



MINISTERSTVO PRO MÍSTNÍ ROZVOJ

Národní orgán pro koordinaci

**NATIONAL CONCEPT OF COHESION POLICY
IMPLEMENTATION IN THE CZECH REPUBLIC AFTER
2020**

**A BACKGROUND DOCUMENT FOR THE PARTNERSHIP
AGREEMENT 2021-2027**



July 2019



EVROPSKÁ UNIE
Fond soudržnosti
Operační program Technická pomoc



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List of Abbreviations

AMIF	Asylum, Migration and Integration Fund
AMF	Asylum, Migration and Integration Fund
BaP	benzo(a)pyrene
CEF	The Connecting Europe Facility
CF	Cohesion Fund
PO	EU policy objective
CR	Country Report for the Czech Republic 2019
DESI	Digital Economy and Society Index
EaSI	Programme for Employment and Social Innovation
EGF	European Globalization Fund
EAG	Expert advisory groups for the future of cohesion policy
ERDF	European Regional Development Fund
ESF	European Social Fund
ESIF	European Structural and Investment Funds
EGSW	Expert group for strategic work
EAFRD	European Agricultural Fund for Rural Development
FEAD	Fund for European Aid to the Most Deprived
FI	Financial Instruments
GDP	gross domestic product
EMU	Economic and Monetary Union
GNI	Gross National Income
GVA	gross value added
ICT	Information and communications technologies
II	Integrated instruments
IROP	Integrated Regional Operational Programme
ISF	Internal Security Fund
IRS	Integrated Rescue System
SNF	Single national framework of rules and procedures under the European Regional Development Fund, the European Social Fund+, the Cohesion Fund and the European Maritime and Fisheries Fund for the programming period 2021-2027
CP	Cohesion policy
CASEL	Coordinated Approach to Socially Excluded Localities
LIFE	Programme for the Environment and Climate Action
BMVI	Border management and visa instrument
MoRD	Ministry of Regional Development
Interministerial CP	Interministerial Commenting Procedure

SMEs	small and medium-sized enterprises
MEYS	Ministry of Education, Youth and Sports
MoA	Ministry of Agriculture
NDTD	National document on the territorial dimension
NCA	National Coordination Authority
NCP	National contact point
NCI	National Concept of Cohesion Policy Implementation in the Czech Republic After 2020
NO ₂	nitrogen dioxide
OECD	Organization for Economic Co-operation and Development
OP RDE	Operational Programme Research, Development and Education
OP Emp	Operational Programme Employment
RES	Renewable Energy Sources
PM	particulate matter
CESA WT	The work team of the Council of Economic and Social Agreement
FDI	Foreign direct investment
CFP	Common Fisheries Policy
SRSP	Structural Reform Support Programme
CAP	Common agricultural policy
R&D&I	Research, Development and Innovation
ICP	Internal commenting procedure
YEI	Youth Employment Initiative
ALF	Agricultural Land Fund

Introduction

The National Concept of Cohesion Policy Implementation in the Czech Republic after 2020 (NCI) is a key document that identifies the main material areas to be financed by cohesion policy in the Czech Republic after 2020. The first version of the NCI (prepared by the MoRD on the basis of Government Resolution No 636 of 11 September 2017) was discussed by the Government of the Czech Republic on 4 February 2019 in Resolution No 94 approving also the national priorities in cohesion policy and the outlines of operational programmes for the future period.

The following operational programmes (OPs) will be implemented in the 2021-2027 programming period:

- Integrated Regional OP under the responsibility of the MoRD (ERDF funding)
- OP Competitiveness ¹under the responsibility of the MIT (ERDF funding)
- OP Transport under the responsibility of the Ministry of Transport (MoT) (ERDF and CF funding)
- OP Environment under the responsibility of the Ministry of the Environment (MoE) (ERDF and CF funding)
- OP John Amos Comenius under the responsibility of the MEYS (ERDF and ESF+ funding)
- OP Employment+ ²under the responsibility of the Ministry of Labour and Social Affairs (MLSA) (ESF+ funding)
- OP Technical Assistance under the responsibility of the MoRD (ERDF / ESF+ / CF funding)
- OP Cross-border Cooperation, currently negotiation completed between the Czech Republic and Poland under the responsibility of the MoRD (ERDF funding) and other cross-border cooperation programmes where the Czech Republic plays a coordinating role (managed by the MoRD).

The EU funds will also finance the OP Fisheries under the responsibility of the MoA.

The Czech Republic has EUR 20.1 billion (in current prices) available for the period 2021-2027 from the EU funds, although that amount may still change during the negotiations. The distribution of the funding will be guided not only by the intention of the Czech Republic about how and where to invest, but it must also respect, among other things, the rules laid down in EU legislation (for the budget and for cohesion), e.g. rules of thematic concentration (on policy objectives 1 and 2; on climate, social inclusion, or urban development).

The work on the NCI included the creation of thematic cards of specific objectives and their subsequent evaluation as part of prioritization in order to assess the importance, preparedness and other attributes relevant for deciding on the future support from EU funds, as well as to propose measures and recommendations for the Partnership Agreement and operational programmes, highlighting the weak and risky areas to be addressed and eliminated, as well as suggesting an appropriate targeting of the support in some areas. The results of this process are summarized in a separate chapter. The NCI, thematic cards and the prioritization methodology were repeatedly consulted with ministries responsible for the individual topics, with social and regional partners, and independent experts.

The prioritization was not intended to exclude some specific objectives and priorities from future support or to set the order of importance among the thematic areas. The aim is to recommend the order of priorities of the specific objectives within broader thematic areas, to identify strengths, weaknesses and barriers where problematic aspects need to be addressed in such a way that cohesion policy implementation risks are eliminated or reduced as much as

¹ the name of this OP may be changed by agreement between the MoRD-NCA and the OP MA

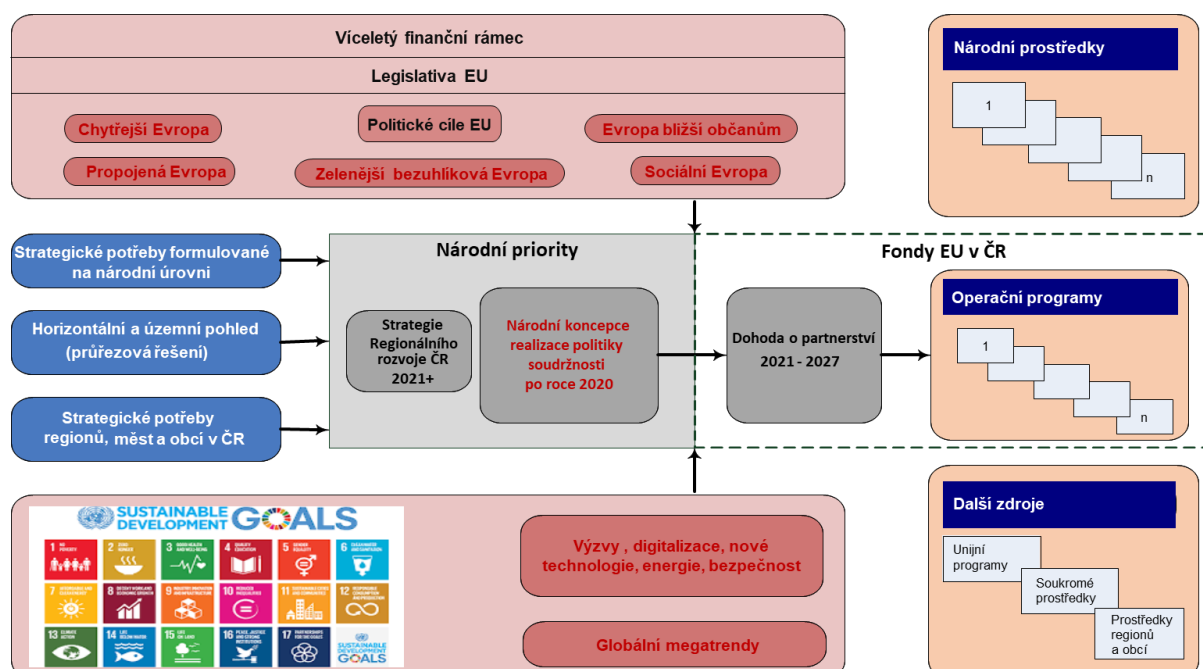
² the name of this OP may be changed by agreement between the MoRD-NCA and the OP MA

possible in the future period. The results of the prioritization will be used for the preparation of the Partnership Agreement and operational programmes.

The concept does not include the common agricultural policy (CAP) comprising direct payments financed by the European Agricultural Guarantee Fund and the Rural Development Programme financed by the European Agricultural Fund for Rural Development.

The concept also deals with topics that have the potential to be EU-funded. For that reason, the NCI does not address some of the areas at all (e.g. nuclear energy, air transport, reform of pensions and of the social security system, municipal waste landfilling or areas of the common agricultural policy), or addresses them only partially (e.g. water transport, waste processing - energy recovery etc.). In general, this does not mean that the support of such important areas from other sources (from national funds, directly managed programmes, etc.) is not considered. The diagram below illustrates the broader relations and links of the NCI both to the EU strategic documents or the EU multiannual financial framework and to the Partnership Agreement and operational programmes.

Diagram: Position of the NCI in the context of preparation of the programming period 2021-2027



Summary of changes against the NCI version discussed in January 2019

The analytical part of the NCI has undergone only partial adjustments. The text has been updated where possible. Following the commenting procedure and other suggestions, the names of sub-areas were modified in all sectoral areas, or new sub-areas were added incl. the theme of tourism. At the same time, the SWOT analysis for the NCI thematic areas has been modified to include that new theme. Following the ongoing negotiations and in connection with the country-specific recommendations of the Council for the Czech Republic, the text concerning the European level has been partially updated. The link of the NCI specific objectives to the policy objectives set out in the general regulation is provided in an annex to the NCI.

The most substantial changes concern the Proposal Part of the NCI. The Proposal Part includes a new chapter called Relationship of NCI Specific Objectives to Cross-cutting Areas:

Society 4.0, Climate Change and Territorial Dimension. That chapter assesses the relevance of the individual thematic areas / specific objectives to those cross-cutting areas. An overview of the NCI specific objectives in relation to the cross-cutting areas is provided as an annex to the NCI.

Another new chapter is the Relationship of NCI Specific Objectives to Country-specific Recommendations of the Council. The European Commission has published Annex D to the Country Report Czech Republic 2019, containing 43 investment guidelines on cohesion policy. A detailed overview of the links between the recommendations arising from Annex D to the Country Report and the specific objectives and thematic areas of the NCI is provided in an annex to the NCI.

In the Proposal Part of the NCI, the chapter on prioritization and on results of the evaluation has been substantially extended. The evaluation was based on cards of the individual thematic sub-areas. The cards were drawn up within the “Analytical Part of the NCI” and subsequently developed into cards of specific objectives, set out in an annex to the NCI.

While the 1st phase of prioritization (August-September 2018) assessed the preparedness of the thematic areas and their sub-areas for EU funding after 2020, in the 2nd phase of prioritization (March-April 2019), the themes were transformed into specific objectives and reassessed on the basis of new information added to the cards of specific objectives. At the same time, some criteria were modified. To make the process more objective, more evaluators took part in the second phase and their individual evaluations were followed by group meetings of the evaluators to correct any extreme deviations of the evaluations. The overall assessment of the individual areas and specific objectives was clearly more positive compared to the first phase of the prioritization. The areas and specific objectives were also consolidated based on evaluations of the individual criteria.

The chapter Complementarity with EU Programmes has been moved and further elaborated in the part “Proposal and Principles of Implementation” because it is highly desirable for the Czech Republic to activate its involvement in EU programmes in time to ensure an efficient use of EU financial resources, as significantly more funds are earmarked for EU programmes with every new period, while the overall budget for cohesion policy is decreasing. As part of the NCI preparation, potentially suitable subject-related EU programmes were identified in the cards of the NCI specific objectives and in a discussion with the national contact points of the individual EU programmes. A summary table containing an overview of the NCI SOs and their complementary Union programmes, incl. a more detailed specification of the possible use of the programmes for the individual NCI SOs is provided in an annex hereto.

Newly, the NCI includes the chapter Usability of Financial Instruments. In the form of repayable assistance (soft loan, guarantee, capital inputs, or other) or in a combination of repayable assistance and subsidies, those instruments should only cover profitable investments generating subsequent income or savings. That chapter lists the thematic areas and their specific objectives where financial instruments could be used.

In relation to the number and basic structure of the operational programmes approved by Government Resolution No 94 of 4 February 2019, the diagram of their links to NCI specific objectives was modified, including their order according to the prioritization outputs.

Chapter Proposal and Principles of Implementation also describes the follow-up steps, which should be addressed:

- application of intervention logic to establish a link between the objectives of strategies and the monitoring of the implementation mechanism (outputs, results, impacts) to achieve the objectives,
- preparation of the Partnership Agreement as a basic overarching document setting out the overall strategy and measures for the effective and efficient use of EU funds at Member State level,
- territory-specific approach and tools for its application, especially the Regional Development Strategy of the Czech Republic 2021+,
- implementation of the “Single national framework of rules and procedures under the European Regional Development Fund, the European Social Fund+, the Cohesion Fund and the European Maritime and Fisheries Fund for the programming period 2021-2027” approved by the Czech Government on 29 April 2019,
- definition of borderline areas between operational programmes, between cohesion policy funds and other policies (e.g. the common agricultural policy, Union programmes, national subsidy programmes) and between the implementation of national and territorial priorities implemented through integrated instruments,
- the link between cohesion policy and the common agricultural policy.

The NCI concludes with Essential Recommendations of the NCI on using the results of the prioritization in the preparation of operational programmes.

1. ANALYTICAL PART

1.1. Macroeconomic Analysis - Summary³

1.1.1. The situation of the Czech Republic in the EU

In terms of economic development, the position of the Czech economy has improved over the last 20 years. Although the Czech Republic (hereinafter “CZ”) rides in the forefront of the imaginary peloton of the post-communist countries, the performance of some countries of the EU’s economic core is still far ahead. CZ belongs to open economies, within the EU we are a medium-sized economy, significantly sensitive to developments in the global economy. We are in the group of countries economically linked to Germany which is our largest trading partner.

In the period 2000 - 2007, there was a real convergence in terms of productivity, but since 2007 CZ has stagnated, while many countries in Central and Eastern Europe have significantly approximated their productivity levels to CZ, and Slovakia, for example, reaches even higher levels (see analyses of INKA (innovation capacity mapping project), 2016). The productivity growth in CZ lagging behind the EU average is one of the important causes of the decelerated convergence of GDP.

The Czech Republic's convergence process towards Western European countries slowed down in 2010 to 2012 as a result of the economic crisis, resulting in divergence. In 2013, the relative level of the Czech economy compared to the EU28 average started to increase again, from 82% in 2012 to 89.4% in 2017, i.e. by 7.4 pp (based on GDP, calculated as purchasing power parity per capita against the EU average).

1.1.2. Domestic capital and foreign investment

Inward foreign direct investment (FDI) has had positive financial and non-financial implications for Czech businesses. This phenomenon, however, has some potentially negative impacts, e.g. insufficient formation of domestic capital, which hinders a stronger progress of domestic firms in international value chains.

Compared to EU15 states, CZ is significantly under-capitalized in terms of the volume of capital per worker. One of the limits to the growth of SMEs and their productivity is the low use of alternative non-bank sources of financing through capital - such as private equity and venture capital funds or public offerings on alternative trading platforms for SMEs.

The Czech economy structure has long been dominated by companies that are in the position of lower-order suppliers, which can mean a threat to the competitiveness of the economy in the long term. Larger companies are typically positioned at lower levels of the value chains, which is associated with the still significant dependence on price competitiveness. A significant threat is primarily the constantly escalating pressure of customers on the price of supplied components and the real threat of replacing Czech companies with cheaper producers from other countries.

³In the period from September 2017 to June 2018, in cooperation with the ministries and other partners, the analytical part of NCI was drawn up and approved by the Board for ESI Funds at ministerial level on 24 July 2018. As the Analytical Part is extensive, we provide only a summary here.

1.1.3. Limitations of economic growth

The expected economic development also has its risks. The most important of these is the uncertainty associated with the process and the impact of the UK's withdrawal from the EU. The Czech economy could be affected mainly through foreign trade. Global economic growth could be negatively influenced by a possible change in the direction of the USA economic policy, especially in the area of foreign trade openness.

In the labour market, the economic boom reflects in a very high utilization of the labour force, and staff shortages are becoming an obstacle to further growth in production.

The economy will have to face in the future the increasingly unfavourable demographic developments which will have negative impacts on the future direction of the labour market and the sustainability of the social system, especially the pension contributions for the retirement age generation. The reason for this negative expectation is, among other things, the lack of state support for economically active large families.

1.1.4. Government spending and public administration

Public administration forms the institutional framework defining the rules, within which private entities can operate, and thus can significantly positively or negatively influence the potential productivity of the economy. The quality and performance of institutions remains to be a problem in CZ. A low performance of public administration was also declared in 2016 in the Economic Survey for the Czech Republic by the OECD which described it as the fifth least performing among OECD countries, taking into account factors such as bureaucracy, the quality of justice, corruption or inefficiency in the functioning of state administration. Out of EU member states facing similar problems, the countries with worse performance include Slovakia, Greece and Italy. However, OECD also evaluated the public administration as relatively cheap (in terms of expenditure on general public services, order and security) - calculated according to purchasing power parity, the expenditure per capita reaches only just under three-quarters of the OECD average. Among the 36 OECD countries, the Czech public administration is the 7th cheapest.

1.1.5. Quality of life in the Czech Republic

The implementation of the EU funds in 2014-2020 strengthened its focus on results; the European Commission (hereinafter "Commission") defines results as the intended changes in specific dimensions of the quality of life. According to the Better Life Index, the quality of life in CZ is higher than the OECD average in the areas of education, personal safety or balance between working and private life. On the other hand, CZ lags behind in the areas of health, housing, civic engagement, but especially in the area of income.

1.1.6. Executive summary and outlook

Developments of the Czech economy after the financial crisis pointed at structural problems preventing a faster convergence towards the more developed states of the original EU15. In particular, this concerns the high dependence on foreign investors who use CZ as a base for their production of relatively simple components, which was the consequence of the previous policy targeted at supporting foreign investment. Such production is, however, often highly labour intensive, which creates excess pressure on the labour market and sharpens competition for companies in Czech ownership as well as on the labour market. Since 2002, the volume of FDI has fallen but the outflow of income from these investments has continuously grown, which is one of the reasons for the insufficient capital formation. Inefficient public

administration brings additional administrative costs and inadequately stimulates the private sector.

These are fundamental structural problems that, together with insufficient investment in education, innovation and research, prevent a faster shift towards a developed knowledge-based economy and thus the convergence towards more economically advanced EU Member States. On the other hand, the Czech economy has shown a marked improvement in most problem areas over the last two years, and this progress is also predicted for the nearest years. It is therefore necessary to benefit from this current advantageous position of the domestic economy and to take advantage of it in tackling the challenges that will be brought about by the next economic downturn, especially in the area of public finances, investments and improvements in the efficiency and quality of public administration.

1.2. Sectors - Summary

In all sectoral areas, the names of the sub-areas were changed or new sub-areas were added as a result of the commenting process (partners, platforms, inter-ministerial and internal commenting procedures) and the theme of tourism was added.

1.2.1. Labour market and employment

The Czech labour market shows good performance in general. On the side of demand for labour, a serious problem is the shortage of workers, especially in certain areas of production and services, which hinders economic growth. The importance of retraining and further professional education in general is growing.

Women continue to be significantly disadvantaged in employment, wages, and particularly older women are at risk of poverty. Little use is made of flexible forms of work that could increase the employment of women caring for children or other persons dependent on the care of others or of certain groups at risk on the labour market. Vulnerable groups often fail to get employed in sustainable forms of employment, and there are signs of precariousness of work.

Labour market problems also have a territorial dimension, the situation in cohesion regions Moravia-Silesia and Northwest is worse than in the other regions, structural unemployment persists there and skilled employees leave. The poor employability and overall mismatch of supply and demand in the labour market must be approached bearing in mind the linkage between the labour market and the education system, and the need for cooperation among the institutions involved at various levels. For the transition from education to the world of work, it is necessary to strengthen cooperation between schools and businesses. Also the gradually changing demographic situation may significantly affect the future direction of the labour market, if it is not tackled in time.

In the long term, it is necessary to work on the transformation of the Czech economy so that labour productivity grows and production with higher added value is promoted more. The labour market will be changed by new trends related to the growing digitization of the economy (Industry 4.0 and Work 4.0), and to the extinction of some traditional and the emergence of new professions and forms of work. One of the priorities remains to be modernization of labour market services and more effective targeting and use of instruments and measures of the active employment policy.

Based on an analysis in the NCI, the following thematic sub-areas were selected:

- Increasing the participation of disadvantaged groups in the labour market
- Modernization of labour market institutions

- Promoting equality of women and men and reconciling work and private life
- A functioning system of further vocational training
- Promotion of using labour mobility

1.2.2. Education

The education system in CZ shows relatively good values in many areas, which are more or less successfully maintained. Here, we can mention the robust results in international surveys measuring outcomes of education, and the low share of drop-outs (from primary and secondary schools). This, together with maintaining open access to tertiary education, leads to an increase in the proportion of population with tertiary education. However, educational outcomes are largely influenced by significant regional disparities pointing out the structural problems of some regions. Thus, the increase in regional disparities within the education system as well as the persisting gender inequalities in education represent a challenge for education policy makers.

In terms of long-term trends, it is essential to promote processes of education and teaching necessary for Society 4.0. It is equally important to update the teaching methods and forms thanks to the exponential development of technologies, artificial intelligence and virtualization of the world. The educational system in CZ must develop cognitive competences and practical skills, but also provide a robust foundation in general education and develop the skills for working with that knowledge (key competences).

Given the low attractiveness of the teaching profession (there is a risk of a lack of teachers in some subjects, e.g. at lower primary schools or in science subjects), a more proactive approach by the state and regional authorities is needed to set the educational and professional structures and to improve pay and working conditions. It is necessary to promote vocational training and cooperation between schools and employers, to systematize timely care in education at the age of 0-6 so that the educational chances can be equalised. It is no less important to simplify regulatory processes and reduce the administrative burden on principals and teachers of schools. Due care should also be given to talented individuals and their personal development in this direction should be supported within the system.

It is necessary to complement study programmes with transferable, multi-disciplinary and interdisciplinary competences, including language and ICT skills. With regard to the Czech Republic's orientation towards industry and export, the knowledge of several foreign languages, especially the languages of the bordering countries, is important for employability. The model set that way must be seen also as a model contributing to the development of education for sustainable development in a wide range of interrelated environmental, economic and social issues. We also need to continue to promote quality internships for students, to involve experts from industry and to support cooperation between universities and the business sector in research and development.

It is important to promote lifelong learning (civic and professional) in the entire population, including the involvement of age groups 55+ and 65+ in education. The vision of modern education is based on the principle of lifelong learning and aims to build an open environment that allows all individuals without distinction and without hindrance to learn throughout life.

Based on an analysis in the NCI, the following thematic sub-areas were selected:

- Improving the education system with regard to modern competences and labour market needs, including with regard to the digitization of industry and society
- Ensuring equal access to education and training

- Support for workers in training

1.2.3. Social inclusion, combating poverty and health care

Although in an international comparison, the situation in CZ is relatively favourable, detailed data on inequalities, their regional distribution and risks to social cohesion make social inclusion one of the priorities for the next period. Social inclusion is struggling with missing inter-ministerial and systemic interconnections, a problem is the administrative complexity, unclear and often uncertain competencies and a lacking holistic view and approach.

In the interest of the future development, it is needed in this area to simplify and clarify the whole system. There is a need to work more closely with the non-governmental sector, civil society, community and local groups as well as individuals. Social inclusion policies need to be aligned with the policies of the integration of minorities, especially Roma integration, and the fight against discrimination. In the context of the social inclusion policy, it will be necessary to ensure flexibility of the system, so that it can respond in a short time to changes and their impacts, on both the societal and local level. It will also be necessary to roof this topic with inter-ministerial coordination of social, health, educational, security and other needs.

It is necessary to set the system of financing the services on the border between health and social issues. Insufficient interconnection of health and social issues and their financing is a fundamental problem of the Czech health and social services system. It is necessary to set up an overall new efficient system of financing the services, not only those on the border of health and social issues. There is a need to clarify the role of the state, regions and municipalities and their share in the financing of the services so that it is clear who has what financial obligations to the target groups of those services. A common theme of the health and social services is the unfinished process of deinstitutionalization and transformation of those services directed towards the community (into the social environment of the clients/ patients). In terms of healthcare, this currently concerns mainly the deinstitutionalization of psychiatric care, which is the main part of the ongoing comprehensive reform of psychiatric care and which is closely related to the emergence of new types of services in the community on a multidisciplinary basis where both health and social components are represented. Difficulties in institutional anchoring have long been faced e.g. by addiction services, i.e. services for persons suffering from addictive disorder, due to being on the social-health service borderline. It is also necessary to address the staffing capacity of the health and social services, also in view of demographic trends. Support should be provided also to other sustainable forms of funding in the social sector, such as financial instruments, greater support for social entrepreneurship and active employment by supporting small and family businesses. The basis which a standard quality of life cannot do without is achieving rectification in affordable housing.

Given the evolution of the approach to health as such, it is necessary to focus primarily on prevention (including the establishment of prevention centres) and on increasing the health literacy and motivating citizens to care for their own health. A reform of primary care is also planned, which is associated with modernization of emergency admissions and their connection to other segments of acute care with regard to their regional accessibility.

The whole area needs to be positively interlinked with family policy. One of the topics under the relevant specific objectives is supporting all types of families with children so that the care is appreciated and the standard of living does not have to fall in connection with founding a family. The anticipated impact of these measures is a positive effect on the demographic development in the Czech Republic - this objective is, moreover, directly or indirectly supported by other areas, in particular Education, Labour market etc.

Based on an analysis in the NCI, the following thematic sub-areas were selected:

- Social inclusion
- Social housing
- Client-oriented social services
- Quality and accessible health care

1.2.4. Public administration and security

Performance of public administration - i.e. in particular the level of corruption and regulation, the quality of justice and government efficiency - reaches relatively low values in CZ compared to other countries. Since the quality and effectiveness of public administration significantly determines the quality of preparation and the actual implementation of all policies, i.e. the outputs of governance, it is inevitably reflected also in the quality of the other sectoral policies, defined in this document. For this purpose it is necessary to continue to improve the performance of public administration through changes in the setup and management of both the public administration system and the individual organizations. Decision-making in public administration should be based on relevant data, which will contribute to a deliberate policy making. It is also necessary to suppress the silo approach of ministries in order to strengthen the coherence of policies. Last but not least, it is important to make changes to the services provided, whether in terms of enhancing front-office quality or accessibility of the services. Services to citizens and businesses must be provided with content and in a way that meets their needs. Public administration must provide the public with a real opportunity to participate in policy making/ service formation and increase the quality of that participation because thoughtful participation is the basis for greater legitimacy and higher effectiveness of the measures implemented. To further develop the public administration, support will be provided in the coming years to the use of some innovative tools, such as piloting, wider mainstreaming of responsible public procurement and public participation, which should generally encourage greater tendency towards innovation in public administration and the sectoral policies influenced by it.

Greater transparency and also efficiency of public administration could be achieved by streamlining the development and operation of digital processes in public administration and greater use of eGovernment services, their interlinking and full replacement of the “paper” agendas. The Commission (2018), based on the aggregate index DESI (Digital Economy and Society Index), puts CZ in 2019 on the 20th place in the part of the index describing the level of digital public services. In the use of eGovernment services (percentage of forms completed electronically), CZ holds even the 22th place. Computerisation also concerns e-health services, is becoming increasingly a prerequisite for sustainability of the health system and supports the European trend of citizens’ interest in their own health. An important element of transparency of public administration, which allows civilian control over the functioning of authorities, is also the open publishing of data (so-called open data). A priority area of digitization will be the spatial planning agenda. In this context, the public administration will also focus its attention on the environmental aspect, especially in the acquisition of new technology and equipment.

It is also essential to ensure sufficient public administration capacities (including the IRS components) for a flexible response to global trends, prevention and management of emergencies and crisis situations, including the impact of natural and anthropogenic risks. A problem in CZ is the inadequate equipment or material conditions of IRS units and local governments for rescue and cleanup work as well as for ensuring long-term evacuation of

citizens and emergency survival, and ensuring the protection of the population and public order when addressing such events. In the next years, it is necessary to implement a modern way of warning, notification and transmission of emergency information. Other challenges for the public administration include migration, terrorism and extremism and the insufficient ability of the state and the public to work with information, including a low resilience to disinformation. At the same time it is necessary to promote activities in the field of crime prevention.

In today's world, institutions and their information systems are facing the threat of cyber attacks. The demands on the security of systems are steadily increasing and it is necessary to focus on the security of those information systems that manage valuable information. The need to respond to the emerging new forms of cyber crime will grow, because modern information and communications technologies are used today by the general public that is increasingly being attacked in the cyberspace.

Based on an analysis in the NCI, the following thematic sub-areas were selected:

- Streamlining public administration to provide quality services
- Population protection
- Computerisation of public administration and deploying the related infrastructure
- Effective security of public administration information and communication systems, including the IRS components, and adequate response to growing cyber threats
- Digitization of spatial planning (computerisation and digitization of building law agendas)

1.2.5. Research and innovation system

The research system has been developing dynamically in recent years. The total expenditure on research and development (R&D) in CZ has been growing in the long term, but in terms of GDP it does not exceed the EU average. The development of the research system in the past period has been significantly boosted by EU funds, which were used to develop research and innovation infrastructure and capacities in the public and private sectors. The increased R&D spending was accompanied by a partial increase in the number of employees in R&D and researchers both in the public and corporate sectors. Despite this positive development of the research and innovation system of CZ as a whole, there are significant regional differences in the dynamics of research and innovation activities and in the related socio-economic development of regions.

Despite the significant developments in the past period and improved productivity and quality of research, the domestic research system remains somewhat closed to international cooperation. In an international comparison, CZ shows a relatively low number of publications created in cooperation with foreign centres. Research teams from CZ are also less involved in international research programmes. CZ still lacks a sufficient number of research centres/teams, which would create top results on the global scale. In the future, it is therefore necessary to pay attention to strengthening the internationalization of the R&D system. An opportunity is to use the newly built R&D centres and investments in the so-called large research infrastructures. That presupposes enhancing mobility and improving the quality of human resources for R&D, incl. ensuring a sufficient number of graduates with quality education in science and technology and improving the quality of those programmes in the fields of social sciences and humanities. Another condition is the reduction of administrative burden related to the implementation of R&D projects.

Total expenditure of the business sector on R&D is constantly growing and its share in total domestic expenditure on R&D is also increasing. Similarly, the number of researchers in the

business sector is rising. The share of public resources in business expenditure on R&D gradually decreases and developments indicate an increasing importance of research activities in enterprises.

Corporate research in CZ is propelled primarily by enterprises with foreign participation. Domestic companies often act as subcontractors for foreign companies and their R&D activities compared with foreign companies are limited. In the future, it is therefore necessary that domestic enterprises develop their R&D activities at a much greater rate and build their competitiveness not on cheap labour but on application of new knowledge and on production with higher added value (especially in promising technologies such as nanotechnology, information and communications technologies (ICT), biotechnology, etc. The challenge for the future is the ability of enterprises not only to discover and develop new solutions at home, but also to use and sell them so that the largest possible part of the added value remains in the domestic economy. It is also necessary to take advantage of the presence of multinational companies and joint ventures and to promote cooperation of domestic enterprises with those companies and their integration into global innovation networks.

Given the existing risk of a gradual widening of the gap between the dynamically developing knowledge-intensive regions and the economically weaker regions and regions with structural problems, it is necessary to continue in efforts to develop regional innovation systems, especially in the regions lagging behind in research and innovation activities. Regional innovation systems cannot operate exclusively at regional level, but must be sufficiently open to cooperation at interregional and transnational levels. Therefore, it is also necessary to create tools that will stimulate cooperation between actors (companies, research organizations, agencies, regional self-government, etc.) from different CZ regions and from abroad (especially neighbouring countries). Support should also be provided to the establishment/development of partnerships (initiatives, platforms, clusters, groupings etc.), in which research organizations, companies and other institutions from several regions will operate (at national and transnational levels) to address issues that are current for those regions.

In connection with the development of knowledge society in CZ and the increasing application of modern technologies in everyday life, it is necessary to improve the quality of education at all types of schools. With regard to the expected development of modern technologies, it is necessary in the future to ensure suitably qualified professionals in areas such as mainly ICT and digital technologies, nanotechnologies and advanced materials, microelectronics, biotechnology, etc.

The research system in CZ is still fairly closed to cooperation with the application sector. For better use of knowledge from public research in business innovation, it is therefore imperative to further streamline the dissemination and sharing of knowledge from research organizations and improve the operation of centres transferring technologies created in public research organizations and increase their effectiveness ("mobilization" of activities). To improve the quality of applied R&D, it is needed, in an appropriate manner, to transform a part of the CZ research capacity to excellence centres of applied R&D. The basis of that system could be formed by some of the research centres created with the support of EU funds and national sources. It is also necessary to create appropriate conditions for their development and integrate them into the research and innovation system.

Based on an analysis in the NCI, the following thematic sub-areas were selected:

- Development of facilities for quality and relevant research
- Promoting innovation through applied research and experimental development

- Improvement of strategic R&D&I management

1.2.6. Support for businesses and industry

A number of Czech companies pursue a transition to competitiveness based on knowledge and innovation. Human and financial inputs into corporate research rose significantly, but the activities leading to innovation and improving competitiveness are still not widespread among a large number of enterprises. If businesses innovate, their innovations are usually not of a high order. A large part of the added value of Czech companies (and in some sectors its majority) is still imported from abroad. In such reality, businesses in CZ have a much lower knowledge intensity than enterprises abroad and pay significantly lower wages to researchers. A great opportunity is, on one hand, the shift of enterprises towards a knowledge economy and, on the other hand, their transformation to businesses of the Industry 4.0 type (provision of services and production with the help of cyber-physical systems).

In terms of business culture and aspirations of Czech entrepreneurs and innovators we have found that out of the top 443 innovating businesses in CZ, only 87 aspire to be a leader in their industry (or niche). Most of them are subsidiaries or daughters of a multinational company. Moreover, in the Czech Republic and Slovakia, "the fear of running a business" is the highest in the EU. If the Czech economy is to generate enough resources in the long term and be competitive abroad, it is necessary to focus on the main objective, i.e. increasing the added value of products and services through innovation, technology development and ensuring adequate resources for the areas of cultural and natural heritage and the arts. Here, the cultural and creative industries can significantly help the traditional industries in the segment in which they lag behind the most: high-quality products and services, their presentation and branding as part of the value of the company.

Support for businesses must include all business segments, especially SMEs as the least developed sector with the highest growth potential. It is necessary to remove the biggest obstacles to the development of SMEs, in particular to facilitate access to capital and reduce the relatively high administrative barriers and help them enter the path towards production of finished products through training, research, development and innovation, whether technological or design.

The growth of the Czech economy still rested primarily on external sources, on the massive inflow of foreign direct investments and on increasing the number of workers often from abroad. Support for large businesses should therefore focus on the ability of large companies to get to and keep at the forefront of technical, organizational and business development in the world, which represents large investments in their own infrastructure and in research, development and innovation. At the same time, large enterprises play an important role in the shift towards a low-carbon economy and environmental protection and, therefore, support for large enterprises in these areas is important.

It is necessary to consider the future progressive linking and intertwining of the secondary - manufacturing sector with the tertiary sector of services. The order will be changed - the services sector will become the primary sector, and manufacturing will become a service based on direct choices of customers. Czech society needs to better encourage creativity and appreciate and reward successful innovation.

Based on an analysis in the NCI, the following thematic sub-areas were selected:

- Improving the innovative capability of SMEs
- Increasing the added value of products and services in the production chain

- Introduction of the principles of digital economy and Industry 4.0 in companies

1.2.7. Transport

Transport system aims to improve the quality of life for residents and increase the competitiveness of the Czech economy. CZ must not become an inner periphery of Europe. It is therefore necessary to ensure quality and effective transport links of all CZ regions within the trans-European transport networks to all neighbouring states so that transport is not a limiting factor for imports and exports and does not impede the economic development of all CZ regions.

It is not advisable to significantly increase the volumes of transit freight transport with regard to the high externalities associated with its traffic. In the area of rail transport, on the other hand, the role of rail infrastructure should be strengthened in terms of transit by modernization of railway freight corridors and by high-speed rail construction. Given the existing density of the current road and railway infrastructure in CZ, the intention of further fragmentation of the cultural landscape by a spatially demanding network of high-speed lines must be assessed in terms of sustainable development principles. It will also be necessary to consider selected investments in water transport infrastructure, where both economic and environmental effectiveness must be assessed.

All CZ regions show large gaps in the quality of transport infrastructure, which limits the economic potential of the regions and consequently the ability to reduce regional disparities (including the preservation of transport service in rural regions). It is a weakness also with regard to the expected increase in population mobility requirements. It is therefore important to reduce differences in the quality of transport infrastructure across regions. In urban public transport systems, it is necessary to invest in transport modes and means, whose propulsion systems have a higher level of efficiency and thus contribute to the shift towards a low-carbon economy.

Transportation must take into account the needs of the population, induced by aging and changing lifestyles. Local governments should encourage people to change their travel behaviour towards more sustainable forms of mobility. Needed are investments in infrastructure for cycling and walking, support for sharing means of transport or services, and establishment of a network of private roads and compact neighbourhoods accessible on foot. The backbone of transportation in the regions will be reliable and clean public transport, incl. the linkage of public transport with private transport. A specific problem is parking, especially in densely populated parts of cities, especially in housing estates. The aim should be to create a sufficiently favourable environment for the wider application of selected alternative fuels (while respecting the principle of technological neutrality) and drives and to achieve conditions comparable in this field with other developed EU countries. A prerequisite for the proper functioning of the transport system and its effective operation will be sufficient amount of quality information for traffic management or for organizing the transportation of people or objects. As far as emissions and energy intensity are concerned, the transport sector is a major contributor to them, so it will have a substantial impact on sustainable development of CZ in the long term.

Based on an analysis in the NCI, the following thematic sub-areas were selected:

- Development and improvement of transport infrastructure
- Developing and improving the integration of transport
- Introducing modern technologies for the organization of transport and reducing traffic burden

- Effective use of multimodal freight transport
- Improving the availability and use of alternative fuels in transport
- Using alternative fuel vehicles in transport
- Development of non-motorized transport

1.2.8. Transition to a low carbon economy

In the field of energy, CZ must also take into account EU requirements. The Czech Republic should strive for cost-effective improvement of energy efficiency, while systematically reducing greenhouse gas emissions. Economic growth should not be dependent on the growth of energy consumption, it is therefore crucial to maintain economic growth while preserving natural resources (so-called decoupling). It is necessary to properly set up financial mechanisms in order to incite private investment in low-carbon economy and increase energy efficiency, including innovations in these areas, and so that the meeting of commitments under the climate and energy plans does not depend solely on state funding.

New technological innovations and approaches can contribute to decarbonisation of the economy and at the same time mitigate the effects of climate change. For example, decentralized energy production is becoming more competitive, which changes some economic decisions of households and firms. The transition to a low carbon economy will require significant investments aimed at reducing energy consumption in enterprises (both in production processes and in buildings), renovation of state, private and public buildings, the introduction of "smart" elements in buildings enabling efficient consumption management, building the infrastructure in buildings for the use of alternative fuels in transport, the use of renewable energy sources (RES) for own consumption and balancing the supply and final consumption.

To ensure energy security and resilience of CZ, it is crucial to have a robust transmission system with ample regulation powers and adequate distribution system. CZ has well developed systems of thermal energy supply, with persistent significant proportion of steam networks that need to be replaced with hot-water networks. Further modernization and development of efficient thermal energy supply systems and high-efficiency combined heat and power generation is also an opportunity for more efficient use of resources, greater integration of RES in the energy mix and for the transition to a low carbon economy.

In the future, locally available energy sources should be utilised as municipalities become local energy producers and providers. This will decentralize the energy sector, connections to smart grids will be established and the share of renewables in the energy mix will grow. The gradual introduction of smart grids by distribution network operators will create an environment for the implementation of so-called smart solutions using new technology. We can also expect the development of integrated projects that will begin to combine various solutions in one town or village, including a variety of technologies (e.g. using the momentary surplus of solar energy for recharging electric vehicles). An important role will be played in the future by electricity storage.

Based on an analysis in the NCI, the following thematic sub-areas were selected:

- Modernizing and streamlining the production, transmission, transportation, distribution and storage of energy
- Introducing modern and highly efficient methods of production, distribution and storage of heat energy.

- Supporting the emergence and deployment of innovative low-carbon technologies and the efficient and thrifty use of renewable energy sources
- Increasing energy efficiency and energy savings

1.2.9. Environmental protection and circular economy

The environment and its ecosystems are influenced throughout Europe and thus also in the Czech Republic by growing transport, a number of economic activities and, in some cases, by agriculture, with a negative impact on the capabilities of landscape and soil to retain water and also to provide a comprehensive ecological service. The landscape is fragmented, resulting in the loss of suitable habitats for fungi, wild plants and wild fauna, and the associated decline in biodiversity. Agricultural runoff and sewage contaminate watercourses and reservoirs with modern allochthonous micro-pollutants (e.g. polychlorinated biphenyls, polycyclic aromatic hydrocarbons, detergents, steroids, hormones and other drugs, industrial chemicals, pesticides and many other compounds), posing a significant hazard to groundwater. Outdoor air pollution by suspended particles PM₁₀ and PM_{2.5}, BaP, NO₂ and ground-level ozone represents the main air quality problems of CZ. The level of pollution in a given year depends on the amount of emissions and prevailing meteorological and dispersion conditions. The dominant source of air pollution in CZ is local heating and transport, in some areas the industry is also important. Another significant pollution source is the transboundary transport of emissions, especially in the Moravian-Silesian Region. It is necessary to reverse these trends and target the efforts at improving the current state also with regard to climate change that will bring more frequent extremes (drought, extreme precipitation, etc.) and the associated significant negative consequences for the population and the economy. To do that, it is possible to utilise the synergies between improving soil fertility, capture and storage of carbon from the atmosphere in the soil in the form of organic matter, the retention of water in the landscape and economical use of the available water for human consumption and the economic sectors. Synergy between the necessary renewal of the landscape and creating rural jobs in its maintenance and in tourism will also contribute to balanced territorial development.

The state of the environment in CZ has improved significantly over the last nearly 30 years (for example, in terms of air quality, water purity in watercourses or the removal of old environmental burdens). Total expenditure on environmental protection grows in absolute levels and relative to the GDP, already now, CZ has capital expenditure on environmental protection higher than the EU average (0.67% of GDP compared to 0.41% of GDP), with a significant role played by the share of EU funds. The state of the environment also has a considerable territorial dimension - some regions suffer from significantly greater burdens (e.g. deteriorated air quality, water regime disruption, the burden associated with mining, intensification of agriculture). High differences are between urban, mainly agglomeration areas and rural areas.

Considerable potential for the future lies in the circular economy that is based on efficient management of resources, from product design (material and energy eco-design), through reparability of the product and reuse, to obtaining secondary raw materials from end-of-life products and their use for further production. In order for the transition to the circular economy in CZ to be realistic and not to cause unwanted burden on the business environment and public administration, it is necessary to increase the rate of reuse and recycling of industrial and municipal waste, boost the market with secondary raw materials from the recycling industry, to set tax and investment incentives, to promote innovation and collaboration among the industry sector, universities and scientific institutions, to promote education in and raise

awareness of the circular economy among the professional and lay public, including information transfer. The aim of circular economy is to convert waste into resources, to close the cycle of resources and to gradually achieve material self-sufficiency. In the area of municipal waste, it is necessary to increase by 2035 the level of preparation for reuse and recycling of municipal waste at least to 65% of its weight. From the environmental point of view, old environmental burdens pose a risk of contamination of surface and ground water sources, soil, rock environment, built environment or air. In addition to the remediation itself, it is also necessary to focus on the future use of those premises and areas. One of the important elements of improving the environment in villages and towns is the development of so-called green infrastructure. These are not just isolated green islands of parks, but a sophisticated system of greenery functioning as the cleansing lungs of a town/village. As these are mostly public spaces, it is necessary to address green infrastructure in relation to the transport function of public spaces and to improve the quality of their urban and architectural design. Education for sustainable development and education in schools are important for the positive perception of environmental issues by the wider society.

Based on an analysis in the NCI, the following thematic sub-areas were selected:

- Nature protection and landscape conservation
- Protection and improvement of the status of water and of water management
- Improving air quality
- Circular economy, waste and resource efficiency
- Reclamation of sites with environmental burdens and revitalization of brownfields
- Creating facilities for education for sustainable development
- Improving public spaces and developing green infrastructure

1.2.10. Culture

The protection of cultural heritage (tangible and non-tangible) and its effective use offers potential for education and competitiveness of CZ. Culture can provide the possibility to create higher added value of products and services (e.g. in cultural and creative industries - animation, music or film) and the possibility to create flexible jobs. The linkage to the tourism industry is also very important as cultural heritage is one of the cornerstones for creating a competitive tourism offer. It has unique economic potential and it helps to stabilize employment. Thanks to the high diversification of the sources of cultural heritage, we can also expect long-term sustainability and coherence, in particular as part of support of SMEs, with the cultural and creative industries.

Culture is a bearer of competences that cannot be automated, are non-technological and therefore irreplaceable - unique. These competences are increasingly used especially by the fast-growing knowledge-based economy built on knowledge and competences that have been developed by culture for centuries. It significantly contributes to lifelong learning and hence the ability of people to better adapt to social change. Culture is also the basis on which we create our identity, a fundamental common thread, society connector, and a measure and a bolt of social cohesion. It allows us to maintain and confirm our identity within the region, ethnic group, or sphere of civilization and create a positive image of the country. But it is also necessary to build public awareness of the cultural and historic roots of the country. In this area, the linkage with tourism plays a very important role in spreading awareness and interpreting the heritage.

Therefore, it is also necessary to solve the problems of significant under-funding of cultural heritage conservation in CZ (there are still shortcomings in providing funds for tangible cultural

heritage - monuments, but also for the development of performing and digital arts), to improve the social competences of heritage-based cultural institution employees (museums, galleries) in contact with the visitor, to improve the financing of professional and other employees of cultural heritage institutions, to improve the level of professional protection and exploitation of cultural heritage and improve the accessibility of that potential also to the general public in order to improve understanding of the tangible and intangible cultural heritage and by means of intelligible communication to build the cultural identity of the Czech state citizens.

Based on an analysis in the NCI, the following thematic sub-area was selected:

- Protection, development and promotion of cultural heritage

1.2.11. Tourism and recreation

Tourism is inherently an interdisciplinary phenomenon that uses or influences the outputs and inputs of other components of the national economy. It is also one of the most dynamic sectors, responding very quickly to trends and changes not only at national level. Tourism generates about 3% (CZK 149 billion) annual contribution to GDP and provides employment for about 4.5% of the population (almost 239 thousand people, which is more than agriculture, forestry, fishing, mining and quarrying together). Since the beginning of the transformation of the economy and society in 1989, the Czech Republic has been an important destination for inbound tourism. However, the position of tourism has undergone a number of changes that have often responded to the economic development of the national and global economy, and it is also related to the country's historically determined orientation on industry and export. In terms of the regional dimension, Prague's position as the centre for foreign inbound tourism is absolutely dominant. Prague, on the other hand, welcomed only about 10% of domestic visitors. On the contrary, Czechs represent the main target group (80 - 90%) for the other regions of the Czech Republic. This trend is likely to continue in the future, although a slowdown in widening the gap between Prague and the regions can be observed. However, strong domestic tourism is very positive as it is one of the drivers for the regional economies in times of economic recession.

In order to ideally spread the onslaught of foreign tourists heading to Prague, or CZ, it is necessary to strive for the development of sustainable tourism as such. Sustainability can be applied in all sectors, but lies mainly in the considerate and professional management of tourism (using strategic planning and innovative solutions) linked to the cultural and natural heritage, and the public and business tourism infrastructure. One of the prerequisites for sustainable development of tourism is the availability and quality of connections between Prague and the other tourist destinations within CZ. Therefore, sustainable development of tourism is conditioned the most by the area of Transport (speed train and road connections of regions - with the centre and with each other) - modernization of regional lines, intervals of transport connections, service during weekends and public holidays, follow-up transport services for tourists - car parks at transfer points / tourism destinations; an important role in sustainability is played by the system of long-distance cycle routes and cycle paths EuroVelo and GreenWays, as well as linkage to regional and local marked hiking routes and trails. Another important link is to Nature and landscape conservation (interpretation of natural heritage and ecosystems including the geological and hydrological context, agritourism and soil protection, water retention in the landscape and healing water sources - spas). Sustainable development of the visitor intensity in cultural, natural and technical monuments is also essential. The bearable limits must be identified and monitored both for buildings and for territories over time. However, the development of sustainable public and business

infrastructure, taking into account climate change and the need to reduce the energy intensity of technologies and establishments, is also very important for the sustainable development of tourism. A major topic for tourism is the circular economy.

However, the development of sustainable tourism is mainly dependent on information and work with it; attention must be paid to research, interpretation of its results, as well as promotion which can help streamline the visitor flow. The above is carried out by destination management organizations, headed by CzechTourism which coordinates the flow of information on behalf of the Czech Republic, especially towards potential visitors from abroad.

Based on an analysis in the NCI, the following thematic sub-area was selected:

- Sustainable tourism

1.3. Cross-cutting areas

In order to strengthen synergies between the different thematic areas, so-called cross-cutting areas have been proposed, which address an issue across sectors and add the holistic view to the individual sectors. The areas are:

- Climate change adaptation,
- Society 4.0,
- Territorial dimension.

These cross-cutting areas mutually emphasize the societal challenges of the Czech Republic in the context of global and European trends. Of course, other cross-cutting important issues can be identified, such as gender equality or respect for fundamental human rights and the rule of law in general. These topics are also part of the so-called basic conditions that a Member State wishing to benefit from financial support from EU funds is obliged to observe.

1.3.1. Climate change adaptation

In 2015, the Parties to the UN Framework Convention on Climate Change adopted the Paris Agreement. The Agreement implements the provisions of the Convention and after 2020 should replace the still valid Kyoto Protocol. Under the Paris Agreement, the Czech Republic as a member of the EU committed, along with other EU Member States, to reducing, by 2030, greenhouse gas emissions by at least 40% compared to 1990. By its accession to the Agreement and to this commitment, it will fulfil the common goal of the EU and its Member States, which was adopted by the European Council as part of the conclusions of the European Council on the 2030 Framework for Climate and Energy Policies, approved on 24 October 2014. In October 2015, the Government approved the Strategy on Adaptation to Climate Change in the Czech Republic, which, in addition to assessing the likely impacts of climate change, contains proposals for concrete adaptation measures and is further implemented through the National Action Plan for Climate Change Adaptation.

As the adaptation measures will, in sum, demand large investments, the availability of financial resources both from national and EU funds will play an important role in their implementation and enforcement. Investment will, in the long run, substantially reduce the cost of addressing the negative impacts of climate change in the case of inaction, or will ensure sustainable gains from natural resources management (e.g. in forestry and agriculture), the yields of which would be falling due to the negative impacts. The cost of inaction, or failure to adapt to the expected changes, would be high. Adaptation to climate change consequences will be reflected in farmland management, adjustments of the water regime, collection and utilization of rainwater, revitalization of watercourses in the open country and in towns and villages, and in an

increased amount of water in the public space, water management in industry, services, public buildings and in households, and will also reflect in the form of land-use planning. Climate change is one of the important factors that contribute also to the increasing frequency and complexity of threats and the resulting risks and will therefore require action to address the risks and emergencies that will arise as a result of climate change.

1.3.2. Society 4.0

Changes in industrial production due to its increasing digitization and automation lie at the heart of the process heading towards Society 4.0. The social impacts of Industry 4.0 should be properly and timely identified so as to avoid risks that may emerge from the fourth industrial revolution for the economy and society. This concerns in particular the labour market (Ministry of Labour and Social Affairs Initiative: Work 4.0) and education (Strategy of the Education Policy of the Czech Republic until 2020). However, this concerns also the whole system of providing public services, including public administration services. It is evident that the issue of Society 4.0 is a strictly interministerial and interdisciplinary agenda. It is also necessary to reflect the different preparedness of the various types of territories (rural peripheral areas vs. development centres) to quickly adopt and learn to use the benefits of advanced digitalization.

In the context of establishing Society 4.0, we will have to take into account links between industrial production systems, transport networks, energy systems or the systems of supply of raw materials, but also social systems, the ways of providing public services and performing public administration and the impacts on the life of communities. In recent years, dynamic interaction has increased among these systems, which is stimulated by integration on the information level. The advent of new technologies is changing the entire value chains, creating opportunities for new business models, as well as pressure on the flexibility of modern industrial production and increased demands on cybersecurity and interdisciplinary approach. The development of the Internet of Things affects not only the functioning of the various economic sectors, but also the functioning of households, transforming the lives of communities.

Society 4.0 is conditional on good access to the Internet, whether via 5th generation mobile networks or high-capacity networks for Internet access at a fixed location. Such an infrastructure will allow the availability of digital services in the whole territory, respond to the growing data volumes in both the manufacturing and service sectors, and increase the independence of services on the location, in particular will facilitate the expansion of autonomous mobility. Society 4.0 must also take into account new threats and their possible synergies due to the interconnection and continuity of the individual systems and their dependence on information systems. However, Society 4.0 is not only about technology, but it is also tied to people's critical thinking, the ability to filter, critically assess, and apply information. That is the most important pitfall affecting the ability to work effectively, but also to function as a citizen in a complex reality (debt trap, extremism).

1.3.3. Territorial dimension

Metropolitan areas and agglomeration centres show a stronger economic growth and are approaching the European average in economic indicators. The priority for their development is to build sufficient capacity of public services, support innovative technologies and innovative entrepreneurship and correspondingly increase the level of education, while withstanding the increased environmental pressure associated with their development. For example, the population of the Central Bohemian Region is growing rapidly, which is largely due to

insufficient housing construction in the capital. On the contrary, peripheral rural areas record relatively significant population decline. The decline in population is very noticeable especially in villages up to 100 inhabitants outside the hinterland of larger towns. Available studies confirm the important role of small and medium-sized towns across the regions, the network of which is relatively dense in the Czech Republic. The socio-economic situation of small and medium-sized towns depends on their population size and geographical position in relation to major settlement centres and development axes, and cannot be generalized. In general, however, the function of small and medium-sized towns is essential in the settlement system and plays an important stabilizing role in the territory. The analyses confirm the persisting and at places deepening problems of the structurally affected regions. These include low rates of economic growth and lagging behind other CZ regions, which results in low attractiveness of the regions for the life of the inhabitants, smaller offer of promising jobs for young people and qualified professionals and worse conditions and low attractiveness for business. The problem of Regions was caused by a common specialization in traditional sectors of mining, energy, chemical, mining and metallurgical industries, which had high requirements on raw materials and energy and required specifically skilled workforce. The CZ territory can also be differentiated from the security point of view, which is determined primarily by the extent of crime in the region and the level of risk of security threats (e.g. terrorism, illegal migration).

Territorially differentiated and targeted approach, marked in the 2014-2020 programming period as territorial dimension, enables us to respond in particular to developmental differences and specific needs arising from different types of territories and to create conditions for a balanced and integrated development enhancing the competitiveness of the Czech Republic and reflecting the requirement to level out regional disparities (in relation to the internal differentiation of a territory and concentration of economic, social or environmental problems). The regional focus of priorities thus respects the specific problems and development needs of settlements and regions. One of the specific approaches to certain types of territory is, for example, the economic and social restructuring of the so-called structurally affected regions, i.e. the Karlovy Vary, the Ústí nad Labem and the Moravian-Silesian Regions, approved by the CZ Government. It is therefore a cross-cutting area which enters into all areas/ sub-areas and emphasizes their territorial dimension.

1.4. SWOT analysis of the thematic areas of NCI

This section provides a SWOT analysis of the thematic areas collectively for the whole NCI. The result of the comprehensive SWOT analysis arises from the partial SWOT analyses carried out under the NCI Analysis on the individual thematic areas.⁴ The Thematic SWOT analysis has been supplemented with the Tourism area.

Table: Thematic SWOT analysis

Strengths	Weaknesses
<p><u>Labour market and employment</u></p> <ul style="list-style-type: none"> • low unemployment • low income inequality as a whole in international comparison <p><u>Education</u></p>	<p><u>Labour market and employment</u></p> <ul style="list-style-type: none"> • labour shortages across disciplines and professions caused by extensive development of the Czech economy • persistent mismatch between the skills of the workforce and labour market requirements • low involvement of employers in supporting education

⁴ The most relevant statements for the given thematic area were selected.

<ul style="list-style-type: none"> • a stable system of public education and accessibility of education as a public service <p><u>Social inclusion, combating poverty and health care</u></p> <ul style="list-style-type: none"> • quality health care • a relatively low level of risk of poverty and social exclusion in international comparisons • a wide range of social services providers <p><u>Public administration and security</u></p> <ul style="list-style-type: none"> • functioning systems of population protection and crisis management • functioning basic registers and data boxes • communication infrastructure of public administration information systems • The analysis is considered in decision-making and policy-making • Established strategic and project management • Established existence of advisory bodies of the Government and other platforms, intended to jointly manage issues • Established system of functioning of the civil service • RIA is an established part of preparing legislation <p><u>Research and innovation system</u></p> <ul style="list-style-type: none"> • dynamic development of the research sector - a rapid growth of R&D expenditure and the number of researchers in both the public and corporate sectors • quality research facilities and infrastructure created or upgraded in recent years (in the public and corporate sectors) • a strong segment of research centres whose focus corresponds to the traditional (especially industrial) sectors • the existence of universities in most regions, which, in addition to educational activities, implement R&D and have research infrastructure 	<ul style="list-style-type: none"> • Persistent inequalities between men and women • Aging of the workforce • Insufficient number of part-time jobs • Insufficient capacity of childcare facilities <p><u>Education</u></p> <ul style="list-style-type: none"> • no long-term strategy to transform the education system after 2020 (but in preparation) • large differences in the quality of teaching and research among universities and among their individual faculties • content and methods of teaching inadequate for the needs of the 21st century • low motivation of HEI employees to collaborate with industry, esp. with companies • low emphasis on teaching key competences • low linkage between vocational training and practice • low level of work with talented pupils and students <p><u>Social inclusion, combating poverty and health care</u></p> <ul style="list-style-type: none"> • extremely high proportion of the population in a debt trap • aging society • population heavily burdened with hazardous substances (over-limit air pollution, smoking, alcohol etc.). • no linkage between social and health services • insufficient capacity of soc. services in some regions • a lack of precise data on the socially excluded population • insufficient capacity of social housing
<p>Strengths</p>	<p>Weaknesses</p>
<p><u>Support for businesses and industry</u></p> <ul style="list-style-type: none"> • high share of industry in GVA • stable growth in industrial production • close interconnection of Czech companies with global technology leaders, not only in Europe • flexibility of small and medium-sized enterprises in strategic decision making, the ability to take over and quickly apply "best practices" 	<p><u>Public administration and security</u></p> <ul style="list-style-type: none"> • high administrative and regulatory burdens • weaknesses in the management and coordination of public administration, low focus on results • low level of civic participation • lack of evidence-informed decision-making, low awareness of, insufficient sharing and evaluation of the data collected •

<ul style="list-style-type: none"> • industrial and technical traditions associated with technical creativity facilitating technical incremental innovation • quality market services, increasing importance of services <p><u>Transport</u></p> <ul style="list-style-type: none"> • convenient geographical location • extensive transport network <p><u>Transition to a low carbon economy</u></p> <ul style="list-style-type: none"> • high quality and reliability of energy supply • initiated transformation of the electricity production base to preserve its stability and sufficient capacity • full self-sufficiency in power and heat production • waste recycling can help secure a part of the raw material inputs into production without increasing dependence on imports from abroad <p><u>Environmental protection and circular economy</u></p> <ul style="list-style-type: none"> • created system of institutional care for the environment • high diversity of landscapes given by the diversity of natural conditions and historical farming methods <p><u>Culture</u></p> <ul style="list-style-type: none"> • uniqueness and large extent of cultural heritage • a dense network of institutions in the territory • significant potential of the original tradition • high technological and creative competence of human resources in CZ, often tied to specific territories • presentation of cultural heritage and creative industries through the tourism sector <p><u>Tourism and recreation</u></p> <ul style="list-style-type: none"> • The Czech Republic (Prague) as one of the popular European destinations with the image of a safe destination • great cultural and historical heritage, including World Heritage sites • unique industrial heritage • unique landscape elements • distinct gastronomy • professional marketing and promotion of tourism at the national level (activities of the national tourism centre - CzechTourism agency) • relatively affordable services • relatively short distances to visit tourist destinations 	<ul style="list-style-type: none"> • absence of a systemic grasp of innovation in public administration and a response to new trends • insufficient client focused approach of public administration • ineffective stratification of delegated powers in the territory • inefficient performance of public administration in agglomerations • low level of digital communication of public administration • Insufficient equipment / material conditions of IRS units to ensure population protection and public order and crime prevention, including adequate response to illegal migration, terrorism, extremism, cybercrime, and adaptation to climate change • low level of equipment with new technologies and means for new forms of emergencies arising mainly from new threats and climate change, and for ensuring subsequent long-term evacuation of the population with emergency survival • insufficient implementation of new trends in educating citizens to protect themselves from new threats • low preparedness of IRS units to ensure the protection of critical infrastructure and cyber security with an emphasis on the protection of their information and communications systems • unconnected information systems of public administration sections <p><u>Research and innovation system</u></p> <ul style="list-style-type: none"> • the research system insufficiently open to international cooperation • a limited number of research centres of excellence on a global scale • dominance of companies with foreign participation in the research activities of the business sector • most R&D expenditure is implemented in sectors with medium and lower technological intensity • insufficient links between public research and businesses <p><u>Support for businesses and industry</u></p> <ul style="list-style-type: none"> • low-quality public sector services • low labour productivity • low added value of economic activities • high dependence on foreign investors and the related outflow of capital and dividends • low availability of financing for SMEs with a lack of venture capital
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<ul style="list-style-type: none"> • traditional types of tourism such as spas and winter sports destinations (mountain areas) • a unique network of marked hiking and biking trails 	<ul style="list-style-type: none"> • very limited awareness of the principles and the impact of Industry 4.0 in the industrial sector and especially outside it • insufficient understanding of interdisciplinarity - dominated by the traditional view of crafts and technical and non-technical fields • underestimating the importance of the services sector <p><u>Transport</u></p> <ul style="list-style-type: none"> • under-invested transport infrastructure • insufficient connection of certain regions to the backbone network • poor transport links to the economic and population transport centres of the neighbouring countries, including within internal peripheries • low quality of transport infrastructure in different parts of CZ • missing railway high-speed connection • lack of transport services for rural and internal peripheries • weak cohesion of regions and their facilities • insufficient infrastructure for the development of alternative fuel transport • insufficient use of environmentally friendly means of transport • failure to address parking in intensively used areas (e.g. in housing estates and tourist destinations) • low level of development and connectivity of non-motorized transport infrastructure <p><u>Transition to a low carbon economy</u></p> <ul style="list-style-type: none"> • high energy intensity of product • high material and greenhouse gas emission intensity of product • undervalued potential for utilising renewable resources • a high proportion of local sources using low quality fuels with high emissions of pollutants into the air, especially in pollution burdened areas • slow and insufficient use of the energy saving potential in CZ • high proportion of carbonaceous fuels in the energy mix • low preparedness for impacts of climate change (especially drought impacts), mainly regarding the future CZ energy mix
Strengths	Weaknesses
	<p><u>Environmental protection and circular economy</u></p> <ul style="list-style-type: none"> • degradation of landscape due to fragmentation by line structures, suburbanization and large-scale agriculture

	<ul style="list-style-type: none"> • a high proportion of arable land susceptible to erosion in the total area of CZ • degradation of agricultural and forest land due to inappropriate management • poor state of many habitats and low viability of populations of many biological species • unsuitable species composition and age and spatial structure of forests • low water retention in the landscape • eutrophication of surface waters due to nutrient loads from agricultural land and point sources of pollution • non-use of brownfields, contributing to an extensive development of towns and villages • high level of municipal waste landfilling • the existing natural gas infrastructure for household heating is underused (high number of "dead" connections) • insufficient network of air pollution monitoring and incomplete emission inventory (particularly in the case of fugitive dust emissions and re-emissions) • low public awareness about the impact of air quality on health and low involvement of the public in the process of improving air quality <p><u>Culture</u></p> <ul style="list-style-type: none"> • long-term under-funding of monuments maintenance • untapped potential of a large number of monuments • absence of a comprehensive system of training and education • conservatism and little international experience of staff in the cultural field • poor performance of the role of the sponsoring authorities • unsystematic management of cultural institutions, • preference of short-term goals to the fulfilment of long-term visions aligned with local national and European strategies • inadequate security and protection of monuments • insufficient communication of the role of culture • long-term under-financing of employees of local cultural institutions • unwillingness to apply interministerial solutions to the issue of cultural and creative industries <p><u>Tourism and recreation</u></p> <ul style="list-style-type: none"> • insufficiently developed tourism management in regions • lack of competent workforce • varying levels of the offer and quality of services in the regions
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	<ul style="list-style-type: none"> • absence of systematic research for tourism • silo approach (tourism is a cross-cutting area that is linked to the activities of many ministries, but only the MoRD has it within its scope of competency) • Long-term under-financing of the sector and underestimation of its importance for the national economy • low quality of services in underdeveloped destinations • some parts of the Prague centre overloaded by tourism • conflicts between tourism and residents' needs in selected locations • impacts of mass tourism on the sustainability of the locations (noise, waste, environmental damage) • low quality of transport infrastructure in the destinations/regions • absence of interconnection of regional and local hiking and biking routes and paths to backbone and international routes
Opportunities	Threats
<p><u>Labour market and employment</u></p> <ul style="list-style-type: none"> • functioning system of further vocational training • using the work of students, seniors and carers, their integration into the labour market • the impact of digitization and robotics on the labour market in connection with Industry 4.0 - emergence of new jobs <p><u>Education</u></p> <ul style="list-style-type: none"> • good conditions for training in fields related to ICT • individualizing the approach to pupils, including the development of gifted pupils and students, development of the personalization of education • readiness of schools to social changes associated with the concept of Society 4.0 and Industry 4.0 <p><u>Social inclusion, combating poverty and health care</u></p> <ul style="list-style-type: none"> • increasing the availability of public services in peripheral areas to reduce depopulation • development of social entrepreneurship • increasing the staffing of social work • introducing the position of a social worker at school • increasing the availability and quality of care and services on the health and social borderline <p><u>Public administration and security</u></p> <ul style="list-style-type: none"> • friendly, client-oriented approach 	<p><u>Labour market and employment</u></p> <ul style="list-style-type: none"> • underestimation of the need for lifelong learning • the impact of digitization and robotics on the labour market in connection with Industry 4.0 - disappearance of some jobs <p><u>Education</u></p> <ul style="list-style-type: none"> • devising measures without empirical materials and a comprehensive long-term vision will not allow the necessary improvements in education to be made • absence of a modern system of education • weak methodological and systemic support of teachers, shortage of skilled workers in the labour market <p><u>Social inclusion, combating poverty and health care</u></p> <ul style="list-style-type: none"> • exodus of educated and younger inhabitants from communities in peripheral areas (internal and external peripherals), rural impoverishment and growing social exclusion • depopulation of rural areas (in peripheral areas) and concentration of the population in settlement centres and in suburban areas • lower availability and quality of health care and social services • increasing expenditure on social services and health care in connection with demographic development (while preserving the model of care provided in institutions) • lower competitiveness in innovation and an adverse impact on sustainability of the

<ul style="list-style-type: none"> • developing a central point for services • implementation of functional, territorial and administrative reforms • to increase and improve the use of tools enabling citizens to participate at both central and local levels • greater use of evidence-informed decision-making in public administration • suppression of the silo approach (e.g. through developing a new competence law), improving the management of delegated powers • strengthening the capacity to act of the IRS units, new technical and technological means / material conditions to tackle new forms of emergencies arising mainly from new threats and climate change, and to provide subsequent long-term evacuation of the population with emergency survival <p><u>Research and innovation system</u></p> <ul style="list-style-type: none"> • the use of high-quality and excellently equipped research infrastructure in the public sector for establishing international cooperation and increasing the quality and effectiveness of public research • utilizing the presence of foreign-controlled companies for the development of R&D in the segment of domestic firms (a shift in value chains) • generating innovations by improving links and cooperation between businesses and HEIs/research organisations • in the case of further enhanced quality and international dimension of research, the possibility of obtaining substantial funds for research (especially from the programme Horizon Europe) potentially exceeding the currently available resources from EU funds • greater involvement of talented students in research • advancement of research and development in the field of services and for strategic planning of regional development 	<p>pension and healthcare system as a result of population aging</p> <p><u>Public administration and security</u></p> <ul style="list-style-type: none"> • rigid system of state administration • lack of inter-ministerial cooperation • increasing citizens' distrust • shortages of skilled workers in the public sector • lack of funds to ensure further development of public administration • new forms of cyber crime and an increasing risk of cyber attacks • loss of efficiency and operability of IRS units due to their insufficient equipment / material conditions or lack of specialized equipment for ensuring population protection and public order • insufficient capacities to ensure that security forces are prepared for security threats in selected territories (terrorism, illegal migration, etc.) • worsening consequences of climate change and of new risks, and the resulting emergencies <p><u>Research and innovation system</u></p> <ul style="list-style-type: none"> • loss of competitiveness of domestic enterprises due to increasing labour costs, which will not be compensated by the development of research and innovation activities and the use of R&D achievements (by a shift to production with higher added value) • increasing dominance of foreign companies in R&D, increasing "leakage" of knowledge created by CZ workers to foreign countries and an increasing percentage of added value implemented outside CZ • complexity of the system of administration of EU funds and R&D projects financed from national and international sources • persistent (or increasing) disparities between regions will be reflected in the economic lagging behind of regions with low R&D expenditure and a "leakage" of knowledge to other CZ regions and abroad • mismatch between technological and social development • focusing only on applied research in connection with manufacturing companies • persisting low motivation for cooperation and interconnection of research organisations / HEIs with companies
Opportunities	Threats
<u>Support for businesses and industry</u>	<p><u>Support for businesses and industry</u></p> <ul style="list-style-type: none"> • stopped convergence towards Western Europe (staying in the middle-income trap)

- change in the structure, focus and parameters of direct foreign investment with higher added value
- supporting various forms of upgrading
- production flexibility and the ability to produce in small quantities
- using the ambitions of a regional leader with regard to the traditionally very good position of Czech industry and its comparison with the current European environment
- cultural and creative industries as an important sector that can help businesses to generate high added value with high export orientation
- building the options of connecting to a high speed internet
- development and improvement of the quality of services in CZ
- development of digital services and technologies usable for the public sector

Transport

- achieving a capacity-optimal network of secure infrastructure with the lowest acceptable environmental impacts
- significant improvement in the condition of roads and motorways and their accelerated construction
- using the strategic advantage of geographical proximity of major population centres of the European region also through a high-speed connection to them
- extending the vehicle sharing models (bike-sharing, car-sharing)
- development of low-emission, shared, interconnected and autonomous mobility, development of smart cities
- development of non-motorized commuting to work

Transition to a low carbon economy

- gradual decarbonization of the economy - an opportunity for technological development and innovation, including the development of smart grids and energy storage.
- using domestic secondary and renewable energy sources
- renovation and improving energy efficiency in buildings and new buildings in the passive or positive energy standard and a transit role of network industries for energy commodities in Central and Eastern Europe
- increasing the energy efficiency of technological processes in industry
- use of brownfields (landfills, former mines, etc.) for energy production from RES.

- excessive dependence on foreign direct investment in production with low added value
- specialization and creating a comparative advantage in low-tech or only in assembling high-tech
- significant dependence on price competitiveness
- shifting production from companies in CZ to companies abroad
- threat to Czech industry in the production of "catalogue goods" by foreign manufacturers
- one-sided orientation only on one national preferred sector with production intended for foreign markets
- the threat to industry and energy from climate change, especially water shortages
- prolonged and ineffective law enforcement

Transport

- deteriorating state of the transport infrastructure (maintenance and repair)
- limited construction of new transport infrastructure
- not taking advantage of the Czech Republic's position in the centre of Europe
- delaying full connection to the European transport network and the establishment of stable transit routes bypassing the Czech Republic
- an increasing share of transport in final energy consumption and increasing pollutant emissions from transport
- a failure to grasp the current and future trends in mobility
- problems with introducing ETCS in rail transport

Transition to a low carbon economy

- limited available lignite reserves and the related supply of heat to the population
- time-consuming process of building modern high-performance resource capacities as a replacement for existing sources
- a threat of failure on parts of the transmission or distribution systems
- inability to ensure safe and reliable energy supply in island operations in case of emergencies
- contamination of the landscape by numerous buildings of wind turbines and solar panels
- impacts of climate change on energy production, for example from water and biomass

Environmental protection and circular economy

- increase in the production of commodities associated with high emissions, high energy intensity

	<ul style="list-style-type: none"> • manifestations of climate change (temperature increase, drought, changes in precipitation, extreme weather events, etc.) • prioritizing fast solutions with a short overall lifetime without respect for naturally occurring natural processes • prioritization of economic interests at the expense of the environment • not utilising the synergies of natural solutions to environmental problems • unavailability of water resources in sufficient quantities throughout the year • increasing emissions of pollutants from local heating installations • over-reliance on the circular economy; a large proportion of products has a long life cycle and so far the secondary raw materials derived from waste have much higher production costs than the primary raw materials
Opportunities	Threats
<p><u>Environmental protection and circular economy</u></p> <ul style="list-style-type: none"> • synergy between restoring ecosystem functions of the landscape and creating jobs in rural areas in landscape maintenance and tourism • synergy between improving soil fertility, capture and storage of carbon from the atmosphere in the soil in the form of organic matter and the retention of water in soil • developing circular economy and increasing the proportion of recycled materials and secondary raw materials in material flows • re-use of brownfields and near-natural reclamation of parts of the landscape disrupted by mining and related activities • decontamination and reuse of sites with old environmental burdens • restoration of the retention ability of landscape • stabilization of the territory before drought and erosion • improving the efficiency and quality of home heating • reducing the share of fossil fuels in primary sources • upgrading the technologies in existing industrial installations • potential in application of zero-emission technologies utilising renewable energy sources for heating and hot water <p><u>Culture</u></p> <ul style="list-style-type: none"> • perceptible change in the use of cultural potential 	<p><u>Culture</u></p> <ul style="list-style-type: none"> • less developed competences of workers in the cultural sector • inability of systemic financing • failure to evaluate economic and society-wide benefits of culture • lack of inter-ministerial cooperation and incoherent strategies and interventions • disinterest of the sponsoring authorities in good functioning of the cultural infrastructure • outflow of talent from CZ • continuously deteriorating condition of a large part of monuments <p><u>Tourism and recreation</u></p> <ul style="list-style-type: none"> • threat of a terrorist attack • worsening consequences of climate change (especially for winter tourism, but also recreational canoeing) • lagging renewal of transport infrastructures • deteriorating accessibility of regions • Insufficient provision of funding for tourism research, monitoring and marketing • decrease in the number of arrivals to CZ due to insufficient development of the tourism offer and failure to address high attendance rates at tourism-intensive areas • depopulation of localities overcrowded by tourists due to the negative impact on the quality of life of local residents (noise, waste, price increases, unavailability of basic services) and due to insufficient management of tourism in destinations • low investment in infrastructure due to under-financing of the tourism sector • threatened competitiveness of tourism in CZ due to insufficient number of workers in tourism services

<ul style="list-style-type: none"> • inter-sectoral and inter-regional cooperation • quality protection and access to cultural heritage • building a good brand for culture • introducing regular independent evaluations of competences of cultural institutions • motivated employees of cultural institutions <p><u>Tourism and recreation</u></p> <ul style="list-style-type: none"> • persisting security situation in CZ • gradual access to repaired monuments • availability of information through new technologies • a growing importance of leisure and the demand for experiences • creating a sustainable system of financing for marketing and research of tourism • setting up sustainable visitor management in risk locations in accordance with the needs of the tangible, natural, technical heritage and in accordance with the needs of local residents • creating a financial instrument for the development of business infrastructure in tourism • development of interdisciplinary tourism products with a broader involvement of local and regional production (craft, agricultural, industrial) 	<ul style="list-style-type: none"> • decrease in the number of arrivals to CZ as a result of reduced marketing activities • high consumption of tourism businesses, including an increase in municipal waste due to a failure to apply circular economy and due to a low emphasis on the prevention of waste generation in tourism.
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1.5 Summary of main development trends in the EU and in the world⁵

EU and cohesion policy development is influenced by many factors, which clearly include so-called global megatrends in both the EU and in the world. Megatrends can be seen as processes that, in the longer term, have an impact on our thinking, activities, organization of the society, and the future reality of the world. The following megatrends have been identified as important for the further development of the EU and of the future shape of cohesion policy:

Demographic aging

An aging population puts pressure on the health and social systems, which can contribute to the weakening of economic performance due to a decline in labour force. At the same time, it is an opportunity for new types of services and employment.

Growing inequality

⁵ This is a selection of relevant megatrends further described in the document "Global megatrends for the updated Strategic Framework for Sustainable Development" issued by the Office of the Government in 2016.

Income inequality between social strata is growing. Income and other inequalities between women and men in the labour market, and in other areas, persist. Inequalities in access to education and in other areas are also increasing.

Civilization shift towards a knowledge economy

Digitization, narrow specialization and application of scientific knowledge are an essential prerequisite for further economic development.

Increasing availability of technologies

Technologies are increasingly becoming an accessible part of daily life and permeate all sectors of society.

Increasing speed of technological change

Rapidly developing technologies and their immediate penetration into society.

Virtualization of the world

More and more social activities, including work, are not carried out in conjunction with a particular physical location, but are mediated virtually.

Increasing mobility

There is an increased movement of people and goods, but it is associated with higher pressure on transport systems and a growing environmental burden.

Ecosystem degradation

Ecosystems are losing their diversity, are being overloaded or irreversibly damaged, which reduces the extent and quality of functions and services provided by ecosystems.

Climate change and its impacts

Climate change fundamentally affects not only the environment but also all economic sectors and citizens themselves, and thus the quality of life of society as a whole.

Growing consumption of resources

Dissemination of technology and economic growth has resulted in increased pressure on consumption particularly of primary sources.

Growing consumption of energy

Energy intensity of human activity is increasing with the growing wealth and population expansion.

Urbanization

Migration of people from rural to towns and their hinterlands continues, regardless of the growing negatives that come with it.

Competences for the future

In defining the aims and contents of education, we must reflect on the turbulently changing society and the fact that we are now educating people whose economic peak will come in thirty years, and we cannot even estimate now what its form will be.

These major global megatrends were reflected in the NCI from the viewpoint of the principle of sustainable development, which has to balance economic, social and environmental dimensions of competitiveness of the Czech Republic on the European and world scale. Thematically, this mainly concerns the effects of climate change, issues of energy consumption, safety and sustainability and efficient use of the shrinking reserves of non-renewable strategic resources.

2. THE EUROPEAN LEVEL

2.1. Multiannual Financial Framework

On 2 May 2018, the European Commission published a proposal for the Multiannual Financial Framework for the period 2021-2027. The budget is designed to address key priorities and policies that provide the highest European added value. Overall, the Commission is proposing for the period from 2021 to 2027 a long-term budget of EUR 1,279 billion in commitment appropriations (expressed in current prices), equivalent to 1.11% of gross national income (GNI) of the EU-27. With regard to inflation, the budget has slightly grown compared to the current budget for 2014-2020 (including the European Development Fund).

In order to finance new and urgent priorities (research and innovation, young people, digital economy, border management, security and defence), it is necessary, according to the Commission, to increase the current level of financing. The Commission also proposes creating an EU reserve. That reserve is a new powerful tool to cope with unforeseen events and to respond to emergency situations in areas such as security and migration.

The Commission proposed for cohesion policy a budget similar to the one in the current period (without the United Kingdom, however, it slightly increased by 3%). For the European Regional Development Fund (ERDF), the Commission allocated in its first proposal EUR 226 billion, for the Cohesion Fund (CF) about EUR 47 billion and for the European Social Fund (ESF) about EUR 100 billion. As general information on that, the Commission has also published on which areas the funding will be spent and how the areas will be linked to those directly managed by the European Commission.

Table: Overview of the MFF proposed for ERDF, CF and ESF+ - a comparison of the future, the current and the past period

	2007-2013 (in EUR bil.)		2014-2020 (in EUR bil.)		2021+ (in EUR bil.)	
	EU	CZ	EU	CZ	EU	CZ
ERDF	201	13.66	212	11.94	226	10.52
CF	70	8.82	75.4 (incl. a transfer to CEF)	7.23 (incl. a transfer to CEF)	47 (incl. a transfer to CEF)	6.44 (incl. a transfer to CEF)
ESF+	76	3.77	84	3.43	100	2.74
Total	347	26.12 (7.5 %)	371	22.60 (6.1 %)	373	approx. 20.01⁶

Note: All the above amounts are in current prices. The draft allocations for the post-2020 period may vary depending on the negotiations on the Multiannual Financial Framework and on the cohesion policy legislation and the associated financial aspects.

CZ has been allocated with funds amounting to 18 billion in constant prices of 2018 (i.e. 20.1 bil. in current prices), representing a drop by around 24% compared to the current period (the decrease is 13% in current prices). Furthermore, a lower rate of EU co-financing (increase in

⁶ Out of the total amount, around EUR 0.31 bil. is intended for the European Territorial Cooperation.

national co-financing) is proposed along with a reduction in advance payments from the Commission. In addition, the Commission proposes to shorten the decommitment rule by one year (the so-called $n+3$ rule) from $n+3$ to $n+2$.

The Commission also proposes two new instruments: a programme to support reforms (technical and financial support for reforms at the national level, EUR 25 billion, a standalone programme - complementary to EU funds), and the European Investment Stabilization Function (for EMU, absorbing large asymmetric macroeconomic shocks).

Besides the draft budget for cohesion policy, proposals were also published for directly managed programs, where funding has been significantly increased e.g. for programmes Erasmus+ and Horizon Europe (Erasmus - doubling the budget /to EUR 30 billion/, Horizon Europe - increasing the budget by 25% /to EUR 98 billion/).

The decision on the future long-term EU budget will then be made by the Council that will decide unanimously after obtaining the consent of the European Parliament. The original intention of the Commission to reach agreement still before the European Parliament elections and the summit in Sibiu on 9 May in 2019 was not achieved, however. At the December 2018 European Council, Member States' leaders set an objective to reach an agreement on the MFF in autumn 2019 so that implementation can begin in due time. Based on the Council meeting in June 2019, that objective was postponed to the end of 2019, but even that deadline may not be final.

2.2. Draft regulation for EU funds

On 29 May 2018, the European Commission published a legislative and non-legislative package of regulations for the cohesion policy:

- 29 May 2018 a package for ERDF, CF and the General Regulation overarching newly a total of 7 EU funds.
- 30 May 2018 a package for the ESF+, Erasmus and other programmes in the field of culture and solidarity,
- 31 May 2018 e.g. for the Reform Support Programme etc.,
- in June 2018 for other areas, e.g. research and innovation or migration.

The General Regulation newly covers more funds - AMIF (Asylum, Migration and Integration Fund), ISF (Internal Security Fund) and BMVI (Border Management and Visa Instrument). On the contrary, the European Agricultural Fund for Rural Development (EAFRD) has been separated.

Furthermore, five policy objectives have been defined (i.e. a reduction compared to 11 thematic objectives in 2014-2020):

- *PO1 - A Smarter Europe supporting innovative and smart economic transformation;*
- *PO2 - A greener, low-carbon and resilient Europe by promoting a clean and fair transformation of energy, green and blue investments, circular economy, climate change adaptation and risk prevention and management;*
- *PO3 - A more connected Europe through increased mobility and regional ICT connectivity;*
- *PO4 - A more social Europe through implementation of the European pillar of social rights;*
- *PO5 - A Europe closer to citizens by fostering the sustainable and integrated development of urban, rural and coastal areas and local initiatives.*

The proposals, however, contain several rules of **thematic concentration**⁷ - the Czech Republic must spend **45%** of the total ERDF allocation on **Objective 1**, **30%** of the ERDF allocation on **Objective 2**, and 25% of the total national allocation on climate; the ESF+ also has some rules - 2 % of the allocation must be spent on addressing material deprivation of the poorest persons, and at least a quarter of the ESF+ funds on social inclusion. Urban development is then allocated with 6% of the total ERDF allocation. The Regulation also includes minimum shares for technical assistance. Mandatory shares are set for categories of regions and funds.

The Commission also suggests the possibility of certain transfers of funds: (1) at the beginning of the programming period, for example the possibility of transferring a part of the allocation between categories of regions, or transferring to InvestEU, or (2) during the programming period where it will be possible to transfer a certain amount of the programme allocation from any Fund to any Fund under shared management, or to an instrument under direct or indirect management, or it will be possible to transfer a certain percentage of the original allocation for a priority to another priority within the programme without the Commission's approval, while maintaining the Fund and the category of regions.

Nevertheless, CZ advocates in the negotiations greater freedom/flexibility in the use of funding, i.e. a higher percentage for its transfers between funds / categories of regions, which would give CZ more room for manoeuvre throughout the implementation (also because it cannot be estimated in advance how the economy will behave, whether the demand for the intervention areas will be as high as initially intended, etc.). As the five policy objectives mentioned do not include some of the thematic (sub)areas of the NCI (e.g. public administration), CZ seeks to negotiate a thematic extension of these policy objectives defined in the draft regulation for EU funds.

In the current programming period 2014-2020, all CZ regions (except Prague) fell into the category of less developed regions, i.e. with GDP per capita up to 75% of the EU average. However, due to the good economic performance of CZ and its regions, for the future programming period 2021-2027 some of the regions will move into the category of so-called transition regions that have the average GDP per capita between 75% and 100% of the EU average.

As shown in the table below, the Moravia-Silesia and Northeast regions are gradually converging towards the EU average, but remain below 75% of the EU27 average. Thus, for the period 2021-2027, they will remain **less developed regions** with a European co-financing rate (as proposed by the Commission) of 70%, as will the Northwest and Central Moravia regions. Prague remains a so-called **more developed region** with a European co-financing rate of 40%. The other transition regions have a proposed European co-financing rate of 55%.

Table: GDP per capita in relation to the EU27 average in the Czech NUTS II regions and in CZ in the period 2014 to 2017

GDP/cap. of EU27 average (PPS,%)	2014	2015	2016	2017	2014-2016	2015-2017
EU27	100	100	100	100	100,0	100,0

⁷ The status of these rules and their ratios is valid at the time of the update of the NCI, i.e. as of June 2019.

Czech Republic	87	88	88	90	87.7	88.7
Prague	177	185	185	189	182.3	186.3
Central Bohemia	80	79	82	84	80.3	81.7
Southwest	78	77	78	78	77.7	77.7
Northwest	64	65	63	64	64.0	64.0
Northeast	72	72	73	76	72.3	73.7
Southeast	82	82	82	82	82.0	82.0
Central Moravia	72	72	72	74	72.0	72.7
Moravia-Silesia	73	73	73	74	73.0	73.3

Source: Eurostat. Note: the draft Commission Regulation is based on the three-year average of EU countries from 2014-2016 according to Eurostat.

3. THE PROPOSAL PART

3.1. Background

Alongside the emphasis on the macroeconomic relationship between the state of the Czech economy and the contribution to its overall improvement through the use of European funds, a total of 11 thematic areas have been defined, which should be at the centre of attention in the preparation of national objectives in relation to the European Structural Funds.

In preparation of the Proposal Part, cards were prepared for each of the thematic sub-areas (in total 43 cards) in cooperation with expert supervisors from the ministries. The cards focused on key problems in the above-mentioned 11 thematic areas. The cards and their content were further discussed with the territorial, social and other partners at relevant platforms of the Ministry of Regional Development (Expert Group for Strategic Work, work team of the Council of Economic and Social Agreement, Interregional Working Group, the Expert Advisory Group for the future of cohesion policy, etc.). The purpose of the thematic sub-area cards was to specify the particular issues with respect to 1) consistency of goals in the sub-area with problems that the sub-area is to address under the future support; 2) the effectiveness of existing support; 3) identification of progress against the current period, or description of how the sub-area responds to new challenges.

Based on the NCI Analysis, the following national specific objectives were selected and elaborated in cooperation with the expert supervisors:

Labour market and employment

- Increasing the participation of disadvantaged groups in the labour market
- Modernization of labour market institutions
- Promoting equality of women and men and reconciling work and private life
- A functioning system of further vocational training
- Promotion and use of labour mobility

Education

- Improving the education system with regard to modern competences and labour market needs, including with regard to the digitization of industry and society
- Ensuring equal access to education
- Increasing the skills and quality of staff in education

Social inclusion, combating poverty and health care

- Social inclusion
- Social housing
- Client-oriented social services
- Quality and accessible health care

Public administration and security

- Streamlining public administration to provide quality services
- Population protection
- Computerisation of public administration and deploying the related infrastructure
- Effective security of public administration information and communication systems, including the IRS components, and adequate response to growing cyber threats
- Digitization of spatial planning (computerisation and digitization of building law agendas)

Research and innovation system

- Improvement of strategic R&D&I management
- Promoting innovation through applied research and experimental development
- Development of facilities for quality and relevant research

Support for businesses and industry

- Improving the innovative capability of SMEs
- Increasing the added value of products and services in the production chain
- Introduction of the principles of digital economy and Industry 4.0 in companies

Transport

- Development and improvement of transport infrastructure
- Developing and improving the integration of transport
- Introducing modern technologies for the organization of transport and reducing traffic burden
- Effective use of multimodal freight transport
- Increasing the availability and use of alternative fuels in transport
- Using alternative fuel vehicles in public transport
- Development of non-motorized transport

Transition to a low carbon economy

- Modernizing and streamlining the production, transmission, transportation, distribution and storage of energy
- Introducing modern and highly efficient methods of production, distribution and storage of heat energy.
- Supporting the emergence and deployment of innovative low-carbon technologies and the efficient and thrifty use of renewable energy sources
- Increasing energy efficiency and energy savings

Environmental protection and circular economy

- Nature protection and landscape conservation
- Protection and improvement of the status of water and of water management
- Improving air quality
- Circular economy, waste and resource efficiency
- Rehabilitation of environmental burden sites and revitalization of brownfields and near-natural reclamation of parts of the landscape disrupted by mining and related activities
- Creating facilities for education for sustainable development
- Improving public spaces and developing green infrastructure

Culture

- Protection, development and promotion of cultural heritage

Tourism and recreation

- Sustainable tourism

3.2. The vision and structure of the objectives

3.2.1. Vision

The vision is based on the analytical part of the NCI, as well as on the overarching document CZ 2030, which the analytical part of the NCI drew on in its general part.

CZ is a cohesive society of the 21st century, with the economy competitive in both the European and global context, which ensures a high quality of life, minimizes the economic and social inequalities, respects the natural and territorial limits and successfully adapts to global changes.

3.2.2. Global objective

The key aspect of the NCI global objective is sustainable development of CZ and all of its regions in the context of major global changes that inevitably have also a territorial impact.

Sustainable development of the Czech Republic and its regions through adaptation of the society to key European and global changes, leaning on innovation, research, development and digitization as the main prerequisites for development, and minimizing structural, social and environmental disparities.

3.2.3. Priorities

Based on the analytical part of the NCI and taking into account the overarching document CZ 2030, five priorities have been formulated for development that can be most effectively assisted by the EU funds.

These priorities are:

<i>Low-carbon economy and environmental responsibility</i>
<i>Development of the economy based on research, innovation and application of new technologies</i>
<i>Educated and socially cohesive society</i>
<i>Accessibility and mobility</i>
<i>Sustainable development of the territory</i>

The above priorities also correspond well with the objectives set by the EU for cohesion policy, as these will define the focus of EU investment in the period 2021-2027, and that will facilitate the future settings and negotiation for CZ.

Each of the priorities was subsequently transformed **into a strategic objective** and further **developed to the level of specific objectives which correspond to the individual thematic sub-areas** as they were drawn up on the cards of sub-areas linked to the analytical part of NCI.

Table: Breakdown of NCI objectives

VISION				
<i>CZ is a cohesive society of the 21st century, with the economy competitive in both the European and global context, which ensures a high quality of life, minimizes the economic and social inequalities, respects the natural and territorial limits and successfully adapts to global changes.</i>				
GLOBAL OBJECTIVE				
Sustainable development of the Czech Republic and its regions through adaptation of the society to key European and global changes, leaning on innovation, research, development and digitization as the main prerequisites for development, and minimizing structural, social and environmental disparities.				
PRIORITIES				
Low-carbon economy and environmental responsibility	Development based on research, innovation and application of new technologies	Educated and socially cohesive society	Accessibility and mobility	Sustainable development of the territory
STRATEGIC OBJECTIVES				
Improving the quality of the environment, introducing low-carbon economy and adapting to climate change	A research and innovation system enhancing the competitiveness of the society in the context of technological change	Competitive and cohesive society	Effective, affordable and environmentally friendly transport	Sustainable and integrated development of urban and rural areas
SPECIFIC OBJECTIVES				

<ul style="list-style-type: none"> • Nature protection and landscape conservation • Improving air quality • Protection and improvement of the status of water and of water management • Reclamation of sites with environmental burdens and revitalization of brownfields • Creating facilities for education for sustainable development • Introducing the principles of circular economy and resource efficiency • Modernizing and streamlining the production, transmission, transportation, distribution and storage of energy • Increasing energy efficiency and energy savings • Deployment of innovative low-carbon technologies, and efficient and thrifty use of RES. • Introducing modern and highly efficient methods of production, distribution and 	<ul style="list-style-type: none"> • Development of facilities for quality and relevant research • Promoting innovation through applied research and experimental development • Improvement of strategic R&D&I management • Improving the innovative capability of SMEs • Increasing the added value of products and services in the production chain • Introduction of the principles of digital economy and Industry 4.0 in companies • Effective security of public administration information systems and adequate response to growing cyber threats • Computerisation of public administration and deploying the related infrastructure • Digitization of spatial planning • Population protection 	<ul style="list-style-type: none"> • Streamlining public administration to provide quality services • Increasing the participation of disadvantaged groups in the labour market • Modernization of labour market institutions • Promoting equality of women and men and reconciling work and private life • A functioning system of further vocational training • Promotion and use of labour mobility • Improving the education system outcomes with regard to modern competences and labour market needs, including with regard to the digitization of industry and society • Ensuring equal access to education • Increasing the skills and quality of staff in education • Social inclusion • Social housing • Client-oriented social services • Quality and accessible health care 	<ul style="list-style-type: none"> • Development and improvement of transport infrastructure • Developing and improving the integration of transport • Introducing modern technologies for the organization of transport and reducing traffic burden • Effective use of multimodal freight transport • Increasing the availability and use of alternative fuels in transport • Using alternative fuel vehicles in public transport 	<ul style="list-style-type: none"> • Protection, development and promotion of cultural heritage • Improving public spaces and developing green infrastructure • Sustainable tourism • Development of non-motorized transport
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storage of heat energy.				
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Note: each specific objective is further elaborated in the specific objective cards attached to this document.

3.3. Relationship of NCI specific objectives to cross-cutting areas

The cross-cutting areas concern fundamental topics affecting the future of CZ, and they must be reflected in most thematic areas or NCI specific objectives. Society 4.0 is associated with a revolutionary digitization of the working environment leading to fundamental changes in the economy, which will impact the labour market and place increased demands on educational attainment and critical thinking. Climate change has major implications for farming conditions as well as water availability or quality of life in cities. The territorial dimension is particularly specific where there are substantial regional differences and it is agreed that they need to be eliminated specifically with regard to the character of the individual territories.

The general cross-cutting principles also include the application of horizontal principles such as respect for human rights or gender equality in the implementation of all relevant thematic measures contained in this document and in all related policies of the various ministries.

3.3.1. Society 4.0

The cross-cutting theme Society 4.0 is a fundamental parameter that is very likely to determine, in the first place, the future development of the business sector (in CZ this is especially fundamental issue, as the economy is heavily dependent on a robustly extensive labour force involvement in the production process which is, in addition, above-average energy intensive; both of these characteristics can lead, as the revolution 4.0 evolves, to far more severe impacts both on the performance of the domestic economy and its competitiveness and, in the second place, on the labour market and the social climate in the country.

Areas of high relevance:

Support for digital connectivity (ultra-high capacity electronic communications networks): providing a 100 Mbps network for all consumers, which can be increased to 1 Gbps; and providing the most important socio-economic actors, such as public service providers, heavily digitized businesses, major transport hubs, traffic routes, financial institutions, hospitals, education and research institutions with networks of at least 1 Gbps and in the long-term horizon with 100 Gbps. Priorities include the deployment of an optical backbone infrastructure, competition encouraging investment and high quality end-user experience. Another theme is coverage of the territory with base stations for 5th generation mobile networks. Digital connectivity is a precondition for transforming the existing and for developing new public services.

Entrepreneurship: revolution 4.0 will primarily and naturally appear precisely in this area. The subject of support should be, in particular, domestic innovative and creative enterprises, both those expected to achieve a state of excellence (to succeed in international competition) and those heading for smart specialization (national and regional competitiveness).

Labour market and employment: a systemic qualitative change will be crucial, where existing work will not only be massively replaced by robots, automatic machines or virtual systems, but entirely new jobs will be created. This will have significant impacts on the employment structure and will also lead to a short-term (medium-term) massive increase in unemployment. This expected increase in unemployment can be addressed well in advance in the field of education and retraining. Digitization will also be used in the implementation of active policy tools adapted

to new requirements, incl. the use of smart technologies and smart applications in contact with clients as well as in the internal work of labour offices.

Education: the digitisation of society is not only about technical knowledge, but above all about the key competences of being able to use the gained knowledge and information practically. In addition to digital skills teaching, digitization will also be used to deepen the qualifications of teachers and also as a didactic method in teaching all other fields.

Other relevant areas:

Research and innovation system: within the 4.0 process, the system will require materialization and capitalization of activities in relation to the problems addressed within the different sectoral areas. Support will be directed towards developing research capacities and improving R&D in the fields related to Industry 4.0 and to the Strategy for Smart Specialization, and in the field of digital technologies.

Transport: the content of what we call the development and construction of transport infrastructure is fundamentally changing. The only criterion is no longer just increasing the number of passengers or freight carried, but logistics, traffic optimization, interlinking of transport modes and safety.

Public administration: sharing and protecting information is an important part of the theme. The effect of that is reduced administration and bureaucracy, allowing people to engage in more creative activities and improving the quality of services provided by public administrations to citizens and businesses.

Other areas and their relationship to Society 4.0:

Transition to a low carbon economy: Society 4.0 has a direct impact on the modernization and development of the power transmission and distribution system, its connection to new and volatile sources (especially RES), energy storage, metering and flow management.

Environmental protection and circular economy: Minimizing and preventing waste generation requires various smart solutions and elements and a reliable information system for internal operations and coordination of actors. The same solution cannot be used everywhere.

Social inclusion: The theme of social inclusion is an indirect consequence of the changes brought about by the 4.0 process in the labour market. A very important parameter is targeted training and education with an objective emphasis on the benefits as well as the complicating impacts and obstacles.

Culture: The 4.0 process makes a vital contribution to the protection of cultural heritage and popularization of culture; it can be also utilised in synergies with tourism and the educational process.

Tourism: It is important to apply modern technologies and innovation and sustainability in all areas of tourism (e.g. in developing the offer, creating tourism products, destination management activities, attendance control, awareness raising and interpretation, marketing and promotion). Cohesion policy should primarily support areas pursuing public interest in the first place.

Improvement of public spaces: This is a very important theme, especially for the Czech Republic where the growing wealth does not reflect proportionately in the the increased quality of public space. There is a need to qualitatively upgrade public spaces.

3.3.2. Climate change adaptation

This cross-cutting theme is accentuated by the urgent need to prevent the deepening of climate change as well as to manage the inevitable adaptation. The impacts of climate change affect the entire planet, including Europe and the Czech Republic. This theme is discussed in more detail in the Strategy on Adaptation to Climate Change in the Czech Republic from 2015, which

identifies 10 priority areas on which this change has a major impact: 1/ forest management, 2/ agriculture, 3/ landscape water regime and water management, 4/ urbanized landscape, 5/ biodiversity and ecosystem services, 6/ health and hygiene, 7/ tourism, 8/ transport, 9/ industry and energy, 10/ emergencies.

Areas of high relevance:

Environmental protection and circular economy: the most extensive in relation to climate change adaptation is SO Nature protection and landscape conservation. A high priority especially as regards water management and aquatic ecosystem in CZ (which is itself a cross-cutting theme) is in SO Protection and improvement of the status of water and of water management. The revitalization of brownfields is particularly important in the context of reducing land grabbing in favour of built-up areas. Substitution of primary raw materials with secondary raw materials and thus reducing the energy intensity of production is also important. The theme of education for sustainable development is relevant in view of the need to raise awareness of the impact of and adaptation to climate change.

Research and innovation system: is linked to the issues of climate change adaptation through the need for comprehensive solutions that take into account all the contexts of climate change, and therefore is of long-term importance in this respect.

Public administration: the topic of population protection is also linked to the system of early warning and prevention of the impacts of extreme climatic phenomena and effective management of emergencies resulting from climate change. In this context, it is necessary to support the development and strengthening of IRS, an increased protection of critical infrastructure and an increased environmental security.

Tourism: the theme of sustainable tourism is influenced by the transformation of seasonal tourism, especially in mountain and foothill areas. At the same time, this theme emphasizes the need to adapt tourism services to trends in water management. Furthermore, this theme addresses the issue of preserving the potential and managing the attendance in overexposed tourism places.

Public spaces: the theme of quality and function of public spaces is linked to the preparedness of urbanized areas (settlement landscape) for climate change, which includes in particular sustainable water management, functional interconnection of the spaces with prevailing natural components forming a system of residential greenery, but also relates to increasing the passive (or energy gain) standard of new buildings and renovations.

Of course, adaptation to climate change also relates to areas that have a direct contribution to climate change as such: **Environmental protection and circular economy, Transition to a low carbon economy, Transport and Support for businesses and industry.**

3.3.3.Territorial dimension

The territorial dimension (TD) is one of the basic dimensions not only of cohesion policy but of all EU policies as they are always implemented in a specific territory and for a specific population and have either a direct or an indirect impact on them.

Particular attention should be paid to 'border' areas of administrative territories (e.g. regions), which often show characteristics of economically weak regions. For the development of remote parts of regions and small municipalities, the future solution and the current challenge may be the remote use of services using digital technologies (see Society 4.0).

The NCI SOs with the highest territorial impact (dimension) are those under the **Sustainable Development** priority:

Of them, the highest impact is made by SO *Improving public spaces and developing green infrastructure*. The quality of public spaces in all types of municipalities creates a basic environment that affects their development potential. (For example, this is ranked when placing businesses with higher added value.) However, both *culture and cultural heritage* on one hand, and *tourism and the development of non-motorized transport* on the other hand, **have a very high relevance** and benefit for TD.

NCI SOs with the highest territorial impacts also include those under the priority **Accessibility and Mobility**:

Transport infrastructure, public transport service, transport integration, multimodality, increasing the use of alternative fuels and the use of vehicles with alternative propulsion need to be implemented on the basis of local conditions. Local authorities and relevant territorial actors need to be involved in the implementation of these specific objectives so that the solutions proposed are smart, taking into account local potential and context. Furthermore, all these SOs have a direct impact on the development potential of the given territory and on maintaining life in rural and disadvantaged, economically weaker areas.

Other important areas:

Under the NCI priority **Low-carbon economy and environmental responsibility**:

The protection of the **landscape and nature**, which has its own territorial dimension, is largely managed by local authorities or directly owned by municipalities and private local actors, and the quality and level of the protection also determines the development directions of the territory.

Air quality: also has a high relevance as regards local polluters. Particular attention should be paid to district heating companies and firms recovering energy from waste, which are often wholly or partly owned by municipalities.

Water quality and availability: local authorities are in CZ the majority owners of water management assets and interventions in this area should serve these authorities as well as any other owners or operators of water management property to ensure the best technical and financial solution for the end customer.

Brownfields: are often located in the centres of municipalities and it is much more convenient to transform them, for example, into housing sites, than to return them to their original function.

Education for Sustainable Development: should be directed not only towards sustainable development; education must be seen as one of the basic factors ensuring the continuity of development of small towns and rural areas, which will become more important with the future demands of Society 4.0.

While the **circular economy** is a general national objective, municipalities are legally responsible for waste management and therefore local conditions and the availability of technologies have a significant impact on the way of implementation.

From the point of view of TD, **low-carbon technologies** mainly concern urban and regional public transport, but also other services provided in the territory not only by public entities. In terms of **heat production and accumulation**, it is necessary, from the TD point of view, to pay particular attention to district heating and distribution companies co-owned by municipalities (see linkage with **air quality and electricity generation**).

Other areas and their relationship to territorial dimension:

Within the NCI priority **Development based on research, innovation and application of new technologies**, TD is important mainly because it has a direct impact on **increasing the development potential of the territory**, its attractiveness, quality and development of the workforce in the location. On the contrary, **information and communications systems of public administration** should be addressed as uniformly as possible from the national level.

Within the NCI priority **An educated and socially cohesive society**, a high relevance belongs to **streamlining and digitizing public services**, including those provided by public administration, as many services and systems are operated by local and regional authorities and other territorial actors.

The labour market and employment is particularly relevant in the participation of disadvantaged groups in the labour market, which depends on the economic conditions of each territory, local employment opportunities, training and retraining capacities, etc. **Vocational education** needs to be carried out depending on the needs in the given territory and local educational capacities (secondary and vocational education is almost exclusively within the competence of the regions). **Labour mobility** is a matter that is technically (mostly negatively) borne almost exclusively by the territorial authorities and especially municipalities, whether it concerns housing issues or public transport service. The **education system** needs to be developed with regard to local conditions and potential.

Social housing is entirely territorial both from the point of view of needs and implementation. **Social services and health care** must be addressed mainly from the TD point of view, due to the set competencies of local and regional authorities and to completely different conditions in individual territories, including situations on the borders of the administrative districts. On the contrary, the issue of **ensuring equal access to education** should be addressed comprehensively at national level.

3.4. Relationship of NCI specific objectives to the European Semester process

In the period 2021-2027, cohesion policy will be much more closely linked to the European Semester which aims to contribute to ensuring convergence and stability in the EU, contribute to ensuring sound public finances, boost economic growth and prevent excessive macroeconomic imbalances in the EU. Every year, the EU Council issues country-specific recommendations (CSRs), assessing and commenting on the progress made and other necessary steps contributing to the achievement of the European Semester objectives. It also identifies areas to be addressed in the current year in the context of the European Semester.

As every year, the European Commission published the 2019 Country Report on the Czech Republic (hereinafter referred to as "CR") and subsequently, on 5 June 2019, the Country-Specific Recommendations, where it assesses the economic and social situation in CZ. This year's CR focuses strongly on investment. Especially in Annex D, which describes the main investment needs of CZ from the Commission's perspective. For the Commission, the annex represents an analytical basis for negotiations with CZ on the European funds for the period 2021-2027. The annex contains 43 investment proposals relating to cohesion policy. These investment proposals are likely to be largely transformed into Country-Specific Recommendations (issued by the Council in June 2019). The proposals are divided into three levels of intensity of needs as (i) high priority needs, (ii) intensive needs and (iii) needs. **The Annex covers 10 out of the 12 thematic priorities of cohesion policy defined in the NCI.**

In addition, CZ intends to provide financial support towards **culture, tourism, population protection and public administration** in the next period, which are **not covered by the Report in such an extent**, while culture and disaster resilience and risk management, at least within the specific objectives, are set out in the ERDF Regulation. However, it must be said that tourism is perceived as a tool for implementing cohesion policy goals rather than as a separate priority. The issues of **quality of public administration** (excluding its computerisation), **cyber security and population protection** (in its entirety) are not explicitly mentioned.

The CR sees 29 needs as of high priority (category 1), falling into the thematic groups (i) competitiveness, research and innovation, (ii) digitization, automation and smart specialization, and (iii) low-carbon resource-efficient economy; (iv) transport and transport infrastructure; and (v) equality of access to education, addressing local inequalities in education and its links to the labour market and excellence in tertiary education and (vi) the labour market. The corresponding specific objectives and areas within the NCI are also perceived as highly important, based on the results of the prioritization, especially the areas of environmental protection, education, research, development and innovation and entrepreneurship. On the contrary, although the Commission does not perceive the area of public administration as a priority, this area, especially the specific objective of Streamlining Public Administration for Providing Quality Services, is perceived by CZ as a priority based on the results of the prioritization.

The consistency between the CR guidelines and the results of the prioritization in terms of policy objectives 1 (Smarter Europe) and 2 (Greener, low carbon Europe) of the draft general regulation is probably due to both the importance of the topics and the more rigid link between the European and national norms and strategies and the clearly defined objectives for the future period in areas such as environmental protection, circular economy or energy savings.

The intensive needs (Category 2) include themes such as transport (investments to create a sustainable, intelligent, safe and intermodal trans-European transport network resistant to climate change, alternative propulsion, suburban transport), removing environmental burdens, developing green infrastructure in the urban environment, computerisation of public administration, support for a coordinated approach in social inclusion and deinstitutionalization in social and health services. While in terms of prioritization and of the relevant strategies, CZ is unanimous on the issue of deinstitutionalization; on the issue of a coordinated approach, it diverges from the CR and, in the future, on the basis of negative experience, it is considering abandoning the Coordinated Approach to Socially Excluded Sites (CASEL).

The Commission sees the least crucial needs (category 3) in the **area of modernizing the Internet infrastructure, and the integrated territorial development of more remote rural areas**, while CZ considers both these areas to be **a priority**.

In the area of policy objective 5, the CR recommendations do not correspond to any NCI specific objectives or thematic areas. However, there is a link to cross-cutting areas, in particular to the cross-cutting area of territorial dimension, which is described in the thematic card of each specific objective. The recommendations in Objective 5 (Europe closer to citizens) are therefore fulfilled through the cross-cutting theme of territorial dimension, and specifically through implementation of integrated instruments and other territory-specific approaches - the Re:start programme, targeted calls, etc. These tools will be further specified in the various operational programmes. Strategic goals in the area of regional development are addressed in particular by the Regional Development Strategy for the period 2020 - 2027; goals for the Cohesion Policy are being prepared in the National Document on Territorial Dimension.

A detailed overview of the links between the recommendations arising from Annex D to the Country Report and the specific objectives and thematic areas of the NCI is provided in Annex 4 Relationship of NCI specific objectives to the European Semester process.

3.5. Prioritization

After finalizing the analytical part and its approval by the Government Council for the ESI Funds in July 2018, prioritization was prepared according to established criteria, the procedure and rules for prioritization were also approved by the Government Council for ESI Funds (after consultation with members of the Council of Economic and Social Agreement Working Team, the Expert Advisory Group for the Future of Cohesion Policy and P-Council).

The prioritization was carried out in two phases. In the first phase (August-September 2018), the readiness of the various thematic areas and their sub-areas for funding from the EU funds after 2020 was evaluated. Evaluation was made of key aspects such as a clear definition of the strategic direction of investments, evaluation of the progress in a given area or the estimated absorption capacity and potential absorption barriers. The goal of Phase 1 was to create an argument basis for the negotiation position of CZ in the area of cohesion policy.

In Phase 2, which took place at the end of March and beginning of April 2019, the themes were renamed to specific objectives and re-evaluated on the basis of information newly added to the cards. At the same time, new criteria were added, namely the link to the policy objectives based on the draft general regulation and to the specific objectives based on the draft regulations for the individual funds, as well as a link to the investment recommendations of the Council contained in Annex D to the Country Report Czech Republic. At the same time, the European added value criterion was removed. To make the process more objective, more evaluators took part in the second phase (at least five, of that two from the materially competent ministry) and their individual evaluations were followed by group meetings of the evaluators to correct any extreme deviations of the evaluations. The results of the prioritization will be used for the preparation of the Partnership Agreement and operational programmes (in both cases built on the intervention logic principles).

The main prioritization criteria were based in both phases on the underlying intervention logic and include the importance of the area, the link to strategies, the expected benefits, absorption capacity, including the preparedness and interest of beneficiaries, and existence or non-existence of alternative sources of funding (state budget, financial instruments directly managed programmes).

The basis for the evaluation were the cards of the individual specific objectives drawn up in the analytical part of NCI, information on existing or newly planned strategic documents of ministries for the period after 2020, the global megatrends, sustainable development goals of the United Nations, national and sectoral analytical and expert source documents.

3.6. Evaluation results by area

The prioritization was not intended to exclude some specific objectives and priorities from future support or to set the order of importance among the thematic areas. The aim is to identify strengths, weaknesses and barriers where problematic aspects need to be addressed in such a way that cohesion policy implementation risks are eliminated or reduced as much as possible in the future period. The evaluation incl. the scoring should be perceived within the individual areas and across the areas already bearing in mind that the comparison may not be entirely objective as, for example, ESF+ support is not in its nature identical with an ERDF investment.

The results can thus be used by the managing authorities in the preparation of their operational programmes and in setting their intervention logic, and by the NCA in the preparation of the Partnership Agreement.

The specific objectives of the NCI were evaluated against six criteria, each of which consisted of several evaluation statements focusing on:

1. Importance: urgency of the problem for CZ, linkage to megatrends, linkage to the territorial dimension, Society 4.0 and climate change, linkage to the Country Report recommendations, fulfilment of the policy objectives of the draft general regulation.
2. Strategies: the existence of a post-2020 strategy paper, including an analysis, relevant objectives and an implementation and monitoring framework.
3. Goals: a definition of outputs, results and impacts to achieve the required change, the expected share of EU funds to deliver the objective, the material shift of interventions compared to the current period.
4. Advancement: efficiency and effectiveness of the intervention, multiplier and synergistic effects.
5. Absorption capacity: absorption in the current period, preparedness of the project plans for the 2020+ period, demand from beneficiaries, existence of barriers to the support and measures to eliminate them.
6. Alternative sources: possibility to support the specific objective from EU programmes, CZ public budgets or other sources, possibility to use financial instruments or market sources.

The maximum values and averages given in the tables refer to the overall assessment of all areas.

3.6.1. Environmental protection and circular economy

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Environmental protection and circular economy	85.3	24.1	16.5	10.1	8.6	16.6	9.5
Improving air quality	91.7	27.6	16.8	11.3	8.3	18.8	8.9
Nature protection and landscape conservation	87.5	25.4	18.0	10.2	8.5	15.2	10.1
Protection and improvement of the status of water and of water management	86.6	26.1	17.1	9.2	8.8	16.6	8.8
Circular economy, waste and resource efficiency	84.6	25.3	16.2	9.9	8.7	16.0	8.5
Reclamation of sites with environmental burdens and revitalization of	83.8	23.1	15.5	9.3	8.8	17.7	9.4

brownfields							
Creating facilities for education for sustainable development	77.9	17.3	15.6	10.5	8.3	15.1	11.1

The highest rated SO is *Improving air quality* (above average in all 6 criteria), followed with a certain gap by SO *Nature protection and landscape conservation* and SO *Protection and improvement of the status of water and of water management*. The above objectives hold the top positions even in the ranking of all SOs. *Circular economy, waste and resource efficiency* is also highly evaluated. The worst-rated SO is *Creating facilities for education for sustainable development*, which is still just above the evaluation average of all SOs.

The various SOs differ considerably in terms of importance. *Improving air quality* and *Protection and improvement of the status of water and of water management* are again well above average, closely followed by *Nature protection and landscape conservation* and *Circular economy and resource efficiency*. In particular, these objectives have a clear link to the key themes of sustainable development, megatrends, cross-cutting themes and objectives of the Commission's General Regulation proposal. The territorial dimension is strongly represented in them too. Average values are achieved by environmental burdens and brownfields, below-average values are held by education for sustainable development, which is due to the weak territorial dimension, rather unclear links to the Country Report and the relatively slightly lower score in sustainable development compared to the other specific objectives of the area.

In the absorption capacity criterion, SO *Improving air quality* is leading again, the absorption capacity is seen as highly above average in SO *Reclamation of environmental burdens and revitalization of brownfields*, in both cases this is due to the interest from beneficiaries to date and the good absorption. Barriers are less serious and are being continuously eliminated. The biggest obstacle is the reduction of aid for large enterprises.

In terms of the strategies, the highest rank was given to *Nature protection and landscape conservation*, which is due to the elaboration of the EU Biodiversity Strategy and the Strategic Plan for Biodiversity as well as the internationally binding Convention on Biological Diversity. *Protection and improvement of the status of water and of water management* and *Improving air quality* are also highly evaluated. The lowest rank in the area, although still slightly above average, was given to objective *Remediation of sites with environmental burdens and revitalization of brownfields*.

Surprisingly, all SOs have above-average values in the criterion of alternative sources, probably because other sources cannot be used to the full extent of the specific objective or the volume of funds does not meet the needs. Therefore, the need for EU funds in this criterion was assessed as high, which correlates with the requirements of thematic concentration of funds in PO 2 in the draft general regulation.

3.6.2. Improving public spaces and developing green infrastructure

	Total	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources
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	(max 100, ø 76.9)						(max 12, ø 8.4)
Improving public spaces and developing green infrastructure	77.0	21.1	15.0	9.8	8.1	14.3	8.8

Public spaces are part of the basic communication network of the settlement structure and are used by all citizens regardless of their economic status. At the same time, in times of climate change, this infrastructure of public spaces is required to meet great demands in terms of "green" functions - air, microclimate, water absorption and retention, biocorridors.

In particular due to the reference to climate strategies, this SO has received a relatively high ranking, which would not have been the case if the theme involved only to the simple renewal of public spaces. The link to climate solutions and the architectural quality of public spaces adds value to its utility and benefit to the quality of life of the population, especially in urban settlements, where the availability of green public spaces is minimal compared to rural settlements. Since public spaces are in the vast majority owned and managed by municipalities, or regional governments, it can also be assumed that the resources for their regeneration lie in their budgets. The renewal of utilities is always accompanied by regeneration of the surface, therefore municipalities have projects prepared for their renewal on an ongoing basis, the projects only need to be adjusted to take into account climatic and green measures, water retention etc. The absorption capacity is thus medium, depending on the timely notification of the framework conditions to the local authorities. It is therefore necessary to focus on an information campaign for municipalities on improving the quality of the environment through the quality of public spaces and the green/blue infrastructure network in towns and villages. The campaign may also address administrators of the state and regional road transport infrastructure (Road Management Directorate, regional authorities).

3.6.3. Education

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Education	80.9	23.2	13.0	9.9	8.5	16.3	10.0
Ensuring equal access to education	81.6	23.1	13.1	9.9	8.5	16.5	10.5

Improving the education system with regard to modern competences and labour market needs, with regard, inter alia, to digitization of industry and society	80.6	23.8	12.6	9.5	8.3	16.9	9.6
Increasing the competences and quality of workers in education	80.4	22.7	13.1	10.2	8.8	15.7	9.9

The evaluation shows that this is a very compact area. All three specific objectives are interrelated and have also received very similar scores in the different criteria, which indicates a systematic approach of the expert supervisor, the Ministry of Education, Youth and Sports. Specific objectives in the field of education show a high importance, strong linkage to cross-cutting themes, high expected benefits and synergies as well as high absorption capacity. No significant absorption barriers were identified.

Given the overall current demands of education on the state budget (inter alia, increase in the salaries of teaching staff), the financing of the stated objectives and the related measures does not have a suitable alternative outside the European funds.

The Ministry of Education, Youth and Sports is currently preparing the relevant strategic document for education: Education Policy Strategy of the Czech Republic until 2030. The fact that the document is still in preparation implies a slightly below-average assessment in the relevant criterion, but the goals already contained in the Strategy are adequately defined and highly evaluated.

3.6.4. Transition to a low carbon economy

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Transition to a low carbon economy	76.7	24.9	15.0	8.2	7.1	14.0	7.6
Increasing energy efficiency and energy savings	81.5	26.6	15.7	9.4	7.9	13.4	8.5
Support for creating and deploying innovative low-carbon technologies	78.8	26.2	13.8	9.2	7.2	15.1	7.3

and efficient and thrifty use of renewable energy sources							
Introducing modern and highly efficient methods of production, distribution and storage of heat energy	73.7	23.6	14.8	7.0	6.0	14.6	7.7
Modernising and streamlining the production, transmission, transportation, distribution and storage of energy	72.8	23.3	15.6	7.0	7.2	12.7	7.0

Above-average evaluation was assigned to objective *Increasing energy efficiency and energy savings*, which shows above-average values in most criteria, especially in the criteria of importance and strategies, in both it is the highest at the same time in the field of energy, which is due to its importance for delivering the climate-energy goals of the EU and in sustainable development. The objective is in line with the megatrends, has an above-average territorial dimension and a strong link to the cross-cutting themes and the Country Report. There are longer-term strategies with clearly defined objectives. However, the objective has a somewhat below-average absorption capacity, probably due to lower interest in the segment of entrepreneurs and apartment buildings; the preparedness of projects is then rather average. As the residential buildings segment will be financed from the national New Green Savings programme in the future, it will be necessary to increase the interest of companies and entrepreneurs in energy saving projects under the EU funds in the future.

Objective *Supporting the emergence and deployment of innovative low-carbon technologies and the efficient and thrifty use of renewable energy sources* has an average ranking. It is rated above average in importance, closely behind energy efficiency, it is highly rated in terms of sustainable development, megatrends, general regulation objectives and cross-cutting themes. It is above average in terms of territorial dimension and reflection of the Country Report, the absorption is also slightly above average, while absorption rather lagged in RES, especially in OP EIC, but in the area of new low-carbon technologies it absorbed well. The preparedness of the projects and the interest of the beneficiaries are above average; a barrier is the limit in aid for large enterprises. On the other hand, in the area of strategies it performs slightly below average, as in the use of other sources (the use of EU programmes is rather average).

Objective *Introducing modern and highly efficient methods of production, distribution and storage of heat energy* is slightly below average in most criteria, in absorption it is probably due to the possibility to support only distribution in efficient systems and not sources falling under the EU ETS, and therefore a smaller interest from heating companies. In importance, the heating sector is above average, especially in terms of sustainable development and in its link to cross-cutting themes and global megatrends. There is a clear link to the EU's climate and energy objectives. In terms of territorial dimension, the objective is of medium importance.

Objective *Modernizing and streamlining the production, transmission, transportation, distribution and storage of energy* has received the lowest ranking and is also below average on the whole. It is perceived as above-average both overall and within the area in terms of importance (in particular links to sustainable development, cross-cutting themes, megatrends

and policy objectives of the General Regulation) and links to long-term and detailed strategies. In the other criteria, however, the objective is below average and the lowest within the area, notably absorption and wider alternative funding opportunities are lower, in particular from the Union programmes (CEF) and own resources.

There are a number of moderate barriers in the area of the transition towards a low-carbon economy, such as low interest from beneficiaries. Discussions are also ongoing with the Commission on possible exemptions from the ban on financing large enterprises. Limitations are found in the Commission regulation which, for example, in the heating industry does not allow the support for replacements or transition from coal to the more environmentally friendly gas sources.

3.6.5. Transport

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Transport	77.8	24.1	14.9	8.9	7.0	15.2	7.7
Development and improvement of transport infrastructure	85.7	24.7	17.3	9.9	8.6	17.7	7.6
Developing and improving the integration of transport	85.2	27.2	15.4	9.1	7.5	17.2	8.8
Increasing the availability and use of alternative fuels in transport	78.2	23.5	14.9	9.8	7.5	15.1	7.3
Using alternative fuel vehicles in public transport	78.9	23.4	14.6	9.1	7.4	15.2	9.2
Introducing modern technologies for the organization of transport and reducing traffic burden	74.5	24.4	14.4	9.1	6.8	13.2	6.6
Development of non-motorized transport	71.2	22.2	11.3	7.0	5.6	17.5	7.6
Effective use of multimodal freight transport	71.1	23.7	16.5	8.2	5.3	10.6	6.8

Transport is a costly and long-term issue due to the neglected basic infrastructure in the last century and also due to new challenges in this century: opening CZ as a transit country for other countries, increasing passenger and freight transport, rising renewal costs, the requirement of reducing energy intensity and reducing emissions, or responses to climate change. Due to long-term planning, the transport sector is well covered by strategic documents.

For this reason, two related SOs - *SO Development and Improvement of Transport Infrastructure* and *SO Development and Improvement of Transport Integration* - are highly rated throughout the thematic area. In both cases, the state and regional self-governments are the addressees of the funding, and in some cases also the municipal self-governments. Both SOs performed very well in this area mainly due to the parameters of importance and coverage by strategic documents as well as high absorption capacity (especially transport infrastructure has a reserve of projects).

The worst ranking was given to SO Development of non-motorized transport and SO Effective use of multimodal freight transport. Although multimodal freight transport is rated better than non-motorized transport in terms of importance and strategies, it strongly lags behind in particular in the absorption capacity parameter (carriers are interested in support for transport units, however, demand for the construction of combined transport terminals is minimal because it is necessary to ensure public access) and in the parameter of proving effectiveness/efficiency of support. In this SO, a sufficiently massive communication and awareness raising among the main players on the market or the involvement of the national carrier ČD Cargo in freight transport will be required. The above problems, together with possible risks in the area of State aid, justify the exclusion of interventions in the field of multimodal freight transport from support in the period 2021-2027. In the case of non-motorized transport, the problematic evaluation is based mainly on the non-updated national concept of cycling and also on the fact that the theme is fragmented into activities of individual municipalities and possibly regions, which often results in unconnected stretches of cycle paths. Nationally, the benefit is not perceived as essential, even though the absorption capacity is relatively high. In particular, large cities can benefit from cycling as an important contribution to developing sustainable transport in their territory and in the surrounding area. At national level, support should be provided for coordination among regions and long-distance cycling routes, in particular in relation to sustainable tourism. At city level, passenger transport systems, which offer great potential in the use of alternatively powered vehicles, should not be overlooked.

In this area, medium ranking was granted to SOs with links to new challenges related to the growth of transport (energy consumption, burdens from transport), technological progress in transport and tightening requirements for emission limits.

In the evaluation, these SOs ranked in the following order: SO Increasing the availability and use of alternative fuels in transport, SO Using alternative fuel vehicles in public transport and SO Introducing modern technologies for transport organization and reducing traffic load. All these SOs have a similar evaluation in terms of coverage by strategies, importance and benefit. A high absorption capacity is shown by SOs with the use of alternative fuels, especially in the case of support for the purchase of vehicles using alternative fuels for private (company) and public transport. A specific demand in the case of public transport in terms of volume is created by rail transport vehicles as well as by road public transport vehicles in cities. This is also reflected in the possibility of using alternative sources of financing, or using financial instruments. On the other hand, alternative sources are more limited in the case of SO Modern

ITS technologies. Absorption capacity is also limited in that SO if we focus on territories with increased traffic load per area, which is particularly the case in urban areas.

3.6.6. Support for businesses and industry

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Support for businesses and industry	77.4	24.6	14.2	8.9	7.1	14.9	7.7
Introduction of the principles of digital economy and Industry 4.0 in companies	82.0	25.3	16.7	10.3	6.8	15.5	7.4
Improving the innovative capability of SMEs	78.6	25.9	13.3	9.3	7.5	14.8	7.9
Increasing the added value of products and services of enterprises in the production chain	71.6	22.6	12.7	7.1	7.1	14.3	7.9

The area of business support is very dependent on the dynamics of the economic cycle and the financial condition of companies. The driving force for the transformation of the economic structure and for strengthening the domestic SMEs is low capital and a high pressure on cutting costs. In this context, there is little room for innovation and application of R&D results.

All three SOs (Improving the innovation capacity of SMEs, Introducing the principles of the digital economy and Industry 4.0 in companies, Increasing the added value of products and services of enterprises in the production chain) included under this area received similar scores in the importance assessment, while SO Introducing the principles of the digital economy and Industry 4.0 in companies ranked much higher than the two remaining SOs in the coverage with strategies (where strategy preparation is only beginning). SO Increasing the added value of products and services of enterprises in the production chain is significantly lagging behind in evaluating the benefits of this theme against the other SOs. This is also due to the fact that this SO is very general and the concrete form of support is not entirely clear, which again is related to the insufficient coverage of the theme by adequate strategies. Likewise, its overall benefit was evaluated as questionable as compared to the other two SOs. In this context, it can be recommended that the strategy authors focus on a more specific targeting of this SO.

Development and support of all SOs under the area Support for Businesses and Industry will not be possible without adequate development of the support infrastructure, namely a sufficiently dense nationwide network of high-speed internet available also in rural areas.

3.6.7. Social inclusion, combating poverty and health care

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Social inclusion	75.8	21.5	15.1	9.8	6.7	14.0	8.8
Client-oriented social services	81.0	23.2	16.6	10.0	7.2	14.6	9.5
Social inclusion	76.8	21.7	14.3	9.7	6.8	15.0	9.4
Quality and accessible health care	74.4	21.9	13.9	9.7	6.8	14.1	8.0
Social housing	71.2	19.2	15.5	9.7	6.1	12.3	8.5

Insufficient advancement seems to be problematic for all the specific objectives, but here it can be taken into account that the real impact of the funded social measures can be seen only after many years. At the same time, there is a low level of innovation in the whole area, i.e. the objectives for the future period are largely taken over from the current period. However, the objectives are still topical due to the insufficient advancement on the ground. In terms of absorption capacity, uncertainty about the future co-financing rate seems to play a greater role than in other areas - the rate may be critical for beneficiaries from the non-profit sector through which social services are largely provided. Thus, the co-financing rate can have a major impact on ensuring and continuing the provision of those services.

In terms of the specific objectives *Social inclusion* and *Quality and affordable healthcare*, the ministerial strategies are only being prepared for the upcoming period and therefore the SOs are less well evaluated. The specific objective *Client Oriented Social Services* has a high-quality strategy; the social housing strategy is currently undergoing a major revision, causing uncertainty about the set goals and worse evaluation. In the national housing policy, support is being extended from the narrowly focused social housing to social and affordable housing, for which a relatively massive national subsidy scheme has been prepared (which may have an impact on the absorption capacity).

3.6.8. Culture

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Protection, development and promotion of cultural heritage	76.5	20.7	13.0	8.6	8.3	17.5	8.4

Culture is a broad subject in itself, but in the NCI it has been concentrated in one SO *Protection, development and promotion of cultural heritage* due to a concentration of a number of sub-themes related to cultural heritage (tangible and intangible cultural heritage, memory institutions, living art and cultural/creative industries, etc.). Due to the high historical debt, especially on the immovable cultural heritage, and to the large number of various cultural monuments, this area, same as the Transport area, is characterized by a high absorption capacity. And also a relative lack (due to its extent) of

alternative sources of financing. The Culture area is well covered by strategic documents and is of relatively high importance. Therefore, it will be necessary to internally prioritize the individual subthemes of this SO so as to accentuate the typical “hunger” for the restoration of monuments, while promoting innovative forms of commercialization of cultural heritage, both outside (cultural and creative industries) and within the cultural and historical environment (monument buildings, urban heritage zones/reservations) so that the Culture area can look for its long-term sustainability through synergies of sensitively balanced non-commercial and commercial activities.

3.6.9. Research and innovation system

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Research and innovation system	78.4	25.4	16.0	9.0	7.4	13.5	7.2
Development of facilities for quality and relevant research	82.1	24.9	16.3	9.0	8.8	16.1	7.1
Promoting innovation through applied research and experimental development	80.5	26.2	16.4	8.9	7.3	13.8	7.9
Improvement of strategic R&D&I management	72.5	25.1	15.2	9.0	6.2	10.5	6.5

The area of support for research and innovation is dependent on long-term results (as opposed to, for example, the area of Transport where there is a long preparation and then a relatively fast implementation), therefore it requires a coherent effect of various types of financial and non-financial systemic measures.

In terms of importance, *SO Support for innovation through applied research and experimental development* had the best rating among the assessed SOs. On the contrary, in the criterion of absorption capacity, *SO Development of facilities for quality and relevant research* has logically the highest score while *SO Improvement of strategic R&D&I management* has the lowest due to the limited number of beneficiaries. The latter SO also encounters limited possibilities of alternative sources of financing. Nevertheless, due to the need for a long-term effect of the support, *SO Development of facilities for quality and relevant research* had the best result in the overall evaluation despite the fact that all SOs in this area are almost equal in terms of importance, coverage with strategies, benefits and effectiveness/ efficiency of support.

3.6.10. Tourism and recreation

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Sustainable tourism	72.3	19.5	13.7	8.3	7.2	15.2	8.4

Tourism is a specific area influenced by factors of economic development, natural and cultural conditions, transport accessibility and the security situation in the region.

The Tourism area also has a close link to the areas of Culture, Environmental Protection and Circular Economy, and in particular to Transport and Support for Businesses and Industry.

One SO *Sustainable Tourism* has been created in this area. This SO has been ranked in the criterion of importance right behind the relevant topics of SO *Culture* and SO *Improving public spaces and developing green infrastructure*. Here, a direct link is apparent with the development of tourism, especially in well developed cultural-historical areas (see the unsustainable growth of tourism in some parts of Prague) with high-quality services. This is demonstrated in the intensity of tourism, from individual monuments up to unique and well-preserved conservation areas and reservations, both in towns and in rural areas. Another factor is the preserved natural heritage and therefore dependence on safeguarding local significant ecosystems. Meanwhile, transport accessibility plays a role. Since this is largely a segment of tourism entrepreneurs, the absorption capacity is high, mainly due to the business sector. The evaluation of the overall benefit of the aid and its effectiveness/ efficiency is worse

, but that is due to the lack of consistent evaluation of the benefits of implemented projects from the 2007-2013 programming period as well as to the fact that the effectiveness of measures in the tourism support area demonstrates usually with a 3-5 year delay after implementation. The recommendation is to support key projects of public tourism infrastructure, especially where other forms of business without a direct link to tourism fail and where sufficient potential of cultural-historical or natural heritage exists.

3.6.11. Public administration and security

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
Public administration and security	69.8	20.2	11.9	8.6	7.1	14.6	7.3
Streamlining public administration to provide quality services	76.7	20.8	15.2	8.5	7.7	15.3	9.3
Computerisation of public administration and deploying the related infrastructure	74.3	22.0	12.9	9.6	7.7	14.5	7.7
Effective security of public administration information and communication systems, including the IRS components, and adequate response to growing cyber threats	73.2	23.5	11.3	9.1	6.7	15.4	7.2
Population protection	64.3	18.2	11.2	7.7	6.1	14.8	6.4

Digitization of spatial planning (computerising and digitization of building law agendas)	60.3	16.7	9.1	8.1	7.5	13.1	5.9
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Positive evaluation was given to specific objectives focused on the quality of public administration, on the computerisation of public administration and on cyber security. On the other hand, specific objectives on the protection of the population and on the digitization of spatial planning were evaluated worse.

Specific objective *Streamlining public administration for the provision of quality services* is assessed as very important, with a number of links and synergies, and both the forthcoming concept of public administration and the absorption capacity are also positively evaluated. On the other hand, the topic is not included in the draft General Regulation nor in the recommendations of the European Commission.

Also, SOs *Computerisation of public administration and deploying the related infrastructure* and *Effective security of public administration information and communication systems, including the IRS components, and adequate response to growing cyber threats* are considered to be of high importance. Both specific objectives are anchored in the Digital Czech Republic strategy which was evaluated worse (but in the meantime its implementation plan was approved). The targets in the specific objective on cyber security should be formulated more specifically.

Specific objective *Population protection* contains relatively diverse activities (from climate to social issues), which is reflected in the inconsistent and below-average assessment. Importance is rated as lower, including weaker links to cross-cutting themes. The shortcomings are the lack of an up-to-date post-2020 strategy (one that would cover the issue comprehensively), partial replication of targets from the current period for the next period, and insufficient advancement of the theme.

Specific objective *Digitization of spatial planning* is evaluated below average in most criteria. This is (even in comparison with others) a very partial objective, which may fall within the more general objective of computerising public administration; for this reason, specific objective *Digitization of spatial planning* is included in the operational programmes chart under specific objective *Computerisation of public administration and deploying the related infrastructure*. The importance and the links of the objective to cross-cutting themes are assessed low. The relevant strategy Digital Czech Republic 2030 was evaluated lower (however, in the meantime the implementation plan was approved) and the set goals are assessed as not very specific and insufficiently formulated. While this specific objective may have a strong impact and synergies, the absorption capacity is not assessed as sufficient, including existing legislative barriers. However, a significant benefit of this specific objective can be ensuring quality decision-making on changes in the territory and speeding up the implementation of plans.

3.6.12. Labour market and employment

	Total (max 100, ø 76.9)	Importance (max 28, ø 22.9)	Strategies (max 18, ø 14.5)	Goals (max 12, ø 9.1)	Advancement (max 10, ø 7.4)	Absorption (max 20, ø 14.8)	Alt. sources (max 12, ø 8.4)
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Labour market and employment	71.4	20.6	13.5	8.5	6.6	12.8	9.4
Increasing the participation of disadvantaged groups in the labour market	77.6	22.1	14.9	9.0	7.3	14.5	9.7
Promoting equality of women and men and reconciling work and private life	73.7	21.2	12.9	8.7	7.0	13.9	10.0
Modernization of labour market institutions	73.0	21.6	15.0	8.6	6.0	12.4	9.5
A functioning system of further vocational training	71.8	22.6	13.8	8.2	6.5	12.0	8.7
Promotion and use of labour mobility	61.0	15.5	11.1	8.1	6.1	11.2	9.1

The objective *Increasing the participation of disadvantaged groups in the labour market* is rated the highest and overall slightly above-average, it is average in importance probably also due to the good condition of the labour market, but that may change rapidly during the economic cycle. There is a strong link to sustainable development, megatrends, policy objectives and specific goals pursuant to the Regulation and the Country Report, as well as links to Society and Industry 4.0. The objective is above average in terms of territorial dimension. The possibility of using EU programmes and state budget financing is limited (given the limited amount of funds it does not appear appropriate). In terms of absorption, the objective is also rated the highest, but it is average in the ranking of all specific objectives. The other objectives were evaluated below average.

SO *A functioning system of further vocational training* is rated the highest in terms of importance,

it is apparently needed for the competitiveness of the economy and there is agreement on its significance, but it lags behind in the criteria of objectives, which is due to the lower interest in further vocational training from beneficiaries, and it has a slightly below-average link to strategies. Absorption is average despite the importance of the intervention, but an increase in interest can be expected in the future in connection with Industry 4.0.

The objective *Promotion and use of labour mobility*, which is rated the least important and considerably below average, it is the lowest in terms of absorption, use of alternative sources and links to strategies. Although the shortage of labour is a problem of the Czech economy, it is problematic to define specific types of expenditure on promoting labour mobility. The prevention of the departure of highly qualified experts abroad is perceived as more important than the necessity to obtain ordinary workers for industrial operations.

The modernization of labour market institutions is of average importance; there is a clear link to megatrends, policy objectives and Country Report recommendations; it is above average in relation to sustainable development, but the territorial dimension is weak.

Promoting equality of women and men and reconciling work and private life is average in importance, which is surprising given the media coverage of the topic and the persistent pay gap between men and women.

All SOs are evaluated above average in terms of alternative sources of financing due to their limited use in the area.

The area *Labour market and employment* has made significant progress during the drafting of the Strategic Framework for Employment Policy until 2030 (SRPZ 2030), yet the link to strategies is rated as above average only in *Modernization of labour market institutions* and *Increasing the participation of disadvantaged groups in the labour market*.

In general, all objectives are rated relatively low in terms of absorption, which probably does not reflect reality. It is due to the low preparedness of project drafts, as drafts of soft projects are not prepared long in advance as opposed to investment projects.

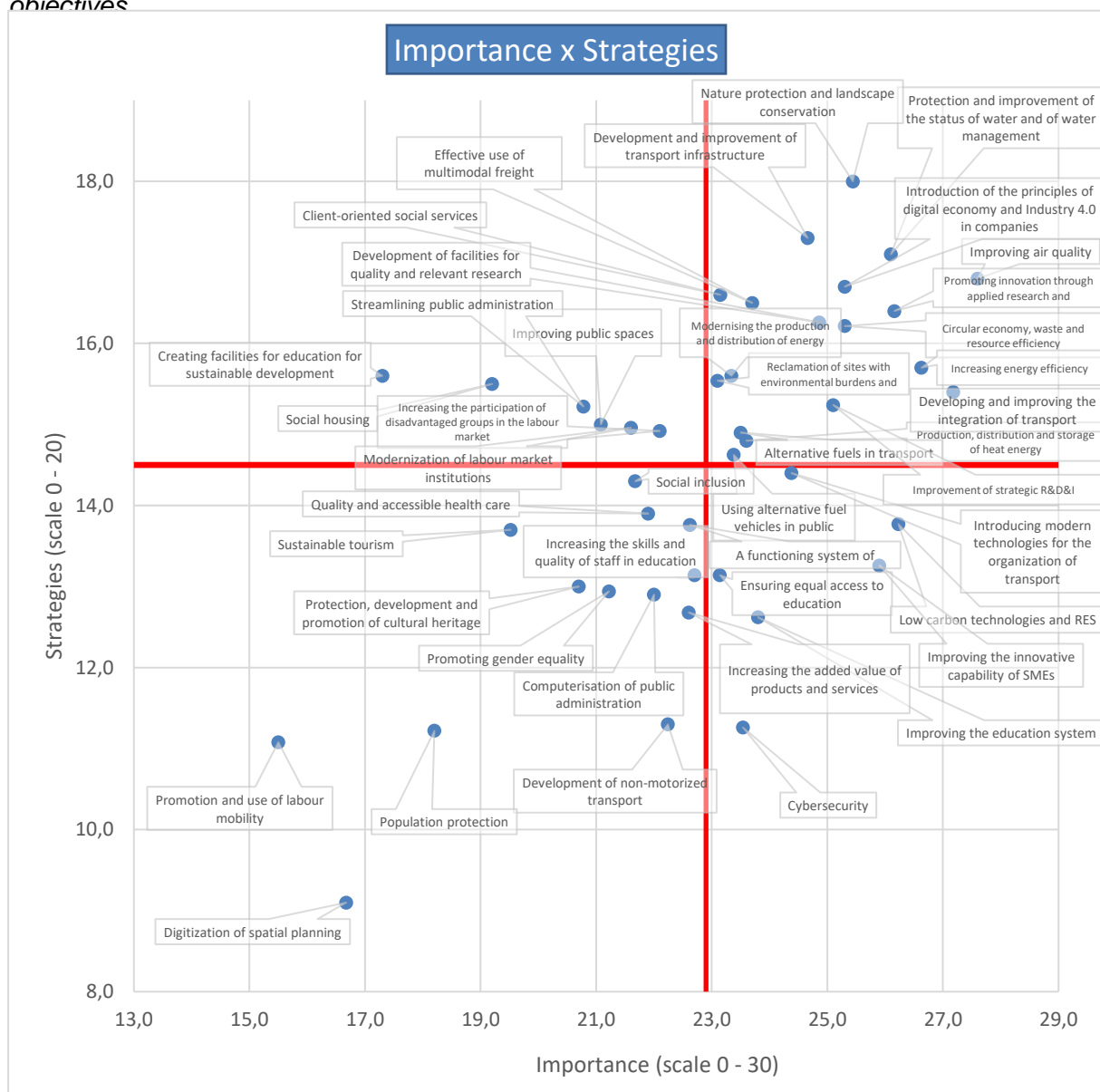
3.7. Summary results of the evaluation

The overall assessment of the individual areas and specific objectives was clearly more positive compared to the first phase of prioritization. This is partly due to following the recommendations formulated on the basis of results of the first phase of prioritization and set out in the first version of the NCI, and partly due to better elaboration of the cards of the individual specific objectives in connection with the commenced preparation of operational programmes and their intervention logic.

In this respect, it was mainly the work on strategic documents (completion of the relevant strategic materials or at least the start of work on them) for the individual areas. That also resulted in the ability to formulate more relevant and substantiated objectives for the post-2020 period, including the expected impacts, etc. Descriptions of links to cross-cutting themes and megatrends and descriptions of synergistic links as well as data on the current and anticipated absorption capacity were also developed and supplemented.

Overall, the areas and specific objectives were also consolidated based on evaluations against the individual criteria, as shown in the charts below.

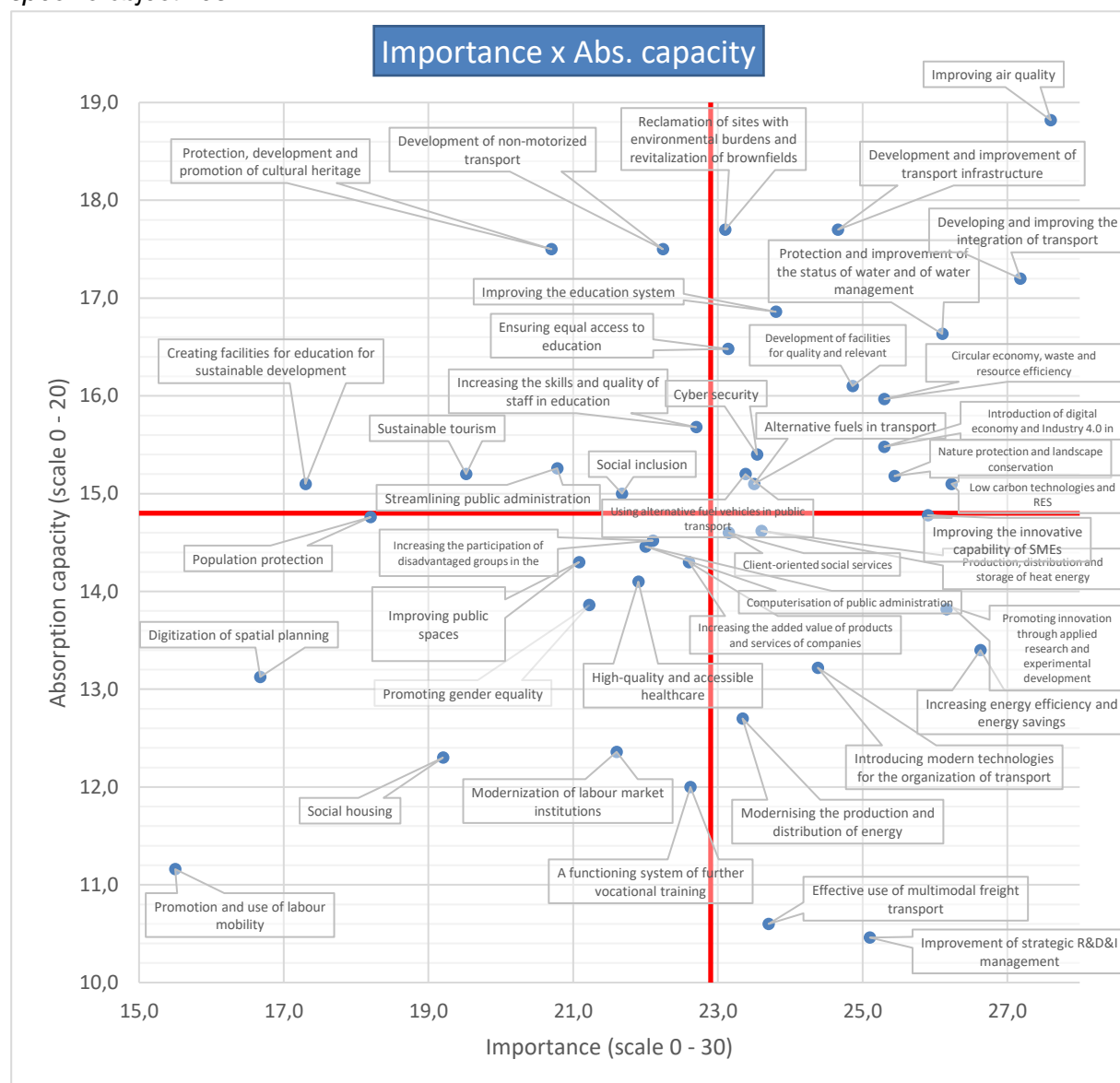
Chart: Comparison of the criterion "Importance" and "Strategies" for the NCI specific objectives



The chart shows the comparison of the criteria "Importance" and "Strategies" (readiness of strategic documents for the specific objective). Compared to the first phase of prioritization, there has been a positive shift, namely, most of the specific objectives have been moved to the upper right field (i.e. objectives that are important are adequately supported by relevant strategies) or to the centre of the chart⁸. Particular attention should be paid to specific objectives in the lower part of the chart, which are not (yet) supported by adequate strategies, and especially in the lower right field, where the objectives are of high importance but not supported by strategic materials.

⁸ The average of all specific objectives is represented by a red axis.

Chart: Comparison of the criterion "Importance" and "Absorption capacity" for the NCI specific objectives



The chart depicts the relationship of the criteria 'Importance' and 'Absorption capacity', showing a positive shift of the specific objectives to the ideal, top right field (important objectives with high absorption capacity). The chart indicates the need to pay attention to the specific objectives located in the bottom right field - objectives with high importance but low absorption capacity.

4. PROPOSAL AND PRINCIPLES OF IMPLEMENTATION

4.1. Background for the implementation part

The implementation proposal builds on the analytical part of NCI and on the draft priorities and objectives (see previous chapters) and on the approved Government Resolution No 94 of 4 February 2019.

The approved design of the implementation architecture was determined in particular with respect to the following factors and principles:

- reduction in the funds for the Czech Republic (lower national envelope);
- experience from the previous programming periods (already from period 2004-2006);
- analyses for 2007-2013 and for 2014-2020 periods, which provide knowledge useful for deciding on the architecture (both substantive and procedural);
- analyses of the outputs of audits regarding the configuration and functioning of the management and control system for the programming periods (2007-2013, 2014-2020);
- outputs from the architecture evaluation mapping different implementation systems across the EU, including the reasons/ motivations for changes between the periods (while respecting the specificities of CZ);
- priorities that will be promoted by CZ in the future, incl. taking into account territorial needs (see previous chapters of NCI);
- directions, limits or conditions proposed by the Commission in particular in the draft regulations for the funds (mainly the structure of political objectives, thematic concentration, groups of categories of regions, the financial aspects of functional verification of the system set at the beginning of the period etc.);
- reflections on the management system through the optics of balance between experience, large and insoluble problems over time or ability to manage/ control the programme with a more or less complex basis (e.g. regarding the groups of beneficiaries, multi-fund character, fragmentation of activities, the number of partners involved as expert supervisors, atypical features etc.);
- awareness of the necessity to take the path of evolution rather than a radical revolution, because despite some problems with implementation in the past, the system as such works.

4.2. Links of the NCI specific objectives to the operational programmes

The Czech Government Resolution No 94 of 4 February 2019 approved the number and basic structure of operational programmes that will be implemented within cohesion policy in the future programming period. The diagram below shows the link of the future operational programmes to the NCI specific objectives. NCI priorities can be delivered through one or more operational programmes. One specific objective can also be achieved in some cases through several operational programmes.

Diagram: Links of the NCI specific objectives to the operational programmes

NCI priorities		Development based on innovation and application of technologies	Low-carbon economy and responsible exploitation of resources	Accessibility and mobility	Educated society and human capital	Sustainable development of the territory		
Operational programmes	OP Competitiveness * (ERDF) <small>*the name of the OP may be changed by agreement between the MoRD-NCA and the OP MA</small>	OP Transport (CF, ERDF)	OP Environment (CF, ERDF)	OP John Amos Comenius (ERDF, ESF+)	OP Employment +* (ESF+) <small>*the name may be changed by agreement between the MoRD-NCA and the OP MA</small>	Integrated Regional OP (ERDF)	OP Technical Assistance (ERDF / CF / ESF+)** <small>**to be specified</small>	OP Cross-border Cooperation (ERDF)
NCI specific objectives	Protection and improvement of the status of water and of water management Circular economy, waste and resource efficiency Reclamation of sites with environmental burdens and revitalization of brownfields Introduction of the principles of digital economy and Industry 4.0 in companies Increasing energy efficiency and energy savings Promoting innovation through applied research and experimental development Supporting the emergence and deployment of innovative low-carbon technologies and the efficient and thrifty use of RES Improving the innovative capability of SMEs Introducing modern and highly efficient methods of production, distribution and storage of heat energy. Modernizing and streamlining the production, transmission, transportation, distribution and storage of energy Increasing the added value of products and services in the production chain	Development and improvement of transport infrastructure Using alternative fuel vehicles in public transport Increasing the availability and use of alternative fuels in transport Introducing modern technologies for the organization of transport and reducing traffic burden Effective use of multimodal freight transport	Improving air quality Nature protection and landscape conservation Protection and improvement of water and of water management Circular economy, waste and resource efficiency Reclamation of sites with environmental burdens and revitalization of brownfields Increasing energy efficiency and energy savings Supporting the emergence and deployment of innovative low-carbon technologies and the efficient and thrifty use of RES Creating facilities for education for sust. Development Improving public spaces and developing green infrastructure Introducing modern and highly efficient methods of production, distribution and storage of heat energy. Modernizing and streamlining the production, transmission, transportation, distribution and storage of energy	Development of facilities for quality and relevant research Ensuring equal access to education Improving the education system with regard to modern competences and labour market needs, including with regard to the digitization of industry and society Promoting innovation through applied research and exp. Development Increasing the skills and quality of staff in education Improvement of strategic R&D&I management	Client-oriented social services Increasing the participation of disadvantaged groups in the labour market Social inclusion Quality and accessible health care Promoting equal opportunities and reconciling work and private life Modernization of labour market institutions A functioning system of further vocational training Social housing Promotion and use of labour mobility	Development and improvement of transport infrastructure (regional transport connections with linkage to the TEN-T) Developing and improving the integration of transport Client-oriented social services Improving the education system with regard to modern competences and labour market needs, including with regard to the digitization of industry and society (infrastructure for education) Using alternative fuel vehicles in public transport Improving public spaces and developing green infrastructure Protection, development and promotion of cultural heritage Introducing modern technologies for the organization of transport and reducing traffic burden Quality and accessible health care Computerisation of public administration and deploying the related infrastructure Effective security of public administration information and communication systems, including the IRS components, and adequate response to growing cyber threats Sustainable tourism Development of non-motorized transport Social housing Population protection	Streamlining public administration to provide quality services <i>Other selected activities in support of public administration</i> <i>Management and coordination of the Partnership Agreement</i> <i>Support for horizontal issues and partners</i> <i>Support for the administrative capacity of implementation</i> <i>Integrated tools support (CLLD, ITI, RSC)</i>	<i>To be specified on the basis of cooperation with neighbouring countries</i> Managing Authority = Ministry of Regional Development
	Managing Authority = Ministry of Industry and Trade	Managing Authority = Ministry of Transport	Managing Authority = Ministry of the Environment	Managing Authority – Ministry of Education, Youth and Sports	Managing Authority = Ministry of Labour and Social Affairs	Managing Authority = Ministry of Regional Development	Authority = Ministry of Regional Development	OP Fisheries (EMFF) <i>It will be specified on the basis of negotiations with the MoA and on the basis of needs that will arise from the updated strategy of the Multiannual National Strategy Plan for Aquaculture.</i> Managing Authority = Ministry of Agriculture

Note: The NCI specific objectives are listed in the order based on the results of the second phase of prioritization. With regard to the specificity of OP Technical Assistance, other relevant activities (not NCI specific objectives) are also included *in italics*.

4.2.2. Follow-up steps

Partnership Agreement, operational programmes and intervention logic

The **Partnership Agreement (PA)** represents a basic overarching document setting out the overall strategy and measures for the effective and efficient use of EU funds at Member State level. The main part of the PA will be a strategy of the material focus of support including determination of the so-called expected main results to be achieved with the help of EU funding in the individual substantive areas in the Czech Republic. The setting of that strategy and the expected main results will be based on both the various strategy papers and the concept of intervention logic described below. The initial strategies include the NCI as a key strategic document identifying the CZ development needs, the Regional Development Strategy, Digital Czech Republic, Innovation Strategy of the Czech Republic, Smart Specialization Strategy and other national strategies. The PA will also contain, among other things, the distribution of the allocation granted to the Czech Republic among the operational programmes and the five objectives of cohesion policy. The PA is prepared in close connection with the preparation of **the operational programmes** that elaborate on the areas of support, including the setting of implementation mechanisms.

The concept of **intervention logic** is used to set correctly the support strategy, objectives and mechanisms for achieving those objectives in the individual substantive areas. For this purpose, the intervention logic means interdependence of the identified problems or opportunities, defined objectives and proposed measures and activities to achieve those objectives. The intervention logic is compiled by the managing authorities as part of the preparation of operational programmes at the level of the specific cohesion policy objectives contained in the draft regulations on cohesion policy for the programming period 2021-2027. It is intensively communicated with MRD-NCA as the supervisor of PA. The intervention logic will be the basis for setting the indicator system, or the financial and physical indicators of individual SOs of the OPs. The indicators will include baseline and above all target values to be achieved through EU funds. The intervention logic will thus also be used by the MRD-NCA to define the expected main results of the Partnership Agreement.

Single national framework of rules

The Single national framework of rules and procedures under the European Regional Development Fund, the European Social Fund plus, the Cohesion Fund and the European Maritime and Fisheries Fund for the programming period 2021-2027 (SNF) was approved in CZ Government Resolution No 284 of 29 April 2019. The aim of the SNF is to create a set of rules which will contribute to an effective system of support from EU funds in the period 2021-2027 and which will focus on the problematic areas of the implementation system, identified in the programming period 2014-2020. A fundamental emphasis is put on ensuring continuity and thus stability of the whole system in processes where it is justified (requirements of EU regulations and national legislation, simplification for beneficiaries, etc.).

Uniform rules should help move away from 'simple' spending towards quality and added value of outputs and results, with an emphasis on strategic planning and evaluation, on streamlining the management system, including its simplification, strengthening the partnership principle and achieving pre-set objectives.

Guideline documents will be divided into binding methodological instructions and recommending manuals. The scope of the binding methodological instructions will be

optimized in order to cover only the key and essential rules necessary to ensure proper implementation of EU funds. The recommending manuals will include non-binding recommendations, guidance and good practice examples.

4.3. Territory-specific approach

Where a need is identified in certain themes or SOs of a draft OP to take into account the territorial dimension for the individual measures, the managing authority (MA) will choose a tool or more tools for applying a territory-specific approach.

In order to apply such an approach in the OP, the MA has a choice of several approaches (ordered by the level of comprehensiveness):

A) RE: START (a tool for structurally affected regions)

These are mainly major restructuring measures initiated mostly from the national level in cooperation with the regions concerned (Karlovy Vary, Moravian-Silesian, Ústí nad Labem Regions) included in the RE:START programme of social and economic restructuring. They may also be implemented through specific calls.

B) INTEGRATED INSTRUMENTS (ITI and CLLD)

These are territorial instruments according to the Commission regulation, implemented on the basis of the so-called integrated strategies, the implementation of which may be supported from several funds and OPs. The ITI instrument also includes resources from the involved municipalities in the functional area concerned. Integrated projects should create a space for synergies of interventions in the ITI territory. The CLLD instrument has a community character which is taken into account when developing the CLLD strategy and selecting the specific operations/ projects. It is implemented in the territories of local action groups.

C) REGIONAL ACTION PLANS (RAPs)

Regional action plans are one of the intervention tools at national level for the use of EU funds in the territory. At the same time, RAPs represent an opportunity to unify the territorial approaches of the individual OP MAs. They are used for territorial targeting of the allocation on selected topics included under various OPs, in which regions are a suitable territorial unit for activities contributing to the balanced development of territories according to Act No 248/2000 Coll., on regional development support, as amended, and based on the RDS 21+ (especially to address selected problems of regional centres and economically and socially vulnerable areas, rural development or urban development). Furthermore, it covers development topics for which the regional self-government is directly responsible by law (regional transport, secondary education, health care and social services infrastructure). The platforms of the individual Regional Permanent Conferences (RPCs), which represent the main actors of regional development in the territory of the given region, must first reach agreement on the topic to be addressed in the given area.

D) SPECIFIC CALLS (calls that are specifically focused on a given theme for certain types of territories)

Specific calls are a flexible tool to respond to the demand for parameters set specifically in favour of a selected territory. For example, this may be the consideration of varying needs between regions (see e.g. the different development level of regional innovation systems). To design the specific calls targeted at a specific territory, the MA will discuss the content and

targeting of the calls with territorial partners within the regional/national permanent conference or within the Call Preparation Platform.

E) PROJECT BONIFICATION (favouring projects from a certain type of territory)

Bonification of specific projects according to the place of their implementation may be one of the least demanding ways of taking into account territorial specificities. But it is also a limited way in terms of finding solutions (systemic, calls, integrated, agreement of regions, etc.). The bonification favours applicants in some territories, it may be a good solution in justified cases, but it is a less comprehensive approach to specific territories compared to the other territorial instruments.

The MA of the future OP must first describe and justify what approach to the territorial dimension it will take, incl. justification of the choice of the relevant instruments. This approach to the territorial dimension should then be reflected in the National Document on the Territorial Dimension or its equivalent.

The use of the individual instruments, their delimitation and possible overlaps, and linkage to the individual OPs will be described in a separate document on the territorial dimension at the national level. In particular, the new Regional Development Strategy of the Czech Republic 2021+ should ensure overall support for regional development (including national resources) and its monitoring.

4.4. Emerging borderline areas

Borderline areas are defined here mainly as potential overlaps or overreaches between operational programmes, i.e. themes that are interconnected or complementary. Another type of overlap, continuity or complementarity will occur between the implementation of national and territorial priorities implemented through integrated tools.

Another type of borderline areas are links between funds under the cohesion policy and other policies (e.g. the common agricultural policy, Union programmes, national subsidy programmes). Borderline areas often arise because of the division of competencies among different ministries, or managing authorities. The section below deals with the emerging borderline areas within cohesion policy, identified through the elaboration and evaluation of the NCI specific objectives.

The area of **Transport** covers themes that fall mostly under the integrated way of solution in relation to the interdependence of urban transport modes (combining road, rail and urban public transport). For those SOs it will be necessary to find the division line between the contents of the OPs focused on transport and IROP.

In the area of **Research and Innovation System**, the borderline between support for research and business is *SO Promoting innovation through applied research and experimental development*, as in the other SOs in **Support for Businesses and Industry**, where innovation is primarily linked to research carried out by enterprises.

The borderline areas between the **Culture** and **Tourism** areas are rather synergies between promoting the restoration of cultural heritage and developing sustainable tourism. At the same time, sustainable tourism is dependent on sustainable forms of transport, the quality of the environment and of public spaces. In principle, however, tourism also depends on high-quality, competitive and sustainable business infrastructure.

The **Public Spaces** area is directly linked, through the development of green infrastructure, to the area of Environmental Protection and Circular Economy, namely SO *Nature protection and landscape conservation*. In this context, it will also be necessary to clarify the focus of support in SO *Improving public spaces and developing green infrastructure*, and define the borders in the territory for green infrastructure (inside x outside the built-up area).

In the area of **Social Inclusion, Combating Poverty and Health Care**, there are a number of borderline areas with themes that substantially support social inclusion - in particular the areas Education (SO *Ensuring equal access to education*) and **Labour Market and Employment**.

Significant borderline areas and synergies are between the areas **Education** (Improving the education system with regard to modern competences and labour market needs) and **Labour Market and Employment** (Functioning system of further vocational training).

Other borderline areas are the themes of **energy efficiency and energy savings and the use of renewable energy sources** where a division of the focus will be sought, based on the supported target group, to commercial buildings in the case of the Ministry of Industry and Trade (MIT) and public and residential buildings in the case of the Ministry of the Environment (MoE). Another aspect of the division between the operational programmes of MIT and MoE in the case of both RES and energy storage is the centralized or decentralized approach.

An important borderline area will be the increasingly current issue of **circular economy, waste management and resource efficiency**. The issues of **material recovery from waste** are cross-cutting and will be addressed in the interventions of both OPs - of MoE and MIT. The management of biowaste and waste from wastewater treatment plants and their use in biogas plants is related to the theme of **renewable energy sources** as well as the use of waste fats in the production of biofuels. The introduction of circular economy principles offers considerable space for **innovations** that can be addressed either separately within the relevant axes or within the innovation theme.

Out of the other environmental themes, a future borderline area will be **water protection and water management**. In connection with the increasingly frequent and long-lasting droughts, the already current issues include supplying municipalities with drinking water and completing waste water treatment plants or water retention in the landscape, but also **thrifty management of water in production processes**.

Like **water**, the **biodiversity** area also has important borderline areas with the common agricultural policy. The planting of diverse crops or the formation of in-field strips and patches can prevent wind or water erosion of the soil and retain water in the landscape, similarly to the support for permanent grassland, with MoE and the Ministry of Agriculture (MoA) taking part in the relevant interventions. The area, which is insufficiently supported by cohesion policy, is **forestry** and, above all, the solution to the current calamity states of bark beetle attacks in connection with drought. Forestry falls mainly within the competence of MoA, while MoE also participates, to some extent, in biodiversity measures. Neither the future specific objectives of the EAFRD Regulation, which also deals with forests only marginally, do not give good prospects for the future.

Borderline areas between the themes addressed by MoE and MIT also occur in the area of **removal of environmental burdens, including brownfields**, where, in addition to the remediation itself, a follow-up support for further use of those sites can be offered. In this context, it would be appropriate to link the remediation of brownfields more closely with their further use in variants for entrepreneurs, municipalities and non-profit organizations. We

expect that the relevant ministries will continue to intensively work on the definition of borderline areas and, as part of preparing the operational programmes and of the related negotiations, will define more precisely the areas of intervention in order to facilitate the implementation of interventions, effectively interconnect the support, simplify administrative burdens and clarify the support for beneficiaries, eliminate possible duplications or, on the contrary, cover dead spots.

An important borderline area is the area of Public Administration as it relates to all other areas of the NCI. Public administration significantly determines the results of all sectoral policies as it sets up the actual system of effective functioning of public administration and its institutions, including the human capacities that are necessary for the delivery of the NCI objectives.

4.5. Complementarity with EU programmes

The proposals of the multiannual financial framework and of the general regulations imply that the next programming period 2021+ will see an increase in the importance of EU programmes (mainly in the areas of research, development, innovation and education) and thus in the opportunities offered by those programmes.

In parallel with that, the European Commission is already emphasizing the need for synergistic interconnection of EU programmes with EU funds, whether through complementarities or e.g. the initiative Seal of Excellence, which should newly find a wider application than only in relation to the Horizon Europe programme (the Commission talks about its application in around 10 programmes).

It is highly desirable for CZ to activate its involvement in EU programmes in time to ensure an efficient use of EU financial resources, as significantly more funds are earmarked for EU programmes with every new period, while the overall budget for cohesion policy is decreasing. CZ is not yet sufficiently prepared for their use for many reasons. Closer and more effective cooperation is therefore important to facilitate the bridging of the gap in this area. It is also advisable to map already now any overlaps or synergy potential of EU programmes with EU funds and to include mutual cooperation already in the preparation of the individual OPs in order to maximize the complementarity.

As part of the NCI preparation, potentially suitable subject-related EU programmes were identified in the cards of the NCI specific objectives after verification with the national contact points of the individual EU programmes (i.e. Union programmes reflecting the future 2021+ programming period⁹). A table with the identified programmes is provided below. A summary table containing an overview of the NCI SOs and their complementary Union programmes, incl. a more detailed specification of the possible use of the programmes for the individual NCI SOs is provided in an annex hereto.

⁹ Following the new Commission regulations, certain changes have been made in the new programming period 2021+ to some EU programmes implemented in the current programming period 2014-2020. The changes include:

- The well running COSME programme for SMEs will cease in 2021+ and, without a part of the financial instruments (guarantees and equity), it will be integrated along with other previously fragmented programmes into the Single Market Programme, and it will be one of its specific objectives.
- The successor of the programme Horizon2020 is Horizon Europe.
- At the same time, the Commission presented new programmes, e.g. the Digital Europe Programme.
- Employment and Social Innovation Program (EASI), Fund for European Aid to the Most Deprived (FEAD), Youth Employment Initiative (YEI) and the Health Promotion Programme will be joined with the existing ESF under one umbrella programme - the European Social Fund+, with a total budget of EUR 101.2 billion. Given the current socio-economic situation in CZ, the use of YEI is not expected here.

It must be pointed out that EU programmes and EU funds cannot be simply seen as full-fledged alternatives, their scope and focus in a number of the supported areas differs from the support provided under the individual operational programmes. In many instances, they finance mainly activities of innovative or pilot character (e.g. EaSI, LIFE etc.). On the other hand, for all NCI SOs it is possible to identify at least one Union programme whose activities are related to at least a part of the given objective and can therefore be considered complementary. This again underlines the need for mutual coordination and cooperation.

Relatively the greatest potential of using EU programmes to finance at least some of the activities has been identified by the evaluation in the specific objectives of *population protection* (especially AMF or ISF for migration or police activities; Digital Europe for Cyber Security); *introduction of modern technologies for transport organization and reduction of traffic load* (especially CEF, but also Horizon Europe or Digital Europe); *Efficient use of multimodal freight transport* (CEF, Horizon Europe); *Protection, development and promotion of cultural heritage* (Creative Europe, Erasmus +, but also InvestEU, Horizon Europe or Digital Europe); *digitalisation of spatial planning* (Digital Europe, Reform Support Program).

On the other hand, specific objectives that have the least potential for the use of EU programmes include *Improving public space and developing green infrastructure*; *Development of non-motorized transport*; *Developing and improving transport integration*; *Promoting equality of women and men and reconciling work and private life*; *Using alternatively powered vehicles in public transport*; *Computerisation of public administration and deploying the related infrastructure*; *Streamlining public administration to provide quality services*; and *Creating facilities for education for sustainable development*; *Sustainable tourism*.

Table: Relationship between NCI specific objectives and EU programmes

NCI SPECIFIC OBJECTIVE	CONTENT-RELATED UNION PROGRAMMES
Nature protection and landscape conservation	Programme for the Environment and Climate Action (LIFE)
	Horizon Europe
Improving air quality	Programme for the Environment and Climate Action (LIFE)
	Horizon Europe
	InvestEU
Protection and improvement of the status of water and of water management	Programme for the Environment and Climate Action (LIFE)
	Horizon Europe
	InvestEU
Remediation of sites with environmental burdens and revitalization of brownfields	Programme for the Environment and Climate Action (LIFE)
	Horizon Europe
	InvestEU
Creating facilities for education for sustainable development	InvestEU
Circular economy, waste and resource efficiency	Horizon Europe
	Programme for the Environment and Climate Action (LIFE)
	InvestEU
Modernizing and streamlining the production, transmission, transportation, distribution and storage of energy	Horizon Europe
	The Connecting Europe Facility (CEF) - energy sector
	InvestEU
	Programme for the Environment and Climate Action (LIFE)
	Horizon Europe

NCI SPECIFIC OBJECTIVE	CONTENT-RELATED UNION PROGRAMMES
Increasing energy efficiency and energy savings	Programme for the Environment and Climate Action (LIFE)
Supporting the emergence and deployment of innovative low-carbon technologies and the efficient and thrifty use of renewable energy sources	Programme for the Environment and Climate Action (LIFE)
	Horizon Europe
	InvestEU
Introducing modern and highly efficient methods of production, distribution and storage of heat energy.	Horizon Europe
	InvestEU
	Programme for the Environment and Climate Action (LIFE)
Development of facilities for quality and relevant research	Horizon Europe
Promoting innovation through applied research and experimental development	Horizon Europe
	InvestEU
	Single Market Programme
	European Space Programme
Improvement of strategic R&D&I management	Horizon Europe
	Reform Support Programme
Improving the innovative capability of SMEs	Horizon Europe
	Single Market Programme
	Creative Europe
	InvestEU
	Digital Europe
Increasing the added value of products and services in the production chain	Horizon Europe
	Digital Europe
	Single Market Programme
	InvestEU
Introduction of the principles of digital economy and Industry 4.0 in companies	Horizon Europe
	Digital Europe
	InvestEU
	Single Market Programme
Effective security of public administration information and communication systems, including the IRS components, and adequate response to growing cyber threats	Digital Europe
	Internal Security Fund
	The Connecting Europe Facility (CEF) - digital sector
	Horizon Europe
Computerisation of public administration and deploying the related infrastructure	Digital Europe
	Horizon Europe
	The Connecting Europe Facility (CEF) - digital sector
	Reform Support Programme
Digitization of spatial planning (computerisation and digitization of building law agendas)	Digital Europe
	Reform Support Programme
Population protection	Horizon Europe
	Asylum, Migration and Integration Fund
	European Defence Fund
	Digital Europe
	Internal Security Fund
	European Union Solidarity Fund
	Health (from 2021 included in ESF+)
Streamlining public administration to provide quality services	Reform Support Programme
	European Globalisation Adjustment Fund (EGF)

NCI SPECIFIC OBJECTIVE	CONTENT-RELATED UNION PROGRAMMES
Increasing the participation of disadvantaged groups in the labour market	Employment and Social Innovation (EaSI) (from 2021 included in ESF+)
Modernization of labour market institutions	Digital Europe
	InvestEU
	Employment and Social Innovation (EaSI) (from 2021 included in ESF+)
Promoting equality of women and men and reconciling work and private life	Creative Europe
	InvestEU
A functioning system of further vocational training	Erasmus+
	Creative Europe
	Digital Europe
	Employment and Social Innovation (EaSI) (from 2021 included in ESF+)
	European Globalisation Adjustment Fund (EGF)
Promotion and use of labour mobility	Creative Europe
	Horizon Europe
	Employment and Social Innovation (EaSI) (from 2021 included in ESF+)
	Erasmus+
Improving the education system outcomes with regard to modern competences and labour market needs, including with regard to the digitization of industry and society	Erasmus+
	Horizon Europe
	Creative Europe
	Digital Europe
Ensuring equal access to education	Erasmus+
Increasing the skills and quality of staff in education	Erasmus+
	Creative Europe
	Horizon Europe
Social inclusion	Erasmus+
	InvestEU
	Creative Europe
	Asylum and Migration Fund (AMF)
Social housing	InvestEU
	Employment and Social Innovation (EaSI) (from 2021 included in ESF+)
Client-oriented social services	InvestEU
	Employment and Social Innovation (EaSI) (from 2021 included in ESF+)
Quality and accessible health care	Health (from 2021 included in ESF+)
	Single Market Programme
	Horizon Europe
	Digital Europe
Development and improvement of transport infrastructure	The Connecting Europe Facility (CEF) - transport sector
	Horizon Europe
	InvestEU
Developing and improving the integration of transport	The Connecting Europe Facility (CEF) - transport sector
	Horizon Europe
Introducing modern technologies for the organization of transport and reducing traffic burden	The Connecting Europe Facility (CEF) - transport sector
	Horizon Europe
	Digital Europe

NCI SPECIFIC OBJECTIVE	CONTENT-RELATED UNION PROGRAMMES
Effective use of multimodal freight transport	The Connecting Europe Facility (CEF) - transport sector
	Horizon Europe
Increasing the availability and use of alternative fuels in transport	Horizon Europe
	The Connecting Europe Facility (CEF) - transport sector
Using alternative fuel vehicles in public transport	Horizon Europe
Development of non-motorized transport	Horizon Europe
Protection, development and promotion of cultural heritage	Creative Europe
	Horizon Europe
	InvestEU
	Erasmus+
	Digital Europe
	European Union Solidarity Fund
Improving public spaces and developing green infrastructure	Digital Europe
Sustainable tourism	Single Market Programme
	Creative Europe
	Programme for the Environment and Climate Action (LIFE)

4.6. Usability of financial instruments

Financial instruments (FI) in the form of repayable assistance (soft loan, bank guarantee, venture capital investment, or other) or a combination of repayable assistance and subsidies should only be directed to areas where supported investments are expected to be profitable.¹⁰ These are areas with a high likelihood that the FI use will contribute to a significant progress in achieving the specific objective. In principle, it is not appropriate to provide FI in parallel with a competitive offer of subsidies, but this does not exclude the possibility of appropriately combining both instruments for areas where purely repayable support does not allow the intended objective to be achieved.

For this reason, the following areas and their specific objectives within the NCI seem to be the most suitable for the use of FI (however, an ex-ante analysis will be necessary to verify them adequately):

Support for businesses and industry:

SO Improving the innovative capability of SMEs

Here, it is possible to use the *Advantageous Loan / Guarantee / Capital input* ideally always with subsidized technical advice in the following activities (based on the development phase of the company):

- Support for proof-of-concept, start-ups, scale-ups; Promoting market uptake of breakthrough innovative solutions; Development of technological, creative and digital innovations in traditional crafts

¹⁰ Profitability does not have to be conceived here only as a traditional economic return of the beneficiary's project. Especially for high-end FIs of the investment platform type, return on investment should be assessed from the macroeconomic level.

SO Introduction of the principles of digital economy and Industry 4.0 in companies

Here it is possible to use the *Advantageous Loan / Guarantee*, ideally always with the payment of the interest rate / guarantee fee in the following activities:

- Purchase of new technologies by companies, building the facilities of technological centres, etc.

SO Increasing the added value of products and services in the production chain

Here it is possible to use the *Soft loan / Capital input* based on the character of the development project in the following activities:

- Business infrastructure - revitalization of brownfields without environmental burdens

Transition to a low carbon economy:

SO Supporting the emergence and deployment of innovative low-carbon technologies and the efficient and thrifty use of renewable energy sources

Here it is possible to use the *Soft Loan / Guarantee* based on the type of activities:

- Photovoltaic power plants on large commercial/ public buildings, on other surfaces in consumption points (e.g. parking lots), or brownfields (former landfills, mines, etc.) - (soft loan + technical advice + capital rebate ¹¹)
- Introducing new innovative technologies (soft loan, guarantee)

SO Increasing energy efficiency and energy savings

Here it is possible to use the *Soft Loan / Combined FI of the investment platform type* in the following activities:

- Energy savings in residential buildings (commercial loan guarantee + technical advice, possibly in combination with a subsidy)
- Energy savings in commercial buildings (soft loan + technical advice on the total investment costs of the entire construction project)
- Energy savings in public buildings (a combined FI of the investment platform type for the entire energy management of public buildings)

In certain areas, the use of FI is not entirely appropriate for some NCI SOs, or it is not appropriate without some involvement of non-repayable support (subsidies). In the following areas, the combination of FI and non-repayable grant support is suitable to a certain extent¹²:

Transport

SO Increasing the use and availability of alternative fuels in transport - support for the acquisition of low-carbon vehicles, e.g. as part of clean “city logistics” (soft loan, guarantee, financing of operating leases)

SO Using alternatively powered vehicles in public transport - support for the acquisition of low-carbon vehicles for rail transport (guarantee, combined FI - investment platform)

Environmental protection and circular economy:

¹¹ Capital rebate will make it possible to obtain a part of the repayable aid in a non-returnable form, for example in the form of a remission of instalments, after reaching the set target (e.g. a certain percentage of energy savings).

¹² Alternatively, “high-end” FI based on the principle of investment platforms can be used

SO Protection and improvement of the status of water and of water management - support for the modernization of water supply/ waterworks and sewerage/ wastewater treatment plants (soft loan, guarantee, capital input),

SO Circular economy, waste and resource efficiency - support for recycling and material recovery of waste / technological innovations reducing waste generation (soft loan, guarantee).

SO Improving air quality - support for replacement of combustion boilers in households (soft loan + technical consultancy + preparation of technical documentation)

Research and innovation system¹³:

SO Promoting innovation through applied research and experimental development - support for commercialization of the results of public R&D&I (capital input + technical consultancy), support for developing corporate R&D&I (soft loan, guarantee, capital input - based on the development level of the company)

Education¹⁴:

SO Increasing the skills and quality of staff in education, SO Improving the education system with regard to modern competences and labour market needs, inter alia with regard to the digitization of industry and society - support of short- and long-term mobility, i.e. studying abroad (loan)

Labour market and employment:

SO Increased participation of disadvantaged groups in the labour market - support of existing social enterprises in further expansion of services or production (soft loan + technical advice, guarantee + technical advice)

Furthermore, areas with specific sub-themes that could be addressed partially by IF, but with a low probability of success, have been identified:¹⁵

Labour Market and Employment (SO Increasing the participation of disadvantaged groups in the labour market - supporting the existing social enterprises in further expansion of services or production; SO Functional system of further vocational training - supporting the adaptability and training of workforce), Social Inclusion, Combating Poverty And Health Care (SO Social housing - support for affordable housing - construction, reconstruction of rental housing), Culture (SO Protection, development and promotion of cultural heritage - support for cultural and creative industries), Tourism (SO Sustainable tourism - support for public infrastructures and marketing in tourism).¹⁶

In the area **Public Administration and Security**, the use of FI is not possible due to the non-profit nature of the activities.

An alternative to the wider application of FI in national operational programmes may be - especially where absorption of the allocated funding is problematic - to transfer the funding to the Union instrument *InvestEU*, which should serve essentially as an EU guarantee programme.

As the leverage effect of investments is strengthened through all available types of FI (soft loan, bank guarantee, venture capital investment, combined instruments of the investment platform type), the most appropriate area for their use is **Support for Businesses and Industry** where the sole use of FI instead of subsidies could increase the overall effect of supporting the activities of companies many times more than the parallel use of both subsidies

¹³ The financial instruments in the field of education and research are very limited, and so market research is currently under way among potential providers. Based on its results, a decision will be made on the way forward.

¹⁴ The financial instruments in the field of education and research are very limited, and so market research is currently under way among potential providers. Based on its results, a decision will be made on the way forward.

¹⁵ Alternatively, "high-end" FI based on the principle of investment platforms can be used.

¹⁶ For more information on the individual justifications for using FI as well as their specific types see the evaluation study "Assessment of areas suitable for repayable form of support in the period 2020+" (MoRD-NCA / Deloitte Advisory s.r.o.)

and FI. At the same time, the use of FI would distort the market less, mobilize private investment resources and allow the re-use of funds, i.e. their future use for other investment needs of CZ in the support of business and industry.

4.7. Link to the common agricultural policy

The link between the NCI, or the cohesion policy, and the CAP is given by the thematic links between the strategic and specific objectives on the one hand and the specific objectives of the CAP resulting from the draft Commission regulation on EAFRD on the other. These specific objectives will be developed in the Rural Development Programme into specific interventions that will be part of that Programme. The objectives are complemented by a cross-cutting objective of modernizing the sector by promoting and sharing knowledge, innovation and digitization in agriculture and in rural areas and by facilitating their uptake.

The CAP Strategic Plan, which is an instrument for using support from agricultural funds (EAGF and EAFRD), will address the needs defined on the basis of analyses of all the specific objectives mentioned above through individual interventions that will suitably complement the cohesion policy instruments. In particular, the link will be to the following CAP strategic objectives: (i) Improving the quality of the environment, introducing a low-carbon economy and adapting to climate change; (ii) Research and innovation system increasing the competitiveness of the society in the context of technological change, (v) Sustainable and integrated development of urban and rural areas.

At a more specific level, there may be partial overlaps between cohesion policy and the common agricultural policy on rural support issues. We therefore recommend that the ministries concerned and the MoA closely cooperate in the preparation of operational programmes and clarify and delimit the borderline areas of intervention in order to avoid overlaps of activities for the same or similar target groups in the future. For the purpose of such cooperation, it is appropriate, for example, to conclude mutual memoranda of cooperation or to find tools that will help avoid financing the same interventions and facilitate complementarities so that beneficiaries are clear in this subsidy interface.

Table: Link of cohesion policy to the common agricultural policy

PO (general regulation)	NCI STRATEGIC OBJECTIVE	NCI SPECIFIC OBJECTIVE	EAFRD SPECIFIC OBJECTIVE
2	(i) Improving the quality of the environment, introducing low-carbon economy and adapting to climate change	• Nature protection and landscape conservation	To contribute to the protection of biodiversity, strengthen ecosystem services and preserve habitats and landscapes
		• Protection and improvement of the status of water and of water management	To promote sustainable development and effective management of natural resources such as water, soil and air
		• Reclamation of sites with environmental burdens and revitalization of brownfields	
		• Improving air quality	

		<ul style="list-style-type: none"> • Introducing the principles of circular economy and resource efficiency 	
		<ul style="list-style-type: none"> • Supporting the emergence and deployment of innovative low-carbon technologies and the efficient and thrifty use of renewable energy sources 	To contribute to climate change mitigation and adaptation as well as to sustainable energy
		<ul style="list-style-type: none"> • Increasing the energy efficiency and energy savings 	
		<ul style="list-style-type: none"> • Modernizing and streamlining the production, distribution and storage of energy 	
1	(ii) A research and innovation system enhancing the competitiveness of the society in the context of technological change	<ul style="list-style-type: none"> • Promoting innovation through applied research and experimental development 	Modernizing the sector by promoting and sharing knowledge, innovation and digitization in agriculture and in rural areas and by facilitating their uptake
		<ul style="list-style-type: none"> • Improving the innovative capability of SMEs 	
		<ul style="list-style-type: none"> • Introduction of the principles of digital economy and Industry 4.0 in companies 	To improve market orientation and competitiveness, including increased focus on research, technology and digitization
		<ul style="list-style-type: none"> • Increasing the added value of products and services in the production chain 	
			To improve the position of farmers in the value chain
3	(iii) Competitive and cohesive society	<ul style="list-style-type: none"> • Increasing the participation of disadvantaged groups in the labour market 	To promote employment, growth, social inclusion and local development in rural areas, including bioeconomy and sustainable forestry
		<ul style="list-style-type: none"> • Social inclusion 	
5	(v) Sustainable and integrated development of urban and rural areas	<ul style="list-style-type: none"> • Improving public spaces and developing green infrastructure 	To contribute to the protection of biodiversity, strengthen ecosystem services and preserve habitats and landscapes

		• Development of non-motorized transport	To contribute to climate change mitigation and adaptation as well as to sustainable energy
		• Sustainable tourism	To promote employment, growth, social inclusion and local development in rural areas, including bioeconomy and sustainable forestry

Direct payments will continue to be one of the central elements of agricultural policy, as they ensure stability and predictability for farmers. The priority will be to support small and medium-sized farms, which comprise the majority in the EU agricultural sector, and to help young farmers. The Commission is committed to a fairer distribution of direct payments among Member States using external convergence. According to the initial proposals of EU regulations, direct payments to farmers at EUR 60 000 and above are to be capped and the ceiling will be EUR 100 000 per farm, taking into account labour costs. At the same time, Member States should allocate at least 2% of their direct payments to support young farmers setting up.

The CAP will also have greater environmental and climate ambitions. The EU-wide objectives proposed today address climate change, natural resources, biodiversity, habitats and the landscape in a comprehensive way. Income support for farmers is already now tied to compliance with cross-compliance rules and the use of environmentally friendly and climate-friendly farming practices. The new CAP will require farmers to pursue even more ambitious targets, through both mandatory measures and incentives. The payment of direct payments will be subject to compliance with the requirements of enhanced conditionality in the areas of the environment and climate, public health, animal and plant health and animal welfare, which should newly take over mainly the parts of the current payment for agricultural practices beneficial for the climate and the environment, and should be extended to include requirements related to the Water Framework Directive, the Directive on the sustainable use of pesticides and provisions relating to the farm animal disease situation. The requirements defined by cross-compliance constitute the basis for establishing all other interventions in order to avoid double or multiple financing. The incentive part of direct payments will be the newly included climate and environment schemes (so-called Eco-schemes), to which a Member State can allocate funds from the envelope for direct payments at its discretion; the draft legislation does not yet contain the lower or upper limit on such allocation. At least 30% of the funds received by the Member State for rural development shall be dedicated to environmental and climate action. 40% of the total CAP budget is expected to contribute to climate action. The CAP will also put more emphasis on the use of knowledge and innovation.

4.8. Recommendations and measures

Essential measures and recommendations of the NCI focus on using the results of the prioritization in the preparation of the Partnership Agreement the operational programmes. We recommend to prioritize (but not necessarily exclusively) those NCI specific objectives that ranked best in the relevant area, give them appropriate weight and adjust the allocation of funds to the specific objectives and calls of the programme. Another key criterion should be the overall importance of the specific objective, taking into account, in some cases, the limited amount of funds and the different expected levels of absorption capacity.

The measures and recommendations below are of a substantive and procedural nature. The substantive measures and recommendations relate to a specific area of cohesion policy, while procedural measures and recommendations mostly apply to several areas. The substantive measures and recommendations usually relate to the implementation of operational programmes, but at the same time they can contribute to a specific policy of the given country and its respective strategies. Procedural measures and recommendations concern both the implementation of operational programmes and, in particular, the setting of appropriate conditions and legislation in the area, or the completion of strategic or implementation documents where they are missing. Most of the measures and recommendations result from individual evaluations and final meetings of evaluators carried out as part of the NCI prioritization where, among other things, obstacles and risks in terms of support focus, absorption capacity, preparedness of strategies, legislation, etc. were identified. Their elimination will help to set the support correctly and consequently implement the operational programmes in time and in the quality and extent necessary and thus maximize the impact of the invested funding from EU funds.

We expect that the measures and recommendations will be taken into account in the preparation of operational programmes and their programme documentation and will be reflected in the preparation of the Partnership Agreement and discussed and monitored by the platforms for the preparation and implementation of EU funds (ESIF Council and other groups).

Table: Selected substantive measures and recommendations for the preparation and implementation of PA and OPs

The measure	Who should implement it	When to implement it at the latest
Taking into account the territorial dimension in the OP settings, also with regard to the results of the prioritization evaluation, where relevant.	MIT, MoE, MEYS, MLSA, MoRD, MoT, MoA	2020
Taking into account the relevant territorial dimension through selected instruments of the territory-specific approach in the individual OPs	MIT, MoE, MEYS, MLSA, MoRD, MoT, MoA	2019/2020
Promoting the establishment of facilities for the treatment of material recoverable waste components.	MoE in cooperation with local authorities	Continuously
Promoting the establishment and use of re-use centres and disseminating good practice examples.	MoE in cooperation with local authorities	Continuously
Supporting innovation in waste recycling.	MIT, MoE	Continuously
Promoting an efficient use and recycling of water in production processes and in services/ establishments.	MIT	continuously

The measure	Who should implement it	When to implement it at the latest
Focusing on an effective use of rainwater in commercial, public and residential buildings.	MIT, MoE	Continuously
Supporting land consolidation to retain water in the landscape, both in municipalities and on agricultural and forest land.	MoE, MoA	Continuously
Promoting the conservation of biodiversity also in the urban environment and outside specially protected areas.	MoE	Continuously
As part of implementing the cohesion policy and the common agricultural policy, addressing the calamity states of bark beetle affected forests.	MoE, MoA	Continuously
Continuing to reduce the share of coal in the energy mix.	MIT	Continuously
Focusing more on RES energy storage in times of surplus (e.g. in the form of synthetic methane).	MIT	Continuously
Improving energy efficiency and energy savings in public buildings.	MoE, in cooperation with local authorities	Continuously
More support for biogas plants that use biowaste and WWTP waste, and for the production of gas in those facilities.	MoA, MoE, MIT	Continuously
Developing an implementation procedure to enhance the application of research in practice by supporting the development of academic start-ups (business activities of universities linked to research results).	MEYS in cooperation with TACR and MIT	2020
In the area of further vocational training, focusing on vocational training of company employees in connection with the transition to the 4th industrial revolution. The same applies to retraining of employed job seekers and unemployed job seekers.	MLSA, in cooperation with MIT and MEYS	Continuously
Supporting childcare services	MLSA	Continuously
Developing a career guidance system in all stages of life and in different life situations (pupils, students, employees, unemployed, persons returning from parental leave and others).	MLSA, MEYS	Continuously
Reflecting SO <i>Increasing the added value of products and services in the production chain</i> as a cross-cutting objective in the preparation of the relevant SOs in OPs focused on competitiveness.	MIT	2020

The measure	Who should implement it	When to implement it at the latest
Addressing SO <i>Digitization of spatial planning</i> in IROP under SO Computerisation of public administration activities and development of the related infrastructure.	MoRD	2019
In SO <i>Population protection</i> , concentrating the support primarily on measures to enhance the performance and increase the capacities of the basic IRS components.	Ministry of Interior (MoI), MoRD	2019
Analysing suitable areas for the use of FI in the OPs and, according to the results of the analyses, preparing support in the relevant parts of the OPs only through the FI (or in combination with subsidies)	MIT, MoE, MEYS, MLSA, MoRD, MoT, MoA	2019
Drawing up a proposal to streamline the use of financial instruments in the light of experience from the current programming period.	MIT	2019

The recommendation	Who should implement it	When to implement it at the latest
Following the evaluation of the relevance of the NCI SOs to the cross-cutting theme of Society 4.0, taking into account the needs of digitization and smart solutions/innovations under the areas of Support for Businesses and Industry, Labour Market and Employment, Education when defining the content and setting up the implementation of the relevant OPs.	MIT, MLSA, MEYS	2020
Following the evaluation of the relevance of the NCI SOs on the cross-cutting theme of Adaptation to Climate Change, taking into account and adopting relevant cross-cutting criteria in the OPs dealing with mitigation and adaptation to climate change in terms of water management (water retention in the landscape, use of waste- and rain-water in buildings), improving energy efficiency (of buildings and industrial operations), minimizing emissions (from transport, industrial and other business operations and residential buildings) and using RES.	MIT, MoE, MEYS, MLSA, MoRD, MoT, MoA	2021
Focusing on green infrastructure development.	MoE, MoRD	Continuously
Projecting selected topics of SO <i>Protection, development and promotion of cultural heritage</i> into IROP, taking into account the progress made in this field in the current period.	Ministry of Culture (MoC) in cooperation	2019

	with the MoRD	
Considering the focus of support in tourism on key public infrastructure projects and, in the case of business infrastructure, especially where there is no current sufficient offer of services from tourism entrepreneurs (economically and socially loss-making areas) and where there is sufficient potential of the cultural-historical or natural heritage.	MoRD in collaboration with OP MAs	2020
Through pilot projects to test and implement the method of case management and profiling of clients in employment services when working with groups disadvantaged in the labour market.	MLSA, LO CR	2023
Focusing the use of EU funds more on innovative measures and pilot interventions.	MIT, MoE, MEYS, MLSA, MoRD, MoT, MoA	2020
Focusing SO <i>Protection, development and promotion of cultural heritage</i> so that account is taken of the high absorption capacity in the field of restoration of monuments, while creating space for the promotion of innovative forms of art use (creative and cultural industries, commercialization of cultural heritage).	MoC	2019
Specifying what activities fall under the concept of 'sustainable tourism' in relation to the future scope of support from IROP.	MoRD	2019

Table: Selected measures and recommendations for the preparation and implementation of PA and OPs, related to legislation, financing, strategies and other related issues

The measure	Who should implement it	When to implement it at the latest
Mapping the possibilities and needs for co-financing of projects by different groups of beneficiaries, different areas and different types of territories (especially with regard to categories of regions).	Managing authorities	2019
Following the current state of negotiation of the conditions of the multiannual financial framework, the possibilities of the state budget and using the outcome of the mapping of the possibilities and needs delivered by the managing authorities, MF CR should draw up and, for discussion with MAs, MoRD and other partners, submit a proposal of rules	Ministry of Finance (MF CR)	2019

The measure	Who should implement it	When to implement it at the latest
for the co-financing of European funds in the 2021-2027 programming period.		
Preparing a proper justification for the possible use of subsidies in areas suitable for FI, such as Support for Businesses and Industry and Transition to a Low Carbon Economy and any other	MIT, MoE, MEYS, MoRD, MoT, MoA	2020
Developing a tool for awareness raising to motivate carriers to engage in combined transport.	MoT	2020
Carrying out a survey to identify the absorption capacity and readiness of projects for the construction of combined transport terminals.	MoT	2020
Upgrading the reserve of projects (and increasing the emphasis on their quality) in transport infrastructure for a smooth transition to the 2021+ period.	MoT	Continuously
With regard to the existing barriers, analysing the risks arising from the existing and forthcoming legislation with an impact on the construction of transport infrastructure, and initiating appropriate steps to eliminate them.	MoT	Continuously
Submitting to the Government an Education Policy Strategy till 2030.	MEYS	2020
Updating the National Concept of Non-motorised Transport Development.	MoT	2020
Ensuring that regions are covered by strategies on sustainable transport development, with an emphasis on developing the potential of the cycling backbone in the regions, taking into account the needs of tourism development.	MoT	2020
Covering the area of business support and especially SMEs with quality strategies taking into account the dynamics of the economic cycle and the structure of the Czech economy.	MIT	2020
Developing a relevant action plan to support the development of digitisation in enterprises, including an assessment of the risks to employment and education.	MIT, in cooperation with MLSA and MEYS	2020
Submit to the Government a Social Inclusion Strategy after 2020.	MLSA	2020
Presenting to the Government the Strategic Framework for the Development of Health Care in the Czech Republic until 2030.	Ministry of Health (MoH)	2020

The measure	Who should implement it	When to implement it at the latest
Systemically capturing SO <i>Improvement of strategic R&D&I management</i> in a strategic document and drawing up an implementation document with a view to strengthening synergies between the activities of research and industry.	MEYS, in cooperation with MIT and the Council for R&D&I	2020
Preparing a framework and implementation of future RIS3	MIT	2020
The recommendation	Who should implement it	When to implement it at the latest
Setting up appropriate financing options for improving the quality of public administration, including prioritization of topics intended for support from EU funds, taking into account the fact that the public administration agenda is not one of the Commission priorities.	MoI in cooperation with MoRD and other content-relevant ministries	2019
Using simplified cost options where appropriate to simplify project administration and increase beneficiaries' interest. At the same time, it is necessary to consider cases where these methods can be applied in public administration in order to avoid double reporting of costs.	Managing authorities in cooperation with MoRD and MF CR	Continuously
Describing the basic risks in the current legislation (e.g. in relation to programme financing or the Act on Budgetary Responsibility so that they comprehensively capture the procedures of implementing expenditure from the state budget into financial instruments) and proposing steps to eliminate them.	MoRD in collaboration with MF CR	2019
Considering the preferential use of financial instruments over non-repayable assistance (subsidies), or use of a combination of FI and subsidies, especially in the areas Support for businesses and industry and Transition to a low-carbon economy.	MIT, MoE	2020
Searching for effective forms of stimulating the development of high-speed electronic communications networks in the whole CZ territory as a precondition for the transition to Society 4.0, including verification of funding opportunities through FI.	MIT	2020

Appropriately using EU programmes thematically complementary to the NCI specific objectives as a complementary source of funding	MIT, MoE, MEYS, MLSA, MoRD, MoT, MoA	2020
Maximising the use of EU programmes in implementing the NCI specific objectives Population Protection; Introduction of modern technologies for transport organization and reduction of traffic load; Effective use of multimodal freight transport; Protection, development and promotion of cultural heritage; Digitization of spatial planning.	MoI, MoT, MoC, MoRD	2020
Increasing the interest of private applicants in the area of biodiversity, especially where there is no apparent economic benefit.	MoE, MoA	Continuously
Upon agreement of the MoRD and MoE, conducting a unified communication and awareness-raising towards future potential beneficiaries (municipalities) regarding the consideration of green and blue infrastructure elements in the planning of public space reconstructions.	MoE and MoRD	Continuously
Motivating companies and entrepreneurs to make a more massive use of support in the area of energy savings and RES.	MIT, MoA	Continuously
In the light of the socio-demographic forecasts ensuring a higher degree of innovative social inclusion measures in the preparation of strategic documents and the relevant operational programme.	MLSA	2020
Eliminating duplications between operational programmes, between operational programmes and national subsidy programmes, directly managed EU programmes and the common agricultural policy, and effectively set up their complementarity and coherence.	MIT, MoE, MLSA, MoT, MEYS, MoA, MoC, MoH, MoI, MEYS, MoRD in cooperation with MF CR	2019-2027

5. LIST OF SOURCES USED

Strategic, evaluation and analytical documents of ministries

7th Cohesion Report (European Commission, 2017)

Action Plan for Work 4.0 (Office of the Government of the Czech Republic (hereinafter OG), 2017, draft)

Action Plan for the Development of the Digital Market (OG, 2015)

Action Plan for Society 4.0 (OG, 2017, draft)

Action plans Health 2020 - National strategy for health protection and promotion and disease prevention (Ministry of Health, 2015)

Audit of the education system in the Czech Republic: risks and opportunities (EDUin, 2016)

Initiative Industry 4.0 (Ministry of Industry and Trade (MIT), 2016)

INKA - The innovation capacity of the Czech Republic: the main conclusions of verification analyses (TA CR, 2016)

Heritage Conservation Concept of the Czech Republic for the period 2017-2020

Concept of the State Tourism Policy in the Czech Republic for 2014-2020

Prison System Concept of the Czech Republic up to 2025 (Ministry of Justice, 2016)

Population Protection Concept of the Czech Republic (Ministry of Interior, 2015)

Macroeconomic and Sectoral Analysis of the Czech Republic (MoRD, 2017)

Macroeconomic Forecast of the Czech Republic (Ministry of Finance, 2017)

Memorandum and Action Plan on the Future of the Automotive Industry in the Czech Republic (MIT, 2017)

National Investment Strategy - Investment Plan of the Czech Republic (2017, draft)

National priorities of oriented research, experimental development and innovation (OG, 2012)

National Reform Programme of the Czech Republic (OG, 2017)

National Strategy for Drugs Policy 2010-2018 (Government Office, 2010)

National Strategy for the Development of Social Services 2016-2025 (Ministry of Labour and Social Affairs, 2016)

National research and innovation strategy for smart specialisation of the Czech Republic (MEYS, 2014)

The lack of qualified employees on the Czech labour market (Association of SMEs and Sole Traders/ Czech News Agency, 2017)

Verification study of the conditions for the implementation of interventions under Priority Axes 1, 2 and 3 of OP RDE and verification of the relevance of their specific objectives (MEYS, 2017)

Assessment of areas suitable for non-repayable form of aid in the period 2020+ (MoRD/Deloitte, 2019) - final evaluation report available at dotaceEU.cz/knihovna-evaluaci

State Environmental Policy 2012-2020 (MoE, 2013)

Strategy on Adaptation to Climate Change in the Czech Republic (MoE, 2015)

Climate Protection Policy of the Czech Republic (Ministry of the Environment, 2017)

Waste Management Plan 2015 - 2024

Spatial Development Policy of the Czech Republic, as amended by Update no. 1 (MoRD, 2015)

National Energy Concept of the Czech Republic 2015-2040 (MIT, 2015)

National Cultural Policy for the years 2015-2020 (with an outlook until 2025)

Strategic Framework of the Czech Republic 2030 (OG, 2017)

Strategic framework for the development of public administration 2014-2020 (Ministry of Interior, 2015)

Regional Development Strategy of the Czech Republic 2021-2027 (MoRD, 2017, draft, analytical source document)

Strategy of the Ministry of Agriculture with an outlook till 2030 (Ministry of Agriculture, 2016)

Social Inclusion Strategy 2014–2020 (Ministry of Labour and Social Affairs, 2014)

Psychiatric Care Reform Strategy (Ministry of Health, 2013)

Public expenditure and EU funds 2007-2015 (MoRD, 2017)

Education 4.0 (MEYS, 2017, draft)

Principles of Urban Policy II (MoRD, 2017, draft)

Mapping and synthesis of knowledge about the results and benefits of EU funds in the 2007-2013 period (MoRD, 2017)

Progress report on the implementation of the Partnership Agreement as of 31.12.2016 (MoRD, 2017)

Report on the implementation of the National Reform Programme of the Czech Republic 2017 (OG CR, 2016)

Special Report No 5 - Youth unemployment (ECA, 2017)

6. LIST OF ANNEXES

1. Annex 1: NCI specific objective cards - basis for prioritization
2. Annex 2: Linkage of the NCI thematic areas and specific objectives to EU policy objectives
3. Annex 3: Linkage of NCI specific objectives to cross-cutting themes
4. Annex 4: Relationship of NCI specific objectives to the European Semester process
5. Annex 5: Overview of the NCI specific objectives and their complementary EU programmes