



Innovative health solutions for thermal spa regions

InnovaSPA
Interreg Europe



European Union
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ACTION PLAN

CENTRU REGION
ROMANIA

Balncology



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I **Action plan for improving the policy instruments:** Smart Specialisation Strategy of Centru Region (RIS3) and ROP 2014-2020 – AP1 „Promoting technological transfer, Investments Priority 1.1 Consolidating research, technological development and innovation, through **creating a proper development environment by innovating SME’s from the balneary and medical sectors**”, starting from experience, knowledge and models shared by InnovaSPA partners.

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Definitions:

Balneary resort – a town and/or an area which benefits from mineral substance resources, scientifically proven and traditionally known as having a therapeutic effect, specific curing equipment and is organized in a way to provide spa medical assistance in a proper manner; (Government Ordinance no. 109/200, Law no. 343/2002)

Climatic resort – a town and/or an area situated in a place with beneficial climate factors and which has conditions which assure the maintenance of good health and work capacity, as well as rest and recomfort.

Balneoclimatic resort – a town and/or an area which fulfils the above mentioned 2 definitions (Government Ordinance no. 109/200, Law no. 343/2002)

Treatment bases – treatment centres are complex units in which different natural therapeutic factors are used in therapeutic purposes – mineral waters, therapeutic mud, therapeutic gases, combined with different procedures which use physical agents – kinetotherapy, breathing therapy, aerosols, therapeutic pools. (DECISION No. 1.154 / 23rd July 2004)

Responsible Tourism – comprises every tourism form which corresponds to travel needs and spending free time, in a responsible manner, having a positive impact on both the environment as well as on the local communities and economy, by protecting and conserving the local ecosystems and creating income and new job opportunities for these communities. (www.turismulresponsabil.ro, [World Tourism Organization](http://www.worldtourism.org))

Creative Tourism – is a new generation of tourism which implies that tourists and local communities create the value and tourism products together – co-creation.¹ (www.creativetourismnetwork.org)

Sustainable Tourism – is defined as being a positive approach with the intension of reducing tensions and frictions created by the complexity of the interactions between the tourism industry, tourists, natural habitat and local communities as hosts of tourists. (*Journal of sustainable tourism*, 1993)

Sustainable Communities – „Sustainable communities are places where people want to live and work now and in the future. Sustainable communities respond to the needs of actual and future inhabitants, are sensitive to the environment in which they live, and contribute to improving the quality of life. Sustainable communities are characterised as being safe and inclusive, planned, built and ran in an adequate way, and offer equal rights and good services to all.” (*The “Bristol Accord”, 2005 - Conclusions of Ministerial Informal on Sustainable Communities in Europe*)

Open Innovation – open innovation implies the use of internal and external knowledge flows in order to accelerate the internal innovation and to extend the market in order to use the external innovation. (Henry Chesbrough, 2013). The main difference between internal and external innovation is shown by the way companies handle ideas and how they come to reality, bringing them on the market, and how companies select ideas.

¹ Ali, F., Ryu, K., & Hussain, K. (2016). Influence of experiences on memories, satisfaction and behavioral intentions: A study of creative tourism. *Journal of Travel & Tourism Marketing*, 33(1), 85–100. doi:10.1080/10548408.2015.1038418

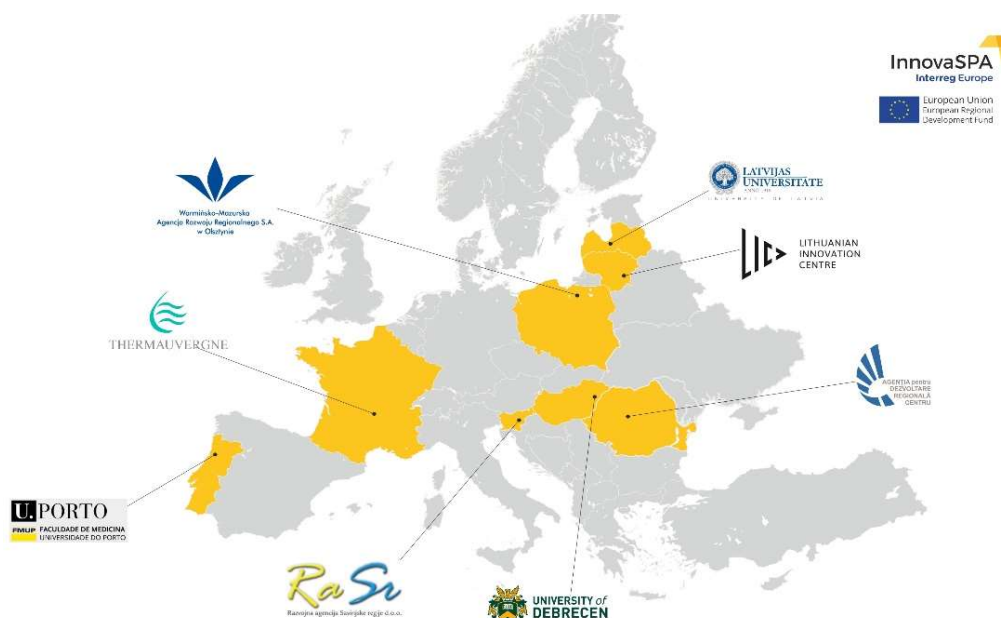
I. General information

1.1. About InnovaSPA project

The purpose of the **Interreg Europe** project is to better apply the regional development politics and programs, especially the programs regarding investments for economic growth and jobs, and if needed, programs from ETC by promoting exchange of experience and learning new policies, by the main regional actors.

InnovaSPA - “Innovative health solutions for thermal spa regions” project is funded by the European Commission's interregional cooperation program - Interreg Europe.

The project is coordinated by Thermauvergne Association from France and is implemented by a consortium of 8 partner organizations from 8 EU states. At the Centru region level of Romania, the partner responsible for implementing the InnovaSPA project is the **Regional Development Agency – Centru (RDA CENTRU), Romania**.



Graphic 1. InnovaSPA project partners

The main objective of the project is the improvement of development policies at a regional/national level, which support the transfer of technology and knowledge in order to accelerate the market launch of new products and innovative solutions for spa resorts.

The project activities are focused on best practises dedicated to supporting transfer of innovative solutions in the spa/thermal sector and health prevention. This includes identifying, sharing and transferring best practises examples and of the models for improving regional and national policies. Regarding this, the project partners formed working groups adding the most important spa ecosystem actors at a regional level, with the intention of developing and implementing a relevant action plan for regional reality regarding the development direction in spa/preventive health domain, also taking into consideration the existing policies and strategic measures.

The implementation time of the project spans across 5 years, from June 2018 to November 2022. The Romanian implementation team – RDA Centru – is responsible for improving a political

instrument called Priority Axe 1 of the Regional Operative Program 2014-2020 – Promoting technological transfer, Investment Priority 1.1 **Consolidating research, technological development and innovation, especially by creating an environment for adequate innovation development of SME's from the spa and medical sector.**

The project is financed by the EU, through the European Regional Development Fund within the Interreg Europe program – Priority Axe 1 – Research, technological development and innovation.

The official website of the project: <https://www.interregeurope.eu/innovaspa/>

1.2. About Centru Region

The Centru Region spans across 34 100 sqkm inside the grand curvature of the Carpathian Mountains, on the upper and middle courses of Mures and Olt rivers, having a good territorial relation, having connections with 6 out of 8 development regions from Romania. Regarding tourism development, an important fact is that the Centru Region has an **extensive transport network** made up by roads and railroads. The road network of the Centru Region has a total of 11 474 km (2019), which represents 13,3 % of the national total, having five European roads (951 km) and 129 km of highway.

Air transport is in full development at a global level, and the tourism development in the Centru Region, also the tight economic relations with other EU countries require the extension of the regional airport infrastructure. Sibiu and Târgu Mureș airports have been recently modernized, and Brașov airport, where construction started back in 2008, will be functional in the first half of 2021. The launch of this airport will greatly influence tourism in the region, because Brașov has the most tourists after Bucharest.

At 1st of July 2018 the resident population of the Centru Region was **2,32 million people** (ranking 5th among the 8 development regions of Romania). The urbanism rate in the Centru Region is 57,3% with 57 cities, superior to the national level, but has problems with **demographic aging**, with the elderly rate being 17,9% in 2018.

Small and Medium Enterprises represent approximately 70% of the personnel and 63% of the turnover realized by local companies in industry, construction and services, and so being one of the main engines of economic development. Centru Region with 27,5 SME's / 1000 inhabitants, is well under the European average of 47,9 SME's / 1000 inhabitants.

The regional economy still has a visible industrial profile, which can be seen in the relatively high contribution of the industry in the gross domestic product, and also in the share of the population working in the secondary sector of the economy. Today, the industry pillars of the Centru Region are auto industry, food and beverage industry, textile industry, leather and shoe industry, wood processing and furniture making. The services sector has an important role in forming the regional gross domestic product, experiencing a significant development in the past years. Also, the following domains had big increases: transport (especially road and air), telecommunications, banking and finance sector, also insurance. **Tourism evolved in some segments like agrotourism, contributing in harnessing the important tourism potential of the region. The number of people**

working in the „Hotel and restaurant” sector was 34,7 thousand in 2019, from which 27,5 thousand employees², representing 4,2% of the total employees in the region.

Aside from these statistics data it is important to mention the fact that tourism has a multiplier effect and represents a significant growth dynamic, and the benefits are multiple and indirectly stimulates the development of other connecting domains like – textile, IT, commerce, etc. In a whole, the local community and economy benefit from the development of tourism. In the same time, tourism towns tend to have a better and more developed infrastructure. The transport and real estate sectors also gain from the development of tourism. One must bear in mind the indirect advantages gained from the increased visibility and interest for those regions which have a high number of tourists. The share of tourism in the domestic gross product is low at both national and regional level (approx. 2-3%), but this evaluation does not include the activities generated indirectly by this sector due to the multiplying effect. In the Centru Region, the net check-in index was approx. 31% in 2019, which means that the accommodation places remain unoccupied 8,5 month a year.

With rich nature and a great cultural heritage, the Centru Region has a high and diversified touristic potential. Taking into consideration natural and anthropic resources, we can distinguish 4 types of inter-complementary tourism practices in the region: **cultural tourism, mountain tourism, rural tourism and balneary tourism**.

Not only in the Centru Region, but in the entire country, balneary tourism suffered a decline in the past 30 years. From a remarkable position and statute, Romanian resorts have fallen into disrepair. Due to recent efforts, spa tourism is starting to be reconsidered and revalued, and it can soon be one of the favourite types of tourism, also for the external market. Romania has a third of Europe’s mineral springs, most of them situated in the Centru Region.

II. Analysing the capitalization status of balneary resources in the Centru Region and development potential through RDI

Balneology is a medicine branch which focuses on the prophylactic and curative action of natural factors with therapeutic effect. Aside the biological aspect it is a science which shapes a nation’s history, shapes a period when Romania was at the same level with countries such as France. During the Austro-Hungarian Monarchy time the region’s potential was sustainably exploited, resorts were for the nobility and aristocracy offering excellence services (*superior quality services developed around natural resources with therapeutic effect*).

Balneology is a therapeutical specialty which in Romania is integrated with physical and recovery medicine. The history of using water as a therapeutic agent, takes us back to ancient times when people did not have medical knowledge, but by simple observation started to see the therapeutic effects of different natural cure factors.

² Average number of employees, according to the National Institute of Statistics, Romania

Analysing the history and current rejuvenation possibilities of balneology, the only long-term viable direction is developing tourism in an integrated way, emphasizing the locally created values in a sustainable way. Balneology concern relevance is justified by the European development context (Europa2020), under which a smart European economy is desired, sustainable and in favour of inclusion. The programs circumscribed to this strategy have health and wellbeing as a priority (Health & Wellbeing).

The share of elderly people (above 65 years) from the total population will significantly rise in the next decades – at this time it is 19% at EU level. Eurostat predicts that until 2100 the rate of people **aged 80 or above** will be 14,6% of the total population³. In Romania, the age structure of the resident population shows a characteristic of demographic ageing⁴, and a significant rise of the share of elderly people (above 65 years) is predicted, from 17,2% to 29,7% until 2060. This projection done by the National Statistics Institute shows us that all the counties in the Centru Region will be affected by the demographic ageing phenomena and the share of elderly will double (2015 regional average: 16,5%, regional average projected for 2060: 28,3%).

This information shapes a significant necessity for **active ageing services**, impacting the population's life quality, so the concern regarding improving and developing the balneary market is justified. In the same time, diversifying balneary tourism offers, developing leisure, wellness and spa activities can attract new tourist categories (youth, athletes, families, people who live in urban settlements, etc.) thus shaping the sector around prevention.

The purpose of the analysis is to show the big picture regarding the actual status of balneology and balneary tourism in the Centru Region, reflecting the multiple development perspectives from the local actors' point of view in synergy with the new economic development tendencies. The actors represent the 4 sectors of the *Quadruple Helix* collaboration model: economic, academic, administrative sectors and civil society. The main research method used in elaborating the analysis was gathering data, including statistical data for evaluating the development dynamic of the sector. Data was collected from regional and national actors, including policy makers. In some cases, reports and statistical data were required; in the case of local actors, opinions and propositions were required through phone conversations. Transylvania Balneary Regional Cluster member NGO's and employers submitted their views, so the analysis covered a large part of the regional balneary ecosystem. In elaborating this study, information provided by InnovaSpa working group was taken into consideration throughout project implementation, and based on this a Swot Analysis of the sector in the Centru Region was shaped. This working group was launched by RDA – Centru and is made up from the following organizations:

- | | |
|---|--|
| • Jasmine Balneary Complex in Ocna Sibiului | • Târgu Mureş Townhall |
| • Romanian Medicinal Tourism Association | • Lucian Blaga University of Sibiu |
| • Romanian Balneology Association | • Medicine, Pharmacy, Science and Technology University of Târgu Mureş |
| • Braşov Chamber of Commerce and Industry | • Harghita County Council |
| • Covasna Townhall | • Sângeorgiu de Mureş Townhall |
| • Alba County Council | • "Benedek-Geza" Cardiovascular Recovery Hospital in Covasna |
| • Ocna Sibiului Townhall | • Ocna Mureş Townhall |
| • Braşov County Council | |

³ [Eurostat Statistics Explained – The Structure and Evolution of aging of the population, August 2020](#)

⁴ National Institute of Statistics – Projection of the the romanian population - 2060

- Mureş County Council
- "Transylvania" Regional Balneology Cluster
- Mureş County Health Insurance House
- Harghita County Health Insurance House
- Sovata Townhall
- Arbor Tours Llc - Băile Csiszar

Organizations such as the Romanian Tourism Employers' Association, Romanian Balneology Association, Amfiteatru Foundation, **Transylvania Regional Balneology Cluster** and its members (47 entities) were involved in the elaboration of this study. Information in this study reflect the results and conclusions of past years events organized by Regional Development Agency – Centru and Transylvania Regional Balneology Cluster, and also the conclusions of work sessions attended by the authors of this document on balneology.

Amfiteatru Foundation, founded in 2000, founding member of the Transylvania Balneology Cluster, develops programs, projects and partnerships at local, national and international level, with the purpose of stating anthropic and natural resources of communities. The organization focuses on deciphering actual trends in education, culture, community development and entrepreneurship with the purpose of valorising the local and national potential in a sustainable and responsible way.

Romanian Balneary Tourism Employers' Organization (RBTEO), founded in 1993, founding member of the Transylvania Balneology Cluster, having the main goal of promoting and developing balneary tourism in Romania. The employers' organization promotes at internal and international level balneary heritage, facilitates public-private partnerships and prepares optimization proposals for sector policies, represents its members interests and organizes conferences, events and specialty seminars where the sector's main actors meet.

Romanian Balneology Association, founding member of the Transylvania Balneology Cluster, is made up by balneology specialists, and focuses on social, professional and economic activities regarding science, research, environment protection, education and promoting balneary tourism, focusing on natural therapeutic factors.

The purpose of the analysis is to offer information and details regarding in depth exploration of balneology potential and **for balneary tourism to become one of the regional development engines** having a multiplying effect on the local economy.

Balneary tourism is defined as being a tourism form based on tourist motivation and the type and diversity of services/products consumed by tourists. This definition of tourism is a horizontal approach, and current trends show that people travel to "consume" experiences made up from a series of elements, objects and tourism services only being a part of motivation. For these reasons, the document has an **integrated approach** of the sector and towns, presenting key elements and connections which need to coexist in synergy to reach the plan's goal: developing balneary tourism by creating a favourable environment regarding new products/services/procedures (treatment) market launch. In identifying challenges and relevant solutions, the team launched an enquiry through which the actors could express their professional point of view regarding challenges, solutions and development ambitions for the coming years. In evaluating the current status at local and national level, county development strategies were studied (6 in total) and local development strategies of towns identified as having balneary potential, in addition to towns with balnearyclimatic resort status. Also, specialty literature and scientific research was presented in order to have a more comprehensive approach in balneology and balneary tourism sectors from research-development-innovation point of view.

Based on specialty literature there are over 300 "baths" in the 6 counties, of which 70% in Covasna, Harghita and Mureş counties.

In all 6 counties of the Centru Development Region, we identified 37 towns (pilot towns) where superior quality and significant quantities of natural cure factors exist, some developed ones holding resort status, and others which are underdeveloped. All local administrations have been contacted via email and information regarding the current status of balneary tourism was requested, also the administration's vision about developing the town and valorising of the balneary potential was requested. Working sessions having the scope of elaborating project proposals were organized with few townhall staff members. In some cases, townhalls contributed in collecting information from relevant local actors in order to help this analysis.

2.1 Balneary resorts and towns with balneary resources in the Centru Region

The Centru Region is situated in a superior position compared to the other regions in terms of density of therapeutic natural factors' and also from the point of view of the number of certified balnearyclimatic resorts. From the 33 towns/areas certified nationally, 6 can be found in this region.

According to Annex no.1 of Government Decision no.1016/2011, as amended, regarding granting balneary and balneary-climatic resort status to some towns and areas which have natural cure factors, the following towns from the Centru Region have this status: Covasna city Covasna county, Băile Tuşnad and Borsec cities from Harghita county, Sovata city from Mureş county, Ocna Sibiului city and Bazna town from Sibiu county. Balneary resort, climate or balneary-climatic status is granted by Government decision, at the proposal of local councils, if needed after consulting the population, on technical norms basis, elaborated in accordance with the law by the Ministry of Health, Ministry of Environment, Ministry of Agriculture, Woods and Rural Development, Ministry of Transportation, Construction and Tourism, Ministry of Economy and Trade, with the approval of the Mineral Resources National Agency (Government Ordinance no. 109/2000 and Law no. 343/2002).

Basic criteria for granting balneary-climatic resort status:

- complex analysis and studies of natural factors in the respective area realized by specialty institutions;
- determination by the Ministry of Health *), through its specialized institution – National Institute for Recovery, Physical Medicine and Balneoclimatology -, of the protected sanitary perimeters and including them in the urbanism plans and spatial planning;
- natural factors capitalization equipments;
- sanitary units, including treatment bases, with certified medical and sanitary personnel, who can provide balneary and recovery medical assistance;
- access routes, urban infrastructure, telecommunications;
- leisure and resting amenities

Aside from balneary/balnearyclimatic resorts, national and local level tourist resort, this study takes into consideration all the towns with balneary potential, which according to specialty

literature have major importance natural cure factors, but because of administrative reasons where not capitalized or brought back properly into the touristic circuit.



BALNEARY RESORT



TOURISTIC RESORT OF NATIONAL INTEREST



TOURISTIC RESORT OF LOCAL INTEREST



ALBA County

From a touristic point of view, Alba county concentrates on valorising its heritage and culture. The only resort in the county, **Băile Sărate** from Ocna Mureș was renowned for its rheumatism treatments, neurological or gynecological dating back to roman times because of salt exploitation in the area, "Sallinae" being the name at the time. Now the resort is not exploited, the treatment base and touristic infrastructure have been demolished. Since 2019 there are plans to build a 6000

sqm spa centre, a project backed by the local and county administration and which triggered a chain reaction – other private investments started in sport and leisure. **The most important natural resources:** clorosodic mineral waters, salt.

BRAȘOV County

Brașov county holds second place at a national level regarding the number of tourists received, after Bucharest (source: NSI 2019), boosting a complex touristic offer made up from mountain zones and Brașov city. Tourism and health appear as a priority in the 2020-2030 county strategy. Mountain tourism, agrotourism and spa tourism are 3 inter-complementary categories and its elements blend in together with the healthy

lifestyle and sports activities which can be done in the county – Poiana Brașov, is the most sought ski resort in Romania. In the same time, the strategy reflects the deficit of capitalization of the existing natural resources with therapeutical effect, especially mineral waters which can be found in Perșani, Grid, Veneția de Jos, Rupea and Homorod – clorosodic waters, salty waters in Băile Rotbav. Mesothermal waters can also be found in the county in Măgura Codlei and Hoghiz. Zizin mineral water is still being produced and sold to this day. **The most important natural resources:** carbonated and bicarbonate mineral water, clorosodic waters, mesothermal springs, bioclimate.

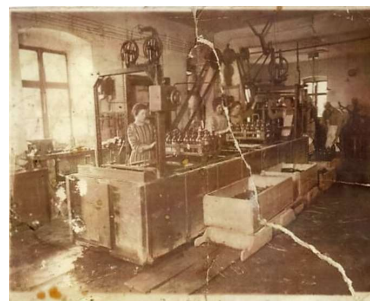




COVASNA County

Covasna county made a name for itself in the history books through a very developed spa culture meant for the nobility. At the moment the most developed resort is Covasna, ranking 2nd in terms of assigned treatment tickets. In this sense, spa tourism depends very much on national policies which grant the elderly access to spa treatments. Literature books refer to 54 baths in the county, most of them being traditional baths or even undeveloped but which represent a high local development

potential, revitalising and refocusing the local economy in towns with emigration and aging issues. Legends have been born around mineral waters, legends which can be used in attracting more tourists where these resources can be found. An example of best practice is Bálványos resort, where the synergy created between innovation and tradition has brought a flow of tourists from an age point of view and motivation: **prevention and recreation**. Starting with 2017, the county offers tourists a mobile app (Visit Covasna) and a web page (www.visitcovasna.ro) dedicated in promoting tourism and facilitating the connection between demand and offer, using brand elements such as "Land of Mansions" and "Land of Mineral Waters". **The most important natural resources:** carbonate mineral waters, ferruginous mineral waters, therapeutical gas emanations.



HARGHITA County

Harghita County is the richest county in mineral waters. The specialty literature includes 115 existing baths in one form or another (*János Cs, 2013*). Most of these are not actively maintained and only serve the local community. *The branding* of tourism in Harghita is based on conserving and highlighting the local customs and traditions which are part of the everyday life of local communities, authentic experiences within villages, the local food and untouched nature. These aspects are consistent with capitalizing upon natural therapeutic resources and with the concept of durable and creative tourism. The phenomenon of therapeutic gas emissions is poorly exploited, although research has been done in recent years on treatments for some health disorders – for instance, at the Tusnad Baths mofette -, and technological transfer in this domain appears to be difficult to manage. In 2018 the county council launched the mobile app Visit Harghita, connected to the official presentation webpage www.visitharghita.ro. The county's most well known resorts are: the Tusnad Baths, Borsec and Praid.



The most important natural resources: effervescent mineral waters, ferruginous mineral waters, sulfurous mineral waters, saltworks, therapeutic gas emissions.

MUREȘ County

The balneary tourism in the Mureș county is largely based on capitalizing upon the therapeutic lakes from Sovata, which is number one in terms of tourist arrivals and is the most developed balneoclimatic certified resort. In the last years considerable investments have been made in innovative devices for highlighting curative factors. In 2019 the Ursu Lake was

recognized as the largest heliotherm lake in the world. The lake's unicity is the subject of much scientific research, including the phenomenon of curative factor change, such as the evolution of the heliotherm phenomenon of the water and, more specifically, the water's decrease in temperature which in 1898 had reached 70 °C, and in 2012 it reached only 40 °C (Alexe, Șerban, 2014). It is important to mention the negative effect that tourism can have on the quality of the natural therapeutic factors and the responsibility of the ecosystem's actors, from economic exploitation agents to tourists. After Sovata, the most developed resort with balnear potential is Sângeorgiu de Mureș, with a complex vision of tourism within the locality and which integrates the elements of durable development. In 2019 the www.visit-mures.ro platform for promoting the county was launched along with the Visit Mureș mobile app, under the motto of „We travel to learn something new about the world in which we live, not to confirm what we think we know.” The county's promotional campaign is based on highlighting the existing heritage, tracking cultural legends and leisure activities in nature. **The most important therapeutic natural resources:** chlorosodic waters, therapeutic lakes



SIBIU County

The county touristic vision is, according to Touristic Development Association, to become a national leader in sustainable and responsible tourism. The masterplan for the tourist field in Sibiu county



also involves an interdisciplinary approach to the various types of tourism, such as combining the balneoclimatic potential from Ocna Sibiului with the gastronomic and oenologic potential from Secașe - the Apoldu de Jos area. Sapropelic therapeutic mud, slightly mineralized and formed in lakes, is added to the mineral waters of the Horea spring from Ocna Sibiului. The deepest salt lake in the country, Lake Avram with a depth

of 132.5 m, can also be found here. The mud and salt from Baznea are two other important curative factors, the resort having been recently certified. Today the 2 resorts primarily target senior tourists. The Miercurea Băi locality is not functional presently, however the county's development strategy mentions development and exploitation prospects, although no such objectives can be found in the local strategy. By analyzing the activity reports of the touristic promotion association, we observe solid steps towards the development of ecotourism and slow tourism in the county, along with the launch of touristic tracks that connect popular resorts with smaller localities that have potential. For example, on Drumul Sării, developed along past salt mines, 3 tracks are recommended, each including between 7-10 touristic attractions or locations. The main promotional context is also influenced by the recognition the county has received: the city of Sibiu – the European Cultural Capital in 2007, European Gastronomic Region in 2019, and Mărginimea Sibiului – European Destination for Excellence in 2015.

The most important therapeutic natural resources: iodized waters, chlorosodic waters, therapeutic salt lakes, mud and aerosols

The evaluation criteria for granting **resort status** to localities involves aspects such as: the natural setting, natural curative factors and environment quality, access to and from the resort, structures for welcoming tourists and entertainment, touristic information and promotion, and other additional certification criteria. It is important to bring these criteria up to the recommendations of the European Commission for certifying resorts and developing them in a durable manner, recommendations which refer to the prioritization of using non-conventional energy sources (regenerable energy sources), the conservation and restoration of monuments and estates of cultural heritage according to archaeological evidence, historic centres, creating circuits and developing alternative transport (electric scooters, etc.), developing connections for touristic traffic (transport solutions and thematic routes) between the resorts' tourist attractions, etc.

On the other hand, a social-economic evaluation of the localities is required in order to understand the local reality and the quality of life. This has multiple components and also reflects the level of

development of the pilot area. The analysis of socio-economic indicators shows the dynamics of the entrepreneurial ecosystem at the local level within the context of the population with ages between 17-89. The entrepreneurial appetite is low compared to the county average in most cases, except in the area of Predeal where at least 1 in 10 persons administer a business, the county average being 1 in 25. In the Șoarș commune every 1 in 153 person starts a business. For a most relevant definition of the indicators, **we have related the number of businesses to the adult population**. Within the analyzed areas, the Saint George Municipality stands best, where 1 in 2 persons run a business. In contrast, within the locality of Cătălina there are only 2 businesses registered for a population of over 3000. We have obtained complete data about 31 localities out of which 15, approximately half, are confronted with accentuated occupational problems, the rate of the active population being **below 10%**. Above the regional average (25%) are the localities of Borsec (65%), Miercurea-Ciuc (53%), Odorheiu Secuiesc (45%), Saint George (44%), Tușnad Baths (34%), Sâncrăieni (29%), Izvoru Mureșului (29%), Predeal (28%). This data shows that after the decline of balneary tourism in Romania, few resorts were able to maintain an adequate local economic level, and those who managed to do so have had an industrial component in most cases.

Table Nr. 1 The socio-economic analysis of localities with balnear potential

Locality/ Indicator	Population based on reported domiciles	Population with ages between 18-79	Number of businesses	Share of entrepreneurs in the active population	Businesses/ person aged 18-79	Average number of employees	The rate of the active population related to the entire population
BRAȘOV COUNTY							
Predeal	4869	3942	374	11	0.09	1322	27%
Homorod Baths Homorod	2615	1922	32	60	0.02	153	6%
Rodbav Baths Șoarș	2176	1532	10	153	0.01	96	4%
Perșani Baths Șinca	3789	2698	28	96	0.01	235	6%
COVASNA COUNTY							
Covasna	10975	8827	369	24	0.04	3062	28%
Balványos Turia	3870	2958	65	46	0.02	205	5%
Fortyogo Baths Peteni	149	-	2	-	-	-	-
Malnaș	1027	826	25	33	0.03	134	13%
Vâlcele	5485	3111	36	86	0.01	275	5%
Biborțeni	672	-	8	-	--	-	-
Baraolt	8672	7185	202	36	0.03	1776	20%
Sfântu Gheorghe Șugaș Bath	63659	5943	2829	2		27942	44%
Ozunca Băi Bățani	4724	3383	37	91	0.01	229	5%
Hătuica Cătălina	3327	2589	2	1295	0.00	90	3%
HARGHITA COUNTY							
Tușnad Baths	1632	1274	90	14	0.07	552	34%
Borsec	2675	2161	86	25	0.04	1737	65%
Praid	6975	5347			0.00	513	7%
Harghita Bath	-	-	3	-	-	-	-
Homorod Baths Vlăhița	7585	5910	189	31	0.03	1758	23%
Miercurea-Ciuc*	41460	33100	2661	12	0.08	21989	53%
Sântimbru-Băi Sântimbru	2250	1643			0.00	142	6%

Izvoru Mureşului	753	-	21	36	-	218	29%
Remetea	6394	4889	156	31	0.03	365	6%
Caşin Baths Iacobeni	388	-	4	97	-	-	
Corund	6559	4765	67	71	0.01	257	4%
Topliţa	15647	12481	441	28	0.04	3669	23%
Borşaros Baths Sâncrăieni	2641	2033	94	22	0.05	760	29%
Odorheiu Secuiesc	38054	29887	2149	14	0.07	16957	45%
Bilbor	2580	2074	62	33	0.03	117	5%
MUREŞ COUNTY							
Sovata	10219	8177	365	22	0.04	2737	27%
Ideciu de Jos	2150	1646	58	28	0.04	131	6%
Sângeorgiu de Mureş	10815	8185	609	13	0.07	2374	22%
SIBIU COUNTY							
Bazna	4103	2928	33	124	0.01	201	5%
Ocna Sibiu	4305	3347	73	59	0.02	301	7%
Miercurea baths Miercurea Sibiului	4795	3605	66	73	0.02	1144	24%
ALBA COUNTY							
Băile Sărate Ocna Mureş	14081	11057	427	33	0.79	1452	10%

* Jigodin Baths, Harghita Bath, Miercurea Baths

Source: NIS Romania 2019, SNIA Romania 2020

Although each locality (without resort status) has extraordinary potential due to the existing natural therapeutic resources, the ability to create value at the local level remains limited and is often hindered by the lack of basic facilities (issues with balancing or connecting to the water and sewage disposal infrastructure). The local development strategies mention strategies such as the modernization of the road infrastructure, modernization of the energy and electricity infrastructure, the construction of new buildings for educational and social activities, however it is obvious that in many cases the local policy makers are not familiar with new, durable and innovative technological solutions – such as a sustainably constructed environment – which would allow us to meet European standards and improve living standards in the long term.

2.2 Types and level of capitalization of existing balneary resources in resorts and towns with balneary potential in the Centru Region.

According to the law, „a balneary resort is a town and/or area which has mineral substance resources, scientifically proven and traditionally acknowledged as being therapeutically efficient, having specific equipment for cures and is organized in such a manner to allow balneary medicine assistance in proper conditions; a climatic resort is a town and/or area situated in areas with beneficial climatic factors and has proper conditions for ensuring a good or improving health and/or work capacity, rest and recomfort; a balnearyclimatic resort is a town and/or area which fulfils a) and b) conditions;” (Government Ordinance no. 109/2000)

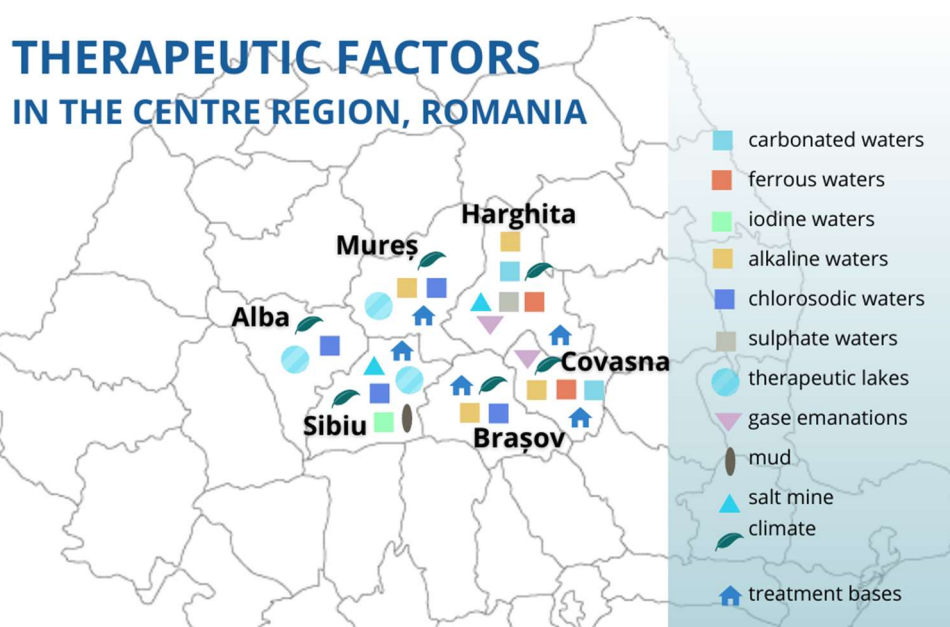
In the context of regions hierarchy from a therapeutic natural factors point of view, the Centru Regions ranks first. Braşov, Covasna and Harghita counties are part of the country's 5 counties

which have the most therapeutic natural resources, followed by Mureş, Alba and Sibiu counties, marked category II out of 4 categories of therapeutic natural factors abundance classification. (Annex 1.)

Because the origin and composition of rocks, where mineral water deposits are developed are very variable, there are no identical composition therapeutic natural resources.⁵ Thus, the Centru Region is not only rich in balneary resources, but their variety allows the development of tourist offers portfolio with a large scale of motivations/tourist purposes, with strong ties in maintaining/improving their state of health.

The most important existing therapeutic natural resources in the Centru Region are the following:

- ☼ **Different composition mineral waters** (*A water is considered to be a mineral water if it has: minimum 1 g of mineral salts dissolved in one litre of water; has certified therapeutic effects on the human body*).
 - ☼ Carbonated mineral waters
 - ☼ Ferruginous mineral waters
 - ☼ Iodized mineral waters
 - ☼ Alkaline-earth (metals)
 - ☼ Chlorinated-sodium mineral waters
 - ☼ Sulphurous mineral waters
- ☼ **Therapeutic gas emanations** (mofette, solfataras). *A mofette is a post-volcano phenomenon, which manifests through gas emissions (especially CO₂) at low temperatures in the air or dissolved in mineral waters. Solfataras have sulphurated hydrogen in their composition and evaporate in water vapours.*
- ☼ **Salt mines**
- ☼ **Bioclimate**
- ☼ **Therapeutic mud**
- ☼ **Woods**



Graphic 2. Map of therapeutic factors by counties

Valorising balneary resources in the form of prophylactic balneary cures, treatment and recovery medicine, are done in **treatment bases found in balneary resorts**. Indications about therapeutic natural factors in the form of internal cures – crenotherapy, external cures – balneation,

⁵ Radulescu I., Calin R. & Ion A., 2017, Quality parameters of natural mineral water in Romania.

hydrokinetotherapy, in the form of aerosols, irrigation can be found. Integrated thermotherapy, electrotherapy, massage therapy, kinetotherapy is recommended.

TREATMENTS AND PROCEDURES used in treatment bases according to the law are the following:

- | | |
|---|--|
| • mineral water balneation and hydrotherapy | • occupational therapy & massage therapy |
| • applying therapeutic mud | • electrotherapy |
| • applying therapeutic gases | • respiratory therapy |
| • therapeutic parks | • inhalation therapy |
| • kinetotherapy | • crenotherapy |

Besides these procedures, specialty literature also mentions “forrest baths”⁶ or silvotherapy⁷ which belong to open air cures.

Tourism is the most widely spread way of capitalizing therapeutic natural resources, taking into consideration this sector’s development dynamic in the Centru Region in the past years and its undisputed multiplying effect. The Centru Region’s resorts and towns with balneary potential can be found below, also therapeutic indications, therapeutic effect factors and natural resources, existing treatment bases and traditional baths including moffetes, health services provided in the mentioned town, leisure services and tourist attractions.

Metodology of the elaboration of the table *“Therapeutic indications, treatment resources, procedures, treatment bases and other balneary and tourism infrastructures by localities”*

The content of the table is based on the published literature (Annex 1). Further information was collected from the county and local development strategies. The scientific data was validated by doctor Gabriela Dogaru - Doctor in Medical Recovery, Physical Medicine and Balneology.

Treatment bases(centres) marked in the table with **bold blue** are those entities which have been authorized according to the law and in 2020 received clients benefiting from treatment tickets. All of these entities have clinics specializing in balneary medicine and/or the treatment activity is supervised by specialized personnel.

Traditional baths are marked with **green**. Activity for these sites is not under medical supervision. People use the facilities, including moffetes, on their own risk.



Hotels which did not use the National Social Health House program regarding treatment tickets are also presented in the table, but they offer prevention and treatment facilities, like **hospitals and mental institutions**.




⁶ Hansen MM, Jones R, Tocchini K. Shinrin-Yoku (Forest Bathing) and Nature Therapy: A State-of-the-Art Review. Int J Environ Res Public Health. 2017 Jul 28;14(8):851. doi: 10.3390/ijerph14080851. PMID: 28788101; PMCID: PMC5580555.





⁷ <https://balneologietransilvania.ro/informatii-tratamente-balneare/padurea-si-beneficiile-cardiovasculare>




Table 2. Therapeutic indications, treatment resources, procedures, treatment bases and other balneary and tourism infrastructures by localities






	Town	Therapeutic indication	Balneary resources	Treatment bases/traditional baths	Other recreational services	Sightseeing
				Balneary procedures 🏠 Other health services		
B R A Ş O V	Pârâul Rece – local interest tourist resort (Predeal – national interest tourist resort)	Neurasthenia for weak bodies, for physical or intellectual recovery, for disorder treatment Debility issues, endocrine conditions	Tonic bioclimate, stimulating, fresh air, no dust or other allergy, agents rich in ozone and UV radiation, ionized atmosphere and low air pressure	Sanatorium of Neurosis Predeal Secondary prophylactic cures Electrotherapy Hydrotherapy Aerosols Medical massage Kinetotherapy Therapeutical hiking 🏠 Predeal Mountain Rescue, Family medical clinic (3), Pharmacies (3)	14 Spa/pool accommodations, 8 Ski slopes - 1 at Pârâul Rece, Hiking trails, 7 Tennis courts – 1 at Pârâul Rece, Sport facilities, Fitness centres, Cinema, Mountaineering, zip-line, mountain biking, ATV rentals, bikes, bowling room & billiards, Skating ring, Escape Room	Sfântul Nicolae Monastery Sfinții Împărați Constantin și Elena orthodox church Heroes Monument - Valea Râșnoavei Mihail Săulescu Monument Predeal train station Heroes Monument
	Băile Homorod (Homorod)	Rheumatic conditions, Dermatological conditions, Endocrine conditions, neurasthenia, Biliary and hepatic conditions, Digestive conditions	Sulphuric mineral water Mud	No treatment base 🏠 1 Dispensary	Homorod Residence Pension	Salt water fountain Vulcanii norioși Fortified Church Jimbor Fortress Mercheașa village secular oak
	Băile Rodbav (Șoarș)	Rheumatic condition, gynecology, posttrauma, cardiovascular, digestive and endocrine	Alkaline and salt-iodized mineral water	No treatment bases	-	Rotbav evangelical fortified church
	Băile Perșani (Șinca)	Digestive tube conditions	Chlorinated mineral waters, bicarbonate, sodium, calcium Sapropelic mud	No treatment bases Băile Perșani tourist complex – mud bath– activities which do not require medical supervision 🏠 Șinca: Dispensary(3), Pharmacy (3)	Băile Perșani Motel Wood houses	-





Covasna – balneary and climatic resort – national interest tourist resort	Stage I and II hypertension, After effects from cardiovascular attacks, stroke after effects, mitral and aortic insufficiency, Valvulopathies, Superficial and deep phlebitis Varicosities Peripheral arthropathy Metabolism issues: diabetes Neurosis Gynecological conditions Erectile disfunctions Varicosities	Carbonated mineral water, bicarbonate, sodium, chlorate, hyper and hypotone Carbonated mineral water, bicarbonate, sodium, calcium, hypotone Oligomineral, mineral, carbonated, ferruginous waters Light radioactive gas emanating mofette	Cardiovascular Recovery Hospital “Dr. Benedek Géza” Hotel Covasna, Hotel Cerbul, Hotel Montana** și ***, Hotel Bradul Hotel Dacia** și ***, Hotel Clermont Warm water baths, Mofette therapy, Aerosols, Inhalations, Paraffin treatments Electrotherapy, Galvanic baths Massage, medical gymnastics Interferential currents, diadynamics, currents, Trabert currents, magneto therapy, short waves, ultrasound, Laser therapy, limfmassage "Bene" Mofette, "Bardocz" Mofette  Municipality hospital, Family medical clinic (5), Ambulatory services, Speciality clinics: Obstetrics, gynecology General medicine, cardiology, ophthalmology, Pharmacies(3)	4 - 4 star hotels (Monte Cervo, Căprioara, Clermont, TTS) out of 7 hotels 2 B&B's with pools out of 9 B&B's Sauna, jacuzzi, fitness centres, relax massage 3 picnic zones Valea Zânelor Camping Ski slope Steam engine	Devil's Pond Kőrösi Csoma Sándor torso 8 churches Romanian soldier Monument Valea Zânelor with “Valea Zânelor Fortress” (Șiclăul) Inclined plane
Balványos (Turia) – local interest resort	Hypertension and mitral and aortic insufficiency Varicosities Peripheral arthropathy due to atherosclerosis Neurasthenia Degenerative and articular rheumatic conditions Professional diseases Stomach and intestine conditions	Chlorurated mineral waters, calcium, sodium, carbonated, ferruginous, hypotone. (20 mineral water springs) Mofette Tonic bioclimate, sedative, perfect for good health.	Balványos Resort – Grand Santerra Spa Hotel Hydrotherapy / Saltwater pool Kinetotherapy / therapeutic massage Warm treatments Salt room Magnetotherapy, laser therapy, ultrasound, electrotherapy Internal and external mineral water rehab Traditional baths: Csiszar Bath, Apor Bath  Turia: Family medical clinic (2), Dental clinic (2), 1 Pharmacy	162 holiday homes 5 tourist accommodations. Adventure park Organized excursions to Sfânta Ana Lake (approx. 10 km)	Sfânta Ana Lake Peștera Puturoasă Balványos Fortress ruins





Băile Fortyogo (Peteni)	Cardiovascular diseases, Peripheral circulation conditions Rheumatic conditions	Carbonated mineral waters, other mineral water springs Mineral water springs in Peteni: Fortyogo, Nagy, Varhelyine, Ujkutja	No treatment bases Traditional baths: 2 carbonated mineral water pools, sauna  Zăbala: Family medical clinic (2), 1 Pharmacy Dental Clinic (1)	Peteni does not offer tourist accommodations Zăbala (5 km): Zăbala Estate – Mikes Castke, 4 B&B's and 1 Guesthouse, lake	360° View Ceangăiesc Ethnographic Museum Mikes Castle (park, dendrologic)
Malnaș	Digestive tube condition (gastritis, chronic hyperacidity, gastric ulcer and chronic duodenal, chronic colitis, chronic constipation), Cardiovascular condition (mitral and aortic insufficiency hypertension, Peripheric arthropathy with arthrosclerosis), Neurasthenia, respiratory condition	Carbonated mineral waters, ferruginous, bicarbonate, sodium, calcium, magnesium, Mofette Bioclimate for health. <i>Malnaș: Main spring, Victoria, Mioara, Izvorul de la Grota, Dobola spring, Sonda Siculia, Maria, Hercules, Băile Calde Spring</i> <i>Valea Zălanului: Ánási, Bugyogó, Karácsony, Csuklyoni, Nádasi, Kerkedombi</i>	Malnaș Băi Mineral Water Road Centre <u>Bugyogó Traditional Bath – Valea Zălanului, mineral water pool and mofette</u> No supervised balneary activities  The village has no other medical	Malnaș Băi does not offer tourist accommodations Guest houses at Valea Zălanului Cultural and gastronomic events are organized at Valea Zălanului	Aqua Telluris medicinal mineral water plant – Elisabeth Spring Catholic Church Nașterea Maicii Domnului Ortodox Church
Vâlcele	Cardiovascular condition (hypertension, Peripheric arthropathy with arthrosclerosis, varicosities), Digestive tube condition (chronical gastritis hyperacidity, chronic constipation), Hepatic-biliary (biliary dyskinesia, chronic cholecystitis), Metabolism condition	Carbonated mineral waters, bicarbonate, magnesium, calcium, sodium, ferruginous , hypotone, with a total mineralization of 6,6 – 8,9 g/l, health bioclimate Sedative bioclimate.	Vâlcele Mineral Water Road Centre Hydrotherapy with brimstone mineral water from "Elisabeth" Spring 6 mineral water springs – drinkable water No supervised balneary activities  1 pharmacy	Sauna Salt room Botique Panorama Hotel at the entrance which territorially belongs to Sf. Gheorghe city, spa, event tent Silvanca B&B	Old Vâlcele Patology and Neuromuscular Hospital Old Casino





H A R		Respiratory condition, Neurasthenia, Endocrine condition, Professional diseases				
	Biborțeni (Baraolt)	Digestive and renal diseases	Carbonated mineral water, bicarbonate, calcium, sodium, magnesium, hypotone	No treatment bases No balneary procedures  1 Family medical clinic	-	Calvin Church F9 Spring
	Băile Șugaș (Sfântu Gheorghe)	Cardiovascular diseases Digestive and Renal diseases Respiratory diseases	Carbonated mineral waters, ferruginous, sodium, bicarbonate, calcium, magnesium, hypotone Bicarbonate waters, sodium, magnesium, carbonated, hypotone, Mofette	Vâlcele Mineral Water Road Centre (<i>mineral waters are not used</i>) Băile Șugaș treatment centre: Mineral water hydromassage - medical assistance is provided Mofette – not supervised  Other health services can be found in Sfântu Gheorghe	3 B&B's Adventure Park Minigolf course Wall climbing Tennis court Ski slope Trout fishery and accommodation at Apa Regina water plant	-
	Ozunca Băi (Bățani)	Cardiovascular condition Digestive tube condition Kidney and Urinal tube condition	Calcium – Magnesium carbonated waters Sedative bioclimate	No treatment bases In the town centre there is a cement mineral water basin – not supervised  Family medical clinic at Bățani	Camping the Valley -camping possibilities with tent or RV's, Pool, Playground Adventure Park	Bardocz House Tinovul – natural reservation.
	Hătuica (Cătălina)	Digestive condition Kidney condition Cardiovascular condition Circular system diseases	Carbonated mineral water, bicarbonate, calcium, magnesium, hypotone. Mofette	Hătuica Mineral Water Road – medical examination by a doctor in balneary- physiotherapy Carbonated baths in warm water and hydromassage bathtubs Mofette therapy, Electrotherapy  Family medical clinic at Cătălina	Fitness centre Sauna and infrasauna Accommodation in double rooms also for locomotor disability people inside the Bath Centre	Hătuica roman- catholic church
H A R	Băile Tușnad – balneary resort	Chronical cardiovascular condition Nervous system condition	Natural treatment factors: carbonated mineral waters,	CIUCAS Hotel, TUSNAD Hotel, SARA Hotel O3zon Hotel , Wellness&Spa Complex	Exterior pool Bike rental Off-road type trips	Mineral Water Museum Ciucaș Lake





G H I T A	– national interest resort	Digestive condition Endocrine, renal and urinal tube condition, Gynecology diseases, Professional diseases	chlorinated-sodium, bicarbonate, mofette, subalpine bioclimate, stimulative, tonifying, negative ion rich air <i>Márton Spring, Mikes Spring, Ileana, Apor, Étőnescu, Tineretului, Rudi Springs, Tămăduitoare Apa Roșie</i>	Bathtub or basin carbonated mineral water, Mofette therapy, Crenotherapy, Thermootherapy, Electrotherapy Kinetotherapy, Massage therapy Medicinal plants therapy Climate therapy- Hikin, Magnetotherapy Ana Aslan type therapies Nadas Traditional Bath Interior mofette  Family medical clinic, Dental clinic	Electric ATV rental, Segway tours Stand Up Paddle (Sup), Laser tag, Rafting, Kayak, 3 wheel Cart tour, mountain Skyver (electric bike), Archery, Organized mountain tours, tandem paragliding, Hiking, Sleighrides, Team building Train ride to Sf. Ana Lake, <i>Tusványos Youth Festival</i> Minigolf course Tușnad Fun Park	Piatra Șoimului Natural Reservation Admirarea Măicii Domnului Church Sfânta Maria roman-catholic Church
	Borsec – balneary resort – national interest resort	Cardiovascular diseases Varicosities Digestive diseases (chronical constipation, chronical hypoacidity gastritis), Endocrine diseases, Biliary dyskinesia Renal disorders Neurasthenia, Nutrition diseases, Muscle and artery pains	Carbonated mineral waters, bicarbonate, calcium, magnesium (15 springs), Peat mud, Mountainous bioclimate, stimulative <u><i>*Treatment base and SPa & Wellness Centre under construction</i></u>	Ó-Sáros Treatments Centre Internal and external carbonated mineral water cures, Mofette therapy, Electrotherapy, Electropuncture, Kinetotherapy, Massage therapy Climate therapy Poiana Zânelor Traditional Bath Izvorul Străvechi – mofette  Dispensary (1), Dental clinic (1), Family med. clinic (1), Pharmacy (1)	Ski slope and Skating ring 116 km of hiking trails (in conformity with national standards) BOB slope 27 tourist accommodations – villas and B&B's	Mineral Water Museum, Karst area of the hill Scaun Rotund Hármasliget Botanical Reservation Bear Cave Ice Cave Bufniței Fortress Borsec Belt Road Orthodox Church 7 springs Boulevard
	Praid – local interest resort	Asthma (extrinsic, intrinsic, mixt); Chronical bronchitis, Chronical sinusitis, Silicosis, Bronchiectasis (without hemoptysis), Angina, Pharyngitis, Tracheobronchitis,	Chlorinated-sodium mineral waters concentrated, Salt mine bioclimate, high ozone stimulative bioclimate	Balneary Complex – medical clinic Mud treatment centre, 14 thermal water bathtubs, reflex therapy, electrotherapy, paraffin treatments Termal pool , Praid Salt Mine: Air inhalation, Respiratory Kinetotherapy  Family med. clinic (4), Pharmacy (3), Dental clinic (1), Centre for permanent disease prevention (24/7)	2 hotels (**and ***) Freshwater and salted water basins - Altus Hotel & Spa, Swimming pools, jacuzzi, sauna, Turkish roman bath, massage inside the balneary Complex, Praid Salt Mine leisure activities – adventure park and cinema Hiking trail	Praid Salt Mountain (Natura 2000), Praid Salt Mine Wooden house -Fábián Vince, Rapsóné Fortress Poarta de lemn protestant church, The old chancery of the salt mine, which today functions as a dispensary “Áprily Lajos” memorial house Butterfly House
	Harghita Băi (Miercurea Ciuc) – local	Cardiovascular condition Circular system diseases	Solfatarien Mofette	<i>Traditional baths around Vallató and Lobogó springs</i> Mofette	30 accommodations, 1 hotel, 8 B&B', 21 lodges and guesthouses 3 accommodations with sauna	-

interest resort	Chronical fatigue	Carbonated mineral waters sodium, ferruginous, calcium, magnesium, sulfurase Stimulative climate <i>Szemvíz, Főborvív, Farkas, Pataki, Magdolna, Régi Springs</i>	Internal and external mineral water cures  Health services in Miercurea Ciuc.	Ski slope Hiking	
Băile Homorod (Vlăhiță) – local interest resort	Digestive condition-hepatobiliary diseases (biliary dyskinesia, chronic cholecystitis), Endocrine condition (hyperestrogenism, ovarian menopause syndrome)	Carbonated mineral waters, chlorinated-sodium, ferruginous, hypotone <i>Lobogo, Maria, Csorga, Homoradi, Ilona, Fenyves Springs</i>	No treatment base; medical assistance is provided in the school camp Lobogó Complex – halotherapy massage, salted water basin  Basic health services only at Vlăhiță	8 B&B's, 42 holiday homes, 1 hotel, 1 motel and 323 „mărgăritar” type houses Ski slope Lobogó Complex: Exterior pool, Hydro massage pool Sauna, Turkish bath Massage services in salted air conditions	Földvár Ruins Church built by Count Lázár János (1765)
Băile-Jigodin (Miercurea-Ciuc)	Cardiovascular condition Chronical rheumatic condition	Carbonated mineral waters, Mofette, Solfataras	Băile Jigodin Spa Centre Mineral water baths, Crenotherapy Mofette therapy Jigodin Mineral Water Pool  Basic health services are provided in Miercurea-Ciuc	Open air basin Sauna Massage Hydromassage	Imre Nagy Gallery Zsögöd roman catholic parish church Mikó Mansion
Sântimbru-Băi (Sântimbru)	Cardiovascular condition Chronical rheumatic condition	Carbonated mineral waters, Mofette Solfataras	No treatment bases Mofetotherapy Climatotherapy  No health services in the village	„Moffetta” B&B with sauna	Roman-catholic church (gothic style) Sf. Margit Chapel
Izvoru Mureșului (Voșlăbeni) – local interest resort	Cardiovascular diseases Digestive diseases (chronical constipation, chronic hypoacidity gastritis) Endocrine diseases	Aerosols and negative ion rich air. <i>Mureș River Spring Maria Spring</i>	No treatment bases Air inhalation  Family medical clinic (1)	National Sports Complex – recreation, sport training for the youth, gym, sport courts, 1 Hotel, 37 B&Bs, Ski slope, Sport equipment rental.	Adormirea Maicii Domnului Monastery Șugau Cave

Remetea	Cardiovascular condition Digestive condition Hepatobiliary condition	Mineral waters Bicarbonate CO ₂ , ferruginous, calcium, magnesium, sulphurous hypotone. Tonic and stimulative bioclimate Mofette <i>Réti, Pál Albert, Fördő Tulamaros, Anti Zakor, Sorokalji, Maroshídi, Nyírszegi & Sóza Springs .</i>	No treatment bases  Family medical centre (2), Pharmacy (2), Dental clinic (1)	3 B&B's, pond, boat ride 2 km mineral water area with a width of 300–400 m Hiking	Old balneary area
Băile Cașin (Iacobenii)	Hypoacidity gastritis condition, - chronic hepato- cholecystitis	Bicarbonate mineral waters, chlorinated - sodium and sulphurous <i>Piatra Albă, Repat, Perla Casinului and Băile Iacobenii Springs</i>	No treatment base  Plăieșii de Jos village: Family medical centre (1), Pharmacy (1), Dental clinic (1)		Perla Casinului-Salutaris Spring
Corund	Cardiovascular condition Digestive condition Hepatobiliary condition	Bicarbonate mineral waters, ferruginous, salted waters <i>Diómáli Spring, Szőlőmáli Spring, Cseredombi & Erzsébet Springs</i>	No treatment base Unicum traditional bath  Hospital, Family medical centre (1), Pharmacy (1), Dental clinic (1)	Over 30 B&B's and guesthouses Dealul Melcului hiking trail, Artisanal workshops, Paintball, Sleigh tours and horseback riding Wild animals observatory "Travel in time", Program	Promenada de Corund – Permanent Craftsmen Fair Aragonite Museum Corund Băi old resort
Toplița – local interest resort (Banffy Baths area)	Hypoacidity gastritis condition, - chronic hepato- cholecystitis Digestive and urinal tube condition, Cardiovascular condition, Chronical rheumatic condition	Mineral waters (mesothermal) sodium, chlorinated, calcium, magnesium <i>* Balneary Organization was founded in 1910 in Toplita</i>	No treatment bases Centrul SPA Banffy – pools Banffy and Urmanczy Baths  Health services are provided in Toplița municipality	Banffy B&B: sauna, jacuzzi, sport court, fitness centre	Toplița Fall Iezer Lake Doamne Monastery Sfântul Prooroc III Monastery

Băile Borșaros Sâncrăieni	Articular rheumatic condition	Bicarbonate mineral water, sodium, magnesium, calcium	No authorized treatment base Indoor bath with mineral water  Health services are provided in Sâncrăieni town	Sauna	Borșaroș swamp (natural reservation)
Băile Seiche (Odorheiu Secuiesc)	Gastro-intestine condition, hepatobiliary condition Gynecology and osteo-articular condition	Seiche Spring – bicarbonate water, calcium, sodium, carbonated, hypotone, Izvorul Orban Balazs Spring – Sulphurous water, sodium, carbonated No. 3 Spring, slightly sulphurous water, alkaline, carbonated Sulphurous thermal water, Therapeutic mud, Mofette	No treatment base Open air mineral water basin  Health services in Odorheiu Secuiesc	-	Mineral Water Museum Mini Transilvania Park
Băile Miercurea-Ciuc (Miercurea Ciuc)	Gastro-intestinal condition	Bicarbonate mineral waters, sodium, calcium, magnesium <i>Katalin Spring</i> <i>János Spring</i>	No treatment bases Open air mineral water basins  Health services in Miercurea Ciuc	<i>A recreational park investment is in place</i>	-
Bilbor	Gastro-intestinal condition	Calcium-magnesium mineral waters and bicarbonate, calcium, magnesium. <i>Springs: Suscai, Hangan, Stan Ion, Dumitru Bici, Ioan Nichitei, Simon, Albu Lungu, Vâlcanesti, Truta, Raita, Borvízpat.</i>	No treatment bases <i>It is the richest mineral water town in Harghita county</i>  Family medical centre (1), Dental clinic (1), Pharmacy (1)	Accommodation: 1 B&B, 1 villa and 1 guesthouse Dobreanu Baths Ruins Hiking	DOBREANU b Mineralized Swamp "Sf. Nicolae" orthodox church Bilbor first foundation, General School building 1936 (historic monument)

M U R E Ș	Sovata	Gynecological diseases (ovarian insufficiency, chronic cervicitis, Chronical Metro salpingitis), Degenerative rheumatic condition, chronic inflammatory Post-trauma condition Peripheric nervous system condition, Cardiovascular condition, Endocrine diseases, Dermatological condition - dermatitis atopic, psoriasis Respiratory condition	Chlorinated-sodium mineral waters (salted) Sedative bioclimate Sapropelic mud Ursu Lake (<u>healiothermal</u>) <i>Black Lake</i> <i>Red and Green Lake</i> <i>Aluniș Lake</i> <i>Mierlei Lake</i> <i>Piroșca Lake</i>	Hotel Aluniș , Hotel Hefaistos Hotel Bradet , Hotel Sovata Ensana Health Spa, Hotel Ursina Individual baths or salted water basin baths, Warm mud wraps, Thermotherapy Kinetotherapy, Electrotherapy, Massage therapy, Climate therapy Inhalations, aerosols  Sovata-Niraj Hospital, Agimed LLC – laboratory medical services, Family medical centre (5)	Spas and pools such as. Fabesca Hotel & SPA (salt water pool, salt room) Tineretului-Tivoli leisure lake Salt Road Sovata Steam Engine Leisure Farm, Hiking, Camping, Adventure park, Horseback riding, Archery, Boat trips, Excursions, Bike rentals, ATV Aluniș ski slope	Salt Mountain Judetișiei Villa Bernady Villa Nicolae Bălcescu Park Petőfi Sándor park Maria Spring "Schimbarea La Față" orthodox church Belvedere Tower Protestant church
	Ideciu de Jos	Degenerative rheumatism, abarticular rheumatism Respiratory - chronic bronchitis, asthma Neurasthenia	Chlorinated-sodium, calcium, magnesium, sulphurous, ferruginous Sapropelic mud	No treatment bases <i>Mineral water baths</i> <i>Climate therapy</i> Mineral water basin and pools  Family medical clinic (1), Pharmacy 1	Only one B&B can be found on the townhall website	<i>Evangelical church</i> <i>Deleni hunting lodge, Cetățuie and Sănioara Hills, WW1 and WW2 heroes Monument</i>
	Sângeorgiu de Mureș	Osteoarticular system condition, Nervous, cardiovascular and endocrine, genitalia, digestive, respiratory and reno-urinary, Dermatological, otorhinolaryngological, neuro physical, rheumatic condition	Chlorinated mineral waters, sodium, iodized, hypotone, concentrated and therapeutic mud	Apollo Wellness Club – qualified personnel for treatment Hydrotherapy (Salted baths), Mud wraps, Hydrotherapy, Electrotherapy, Aerosols, Kinetotherapy Massage therapy  Sport recovery services, Family medical centre, Dental clinic, Pharmacy (3)	Spa Centre, fresh water exterior and interior poll, fitness inside Apollo Wellness Club Bike path	Mariaffi Castle „Stejarii seculari de la Sângiorgiu de Mureș” natural reservation
	Jabenița (Solovăstru)	Rheumatic and articular condition	Chlorinated-sodium (salted) Mud	No treatment bases  Family medical centre (1), Dental clinic, Pharmacy (1)	-	Sănioara Hill Mociar sessile oak secular forest

S I B I U	Bazna	Degenerative rheumatic condition, Abarticular rheumatic conditions Posttraumatic conditions Peripheral neurological conditions , Gynecological conditions Associated condition - ENT, endocrine, professional diseases	Chlorinated mineral waters, sodium, iodized, brominated, concentrated, non-thermal, Therapeutic mud; Health bioclimate; aerosols and hydro ion and sodium iodine	Complex Balnear Expro Mineral water baths, Electrotherapy Kinetotherapy, Massage therapy Climate therapy  Family medical centre (1), Pharmacy (1)	Dobsi balneary complex – salted water pool, Finnish sauna fitness centre, massage, bike rental	Fortified church Lutheran- evangelical church
	Ocna Sibi	Chronical rheumatic condition Subacute and chronical Inflammatory gynecological conditions Infertility Respiratory condition	Salted water – heliothermic Bottomless Lake Horea’s Spring mineral water Sapropelic mud Sedative topo climate 16 lakes for bathing purposes	Jasmin Balneary Complex Ocna Sibiul Ștrand Balneary Complex – – qualified personnel for treatment Heliotherapy, underwater massage, whirlpool tubs for superior and inferior membranes. Paraffin and mud treatments, contrasting thermotherapy, collective sprays. Dry, elongation, cervical and lumbar massage services. Climate hiking. Low, medium and high frequency currents procedures  Family medical centre (2), Dental clinic (2), Pharmacy (3)	Jasmin Balneary Complex Pool Multifunctional sport courts Pools – camping, jacuzzi, saunas,	Protestant church (1240) ”Sfinții Arhangheli Mihail și Gavriil” orthodox church ”Schimbarea la față” orthodox church in Căciulata
	Miercurea Băi	Rheumatic condition	Chlorinated-sodium mineral waters, brominated, iodized.	Miercurea Băi Complex (2019): Salted water pool, individual hydromassage tub, Hydrotherapy – with medical assistance  Basic health services are provided in Miercurea Sibiului	Miercurea Băi Complex offers a fresh water exterior pool, relaxation massage sauna, accommodation (33 rooms at Comfort Hotel).	Fortified Lutheran (evangelical) church Miercurea Sibiului roman catholic church, Dobârca evangelical fortified church
ALB A	Băile Sărate (Ocna Mureș)	Rheumatic condition	Chlorinated-sodium mineral waters	<i>Treatment base under construction</i>  Basic health services are provided in Ocna Mureș	<i>* Leisure centre – under construction</i>	-

As shown in the above table, the balneary potential of the Centru Region is high, and it is characterized by powerful contrast between the development level of the capitalization of the resources. The following towns can be mentioned as competitiveness polls in balneary tourism: Sovata, Covasna, Băile Tuşnad, Predeal, Ocna Sibiului and Bazna, and after investments will be finalized in Borsec and Băile Sărate (Ocna Mureş) the list will be extended. Emerging towns: Sângeorgiu de Mureş, Bălványos and Praid, in which demand has exceeded offer. According to recent (2020) articles and statements by local authorities, investments will be done in Băile Rotbav, leisure infrastructure investments in Băile Miercurea Ciuc. A best practice example in capitalizing in a sustainable way its natural cure factors is Băile Csiszár (Bălványos); also, Hătuica Treatment Centre, Zsögöd Treatment Centre, Băile Borşaros.

Regarding **health education**, no balneary resort provides a sanitary post-secondary school.

Sources of the information in the above table can be found in Annex 2.

Other aspects in capitalizing Centru Region's balneary resources

Balneary resources are used for treatment purposes mostly within certified treatment bases, sanatoriums, health centres or through mineral water factories. But it is a general phenomena to transform these resources into touristic attractions. However, it is hard to measure the entrepreneurial activity around the resources by taking in consideration the specific activity code of the businesses (CAEN codes). Below, there are identified some of the businesses by counties which can be related to the balneary activities.

Spas, community baths as well as saunas function under the following code:

9604 – Body care activities | Total: 1283 companies

Alba: 164, Braşov: 335, Covasna: 121, Harghita: 138, Mureş: 234, Sibiu: 291

Recovery centres, physical and balneary medicine function under the following CAEN codes:

8622 – Specialized medical assistance services | Total: 1108 companies

Alba: 103, Braşov: 396, Covasna: 24, Harghita: 81, Mureş: 358, Sibiu: 249

8690 Other health activities, including therapeutic massages

Total: 967 companies

Alba: 115, Braşov: 354, Covasna: 23, Harghita: 114, Mureş: 245, Sibiu: 116

Leisure services:

- **9329** – Other leisure and entertainment activities n.c.e. | Total: 1465 companies

Alba: 189, Braşov: 461, Covasna: 66, Harghita: 133, Mureş: 305, Sibiu: 311

The diversity and volume of the existing balneary natural resources in the region allow an inter-complementary approach regarding eating and nutrition (medicinal waters, etc), spa and wellness phenomena and other domains in which the value chain through its complexity can have an important social and economic impact at a local level.

The following authentic products with a national reputation can be mentioned:



Vâlcele Mineral Water



Mineral Water from
Malnaș (Aqua Telluris)



Mineral Water
from Șugaș Băi



Salt from Praid



Salt from Bazna

Bottled mineral waters can be found in national chain stores, except Aqua Telluris which had its own selling platform until 2019, but this water which has therapeutic effect was occasionally distributed in national chain stores and hypermarkets. Salt from Praid is distributed through processing and distribution companies.

It is important to know that Borsec, Biborțeni and Perla Harghitei mineral water brands have a very important role in promoting the resorts, and also providing jobs for the people in the local communities.



Distributing Borsec mineral water at an international level

Source: <https://romaqua-group.ro/brands/borsec/>

2.3 The state of resource capitalization based on the increase in tourism and the quality of existing health services infrastructure

Turismul de sănătate reprezintă una dintre formele de turism care cunoaște un avânt deosebit. Health tourism is one form of tourism that has seen a particular increase. Capitalizing upon balnear resources through tourism could ensure the transformation of micro-destinations into demand stimulators, and the manner in which the local community responds to this demand shapes a number of economic and social factors. From the point of view of touristic attractivity, the Center Region is top at the national level based on statistics concerning the arrival of tourists in tourist-hosting locales and facilities, with a **36% growth** in 2019 compared to 2015.

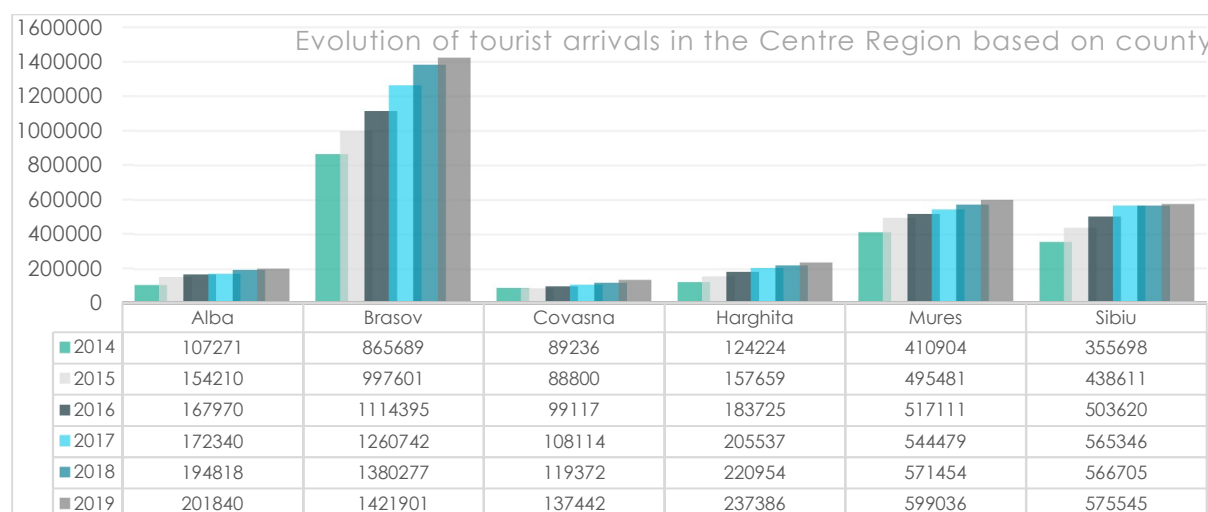
Table 3. Number of tourist arrivals according to regions

Development Regions	Year				
	2015	2016	2017	2018	2019

	Number for persons				
TOTAL	9921874	11002522	12143346	12905131	13374943
NORTH-WEST Region	1140667	1316363	1581744	1721729	1766289
Centru Region	2332362	2585938	2856558	3053580	3173150
NORTH-EAST Region	939475	1084045	1187823	1257205	1352527
SOUTH-EAST Region	1347969	1506616	1642715	1802189	1898433
SOUTH-MUNTENIA Region	852652	914141	974473	1036151	1084291
BUCURESTI – ILFOV Region	1850857	2065012	2202877	2279165	2236650
SOUTH-WEST OLTENIA Region	582142	630446	736458	739486	791821
WEST Region	875750	899961	960698	1015626	1071782

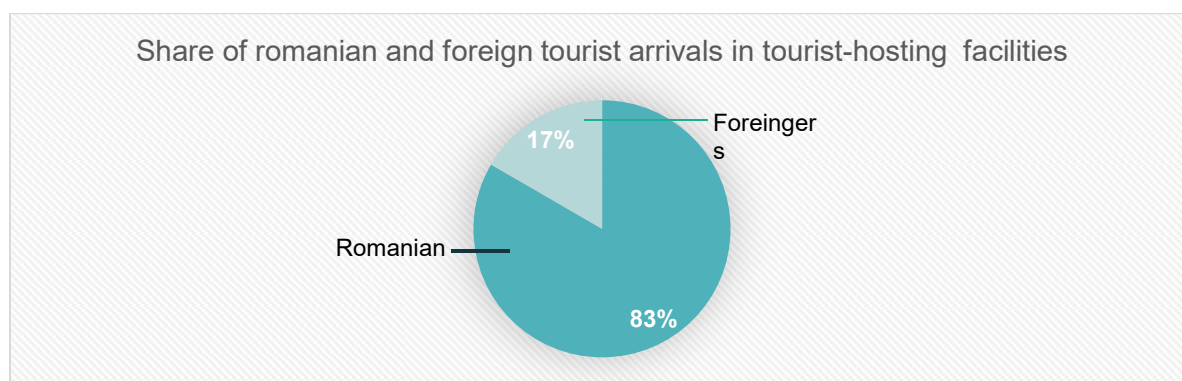
Source: National Institute of Statistics Romania

From the total number of tourist arrivals at national level, the Centru Region absorbs 23%, and this indicator has not changed during the analysis period. Concerning the total tourist arrivals regardless of the country of origin, we note considerable differences between the region's counties, Covasna covering only 4.3% of the total arrivals, while Braşov county received 44.8% in 2019.



Source: NIS Romania

The share of tourists based on their country of origin shows that the internationalization of services is an aspect that needs to be further developed, as only 17% of visitors come from outside the country.



Source: NIS Romania

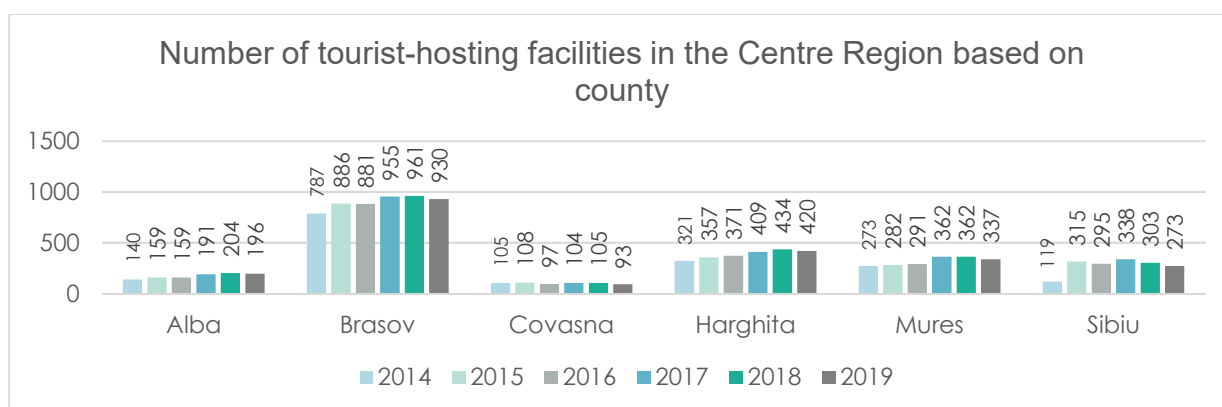
Table nr.4 Share of foreign tourists related to the total arrivals based on county.

	2015			2019		
	Romanian	Foreigners	Share of foreign tourists related to total number of arrivals	Romanian	Foreigners	Share of foreign tourists related to total number of arrivals
Centru Region	1901886	430476	18%	2645097	528053	17%
Alba	132317	21893	14%	172029	29811	15%
Brasov	839344	158257	16%	1230736	191165	13%
Covasna	79064	9736	11%	124896	12546	9%
Harghita	119630	38029	24%	183837	53549	23%
Mures	403460	92021	19%	513249	85787	14%
Sibiu	328071	110540	25%	420350	155195	27%

Source: NIS Romania

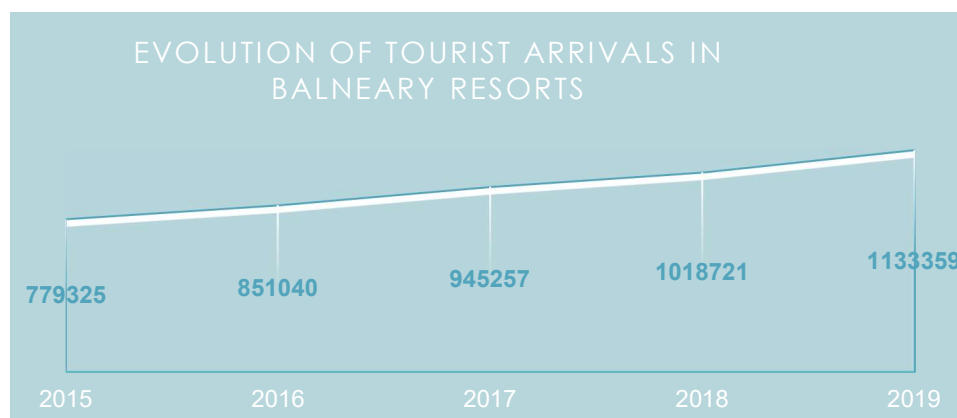
36% of the total foreign tourists were hosted in the county of Braşov, and proportionally the county of Sibiu has the largest share of foreign tourists (27% in 2019) related to the total foreign tourist arrivals in the county in the year of analysis.

Tourism development is heavily tied to the increase of hosting facilities, and this number has stagnated during the last 3 years, or even presented a slight decrease. At the same time it is important to consider the importance of maintaining/improving the quality of the infrastructure and related services. In 2019 there are 2249 registered hosting facilities in the region, 41% being situated in the county of Braşov.



Source: NIS Romania

Balneary tourism at the national level has seen considerable growth during the last 5 years due to the diversification of spa and wellness services. Additionally, there is some overlap between the balneary tourism and medical tourism sectors.



Source: NIS Romania

According to the statistics from recent years, the Centru Region manages to grow yearly in the balneary sector and the recorded performance reaches +50% in terms of arrivals and +15% in terms of overnight stays (*Updated Masterplan – Developmental Balneary Tourism Strategy 2019, Centru Region chapter*).

The most important indicators/touristic information were taken into consideration from balneoclimatic resorts, tourist resorts with balneotouristic potential (Sângeorgiu de Mureș) and several localities rich in balneary resources where published statistics are available. In total, according to published data from the National Institute of Statistics, we were able to analyze 20 localities, although in some cases the representativeness of the data is disputable. For example, in the case of the Șugaș Baths resort we analyze the administrative territorial unity - Saint George, where 15 hosting facilities appear in 2019, however in Șugaș Baths there are only 2 guest houses and a few cabins. The same method is also applied in the case of the Balványos – Turia, Miercurea Ciuc Baths, Jigodin Baths and Harghita Baths resorts which from the perspective of administration belong to the city of Miercurea Ciuc, and in the case of the Homorod Baths locality where the data from Vlăhița are analyzed, etc. In the county of Brașov only the Predeal resort figures in the INS database and which does not necessarily reflect the level of development of its belonging resort - Pârâul Rece. A large part of the identified areas with balneary potential do not appear in the national statistics concerning tourist activity.

Table 5. Number of hosting facilities and number of accommodations based on the territorial administrative units with balneary potential

County	Locality	Number of establishments				Evolution 2014-2019 (%)	Existing accommodation capacity				Evolution 2014-2019 (%)
		2014	2015	2018	2019		2014	2015	2018	2019	
Alba	TOTAL / county	140	159	204	196	40%	3858	4585	5278	5218	35%
	Ocna Mureș	1	1	1	1	0%	10	10	10	10	0%
Brașov	TOTAL / county	787	886	961	930	18%	26145	28616	29832	29438	13%
	Predeal	134	151	157	149	11%	4828	5352	5517	5356	11%

	Homorod	:	1	1	1		:	32	32	16	-50%
Covasna	TOTAL / county	105	108	105	93	-11%	5552	5582	4647	4445	-20%
	Covasna	17	17	18	16	-6%	2278	2308	2282	2251	-1%
	Sfântu Gheorghe	16	18	16	15	-6%	441	482	459	412	-7%
	Turia	7	7	8	8	14%	378	378	386	369	-2%
	Baraolt (Biborteni)	1	2	2	3	200%	26	48	57	43	65%
	Vâlcele	:	:	0	1	:	0	0	0	16	:
	Malnas	1	1	1	1	0%	9	10	16	16	78%
	Băţani	1	1	0	2	100%	6	8	0	49	717%
Harghita	Total / county	321	357	434	420	31%	8045	8547	8889	9252	15%
	Miercurea Ciuc	29	30	27	29	0%	1132	1098	984	1020	-10%
	Băile Tuşnad	24	26	24	25	4%	1179	1259	1211	1220	3%
	Borsec	23	27	23	27	17%	579	649	565	680	17%
	Vlăhiţa	11	11	11	13	18%	491	465	429	510	4%
	Praid	48	58	58	64	33%	757	908	969	1018	34%
	Voşlăbeni	22	22	17	41	86%	329	283	243	291	-12%
	Topliţa	9	11	11	13	44%	144	214	267	299	108%
	Sântimbru	:	:	2	2	:	:	:	28	28	:
	Odorheiu Secuiesc (Baile Seiche)	26	27	28	25	-4%	562	531	563	521	-7%
	Bilbor	:	:	1	1	:	:	:	18	18	:
Mureş	Total / county	272	282	362	337	24%	10450	11096	11686	10801	3%
	Sovata	74	81	136	129	74%	3725	3813	3958	3308	-11%
	Sângeorgiu de Mureş	5	4	5	5	0%	220	186	204	232	5%
	Ideciu de Jos	1	1	1	1	0%	18	18	16	16	-11%
Sibiu	Total / county	119	315	303	273	129%	6547	10473	10364	9958	52%
	Ocna Sibiului	6	13	14	13	117%	406	447	512	491	21%
	Bazna	3	6	7	8	167%	152	250	274	389	156%

Source: NIS Romania

In most localities there is a slight increasment in accommodation units and number of accommodation capacity between 2014-2019, with some exceptions. However, in the case of resorts with over 100 tourist hosting facilities a 5% decrease can mean 161 fewer accommodations – Predeal resort (year of refference 2018-2910). A considerable increase can be seen in the Voşlăbeni locality from Harghita county, where 24 additional hosting entities were declared in 2019 compared to 2018, and the number of accommodations has increased by only 48. In case of Praid, 6 new hosting entities and 49 new accomodations were created, which represents a 5% increase in capacity. Another positive example from Harghita county is the increase in the number of tourist hosting facilities in Borsec resort (4 new entities compared to 2014) which offer a total

of 115 new accommodations. Covasna Resort lost 31 accommodations, representing a decrease of 1% in hosting capacity.

In this table we can also see the importance of resorts in the counties' hosting offers. For example, in the case of Braşov county, 18% of the total number of tourist hosting facilities are represented by Predeal, and in the case of Mureş county **30%** of the total number of accommodations **are located in Sovata** in 2019.

As a result of investments made in tourism infrastructures as well as in the improvement of touristic attractions in pilot localities, supported by the Regional Operational Program 2007-20013 and 2014-2020, for tourism development, we can note a significant increase in the number of arrivals and overnight stays during the analyzed period.

Tabel 6. Number of arrivals and overnight stays in administrative and territorial units with balneary resources

	Number of arrivals in tourist hosting facilities				Evolution 2014-2019 (%)	Number of overnight stays				Evolution 2014-2019 (%)
	2014	2015	2018	2019		2014	2015	2018	2019	
Total Alba county	107271	154210	194818	201840	88%	217863	312762	364474	370750	70%
Ocna Mureş	159	200	156	246	55%	350	507	236	830	137%
Total Braşov county	865689	997601	1380277	1421901	64%	1781818	2060959	2709102	2803759	57%
Predeal	148699	179101	228349	221870	49%	312915	376470	484187	483895	55%
Homorod	:	106	16	126	19%	:	119	16	290	144%
Total Covasna county	89236	88800	119372	137442	54%	483643	481600	544129	604831	25%
Covasna	39603	39844	51881	58259	47%	372523	366330	394140	427300	15%
Sfântu Gheorghe	18353	16785	15549	15646	-15%	38195	37093	28070	31569	-17%
Turia	10612	10849	23703	30763	190%	27073	27013	52444	66554	146%
Baraolt (Biborteni)	656	871	1174	1058	61%	2420	2717	4670	3587	48%
Băţani	:	:	257	552	:	:	:	800	2228	:
Malnas	610	:	71	223	-63%	1065	:	156	300	-72%
Total Harghita county	124224	157659	220954	237386	91%	329750	417129	496118	530988	61%
Miercurea Ciuc	30813	42171	47794	49316	60%	57867	81518	85750	85137	47%
Băile Tuşnad	23285	31260	41146	42451	82%	122670	140422	130630	130477	6%
Borsec	3800	4990	9780	7318	93%	7243	14331	20842	16764	131%
Vlăhiţa	3974	4403	4614	5336	34%	11970	13176	12309	12748	6%
Praid	11521	13451	25055	31544	174%	25839	36059	62239	78441	204%
Topliţa	896	3662	8495	9042	909%	1765	6812	3740	15207	762%
Voşlăbeni	2312	728	854	833	-64%	5349	1687	2608	2282	-57%
Sântimbru	:	:	417	879	:	:	:	1143	2154	:
Bilbor	:	:	:	:	:	:	:	:	:	:
Total Mureş county	410904	495481	571454	599036	46%	850281	1028643	1061998	1164244	37%
Sovata	94512	105359	123740	134842	43%	334416	384193	386070	420638	26%

Sângeorgiu de Mureș	23911	26069	31358	37335	56%	49983	48955	59623	76950	54%
Ideciu de Jos	362	203	41	14	-96%	389	528	110	28	-93%
Total Sibiu county	355698	438611	566705	575545	62%	581505	740946	905336	969147	67%
Ocna Sibiului	2175	6813	7504	8726	301%	7798	17649	17947	22161	184%
Bazna	5546	7118	13645	18982	242%	11791	13517	32624	42348	259%

Sursă: INS România

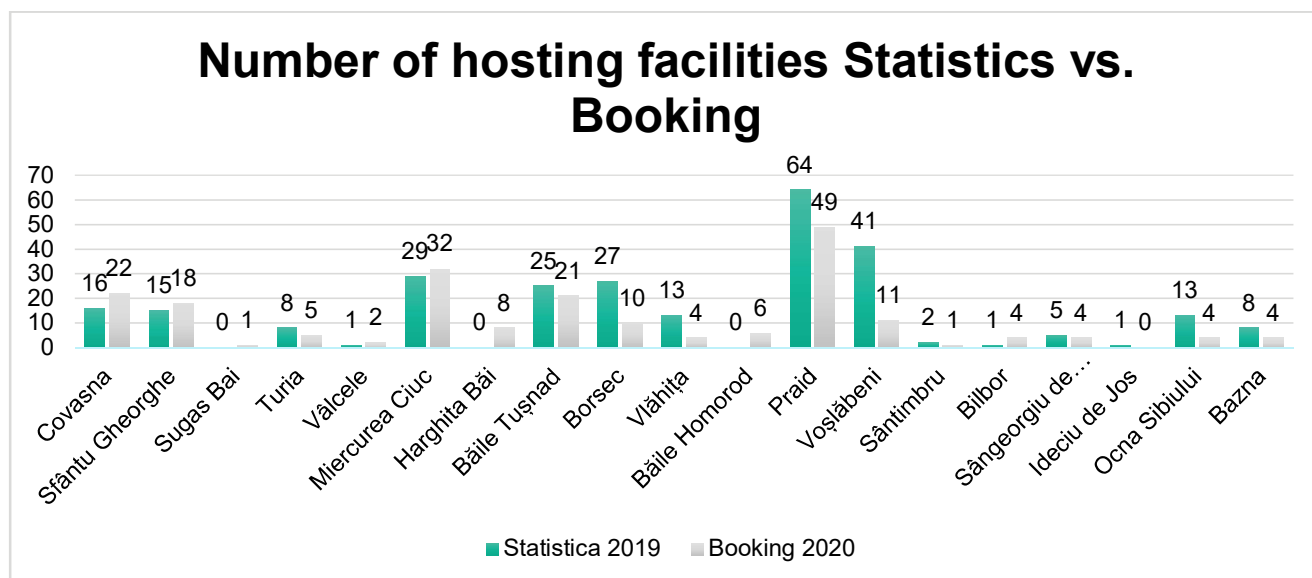
According to the above data, once the capacity increased within the establishments, the number of overnights followed the tendency. In 2019, accommodation units registered way much higher number of arrivals and overnights compared to 2014. For instance, in Toplița the numbers were 10 times higher in 2019 than in 2014.

Although the balneary complex from Băile Sărate (Salt Baths) is not finished, we can see a considerable increase not only of arrivals in the locality of Ocna Mureș, but especially in overnight stays, which means a reorientation in the touristic offers has taken place, focusing on multiple-day stays. Although in Predeal both the number of accommodations and of arrivals has decreased, this has not influenced overnight stays. At the level of Covasna county we note that the Turia – Balványos locality has seen the most impressive increase in arrivals, with an increase of approximately 7000 in tourist arrivals in 2019 compared to 2018. In total we see a 15% increase, which is firstly a result of the strategy implemented by the association for tourism development from Covasna, whose organic component was the measure named „influencer marketing”. In regards to Harghita county, a remarkable increase in arrivals occurred in the rural locality of Sântimbru, where arrivals had doubled, and in Praid the launch of new hosting services lead to a 26% increase in arrivals and overnight stays. Although in the Borsec locality the accommodation portfolio had been extended, the number of arrivals has seen a 25% decrease, which also affected the number of overnight stays. In Mureș county it is worth highlighting that in the Sovata locality the share increase of „only” 9% means 134842 arrivals according to the statistical evidence, which represents a strong antropic pressure upon the resort, especially in regards to the environment. Since reaching resort status, Sângeorgiu de Mureș has seen constant growth in terms of tourist activity. Ideciu de Jos, despite existing natural therapeutic factors, is not able to viably capitalize upon them. The resorts from Sibiu county distinguished themselves through important increases in tourist arrivals, 5000 more arrivals in the Bazna locality in 2019 than in 2018 and 1200 in Ocna Sibiului city.

According to statistics, Malnaș, Voșlăbeni și Ideciu de Jos are in decline from touristic point of view.

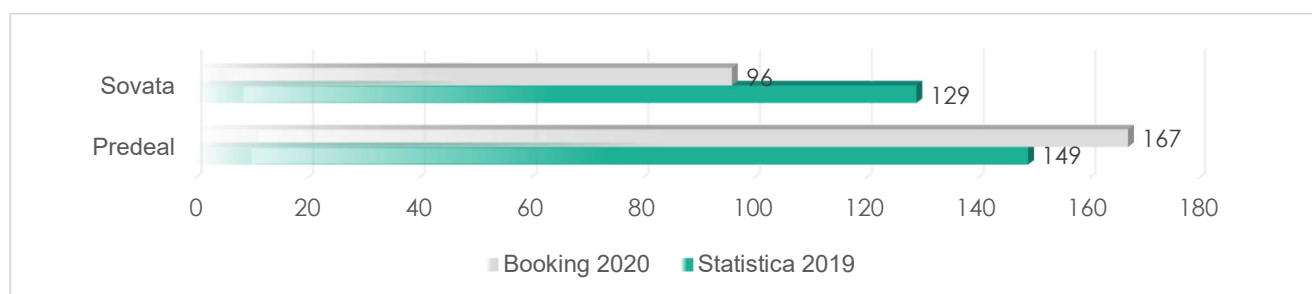
With the aim of evaluating the presence of hosting offers in the online medium, we have searched for the hosting offers in localities/resorts on the most widely used reservations platform in Romania and we compared the number of tourist hosting facilities shown on the platform with their number in the official national statistics. In most cases the differences are insignificant and can be explained by considering the opening or closures of hosting facilities throughout the analysis period. There are also cases where we see a small presence, for example in the case of Ocna Sibiului resort, where out of 13 units only 4 are accessible through this online instrument. Another interesting phenomenon is the display of accommodation based on touristic areas, and

not based on territorial administrative units, such as Harghita Baths with 8 published facilities, Homorod Baths with 6 or Șugaș Baths where a single guest house is shown.



Source: NIS Romania and Booking.com

The graph from below shows that in the case of Sovata resort only 74% of hosting economic agents promote their business on this reservation platform, 33 entities opt for other methods for marketing themselves and attract tourists. However, in the case of Predeal resort there are more tourist hosting facilities that show up online and which do not figure in the national statistics.



Source: NIS Romania and Booking.com

Websites for promoting resorts/localities with balneary potential and providing useful information about balneology and balneotourism:

National

- www.inrmfb.ro/consultanță
- www.bioclima.ro
- www.romanian-spas.ro
- www.desprespa.ro
- www.turismbalneo.ro
- www.tratamentbalnear.ro
- www.balneomedica.ro
- www.tbrcm.ro
- www.contur-travel.ro/harta-balneo

Regional

- www.clusterbalneo.ro
- www.balneologietransilvania.ro
- www.7minuni-transilvania.ro
- www.virtualisszekelyfold.ro (360° virtual tours)
- www.visittransilvania.ro

Presentation webpages on local and county level:

- | | | |
|--|--|--|
| • www.visitcovasna.ro | • www.visittusnad.ro | • www.ocnasibiului.eu |
| • www.visitharghita.ro | • www.visitsovata.ro | • www.bazna.ro |
| • www.visit-mures.ro | • www.baileharghita.ro | • www.predeal.ro |
| • www.visitborsec.ro | • www.tinutulsarii.ro | |

2.4 National or local policies that favour access to prevention services and treatment in balneary resorts

National Level

Treatment tickets through the National Health Insurance House (CNAS) Law 95/2006, concerning reforms in the health sector – Title VIII „Health social insurance”, republished, with additional changes and additions.

The policy has relevance upon the balneo-climateric domain, the law expressly stipulates that the insured have the right to benefit from physiotherapeutic and recovery treatment and to benefit from the services package from the unique national social Fund for health insurance, which expresses the obligation of health insurance houses to establish contracts with authorized and law-accredited medical service providers for providing and paying for their services, aiming for financial equilibrium. The medical recovery activity ensures, through speciality and legal medical units, stations, compartments and recovery laboratories, outpatient recovery units, public or private, as well as through balneary tourism and recovery associations. The criteria for issuing sending tickets for physical medical treatment and rehabilitation take into account the insured's specific pathology and ailments with the specifics of the balneary treatment.

At the same time, from OUG nr. 158/2005 – the specific legislation that regulates the vacations and allowances covered by health insurance expresses the means by which insured persons have access to medical services in medical assistance tiers, according to their need, while meeting the conditions for granting them, regulated through the normative documents aplicable to this system. At the same time, to benefit from the medical services covered by Fund, it is necessary for the insured to address the medical service providers that have established contracts with the health insurance houses.

The National Public Pensions House (CNPP) contracts places for balneary treatment at the start of each year in the limit of the funds approved through the state social insurance budget and partitions the total number of treatment tickets for each county pensions house based on the total number of potential beneficiaries (insured persons and retirees) and based on the tickets used up in previous years. According to the stipulations from Law nr. 263/2010, places for balneary

treatments are insured in treatment units through the property of the Balneary Treatment and Work Capacity Recovery Commercial Society T.B.R.C.M. – S.A, 13 in number at the national level, and through legally established contracts with other units from the domain.

The insurance of balneary treatment services, housing and meals at guest houses for the beneficiaries of the balneary treatment tickets issued by the National Public Pensions House is realized in hosting and public food facilities classified by the central public resorts institution and in treatment facilities authorized as medico-balneary for capitalizing upon the sanogenic cure factors by the Health Ministry, required to be set in balneary, climatic, or balneoclimatic tourist resorts of national interest or of legally recognized local interest. (Source: *Strategy for the development of balneary tourism and the official CNPP website*)

County level

At the local level, the county developmental Strategies are at the basis for sustaining balneary tourism and facilitating access to balneary treatments. Each county individually selected as a priority the problem of forests, health and tourism. The specific measures included in the county developmental strategies during the 2015-2020 period can be found in Appendix 3.

The most recent and up-to-date action for facilitating access to people to touristic services in the context of the pandemic is the **Safe Place Covasna** program. The Association for Tourism Development in Covasna county has launched in May 2020 the „Visit Covasna Safe Place” program to support the relaunch and rebalancing of tourism, through which it grants the „COVID Safe Place” certification to restaurants and hotels from Covasna county. The „Visit Covasna” representatives are visiting all the units planning to resume touristic activities, and those that have introduced various protection and safety measures to combat the spread of the pandemic will be certified and marked with the „Visit Covasna Safe Place” logo. These measures are in parallel to those proposed by the government, and reaching the status of a „Visit Covasna Safe Place” unit does not exempt these service providers from implementing the protective measures imposed by law. The additional safety measures that the hosting facilities from Covasna county are advised to implement help visiting tourists spend their vacation in optimal safety and comfort conditions, but also keep employees healthy. Among the additional safety measures that were proposed to Covasna county’s hosting units wishing to obtain the „Visit Covasna Safe Place” safety certificate are included: the partial utilization of the hosting capacity, filling in the check-in form online, placing disinfectant mats, measuring body temperature upon entering the facility or wellness areas, placing hand disinfectants, wearing safety masks and gloves, frequent disinfection of common areas, frequent airing of spaces, increased attention to frequently disinfect common areas, offering the option to serve meals as part of room service and maintaining a 1.5 metre social distance.

2.5 National/regional policies that have supported and support the development of balneology and their impact upon balneary resource capitalization

Legal framework

Governmental Order nr. 109/2000 and Law nr. 343/2002 – the legal basis for the existence and functioning of balneary and balneoclimatic resorts

Government Decision nr. 1154/2004 – „Unitary technical norms for writing complex attestation documents for the functioning of balneary, climatic and balneoclimatic resorts and organization of the entire utilization activities of natural factors”

DECISION Nr. 1208 from October 14th 2003 and The Mine Law nr. 85 / 2003 – the legal basis for exploiting mineral resources

LAW Nr. 107 from September 25th 1996 – Water Law Art. 2 the conservation, development and protection of water resources, along with ensuring the free flow of waters; b) protection against any form of pollution and change in characteristics of water resources and their shores, troughs and basins;

DECISION Nr. 101 from April 3rd 1997 for the approval of special Norms concerning the size and character of sanitary protection areas – Art. 2 natural and legal persons who exploit sources, constructions and central supply facilities of drinkable or mineral waters for the use in internal cures will take sanitary protection measures for these sources, constructions and facilities, in accordance with the stipulations of current norms, with the aim of preventing any dangers that could alter the waters’ quality.

National and regional policies

The Regional Operational Program (POR) is a strategic programming document drafted by Romania, as a state part of the European Union and approved by the European Committee, through which a regional development strategy is established. This goal is accomplished through a differentiated allocation of funds for each region, according to their level of development and based on a close correlation with their performed actions within the Sectorial Operation Programs.

Within the framework of the **Regional Operational Program 2007-2013** through Priority Axis 5 – Durable development and tourism promotion, major intervention domain 5.2 – The creation, development and modernization of tourism infrastructure to capitalize on natural resources and increase the quality of touristic services led to the rehabilitation of multiple resorts/localities with balneary potential, such as in Sagas Baths, Harghita Baths, Biborțeni-Baraolt and Borsec. The program supported the modernization of hosting units and the diversification of touristic services.

The **Regional Operational Program 2014-2020** continued supporting the development of balneary tourism through Axis 7 – Diversification of local economies through durable tourism development, major intervention domain 7.1 – Supporting a favorable growth of the workforce, development of endogenic potential as part of a territorial strategy for specific areas and boosting the accessibility and development of natural and specific cultural resources.

Smart Specialization Strategy, Centru Region. The vision of the Centru Region smart specialization strategy shares the principles adopted by regional partners and is also fully concordant with the three priorities established through the Europa Strategy 2020 at the European level: „The Centru Region is innovatively building an economy based on care and knowledge of the environment through the active participation of its inhabitants, following the principles of cooperation and partnership si capitalizing on its regional specific economic and social assets”. Balneary tourism is identified within the framework of this strategy as a priority field for 2021-2027 as well.

Strategy for balneary tourism development (updated Masterplan) adopted through Decision nr. 571/2019. The strategy is a normative document enforced since August 27th 2019 which approves the main objectives that need to be realized for the development of balneary tourism. Among the objectives stipulated in this strategy are included the support of medical tourism development,

but also that of wellness tourism, along with promoting balneary tourism. The document includes 4 major work areas:

- Implementing an innovative approach and a public-private partnership
- Supporting the development of health tourism
- Innovative positioning on a new product «green balneary tourism »
- Development of cures in the fight against aging

The “Balneary resorts” program, approved through Governmental Emergency Order nr. 114/2018. The main objective of the program is the stimulation of infrastructure development in areas and localities defined as balneary or balneoclimatic resorts for the purpose of implementing innovative therapeutic solutions for a broad range of ailments, encouraging the local authorities and economic operators to invest in medico-balneary and recovery units regardless of legal status and their subordination, the creation/modernization of connected public utility infrastructures, the creation of new jobs, the qualification and professionalization of the domain’s active personnel. The minimis scheme consists of granting a non-refundable aid, or grant, in proportion of 50% of the value of eligible expenditures and grants up to a maximum of 200,000 euro for expenditures aiming at economic activities. Only localities stipulated in Government Decision nr. 1016/2011 with its subsequent changes and additions concerning the granting of balneary or balneoclimatic resort status for certain localities and areas with natural cure factors may benefit from this financing. The program is implemented by the National Strategy and Prognosis Commission with an anual budget of 130 million euro. It is estimated that a minimum of 650 beneficiaries will be granted the minimis assistance through this program.

The 2030 Agenda for Sustainable Development. Romania has joined the leaders of the 193 member states of UNO at the Summit concerning development from September 2015 adopting the 2030 Agenda for sustainable development, a global action plan in the domain of development with a universal character which promotes balances between the three dimensions of durable development – the economic, social and environment. For the first time, the actions aim in equal measure both developed and developing states. The 2030 Agenda includes the 17 Durable Development Objectives (DDO), also informally reunited under the name of Global Objectives. The Global Objectives establish an ambitious action agenda for the next 15 years for eradicating extreme poverty, combating inequality and injustice and protecting the planet until 2030. The 17 Objectives are: No Poverty, Zero Hunger, Good Health and Well-being, Quality Education, Gender Equality, Clean Water and Sanitation, Affordable and Clean Energy, Decent Work and Economic Growth, Industry, Innovation and Infrastructure, Reducing Inequality, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water, Life On Land, Peace, Justice, and Strong Institutions, Partnerships for the Goals.

2.6 Training programs in balneology and balneary tourism

According to the Balneary Tourism Development Strategy (Updated 2019 Masterplan) less than half of the balneary sector employees have a degree in tourism. Training programs have become essential once treatment bases have been modernized and new skills became a must after introducing both new techniques on how to capitalize balneary resources (equipment, procedures) and digital solutions in tourism. At a national level, in most cases **training programs are part of projects financed by European funds.** *“The content of the courses are problematic due to the up to date evaluation need of the current state of treatment bases and the services they*

provide. In an attempt to update the specific curriculum, pre-university and university education could not been drawn to the hospitality sector; this element is vital in ensuring training programs which offer modern and competitive balneary services.” (Updated 2019 Masterplan). Regarding sanitary education services, no resort / town with balneary potential offers sanitary post-secondaries.

At the moment the following balneary sector training programs exist:

Balneoclimathology. In 2020 the Romanian Balneary Association (RBA) published how the **Balneary-climatic** Online Course will be held: (1 semester) in Romanian and (4 semesters) in English as part of the „**Balneary School**”. The program was launched in 2016 and has the following accreditations: Personal assistant of a handicap person, Sanitary mediator, Trainer, Vacation centre animator, Housemaid, Tourism agent, Massage technician, Nurse, Waiter.

Spa & Wellness Management. In 2020 the spa and wellness management online course was launched, coordinated by Larisa Marinică, a spa specialist and international trainer. This course is for spa professionals, spa managers, spa therapists who want to progress in their careers or for personnel interested in marketing, sales, finance, leadership, HR, client services or business planning in spa and wellness industry.

Another development opportunity in this sector is Despre Spa association’s **Mentorship Program⁸**, for spa managers. The program is part of an international initiative launched by de Global Wellness Institute.

Aqua Sommelier. The National Federation of Authorized Tasters (NFAT) launched the “Aqua Sommelier” training program, and as a premier in Romania published the “Mineral water taster’s manual”. It has two main structures – “Natural mineral waters” and “When, how, and why we taste water”.

Other information regarding balneary tourism training programs

During the 2019 National Balneary and Medical Recovery Conference, the National Agency for Initial Training Formation in Dual System presented the offer and initiative of a long-term collaboration between the N.A.I.T.F.D.S and the Health Ministry, local authorities and local administrations of resorts with balneary potential regarding hosting training programs adjusted to the needs of qualified personnel.⁹

Work in balneary tourism! – project - Between 2010-2013 the Romanian Balneary Tourism Employers’ Organization together with Managerial Training in Tourism company (Braşov) conducted the “Training in balneary tourism – a chance for the future!” project. The project was for employees and had the following objectives: promoting access to qualification and requalification in balneary tourism, promoting the programs’ benefits, and also developing and diversifying the offers of Continuous Professional Training adapted to market requirements. Within the project 4.000 employees were counselled and professionally oriented, from which 2.000 were qualified into 13 jobs: cook, nutrition technician, gastronomy technician, baker-pastry

⁸ <https://desprespa.ro/18/art-spa-business/program-de-mentorat-in-spa-gratuit/>

⁹ <http://anfpisdr.gov.ro/w/autoritatea-nationala-pentru-formare-profesionala-initiala-in-sistem-dual-prin-vicepresedintele-graziela-elena-vajiala-a-participat-la-conferinta-nationala-de-balneologie-si-recuperare-medicala-organi/>

chef, waiter, B&B administrator, housemaid, hotel technician, agent – tourism guide, conference, congress organizer, fairs and expositions, balneary assistant, mud specialist, massage technician. There are 2 entities in the Centru Region which constantly organize training programs for „băieș” (code COR 532101) and “mud specialist” (code COR 532106): Managerial Training in Tourism and Professional Training and Pre-University Education – Future, who’s professional skills evaluation program is especially designed for people who know the balneary assistant job, but do not have a degree. The professional skills certificate is issued by the Q.N.A (Qualifications National Agency) and is nationally certified by the Ministry of Labour and Ministry of Education, as of the Government Ordinance no. 129/2000.

In Romania’s Occupation Classification “**Balneoclimatic unit head**” (code COR 141103) can be found, but no professional training suppliers were found for this specific job.

2.7 Organizations from the areas of education, research, innovation that support the CDI activity in the balneary domain. The role of the balneary cluster

The Centru Region has a well developed academic and educational network which includes in its portfolio specialization study programs in the domain of balneology within medical faculties. According to teachers, the number of students from the balneo-physiokineotherapy and recovery specialization decreases every year.

On the other hand, there are several tourism faculties in the region. More than that, there were recently introduced new specializations in the field which combines engineering with management knowledge in tourism. This approach appeared firstly in the region within Transilvania University of Brasov.

University education institutions – balneology

Table 7. University education institutions in balneology

County	University	Faculty	Specialization
Alba	1 Decembrie 1918 University from Alba Iulia	Faculty of Law and Social Sciences	Kineotherapy and special motor skills
Brașov	Transilvania University from Brașov	Faculty of Medicine	Balneo - physiokinetotherapy and recovery
Sibiu	"Lucian Blaga" University	„Victor Papilian” Faculty of Medicine	Recovery, physical medicine and balneology
Mureș	University of Medicine and Pharmacy from Târgu-Mureș	Faculty of Medicine	Balneo - physiokinetotherapy and recovery

University education institutions – tourism

Table 8. University education institutions in tourism

County	University	Faculty	Specialization
Brașov	Transilvania University from Brașov	Faculty of Food and Tourism	Engineering and Management in the Tourism industry
Sibiu	"Dimitrie Cantemir" University from Sibiu	Faculty of Tourism Geography	-
Covasna	Babes Bolyai University, Saint George Extension	Department of Business Administration	Economy of Commerce, Tourism and Services

Harghita	Babes Bolyai University, Gheorgheni Extension	Faculty of Geography	Tourism Geography, Ecotourism and durable tourism
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Balneary tourism is a complex and multidisciplinary domain and requires comprehensive expertise to sustainably develop this type of tourism. As such, the expertise from the following specialization becomes essential: forestry, sociology, marketing, architecture, business administration, communication, etc.

Pre-university education institutions:

Specialization: Food and Tourism

- "Dionisie Pop Marțian" Economic College, Alba Iulia, Alba county
- "Aurel Vijoli" College, Făgăraș, Brașov county
- "Andrei Bârseanu" National Economic College, Brașov, Brașov county
- "Maria Baiulescu" Technical College, Brașov, Brașov county
- Râșnov Technologic High School, Brașov county
- "Dr. Alexandru Bărbat" Technical College, Victoria, Brașov county
- "Berde Aron" Economic-administrative Technologic High School, Sf. Gheorghe, Covasna
- "Baroti Szabo David" Technologic High School, Baraolt, Covasna county
- „Körösi Csoma Sándor” Professional School and Technologic High School, Covasna
- "Kos Karoly" Technologic High School, Odorheiu Secuiesc, Harghita county
- "Joannes Kajoni" Technologic High School, Miercurea Ciuc, Harghita county
- "Batthyany Ignac" Technical College, Gheorgheni, Harghita county
- "Tivai Nagy Imre" Technologic High School, Sânmartin, Harghita county
- Corund, Technologic High School, Harghita county
- "Zimmethausen" Technologic High School, Borsec, Harghita county
- "Domokos Kazmer" Technologic High School, Sovata, Mureș county
- "Transilvania" Economic College, Târgu Mureș, Mureș county
- "Electromureș" Technologic High School, Târgu Mureș, Mureș county
- "Lucian Blaga" Technologic High School, Reghin, Mureș county
- "G. Barițiu" Economic College, Sibiu, Sibiu county
- "Independența" Technologic College, Sibiu, Sibiu county
- "Johannes Lebel" Technologic High School, Tâlmăciu, Sibiu county

Research institutions relevant for balneary tourism development:

- National Institute for Recovery, Physical Medicine and Balneoclimatology
- Fundamental research and preventative medicine strategies Centre, Transilvania University from Brașov
- Fundamental research in applied medicine and interventional strategies in medical practice, Transilvania University from Brașov
- National Institute for Research and Development of Construction, Urbanism and Durable Territorial - URBAN-INCERC
- National Institute for Research and Development of Environment Protection - Bucharest

- "Victor Babeș" National Institute for Research and Development of Pathology and Biomedical Sciences, Bucharest
- National Institute for Research and Development of Food Bioresources - IBA Bucharest
- National Institute for Research and Development of Tourism – INCDT
- "Marin Drăcea" National Institute for Research and Development of Forestry
- National Institute for Research and Development of Biology Sciences - INCDSB Bucharest
- National Institute for Research and Development of Microtechnology - IMT Bucharest

* Recent scientific articles – Appendix 4.

Hospitals with specialization in recovery and balneology:

- | | |
|---|--|
| • Alba Iulia County Emergency Hospital | • Miercurea Ciuc County Emergency Hospital |
| • Abrud City Hospital | • Odorheiu Secuiesc Municipal Hospital |
| • Sebeș Municipal Hospital | • Târgu Mureș County Clinic Emergency Hospital |
| • Cugir City Hospital | • Târgu Mureș Emergency Institute for Cardiovascular Diseases and Transplant |
| • Nevroze Predeal Sanatorium | • Sibiu County Clinic Emergency Hospital |
| • Brașov County Clinic Emergency Hospital | • Sibiu Pediatrics Clinic Hospital |
| • Dr. Aurel Tulbure Făgăraș Municipal Hospital | • Mediaș Municipal Hospital |
| • Dr. Benedek Geza Covasna Cardiovascular Recovery Hospital | |

The Transylvania Regional Balneotouristic Cluster

In Europe, clusters are seen as the engines for balanced regional development, free and flexible associations whose actors collaborate to sustainably develop a specific domain. The cluster means collaboration between the economic environment, universities and research centres, local and central public administrations and catalyst organizations. **Awareness of the immense potential at the regional level and the desire to highlight these values were the basis for founding the Transylvania Regional Balneotouristic Cluster in 2014, which presently has 47 members.** The cluster's main activity is integrating its members' results, facilitating cooperation between them, representing their interests on a national and international level, developing a balneary tourism development concept in the Centru Region which aims to reflect a multidisciplinary approach following the principles of sustainable development. The cluster's main activities: contributes to optimizing sectorial policies (supporting balneary tourism as an excellence domain in the Smart Specialization Strategy, participated at the workgroup's meetings for balneary tourism development in Romania launched by the Ministry of Economy in 2015), facilitating international partnerships (participates at events such as the International Business Festival Liverpool, Thailand Medical Fair), facilitates collaboration between the economic, academic and administrative sectors by organizing work meetings, informing the cluster's members of financing opportunities, preparing research-development projects in partnership with international organizations, facilitating pro-acceleration programs for startups (Startup Plus, Accelerator – Interreg Danube, etc.), integrating the members' results on the www.clusterbalneo.ro platform, promoting balneology in the Centru Region (presenting the cluster at over 30 national and international events during the 2014-2020 period). Additionally, the cluster's management entity offers consultancy to members concerning the drafting of local development strategies, financing opportunities, developing business plans and is a founding-member in the MEDRO health cluster

national network, where it promotes the importance of balneology. The cluster has aligned itself towards the most important development directions, such as smart regional development and Global Sustainable Development Goals. The 17 Global Goals, adopted by Romania along with the 193 UNO member states in September 2015, cover a broad range of themes that promote global action in three main durable development areas: economy, society and environment. This concept includes the following development strategy directions in concordance with the previously mentioned objectives:



A healthy development direction stipulates the use of existing natural resources towards goals that benefit humanity, without influencing their long term quality and quantity. The **health of the population** must be the most important priority in a healthy government policy – national project for the next 50 years.



The local community – an organic part of tourism – must identify itself with local challenges and opportunities. Awareness at the community level would have an essential impact on the on local identity based local economy. Through **sustainable communities** we refer to ways of living, of consuming resources, including energy, in concordance with their ability to renew and to the communities' ability to capitalize on them at the local level.



Through this objective we refer to the importance of introducing **innovation in traditions** in the context of balneary processes, through relevant research and technologic transfer. Another important aspect is the renovation of treatment facilities and providing them with modern equipment through which we can capitalize on the natural therapeutic resources in a durable manner.



Unaltering the chemical composition of mineral waters. **Access to mineral water** springs, access to medicinal waters, a periodical re-analysis of these waters and a transparent publishing of the results, providing information to the community.



Most balneary resorts in Romania are surrounded by forests, which ensures the **superior quality of the air**, rich in oxygen and negative ions. The policy of deforestation stands in contradiction with the restoration initiatives of balneary tourism. The awareness of the forests' value and importance of an unaltered surrounding natural environment would be a first step towards a healthy and balanced development.



Developing balneary tourism taking into account the needs of the engaged community and paying attention to its living standards. Presently, balneology is not considered an attractive professional area. As such, **ancient knowledge** is being passed down in only a small measure, despite these traditions shaping the local value.



Many of the localities with balneary potential are confronting **social issues**, despite having had a stable economy by capitalizing on therapeutical resources. Solving these problems must be part of the development strategies.



Facilitating society access to natural therapeutic resources through medical doctors. We see an excessive **consumption** of drugs. Family doctors must be included in the balneology chain and encouraged in regards to treating some ailments through natural cure factors. Additionally, there is a proposal to redress unprofitable chains and to control mass tourism in the resorts' tourism activities. Responsibility for the capitalized natural resources is a missing element in today's tourism.



Education concerning **prevention** and the development of prevention culture in Romania. Increasing the domain's attractiveness for young students by promoting digital, innovative solutions in the field. A healthy direction focused on consistency in education and economy, their inter-complementary relationship and knowledge based development.



The development of balneary tourism would balance socio-economic inequalities between the **urban and rural** areas, tourism being a strong economic pillar in this regard. Achieving this requires consolidating the organizational capacity of policy makers at the local level and offering technical support for elaborating local development strategies.



For these elements to work requires strong, interconnected institutions with the capacity to relevantly support activities and initiatives at the local and regional level. Consistency and continuity are 2 fundamental components, the engine representing institutions.



2.8 Development Projects of regional/local importance implemented or being implemented for balneary resource capitalization

In the 2007-2013 period multiple hotels with balneary services were modernized and which today are among the most competitive actors in the balneary tourism ecosystem from the Centru Region. The investments had been financed as part of the Regional Operational Program 2007-2013. We list the most important:

- Modernization of Ciucaș Hotel Complex by establishing a SPA and recreation area – Tușnad Baths. Total value: 9.589.981,23 RON
- Establishing and modernizing the recreation infrastructure of Șugaș Baths (*including the mofette*), Saint George Municipality, Covasna county – private public utilities. Total value: 6.279.975,04 RON
- Salt Road (Drumul sării) – Sovata. Total value: 7.321.191,58 RON
- Establishing and extending the balneary and recreation infrastructure of the "Best Western" Hotel Balványos. Total value: 13.366.596,84 RON.
- Building a swimming pool and treatment facility – Black Lake – Sovata. Total value: 6.713.322,50 RON
- Renovation and modernization of Biborțeni's effervescent baths, Baraolt city. Total value: 5.537.373,44 RON

The administrations of the following resorts have appealed to non-refundable funds for improving road accessibility and infrastructure: Harghita Baths (19.337.828,74 RON), Borsec (11.491.541,64 RON), Covasna (41.108.600,94 RON).

The following localities benefit from financial support for the development of road infrastructure with the aim of capitalizing on touristic potential as part of the Regional Operational Program 2014-2020, Priority Axis 7 – Diversification of local economies through durable tourism development, Investment priority 7.1:

Ocna Sibiului, Bazna, Tușnad Baths and Sovata. The total value of these projects is 54.030.159,34 RON.

„Overall renovation, partial demolition, extension and utilities branching at the Centre for professional formation in the balneotourism domain headquarters”- Malnaș Baths, Covasna county, beneficiary: Folk School of Art and Crafts from Saint George

“Treatment and Leisure Facility renovation “Salinae” in Ocna Mureș city”, - Alba county, beneficiaries: Alba County Council, Ocna Mureș City Hall

Among the projects from recent years for the renovation and modernization of tourist hosting treatment facilities are included Balványos Resort, Ursina Health Spa Hotel (Sovata).

Program 4 – Exploratory Research Projects – PCE 2020 – 1053 submitted proposals:

Project name: **A new functionality of the Romanian Tourism Satellite Account at multiple tourism levels (health, cultural and business tourism)**, National Tourism Research and Development Centre - I.N.C.D.T. Bucharest

Project name: **A comparative analysis of innovation in tourism and the socio-economic impact on innovation based economies compared to efficiency based economies**, "George Emil Palade"
University of Medicine, Pharmacy, Sciences and Technology from Targu Mures

Research projects in the areas of biotechnology and medicine can contribute to the development of balneary services. The most recently proposed research projects: <https://uefiscdi.gov.ro/proiecte-de-cercetare-exploratorie> | <https://uefiscdi.gov.ro/proiect-experimental-demonstrativ-ped>

Status-quo of research projects in the field of balnology:

! The National Institute for Recovery, Physical Medicine and Balneoclimatology researche projects, initiatives, results are not public.

!! According to the researchers from the working group, their research activities are based on personal curiosity and are financed by personal resources. Concerning the knowledge/technology transfer to the market, there is no official evidence in this sense.

The majority of researche topics, articles and scientific works are registered and published on the below journal dedidcated for balneology. <http://bioclima.ro/Journal.htm> The Romanian Association for Balneology organizes every year the International Balneology Congress where several papers are presented.

2.9 Main challenges confronted by balneary resorts/localities with balneary resources

This section was developed with the support of regional stakeholders, who participated in the survey regarding challenges and perspectives of balneology in the Centru Region. (Annex 5.) The survey was conducted using online channels, phone conversations, one-to-one interviews and group meetings. They belong to the following sectors: economic sector (hotel managers, travel agency representatives, marketing experts, spa managers, ..), academic sector (university professors, researchers and doctors), administrative sector (mayors, counsellors, ..). On the other hand, this chapter also includes the point of view of NGOs from connected fields. In order to define relevantly the core challenges with the biggest impacts, activity reports of the balneary cluster were consulted – aproxx. 25 specialized events. The chapter was also inspired by the SWOT Analyses provided by RDA Centru together with the regional InnovaSPA working group.

According to Aurelian Borșianu's doctoral thesis from 1932, there had been over 250 published papers about balneology in Transilvania starting from the 15th century until 1900. More detailed documentary-historic descriptions about the resorts had emerged in 1549, and the first scientific medical work had appeared in 1773, written by Wagner Luask. Since then, the number of papers tackling balneology from a medical perspective has increased, however the first thesis in Romanian appeared only in 1821 (*Ladislău Vasile: About the mineral waters from Arpătat, Bodoc and Covasna*).

The access to scientific information is limited. There is no entity which integrates all the relevant data, including archives, from the field. Periodic validation of the therapeutic effects of balneary factors should be essential, but in many of the cases the use of this resources is based on traditions and personal knowledge. In the era of digitalization, we can pronounce that the current situation in balneology concerning the flow of scientific and legally validated information is inappropriate. Regarding technology transfer, there are small, isolated examples. **Breakthrough** in this sense is essential and it remains to be seen if the national and regional policies will have the capacity to stimulate it.

Presently in Romania, *research activities on medico-balneary, sanitary protection and therapeutic, profilactic and recuperative capitalization of natural factors in the entire country, as well as research on development in the medico-balneary and recovery domains* are carried out under the guise of a single entity: the Ministry of Health. This **centralized system impedes knowledge-based development** and is **not stimulating**, taking into account the volume of existing natural therapeutical factors and the financial capabilities of small localities with balneary potential and of actors preoccupied with capitalizing on these resources. In addition, exploiting mineral water resources requires an exploiting license (Mine Law nr. 61/1998), and the current authorization procedure has efficiency problems as there are multiple examples of not publishing authorizations in useful time in Romania's Official Monitor (sometimes there are years between when an authorization is granted and when it is made operational). In such conditions there are cases in which economic agents are forced to operate with temporary licenses which involve considerable financial efforts. As such, presently the national policy incoherently supports the bottling and capitalization of miner waters, especially waters with low flow, but with novel therapeutic properties. Bottled in their natural form, these mineral waters can enrich the food and tourism industries through their exceptional nutritional value.

In the Centru Region **there is no research and technological transfer centre** specialized in balneology or balneary tourism. Lacking updated research, the internationalization of balneology becomes nearly impossible. The most complex scientific research and presentation of natural factors and localities with balneary potential from the Covasna, Harghita and Mureş counties are written in Hungarian language. Due to the national policies for managing natural therapeutic resources, the inadequate research infrastructure and the low number of balneology specialized personnel, there is a **limited capacity to access RDI funds** by the actors. The need for **consolidating the collaboration** between researchers, economic agents, health service facilitators with support from local authorities has been established during the Transylvania Regional Balneotouristic Cluster meetings. The domain cannot become an engine of sustainable and smart development without **Access to Development-Research-Innovation services** and without research, excellency and technological transfer centres at the regional level.

All aspects described above are tightly bound to the **launch of new products/services and inovative procedures and improvement in prevention services and existing treatments**. Meanwhile we can notice an appreciative creativity at the level of more developed localities, in the sense that they have included prevention and leisure activities that do not require specific authorizations in their touristic offers – spas instead of treatment centres, a variety of massages, etc.

Considering the access infrastructure, the Centru Region has good road connectivity, being crossed by European roads as presented in the About the Centru Region subchapter. However, it is important to note that only 39 km of highway have been built during the last 5 years and only 55.72% of county roads have been modernized. A pronounced preoccupation by the local public administration can be seen towards the road infrastructure from within localities, being an important component in tourism development. However, in the context of balneary tourism the term **infrastructure** takes on a far broader and more complex meaning. The image of a locality is a key element which gives mood to a resort, and in many cases we are confronted with a **neglected aesthetic of built heritage**. Another challenge is the lack of any adequate plans for urban extension, which gives rise to new investments that do not follow or integrate themselves in the local architectural style. Furthermore, the degraded state of public access infrastructure to natural therapeutic resources, which often represent a cultural heritage, is another frequent phenomenon within the 37 localities. This is not a reference to the rusted pipes as a result of the high iron content or the presence of other mineral salts that impact the access infrastructure, but a reference to the maintenance of the environment near these springs.



Ecaterina Villa, the Vâlcele ex-resort – the interwar period and current state

In most resorts we come across ruined buildings and buildings that are not integrated in the local architectural style. Another side of the accessibility problem is that specific to persons with disabilities. For example, in the most developed balneotouristic resort from the Centru Region, only 9 hosting units out of 96 from the most popular online reservations platform offer facilities for persons with reduced mobility. According to normative NP 051-2012, all public buildings are obligated to offer access to disabled persons (chapter VII.10 – touristic buildings – hotels, guest houses, motels).

Another inadequacy in balneary resorts, confirmed also by the president of the Romanian Employers' Balneary Tourism Organization, is the lack of **leisure services**. This assertion raises a series of other current problems related to the quality of tourism which we are confronting due to a lack of vision at the macro and micro-regional levels of local tourism. The main issue is that most hosting providers launch services which fulfill the needs expressed by tourists – hiking trips, bicycle and ATV rental, even if these vehicles have a negative impact on the environment. **There is lack of influence upon demand and awareness marketing**, and also a lack of efficient collaboration between local actors aimed at developing attractive leisure offers that fulfill the principles of durable and creative tourism. Current trends show that the postmodern person is looking for authentic experiences, and the aim of the trip is not singular – for example, only a specific treatment in a specific place – but is complex and composed of intangible services, such as hospitality. Hospitality itself is tightly bound with the standard of living and quality of life of the local community. As such, the main challenge is **to create regional VISION and CONCEPT** which localities can identify with and which they can integrate locally. The supply-demand balance also

largely depends on a niche and the adopted measures present professional deficiencies in lack of a regional concept to influence local development directions. Awareness of the importance of prevention in society and assuming responsibility towards the community and environment is a healthy development direction for economic actors to follow. In this regard, there is desire to create demand for balneary products from healthy persons concomitant with developing products/services and durable procedures (with a positive impact on the socio-economic stage without altering nature). Local identity based development is considered to be an alternate road to wellbeing and social balance, especially for territories with undeveloped, abandoned or destroyed industries. Simply the presence of natural therapeutic resources is not sufficient without also implementing corresponding programs and systems for developing and highlighting them, for the benefit of the inhabitants. In a healthy approach, the local community is an organic part of development, highlighting its products and services. In most cases we see a lack of an environment to facilitate the consolidation of a creative, competitive and innovative entrepreneurial ecosystem capable of capitalizing on natural balneary resources and others. Such initiatives must benefit from institutional support.

Another challenge is the **lack of specialized labor**, another problem which is not standalone, but the consequence of the domain's deficituous management at the national level. There is professional training in existing treatment facilities only in a very small measure, or there is the so-called „practice stage” during college. Localities and resorts with balneary potential are not attractive to young people – the talent community – and not only to those from the balneary science domain. The low level of digitalization in the field is a disadvantage for attracting young people in the domain. We are witnessing an aging of the population in most of the identified areas. This problem can also be connected to the public perception of balneary tourism, which is related to the treatment of old people instead of prevention and active aging, accompanied by the lack of an integrated approach aimed at improving living standards within localities that could become excellence destinations (European Excellence Destinations – EDEN), as in models of good practice for sustainable local development. In addition, due to seasonality, tourism does not represent a secure professional anchor.

Another aspect limiting the development of the domain expressed during the analysis by actors in the field is **access to financing**. Investments necessary in balneology are very large, and for this reason there is a limited number of eligible economic actors with the financial capabilities to obtain non-refundable funds. Financing in the balneary sector is tied to the current national accreditation process, which limits access to development for more than 25 localities, especially in the rural areas. Furthermore, according to the requirements mentioned above related to a creative, competitive and innovative local ecosystem based on complex capitalization chains, the need for grant programs for startups becomes even more essential.

The absence of a regional brand as a touristic destination for wellbeing imposes major marketing costs for the resorts and counties, which try to prevail separately on the local and international markets.

Examples of good practice, such as heritage museums or treatment facilities that combine balneary culture with advanced medical procedures are **isolated cases**. Although there are initiatives with a global approach towards the aspects that need to be simultaneously and intercomplementarily developed, such as regional *clustering*, they do not benefit from

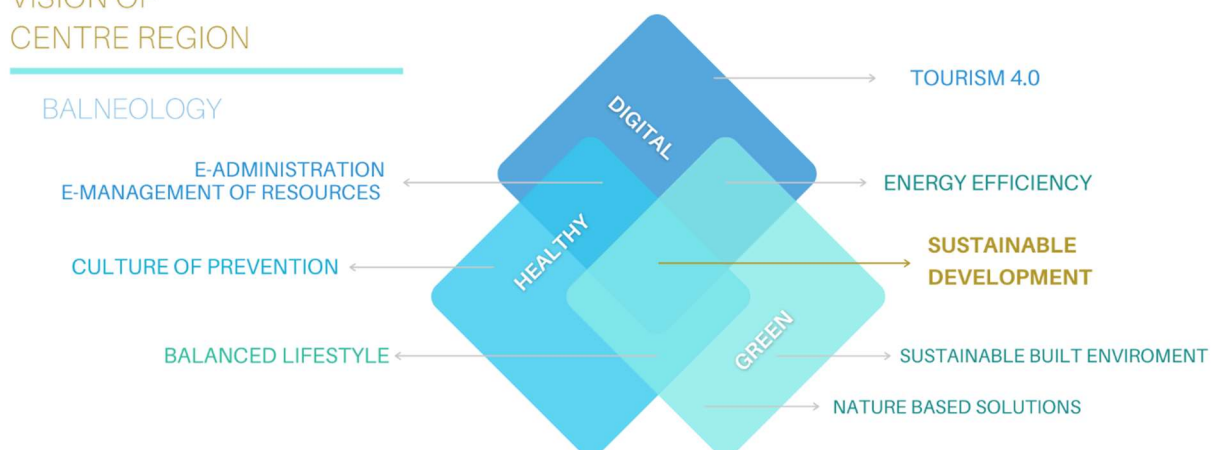
institutional support. The field's comprehensibility provided by the health, environment and social aspects gives rise to a series of professional and disciplinary preoccupations.

Among the challenges detailed above the most dangerous phenomenon also requires mentioning, namely the quality degradation of natural cure factors as a result of unsustainable exploitation and permanent intrusion of human activities, including industrial activities from border areas.

2.10 Proposals for solving challenges that can be transposed into policies/programs or projects, focusing on CDI policies and programs.

The challenges of the balneary tourism domain are multiple and complex, from unsolved property rights, lack of administrative capacity for implementing mature projects, lack of a centralized research centre in the field, local accreditation bureaucracy, natural therapeutic resources, treatment facilities, exploitation laws, up to the single villager's problems who decades ago used to host hundreds of guests and had all the necessary conditions to affirm himself. Solving the technical and organizational aspects is founded on a common **vision** of the ecosystem, from which a regional concept emerges where actors and their activities are integrated with each other.

VISION OF CENTRE REGION



Graphic 3. Possible Elements of the Regional Balneary Vision

(1) An integrated **Vision** of balneary tourism foresees a digital, healthy and green region that takes into account the involved economic, social and environmental factors. This transformation and development direction require a complex scientific approach, adequate research capability and superior certification rights aimed at launching new standards, products and services (energetically efficient buildings, natural therapeutic resource recycling, maintaining the mineral waters' molecular structure, etc.) As such, a concrete solution and heavily expressed by the balneary ecosystem is the **decentralization and debureaucratisation** of research, validation, certification and accreditation processes in this field. The decentralization and simplification of the mentioned procedures is possible by optimizing current national policies and by creating regional balneary **excellence centres**.

(2) Attracting talent community

Innovation, developing and improving the value chain, creativity, local socio-economic regeneration, all these aspects largely depend on the young population. By attracting youth in this subchapter we mean involving them in the community as professionals and inhabitants.

Professional.

Introducing balneary culture to the young generation is among the first steps to sustainably redress and rebuild the field. Global tendencies show that today's youth have a greater sensitivity towards society and nature, and implicitly toward natural resources. Currently the introduction of balneology as a discipline, or at least subject, in national faculties is a high-relevance proposed measure in the context of the detailed challenges. Relevant specializations are located within the following types of faculties: Medicine, Architecture, Sociology, Communication, Public food, Tourism, Forestry, Marketing, Business Management, Landscape, etc. Secondly, we must focus our attention towards actions yielding considerable value, which would be the formation of multidisciplinary workgroups among resorts/localities with balneotouristic potential:

The group's components: graduate, master and doctoral students from the listed faculties. Coordination ensured by mentors (specialists, entrepreneurs, teachers, mayors)

- The role of this group is to perform a comprehensive strategic study on the current state and development perspectives of a pilot locality (one of the 37 localities identified in this study). The workgroup must develop concrete development proposals for the locality,

taking into account all aspects of influence and impact belonging to the 3 main categories: social, environmental, economic.

At the start of the program, the following thematic approach is proposed for the first groups:

- Exploring authentic balneology – therapy procedures, existing atmosphere related to the presence of nobility, pictures, documents, recordings, stories, legends, equipment, etc.
- Developing the concept of the local digital museum – collecting authentic information, stories, equipment, interviewing the locals about their childhood, etc.

- Renovation plans for buildings with architectural value in balneary resorts
- Cultural heritage conservation plans and maintenance plans for environments near natural resources according to the resorts' authentic local aspect and according to the principles of durable development, ..
- Local value chain, local entrepreneurial ecosystem, organizing meet-ups

The projects about and **in resorts** realized by workgroups who will be required to participate in the daily life of the local community will include a series of aspects with strategic character – self-organization proposals at the level of localities, national/international market placement, identity articulation – and scientific character – concept notes for research projects and financing opportunities for research and international research publication. The minimum length of the program or a student group must be at least 6 months. The projects can be presented during a regional ecosystem for balneary tourism event with the participation of the economic, academic, research and administrative sectors – an annual conference. Each of these events can launch



financing for a minimum of 5 workgroups – as such, 5 resorts can be analyzed annually by young students.

(3) Facilitating local development through special local policies

This solutions proposal aims at administrative interventions by granting multiple local facilities for encouraging entrepreneurs, investments for capitalizing on local natural therapeutic and touristic values and encouraging occupation. Some of the proposals relate to national decisions, while others are decisions which can be made locally and relate to the administrative capacity of the local public administration:

- ❁ Granting priority within operational and national programs for projects in balneary resorts or localities with balneary potential identified in this study – pilot areas. This measure is detailed in the Actions section.
- ❁ Special conditions and facilities for new investments in establishing or renovating treatment facilities on the territories of balneary resorts or localities with balneary potential identified in this study: fiscal exemptions for taxes related to infrastructure development during a determined time period.
- ❁ Supporting the youth workforce in balneary resorts or in identified localities with balneary potential: reduced contribution requirements for health insurance (CAS), exemptions from paying income tax and from social health insurance tax (CASS) to employees working in the following fields: hotel, restaurant, creative industries, health services, spas, crafts. To stimulate the local entrepreneur development and increase the number of local contributors, the measures listed in this point should be addressed only to societies with financial headquarters located in a locality with balneary potential / balneoclimatic resort.
- ❁ Optimizing royalty policies – for exploiting mineral resources with therapeutic value – by setting up a fiscal and authorization procedure favorable to local communities. This process must stipulate saving a percentage of funds that would be automatically invested in research-development-innovation. Additionally, there is a proposal to optimize the system of granting mineral resources with therapeutic properties exploitation licenses by imposing publication deadlines in the Official Monitor of authorities once licenses are granted.
- ❁ Launching local Minimis programs from which economic agents with financial headquarters set in the locality can benefit: investment grants conditioned by the number of employees, grants for local startups and innovators.
- ❁ Including touristic indicator infrastructure modernization programs related to existing natural balneary resources in the micro-regional strategies of Local Action Groups

These measures have a stimulation role and can be implemented in collaboration with the Ministry of Health, Ministry of Labor, Ministry of Tourism and the National Authority of Mineral Resources subordinated to the Romanian Government. At the same time, the Romanian Department of Durable Development and the Ministry of Regional Development can also play an important intermediary role.

(4) Regional Identity. Vision and integrated branding.

In this study 37 special locations are presented with hundreds of natural treasures, each one unique, and this varied selection must be integrated into a strategic awareness and promotional context.

- ❁ Identifying quality initiatives from Southern Transylvania – the members of the Transylvania Regional Balneotouristic cluster and the involvement of those that are not yet members.

- Brand based on the following concepts: authentic balneary culture, drug-free treatment, prevention, healthy lifestyle, active aging, closer to nature.

The brand's implementation requires **Consolidating the integrators**, the entities assuming the role of facilitators and orchestrators in this multidisciplinary, cross-sector ecosystem.

The Transylvania Regional Balneotouristic cluster was initialized by the most important actors in tourism and balneary tourism from Romania, with the mission of facilitating cooperation between the economic, academic, research and administrative environments in the field of balneary tourism. Clusterization is an important phenomenon for developing excellence domains. However, consolidating the cluster requires support from policy makers and the launch of programs for supporting the cluster management's activities. The development of resorts could become a national and international standard, by implementing integrated and multidisciplinary pilot programs. This goal requires collaboration between economic agents, universities and research centres, local and central public administrations and catalyst organizations. Such free and active collaboration actually means a functional cluster.



Graphic 4. Clusterization in balneary tourism

We propose an **integrated approach** instead of the horizontal one and implicitly redirecting development measures towards concepts such as **durable tourism and creative tourism**, since economic competitiveness no longer consists solely in the existence of products, services or the presence of natural or anthropic resources, but presently also consists in **innovation** and adaptability in an entourage characterized by an intense dynamic in regards to change (such as technologic evolution). A knowledge based economy also implies an efficient dynamic of know-how transfer between speciality ecosystem actors, societal actors or simply between regular members of society. **Digitalization** is an instrument which makes the transition to a knowledge based economy possible. Digital solutions in balneary tourism also contribute to protecting the surrounding environment – the most basic examples being replacing interface menus in stations with QR codes that can be scanned with a smartphone to access information, or digitalizing check-in forms – but it is also a tool through which transparency in balneary research can expand. *Open innovation* type platforms were created just for this purpose and such platforms continue to be launched aimed at developing a network of researchers, technologic development leaders and innovators where knowledge, supply and demand interconnect. Centralizing information from the balneary and balneotouristic fields, developing a virtual community of actors, supporting transparency and knowledge transfer would have a stimulating, positive impact on the sector.

(6) **The interactive Open Innovation Platform aimed at balneology could centralize the following information:**

- Existing natural factors according to localities (including references concerning the factors' quality validation)
- Localities according to natural factors, procedures
- Therapeutic indices, according to localities, including economic agents with infrastructure for resource capitalization
- Online scientific articles, list of speciality publications, books and magazines
- Database of balneology and speciality medical doctors which use natural therapeutic factors in their patients' healing procedures
- Relevant financing sources for developing localities (including projects which aim at social inclusion)

In the 2nd phase this platform can adopt a more complex aim and be expanded with the following functions:

- Educational content about natural therapeutic factors and their use
- Crowd-funding for new research, baths and springs maintenance, etc.
- Communication tool between actors
- Connecting demand for practitioners with students

If this platform will succeed in mobilizing the relevant actors, a connected application could be developed with touristic and health functions:

- **Tele-medicine**, online consultations between balneology doctors, registered medical specialists and persons wishing to use balneary products for therapeutical purposes.
- **Balneo Map**. Indicating the GPS coordinates of balneary resources from the Centru Region on the application's online map, including mofettes. The project proposal has a high degree of novelty, especially if it is integrated in existing VISIT-type applications having widespread popularity. The application's innovative character is detailed in the following subchapter.

Based on the subchapters detailed above (Challenges and Solutions), challenges in the field of balneary tourism are made up of 9 main groups of problems which can be solutioned with the following proposed measures (detailed above):

Table.9 Correllating identified Challenges with proposed Solutions

Challenges/Problems	Solution Proposals
Lack of a regional vision and of a development concept in regional balneary tourism	Developing and implementing A Healthy, Green and Digital vision
Bureaucratic and overcentralized system	Launching the inderdisciplinary commitee for balneary tourism development in Romania (private public strategic partnership, interministrial with actors from the economic, academic and administrative ecosystems)

Limited access to research-development-innovation services	Decentralizing the certification system for natural cure factors
Inadequate management of balneary resorts and localities with balneary potential	Encouraging clustering at the regional level in the field of balneary tourism, developing the regional concept, launching local multidisciplinary workgroups by attracting the talent community Facilitating local development through special local policies
Lack of speciality human resources	Attracting the talent community
Limited access to financing	Encouraging clustering at the regional level in the field of balneary tourism Launching the open innovation platform
Low level of digitalization in the field	Launching the open innovation platform, launching a startup acceleration program
Lack of support policies to encourage clustering in the field	Introducing the requirement to belong to a cluster in financing programs
Quality degradation of natural therapeutic cure factors	Decentralizing the certification system for natural cure factors, establishing a regional balneology excellence center

LIST OF PROPOSED PROJECTS

CERTIFIED BALNEARY RESOURCES, DIGITAL FOOTPRINT

*Revisioning/updating speciality studies regarding the quality of natural cure factors and their therapeutic effects in resorts. Revisioning exploitation and mineral therapeutic substance capitalization methods and launching a framework policy that stipulates the durable capitalization of these method to conserve hydromineral natural resources. Bibliographing all existing natural resources in the Centru Region and creating online databases accessible by the general public taking into account that the health of the population is a main goal that does not need to be measured in the PIB contribution. The innovative character of the project consists in the ambitions towards knowledge based development of the regional economy and which is based on competitiveness and the launch of new products/services, innovative procedures and on a **digital footprint** accessible by the general public.*

Project coordonator: Romanian Balneology Association from Romania together with the speciality faculties from the Center Region and hospitals with balneophysiotherapy and medical recovery departments.

Partners: The Transylvania Balneotouristic Regional Cluster, the Amphitheater Foundation, the Romanian Balneotourism Patronal Organization, the Romanian Association for Balneary Resorts. Other partners with important roles in the development and implementation of the proposed initiative: County Councils from the Centru Region, UMF Tg. Mures, INCDT Bucharest.

Supported by: the Ministry of Health and ADR Centre
Estimated value: 20.000.000 euro.

THE OPEN INNOVATION IN BALNEOLOGY PLATFORM

The importance of launching a platform for and about balneology was argued in the subchapters from above. Transparency and accessibility of scientific information, together with certification and recertification steps of natural cure factors has become an emerging necessity for intelligent specialization and knowledge based regional development. For stimulating the process of antrepreneurial discovery, the platform will offer tools for boosting attractivity and the active and proactive use of the platform, such as: financing information, surveys (for example, related to seminaries for obtaining the status of a touristic resort of natural interest, or balneoclimatic resort, subject proposals to be addressed during conferences, etc.), crowdfunding of ideas, match-making for supply and demand and or partnerships and project consortia, information about ongoing projects with activities from which actors can benefit (for example, formative projects within the human capacity operational program), other professional training courses, presenting new relevant services that appear on the market (for example, services for measuring the radioactivity of mofettes and mineral waters). Integrating all information and facilitating collaboration and the creation of partnerships between actors is part of the process we refer to as clusterization.

Project coordonator: The Transylvania Balneotouristic Regional Cluster and the Amphitheater Foundation.

*Partners: OPTBR, the Romanian Balneology Association, the About Spas Association
Estimated value: 850.000 euro.*

THE BALNEO SCREEN APPLICATION / The Healing Route of Transylvania

*The application aims to become the **digital monography of mineral resources** with therapeutic value by mapping balneary resources in terms of GPS coordinates and interactively displaying this information to its users. The application will inform users about the composition, therapeutic properties, counterindications and history, legends and traditions with the help of augmented reality technology. The innovation aspect consists, apart from being an instrument of traceability between research and economy, in displaying the digital content in the reality perceived by human users through their smartphone camera. The application is an alternative to tourist guides and is targeting individuals or small groups with a desire for nature exploration. The listed information is based on consultations with a speciality firm – software developers.*

Project coordonator: The About Spas Association together with the Transylvania Balneotouristic Regional Cluster and the Amphitheater Foundation.

Partners: Radon Expert Srl, OPTBR, the Romanian Balneology Association, the County Touristic Promotion Associations, IT Clusters.

Estimated value: 1.300.000 euro.

LIVING RESORT FOR PREVENTION, DIGITAL DETOXIFICATION & WELLBEING

The project involves transforming a destitute locality with balneary potential into a recreation resort, following the „bluezone” concept. Meaning that beside ofering health services and a novel recreation setting, it will also include healthy nutrition, workouts, yoga type activities, music treatment, motivational and educational events concerning a healthy lifestyle. The concept involves attracting people interested in active aging services and also children and youth part of the target group, it proposes practicing innovative activities, with few but successful examples of

good practice, which we call intergenerational care. The innovative character consists in the complexity and nature of the concept, in the listed services and in the technological innovation of prevention/treatment/recreation centers. It proposes establishing multiple centres within the locality with various services, thus encouraging guests to participate in the local life. Main target group: professional athletes, digital content enthusiasts, etc. The development of the locality consists in, apart from investments in recreation and treatment facilities, the application of facilities through which the locality becomes attractive to youth. The pilot project stipulates the launch of trad-innovative experiences using advanced energy generation technologies. In addition, such an accomplishment would be exemplary for the Objectives of Durable Development (No Poverty, Zero Hunger, Good Health and Well-being, Sustainable Cities and Communities, Decent Work, etc.)

Coordonator: this project proposal took shape at the Transylvania Balneotouristic Cluster level, over 10 members having participated during this process. The proposal is in an immature stage but predicted to have an important impact. However, its implementation requires the considerable involvement of actors with multi and interdisciplinary competences, even during the pilot locality identification stage.

Partners: The Amphitheater Foundation, the Romanian Balneotourism Patronal Organization, the Romanian Association for Balneary Resorts, the About Spas Association, the Local Public Administration, Universities, Speciality Hospitals, other facilitators.

Time to implement: minimum 7 years.

Estimated value: 11.000.000 euro.

The TELE-BALNEOLOGY PLATFORM

The proposed project is in alignment with the concept of tele-medicine which aims to increase awareness and accessibility to balneary services, online consultations between balneology doctors, registered specialist medical doctors and people who wish to consume balneary products for therapeutic purposes.

Project coordonator: dr. Gabriela Dogaru

Partners: the Romanian Balneology Association, UMF Cluj

Time to implement: 12 months

Estimated value: 200.000 euro.

All listed projects are conditioned by the Centru Region's research capacity in the balneology and balneary tourism fields. The importance of decentralization of this activity was argued in the previous subchapters. A regional research centre representing a scientific hub dedicated to balneology can be integraed in one of the project proposals from below.

BALNEARY AND TECHNOLOGICAL TRANSFER EXCELLENCE CENTRE IN THE CENTRU REGION

This project proposes increasing the Centru Region's research capacity by establishing a balneology excellence centre. The contributions of medical doctors, researchers, biologists in the balneary field is very important for highlighting balneary treatments by substantiating them scientifically, but also for internally and externally promoting the resort by diseminanting the results. Stimulating scientific research in balneology, balneary tourism, promoting original research and increasing research capacity are all highly important, with favorable implications for the researchers' national competitiveness.

Project coordinator: dr. Gabriela Dogaru, Partners: The Transylvania Regional Balneotouristic Cluster

Estimated value: 17.000.000 euro.

ESTABLISHING A LEISURE FACILITY, SOVATA

The project's main objective is the durable and integrated development of the Sovata touristic resort by capitalizing for touristic purposes on the locality's natural resources. It proposes establishing a balneary complex with salt and sweet water pools that are functional throughout the entire year. The proposed interventions would contribute to: eliminating the seasonality of balneary tourism and reducing antropic pressure on lake Ursu (essential for maintaining the curative qualities of the water), increasing the number of tourists in the resort by creating an alternative balneary facility for those to whom salt water baths are not recommended, ensuring a constant flux of tourists (regardless of season), creating new jobs. The project stipulates establishing an energetically efficient centre, durably capitalizing on existing natural therapeutic potential.

Beneficiary: The Sovata City Hall

Estimated value: 14.912.558 euro (including VAT).

BALNEARY RECOVERY SANATORIUM, MUREȘ COUNTY

Considering the microclimate, existing natural therapeutic factors and demand for prevention, recreation and recovery services, the project proposes establishing a Sanatorium in the existing unused area surrounding Sovata resort in Mureș county, which has low pollution and is ideal for developing a comprehensive recreation complex and expanding existing offers with sport infrastructure. The proposed project is a strategic investment, thus diminishing the touristic pressure to which the Sovata resort is exposed, especially the heliotherm Lake Ursu. The sanatorium's proposed capacity is 800 people. Aviva hormonal gymnastics and infertility treatments, a phenomenon which has grown in the last years, and other treatments which are currently unavailable on the market are among the proposed alternative treatments that would be included in the sanatorium. The idea for the project was formed with the help of medical staff from Sovata resort.

Beneficiary: The Mureș County Council

Estimated value: 400.000.000 euro.

MEDICAL-SOCIAL CENTRE FOR MUSCULAR DYSTROPHY, VÂLCELE

The project proposal includes modernizing the ex-hospital from Vâlcele, Covasna county, and adapted to the needs of persons suffering from muscular dystrophy and aimed at increasing their quality of life. Apart from renovating the hospital the project proposes transforming the connected building into a balneology research laboratory. The laboratory is aimed at becoming an excellence centre in the medium term, capable of receiving medical students during their practice period. The centre's proposed capacity is 50 people. The project proposal was developed during work sessions where Vâlcele's mayor, the previous manager of the „Dr. Benedek Géza” Cardiology Hospital, also participated together with representatives of the Transylvania balneary cluster's management and the manager of the mineral water bottling factory from Vâlcele.

Beneficiary: Vâlcele City Hall

Partners: Wega Invest Srl

Estimated value: 4.000.000 euro.

NEW BALNEARY CENTRE IN TUȘNAD BATHS

The objective of the proposed project is increasing the level of balneary treatment services by creating a modern infrastructure for hosting, meal and treatment services. The objective can be reached as follows:

- Building a new balneary treatment facility or the complete modernization of an old treatment facility, including of pertaining hosting spaces, to bring the level of treatment services up to European standards. This entails the modernization of treatment offices and spaces, hydrokineotherapy pools, bathtubs, kineotherapy halls, but also of the unit's facade to allow the facility to function at peak efficacy. In addition, the project proposes maintaining mineral water springs to ensure that tourist have functional and aesthetic access to these waters.
- Equipping treatment facilities with modern physiotherapy equipment (for example, Shockwave, Tecar therapy, etc.)
- Collaborating with specialized university centres and medical personnel for the scientific research of natural cure factors from the balneary resort. This entails the analysis of mineral waters, mofetic gas and other natural cure factors. The curative effects of balneary treatment can be researched through clinical experiments or by tracking the health development of a sample of patients.

The project is proposed by Tusnad SA.

Estimated value: 2.500.000 euro.

CURE TERRAIN INFRASTRUCTURE IN TUȘNAD BATHS

The project proposes restoring the terrain of cure routes and creating new routes aimed at increasing the quality of medical services in the Tușnad Baths resort. It also proposes connecting the terrain of cure routes with crenotheraphy, which is an internal cure that highlights the therapeutic effects of mineral waters. Thus, restoring the tracks would also involve maintaining the mineral water springs.

Project proposed by: Hotel Ciucaș, Tușnad Baths.

Project's estimated value: 200.000 euro.

Other project proposals:

DERMATOLOGICAL BALNEARY PRODUCTS

Identifying new balneary products using notural factors in dermatology – research project. The project proposal is inspired by good practices existing in the field, especially internationally and by the Ana Aslan procedures in particular.

Beneficiary: UMF Cluj, the Romanian Balneology Association

Estimated value: 1.130.000 euro.

BALNEOTOURISM STARTUP ACCELERATOR

Mentoring and financing program for drafting, developing (scaling) ideas that can contribute to the development of balneary tourism regardless of intervention area. For example, a business idea that proposes measuring the air quality in a resort could be considered eligible. Additionally, ideas that have an indirect effect (smart village ideas, digital museums, etc.) are also eligible if implemented in at least one of the localities identified in this document. The grants must be between 40.000 and 150.000 euro / startup.

Program coordonator: The Transylvania Regional Balneotouristic Cluster

Partner: ADR Centre together with the management entity

Estimated value: 1.500.000 euro / year. From 10 to 30 beneficiaries.

MENTORING AND PRACTICE PROGRAM

The project proposes launching a stimulation program by granting a practice scholarship and a stimulating financial package for signing work contracts in the localities with balneary potential identified during this analysis aimed at stimulating youth to start a professional career in resorts. The program will be addressed to the following employment categories: medics; researchers; general medical assistants; medical assistants / technicians; others than general medical assistants (hygienists, nutrition and dietician assistants; pharmacy assistants; technicians;) physiotherpists and assisting staff; laboratory assistants; medical nurses; other specialists from the field of health. Program coordonator: RDA Centru together with the Romanian Balneology Association

Estimated value, budget per year: 725.000 euro.

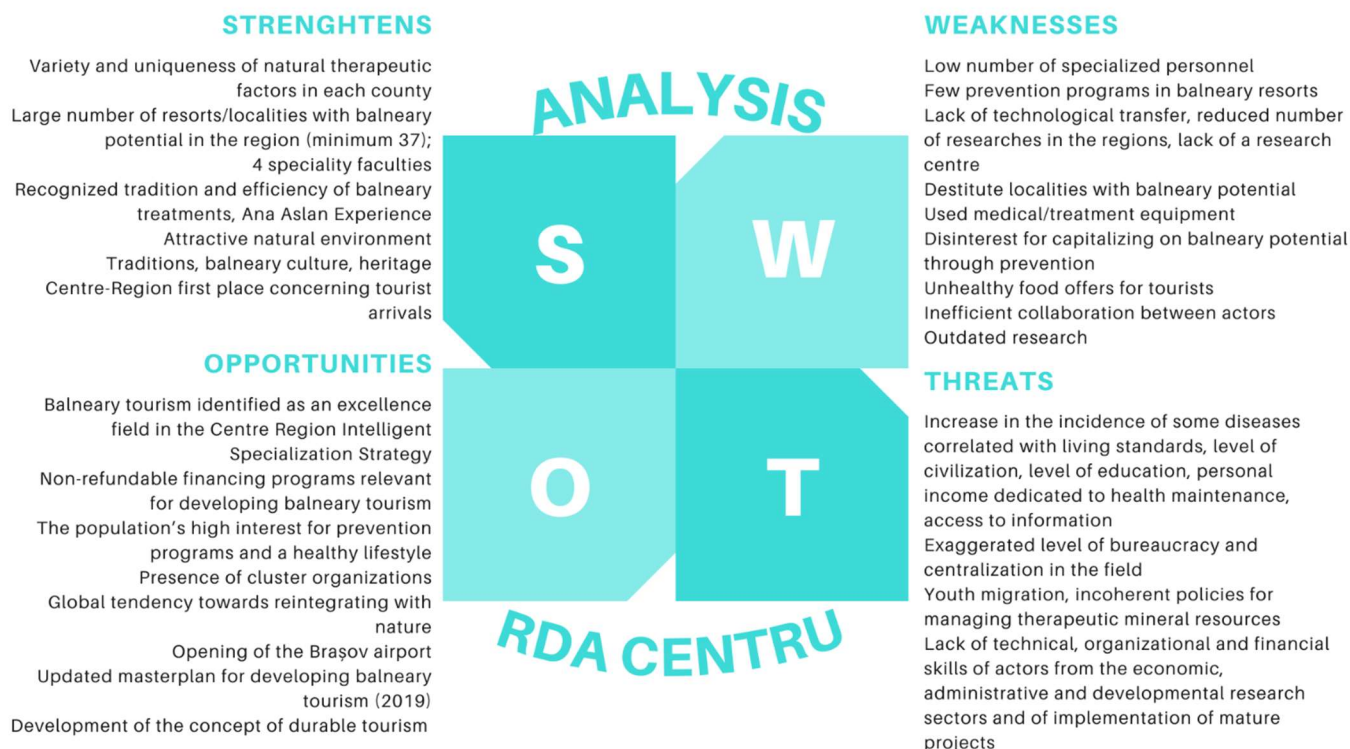
REGIONAL BRAND

Developing the regional health tourism brand and launching a national awareness campaign about the importance of prevention, including developing awareness audio-visual content, increasing the visibility of traditional baths and developing a digital route of these maintained baths. This project is tightly bound to the mapping of balneary resources, validating their therapeutic effects and the launch of the platform.

Beneficiary: The Transylvania Regional Balneotouristic Cluster through its founding members, Arbor Tour Srl, Creative Industries Cluster

Estimated value: 1.700.000 euros.

This document is based on the SWOT Analysis carried out by the Centru Region Development Agency:



Graphic5. SWOT Analysis of Balneary Tourism in Centru Region

Source: Regional Development Agency Centru

II. Policy context

3.1 Policy instruments that support development and innovation in the spa sector of the Centru Region

Project InnovaSPA funded under the interregional cooperation program of the European Commission – Interreg Europe and implemented in Romania by the Regional Development Agency – Centru, has the mission to identify and improve relevant policy instruments regarding acceleration of launching new products and innovative solutions on the market for spa resorts. In this sense, Regional Development Agency – Centru deals with **Priority axis 1** within the Regional Operational Program 2014-2020: **Promoting technology transfer and with Smart Specialization Strategy of the Centru Region, Romania**.

The Regional Operational Program is one of the programs through which Romania accesses the European structural and investment funds from the European Regional Development Fund (ERDF), in the period 2014-2020 managed by the Ministry of Regional Development and Public Administration as Management Authority and its implementation is delegated to the regional RDAs as an intermediate body.

The general objective of this program is to “increase economic competitiveness and improve the living conditions of local and regional communities, by supporting the development of the business environment, infrastructure and services, for the sustainable development of the regions, so that they can efficiently manage their resources and valorize the potential for innovation and assimilation of technological progress.” (official page of the Ministry of European Funds)

The primary objective of Priority Axis 1, structured on one priority investment is to promote technology transfer through a **comprehensive approach of the Romanian ecosystem’s innovation necessities**. Thus, this axis **aims to stimulate the creation of new infrastructures for innovation and technology transfer** as well as the development of existing ones. Science and industrial parks are also eligible in this category. In order to assure quality in the newly created entities or modernized, equipped, developed ones the program allows to purchase specific technology services and also to appeal to specialized business consultancy. The priority axis also facilitates cooperation in the form of partnerships between innovation and technology transfer entities (ITTs) and small and medium-sized enterprises (SMEs) by financially supporting investments aimed at implementing the results of research and innovation.

The purpose of the Investment Priority 1.1. is “Promoting investments in research and innovation, developing connections and synergies between enterprises, research and development centers and higher education in particular promoting investments in product and service development, technology transfer, social innovation, eco-innovation and applications for public services; stimulating demand, open innovation through smart specialization, creating networks and groups, as well as supporting technological and applied research, pilot lines, early product validation actions, advanced production and first production capacities, in particular in the field of essential generic technologies and the dissemination of general purpose technologies.”

Starting from the premise under which innovation generates 80% of the economic increase in developed countries, focusing on specific objectives within the program that aims increase based on knowledge at regional level is consistent with the objectives of the project InnovaSPA.

In this sense, it must be considered both Specific Objectives of Priority Investments 1.1. within the thematic objective of ***Strengthening research, technological development and innovation*** (according to the revised version of the ROP of 19 June 2020):

OS 1.1. Increasing innovation in companies by supporting innovation and technology transfer entities in the field of smart specialization

OS 1.2. Increasing innovation in companies by supporting multisectoral approaches resulting from the implementation of the “Less Developed Regions Initiative” in Romania

The implementation of these objectives is closely linked to the National Competitiveness Strategy 2014-2020 and the Regional Smart Specialization Strategy, according to which only the identified priority fields can benefit from non-reimbursable financing.

Further will be analyzed A, B and C operations of the Specific Objective 1. 1 Increasing innovation in companies by supporting entities of innovation and technology transfer in the areas of smart specialization.

Operation A - Supporting technology transfer entities

This call for projects is a non-competitive one addressed to innovation and technology transfer entities (*accredited according to GO 57/2002 and GD 406/2003*) as well as their associations and supports the following activities:

- Creation of a new service delivery unit of technology transfer with relevance for the areas of intelligent specialization identified at the level of the Centru Region
- Expanding the capacity of an existing unit by increasing the volume of at least one technology transfer service relevant to the identified areas of smart specialization
- Diversification of services / production of an existing innovation and technology transfer unit by developing a new range of services / products relevant to the identified areas of smart specialization

According to specific guidelines related to Investment Priority 1, innovation and technology transfer (ITT) entities are: technology transfer centers-TTC, technological business incubators-TBI, centers for information technology-CIT, offices related to industry (assimilated as centers of competence, including hubs and regional centers), science and technology parks-STP, public or private.

The call was launched twice in the Central Region, the first time between August 20, 2018 and April 20, 2019 with a budget of 9,121,200 euros in the region, out of a total of 66 million euros allocated nationally for this measure. According to the data published on the official website of RDA - Centru, 4 projects were submitted, of which no projects were approved.

The second call was opened between June 13 and October 30, 2020 with a total allocation of 27.656 million euros nationwide, of which 4,772,208 euros for projects in the Central Region. Within this call, 7 project proposals were submitted, of which 3 were rejected. Thus, the allocation rate within this call is 26.3%, the approved requested value being approx. 1,768,388 euros.

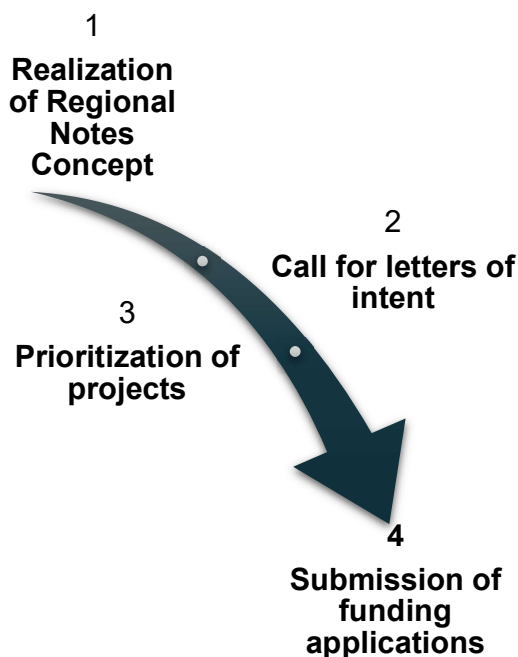
Operation B - Supporting science and technology parks

This call for projects includes the same eligible activities as operation A, and the eligible beneficiaries are the science and technology parks defined as follows: *joint venture, concluded between an accredited higher education institution and / or a research and development unit, on the one hand, and autonomous companies, national companies, commercial companies, local*

public administration, employers' or professional associations, individuals, Romanian or foreign investors, on the other hand.

Although initially the budget allocated to this call in the Centru Region was 7.74 million euros, by CMPOR decision no. 96 / 26.06.2018 reductions of the financial allocations were approved, thus 5.02 million euros belong to the Centru Region. The financing line was opened on 13 August 2019. According to the latest information (30.10.2020), a single project proposal was submitted with a total value of 9.8 million euros and was selected for funding.

The 2 operations, A and B, follow a working procedure that stages the access to financing as follows:



Source: GHID CONDIȚII SPECIFICE DE ACCESARE A FONDURILOR PENTRU APELUL DE PROIECTE NR. POR/2020/1/1.1.A./1; POR/2020/1/1.1.A./2, POR/2020/1/1.1.B./1

Operation C - SME or SME in partnership with ITT for technology transfer investments.

2.1.1.1. This call for funding is based on the competitive principle and supports investments in tangible assets, intangible assets, development of online marketing tools for SME services / products, experimental development (prototype construction, experimental production, testing-validation processes, etc.) in order to launch new or improved, marketable products / services, as a result of the transposition / use of research results by the beneficiary - economic agent. Project proposals must be between 25,000 and 200,000 euros. Of the total of 55 million euros, 7.6 million belong to the Centru development Region. By the end of the first call - August 25, 2018 - 19 project proposals were submitted, requesting almost 3.4 million euros. None of these proposals are under selection. At the beginning of 2020, the guide for public consultation was published. This working document highlights the fact that the investment priority through operation C does not aim to finance the innovative processes resulting from the purchase of equipment but to support technology transfer in the sense that the proposed activity is aimed at launching new products / services on the market or presents a significant improvement of products, services or

processes following the implementation of research results. Compared to the first call, the beneficiaries no longer have the obligation to increase the number of employees. A total budget of 28 million euros is forecast for this cycle, of which 4.6 million euros go to the Centru Region - the smallest budget among the regions.

Under Investment Priority 1., **31 project proposals** were submitted of which 26 were rejected, 5 are in the selection stage, no project was contracted by 30 October 2020.

Taking into account the mission of Investment Priority 1 and the need for innovation in the field of balneology, the cause of the low interest of actors in the field in these funding opportunities must be analyzed. Based on those listed in the “challenges” section, it appears that actors operating in this sector at the regional level do not have adequate capacity to absorb these funds. Currently, there is no accredited / authorized technological innovation and transfer entity specialized in the field of balneology and / or spa tourism, so the project proposals in this regard must aim at setting up an entity specialized in spa science at the regional level. Although balneotourism is a regional priority, the Centru Region being the richest in therapeutic natural resources, the region does not have any specialized research center in this regard. The validation of natural therapeutic factors for the purpose of launching products / services / procedures is done exclusively by the National Institute of Recovery, Physical Medicine and Balneoclimatology. Decentralization of the testing / validation / authorization process would greatly contribute to the development of the field.

In 2020, the Guide for public consultation of the “Proof of Concept” operation was launched within the specific objective **1.2 Increasing innovation in companies by supporting multisectoral approaches resulting from the implementation of the “Less Developed Regions Initiative” in Romania**. This call aims at the financial support of *specific innovative activities carried out by SMEs with the main purpose of demonstrating the functionality and verifying a certain concept of product, service or process that can be realized and put on the market*. The program involves a technological development from TRL 3 to TRL 4 or TRL 5 (Technological Maturity Level). Description of the categories of Technological Maturity:

https://uefiscdi.gov.ro/userfiles/file/PNCDI%20III/P2_Cresterea%20competitivitatii%20economiei%20romanesti/TRL.pdf

Other priority Axes within the Regional Operational Program that contribute to the development of spa tourism:

Priority Axis 2. Improving the competitiveness of small and medium - sized enterprises

Thematic objective 3 - Improving the competitiveness of SMEs;

Investment priority 2.1 A&B: Promoting entrepreneurship, in particular by exploiting new ideas and encouraging the creation of new businesses, including through business incubators;

Contracted project:

Establishment of tourist boarding house in Sovata Resort, by DAW COM LTD, Project value: 1,309,412.40 lei | The requested amount: 875,205.97 lei.

Investment priority 2.2: Support the creation and expansion of advanced production capacities and the development of services.

This axis, with both priorities included, has a direct impact on spa tourism in the context in which economic agents in the field as well as in related fields call for refurbishment.

Priority Axis 5: Improving the urban environment and the conservation, protection and sustainable use of cultural heritage;

Thematic objective 6: Environmental protection and promotion of efficient use of resources;

Investment priority 5.1: Conservation, protection, promotion and development of natural and cultural heritage.

This investment priority is of direct relevance to spa tourism: conservation of spa culture, including the architectural specifics of the resorts; protecting the quality of natural resources with therapeutic effect, including the sustainable management of forests around localities with spa potential.

Investment priority 5.2: Actions to improve the urban environment, revitalize cities, regenerate and decontaminate former industrial areas, reduce air pollution and promote noise reduction actions;

The budget allocated for this axis is 466.50 million euros (at national level), of which 47.20 million euros are available for the Centru Region.

Projects implemented in spa resorts / localities with spa resources:

- Repair work, conservation and introduction in the tourist circuit at the Ensemble of the Fortified Evangelical Church from Miercurea Sibiului - Project beneficiary: Evangelical Church Miercurea Sibiului, Project value: 2,096,373.25 lei | The requested amount: 2,027,904.93 lei;
- Restoration of the Henter Mansion from Sântimbru commune - Project beneficiary: Sântimbru commune, Project value: 1,501,772.42 lei | The requested amount: 1,336,800.18 lei;
- Building consolidation restoration - Villa no. 49, Azi Villa no. 51 "Emil" from Borsec tourist resort, Beneficiary: Borsec city, Project value: 2,972,342.86 lei | The requested amount: 2,675,189.49 lei.

Axis 7 - Diversification of local economies through sustainable development of tourism

7.1 Support employment-friendly growth through the development of endogenous potential as part of a territorial strategy for certain areas as well as increased accessibility and the development of specific natural and cultural resources. Only local government authorities and institutions and partnerships between them were eligible for this call. The projects contracted under this call have been described in Section II.

Projects contracted in spa resorts and localities with spa resources:

- Development of parks and green spaces in the spa resort Băile Tuşnad, Project beneficiary: Băile Tuşnad city, Project value: 6,777,980.84 lei | The requested amount: 6,574,151.88 lei;
- Rehabilitation of the road infrastructure for the tourist development of the Băile Tuşnad spa Beneficiary: Băile Tuşnad city, Project value: 10,915,836.64 lei | Amount requested: 10,471,335.42 lei;
- Economic development of the spa resort Bazna, Project beneficiary: ATU Bazna commune, Project value: 14,231,420.65 lei | The requested amount: 13,850,317.71 lei;
- Development of the tourist infrastructure in the spa resort Ocna Sibiului, Beneficiary: Ocna Sibiului city, Project value: 19,613,388.30 lei | The requested amount: 19,221,120.53 lei;
- Modernization of urban streets in the city of Sovata, Project beneficiary: ATU city of Sovata, Project value: 9,269,513.75 lei | The requested amount: 9,010,838.30 lei;
- Rehabilitation of the road infrastructure in the spa resort Covasna, Project beneficiary: Covasna city, Project value: 19,041,336.53 lei | The requested amount: 18,660,509.80 lei.

Priority Axis 13. Supporting the regeneration of small and medium-sized cities

Investment Priority 9b: Providing support for the physical, economic and social revitalization of disadvantaged communities in urban and rural areas

Specific Objective: Improving the quality of life of the population in small and medium-sized cities in Romania. This operation is aimed at small towns (less than 100,000), with the exception of county residences and supports activities to improve social, educational, cultural, recreational services provided at the urban level, including living conditions for vulnerable groups, and by improving the quality of urban public spaces (road infrastructure, green spaces, utilities, etc.). At the level of the Centru Region, the following localities with spa potential are eligible: Ocna Sibiului, Bazna, Ocna Mureş, Băile Tuşnad, Borsec, Gheorgheni, Sovata, Predeal, Covasna.

Relevant contracted projects:

- Extension, rehabilitation, endowment of Cultural Centre and improvement of urban public spaces, Project beneficiary: Ocna Sibiului city, Project value: 9,448,555.76 | Amount requested: 8,255,022.17
- Improving the quality of life of the population in the city of Ocna Mureş, Project beneficiary: Ocna Mureş city, Project value: 17,025,122.24 lei | The requested amount: 16,602,046.63 lei

Smart Specialization Strategy of Centru Region

Smart Specialisation Strategy of the Centru Region (RIS3) is the document developed at regional level in accordance with the provisions of the Guide for the elaboration of Smart Specialisation Strategies. The document includes the measures taken to build an economic culture of innovation, identify priorities for the smart development of the Centru Region. The purpose of the Smart

Specialization Strategy of the Centru Region for the next 7 years is to guide and focus the efforts to transform Centru Region into a region of knowledge.

The Smart Specialisation Strategy of Centru Region is drafted by the Regional Development Agency Centru in collaboration with the regional stakeholders (public authorities, research and innovation entities, business sector, NGOs, etc.), endorsed by the Regional Innovation Consortium (the consultative structure of RIS3) and approved by the Regional Development Board (decision making body of the region).

Smart specialization strategies support the regions in transforming their needs, strengths and competitive advantages into goods and services, aiming at prioritizing public investment in research and innovation through a bottom-up approach to the economic transformation of regions, building on regional competitive advantages and facilitating market opportunities in new interregional and European value chains. Strategies help regions anticipate, plan and support their own process of economic modernization.

3.2 The Action Plan aims to impact

- ☐ Investment for Growth and Jobs programme
- ☐ European Territorial Cooperation (Interreg) programme
- ☒ Other regional development policy instrument

Name of the policy instrument(s) addressed: Smart Specialization Strategy of Centru Region (RIS3)

The policy instrument addressed by this action plan is the Smart Specialization Strategy of Centru Region and indirectly the Regional Operational Program 2021-2027. The first version of RIS3 was elaborated in 2015 and was followed by two updates: in 2017 and 2020-2021. For the programming period 2021-2027, the good governance of national or regional smart specialization strategies are enabling conditions to efficient and effective use of the financial support of EU granted under the Policy Objective 1 – A smarter Europe. The RIS3 and ROP 2021-2027 are influencing each other.

The previous experience with the Priority Axis 1 of the Regional Operational Program 2014-2020, the first policy instrument addressed by the project, demonstrated that the potential beneficiaries of this priority axis were not prepared enough to propose relevant projects of innovation and Technology Transfer. As a great amount of the Regional Operational Program 2021-2027 budget will be allocated to Policy Objective 1 to support innovation, Technology Transfer and partnerships for RDI projects in smart specialization sectors, it is crucial to facilitate, as much as possible, the cooperation between different stakeholders from the regional innovation ecosystem to generate and implement project under this policy objective, which is relevant also for the InnovaSPA project.

Within the InnovaSPA study visits, RDA Centru together with its stakeholders identified several national/regional and even local good practices of policies for thermalism (balneology) development. A good example was the French approach regarding the organization of the thermal ecosystem and the ways they involve the economic sector, the academic/research sector and the administrative sector. This triple helix approach is also present in the strategic plan of some of the regions.

IV. Details of the actions envisaged

ACTION 1 Set-up of a RDI working group with the purpose to unlock and enhance the innovative potential of balneary resorts in Centru Region

This action is inspired by the lessons learned during the InnovaSPA Study Visits in France. The most relevant and inspiring for the development of our regional ecosystem were: *The Regional Thermal plan of Auvergne-Rhône-Alpes Region 2016-2021, Interuniversity Institute of Thermal Medicine, Campus of trades and qualifications for thermalism, wellness & full health, Inovatherm Cluster.*

These practices were inspiring solutions for some of the challenges and problems identified in Centru Region, such as lack of collaboration and development of collaborative projects between the most relevant stakeholders, limited access to research-development-innovation services, lack of specialized and qualified staff, limited access to financing, lack of support policies of the balneary sector, etc.

From the Regional Thermal plan of Auvergne-Rhône-Alpes Region 2016-2021 (whose main objective is to support the development of new generation spa resorts by investments and collective actions as communication, innovation and training) we have learned that:

- A very well organized regional ecosystem as the one in France, is possible if a strong collaboration exists between all the actors of the thermal ecosystem (medical, tourism, research, education and innovation) organized in associations, institutes (eg. Interuniversity institute of thermal medicine), etc.
- In order to develop new generations of thermal (balneary) resorts, we have to address and focus on health with all the sub-sectors and services related to it.
- The investments must focus on both health prevention and well-being, as seen in the second stage of the thermal plan;
- Regional policies are necessary in order to support the development of thermal resorts, balneary resorts in the case of Centru Region.
- Joint actions/initiatives in terms of training and professionalization, have to be implemented in order to ensure successful implementation of the regional plan: funding the activities of the clusters, support for R&D projects, certification of the thermal

resources, training session for spa towns in terms of destination marketing, design thinking.

- Health prevention is of great importance and has to develop it as a product the people can benefit from.
- Scientific research projects are necessary in order to help demonstrate the medical benefits of the treatments based on thermal/mineral waters.
- Thermal establishments are involved in several collaborative projects with educational institutions, universities and training centers.

Interuniversity Institute of Thermal Medicine – an initiative of two universities in Auvergne-Rhône-Alpes Region (University Clermont Ferrand and University Grenoble Alpes) established within the framework of the Regional Thermal Plan as part of the Education, Research and Innovation component. The Institute aims to strengthen the collaboration between the universities in the region in order to better identify the needs of thermal doctors, to facilitate the economic evaluation of thermal medicine at regional level, to promote, coordinate and develop new formats for teaching thermal medicine and to reflect about the preventative health as a regional product.

Campus of trades and qualifications for thermalism, wellness & full health aiming to anticipate the needs in terms of thermal professions, to develop collaborative projects with educational institutions, universities and training centers and create synergies between training operators.

Nature of the action.

Taking into consideration the lessons learned, we propose as a solution to some of the challenges/problems identified at regional level in relation to the innovative development of spa resorts, to set up a working group. This working group will act as a technical group of RIS3 (Smart Specialization Strategy of Centru Region) and as a mixed working group gathering stakeholders from two of the smart specialization sectors: health and tourism, with specific interest in balneology and spa tourism.

The role of this working group will be:

- to identify solutions and propose collaborative projects with a high degree of innovation that have either better chances to obtain financing from EU programs and to consolidate the regional innovation ecosystem;
- to discuss, identify and design projects that should respond to the main challenges of spa resorts;
- to design education and training programs to respond to the lack of medium and high qualified staff;
- to provide technical support/advice to public/private entities.

Specific activities to be implemented:

- Setting-up a working group with the following stakeholders: universities, research institutes, Transylvania Regional Balneoturistic Cluster, Romanian Association of Balneology, representatives of spa resorts and companies;

- Organization of 2 meetings with the working group and other stakeholders of the ecosystem in order to discuss projects of common interest for the balneary ecosystem, resulted from the analysis conducted under the InnovaSPA project, on RDI, and set up of technical groups/interest groups on each project discussed;
- Consultation of the working group and other stakeholders of the ecosystem in relation with the Guidelines that will launch within the Priority Axis 1 of the ROP 2021-2027.

Stakeholders involved in the implementation of the action are:

- **Regional Development Agency Centru** with the task to operationalize, implement and monitor the implementation of the action.
- **Transylvania Regional Balneotourism Cluster**, with the responsibility to support the implementation of the activities.
- **Universities in the Region;**
- **Balneary resorts and resort owners.**

Timeframe: 24 months, but no later than October 2022.

Indicative costs: The meetings will be organised online, not involving direct costs. Participants will voluntary take part in the meetings and get involved in the working group and technical groups.

Indicative funding sources: RDA Centru will provide the staff and logistical arrangements to organize two meetings with the working group and the effort of the staff involved in operationalization of this WG.