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Ongoing Evaluation of Implementation of the Operational Programme Research, Development and Education

Ministry of Education, Youth and Sport

Progress Report 11

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MINISTRY OF EDUCATION, YOUTH AND SPORTS

Executive Summary

This report represents the eleventh Progress Report which monitors the factual progress and financial performance of the OP RDE as of 30 June 2021.

Based on the state of implementation, factual progress partially corresponds with the anticipated state of implementation of OP RDE to a given date.

In the period from 1 January 2021 to 30 June 2021, 140 of the 156 result and output indicators across the priority axes to which the projects directly commit showed a non-zero achieved value.

Target values of the indicators with risk of non-fulfilment or over-fulfilment have been identified.

The risk of non-fulfilment was identified in 16 pairs of indicators (LDR and MDR together) and the risk of over-fulfilment was identified in 51 pairs of indicators (LDR and MDR together), so it is recommended to revise the OP in order to adjust the target values of selected indicators. The need for redistribution of target values between regions was identified for 6 pairs of indicators (LDR and MDR together). For 3 pairs of indicators (LDR and MDR together) no risk of non-fulfilment, over-fulfilment or need to redistribute target values between regions was identified. The factual progress of the implementation of the OP RDE can already be demonstrated by the results of individual projects. For this purpose, a field survey was carried out as part of this report.

PA1: Survey on Call No. 02_16_024 Strategic Management of Research, Development and Innovation at the National Level II

One system project entitled "System support for the implementation and management of the National RIS3 " is implemented in the call, the main objective of which is to create conditions for long-term transparent, systematic and supra-regional identification of areas of specialisation and trends of oriented and applied research, experimental development and innovation through the National RIS3 strategy. This project's beneficiary is the Ministry of Industry and Trade of the Czech Republic (hereinafter "MIT"), the partners are the Technology Agency of the Czech Republic (hereinafter "TA CR"), the Agency for Business and Investment Support called CzechInvest (hereinafter "CzechInvest") and the Technology Centre of the Academy of Sciences of the Czech Republic (hereinafter "TC AV").

According to the project's beneficiary and partners, the project is set up and managed efficiently and without major problems. Project management was initially affected by the Covid-19 pandemic, which made it necessary to move meetings to an online mode which still persists in hybrid form. A system of regular meetings is set up in the project and the beneficiary also provides partners every week with a summary of current events in the project, thus ensuring that all parties involved are informed. Evaluation work is ongoing in the project, which summarises the status of the project, draws attention to problems and gives suggestions on how to solve them. Thus, the effectiveness of key activities increases and the project is moving forward.

The project implemented a specification of certain functionalities of the EDP portal, which involved both project's representatives (especially the Ministry of Industry and Trade, TA CR and TC AV), as well as regions and entities providing data. It was specified with these subjects what data are most relevant to them, how to obtain these data, etc. Subsequently, there was a delay in implementation, as the first attempt failed to select the supplier of the EDP portal. On the second attempt, the supplier was selected and cooperation was established to create the EDP portal which should be completed in mid-2022. The project processed analytical documents and configurations combining data from different systems so that the data was ready to fill the data repository. The systems will be an integrated part of the EDP portal. Most data are prepared and connected with the databases of the TA CR partner (containing, for example, information on projects with state support, results of RIV entities drawing support, etc.) and with aggregated data from innovation capacities. After the creation of the EDP portal, it will be possible to integrate the system with the outputs of the horizon scanning system which was completed at the end of June 2021 as part of another project implemented by the TC AV project partner (HS4RRI project). The outputs from the analytical part of the system and possibly the evaluation module (technological radar) will be used in the EDP portal.

Within the project, the settings of the National Innovation Platforms (NIPs) were re-established according to the newly updated RIS3 strategy valid for the years 2021-2027, and from the beginning the NIPs were set up to operate in accordance with this new strategy and to actively listen and communicate between representatives of the subjects of the research and innovation environment, taking into account their suggestions in strategic documents and processes, etc. NIPs are currently divided into 6 groups which deal with different topics. Meetings of each NIP take place regularly and more frequently than planned.

Within the project, methodologies for the development of individual areas are being developed which CzechInvest and its representatives focus on - infrastructure, analytics, marketing, clusters and education. As part of the creation of methodologies in the field of analytics, data and map sets are created to specify regional priorities/specialisations, and so far 10 sets have been defined. Within the methodology of clusters and innovation infrastructures, the aim is to find out what level the given areas are at and to create a benchmark for them, on the basis of which project implementers want to further support the environment and entities using funds, support tools and services. According to the partner's representative, two educational events have already taken place within the marketing and PR methodology (e.g. marketing communication and brand building) and more are being prepared. Simultaneously, an analysis of regional websites was carried out to find out where and in what way the regions had placed relevant information concerning RIS3, on the basis of which the project partner could provide advice on what to do differently. At the same time, an educational plan was created based on the identification of key areas with regional representatives. As part of the creation of the training plan, approximately 25 topics/areas in which employees want to be trained have been identified, on the basis of which 12 trainings have been proposed so far, four of which have already taken place. The representative of the CzechInvest partner stated that there is great satisfaction among the participants with the educational programme and events, mainly due to the fact that the training was suitably focused on target groups.

Specific benefits and impacts cannot currently be fully assessed, as the project is still under implementation and no major outputs which will affect the benefits of the project have been created. However, activities which will contribute to achieving the objectives and expected benefits/impacts of the project are being implemented. According to the project representatives, the benefits of the project already include intensified communication between the NIP and the regions, contributing to the optimisation of the EDP process and increasing the interest of national and regional managers in participating in the EDP process. The project and its activities help to manage RIS3 and its implementation process, which leads to an overall shift in this area. The benefit is also that the project

not only set up the process but also provided capacity for it. The project thus contributes to the fulfilment of the three declared benefits of the project, and for the other two benefits, activities which should contribute to the fulfilment of the given benefits have been initiated. The creation, verification of functionality and launch of the EDP portal will significantly contribute to the fulfilment of all benefits. It can also be assessed that the project and its activities contribute to the fulfilment of the objective of the call and SO4 PA1, which in both cases is to improve the strategic management of research, development and innovation at the national level.

The representatives of the project stated that it would be necessary to focus on further development and expansion of the EDP portal functionalities and it will be necessary to ensure sufficient capacity for the operation of the EDP portal and data repository. Furthermore, according to the beneficiary, it is necessary to establish and ensure a functional relationship at the national and regional level in the future so as to create conditions for long-term transparent, systematic and supraregional identification of areas of specialisation and trends of oriented and applied research, experimental development and innovation through the National RIS3 strategy. Likewise, according to the project's representatives, it is necessary to focus more on internationalisation and sharing experiences with foreign countries.

PA3: Survey on call No. 02_16_036 - Implementation of digital education strategy I

In call No. 02_16_036, 2 projects were implemented - Support for development of computational thinking (PRIM) and Support for the development of Digital literacy (PRDG). From the beginning, these projects were intended to be implemented as conceptual in order to support the development of digital education (e.g. by creating materials for changing curricular documents, etc.) and to support the implementation of the Digital Education Strategy until 2020 (hereinafter "DES"). The projects were implemented in a system where one university with a faculty of education was in the position of a beneficiary and all remaining universities with faculties of education were in the position of partners. In general, both project partners and representatives of the MEYS and DigiKoalice evaluate this system positively, as it has enabled shared responsibility and participation in systemic change which affects all faculties of education. In general, the project partners agreed that if the system was set up in this way in the future / next programming period, they would be interested in participating in such projects.

The projects directly contributed to the implementation of eight DES measures all of which were fulfilled according to the Overall Evaluation of the Digital Education Strategy by 2020. The projects mainly contributed to the updating of the curriculum / revision of the framework educational programmes in the field of ICT, to the emphasis on digital technologies and the modernisation of the educational field of ICT or to the creation of digital educational resources. Furthermore, the projects contributed to the development of teacher education in the field of digital literacy and computer thinking where courses and materials for teacher education were created in the projects. The projects carried out an analysis of university syllabi together with an analysis of the possibilities of integrating digital literacy into the training of future teachers. Lecture notes for new educational programmes were created. The projects also contributed to the popularisation of the impact of digital technologies on education, as the mandatory activity of both projects was popularisation. Through their activities, the projects contributed to the fulfilment of the objectives of the call and the fulfilment of most of the objectives of the individual mandatory activities of the call. Both projects also contributed to fulfilling the specific objectives of PA3 IP1 SO1 and PA3 IP1 SO2 and their four expected results. These are mainly the expected results associated with the support of teachers and the development of their competencies, but also the support of the use of ICT technologies.

According to the representatives of the MEYS, DigiKoalice and project partners, popularisation should have been better coordinated by the MEYS and more closely linked to the strategy of the MEYS as both projects implemented a popularisation campaign of their results/outputs without a link to the plans of

the MEYS. At the same time, expected changes were to be better communicated by the MEYS. Interviews with representatives of the MEYS and DigiKoalice show that there were significant differences between the projects in the area of popularisation/communication (e.g. PRIM's Facebook is followed by more than 7 000 users while PRDG's Facebook is followed by around 220 users). These differences are a more active approach of the PRIM project's beneficiary to communication and at the same time the involvement of external experts in PR, while in the PRDG project, communication activities were provided by faculty staff. Its "simplicity" also contributed to better promotion of the PRIM project, as it focused on only one subject (informatics), while the PRDG project aimed to change and introduce digital literacy in all general education subjects. In the PRDG project, project representatives participated in conferences and other events where they presented the project and topics related to digital literacy. Round tables and seminars for teachers were held at individual partner institutions, and a conference was organised for school principals, founders, teachers and others interested in a broader view of the concept of transformation of educational disciplines in terms of the use of digital technologies and digital literacy development. Within the PRIM project, an extensive media campaign was implemented in the period from July to November 2020 which consisted of advertising in the print media, outdoor promotion, advertising banners on web portals, Facebook advertising and radio spots. As part of this popularisation, the television series FUTURETRO was created in cooperation with Czech Television but not broadcast at the time of writing this report. In addition to the series, short spots and videos with popularisation and educational focus were created. These are freely available on the project's YouTube channel. During the project, almost 300 popularisation events were implemented by the partners (e.g. suburban camps, competitions, lectures, workshops, conferences, interest groups, etc. connected with informatics thinking) and the Bobřík informatics competition was also innovated.

The questionnaire survey among representatives of schools involved in the pilot verification of PRIM and PRDG project materials shows that the majority (around two thirds) of respondents did not notice any interest in project outputs and experiences from non-participating institutions and their teachers. The project's partners also agreed that the schools did not actively apply for the projects themselves and that all participating schools had to be contacted and involved by the project implementers. At the same time, however, more than two thirds of respondents to the questionnaire survey stated that they recommended PRIM and PRDG project materials to other people/colleagues.

The questionnaire survey shows that the involvement of digital educational resources (DER) in teaching has increased in the institutions, mainly due to involvement in projects. The participating institutions usually have sufficient IT equipment for the integration of digital education and at the same time most pedagogical staff have sufficient competence for the use of IT equipment and also for the use of digital educational resources and other project outputs in teaching. The representatives of the institutions involved in the PRDG project mostly stated that as a result of their involvement in the project, their institution is experiencing positive changes in its approach to digital literacy. DER are most often used in the subjects of mathematics and its applications, informatics/ICT and foreign languages. On the contrary, the use of DER in music and physical education is considered difficult. The representatives of the institutions involved in the PRIM project mostly stated that as a result of participating in the project, there are positive changes in their institution's approach to the field of informatics thinking of pupils/teachers and that they use textbooks/DER created within the PRIM project, especially in the field of informatics and in the basics of robotics.

The surveys show the need to continue to support digital education. The representatives of the MEYS and DigiKoalice stated that it is necessary to focus on digital education at the conceptual/national level and not to deal with it only in terms of projects. There is thus a need to ensure a strategy which will follow DES 2020, it is also necessary to ensure sufficient staff capacity who will devote themselves to digital education and advance it. Furthermore, it is essential to ensure sufficient funding which will be

sustainable in the long term in order to be able to lead these changes in a conceptual, not project-based manner. Further support for the development of digital education must be comprehensive and must form a mosaic of activities which cannot work without each other. Among the main areas which need to be developed according to the findings of the survey conducted for the purposes of this report is the provision of ICT infrastructure/equipment in all schools, together with the capacity to manage this equipment and support teachers in using it. Other areas include the need to ensure the development of headmasters' competencies for working with digital resources so that they have sufficient competencies and know where to direct their school, both from their point of view and from the teachers' point of view (pedagogical-digital leadership). Furthermore, it is necessary to develop the competencies of pedagogical staff for working with digital materials/aids. Last but not least, there is a need to continue to provide sufficient and high-quality digital educational resources, such as textbooks, educational software for use in teaching, etc. (whether providing new ones or using existing innovated resources). According to the findings, the development of digital education would also benefit from the support/sharing of good practice and cooperation between schools, e.g. by participating in platforms for sharing experiences.

The financial progress at the decisive date exceeds the expectations stated in the OP RDE programming document.

The financial progress at the decisive date slightly exceeds the expectations stated in the OP RDE Programming Document. As of 30 June 2021, a total of CZK 95 489 million was committed, which represents 108,97% of the total allocation of the programme. The share of reimbursed funds in the total OP RDE allocation then amounts to 88,9% of this allocation. The share of repaid funds in relation to committed funds is at the level of 81,6%. The highest share is in PA3, where it is at the level of 83,3%.

The funds allocated by the calls exceed the allocation set out in the OP RDE Programming Document. This is due to the fact that in some already closed calls, not all allocated funds had been used up. Subsequently, these were reallocated in other announced calls, so these funds are counted multiple times. The N + 3 rule for 2021 has been met.

Table 1 Financial performance according to the funds

Priority Axis	Fund	Share of the allocation of calls to the OP RDE allocation	Share of the volume of committed financial resources to the OP RDE allocation	Share of the volume of financial resources paid to the OP RDE allocation
PA1	ERDF	126,33%	110,75%	88,55%
PA2	ERDF	137,56%	126,73%	104,82%
	ESF	135,60%	104,23%	78,89%
PA3	ESF	129,62%	101,68%	87,50%
PA4	ERDF	118,34%	103,65%	75,25%
Total	**ERDF**	**128,65%**	**114,32%**	**91,80%**
	ESF	**131,18%**	**102,35%**	**85,25%**
	ERDF+ESF	**129,78%**	**108,97%**	**88,88%**

Source: MA of the OP RDE, MS2014+, own calculations

Based on the current status of the financial progress on 30 June 2021, no risk of non-utilization of allocated resources of the OP RDE has been identified.

All specific objectives of the OP RDE are covered by at least one completed call. The absorption capacity of calls was correctly determined in all three cases of closed calls in the period from 1 January 2021 to 30 June 2021.

Factors which could prevent effective implementation of OP RDE have been identified.

The identified factors that currently negatively affect the progress of the implementation of the programme are listed in the following table. The factors are divided into the most important (red), moderate (orange) and least important (green).

Table 2 Factors affecting the state of the programme implementation

Factor	Specification of the factor	Impact of the factor	Probability of occurrence	Importance of the factor
Risk of non-fulfilment of the output indicators in PA1 - PA2	There is a risk of non-fulfilment of the following output indicators in PA1: • Number of enterprises cooperating with research institutions (LDR and MDR) There is a risk of non-fulfilment of the following output indicators in PA2: • IP1: Number of students of research-oriented study programmes and Ph.D. students who took part in the fellowship (MDR and LDR) • IP1: Number of newly created accredited study programmes in Czech (MDR) • IP1: Number of newly created study programmes taught in co-operation with another university (MDR) • IP1: Number of new practice-oriented study programmes (MDR) • IP1: Number of study programmes with at least one subject taught in a foreign language (MDR) • IP1: Number of supported products of LL (MDR and LDR) • IP1: Number of new practice-oriented Bachelor study programmes (MDR and LDR) • IP2: Number of newly built, expanded or modernised infrastructures for research-oriented study programmes (MDR and LDR) • IP2: Number of students who use the newly built, expanded or modernised infrastructure for research-oriented study programmes (MDR and LDR) There is a risk of non-fulfilment of the following result indicators in PA2: • IP1: Number of study programmes taught in a foreign language (MDR and LDR)	3	3	9

Factor	Specification of the factor	Impact of the factor	Probability of occurrence	Importance of the factor
	• IP1: Number of first-year graduates in new practice-oriented study programmes (MDR) • IP1: Number of new practice-oriented study programmes (MDR) • IP1: Number of students with SN using products of counselling and assistance support (MDR) • IP1: Number of newly created courses of LL (MDR and LDR) • IP1: Number of universities with established transparent systems of quality assessment (MDR) • IP1: Number of first-year graduates in new or modernised research-oriented study programmes accredited also for teaching in a foreign language (MDR and LDR) • IP1: Number of research organisations with a modernised strategic management system (MDR) • IP1: Number of organisations affected by a systemic intervention (MDR and LDR) • IP1: Number of Roma children pupils and students in supported organisations (MDR and LDR) There is a risk of non-fulfilment of the following result indicators in PA3: • IP1 Number of Roma children, pupils and students in supported organisations (MDR) • IP2 Number of organisations in which the quality of upbringing, education and pro-inclusiveness have increased (MDR and LDR) There is a risk of non-fulfilment of the following result indicators in PA1: • Number of organised trainings, seminars, workshops and conferences • Number of created communication tools			

Based on the performed analyses, the following recommendations were made:

Table 3 Recommendations resulting from the findings

Name of the recommendation	Description of the recommendation	Prioritisation of the recommendation	Implementation steps
Revision of the Operational Programme - settings of the indicator values in PA1 – PA4	In all priority axes, indicators have been identified where there is a risk of non-fulfilment or over-fulfilment of the target values, even in the order of hundreds of percent. For this reason, it is recommended to carry out a revision of the OP, with the aim of adjusting the target values of selected indicators. Alternatively, it is recommended to prepare a justification for over-	4	1) According to the statement of the EC to the question raised by the MA of the OP RDE: - start a revision of the OP or - prepare a justification for over-fulfilment/non-fulfilment of the target values

Name of the recommendation	Description of the recommendation	Prioritisation of the recommendation	Implementation steps
	fulfilment/non-fulfilment of the target values.		

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