



ANNUAL PROGRAMME REPORT FM14-21

Czech Republic

CZ-RESEARCH Research

2023



A. EXECUTIVE SUMMARY

In 2023, the CZ-RESEARCH programme (KAPPA Programme, further "Programme") entered the second half of the project implementation phase. During 2023, 1 project was terminated, thus as of the end of 2023, 24 projects were in the implementation phase.

The management activities of the Programme Operator (Technology Agency of the Czech Republic, "TA CR") focused mainly on the support of Project Promoters and project partners via preventive measures such as consultations, advice and general guidance on relevant topics such as project changes, monitoring and reporting, financial flows and publicity. The Donor Programme Partner (Research Council of Norway) was in close contact and helpful regarding the concerns of Donor state partners.

The risks of the Programme remain low. The global and national situations such as COVID-19 pandemic, war in Ukraine or other conflicts, inflation and economic crisis did not significantly impact the Programme. In some cases, however, the events caused delays in project implementation and impacted the achievement of some planned results. The affected projects cooperate with the Programme Operator to find solutions and make necessary changes to the project plan. Some minor delays were caught up, including travels and physical meetings of project consortia. There are persisting risks associated with the current economy and inflation development, however, as the projects do not include investments, the risks of the unpredictable significant rise of costs are rather low. The inflation in general could negatively affect the project budget. Nevertheless, no project has identified it as a high threat to the achievement of the results for now and in many cases the projects can mitigate this risk thanks to unspent funding savings.

In 2023, TA CR processed the distribution of the unspent funding among projects in implementation. In early June 2023, all running projects from the single Call for Proposals (announced in 2019) were addressed with the opportunity to include additional activities and to increase their project budgets. 13 projects applied for this opportunity and submitted a request for project change. Ca 950,000 EUR in total were allocated to 11 projects that complied with all the conditions and were recommended for approval by a rapporteur. A small amount of unspent funding remained within the Programme. This opportunity brought new project results or enhanced already planned results, enhanced bilateral cooperation and involvement of young and female researchers. Simultaneously, the projects with a planned end in 2023 requested a prolongation of implementation, which means that now all of the 24 projects will end by 4/2024.

As to outputs from Programme audits, the internal Management and Control System newly called the KAPPA Programme Methodology was updated following the 5 minor findings of the audit of the management and control system carried out by the Audit Authority in 2022. During 2023, the Audit Authority of the Ministry of Finance carried out one Programme audit on the management and control system of the programme, focused on public administration controls (financial inspections). The audit was concluded with the highest ranking as well functioning, with only one minor finding in a process description.

In September 2023 TA CR organised the international conference SOILCON in cooperation with the Technology Centre Prague and RCN for the beneficiaries of EEA and Norway Grants in Europe and other interested participants. This bilateral event held in Prague and covered from the Bilateral ambitions of the Programme was attended by ca 90 domestic and international participants.

B. PERFORMANCE

1. Programme progress and results



Objectives

The main objective of the CZ-RESEARCH Programme "Enhanced research-based knowledge development" is fulfilled through the KAPPA Programme administered by TA CR and its Call for Proposals, in which unique research projects were funded. Specifically, the Programme objective is attained through one outcome "Enhanced performance of Czech research and development internationally" in which a set of concrete indicators is monitored. The Programme supports capacity building in applied research, including supporting small and medium-sized enterprises (SME), female researchers and early-stage researchers. Some of these programme focus areas were strengthened in 2023 thanks to the opportunity to increase the budget for additional activities of the projects supported in the Call for Proposals. This opportunity brought new project results or enhanced already planned results, enhanced bilateral cooperation and involvement of young and female researchers. Partnerships between academia and companies are supported to ensure bringing the research results into practice.

Each of the implemented projects contributes to enhancing research-based knowledge development in the area of applied research also through unique bilateral cooperation with the partners from Donor states, which are involved in each project (from Norway and Iceland), and thanks to the bilateral projects the partners cooperate on excellent research, knowledge transfer and sharing of research infrastructures internationally. Through these institutional collaborations and technology transfer, the Programme is contributing to the goals and objectives of the EEA and Norway Grants.

Outcome 1: Enhanced performance of Czech research and development internationally

The one and only Call for Proposals within the Programme is closed, all the supported projects were contracted and are currently in the implementation phase, except project No. TO01000329 (CZ_RESEARCH-0020) - "Advanced hybrid organic-inorganic nanofibers for CO2 capture and photocatalysis" which was prematurely terminated from the TA CR side as of 31 May 2023 due to a breach of the project contract.

Most of the targets of the results will be achieved at the end of the projects' implementation, in particular, the "number of new products/technologies developed" and the "number of jointly registered applications for Intellectual Property Protection".

Results "number of research organisations supported", "number of CCS projects with support for a pre-commercial phase", "number of SMEs supported", "number of large companies supported" and "number of partnership projects between SMEs and research organisations established" are static data that probably won't change any more, and are changed only in the case of project change. Some of these result targets cannot be achieved because in the project consortia, there are mainly research organisations instead of SMEs and because only 25 projects fit into the call allocation.

In fact, the above-mentioned results were disputed during 2023 due to the preliminary termination of project No. TO01000329 (CZ_RESEARCH-0020). This caused a loss of one SME and one research organisation involved. However, the indicator "number of partnership projects between SMEs and research organisations established" remains unchanged as the project was duly supported and the partnership was established for a period of time. The most significant impact is on the indicator "number of CCS projects with support for a pre-commercial phase", as the terminated project was one of the two CCS projects supported in the Programme. For reporting purposes here, the project characteristics are still included in the indicators (Annex 1) as achieved values, because the project was duly supported and launched and it has partially contributed to the fulfilment of the Outcome. On the Programme level, with its enforced



premature termination also the Programme conditions are affected, i.e. the specific allocation to CCS decreased to approx. 20% of Norway Grants with 3,6 mil. EUR (while allocated was 5,2 mil. EUR). This consequence has been duly communicated and resolved with the DPP, the NFP and the FMO with full understanding.

While there is a much higher number of open access publications achieved in the projects than expected and beneficiaries are reporting open access results even beyond what was originally planned, the target for the "number of joint, peer-reviewed, scientific publications submitted" had to be recalculated during 2023, as by error the PO indicated all publications within this target in previous Annual Programme Reports. However, only 16 results follow the definition of this indicator.

In 2023 the target value for "Number of new products/technologies developed" was reached and even exceeded, as the 24 projects enter the final year of the implementation and are finalising their results. The number will further rise after the end of the projects. The value exceeded the target significantly, given the fact it was established for 40 expected projects. The highest number of new results in applied research was achieved in 2023 for example within projects:

- No. TO01000074 (CZ_RESEARCH-0025) titled "Efficient Low-energy Electron Cancer Therapy with Terbium-161" which achieved 6 functional samples, 1 pilot plant for the production of Tb-161 and several results beyond the plan including patent application,
- No. TO01000160 (CZ_RESEARCH-0003) titled "Optimised expanders for small-scale distributed energy systems" which achieved 4 functional samples of expanders and a turbine,
- No. TO01000345 (CZ_RESEARCH-0002) titled "Forest functions in the past, present and future

 what can society expect from forests under climate change?" which achieved 4 specialized maps with scientific content and also a strategic document of Forestry strategy.

Bilateral Outcome: Enhanced collaboration between beneficiary and donor state entities involved in the programme

In total 12 projects are funded from the Norway Grants, 7 from the EEA Grants and 5 from both mechanisms (reflecting the change of source after additional funding of some projects following the opportunity to increase the project budget in mid-2023). A donor project partner is involved in each project. Icelandic project partners are involved in 2 projects and Norwegian project partners in 22. The cooperation with the DPP is based on regular meetings and discussing any important matters ad hoc if necessary, including cooperation on significant events, such as Programme Committee meetings or participation in Programme Operators' meetings or conferences.

One Programme Committee meeting took place in April 2023 in Prague. The meeting covered regular topics like programme status report, the status of projects implementation and financial flows, a summary of monitoring, presentations about the implemented projects, bilateral activities in 2023 and the expected SOILCON conference. Moreover, the PC members expressed their consent to the proposed distribution of unspent funding among the projects in implementation via including additional activities and an increase of project budgets. The detailed measures were then solved through per-rollam communication prior to the announcement. It was also preliminary discussed the potential reallocation of unspent funding from the CZ-RESEARCH programme to the National bilateral fund if no other utilization is relevant within the Programme.

In September 2023, TA CR participated in the meeting between Research Programme Operators, Donor Programme Partners (RANNIS and RCN) and the Financial Mechanism



(FMO) Office meeting organised by RANNIS in Reykjavík. The initiative included a visit to the Icelandic donor project partner ÍSOR. The meeting in Reykjavík was one of the regular research POs meetings that serve the purpose of sharing good practices and lessons learned, identifying problematic issues of the EEA and Norway Grants, and jointly planning future bilateral activities and overall strengthening bilateral relations. The focus of this meeting was on the Guideline for Research Programmes and other documents.

In September 2023 TA CR organised the international conference SOILCON in cooperation with the Technology Centre Prague and RCN for the beneficiaries of EEA and Norway Grants in Europe and other interested participants. The SOILCON conference was one of the conferences organised by different programme operators in cooperation with RCN and FMO within the EEA and Norway Grants, focused on EEA and Norway Grants synergies with the EU Mission "A Soil Deal for Europe". More about the conference is mentioned in Annex 2: Communication Summary.

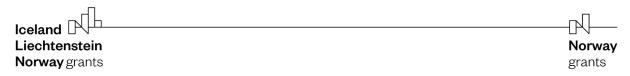
TA CR also attended the mission-related conferences organised by programme operators in Portugal and in Poland. This whole series gave the opportunity to create new and strengthen existing bilateral cooperation between beneficiaries of several programmes, and also between the Programme Operators and other stakeholders, as the events served similar purposes and provided a platform for common discussions and cooperation.

An example of good practice can be considered project No.TO01000250 (CZ_RESEARCH-0014) titled "Novel Routes for cost-effective Environmentally Acceptable Lubricants". The project deals with the production of Environmentally Acceptable Lubricants (EAL) as lubricants for stern tubes. Currently, lubricants in use release substances into the water that are harmful to the environment. There is also a strong bilateral cooperation in the project. The main beneficiary Vysoká škola báňská - Technická univerzita Ostrava (Faculty of Materials Science and Technology) is working with the beneficiary from Norway SINTEF and uses their experience with biological additives and close connections to ship manufacturers, buyers and certifying authorities. Thanks to the involvement of SINTEF it became possible for beneficiaries to reach the designated market. On the Czech side, an important role is played also by Ústav chemických procesů AV ČR, v.v.i., which develops and assists with the actual analyses such as chromatography, surface analysis, raman spectroscopy etc. Furthermore, the company BIONA JERSÍN, s.r.o., is also significantly involved, as they are producing additives based on rapeseed oil, which is then exported around the world. Thanks to the project, BIONA is gaining a competitive advantage in the market of these additives.

Another example of good practice is the project No.TO01000170 (CZ_RESEARCH-0004) titled "Nanoremediation of contaminated soils: Technology implementation with respect to ecotoxicological aspects". The aim of the project is a complex investigation of the use of different iron-based nanomaterials (with the preference for novel materials like sulfided nanoscale zerovalent iron, iron oxide nanoparticles and biochar-nanoiron composite) for the remediation of soil and groundwater contaminated with metal(loid)s from all perspectives. In this project, Czech and Norwegian researchers work closely together on these novel solutions. Members of the project team from the Norwegian Institute for Water Research have extensive experience in this field, and their knowledge is highly valuable for this specific area. The partners in the Czech Republic benefit from the technologies for analysis in Norway, therefore mutual cooperation within this project is really crucial.

C. MONITORING AND EVALUATION

1. Monitorings carried out



Regular monitoring of projects is duly provided through checks of submitted interim reports on an annual basis (deadline by 30 January). Besides, necessary project amendments are negotiated, assessed and approved ad hoc, whenever necessary.

In 2023, TA CR carried out the following monitoring:

Public administration controls (PACs)

The public administration controls are divided into financial and factual inspections. They are carried out by the TA CR's Control department, in some cases with the presence of the rapporteur (especially within the check of the factual part). They consist of a review of the actual project status, compliance with the Project Contract and legal regulations, verification of the reported information (factual check) and financial check.

In 2023, all 12 PACs took place according to the monitoring plan, scheduled for the following projects: CZ_RESEARCH-0006, CZ_RESEARCH-0017, CZ_RESEARCH-0002, CZ_RESEARCH-0022, CZ_RESEARCH-0025, CZ_RESEARCH-0023, CZ_RESEARCH-0020, CZ_RESEARCH-0016, CZ_RESEARCH-0024, CZ_RESEARCH-0008, CZ_RESEARCH-0004, CZ_RESEARCH-0007.

A challenge with the monitoring occurred in the case of the public administration control of the terminated project CZ_RESEARCH-0020 when the main beneficiary did not grant access to the inspection team. The inspection team therefore could not verify the eligibility of the claimed costs of the main beneficiary and proceeded accordingly by request for the return of funding. The inspection was then carried out at a project partner University of Chemistry and Technology.

Monitoring visits

The last of the planned monitoring visits took place in 2023 for project CZ_RESEARCH-0014 and one additional visit compared to the monitoring plan took place within the project CZ_RESEARCH-0012 following a request from the project's rapporteur.

Consultations

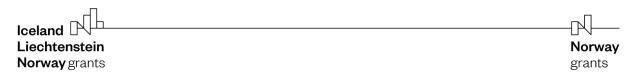
A total of 24 consultations were conducted for the projects supported in the KAPPA Programme. The consultation was omitted in the case of the project CZ_RESEARCH-0020 due to its termination.

The consultations consisted of the project's general status, focusing on the achievement of planned outcomes and activities outlined in the project proposals, followed by discussions on identified issues, potential solutions, and other inquiries arising from the latest Project Committee meeting. Three consultations involved on-site visits to projects: a consultation visit for project CZ_RESEARCH-0007 (NASPMON - NAtural Seismicity as a Prospecting and MONitoring tool for geothermal energy extraction) at ÍSOR in Iceland, and a monitoring visit for the project CZ_RESEARCH-0012 (uBIOSEP - Fast and sensitive bioanalysis using micromachined electrospray interfaces with μ-scale separations) and the project CZ_RESEARCH-0014 (Novel Routes for cost effective Environmentally Acceptable Lubricants).

In 2024, the last 5 public administration controls will take place (see Annex 5 - Monitoring plan).

2. Evaluations carried out

No programme evaluations were carried out in 2023. The evaluation from the NFP level is planned for late 2024/2025.



D. ANNEXES

- 1. Results achieved
- 2. Communication summary
- 3. Project summary and call details
- 4. Risk management
- 5. Monitoring plan
- 6. Evaluation report
- 7. Agreement conditions





Annex 1: Results achieved

Objective: Enhanced research-based knowledge development Outcome 1: Enhanced performance of Czech research and development internationally Achievements until end of December Unit of **Previous** 2023 Target Baselin Indicator achievement Comment measureme e value Numerato Denominato value Achieveme nt value nt value r The target value (established for planned 40 projects) was exceeded in Number of new Cumulative 11 (APR 2023 by 24 projects in 0 52 implementation. The value products/technologies developed 2022) number is expected to further rise after the final project reports. Financial Mechanism **EEA Grants** 6 36 5 Norway Grants 16 ccs ccs 2 1 50 Not specified 10 The projects are still in implementation until 4/2024; the value of this indicator is expected to be established after the end of the project's Number of jointly registered Cumulative implementation, as this applications for Intellectual 0 0 (APR 2022) 0 indicator is currently not number **Property Protection** specified in the interim reports. The target was established to planned 40 projects, but there are only 25 projects, probably the target will not be met.





| Financial Mechanism EEA Grants Norway Grants | | - | 0 | - - | - - | 0 | - - | Some applications for IP protection might be a subject to bureaucratic requirements that exclude joint submission. |
|---|----------------------|---|------------------|--------|--------|----|--------|---|
| ccs | | | - | | 1 | - | | |
| CCS | - | - | 0 | _ | _ | 0 | - | - |
| Not specified | - | - | 0 | _ | - | 0 | - | - |
| Applicant type | | | | | | | | |
| Research organisation | - | _ | 0 | - | - | 0 | - | - |
| Company (incl. SME) | - | - | 0 | - | - | 0 | - | - |
| Not specified | - | - | 0 | - | - | 0 | - | - |
| Number of joint, peer-reviewed, scientific publications submitted | Cumulative number | 0 | 33 (APR 2022) | - | - | 16 | 20 | This indicator is corrected in APR 2023 as the previously reported number was wrongly calculated in previous years. In APR 2021 the correct number is "1", in APR 2022 the correct number is "8". |
| Financial Mechanism | | | | | | | | |
| EEA Grants | - | - | 11 | - | - | 7 | - | - |
| Norway Grants | - | - | 22 | - | - | 9 | - | - |
| ccs | | | | | | | | |
| ccs | - | - | 0 | - | - | 0 | - | - |
| Not specified | - | - | 33 | - | - | 16 | - | - |
| Donor State | | | | | | | | |
| Norway | - | - | 32 | - | - | 13 | - | - |
| Iceland | - | - | 1 | - | - | 3 | - | - |
| Liechtenstein | - | - | 0 | - | - | 0 | - | - |
| Not specified | - | - | 0 | - | - | 0 | - | - |





| The may grante | | | | | | | | Branto | |
|--|----------------------|---------|----------------------|----------|--------------------------|-------------|--------|--|--|
| Research discipline | | | | | | | | | |
| Not specified | - | - | 33 | - | - | 16 | - | - | |
| Type of scientific publication | | | | | | | | | |
| Gold open access | - | - | 30 | - | - | 15 | - | - | |
| Pending open access | - | - | 2 | - | - | 1 | - | - | |
| Other | - | - | 1 | - | - | 0 | - | - | |
| Not specified | - | - | 0 | - | - | 0 | - | - | |
| Output 1.1: Production of new research | ch facilitated | | | | | | | | |
| Indicator | Unit of | Baselin | Previous achievement | Achievem | ents until end o 2023 | of December | Target | _ | |
| indicator | measureme nt | e value | value | Numerato | Denominato | Achieveme | value | Comment | |
| | | | Value | r | r | nt value | | | |
| Number of research organisations supported | Cumulative number | 0 | 45 (IFR 2023) | - | - | 45 | 40 | No changes to this indicator compared to APR 2022. | |
| CCS | | | | | | | | | |
| CCS | - | - | 8 | - | - | 8 | - | - | |
| Not specified | - | ı | 37 | - | - | 37 | - | - | |
| State type | | | | | | | | | |
| Beneficiary State | - | - | 29 | - | - | 29 | - | - | |
| Donor State | - | - | 16 | - | - | 16 | - | - | |
| Not specified | - | - | 0 | - | - | 0 | - | - | |
| Number of CCS projects with support for a pre-commercial phase | Cumulative number | 0 | 2 (APR 2022) | - | - | 2 | 5 | The target was not achieved due to a total of 2 projects were funded according to the total Programme allocation for CCS projects. In 2023 one of the projects was terminated. | |
| Number of researchers supported | Cumulative number | 0 | 283 (IFR 2023) | - | - | 310 | 240 | New unique individuals participating in the projects in 2023 are added. The value is higher than planned number of FTE | |





| | | | | | | | | due to the extension of some projects. |
|-------------------------|---|---|-----|---|---|-----|---|--|
| Financial Mechanism | | | | | | | | |
| EEA Grants | - | - | 148 | - | - | 159 | - | - |
| Norway Grants | - | - | 135 | - | - | 151 | - | - |
| CCS | | | | | | | | |
| CCS | - | - | 21 | - | - | 22 | - | - |
| Not specified | - | - | 262 | - | - | 288 | - | - |
| Gender | | - | | | | | | |
| Female | - | - | 83 | - | - | 95 | - | - |
| Male | - | - | 200 | - | - | 215 | - | - |
| Not specified | - | - | 0 | - | - | 0 | - | - |
| State type | | | | | | | | |
| Beneficiary State | - | - | 208 | - | - | 227 | - | - |
| Donor State | - | - | 75 | - | - | 83 | - | - |
| Not specified | - | - | 0 | - | - | 0 | - | - |
| Type of graduate degree | | | | | | | | |
| PhD | - | - | 25 | - | - | 26 | - | - |
| Postdoc | - | - | 25 | - | - | 27 | - | - |
| Not specified | - | - | 233 | _ | _ | 257 | _ | - |

| Indicator | Unit of | Baselin | I achievement ⊢ | Achievem | ents until end o 2023 | of December | Target | Comment |
|--------------------------|----------------------|---------|-----------------|---------------|--------------------------|--------------------|--------|--|
| indicator | measureme nt | e value | | Numerato r | Denominato r | Achieveme nt value | value | Comment |
| Number of SMEs supported | Cumulative number | 0 | 16 (IFR 2023) | - | - | 16 | 40 | No change compared to APR 2022 The reported number is given by a unique ID number. However, no SME has appeared twice in the projects. The target was not achieved because in the consortia, there are mainly research |





| | | | | | | | | organisations and because only 25 projects were funded. | |
|---|----------------------|---|-------------------|---------------|--------------------------|--------------------|---|---|--|
| Financial Mechanism | | • | | | | | • | | |
| EEA Grants | - | - | 8 | - | - | 8 | - | - | |
| Norway Grants | - | - | 8 | - | - | 8 | - | - | |
| Number of large companies supported | Cumulative number | 0 | 4 (IFR 2023) | - | - | 4 | 2 | - | |
| Number of partnership projects between SMEs and research organizations established | Cumulative number | 0 | 16 (IFR 2023) | - | - | 16 | 30 | - | |
| Bilateral Outcome: Enhanced collabo | ration between | beneficiary | and donor state | entities invo | lved in the prog | gramme | | | |
| Indicator | Unit of measureme | Unit of Baselin | | Achievem | ents until end o 2023 | of December | Target | Comment | |
| indicator | nt e v | e value | achievement value | Numerato r | Denominato r | Achieveme nt value | value | Comment | |
| Level of trust between cooperating entities in Beneficiary States and Donor States | Scale 1-7 | 6.28, Survey carried out by the FMO | - | - | - | - | 4.50, ≥4.5 and an increase on the baseline | Monitoring of the fulfilment of this indicator is not to be ensured by the PO. | |
| Level of satisfaction with the partnership | Scale 1-7 | 6.34, Survey carried out by the FMO | - | - | - | - | 4.50, ≥4.5 and an increase on the baseline | Monitoring of the fulfilment of this indicator is not to be ensured by the PO. | |
| Share of cooperating organisations that apply the knowledge acquired from bilateral partnership | Percentage | N/A | - | - | - | - | 50.00 % | Monitoring of the fulfilment of this indicator is not to be ensured by the PO. | |
| Number of joint applications for further funding | Cumulative number | 0 | 0 (APR 2022) | - | - | 0 | 5 | The projects are still in implementation until 4/2024; the value of this indicator is expected to be established after the end of | |





| | | | | | | | | the project's implementation, as this indicator is currently not specified in the interim reports. | | |
|---|----------------------------|--------------------|----------------------------------|-----------------------|--------------------|-----------------------|-----------------|---|--|--|
| Donor State | | | | | | | | | | |
| Norway | - | - | 0 | - | - | 0 | - | - | | |
| Iceland | - | - | 0 | - | - | 0 | - | - | | |
| Liechtenstein | - | - | 0 | - | - | 0 | - | - | | |
| Not specified | - | - | 0 | - | - | 0 | - | - | | |
| Funding source (applied for) | | | | | | | | | | |
| International source (non-EU) | - | - | 0 | - | - | 0 | - | - | | |
| EU source | - | - | 0 | - | - | 0 | - | - | | |
| National source | - | - | 0 | - | - | 0 | - | - | | |
| Not specified | - | - | 0 | - | - | 0 | - | - | | |
| Bilateral Output 1: Knowledge transferred between Donor States entities and CZ entities | | | | | | | | | | |
| | Unit of | Baselin | Previous | | | | | | | |
| Indicator | | | | Achievem | ents until end o | | Target | Comment | | |
| Indicator | Unit of measureme nt | Baselin e value | Previous achievement value | Achievem Numerato r | | Achieveme nt value | Target value | Comment | | |
| Number of capacity building events between DS and CZ entities | measureme | | achievement | Numerato | 2023 Denominato | Achieveme | | Comment The projects are still in implementation until 4/2024; the value of this indicator is expected to be established after the end of the project's implementation, as this indicator is currently not specified in the interim reports. The target was established for planned 40 projects, therefore the target probably will not be met within the 24 completed projects. | | |





| CCS | - | - | 0 | - | - | 0 | - | - |
|---|----------------------|---|---------------|---|---|----|----|---|
| Not specified | - | - | 7 | - | - | 9 | - | - |
| Number of projects involving cooperation with a donor project partner | Cumulative number | 0 | 25 (IFR 2023) | - | - | 25 | 40 | The target was not achieved due to a total of 25 projects are funded according to the total Programme allocation for grants. In each funded project, the CZ & Donor cooperation is mandatory. |





Annex 2: Communication summary

1. Best projects

The project PROFiBONE - Low-temperature 3D Printing of Bio-Functionalized Ceramic Bone Implants with Adjustable Mechanical Properties (CZ_RESEARCH-0017) aim to establish close interdisciplinary cooperation between Czech and Icelandic partners for the development of biofunctional polymer-ceramic ink for low-temperature 3D printing of patient-specific bone implants. Their goal is to improve the mechanical, degradable, healing and antibacterial properties of printed implants by modifying ceramic cement with binders based on biodegradable synthetic polymers and bioactive polysaccharides and proteins.

They are working towards achieving a European patent for the material composition of the implant printing paste and they would like to continue the cooperation so that the bone implants can enter the clinical testing phase. They also hope that in the future the long legislative process will be completed and the outputs of the PROFiBONE project will become a common part of medicine.

This project was selected for the media campaign of EEA and Norway Grants in Czechia.

2. Visibility of the Grants and the Donors

2.a. Communication activities

In May 2023, TA CR participated in the event "Europe Day" in cooperation with other Programme Operators in Czechia (The State Environmental Fund of the Czech Republic, Ministry of Finance) and the Norwegian Embassy in Prague.

Europe Day is an annual celebration of peace and unity in Europe. The festival included a music programme, debates, as well as presentations by a number of countries and foreign embassies. EU member states and international organisations presented themselves with a booth and their own programme or activities. TA CR carried out interactive activities inspired by supported KAPPA projects to promote the programme. At the same time, promotional items were distributed. The booth presented joint cooperation between entities involved in the financial mechanism of EEA and Norway Grants, especially with the environmental projects of the State Environmental Fund of the Czech Republic. Pictures from the event can be found here.

TA CR also participated in the charitable run "Yellow Ribbon Run" with the Royal Norwegian Embassy in Prague in June 2023.

Yellow Ribbon Run is organised in cooperation with the Norway Grants. The aim of the project is to challenge prejudices, give people with criminal histories and their families a second chance at a decent life, contribute to crime prevention, reduce recidivism and make society safer. The TA CR team actively participated in the relay.





In September 2023, the SOILCON conference was organised in Prague by the TA CR, the Programme Operator of the Czech research programme under EEA and Norway Grants, in cooperation with the Technology Centre Prague and the Research Council of Norway under the auspices of Helena Langšádlová, the Czech Minister for Science and Research, and Victor Conrad Rønneberg, the Ambassador of Norway in Prague. Ca 90 domestic and international experts participated.

This event, one of a series of conferences organised within the EEA and Norway Grants, brought together leading European experts to discuss mission-oriented policies related to healthy soil, clean water, and forests. It explored the transformation towards healthy soil and highlighted synergies between EU Missions and EEA & Norway Grants, featuring insights from key speakers. The event provided a platform for projects contributing to the mission, involving not only EEA and Norway Grants beneficiaries but also representatives from other relevant European projects. Researchers had the opportunity to present projects and engage in matchmaking, learn about upcoming funding opportunities and practical information and statistics related to the Soil mission.

More information, recordings and photos are available at a dedicated website https://www.tacr.cz/en/soilcon/.

2.b. Project stories

TA CR has created a dedicated webpage "Supported Projects in the KAPPA Programme" for each supported project where the information is regularly updated, including the projects progress in each year of implementation.

In total, 6 projects were mentioned in the Programme communication on social media in 2023.

Most of the programme's online communication in 2023 took place on Twitter, where a total of 14 posts were shared. Then on Facebook, where there was a total of 11 posts, followed by 8 videos on YouTube, 4 on LinkedIn and 1 post on Instagram.

3. Media coverage

The TA CR magazine TA.Di covered the SOILCON conference in the issue 16/2023.

4. Website and social media

| Link to programme website | Total number of page views in the reporting year |
|--------------------------------------|--|
| https://www.tacr.cz/kappa-programme/ | 397 |





| | Link or account handle | Number of posts published in the reporting year | Number of followers |
|----------------------|---|---|---------------------|
| Facebook | https://www.facebook.com/tacr.cz | 11 | 2400 |
| X (formerly Twitter) | https://twitter.com/TACR_cz | 14 | 3407 |
| Instagram | https://www.instagram.com/tacr_official/ | 1 | 1222 |
| LinkedIn | https://www.linkedin.com/company/tacr/about/ | 4 | 3845 |
| YouTube | https://www.youtube.com/@TechnologickaagenturaCRPraha | 8 | 473 |

5. Visuals

Two photos from the opening of the conference SOILCON - "Ground for future cooperation in Europe", organised by the Technology Agency of the Czech Republic in cooperation with the Technology Centre Prague and the Norwegian Research Council as part of a series of EEA and Norway Grants events focused on synergies with European missions, held in Prague in September 2023:

https://www.eealibrary.org/asset/33347/SOIL-CON%20

https://www.eealibrary.org/asset/32795/SOIL-CON%20

A video clip from the whole event:

https://www.eealibrary.org/asset/40315/Soilcon%20sest%C5%99ih?returnTo=%2Fupload%2Fhistory%3Fpage%3D1&breadcrumbType=uploadHistory

TACR's visit to Reykjavik, where the EEA and Norway Grants Programme Operators meeting and a project TO01000198 (CZ_RESEARCH-0007) visit took place:

https://www.eealibrary.org/asset/40310/TACR%C2%B4s%20visit%20to%20Iceland?returnTo=%2Fupload%2Fhistory&breadcrumbType=uploadHistory

https://www.eealibrary.org/asset/40239/TACR%C2%B4s%20visit%20to%20Iceland?returnTo=%2Fupload%2Fhistory&breadcrumbType=uploadHistory

https://www.eealibrary.org/asset/40314/TACR%C2%B4s%20visit%20to%20Iceland?returnTo=%2Fupload%2Fhistory&breadcrumbType=uploadHistory





Annex 3: Project summary and call details

1. Project summary

| | Number | Total Grant | Amount budgeted to dpps (estimate) |
|---|--------|--------------|------------------------------------|
| Total number of projects contracted | 24 | € 31,109,036 | € 12,564,136 |
| Number of pre-defined projects contracted | 0 | €0 | €0 |
| Number of projects with a donor project partner | 24 | € 31,109,036 | € 12,564,136 |
| Number of projects with a donor project partner Norway | 22 | € 28,281,257 | € 11,384,346 |
| Number of projects with a donor project partner Iceland | 2 | € 2,827,779 | € 1,179,790 |
| Number of projects with a donor project partner Liechtenstein | 0 | €0 | €0 |

2. Call details

| Call title | Outcome(| Call amount | Submissi on deadline | Number of application s received | Grant amount applied for | Grant deman d % | Number of applications approved for funding | Grant amount awarded | Number of projects contracte d | Amount contracte d |
|---|-----------|---------------------|----------------------------|----------------------------------|--------------------------------|-----------------------|---|----------------------------|--|--------------------------|
| CZ-RESEARCH: Call for Proposals in Applied Research | Outcome 1 | € 32,523,52 9 | 27/02/2020 | 163 | € 204,617,99 3 | 629.14 % | 25 | € 32,468,42 4 | 25 | € 31,109,03 6 |





Annex 4: Risk management

| Risk description | Likelihood (1-4) | Consequence (1-4) | Risk score | Planned response in 2024 |
|---|---------------------|----------------------|------------|---|
| The insufficient potential of practical use of the research project results | 2 medium low | 3 medium high | 2.45 | Monitoring the potential practical use of the research project results through interim and final reports, collecting the plans for exploitation and dissemination from the projects, as well as the project impact survey. Instructing the beneficiaries about follow up monitoring of the results exploitation. |
| Time risk – insufficient time-space for completion of demanding research tasks and indicators | 2 medium low | 3 medium high | 2.45 | Keeping the scheduled timing of implementation of the Programme and of the projects (implementation period, practical use of results, eligibility of costs); attention paid to these factors in the assessment of interim results and deliverables, close monitoring, and operative solution of any signs of problems during implementation indicated by the beneficiaries. |
| Fulfilment of indicator "Number of SMEs supported" and "Number of partnership projects between SMEs and research organizations established" | 2 medium low | 3 medium high | 2.45 | As all projects were previously selected and contracted, the risk of non-fulfilment of these indicators was relevant at the time of the projects selection. Currently, there is only a risk of a loss of the numbers achieved, due to a termination of a project, as per the situation which happened during 2023. |
| Insufficient communication between Czech promoters and donor state partners | 2 medium low | 3 medium high | 2.45 | The topic of communication was a part of the project consultations, to which all the partners were invited, monitoring visits and inspections, and interim reports. In 2024 the beneficiaries will be encouraged to cooperate on final reporting, assessing the socio-economic impact of the project, etc. All the partners will have the |





| | | | | opportunity to participate at the final evaluation meeting. |
|--|------------------|---------------|------|--|
| Difficulties at donor state partners with administrative procedures applied within the Programme | 2 medium low | 2 medium low | 2.00 | The PO organises a webinar specifically for donor state partners in 2024 to prepare for upcoming administrative procedures. The PO and also the Donor Programme Partner are available to discuss the issues and to cooperate with them if necessary. |
| Lack of personal capacity to administer and manage the Programme / projects | 2 medium low | 3 medium high | 2.45 | The PO management team is sufficiently staffed, and composed of skilled and experienced staff members. In the case of new employees, quality on-boarding and motivation for work that has a global societal impact takes place. |
| Financial problems at promoters/partners due to obligatory co-financing, especially in case of lower grant rates and due to higher inflation (granted to private subjects, e.g.) | 2 medium low | 2 medium low | 2.00 | Keeping the set procedures and financial plans. Consultations with beneficiaries focused also on any risks and potential financial issues. In 2024 close monitoring of the spending continues. |
| Lack of the available budget of the PO institution for the grant for beneficiaries | 1 low | 3 medium high | 1.73 | Monitoring activities in the Parliament, and submitting the TA CR budget to the Government of the Czech Republic within the set deadlines. |
| Overall risk of not absorbing most financing a | and achieving mo | 2.00 | | |



Norway grants

Annex 5: Monitoring plan

Please note this Annex is uploaded separately and is not visible in this document. Please download and print separately if needed.

Annex 6: Evaluation report

Not Available



Norway grants

Annex 7: Agreement conditions

| Description | Туре | Tracking | Fulfilled | Date of fulfilment | Description of measures taken |
|--|---------|--------------------------|-----------|--------------------|---|
| 1. The National Focal Point shall ensure that pursuant to Article 1.5.2 of the Regulation that the Programme Operator shall ensure that any additional provisions to the implementation of the Programme shall be kept to a minimum, and to this end the Donor Programme Partner shall be closely involved in and effectively contribute to the development of the project contract and any other document(s) relevant to the implementation of the programme, especially those affecting the relation of the project promoter and partner(s). | General | Continuously tracking | N/A | | The Donor Programme Partner, the agency Research Council of Norway, is closely involved in all aspects of the implementation of the programme, especially the Project Contract matters (e.g. Project Contract at itself, webinar for beneficiaries, communication with donor project partners, eligibility check during the selection process and during the negotiating phase.) In the phase of projects implementation, the Donor Programme Partner contributes to smooth implementation in partnerships and to adequate administrative management relevant to Donor project partners practice. The Donor Programme Partner also coordinates efforts with the programme Operator on common bilateral activities, sharing good practices, advice and discusses all programme-related matters if necessary. |
| 2. Approximately 30% of the total eligible expenditure of the Norwegian Financial Mechanisms shall be allocated to support carbon capture and storage (CCS) projects. | General | One-time fulfilment | Yes | 09/02/2021 | Two contracted projects were focused on carbon capture and storage, in total 27% from the Norway Grants. In May 2023 the project CZ_RESEARCH-0020 focusing on carbon capture and storage was prematurely terminated, the specific allocation to CCS in the programme therefore decreased to approx. 20% of Norway Grants with 3,6 mil. EUR. |



Norway grants