present IAP was the international exchange made possible through the IoTExchange Project. The ULG had the opportunity to learn from the challenges and ideas that has been developed throughout the other partner municipalities as well as share its experience with peers from across Europe. In addition, the partners provided valuable input in terms of improvement of the IAP within the peer review process.



INTEGRATED ACTION PLAN

The vision of the IAP has been developed by the UAG. It is based on the expectation that the IAP, together with the Municipal Development Plan 2021-2027 will serve as the strategic basis for bringing positive change into the thematic areas already identified. In addition, the IAP is seen as an experiment that brings together local actors and stakeholders and creates a platform for them to coordinate and work together to adequately respond to local challenges. In this line of thoughts, the vision statement of the IAP is as follows:

VISION AND OBJECTIVES







DESCRIPTION OF ACTIONS

Focus Area	Specific Objective	Action Description
Public Services	Better access to public services and increased transparency through the development of new digital public services based on IoT	Creating Integrated Urban Platform The action envisages the creation of an urban platform with a dashboard synthesizing data on air pollution, city traffic, tourist spots, public hotspots (free Wi-Fi ma) sports, streets under construction, whether conditions, waste management, public utilities. The platform will also have a functionality offering visitors to watch real-time video streaming from city video recording cameras. The integrated monitoring platform will be contributing to transparency and facilitating control. It will have a positive impact on the organization of city services and significantly improves the quality of urban life. Expected Result: Improvement of city services and quality of urban life.
		Smart Waste Management The action is aimed at optimization of waste collection and transportation based on real time data on quantities disposed collected form sensors installed on garbage bins. The municipality intends to: * Invest in sensors for garbage bins. * Invest in garbage bins for biological waste equipped with sensors to ensure better utilization of waste generated. * Develop dedicated information campaigns to encourage separate collection. * Daily monitoring of waste quantities through the integrated city platform. Excepted Result: * Optimize waste collection and transportation. * Increase level of utilization of waste generated. * Increase level of separate collection of waste.



DESCRIPTION OF ACTIONS

Focus Area	Specific Objective	Action Description
Health and Quality of Life	Increase quality of life by harnessing IoT to advance the access to clean air and plan measures to improve air quality based on quality data	Urban Air Quality Monitoring in real time through the test installation of an Air Station with sensing key for air quality indicators along with environmental data. Razlog Municipality has started developing an air quality program that will allow the mayor to have more powers in terms of air control and monitoring. Razlog Municipality has already started communication with the Ministry of Environment and Water to include households in the municipality in a project to replace the heating of the house with coal and wood with more environmentally friendly heating. As for industrial production, Razlog municipality plans to install chimney sensors to monitor harmful emissions. The following support actions are also planned: * Installation of additional air quality monitoring stations in key locations. * Training courses and lectures for local citizens on the territory of Razlog municipality, devoted to the air pollution topic, organized by the local authorities, NGOs and relevant institutions. * Organization of public initiatives/project/campaigns with wide participation of the local community, focused on changing the heating in the residential building. * Events and exposition of innovative solution regarding urban development with participation of relevant experts and local community members. * School policy modification in Municipality of Razlog by means of introducing the “Air pollution” in their curriculum. Excepted Result: Smart monitoring of the air quality.
		Smart Management of Public Lighting The management of public lighting often represents a challenge for most of the Local Administrations in terms of costly energy bills, inefficient maintenance and lost opportunities to offer additional services to the citizens reusing public lighting infrastructures. Within the present action, the Municipality of Razlog intends to explore state of the art solution for the purpose of introducing smart management of public lightings, including: * Investment in smart public lights management platform; * Invest in replacement of light bulbs with energy efficient ones. * Investment in PV charged public lights. Excepted result: Smart monitoring and management of public lighting on the territory of the Municipality. Dramatically reduce energy consumption and optimize public lights management.

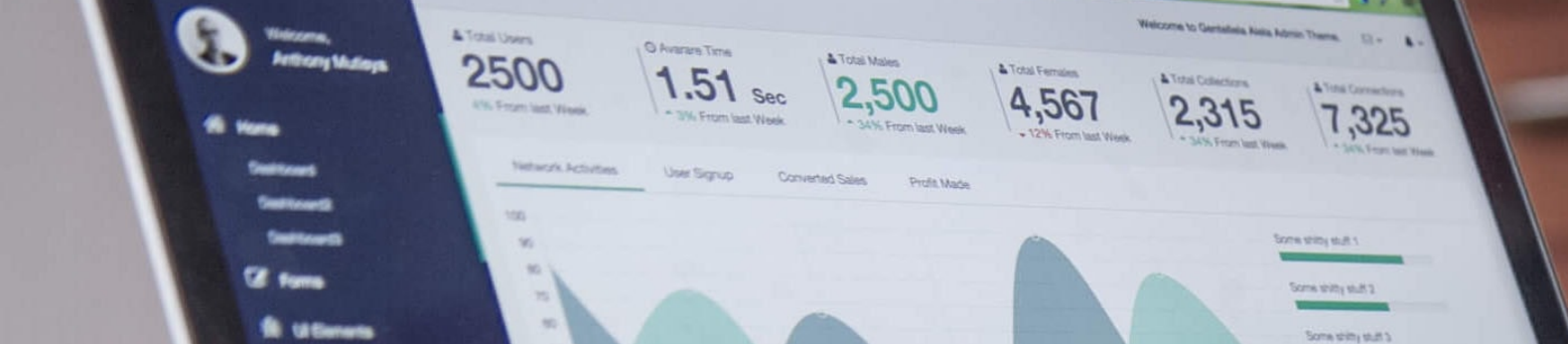


DESCRIPTION OF ACTIONS

Focus Area	Specific Objective	Action Description
Health and Quality of Life	Increase the availability of quality geospatial data on the territory of the municipality to better plan and implement policies in the fields of resource management, environment, tourism, cultural heritage preservation, etc.	3D laser scanning on the territory of Razlog municipality with a drone The Municipality of Razlog intends to commission a complete 3d laser scanning of the entire territory of the municipality with a drone. The scan will provide the Municipality with quality geospatial data, that will be used for the further development of specific measures and local policies such as: * Establishment and maintenance of monitoring, forecasting and early warning systems. * Mapping and digitization of existing networks in order to facilitate the general and spatial planning of the city. * Monitoring of state of rivers and dams. * Conservation and restoration of green belts in vulnerable areas - with the active participation of the local community. * Monitoring of archaeology and cultural heritage sites. * Forwarding of potentially dangerous unfinished constructions and illegal construction, the technical condition of which does not allow their further operation. Expected Result: Efficiency of data collection and generation of geospatial data. Development of an end-to-end LiDAR (Light Detection and Ranging) solution combining a drone.
Tourism and Cultural Heritage	Support the development of sustainable local tourist product through the development of new channels of promotion and access to information for visitors	Developing tourism application Razlog is a known as a tourist destination from decades. The Municipality of Razlog is charmingly situated in the foothills of Rila, Pirin and Rhodope Mountains. The Pirin National Park was declared a UNESCO World Heritage Site. The action envisages the development of a specialized tourism App that will provide visitors with better access to information and local businesses with better promotion opportunities. The App will provide info on where to eat, where to sleep, location and information of places of interests, ticket booking, root mapping; augmented reality option. Adapted to different languages and for people with different abilities. Smart travelers will discover easily the natural and cultural sites, this will help them to be more flexible. Smart tourism will give the opportunity to invest in a huge potential market and simultaneously to achieve added value to tourist product through growth, diversification and upgrade. The application will contribute for enhancing the tourist experience and satisfaction. The application service will increase the value of exciting tourist data and information systems by interconnecting them. Expected Result: Transforming Razlog into smart tourism destination

DESCRIPTION OF ACTIONS

Focus Area	Specific Objective	Action Description
Tourism and Cultural Heritage	Support the development of sustainable local tourist product through the development of new channels of promotion and access to information for visitors	Interactive museums The purpose of the present action is to further promote Razlog as a preferred tourist destination through the development of an interactive museum of local traditions and customs. Within the present action, the Municipality will: * Develop and interactive platform (also accessible through the tourism app) to exhibit interactive content related to local traditions and customs. * Develop content - 3D and VR tours and content developed to focus on the promotion of local traditions and customs - seek to achieve life like experience for digital visitors. Expected Result: * Transforming Razlog into smart tourism destination. * Better preservation and promotion of local immaterial heritage as a basis for development of alternative tourism.
Education	Better education through targeted investments into IoT solutions in local schools	Smart Schools Municipality of Razlog is aims to contribute to the improvement and increasing the capability of the education system in local schools. In Razlog's main secondary schools the classrooms are well equipped with information technologies and students from the age of 14 are introduced to basic programming languages such as Visual Basic. The main impact of teaching in the secondary schools based on the innovative classrooms and well-equipped rooms with interactive Whiteboards is increasing the knowledge of the students and their competitiveness. Municipality of Razlog is aiming to contribute to the improvement and increasing the capability of the education system in the schools. Adoption of IoT solutions will boost the improvement of better education: * Installation of surveillance cameras in all schools on the territory of Municipality of Razlog to keep them safe and secure. * Student ID cards with chips. * Replacement of black board with smart board. Expected Result: Adoption of IoT solutions for better education Smart Schools II Municipality of Razlog is aims to contribute to the improvement and increasing the capability of the education system in local schools. To that end, the present action is aimed at: Purchase and installation of smart boards in schools; Purchase and installation of interactive digital media to support the education process in schools. Expected Result: Adoption of IoT solutions for better education



FOCUS AREA 1: PUBLIC SERVICES

Specific Objective	Action	Resources	Responsible	Key Partners	Timeline
Better access to public services and increased transparency through the development of new digital public services based on IoT	Creating Integrated Urban Platform	EUR 15,000.00	Municipality of Razlog	Municipal Council UAG LAG NGOs IT Experts	2023
	Smart Waste Management	EUR 150,000.00	Municipality of Razlog	Municipal Council UAG LAG NGOs IT Experts	2024-2025



FOCUS AREA 2: HEALTH & QUALITY OF LIFE

Specific Objective	Action	Resources	Responsible	Key Partners	Timeline
Increase quality of life by harnessing IoT to advance the access to clean air and plan measures to improve air quality based on quality data	Urban Air Quality Monitoring	EUR 165,000.00	Municipality of Razlog	Municipal Council Ministry of Environment NGOs Schools Local Businesses	2024-2025
	Smart Management of Public Lighting	EUR 350,000.00	Municipality of Razlog	Municipal Council Local Businesses	2025-2026
Increase the availability of quality geospatial data on the territory of the municipality to better plan and implement policies in the fields of resource management, environment, tourism, cultural heritage preservation, etc.	3D laser scanning on the territory of Razlog municipality with a drone	EUR 50,000.00	Municipality of Razlog	Municipal Council NGOs External Expertise	2024



FOCUS AREA 3: TOURISM AND QUALITY OF LIFE

Specific Objective	Action	Resources	Responsible	Key Partners	Timeline
Support the development of sustainable local tourist product through the development of new channels of promotion and access to information for visitors	Developing tourism application	EUR 110,000.00	Municipality of Razlog	Municipal Council Historical Museum NGOs Local Business	2024-2025
	Interactive Museum	EUR 280,000.00	Municipality of Razlog	Municipal Council Historical Museum NGOs Local Business	2025-2026



FOCUS AREA 4: EDUCATION

Specific Objective	Action	Resources	Responsible	Key Partners	Timeline
Better education through targeted investments into IoT solutions in local schools	Smart Schools	EUR 250,000.00	Municipality of Razlog	Municipal Council Schools Ministry of Education (Regional Representatives)	2025-2027
	Smart Schools II	EUR 250,000.00	Municipality of Razlog	Municipal Council Schools Ministry of Education (Regional Representatives)	2025-2027

SOURCES OF FUNDING

Funding Instrument	Description
ERDF/ESF Operational Programmes	Within the new programming period, the Municipality of Razlog will have access to multiple sources of EU funding, namely: * OP Development of Regions 2021 -2027 * OP Environment 2021-2027
INTERREG (European Territorial Co-operation) programmes	As Razlog is located at the borders with North Macedonia and Greece, the resources of the Interreg pro- grammes can be considered as potential funding sources, as well. Preservation and capitalization of common cultural heritage, tourism and environmental development are among the priorities in all of these programmes, and there is significant experience of local actors in planning and implementing projects of territorial cooperation. Potential project partners from the city are eligible for funding in: * Bulgaria – North Macedonia * Greece – Bulgaria * Interreg Europe
National Recovery and Resilience Plan	At the European Union (EU) level, the crisis has revealed problem areas and structural weaknesses in individual EU Member States. The Member States together with the European Commission (EC) have addressed the raised issues by establishing an instrument to support the recovery and resilience of EU countries, named the Recovery and Resilience Facility (RRF). The Bulgarian Recovery and Resilience Plan will be funded with approx. EUR 6 billion. The plan envisages investments in a range of sectors, including such that are relevant to the IAP, such as local development, digital connectivity, education and skills, innovation, low-carbon economy, etc. which makes it a particularly relevant source of funding for the actions planed under the IAP. Particularly, the IAP will be seeking funding under: Component 1 - Education and Skills - for Actions under Specific Objective 5 of the IAP. This component of the Bulgarian recovery and resilience plan aims to improve the quality and effectiveness of the education and training systems. It encompasses investments, covering the following areas: - access to education: construction and renovation of educational infrastructures and youth centers across the territory, implementation of distance and hybrid forms of learning, and the progressive inclusion of four-year-olds in the educational system; - development of digital skills and promotion of science, technology, engineering and mathematics (STEM) fields in Bulgarian schools: update of curricula and construction of STEM centers, including school laboratories; - skills relevance and adult learning: reform of the regulatory frameworks for higher and vocational education and training and development of an online platform for adult learning linked to the public employment services. Component 4: Low Carbon Economy - for Actions under Specific Objective 1 and 2 This component of the recovery and resilience plan of Bulgaria addresses the challenge of decarbonizing the energy sector. The Bulgarian economy is the most resource- and carbon-intensive in the EU. The intensity of greenhouse gas emissions is more than four times higher than the EU average. The energy sector is the largest emitter of greenhouse gases in Bulgaria, accounting for more than 70 % of the country's total emissions. The objective of the component is to decarbonize the economy through a sharp increase in the use of renewables and in energy savings, investments in smart grids, interconnections and storage infrastructure, market reforms and better governance of the energy sector. Component 7 - Digital Connectivity - for actions under Specific Objectives 1, 3 and 4 This component of the Bulgarian recovery and resilience plan contains measures that aim at building a modern and secure digital infrastructure and maximizing the access to online services for citizens, enterprises, public administrations and institutions, especially in rural and remote areas. The investments included under this component concern the large-scale deployment of digital infrastructure, the digital transformation of the Bulgarian post and delivery of complex administrative services, as well as the construction, development and optimization of the digital TETRA system and radio relay network.

FRAMEWORK FOR DELIVERY

The municipality of Razlog, as owner and responsible local authority, has been identified as the key player for the IAP and most of the actions. It will remain main initiator and mandated responsible institution for all actions included in the IAP. It will make the arrangements necessary to plan, implement an operate new functions - either itself or through cooperation agreements or contracts with public/private/civic actors.

On behalf of the Municipality, the ULG will play a key role in the implementation, coordination and monitoring of the IAP implementation.

The planned actions cannot be achieved by any one organization or a narrow group. There must be collaboration across stakeholders in order to ensure that the actions identified can be fully implemented and realized. A key challenge in terms of governance is to raise interest and involve inhabitants in the implementation of the IAP. The Municipality with the stakeholders represented in the ULG intends to operate a governance model that can ensure involvement of broader audiences in planning and management of actions. More specifically, the Municipality and the ULG will be in charge of:

- * Managing the group and organizing ULG meetings.
- * Keeping the record of the ULG members and closely following the implementation.
- * Monitoring and actively involved in the implementation of the pilot action.
- * Monitoring the process (annually) and giving recommendations for corrective actions.
- * Updating IAP (based on results of implemented actions).

Focus Area	Specific Objectives	Indicators
Public Services	Better access to public services and increased transparency through the development of new digital public services based on IoT.	% of public services subject to digitalization No. of visitors of digital platform No. of sources of data utilized within the platform No. of sensors installed to garbage bins. % of utilization of waste generated % of waste subject to separate collection
	Increase quality of life by harnessing IoT to advance the access to clean air and plan measures to improve air quality based on quality data.	No. of chimney sensors installed Average No. of days with air quality indicators bellow the regulatory thresholds No. of smart sensors installed for public lighting % of public lighting powered through renewable energy sources % of decrease in energy consumption of public lighting system
Health & Quality of Life	Increase the availability of quality geospatial data on the territory of the municipality to better plan and implement policies in the fields of resource management, environment, tourism, cultural heritage preservation, etc	% of the total area scanned with 3D lasers No. of local policy initiatives based on available geospatial data

FRAMEWORK FOR DELIVERY

Focus Area	Specific Objectives	Indicators
Tourism & Cultural heritage	Support the development of sustainable local tourist product through the development of new channels of promotion and access to information for visitors.	No. of users of Tourist App. % of local tourist businesses listed in the App % of local tourist attractions covered by the App No. of customs/traditions exhibited in the interactive museum No. of visitors of the interactive museum.
Education	Better education through targeted investments into IoT solutions in local schools.	No. of cameras installed % of students included in the programme % of schools included in the programme % of schools with smart boards % of schools utilizing innovative interactive within the education process



RISK MANAGEMENT

Type of Risk	Description	Level	Risk Management
Timing	The actions planned for each objective could not be completed within the given timeframe.	High	Development of detailed action plans and schedules to properly monitor the implementation of each activity. Hold regular coordination meetings to control implementation and take mitigating measures.
Timing	Delay at the management of contracting and public tender	Medium	Initial planning of outsourcing hiring needs, in special that contracts that need a long term of processing.
Coordination	Lack of coordination between entities responsible for implementation	High	Elaboration of an internal manual of management and control that must include and unify the procedures of actuation.
Coordination	Shortage of control about the extent of implementation of the strategy	Medium	Ensure regular reporting on strategy implementation and corrective measures are taken in a timely manner.
Resources	Lack of sufficient financing to properly implement planned actions	Medium	Detailed planning of funding sources and available resources. Combination of different funding sources (public, private, own budget) to ensure effectiveness in the implementation of planned activities.



RISK MANAGEMENT

Type of Risk	Description	Level	Risk Management
Awareness	Lack of local awareness and support for the implementation of activities	Medium	Design and implement tailored communication activities to inform different community groups and stakeholders and secure their support.
Capacity	Lack of technology, Moderates or appropriate knowledge to execute the action	Medium	Diagnosis of the solutions from the local government to make an evaluation of compatibility to integrate systems.
Resources	Insufficient human resources according to the necessities	High	Evaluation of the capacities that should have the staff to execute the actions and outsource works, hiring outsource technical assistance to specific issues.

INTEGRATED ACTION PLAN



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