



Employment creation opportunities and future skills requirements in the Karlovy Vary region

PART II: LONGER-TERM OPPORTUNITIES

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1. Introduction

This report assesses longer-term local employment creation opportunities and accompanying support mechanisms targeting displaced workers in the Karlovy Vary region. It builds on the first report in this series, which tracked the short-term employment and support mechanisms and opportunities in place in the region. This report contains an overall assessment of medium to longer-term employment opportunities and skills requirements for the region, aligned, as far as possible, with future opportunities for local economic development and diversification and the creation of high value jobs, and the related implications for education and training needs. It considers external labour market trends and skills requirements, and attempts to align these to local economic development and diversification strategies and plans, including the regional smart specialisation strategy. The report also tries to identify future employment opportunities and also contains recommendations for aligning local education, skills development and training services to match these opportunities.

Accordingly, the report is structured as follows:

- **Section 2** gives a general overview of the current situation and the key issues and challenges for the region.
- **Section 3** reviews the current economic and employment situation in the Karlovy Vary region, focusing on the developments of the past year and in particular the challenges of COVID-19.
- **Section 4** outlines the medium- and long-term employment strategic opportunities for the region, focusing on issues such as how to encourage business investment, how to foster entrepreneurship, developing partnerships and making the most of the tourism industry.
- **Section 5** assesses training and skills development needs, covering issues such as skills audits, assessing specific training needs, matching the training offer with needs, partnership with higher education institutions, and the implementation of training.
- **Section 6** assesses new ways of working, such as remote working and virtual collaboration and the development of innovation hubs.
- **Section 7** provides recommendations for the future.

2. Overview and context

As noted in the first report in this series, which focused on short-term opportunities and support for the region, the main economic activities of the Karlovy Vary region are focused on tourism, spa activities and balneology. Karlovy Vary has the highest concentration of spa facilities and venues in the whole of Czechia. The region's spa cities are very popular among foreign visitors and therefore the travel industry, transport and services are also well developed in the region, including a well-developed network of hotel facilities and hospitality services. In 2018, more than 1 million guests visited the region and the share of foreign visitors was around 60%.¹ In connection to the spa tourism, and popular cultural events such as the International Film Festival, the Karlovy Vary region had the highest numbers of overnight visitors in Czechia per year.

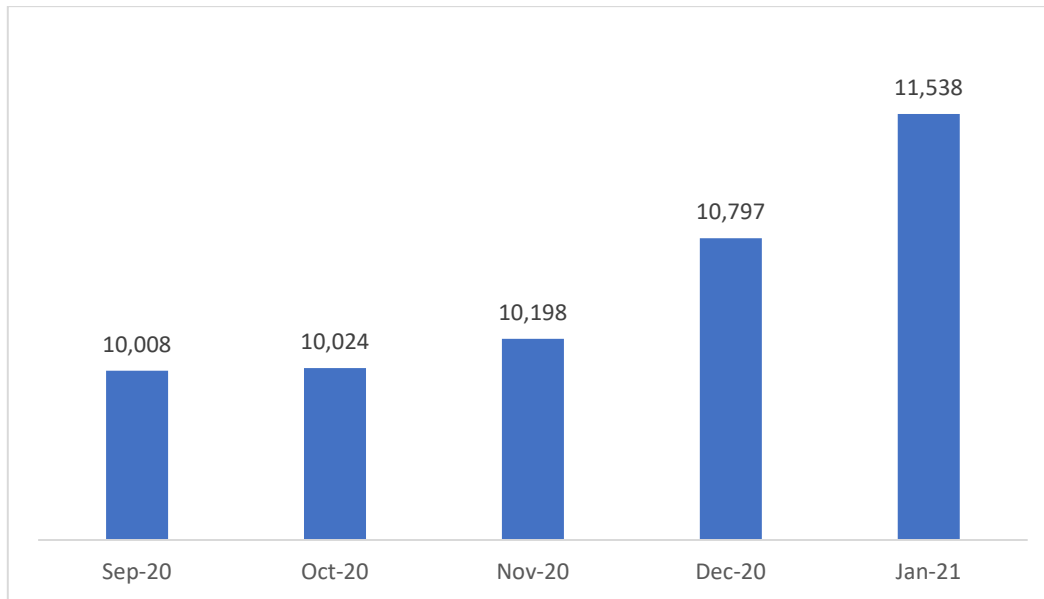
Energy and coal mining constitute another significant and traditional industry of the region. The energy industry is linked to Sokolovská uhelná, právní nástupce, a.s. (SUAS) company, which is a lignite mining company and the second largest producer of electricity in Czechia, with two coal-fired plants located in the region. The SUAS company is one of the largest regional employers in the Karlovy Vary region and owns several subsidiary companies.

A decision to reduce coal mining activity and to close part of the Vresova coal-fired plant, which is owned by SUAS, was taken in autumn 2019 when the regional unemployment rate was only around 2% and there were no signs of a global pandemic. This decision was taken after an increase in prices for the greenhouse gas emission allowances paid by the company for coal activities producing CO₂ emissions. The reduction in coal mining has had a significant effect on employment in the region. In 2015, the company employed 3,225 employees compared to 2,713 employees at the end of 2019, which represents a decrease of 16% of the workforce over four years. A further decrease of more than 50% is expected, leaving the company with only 1,500 workers in 2021. In total, more than 1,200 employees were expected to be made redundant in 2020 and 2021.

One of the main challenges in terms of supporting workers who are losing or who have lost their jobs is the fact that many of these workers are older and have been used to working for only one employer, often at rates of pay that are higher than the regional average. The

¹ https://www.czso.cz/csu/xk/charakteristika_karlovarskeho_kraje

Figure 1 Number of unemployed people in Karlovy Vary region between September 2020 - January 2021



average age of SUAS employees is 48.5 years and more than 50% of employees are in the age group 50+. Data from 2019 shows that 85% of SUAS employees joined the company more than 5 years ago and at least a third of them had been employed by the company for all of their professional life. Therefore, the majority of the workforce is used to stable work in an unchanging environment. Due to their age and, in some cases, their low levels of qualification, many of these workers will find it difficult to adapt flexibly to a new profession or workplace.

The other main and ongoing challenge for the region – the latest developments are documented in more detail in this report – is the ongoing COVID-19 pandemic. Since spring 2020, the pandemic has had a significant and ongoing effect on businesses and unemployment in the Karlovy Vary region. It has had the most negative economic impact on the tourism sector; many hotels and related businesses, especially in the spa cities, have been closed or have experienced very low demand. Consequently, seasonal jobs evaporated and seasonal workers who used to come to the spa cities to support the summer season were left without short-term employment opportunities during 2020. Seasonal workers are not eligible for financial support from the labour office as they are not registered as unemployed. The COVID-19 situation is also creating additional barriers and challenges for the former SUAS employees in relation to their efforts to find new employment in the current circumstances.

3. Current economic and employment situation

3.1 Overview of the current situation

Overall, the unemployment situation in the Karlovy Vary region deteriorated over the course of 2020. In January 2020, the region registered 6,338 unemployed people, and in the first quarter of 2020, the overall unemployment rate for the region was stable and very close to the national average of 3%. In the second and third quarter of 2020, however, unemployment rose steadily at both the regional and national level as a consequence of the pandemic. Between June 2020 and the end of the year, unemployment in the region was slightly above 10,000. It then increased sharply at the beginning of 2021, from 10,797 in December 2020 to 11,538 in January 2021, as presented in Figure 1.

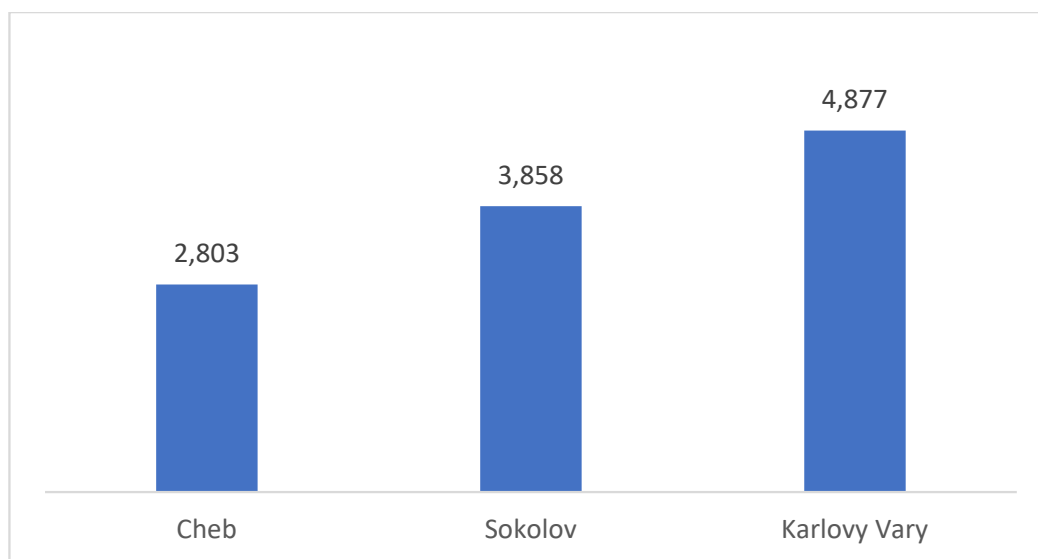
Currently, the unemployment rate in the region 5.85% of unemployed people, which is the highest regional share in Czechia compared to the national average of 4.3%² (data from 31 January 2021³).

In December 2020, there were 1,468 new registered

² <https://data.mpsv.cz/web/data/vizualizace15>

³ <https://www.czso.cz/csu/xc/mapa-podil-kraje>

Figure 2 Number of unemployed people in subregions of Karlovy Vary region in January 2021



unemployed people in the region, of which 523 were in Sokolov, 531 in Karlovy Vary and 414 in Cheb⁴. In January 2021, the total number of unemployed people in Cheb was 2,803, in Sokolov 3,858 and the highest number was in Sokolov with 4,877 unemployed people. See Figure 2 for details.

In 2020, there was a significant change in the composition of new applicants registered in the regional labour office as most were qualified people from the fields of gastronomy, the spa industry and hospitality. Additionally, due to the closure of the Vřesová power plant, the planned redundancies in Sokolovská uhelná, právní nástupce, a.s. (SUAS) also had an impact on the level of unemployment in the region⁵. The collective redundancies from SUAS ended in 2020, with the last employees who were laid off on 31 December registered at the labour office in the beginning of 2021.

In March 2020, a close cooperation between the SUAS company and the regional labour office was established. Accordingly, the regional labour office created a temporary workplace directly at the employer's premises, offering individual consulting services to the employees of the SUAS company whose jobs were threatened. In particular, the employees were given information about the available support in terms of unemployment benefits, requalification courses, available job vacancies, and the outplacement project which was set up in the region in June 2020. The outplacement project aims to connect employees at risk of losing their job with regional employers who are

seeking qualified and experienced employees. The goal of this project was to provide rapid support to those in danger of redundancy to help them to find alternative and suitable employment. Additionally, the support provided by the regional labour office included career guidance, and training courses and seminars focused on labour market legislation, financial competencies, and soft skills training.

3.2 Challenges of Covid

The Karlovy Vary Region is currently one of the regions in Czechia that has experienced the worst impact of the COVID-19 pandemic. Due to the increasing number of COVID-19 cases in the Karlovy Vary region, since February 2021, two subregions (Cheb, Sokolov) have been ordered into a full lockdown based on the government resolution No. 134 Adoption of a crisis measures⁶. This resolution prohibits movement:

- a) for any person residing or staying in the territory districts of Cheb, Sokolov and Trutnov (subregion of the Královéhradecký region) to leave the territory of the given district,
- b) for all persons who do not have a permanent residence in the districts of Cheb, Sokolov and Trutnov, entry, movement and residence in the territory of these districts.

The resolution is implemented and enforced by the

⁴ <https://data.mpsv.cz/web/data/vizualizace14>

⁵ <https://www.mpsv.cz/web/cz/sokolovska-uhelna>

⁶ <https://www.kr-karlovarsky.cz/SiteAssets/Stranky/Default/omezeni.pdf>

police force, which controls the movement of people in these subregions. Exceptions allowing citizens to move between the subregions are specified in the resolution and include, for example, work-related movement, urgent and/or essential travel for the protection of life, health, property or necessary trips to medical and social services facilities.

The number of positive COVID-19 cases in the Karlovy Vary region has risen sharply in the past few months, from a total of 759 positive cases on 1 December 2020 to 6,494 positive cases on 25 February 2021⁷. The situation is critical due to the limited capacity of the regional hospitals. Currently, their capacity is below 10% in four out of ten capacity indicators, which puts the region in the worse position in the country compared to other Czech regions⁸. At the time of writing, the Karlovy Vary region has so far vaccinated only 11,085 people, of which 3,571 have received both vaccinations. This is the lowest regional vaccination rate in Czechia.

The economic impact of COVID-19 on the Karlovy Vary region has been visible in terms of reduced demand for services and production, which has had a direct impact on the industries of the region. The government programme 'Antivirus support' aims to support businesses which are fully or partially closed due to the government restrictions⁹. The results of a rapid survey conducted by the Regional Chamber of Commerce at the beginning of 2021¹⁰ found that for most entrepreneurs in the region, the current government programmes cover less than a third of employees' wages and fixed costs. Currently businesses are paying the remaining 70% of monthly expenditures from their own savings or bank loans. Due to the current restrictions, most businesses in the region are completely closed or semi-closed. Almost 20% of respondents to this survey said that they will not be able to sustain their business for one month under the current circumstances and another 40% of respondents said that they would not survive three months of such restrictions.

The survey was also answered by representative organisations, including the Trade Union of Hotels and Restaurants, the Czech Chamber of Fitness, the Association of Trade and Tourism, Food Chambers, the Trade Union of Laundries and Dry Cleaners, the Trade Union of Czech Bartenders, the Czech Event Association and the Union of Film Distributors. The results showed that 98% of entrepreneurs do not consider the government support to be functional and fair. Most entrepreneurs described the effective support

as a variant under which the state compensates a certain percentage of the turnover which was reached before the pandemic.

All the main industries of the regional economy have been impacted: services and tourism, and the transportation, manufacturing and construction sectors. The spa cities in particular experienced a decrease in the number of foreign tourists compared to previous years, and the restrictions and the closure of spa hotels and balneology centres have negatively affected the revenue of businesses. Under the Temporary Framework for State Aid Measures of the European Union¹¹, the government has introduced a specific support programme for the spa industry, 'Programme Covid Spa'¹² which is under the responsibility of the Ministry for Regional Development. The financial support from this programme partially compensates for the loss of clients in the spa facilities, particularly the loss of foreign clients, who accounted for up to 44% of clients in Czech spas. The aim of this support is to maintain employment in spa facilities and related services, which, it is hoped, will contribute to the stability of the spa regions. The Covid Spa programme is based on a mechanism of partially subsidised vouchers for those who stay in a spa resort for at least six nights and buy at least five medical rehabilitation or similar procedures or treatments in the spa. This support is expected to have a positive effect on employment in the spa and balneology sector, tourism and related services in the Karlovy Vary region.

The Institute of Spa and Balneology based in the Karlovy Vary region focuses on innovation and the development of the regional spa industry and balneology. In cooperation with experts from the ŽČU Plzeň University, Jihočeská University and the FOCUS agency¹³, the Institute conducted a survey of Czech people at the beginning of 2021. The aim of the survey was to understand the attitudes of people in relation to the spa industry and how the pandemic has changed their views on medical and wellness spa treatments. The survey results show that 35% of respondents are considering visiting a spa in 2021 for wellness or medical purposes. Around 30% of the respondents would consider visiting a spa if the financial support from the state is still available.

Among the reasons for not visiting a spa was an interest in different types of holiday (18.4%), a view that spa facilities are only for medical treatments (13.2%) and that spa facilities are only for old people (10.6%), and fear

7 <https://onemocneni-aktualne.mzcr.cz/covid-19/kraje/KVK>

8 <https://onemocneni-aktualne.mzcr.cz/kapacity-luzkove-pece#region-KVK>

9 <https://www.mpsv.cz/antivirus>

10 <https://www.khkkk.cz/news/setreni-mezi-podniky-petina-podnikatelu-v-uzavrenych-nebo-omeznych-sektorech-hospodarstvi-za-mesic-zkrachuje/>

11 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AJOC_2020_091_J_0001

12 https://www.mmr.cz/getmedia/1c9ed532-6ac0-4197-a52f-1f3501eb588f/2020_COVID_lazne-Informace-pro-lazenska-zarizeni-aktualizace-28-7-20-fin.pdf.aspx?ext=.pdf

13 <https://www.focus-agency.cz/>

of COVID-19 (10.7%). More than 55% of the respondents knew about the available voucher support but have not yet benefitted from it, around 9% of the respondents had benefitted from the state voucher support and more than 36% of the respondents did not know about the government programme and had not heard about the available voucher support. The survey also asked the respondents about their needs and rehabilitation preferences after experiencing COVID-19: the highest share of respondents (30%) said that they would prefer to stay at home and relax, another 29% would prefer to travel abroad for a holiday by the sea, another 16% of the respondents said that they would prefer a spa holiday and another 9% said that they would enjoy a wellness type of holiday¹⁴.

4. Medium- and long-term employment strategy and opportunities

4.1 How to encourage business investment in the region

In the medium and long term, the region needs to put into place a strategy to attract international investment and also local Czech investors. The region has many positive features. For example, it is well positioned to offer land to large Czech companies for the expansion of their businesses and the construction of new facilities in the region. This could make a significant contribution to the creation of jobs for highly educated professionals and contribute to inward mobility and the attraction of talented persons to the region.

The diversification of the region's investment portfolio will also avoid the long-term risk of attracting only international investors to the region, as there is no guarantee that international companies will employ Czech people and be interested in supporting the development of the region. From this perspective, Czech companies could be more reliable collaboration partners. In this context, the negative impact of COVID 19 on international investment intentions has been demonstrated by the scaling back of the planned expansion of BMW in the Karlovy Vary region, which will now only be a quarter of the original plans. The project will be implemented only partially, and the next steps are currently being discussed.

¹⁴ Institute of Spa and Balneology presentation February 2021, <https://www.youtube.com/watch?v=dColB5LrznA>

4.2 Examples of medium- to long-term investment

There are already a number of examples of investment in the Karlovy Vary region that are of a medium- and long-term character. This section gives details of some of these projects.

The Science and Technology Park of the Karlovy Vary Region and the Information and Education Centre of the Karlovy Vary Region

In comparison to other Czech regions, the Karlovy Vary region does not have any scientific research facilities, and the idea of creating research and innovation facilities in the Karlovy Vary region emerged in 2009. The project 'Science and Technology Park' was initiated by the regional government with the aim of creating an innovation incubator for research, education and start-ups in order to increase the competitiveness of the region and attract more talented people to the region. The Science and Technology Park will be open for entrepreneurs, start-ups, co-working hubs and exchange between companies, training events and seminars.

The objectives of the Park are twofold: to build new facilities with services to attract inward investment into the region and support new innovation-based domestic companies and established technology companies; and to create a stimulating environment for companies with innovation potential, to offer them support and tools that will allow them to scale up their technological solutions and find new markets. It should be noted that the outcome of this project will very much depend on how the region will actually use these facilities. It has been constructed on the basis of funding from the EU but, without a vision and a concrete plan, it could easily become a free working/office space rather than a true collaboration space.

However, so far, the project has obtained only 27.5% of the financial support that is needed and therefore the further development of the project and its implementation has been paused. The region is currently looking for other funding options and a thematic expert group is discussing whether the project will be implemented as planned or whether it will be re-designed. Other funding options which are currently being discussed include the EU's Just Transition Fund¹⁵, which offers the possibility of receiving subsidies of between 85% and 100% for the project.

¹⁵ https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2354

Innovation and development of custom plastic manufacturing

A German company, KH TECHNIKUM HELMBRECHTS, which manufactures plastic equipment and tools began production in Chodov in 1990. Currently, it is planning to expand its facilities in Chodov and create more specialised manufacturing production of plastic solutions for the medical industry, including precise medical equipment and tools for hospitals and surgeries. This expansion will require high precision and specialisation of the employees in medical technology, in addition to investment in innovation and research in relation to plastic medical solutions. It has the potential to transform this plastic manufacturer into an innovative and specialised business designing and manufacturing customised plastic solutions, optimising production, ensuring sterilisation of tools and packaging and creating final products for the medical industry.

If this expansion and development of the company is successful, it has the potential to bring new investment into the region as well as demand for a highly skilled workforce in the next few years. It also offers an opportunity to re-design the profile of the region and to support the development and growth of established companies. In the long term, it creates an opportunity to link industry to secondary education programmes in the region, creating a new specialisation focused on medicine and research in plastic medical solutions, which would further increase and strengthen the competitiveness of the region.

The circular economy

In the long term, the region will benefit from supporting and investing in the circular economy. There are several manufacturers in the region, such as the WITTE automotive company and local plastics manufacturers, that produce secondary materials that are currently treated as non-reusable waste. This could be an opportunity for the region to think about how to encourage and develop the circular economy and whether there are any opportunities for new businesses which could re-use materials from local manufacturers. The circular economy enables innovation and research, and can also foster the creation of new jobs. The Czech Institute of Circular Economy¹⁶ acts as a research and consultancy centre helping businesses to identify new business opportunities and engage in the circular economy.

Case study from Karlovy Vary

The EU strategy sets out a clear vision for 'Green Europe' with a goal that by 2030 all plastic packaging placed on

¹⁶ <https://incien.org/nase-projekty/firmy/>

the EU market should be reusable or recyclable. In 2018, the company Karlovarské minerální vody producing mineral water bottles launched a project Zálouhujeme? ('Recycling?'), which aims to recycle a maximum number of PET water bottles produced and sold by the company and other producers. As part of this project, the company presented a new innovative type of PET bottle produced from 50% recycled plastics. The aim of the project is to ensure a sufficient quantity of secondary raw material, which is essential in order to meet the EU policy targets aiming to integrate circular design, use, reuse and recycling activities into plastics value chains. It is expected that the demand for secondary raw materials will increase in the coming years to meet circular economy targets. Companies which are already ensuring re-use of sufficient secondary material are ahead of the game and helping to fulfil EU targets related to the circular economy.

4.3 Fostering entrepreneurship and innovation

As already noted in the first report in this series, new business start-ups are a key way in which to grow and diversify the region's economy. If entrepreneurs can be encouraged and supported, they will be able to grow their business and, in turn, be able to provide additional employment for the region. The regional chamber of commerce is successfully supporting the creation of new businesses in the region and provides tailored support to start-ups and entrepreneurs¹⁷. It is also offering consulting support in unemployment, training and educational programmes for individuals and companies.

4.4 Developing partnerships

It is important to develop partnerships in order to support the overall vision and goal for the future of the region. This will enable the region to exploit to the full relevant development opportunities and to foster the types of skills that will be needed to make the most of these opportunities. This, in turn, means that training provision can be matched to the likely employment opportunities in the medium and long term. Collaboration can also include the creation of new regional partnerships.

Although the region does not have a university, it may be worthwhile trying to foster specific relationships with nearby higher education establishments in order to ensure that the programmes on offer are in tune

¹⁷ <https://www.khkkk.cz/podpora-podnikani/podpora-zacinajici-podnikatele-rozjed-byznys/>

with the skills demands of incoming employers. This will also help to stop outward mobility from the region. Additional partnerships that will benefit the region include, for example, close collaboration with Czech Invest, which supports the creation of new businesses or the Institute of Circular Economy, which organises the INCIEN Academy, focused on collaboration with regional municipalities, schools and employers and supporting regional transition to the circular economy¹⁸.

4.5 Making the most of the tourist industry

As part of the development of the Karlovy Vary Region Development Programme, a specific objective focused on the spa industry and developing the potential of wellness and health tourism in the region was added. Tourism is undergoing changes related to the pandemic but also generally in terms of a transition to a shared economy and individualisation of services. In the longer term, as customers increasingly look for personalised experiences, mass tourism is expected to slowly diminish. The COVID-19 pandemic represents an opportunity to build on the strengths of the tourism sector in the region and diversify its portfolio to meet new market demands related to wellness and health tourism and regeneration.

It is expected that certain restrictions on cross border travelling will remain throughout 2021 across Europe and the region therefore will not be able to fully rely on foreign visitors as has been the case in the pre-pandemic world. The opportunity in relation to the current situation is therefore to further develop services for Czech customers and diversify the portfolio of services offered in the spa cities in order to attract more local visitors. Based on the results of the survey conducted by Institute of Spa and Balneology in 2021 (see above for details), there are a number of opportunities for the diversification of the tourism sector in the region. First, the survey found that 36% of Czech people are not aware of the current financial support offered by the government in the form of vouchers. There is therefore potential to reach out to more people by means of a communication campaign, tailoring spa offers to domestic customers and fully utilising the financial support offered by the government.

Second, the survey found that almost 24% of people believe in stereotypes regarding the spa industry – for example, the idea that spas are for old people or only people with medical problems. Therefore, there is potential to present different sides of the spa industry to

the Czech population and tailor wellness and relaxation packages to different population segments in order to break down these stereotypical views. Third, the survey found that 25% of people are interested in post-Covid treatments and rehabilitation in spa facilities. This offers another opportunity for the region to specialise in the rehabilitation of clients who suffer from long-term health consequences of Covid. With diversification of the portfolio of services and specialised treatments targeting different segments of population, the region has the potential to become a rejuvenation centre for both Czech and foreign visitors in the medium and longer term.

5. Training and skills development needs

5.1 Auditing the skills currently available in the workforce

The outplacement project supports the transition of people who were made redundant back on the labour market. The project is implemented by the regional labour office, which is auditing the skills of the unemployed people who are actively searching for new job and based on their qualification and skills, the office is matching them with the relevant employers in the region.

The outplacement project was introduced in Karlovy Vary in June 2020. Since the beginning of the project, 189 people received the support, from which 118 were previously employed by SUAS¹⁹. From the total number of project participants, a third already have a new job. The aim is to support the job seekers through additional training, qualifications and to match them with new employers as quickly as possible, so the person does not have to experience unemployment for a long period of time which could impact their motivation, financial situation and mental wellbeing. The support provided as part of this project is available from the moment when employees learn that the structural changes and collective redundancy also concerns their position. They are able to already register in the Outplacement project and receive the individualised support from the labour office to minimise the risk of actual unemployment.

Additional support is currently needed for workers in the spa and tourism sector. A new working group has been introduced to support the employees of the sectors most affected by the pandemic. The main aim is to facilitate

¹⁸ <https://incien.org/incien-akademie/>

¹⁹ https://www.uradprace.cz/documents/37855/1991774/TZ_Outplacement_leden2021_KV.pdf/

financial support for the employees from the currently available government programmes, such as COVID Spa and COVID Accommodation support programmes, and to prolong the employment support programme for the businesses which are partially or fully closed due to pandemic.

5.2 Matching the training offer with the needs of employers

The outplacement project set up in the region in June 2020 is providing support to unemployed people in the region, including a range of training and requalification courses. However, it is important to also analyse the needs of the employers and provide the job seekers with a range of trainings and requalification options which are directly linked to the labour market needs. This will help job seekers to gain new skills which are relevant to the market and therefore increase their employability on the labour market. Currently, there is no programme identifying or analysing the needs of the regional employers and supporting job seekers to gain the specific skills which are in demand. Matching the training offer of the regional labour office with the needs of employers would not only facilitate tailored training and transition of job seekers to the labour market, but it will also support the development of local businesses.

5.3 Partnering with higher education institutions

The lack of university in the region creates an obstacle for attracting new talent and young people into Karlovy Vary region. In the long term, the region will benefit from focusing on research activities and establishing strong partnerships and connections with universities throughout Czechia. There are several opportunities for research and innovation which will support the overall development of the region in the medium and long term. The first opportunity is to focus the research and innovation on **balneology and spa industry**. The Institute of Spa and Balneology offers potential for establishing a world-class research centre in balneology and creating partnerships and research projects with international research institutions and universities. Additionally, the creation of a study programmes focused on balneology would attract young people to the region, which would further strengthen research into balneology in the region.

The second opportunity for the development of research in the region is innovation and research in **plastic manufacturing and processing**. This opportunity

is linked to the businesses which are already well established in the region and which have potential for further expansion and innovation. The regional businesses involved in manufacturing and plastic processing have the potential to form a partnership with research institutes and universities in Czechia to test and implement innovative plastic products such as medical or other specialist plastic equipment. Another opportunity in the field of plastic manufacturing and processing is recycling, re-using plastics and researching innovative and environmentally-friendly solutions for packaging. The increasing circular economy (see also above) presents an opportunity for the region to invest in innovative and sustainable ways of processing of secondary raw plastics material, which is in line with the EU policy targets contained in its Circular Economy Action Plan for a cleaner and more competitive Europe²⁰, one of the main blocks of the European Green Deal in achieving climate neutrality by 2050.

The third opportunity for regional development in the longer term relates to trends around **automation, digitalisation and IT development**. Digitalisation is already having significant impacts on individuals in a variety of ways and new technology will further transform the economy and the labour market in the coming years. In order to ensure the competitiveness of the Karlovy Vary region in the context of digitalisation and fast-evolving automation, there needs to be a focus on supporting new IT businesses and start-ups, attracting new talents, creating collaborations between schools and universities and supporting the technical education of children and young people in the region.

In particular, the region could specifically support the development of young people in technical fields and the IT industry through the development of specialised education programmes, courses, competitions and after-school clubs. The partnership formed between regional schools and the technical university of Plzeň to develop the Children's Technical University²¹ has proved to be successful, and therefore has potential to be further expanded and scaled up to more schools in the region. This project was financially supported by Plzeň city, the BMW Group and other companies active in the region. The Children's Technical University enables children from the youngest school age to learn about various areas of technology. A cohort of children is recruited for a course, which is designed to be taught on weekly basis for a number of years in the form of an afternoon club. During the course, children are introduced to a wide range of technical topics, such as steam turbines, electromobility, 3D printing, production machines and robotics. For each topic, children systematically cover the theoretical basis and work on the production of a final product. In 2019,

²⁰ <https://ec.europa.eu/environment/circular-economy/>

²¹ <https://detskatechnickauniverzita.cz/plzen>

136 children from four primary schools participated in the programme.

This project stimulates motivation and interest of children in primary and secondary schools in technology, which is crucial for developing and supporting talent in the region. There is great potential to expand such partnerships and educational programmes in cooperation with a university, so as to reach more schools in the region.

The current pandemic has enabled opportunities for virtual collaboration and distance learning. This illustrates the possibility of developing educational programmes and collaboration between young people, even without having a university in the territory. There is therefore a real opportunity for virtual collaboration with other technical universities in other Czech cities such as Prague or Brno.

5.4 Implementing training

The training available for unemployed people in Karlovy Vary is implemented by the regional labour office. In the medium and long term, it will become increasingly important to diversify the training offer to meet the needs of different age groups and tailor it to the needs of employers in the region. Therefore, a collaboration with the education institutions and training centres is essential for tailored upskilling of different target groups of job seekers. It is also important to ensure that the training offer is aligned to the strategic direction of the region.

Regional training tailored to the different age groups is supported by the government programmes such as outplacement projects or the Youth Guarantee project²². The Youth Guarantee project is an EU-wide project which supports young unemployed people under the age of 29. In Czechia, the project is financed by the European operational programme for employment and the Czech government. In 2021, more than 11,400 young people from 13 participating regions took part in this programme in Czechia²³. The Youth Guarantee project is designed to provide support specifically to young people at risk of long-term unemployment due to a lack of experience, insufficient education or low levels of qualification. Young job seekers are often unable to orientate themselves on the labour market and do not have a clear vision for their future career, which makes them vulnerable and at risk in the labour

market. The aim of the project is to combine various tools and activities (such as individualised support, requalification, professional guidance and mentoring) to enable young people to successfully enter the labour market. Moreover, the project enables young people to gain practical working experience and training directly from the employer through mentorship and internship programmes.

Another successful project focused on training of a specific age group is the project 'Take advantage of a job opportunity in the Karlovy Vary region', which specifically targets unemployed people over the age of 50²⁴. The project runs between 2016 and 2022 and is financially supported by the EU operational programme for employment and the Czech government. The rationale for this is that job seekers who are over the age of 50 can struggle with lack of motivation, low flexibility, and ability to requalify to gain new skills for a different profession, which makes them vulnerable and disadvantaged on the labour market. In the Karlovy Vary region, the share of job seekers in the 50+ age bracket is consistently high, at around 37% of the total share of registered unemployed people. This project specifically targets job seekers who have been registered as unemployed for more than four months and who belong to this specific age group. The project financially supports up to 170 places and motivates employers to employ job seekers in this age category for the first year of employment. Another 36 places of support are created for those who are interested in requalification courses.

6. New ways of working

6.1 Remote working and virtual collaboration

Based on the Czech Labour Code legislation, working from home is an alternative form of work organisation, which can be suggested by the employer but is a voluntary practice²⁵. Before the pandemic, only 4% of Czech employees were working from home, which was slightly below the EU average of 5% in 2019²⁶. During the pandemic, working from home has become more common in Czechia, similar to the situation in other European countries. The Czech Ministry of Labour and Social Affairs conducted a survey mapping the attitude

²² https://www.uradprace.cz/documents/37855/1991774/TZ_zaruky_pro_mlade_unor_2021.pdf/

²³ https://www.uradprace.cz/documents/37855/1991774/TZ_zaruky_pro_mlade_unor_2021.pdf/

²⁴ <https://www.uradprace.cz/web/cz/vyuzij-pracovni-prilezitost-v-karlovarskem-kraji>

²⁵ https://www.mpsv.cz/documents/20142/1443715/bozp_prace_z_domova.pdf

²⁶ <https://www.businessinfo.cz/clanky/z-domova-bezne-pracuji-jen-4-cechu-home-office-je-nejbeznejsi-v-nizozemsku/>

of employees and managers in respect of home working during the pandemic²⁷. The survey was conducted in July 2020 among more than 5,700 respondents from a range of professional backgrounds, including professionals from both the public and private sectors.

The survey found that there are fundamental differences in attitude between different types of employers. More than half of the respondents working in the private sector experienced home working during the pandemic, compared to less than a quarter of respondents in the public sector. Over 90% of managers are satisfied with the overall effectiveness and productivity of employees while working from home, and the performance of employees is considered by their managers to be comparable to the situation before the pandemic. Around half of the managers consider working from home to be positive and beneficial for balancing professional and personal life and around one quarter of managers believe that home working has increased the overall effectiveness of their employees. Moreover, two-thirds of managers support working from home and expect that working from home will be more common in future.

From the perspective of the employees, the survey found that more than half of the employees stated that they have increased their focus time and productivity, compared to working from the office. One-third of employees reported having lower motivation when working from home and less collaboration time with their colleagues, in comparison to the office environment. Among the positives of home working, around 70% of employees listed the flexibility of working from home, no commuting to work, better life-work balance and better organisation of their time. The most common negative aspects of home working included technical issues, poor internet connections and lack of technical support from the employer.

The trend of working from home has increased and has been strengthened by the pandemic. As the survey results suggest, working from home has had a positive impact on life-work balance and the productivity of the majority of employees and managers in Czechia. It can be expected that more employees and managers will value the flexibility and benefits of working from home and therefore employers will need to be able to adjust to this trend. In the case of the Karlovy Vary region, the situation opens a new opportunity for the region's employers, if they are able to allow their employees to work from home, to source talented people from anywhere in Czechia using forms of remote working and would not, therefore, be limited by a shortage of talented people

²⁷<https://www.esfcr.cz/documents/21802/14776072/Vyhodnocen%C3%AD+dotazn%C3%ADku+Pr%C3%A1ce+z+domova.pdf/99450e64-d6a5-453a-82ca-a5ddd1dd6b23?t=1601619949362>

and young graduates in the region.

6.2 Innovation hubs

Since 2012, Karlovy Vary region has been using 'Innovation vouchers' to stimulate innovation in the region²⁸. Innovation vouchers provide the financial support for regional employers to create meaningful collaboration with regional businesses and research institutes. Additionally, there is separate financial support for creative industries through 'Creative vouchers', and financial support for initiation of new innovative projects and regional programmes through 'Assisting vouchers'²⁹.

The Business Development Agency of Karlovy Vary Region established in 2010 by the Karlovy Vary region promotes competitiveness of the region and supports collaboration between regional actors and stakeholders. The Agency supports development of the region through projects with a focus on creation of new businesses and improving the businesses environment. There is potential for expanding these activities and further strengthening the collaboration among the regional stakeholders and synchronising the activities on the regional level. The Business Development Agency is an important player for shaping innovation and research activities in the region in line with the regional strategy.

Based on a survey conducted among 43 regional employers in 2017, the potential and capacity for innovation in the region lies mostly in engineering and the custom metal fabrication industry, the energy sector, with great potential for innovation in renewable energy, innovation in waste management and recycling/ re-using secondary raw material, and in traditional industries such the glass, ceramics and porcelain industry. The innovation hub as a central point of all activities related to innovation, research and development in the region would enable better cooperation among stakeholders and increase the effectiveness of projects and currently available financial programmes. The direction of further development and innovation in the region is closely linked to the regional innovation strategy and therefore needs to be aligned with the overall political vision for the region.

7. Recommendations for the future

²⁸ https://www.ris3kvk.cz/download/documents/RIS3_KVK_final.pdf

²⁹ <https://www.karp-kv.cz/assets/uploads/1608546148-16784257492102619332144736146.pdf>

This section sets out some recommendations to support the region's employment and skills response in the medium and longer term, and to help develop some of the initiatives already in place.

- **Developing a vision.** Medium- and long-term planning needs to be underpinned by a strong vision and goal for the future of the region, aligned with the strategic direction for the region. This needs to consider a range of aspects, such as development opportunities and which skills will be needed in order to make the most of these opportunities. In turn, this would need to be linked to training provision in order to ensure that the available workforce has the relevant skills and competences. All relevant stakeholders should be included in the development of a vision for the coming five to 10 years.
- **Fostering coordination.** The Business Development Agency of Karlovy Vary Region has an important role to play in fostering coordination at the regional level with all relevant stakeholders. The activity of the Agency is crucial in terms of fuelling the new initiatives and projects which will help the region to develop quickly and build the necessary capacity in research and innovation, which in turn will strengthen the position of the region in the long term. As this is such an important role, there would seem to be scope for even more coordination and cooperation between the relevant stakeholders.
- **Building links with higher education institutions.** Although the Karlovy Vary region does not have a university, this should not hinder the development of links and relationships with nearby higher education institutions. This would help the region to develop relevant education programmes that are aligned to the opportunities on offer in the region. This will be made more possible in the future by the fact that more learning has moved online and virtual collaboration has become much more the norm during the COVID-19 pandemic. This report contains some examples of the areas in which future cooperation and collaboration may be possible. These include balneology and spa industry, plastic manufacturing and processing and automation, digitalisation and IT development.
- **Making the most of the tourism industry.** As has been seen in this report, the tourism and spa industry has suffered badly during 2020, due to the effects of the COVID-19 pandemic. However, the industry is likely to recover in the short to medium term. There are a number of actions that could be taken to support the sector:
 - The results of a recent survey analysed in this report indicated that people are not aware of the government support towards the industry, in the form of vouchers, and that there is therefore potential to launch a communications campaign in order to publicise spa opportunities.
 - There is also an opportunity to advertise the industry in order to break down stereotypes and tailor wellness and relaxation packages to different population segments.
 - Finally, there is also an opportunity for the spa industry to specialise in the rehabilitation of clients who suffer from long-term health consequences related to COVID-19, as the survey indicated that there was interest in this. If the portfolio of services and specialised treatments targeting different segments of population can be diversified, the region has the potential to become a rejuvenation centre for both Czech and foreign visitors in the medium and longer term.
- **Attracting inward investment.** Diversification of the region, away from the twin focus of coal mining and spa tourism, rests on the attraction of inward investment to provide alternative sectors and jobs. While it is important to attract international investment, and there are some examples of this, it is also vital to encourage more local Czech companies to invest in the region. As noted in this report, the region has many advantages, not least the fact that it can offer land to large Czech companies for business expansion and the construction of new facilities.
- **Encouraging and harnessing new ways of working.** As has been seen in this report, one of the impacts of COVID-19 has been an increase in remote working, which has had positive impacts for both workers and companies. It is likely that there will be more flexibility in terms of place of work after the pandemic is over, and this could present an opportunity for the Karlovy Vary region, which may find it easier to source talented people from all over Czechia if they can work remotely.
- **Encouraging entrepreneurship.** New home-grown businesses are a vital building block of economic diversification. Although some people who formerly worked in the coal mining industry

in the region are old and will be likely to take early retirement, many are younger workers that could be encouraged to start their own business. Consulting support, training and educational programmes are already being offered to individuals in the region. This could be developed in order to provide individuals with the support that they need to innovate. This might include targeted seminars on how to start up a business, tax advice, and help with other administrative requirements. The current 'Innovation vouchers' scheme to stimulate innovation in the region could potentially be expanded to support innovation in the longer term.

- **Matching the skills offer with skills needs.** There is already a great deal of activity around providing training and support to unemployed people in the region. However, as noted in this report, it is also important to take into consideration the skills needs of employers so that this can be reflected in the training offer. Currently, there is no programme identifying or analysing the needs of the regional employers and supporting job seekers to gain the specific skills which are in demand. Matching the training offer of the regional labour office with the needs of employers would facilitate tailored training and transition of job seekers into the labour market. This is likely to be particularly relevant in areas such as digitalisation, IT development and automation. The training offer should also be aligned with the skills strategy for the region.