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SPA RESORTS IN THE AGE OF KNOWLEDGE-BASED ECONOMY

UZDROWISKA W DOBIE GOSPODARKI OPARTEJ NA WIEDZY

Abstract

Spa resorts with a high quality environment, both in the natural and cultural sense, are attractive places for locating knowledge-based economy infrastructure. The article discusses several examples of technology parks and centres located within spa towns and presents the strategies which spa resorts may apply to boost their competitiveness and diversify the services they offer. Building partnerships and networks between research units, linking businesses and administration, developing services and technologies connected with balneology treatments and tourism as well as implementing green technologies open up new opportunities of growth for spa resorts.

Keywords: technology parks, technology centres, spa resorts

Streszczenie

Miasta o funkcji uzdrowiskowej, dysponujące wysokimi walorami środowiskowymi, zarówno przyrodniczymi, jak i kulturowymi, są atrakcyjnym miejscem dla lokalizacji infrastruktury gospodarki opartej na wiedzy. W artykule przytoczono kilka przykładów wprowadzenia parków i centrów technologicznych w przestrzeń miasta, wskazując strategie, jakie mogą zastosować uzdrowiska w celu poprawy swojej konkurencyjności i dywersyfikacji usług. Budowa partnerstwa, sieci między jednostkami badawczymi, przedsiębiorstwami i administracją oraz rozwój usług i technologii związanych z lecznictwem i turystyką balneologiczną, a także rozwiązaniami proekologicznymi otwiera przed uzdrowiskami nowe możliwości rozwoju.

Słowa kluczowe: parki technologiczne, centra technologii, uzdrowiska

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Spa resorts are usually envisioned as secluded places with a high quality landscape and environment where people restore their depleted vital forces by changing their daily routine and benefiting from the natural resources they have at their disposal. Indeed initially, spas were developed as rather elite single-function centres of recreation and medical treatment, and they targeted their business mostly to the affluent social classes [6]. The presence of social elites meant that, apart from the curative functions, the town offered its visitors participation in a flourishing social life in the attractive scenery of the spa resort architecture. The specific development type, historic events, the presence of celebrities as well as artistic and social events that are often still organized today have contributed to the cultural variety of these places.

The time after the 1st and especially after the 2nd world war brought a great popularization of spa treatments in Europe and in Poland, and they became available to the general public, which resulted in the change of both the culture and the life style cultivated at spa resorts, yet their specific character had been retained [6]. The second half of the 20th century in Polish spa resorts was characterized by a growth of the recreational function, progressing underinvestment of the curative function, which contributed to the deterioration of standards, and gradual degradation of the townscape and infrastructure. In this situation, spa resorts started developing other areas of economic activity. Research into services offered by spa resorts of the Upper Vistula region, carried out by the Author¹, demonstrated in many cases an excessive growth of tourist and recreational function, which manifests itself mostly in the presence of an extensive accommodation infrastructure and numerous tourist and gastronomic services, the latter usually of low quality. Tourist-oriented economic growth of a spa resort results in the periodic increase of the number of visitors, which when coupled with inadequate infrastructure and non-observance of spatial standards referring to, for example, organized greenery, may jeopardize the spa function.

At present there is a large-scale campaign going on in Poland for the privatization of spa facilities, which involves a process of spa service diversification and transformation oriented towards health tourism and the 'spa, beauty and wellness' sector aimed at a more affluent clientele. The privatization scenarios and approaches to future development of spa resorts vary, and there is no universal pattern. Some of them, restored in whole to their lawful owners (Szczawnica, Solec) or bought by an investor (Swoszowice, Konstancin, Wysowa), or partly privatized (Nałęczów²), have a chance of regaining their spa character and prestige and also have a chance of preserving the spa function or transforming into luxurious centres offering mostly services concerned with beauty care, wellness and vitality.

Taking the above into consideration, it is worth asking a question about the future development of spa resorts. Will they remain mono-functional fossilized remnants of the past supported by public money or will they turn into elite private spa and wellness centres with limited accessibility to the medical treatment offer? How can the function and services in spa resorts in order to stimulate their economic growth be diversified without jeopardizing

¹ A research project KBN No. 6 T07F 024 24 Spatial and functional research into statutory and potential spa resorts situated in the basin of the Upper Vistula River from the point of view of their development opportunities and gaining a competitive edge over other European centres of balneological treatment carried out under the supervision of E. Węclawowicz-Bilska, PhD. Eng. Arch., associate professor at the CUT, in the years 2003–2006.

² Sanatoriums in Nałęczów have been privatized, but public areas have been left in the hands of the local self-government.

the environmental quality or diminishing their appeal based on a set of natural, cultural, compositional and spatial assets, which are the mainstay of these towns' prosperity [6]? Does locating knowledge-based economy infrastructure centres in spa resorts give them a new growth-boosting chance?

A study of activities undertaken in several European spa towns indicates a number of strategies applied with a view to their renovation and further growth.

Aix-en-Provence, a town with a history of over 2130 years, owes its fame to the curative waters which were already known in Roman times, which gave the town its name³. The Roman baths, the medieval university complex (in operation since 1409), the modern administrative and political centre⁴ as well as the town's artistic life and rich cultural heritage make the Aix of today a uniquely picturesque and attractive tourist destination, regarded as a waters and arts centre, attracting to a large extent, pensioners wishing to spend the waning days of their lives in a mild climate spa resort.

The spa itself, the Baths of Sextius, has for centuries remained at the place of its historic Roman location, directly connected to the Old Town district, with no plans for further expansion [7]. Apart from the main spa complex in the town centre, there are clinics, rehabilitation and treatment centres located in the neighbouring wooded hills.

One such centre, isolated from the town and hidden in dense pine forest is the estate, Petit Arbois, stretching over an area of 4.500 ha. It housed a sanatorium and a hospital complex, built in the 30s of the 20th century, oriented towards treating patients suffering from respiratory failure. The spatial composition of the estate comprises a complex of buildings clustered along the loop of Sanatorium Street and several individual pavilions spread over the area. The aesthetically uniform complex designed by the Marseille architect, Gaston Castel, in the Provencal style is characterised by simple repetitive facades with regular windows combined with decorative elements in the form of arches, porches and bays as well as white walls slit by light stone of delicate texture contrasting with brick-red roof tiles.

In the 70s, the authorities of the Bouche-du-Rhône department (the owner of the estate) suggested to devote this unique area. Partly under legal protection, located in the metropolis's "green lungs" region, in the heart of the 11 000-hectare Arbois upland of high natural and environmental value. The development of innovative companies connected with environmental technologies⁵. In 1991, Technopole Arbois⁶ was established, and the long boarded-up and abandoned buildings of the sanatorium were completely restored and adapted according to the design by Massimiliano Fuksas to suit the scientific and research function of the technopolis. New objects were added with time (the complex comprises

³ Water is inscribed in the town's name – the present Aix-en-Provence comes from the historic Latin name Aqua Sextiae (Sextius's waters). Aix, which since Roman times has functioned as a thermal centre and spa, was officially declared a spa resort in 1913.

⁴ The restitution of the capital of Provence function and establishing the Parliament in the 16th century contributed to the town growth. Quartier Mazarin and Cours Mirabeau, built up with high quality architecture of the 16th and 17th century, were created at that time.

⁵ C. Barletta, *Aix: la Zac de la gare enfin sur les rails*, published on the 7th Dec. 2011 on the portal www.laprovence.com.

⁶ The association managing the Technopolis (Sydicat Mixte de l'Arbois) was created by the Bouche-du-Rhône department authorities (57%), the Aix Agglomeration authorities (38%), the Provence-Alpes-Côte d'Azur (PACA) region authorities (5%) [9].

15 buildings altogether), compositionally completing the existing historic complex, so that the functionality of the technopolis could be improved and all its activities concentrated in one place. In 2012, a new office building was opened, named after Henri Poincaré, built as a cutting-edge energy efficient facility destined for six poles of competitiveness functioning in Aix and connected to environment-friendly technology [9]. At present, the 205 hectares of Technopole Arbois planned for development (the rest are areas of protected greenery), house 110 companies, 11 research centres, a business incubator and 3 centres of higher education, which together accommodate 1100 employees and 300 students [9].

In the last 50 years, Aix-en-Provence has been experiencing an unprecedented economic and demographic growth⁷ – it is becoming a young and dynamic town. This process is related to the development of the research sector and the advanced technology industry as well as the change of image of this tourist and spa town. The technology function of the town and region, which is now one of the more important economic centres in France, is realised by numerous institutions of higher education and research and development units, including the university Aix-Marseille⁸, the Nuclear Research Centre in Cadarache and Technopole Arbois. The last one is developing another zone of activity in the area of the new TGV station⁹. The town's economic transformation has been greatly influenced by the activity zones created since the 70s, which were built up with large-scale development, had a more or less composed layout and a varied saturation of green areas. The zones have created a new district of the town stretching over 800 ha of previously unurbanized and rural areas. The biggest zones include, apart from Technopole Arbois, the Les Milles industrial park, Europarc de Pichuary, the Duranne technology park or the zone of the new TGV station; all of them had been, to a considerable extent, developed or rebuilt in the years 1990–2010 [3].

The picturesque townscape, architectural variety, appeal of the landscape, climate, sun exposure, location between the sea and the mountains as well as a large proportion of greenery¹⁰ in the town and the diversity of public areas, all constitute dream conditions for developing not only the tourist, recreational and spa function, but also the economy, since the quality of the living environment is of great importance for it [3, 4].

Another French spa resort, Vichy, has also been famous for its thermal waters since Roman times, when over 2000 years ago it was founded as a settlement next to a curative water spring. For centuries, the therapeutic properties of the Vichy waters have been highly appreciated, which resulted in the spatial growth of the spa resort as well as the erection of representational facilities of high architectural value. The position of a renowned spa

⁷ In 1954 the town had 48.400 inhabitants, and in 2008 – 142.750 [3].

⁸ The university tradition in Aix goes back to the Middle Ages. The university Aix-Marseille was created on the 1st January 2012 by merging three universities (Provance / Méditerranée / Paul-Cézanne). At present, with 70 thousand students, it is one of the biggest French university complexes located in five campuses in the area of Aix and Marseille.

⁹ The Technopolis will be further developed (80% of the new enterprises are supposed to be involved in environmental technologies) in the area of the TGV station, where there are 40 ha of land released for development in 2012/2013. Unlike in Arbois, where the development is of traditional and local character, and, as the property of the Technopolis, it is rented, the areas in the new zone will be sold or leased, but their development is going to be subjected to rigorous specification so that the result would be an exemplary technology district with buildings of high quality architecture erected from innovative and energy efficient materials. After: C. Barletta, *op. cit.*

¹⁰ Wooded areas in Aix occupy 6000 ha, which constitutes 1/3 of the town area, which equals 18 000 ha [3].

also involves a wide and varied range of cultural services¹¹, sports facilities¹² and areas of organized greenery¹³, which are rarely encountered in towns of this size (27 thousand inhabitants). Additionally, since 1989 there have been activities undertaken aimed at creating an attractive urban space: the restoration of the architectural heritage; the introduction of pedestrian zones; the modernization of sanatorium and hotel facilities as well as spa centres; the foundation of a balneotherapy biological regeneration centre; the renovation of the congress centre and the opera house; the revitalization of the railway station [11]. Owing to its varied range of services, Vichy offers a high quality of living and attracts those who want to use the big city infrastructure and facilities without having to endure its inconveniences. The town offers living conditions suitable for specialist employees of research institutions as well as innovative technology companies, which begin to function within its structure. A plan created in 1997 was aimed at improving the town's economic situation by attracting "grey-collar workers" and developing a knowledge-based economy¹⁴.

Industry in Vichy started after the 2nd world war. Previously existing production plants had been, to a great extent, connected to the town's spa function (bottle manufacture, water bottling). At present, there are several industrial zones in Vichy and its neighbouring areas, and the manufacture and service activities are concentrated there. The zone Vichy Rhue, spatially connected to the town and located in the near commune Creuzier-le-Vieux, is the seat of the L'Oreal laboratory, which develops cosmetics based on mineral water and known under the brand name Vichy. The premises and their environs differ considerably in quality, which is characteristic of technology centres from the surrounding industrial development. At the same time, parks of a research and technological character are growing, so they are destined to be built up with laboratories and research and development units, e.g. Bioparc Vichy. The park was created in 1993 in a place called Hauterive – 5 km away from Vichy. Bioparc, stretching across 35 ha of land, is situated in a natural countryside landscape, in a secluded area isolated from other buildings and functionalities by walls of trees. The park is mostly destined for research and development units and laboratories working in the field of health, beauty and wellness as well as biomedicine, also based on spa medical treatments and natural mineral resources.

Implementation of the research-development and technological function involves realization of structural projects significant for the town's growth and focusing on the revitalization of post-industrial and post-spa brownfields as well as developing the key areas of activity, such as the Lardy University and Technology Pole and the Atrium Technology Centre. The ATRIUM Technology Centre, inaugurated in 2008, is located in a former mineral water bottling plant, which had been abandoned for 20 years and completely degraded. The building, which is a monument of industrial architecture, is situated in the town centre area in the vicinity of the main railway station. The structure is composed of repetitive segments

¹¹ Vichy has an opera house, a media centre, 5 museums, a six-screen cinema (visited annually by 290 thousand patrons), a culture centre and an academy of music.

¹² Rugby and basketball sport clubs, a swimming stadium and a racing track on the Allier river as well as sports facilities for fifty different disciplines (e.g. an athletic stadium, several fields for playing team games, tennis courts, mini golf course) and an international sports centre of biological regeneration in the Parc Omnisport – park area stretching over 120 ha of land.

¹³ The area of organized greenery in Vichy accounts for 1/4 of the whole town area. Nevertheless, the town gives the impression that the amount of greenery is greater as the parks which are situated outside its administrative boundaries are connected to the town structure (e.g. Parc Omnisport) [11].

¹⁴ Delannee S., *Le pôle universitaire de Vichy Val d'Allier*, article published on the 17th Nov. 2011 [10].

crowned with a multi-arch roof and pierced with high windows. The main façade is in the form of a large, completely glazed structure crowned with an arch combines the building's traditional industrial expression with the contemporary technology of glazed front elevation linking the interior with the urban square in front of the building. The interior of the structure has been arranged by putting free-standing office units into the former workshop floor in such a way as to not lose the impression of its enormity covered with the arched roof structure. In the space between the outer walls and the office complex, a meeting place has been created for conversations, discussions and making contacts. The representational main hall performs a similar function. The building has also been furnished with green patios introducing elements of nature into the workplace. The Centre, whose main objective is the creation and development of businesses, houses a business incubator, offices and services connected with the operations of businesses.

The Lardy University and Technology Pole was created in 2001. An idea was born at the beginning of the 90s to revitalize the old spa complex, Lardy, built in the 30s (1937), when the spa resort was blooming, closed in 1967 and falling into ruin from that time on. The bath-house, situated in the spa park accommodating the water intake point of Vichy's most famous spring, Celestine, was designed by Charles Letrosne in the Provencal style [10]. The complex had two two-storey wings with marble arcades on the ground floor and a tower water container. Owing to the revitalization of these facilities, the University, as one of the town's strategic functions, has obtained premises in a very attractive location near to the town centre and the spa district, and surrounded by beautiful greenery. Its construction resulted from the town's economic plan adopted in 1997, which was to raise its appeal, enliven it and fill it with young people, and first of all, to provide a steady specialist workforce for the labour market in the region. The Pole is also a place where enterprises are established, of which there are approximately forty and these employ approximately 40% of students in the form of internships and student training placements¹⁵. Introducing the university function into the town is changing its image and the community, which is getting younger – it also enables the building of connections between science and business.

The strategy to locate knowledge-based economy centres in towns with a leading spa function and characterised by high quality urban environment in order to boost their competitiveness can also be found in Aachen¹⁶, Warnemunde¹⁷ or Bad

¹⁵ A few businesses have been established by the university's students/graduates; after: Delannee S., *op. cit.* [10].

¹⁶ The region of Aachen (a spa since the Roman Times) is at present one of the most innovative areas in Europe, which it owes to its location near the border, high quality living and working environment as well as the activities and partnership between the RWHT Aachen University, research centres and business support institutions. The institutions of this type include: the Europlatz Technology Centre (1993) with its seat in a building of attractive architectural design and prestigious location at the entrance to the city from the motorway and in the vicinity of the spa complex and compact areas of organized greenery, Medical Technology Centre (1994) connected with the University Clinic as well as the BioMedical Technology Centre. In Aachen, there are also Competence Centres, for example of Science History or Medical Technology, the latter connected with the Medical Technologies Cluster; after: www.technologiezentrum-aachen.de.

¹⁷ Warnemunde is Rostock's spa district situated on the Baltic Sea. As one of the most beautiful traditional German spa resorts, it offers an appealing environment both for recreation and creative work. Since 1990, Warnemunde has been home to a technology centre (TZW) and a technology park (TPW) spatially and functionally connected to the institutes of the Wismar University and the University of Rostock. The same space also comprises the Research Centre of Biosystems

Ischl¹⁸. This tendency can also be observed in Poland, e.g. in Szczawno-Zdrój. This small spa resort situated within the influence zone of a large city (Wałbrzych) is characterised by high quality traditional architecture as well as considerable amounts of green areas, which in the form of fields, meadows, woods and spa parks, account for more than 50% of the town's area. The commune-owned periphery area of Szczawno-Zdrój, from the side where the town borders on the Wałbrzych urban fabric, is now the house of Dolnośląski Technology Park "T-Park". The park, managed by the Dolnośląska Regional Development Agency, is one of the elements of Szczawno-Zdrój Economic Activation Zone development. It is destined first and foremost for commerce and industry. The T-Park is located in the Research and Development Centre facilities, which comprises three functional zones – the business incubator, office and laboratory infrastructure and production workshop facility. The Park, inaugurated in 2009, is aimed at developing information technologies, electronics, construction and renewable sources of energy as well as spa medicine, the last of which is connected with the speciality of the neighbouring medical treatment centre. There are 20 ha of land available for development linked to the technology park, which are destined for innovative and environmentally friendly businesses.

In the presented examples, the curative and technological functions are not always directly connected. Most frequently, local authorities introduce a new function into an existing spa resort or former spa facilities which remains the commune property with the view of stimulating the town's and region's growth – opening new possibilities of creating partnership networks and building knowledge-based economy infrastructure. An example of the strategy of combining the spa and technological functions are the activities that are planned in the area of the Zgierz commune situated in the northern part of the Łódź Metropolitan Area, in the zone of the Łódź metropolis's 'green belt', which is to be taken under legal protection within the framework of the Sokolnicko-Piątkowski Area of Protected Landscape and in the strip of Łódź recreation areas [8]. In the area of the Zgierz commune, especially in the vicinity of the village Rogóźno, situated near the exit from the A2 motorway, there are deposits of rock salt, lignite, geothermal waters and peats, which have been the potential basis for a spa resort that has been planned here since 1974 [8]. In the years 2006–2009, in connection with the activities undertaken by the Adamów Lignite Mine for opening an open-pit lignite mine in Rogóźno, a number of research projects¹⁹ on alternative applications of the deposits have been carried out – these included reports on spa creation or using geothermal energy for the

Technology and Biomaterials and the Leibnitz Institute for Catalysis. The park stretches over an area of 5 ha located in the city centre fabric, 800 m away from the seaside promenade [4].

¹⁸ The preparatory works for location of the technology park in the Bad Ischl, a spa resort situated in the Austrian Alps, have been going on since 1992. The park is located on the outskirts of the town, on its main thoroughfare. Its objective is to boost the potential of the region by the appreciation and proper use of local resources.

¹⁹ Projekt „Rogóźno”, Sustainable Development Centre, Łódź 2006; Analiza możliwości wykorzystania zasobów wód geotermalnych i powierzchniowych oraz torfów i borowin w okolicy miejscowości Rogóźno dla potrzeb rozwoju turystyki, rekreacji i lecznictwa (Analysis of the possibilities of using the geothermal and surface waters as well as peats and peloids occurring in the area of the village Rogóźno for the needs of tourism, recreation and medical treatment development), Sustainable Development Centre, Łódź 2007; M. Kucharski, Analiza stanu i identyfikacja koniecznych działań dla uzyskania stref ochronnych uzdrowiska “Rogóźno” (Analysis of the existing conditions and identification of the actions necessary for obtaining protection zones of the “Rogóźno” spa resort) Warsaw 2009.

generation of electricity. In the Study updated in 2011, the spa creation was recognized as one of the primary directions of the commune spatial development. The boundaries of individual protection zones were also defined and so were the principles of their development. Moreover, an obligation was imposed to draw a local plan (the only one in the whole commune!) for zones A and B of the spa protection [8].

The works aimed at founding the spa and realization of the activities stipulated in the “Rogóżno” Project, including the Research and Development Programme, were accompanied by establishing a partner institution – the science and technology park²⁰, founded in 2006. The park’s objectives include the creation of an environment for research, the transfer of knowledge and technology as well as support for SMBs connected with renewable energy, tourists, agri-tourists and a spa medical treatment sector. The park’s activities were to focus on four fields – science and education, support for innovation in agriculture, alternative sources of energy as well as the implementation and management of the spa resort creation process, including building the spa and sanatorium infrastructure, a recreation and sports centre and arranging green areas²¹. The park’s main research field was to be concerned with alternative ways of generating energy from lignite by underground gasification with the use of classic and microbiological methods²² as well as possibilities of using carbon dioxide for producing fuels, also proposals of creating geothermal power plants and heat and power plants.

In spite of the fact that relevant records have been made in planning documents and a managing institution has been established, both the spa and the technology park remain in the sphere of plans and arrangements.

A knowledge-based economy is built by organizations which create cooperative links between businesses, scientific units and administration. Through our accession to the EU, we have gained access to sources of funding for activities implementing the EU economic policy, which has resulted in the founding of clusters and cooperative networks.

Creating cooperative networks is one of the possibilities to overcome spa resort stagnation and growth barriers. Building on the cooperation capacity enables the promotion of spa products and services, and additionally creates a positive image both of the individual towns and the whole region. Instruments conducive to creating cooperative networks are clusters, whose members achieve higher profits compared with acting alone due to joint actions, concentration and positive competition. Undertaking active cooperation contributes to creating a uniform strategy for the active promotion of the members’ interests, undertaking

²⁰ The Rogóżno Science and Technology Park was established by the Zgierz Commune and the Sustainable Development Centre in Łódź. In June 2006, an agreement on partnership and cooperation within the framework of the park was signed by AGH University of Science and Technology in Kraków, The Oil and Gas Institute in Wrocław, the Institute of Heating and Sanitary Technologies in Radom, Łódź University of Technology, the University of Computer Sciences and Skills in Łódź, the University of Humanities and Economics in Łódź, the KGHM CUPRUM Research and Development Centre as well as ten local self-government administrative units; after: meaning unclear, not sure how it relates in this context Adamska T., Park Naukowo-Technologiczny “ROGÓŻNO”. Strategia, program, projekty /The ROGÓŻNO Science and Technology Park. Strategy, programme, projects./ a presentation delivered at the conference “Rogóżno – yesterday, today, tomorrow”, which took place on the 14th Oct. 2009 in Zgierz.

²¹ *Ibidem*.

²² Iciek J., Alternatywne metody pozyskiwania energii z węgla brunatnego /Alternative methods of generating energy from lignite/, a presentation delivered at the conference “Rogóżno – yesterday, today, tomorrow,” which took place on the 14th Oct. 2009 in Zgierz.

joint projects and research, creating a possibility of developing innovative complex services and products, mutual support and promotion as well as providing better access to information, infrastructure and technology.

One of the examples of creating cooperation networks by spa resorts in Poland is the Innovative Cluster Health and Tourism ‘Spa Resorts – Pearls of Eastern Poland’ (Innowacyjny Klaster Zdrowie i Turystyka ‘Uzdrowiska Perły Polski Wschodniej’), established as an association of nine partners in 2009. The project of creating the Cluster and its initial activities, realized in the years 2010–2011, was financed within the framework of the Operational Programme Development of Eastern Poland for the years 2007–2013²³. In 2012, the cluster comprised thirty-four entities operating on the territory of Podkarpackie, Świętokrzyskie and Lubelskie voivodeships, including: two private institutions of higher education²⁴; seven spa resort communes²⁵; three business support institutions²⁶; a number of businesses involved in spa and tourist functions [2]. By creating the cluster, the member spa resorts may become important centres of the region’s economic growth, relying on their natural resources. Participation in the cluster aims at supporting and developing medical treatment and spa tourism services²⁷ by using the potential of local businesses, creating new products, joint promotion, building the brand names of the cluster and its partners as well as creating an attractive image of the involved towns and the region²⁸. Operating within a cooperative network enables undertaking initiatives, creating complex services, developing the brand names of the cluster and its individual partners as well as the exchange of knowledge and experience within the framework of the project undertaken jointly.

During the two years of financing the Cluster and its active functioning, scientific research was carried out diagnosing the situation in the spa businesses and communes and a number of conferences and working meetings were organized to discuss the strategy of its operation. The next period of financing was to bring about the creation of a system of uniform multimedia points of tourist information and modern recreational infrastructure with entertainment centres for children in all the spa communes. There were also plans to create a virtual shop-window for local produce and a virtual travel agency as well as to implement some promotional actions marketing the cluster²⁹.

Initiatives of this type are also undertaken in other countries of the European Union. In Latvia, there is the Latvian Health Tourism Cluster³⁰ with its seat in the spa resort of Jurmala, situated on the Baltic Sea near Riga. The cluster comprises the Latvian Resort

²³ Action 1.4. Promotion and cooperation, component: Cooperation, area: creation and development of clusters.

²⁴ University of Information Technology and Management in Rzeszów, founded in 1996, and University of Management and Administration in Zamość, founded in 1997.

²⁵ The communes of Iwonicz-Zdrój, Rymanów, Busko-Zdrój, Solec-Zdrój, Horyniec-Zdrój, Solina and Krasnobród.

²⁶ Association of Entrepreneurship Promotion in Rzeszów, Centre for Promotion of Businesses Ltd. in Rzeszów, portal kurort24.pl.

²⁷ Ecotourism, spa tourism, active tourism, culture tourism.

²⁸ www.klasterzit.pl.

²⁹ Kolejne 4 mln zł na innowację uzdrowisk (4 mln PLN more for spa resorts’ innovation) an interview in Radio Via radio station of the 17th Dec. 2011 with Tomasz Soliński, PhD – the President of the Board of Directors of the Association Health and Tourism and the Cluster’s office Head.

³⁰ Latvian Health Tourism Cluster was founded in August 2012 on the initiative of the Latvian Resort Association and the Jurmala City Council.

Association, the City of Jurmala, Riga Stradins University, clinics and hospitals, numerous rehabilitation centres, sanatoriums and hotels, an Olympic sports centre and businesses operating in the medical-cosmetic and tourist sectors as well as tourist-spa associations³¹.

Developing a cooperative network is aimed at creating a joint brand name for Latvian spa resorts, diverse health services and products attracting foreign visitors to Latvian spa resorts. Within the framework of the cluster, the following activities are planned – joint marketing projects, developing new and innovative pharmaceuticals based on natural resources, and launching them into foreign markets. An important element of the network is the promotion and intensification of cooperation between the cluster's partners in the field of education and industry, e.g. introducing balneology classes into the medical schools curricula or the organization of know-how workshops on developing spa services and products. The project of creating the cluster is closely linked to the Latvian Spa Resort Strategy for the years 2012–2020, developed by the Latvian Resort Association and the Jurmala City Council³². Similar actions³³ aiming at developing cluster initiatives based on the spa industry have also been undertaken in Estonia³⁴ and Bulgaria³⁵.

Spa towns, most frequently situated in places with a beautiful landscape, abounding in cultural heritage and diverse green areas and boasting a specific spa area, are attractive places for the creative and specialist workforce – engineers, scientists and artists. Owing to the permanent presence of often affluent health visitors, spa resorts are places with a naturally wide range of services, including first and foremost sport, health and beauty but also other specialist services rarely encountered in places of a similar scale. Both the value of the natural and cultural environment and the attractive services influence the quality of living – the offer is comparable with that of a large city, but without the inconveniences invariably connected with living in one. As spa towns offer living conditions sought after by the creative class, they are eligible for location of knowledge-based economy centres, such as technology parks, research centres and business incubators. Taking up this function by a town involves embarking on a completely different course of economic growth, which however, may be connected with the hitherto prevailing activity. Introduction of the technological function requires developing the higher education sector as well as the research and development sector, which is not frequently encountered in small spa resorts. Moreover, it involves a change in the social structure.

The process of receiving and developing technology centres, to a considerable extent dependent upon the activity of the town and regional authorities, may take different courses. In the discussed examples, we have seen various strategies applied to managing the process.

³¹ Gunta Uspele, Health tourism in Latvia, a presentation at the 17th Annual ESPA Congress, Jurmala 15th–18th May 2012; From this year, the health and tourism cluster of Latvia started its action, information of 24th Nov. 2012, published on the portal <http://www.europeanspas.eu>.

³² *Ibidem*.

³³ Research has been carried out at the University in Tartu on creating a spa cluster; after: Muristaja Heli, The Analysis of Parnau as a health resort tourism cluster, Tartu 2003.

³⁴ Estonian Health Tourism Cluster was founded in November 2011 on the initiative of the Association of Estonian Spa Resorts, and it is a network linking health centres, sanatoriums and spa resorts; after: Spa Association launches health tourism cluster, information of the 30th Nov. 2011, published at the portal www.hei.eas.ee.

³⁵ Health Tourism Cluster was founded in Sophia in 2011 and its aim is to create an attractive and comparatively cheaper medical, dentist and spa offer for foreign clients.

The newly introduced technological function may dominate the spa function and become the main engine for the town and regional economic growth.

The example of Vichy, where the new function is in the initial stage of rising, shows equilibrium between the spa and the industrial elements, the latter is also based on the natural resources of the place (mineral waters) and the balneology treatment tradition. In this case, the traditionally understood spa function is continued in modern economy, but its understanding, use and impact have been extended, the best expression of which is the global brand of cosmetics manufactured on the basis of thermal water.

In the remaining examples, the introduction of a technology park constitutes one of many aspects of the town and regional growth, which is also evidenced by its location in the town. In places like Szczawno-Zdrój, Bad Ischl or Warnemunde, the location of the technology centre is basically incidental, peripheral and in the best scenario, in a compact urban structure and distant from the main spa area. On the other hand, places for which parks are of strategic significance locate them in attractive and important areas, connected with the town's spatial network and its structural hubs (railway station, the spa complex, entrance into the town) of high architectural and spatial value. Their connection with the former function of the spa resort (the sanatorium-hospital complex, former water bottling plant or the bath-house) indicates a renewed application of the old function for the benefit of the new one, which may prove equally significant for the town's growth.

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