

### **III.**

## **Programme of the Technology Agency of the Czech Republic to support the development of long-term collaboration of the public and private sectors on research, development and innovations**

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### **1. Programme Name**

Competence Centres (hereafter just “programme”)

### **2. Legal Framework of the Programme**

The programme will be realised in accordance with:

- Act no. 130/2002 Coll., on the support of research and development from public funds and on the amendment of some related acts (the Act on the Support of Research and Development), as amended (hereafter just “act”);
- Community framework for state aid for research and development and innovation – Official Journal of the European Union C 323, 30.12.2006 (hereafter just “Framework”);
- and other related directives.

The programme is exempt from the informing duty stipulated by the Article 108, Paragraph 3 of the Treaty on the Functioning of the European Union because it meets the criteria of the Commission Regulation (EC) No 800/2008 of 6 August 2008 declaring certain categories of aid compatible with the common market in application of Articles 87 and 88 of the Treaty (General block exemption Regulation) – Official Journal of the European Union L 214, 9. 8. 2008, p. 3–47 (hereafter just “Commission Regulation”).

### **3. Provider**

The provider of support is the Technology Agency of the Czech Republic (hereafter just “TA CR”) seated in Prague 6, Evropska 2589/33b.

### **4. Programme Identification Code**

For the purposes of record-keeping in the Research and Development and Innovation Information System the programme was assigned the code “TE”.

### **5. Programme Duration**

The period of programme duration is expected to be 2012–2019, i.e. 8 years.

### **6. Time Limit for Programme Announcement**

A public tender in research and development (hereafter just “public tender”) for the selection of projects for the programme shall be published for the first time in 2011 with the

commencement of support in 2012. Subsequent public tenders will be published in 2013 and 2015 with the commencement of support in 2014 and 2016 respectively.

Two-level public tenders in research and development will be published in accordance with the conditions stipulated in the Section 22 of the act.

## 7. Overall Programmes Costs

Overall programme costs are planned for the duration of the programme in accordance with the expected successive publications of public tenders and with regard to the expected average duration of projects. Estimated 70% of the overall costs are to be covered from the state budget which reflects the expected average rate of support for the programme. This expected average rate of support is based on the conditions of the programme and also on the fact that the programme is oriented at supporting mainly projects of applied research and also partially experimental research both of which are compensated, in accordance with the Framework, for mutual partner collaboration.

[millions of CZK]									
YEAR	2012	2013	2014	2015	2016	2017	2018	2019	Overall
Overall costs	524	529	1 057	1 057	1 357	1 357	1 357	1 357	<b>8 595</b>
Public funds	366	370	740	740	950	950	950	950	<b>6 016</b>
Private funds	158	159	317	317	407	407	407	407	<b>2 579</b>
Average rate of support	70%	70%	70%	70%	70%	70%	70%	70%	70%

## 8. Support Beneficiaries

The programme will support the creation and operation of research, development and innovation centres (established by research organisations and enterprises together) for progressive fields with strong application potential and a perspective for a significant growth of the competitiveness of the Czech Republic.

In accordance with the act and the Framework, beneficiaries of project support may be:

- Enterprises – legal and physical entities that, in accordance with the Annex I of the Commission Regulation, carry out economic activities and investigate projects in collaboration with other participants of which at least two must be independent enterprises and one a research organisation.
- Research organisations – legal entities that fulfil the definition of a research organisation as stipulated by the act and investigate projects in collaboration with other participants of which at least three must be independent enterprises.
- An enterprise or a research organisation founded by at least three independent enterprises and at least one research organisation for the purpose of achieving common goals in research, development and innovation.

Beneficiaries and other participants must formulate a long-term strategic agenda together (for 6–10 years) which will lay down common research goals with proven benefits to the

development of investigated areas, application of R&D results in innovations and the development of the competitiveness of the Czech Republic in the given field.

Beneficiaries and other participants must be capable of co-financing the project together from private funds.

## **9. Eligibility of Applicants for Support**

Project support from this programme can be only given to applicants who are in compliance with the eligibility conditions stipulated by the Section 18 of the act. The obligation to prove their eligibility pertains to all applicants and other applicants. Applicants and other applicants prove their eligibility by providing documents that must be submitted together with project proposals (originals or officially certified copies of the documents) only once during the public tender. The eligibility of applicants and other applicants as stipulated by the Section 19 of the act will be proven in accordance with the conditions stipulated by the act (Section 18, Par. 4).

The satisfaction of the eligibility conditions will be assessed by the commission for the acceptance of project proposals before assessing the project proposals. Failure to satisfy any of the eligibility conditions constitutes a reason for refusing to accept the project proposal for the public tender.

## **10. Collaboration between Enterprises and Research Organisations**

The main goals of this programme include the concentration of research capacities in critical research directions with regard to the improvement of the competitiveness of the Czech Republic, and the development of long-term multilateral collaboration between research organisations and enterprises in the field of research, development and innovation. The programme will therefore support the creation and operation of centres established by research organisations and enterprises for the purpose of fulfilling common objectives in research, development and innovations. These objectives must be formulated in a strategic research agenda which is to be submitted by applicants as a part of their project proposals. The strategic research agenda must outline clear objectives which the research organisations and enterprises wish to achieve together; interests of all individual participants of a project must be balanced. An important feature of the supported centres will be the multilateral character of the collaboration on research, development and innovations. Despite the fact that the programme does not restrict the scope of bilateral collaboration on the implementation of the research agenda, the character of collaboration will be taken into account during the assessment of project proposals.

In accordance with the conditions of the Framework, the programme will provide more support to efficient collaboration of enterprises and research organisations. In keeping with the Framework, a project is considered to possess the attributes of an efficient project collaboration between an enterprise and a research organisation if the research organisation participates in the approved expenses and results by at least 10%. Research organisations have also the right to publish the results of research projects, which do not result in the formation of intellectual property rights, within the scope of their involvement in the realisation of the projects. Intellectual property rights arising from project results belong to

research organisations to the extent outlined in the collaboration agreement, depend on their share in the project activities and can be transferred to the collaborating enterprises for the market price of this share. The basis for assessing whether a project proposal incorporates an efficient collaboration between an enterprise and a research organisation will be the draft of the collaboration contract between an applicant (beneficiary) and other proposed participants; this draft will make it clear whether the aforementioned conditions have been satisfied. This assessment will be carried out during the assessment of project proposals.

## **11. Duration of Projects**

In order to ensure suitable conditions for long-term collaboration in research, development and innovations, support will be provided to projects investigated for at least 48 months and not more than 96 months. Projects investigated for more than 48 months must satisfy the following requirements to receive support for the period starting with the 49th month:

- The intermediate evaluation of the project, which shall be carried out by the provider no later than 42 months into the investigation of the project, will be satisfactory in that the objectives of the strategic research agenda will have been met, as well as the objectives of this programme and other conditions stipulated by the Section 13 of the act.
- The beneficiary submits a proposal for project investigation in the next period (further 48 months), and this proposal will be considered satisfactory by the provider. The method of assessing proposals for project investigation in the next period is described in the section 22 of this programme.

Unless these conditions are satisfied, the provider will proceed to terminate the project.

Projects may be only investigated until and through the year 2019.

## **12. Form, Extent and Amount of Support**

Support will be given in the form of a grant for legal or physical entities or by increasing the expenditures of state organisational bodies, municipal organisational bodies or organisational bodies of ministries concerned with research and development.

The extent of support, determined as a percentage of approved project costs, will be calculated individually for each project and each beneficiary and other participants in accordance with the Framework.

Regardless of the type of beneficiary, the maximum extent of support for one project is 70% of overall approved costs.

The minimum of 30% of private funds, which the beneficiary and other project participants must invest together in the realisation of the project, should bring about sufficient motivation for an efficient utilisation of the support and implementation of achieved results in practical applications.

There is no minimum extent of project co-financing stipulated for research organisations. However, if a research organisation decides to contribute to the financing of a project from private funds, it will be looked upon favourably during the assessment of project proposals.

The maximum extent of support for applied research and experimental research and individual categories of beneficiaries and other participants is listed in the following table:

Beneficiary / other participant	Applied research		Experimental research	
	Extent of support with supplementary payments to small and medium businesses	Extent of support when proven an efficient collaboration with a research organisation	Extent of support with supplementary payments to small and medium businesses	Extent of support when proven an efficient collaboration with a research organisation
Small businesses*	70%	80%	45%	60%
Medium businesses*	60%	75%	35%	50%
Large businesses	50%	65%	25%	40%
Research organisations	100%	100%	100%	100%

\* Note: Small and medium businesses are determined according to the definition included in the Annex I of the Commission Regulation.

In keeping with the Framework, overall public support does not include funds that research organisations contribute to projects even if these funds originally come from public funds (such as from other special-purpose fund or institutional support).

The maximum amount (sum) of support for one project whose primary activity is applied research is limited to EUR 10 million in accordance with Art. 6, Par. 1 of the Commission Regulation (calculated using the exchange rate for CZK on the day of the publication of the public tender for the acceptance of projects for this programme in the given year).

The maximum amount (sum) of support for one project whose primary activity is experimental research is limited to EUR 7.5 million in accordance with Art. 6, Par. 1 of the Commission Regulation (calculated using the exchange rate for CZK on the day of the publication of the public tender for the acceptance of projects for this programme in the given year).

### 13. Approved Costs

Support will be provided to cover approved project costs in accordance with the act and the Framework. All approved project costs must be assigned to concrete categories of research and development, i.e. to applied research or experimental research. In case the project fails to specify the object of a service or of acquisition of tangible or intangible property in detail, including the price and exchange rate valid at the time of the submission of the project proposal and the supplier, the beneficiary must proceed according to Act No. 137/2006 on Public Contracts.

Approved project costs for this programme are:

- a) personal costs or expenditures, including stipends (researchers, technical employees and other support personnel), to the extent necessary for the purposes of project investigation;
- b) costs or expenditures associated with the acquisition of tangible property within the scope and for the period during which it is used by the research project; if the tangible property is not used by the project for the duration of its lifetime, only depreciation costs (corresponding to the duration of the project and the period during which the property was used for project investigation purposes, and calculated using established accounting practices) will be considered approved costs. Costs of the acquisition of tangible property may amount to a maximum of 20% of overall approved project costs;
- c) costs or expenditures associated with the acquisition of intangible property necessary for project investigation and corresponding to the period during which it was used for the purposes of project investigation (technical knowledge, patents, software);
- d) other operational costs or expenditures incurred in direct relation with project investigation (such as material, small tangible property);
- e) additional costs or expenditures incurred in direct relation with project investigation (such as overhead, administrative costs);
- f) for small and medium businesses and for research organisations, costs or expenditures associated with the acquisition and recognition of industrial property rights arising from project results.

#### **14. Programme Focus**

The programme is focused on supporting the creation and operation of research, development and innovation centres for progressive fields with strong application potential and a perspective for significant contributions to the growth of the competitiveness of the Czech Republic. At the same time, these centres will create conditions for the development of long-term collaboration between the public and private sectors on research, development and innovations.

A key prerequisite for the creation and operation of a centre is the formulation of its strategic research agenda, i.e. strategic and operational research, development and innovation objectives which the participants wish to achieve together. The strategic research agenda must be drawn up by all the participants (research organisations and enterprises) together, and it must reflect both research and application interests in a balanced fashion. The quality of the strategic research agenda, including the balanced representation of research and application objectives, will play a significant role in the assessment of project proposals.

#### **15. Programme Objectives**

The main goal of the programme is to improve the competitiveness of the Czech Republic in progressive fields with strong potential for the application of R&D results in innovations. The combination of capacities of research organisations and enterprises for the purpose of achieving commonly defined research, development and innovation objectives will contribute to the fulfilment of this goal. The programme therefore endeavours to stimulate

the creation and operation of research, development and innovation centres which will concentrate research and application capacities from the public and private sectors. These centres will establish conditions for long-term collaboration of research organisations and enterprises, including participation in international collaboration, and for systematic research and development in areas important with regard to the future growth of the competitiveness of the Czech Republic.

Component goals derived from the described main goal of the programme include:

- reinforcing long-term collaboration of the public and private sectors in R&D;
- establishing strategic partnerships between the research and enterprise sectors in order to achieve progress in research and development and to implement the results in innovations;
- reinforcing interdisciplinary aspects of research and development;
- establishing conditions for the development of human resources in R&D, especially with an emphasis on beginning researchers;
- establishing conditions for a horizontal mobility of researchers.

## **16. Comparison of Current Situation in the Czech Republic and Abroad**

In the area of research, development and innovations, the Czech Republic in general lags behind the world leaders represented by the USA, Japan or Israel, as well as European leaders. Despite this fact, there are a number of research institutions and enterprises in the Czech Republic that carry out applied or experimental research of high quality in progressive fields on par with the world or Europe. Today, the basic forms of strategic professional groups in the Czech Republic are technological platforms and research centres supported by the Ministry of Education, Youth and Sports programme called Research Centres 1M (2005-2011). As opposed to foreign practice, support for collaboration on this level in the Czech Republic is just a matter of the past few years. However, it forms one of the main strategies for the improvement of scientific excellence and the competitiveness of the Czech Republic.

The key deficiency in the area of research, development and innovation in the Czech Republic is the weak collaboration of the public and private sectors which is reflected in the insufficient utilisation of R&D results in innovations. One third of all existing research centres supported through the Research Centres 1M programme is formed exclusively by public research organisations with no application partners. By contrast, foreign research, development and innovation centres have research organisations and enterprises setting common long-term research objectives and collaborating intensively on achieving them.

Research centres supported by the Research Centres 1M programme cover thematically almost all basic groups of scientific fields. The focus is sometimes too narrow or overlaps with that of other centres. Despite foreign practice, the majority of these centres sets objectives in the form of research areas (directions) and not as problem-oriented goals which is, among other things, reflected in ambiguously defined expected R&D results.

Foreign experience shows that the activities of centres that have public and private sector entities collaborating on R&D need to be always partially co-financed from public funds –

for a sufficiently long period. Public funding of programmes for the support of such centres generally does not exceed 60%. The share of private funding for centre activities is relatively small in the Czech Republic (only approx. 11%) which to a great extent decreases the motivation to achieve applied R&D results realised on the market.

## **17. Expected Results**

It is expected that the programme will contribute to the creation and operation of research, development and innovation centres in areas with strong potential for the improvement of the competitiveness of the Czech Republic. The objectives of research and development which is to be realised in these centres will be set through collaboration of research organisations and enterprises. This will establish conditions in which it will be possible to guarantee simultaneously scientific quality and application potential of R&D results.

This programme may be only used to support projects which can be reasonably expected to achieve at least one new R&D result from the following list (categorisation based on the register of information on research and development results); the result has to be either realised or it must be possible to realise it after further research or preparation of production:

P – patent

Z – pilot plant, verified technology

F – results with legal protection – utility design, industrial design

G – technically realised results – prototype, functional sample

N – certified methodologies and procedures, including specialised maps with professional content

R – software

For the purposes of this programme, a new result is considered to be a result which was achieved entirely within a project supported by this programme and which is and will be applied in the register of information on research and development results solely as a result of this project.

## **18. Expected Benefits and Impacts**

Supported research, development and innovation centres will establish favourable conditions for the development of long-term collaboration of the public and private sectors in the area of research, development and innovations. This will have a positive impact on the progress of research and development in perspective fields and on immediate application of R&D results in innovations. The expected reinforcing of interdisciplinary aspects of research and development will contribute to finding new approaches and acquiring new pieces of knowledge which will constitute the basis for the specialisation of the Czech Republic and the growth of its competitiveness in these areas. The supported centres will have a significant positive influence on the development of knowledge and experience of researchers (especially the beginning ones) and on the mobility of researchers between the public and private sectors.

## 19. Criteria of Fulfilling Programme Objectives

The fulfilment of programme objectives will be evaluated on the basis of a set of indicators designed for the monitoring of programme fulfilment progress and the evaluation of its overall performance and rate of success. The selection and configuration of the indicators also respects the requirement to ensure and monitor the motivational effects of support of the Framework.

<b>Indicator code</b>	<b>Indicator</b>	<b>Target value</b>
I-01	Minimum number of supported projects	25
I-02	Minimum number of participating entities	120
I-03	Minimum number of new R&D results conforming to one of the categories listed in the section 17 of the programme	200
I-04	Minimum number of applied R&D results	120
I-05	Minimum share of private funding in overall programme costs	30%
I-06	Minimum number of researchers younger than 35 participating in supported projects	100

## 20. Expected Programme Parameters

Experiences from previous programmes for the support of centres for the collaboration of research organisations and enterprises on research, development and innovations suggest that average overall approved costs of such supported centres will amount to CZK 310 million for the entire period of investigation of their strategic research agendas. It can be therefore expected that 35 centres will be supported, and the average annual amount of funding for one centre will be CZK 27 million. Based on previous experiences and in keeping with the programme conditions, it can be expected that on average 5 entities will participate in individual supported centres. It can be therefore expected that the programme will support some 175 entities. The programme expects the majority of supported entities to be research organisations and small and medium businesses.

<b>Parameter</b>	<b>Number</b>
Number of projects (centres)	35
Average number of partners in 1 centre	5
Overall number of supported entities	175
<i>of which:</i>	
<i>Number of research organisations</i>	<i>45</i>
<i>Number of SMBs</i>	<i>95</i>
<i>Number of large businesses</i>	<i>35</i>

## **21. Motivational Impact**

The programme fulfils the mission of TA CR which is to facilitate the improvement of activities in the area of applied research, experimental research and innovations and to increase the amount of quality collaboration between industrial enterprises (especially small and medium), public and private research organisations and organisations providing services with high added value. The programme endeavours to change the motivational mechanisms of enterprises and research organisations to make them collaborate on acquiring new knowledge, utilising it and applying it in new products, services and production processes.

In order to fulfil these objectives, the provider will evaluate the achievement of a sufficient motivational impact of the support in accordance with the Framework when assessing project proposals. In keeping with the Framework, applicants must therefore prove in their project proposals that the support will mean a contribution which will help them realise their projects to a greater extent or with more extensive objectives or with a higher financial contribution from enterprises participating in the projects or in a shorter period than it would be without the provision of the support or (especially in case of small businesses) by making it actually possible to participate in the common research. The evaluation of the motivational impact will be a part of the protocol about the results of assessments carried out by a professional advisory body which will be instituted by the provider for the purpose of assessing project proposals.

## **22. General Criteria for Project Assessment**

Projects will be assessed in three steps:

- Assessment of project proposals
- Assessment of investigated projects
- Assessment of completed projects

### Assessment of project proposals

Project proposals will be assessed in a complex manner in accordance with the rules stipulated by the act.

In order to increase effectiveness and limit the amount of administrative load on project applicants, two-level public tenders in research, development and innovations will be published in accordance with the Section 22 of the act.

Following the assessment of eligibility conditions and formal requirements by the commission for the acceptance of project proposals, the first level of the public tender in research, development and innovations will be used to assess whether the submitted objectives are in accord with the conditions of the programme. For this purpose, the following will be assessed in particular:

- quality, topicality and feasibility of the research agenda;
- extent and character of collaboration within the consortium and
- method of organisational arrangement of the centre's activities;

- overall budget for the implementation of the strategic research agenda, including the extent of co-financing by applicants.

External, foreign professionals will be involved in the project proposal assessment process during the first level of the public tender in research, development and innovations. Project proposals submitted for assessment in the first level of the public tender in research, development and innovations shall be therefore submitted in both Czech and English.

Applicants whose project proposals will be approved in the first level of the public tender in research, development and innovations will be asked to complete their project proposals for the second level of the public tender in research, development and innovations. Following the assessment of eligibility conditions by the commission for the acceptance of project proposals, the second level of the public tender in research, development and innovations will be used to assess the project proposals according to:

- proposed method of implementation of the strategic research agenda;
- application potential of expected R&D results;
- character and extent of direct participation of students and beginning researchers, especially graduates, in project investigation;
- adequacy of costs for the implementation of the strategic research agenda;
- experience of individual applicants who will partake in the implementation of the strategic research agenda and
- extent of the motivational impact of the support.

#### Assessment of investigated projects

Continuous evaluation of project investigation will be carried out on two levels:

- continuous monitoring of investigated projects
- in-depth evaluation of investigated projects

Continuous monitoring of investigated projects will be realised by the provider regularly once every year during the entire period of project investigation. The aim is to monitor whether project works follow the planned schedule and whether funding utilisation is in accord with the planned project budget. The evaluation will be carried out by the provider on the basis of an operating statement submitted by the beneficiary or on the basis of an on-site inspection. The continuous evaluation will also assess the fulfilment of the obligation to enter information into the Research and Development and Innovation Information System (in accordance with the Section 31 of the act).

In-depth evaluation of investigated projects will be realised by the provider regularly once every two years. The aim of this evaluation is to assess the operation of supported centres with regard to the fulfilment of the strategic research agenda and programme objectives. The subject of the evaluation will be mainly the method of implementing the strategic research agenda, achieved R&D results, quality and intensity of collaboration within the centre, ability to acquire additional funds (outside of funding from this programme) for achieving the objectives of the strategic research agenda and the ability to apply R&D results in innovations. The evaluation will be carried out by the provider on the basis of an operating

statement submitted by the beneficiary and on the basis of an on-site inspection. The plan for the implementation of achieved results (during the previous stage of the project) in practical applications will be also evaluated. Results of the in-depth evaluations of investigated projects will be reflected by the support for centre activities in the following years when the amount of approved costs may be modified (increased or decreased) in accordance with the conditions stipulated the act by up to 50% of the approved costs stated in the contract on the provision of support.

#### Evaluation for the purposes of support provision for the period of project investigation from the 49th month forth

Evaluation for the purposes of support provision for the period of project investigation from the 49th month forth will be carried out on two levels:

- in-depth evaluation of investigated projects
- evaluation of proposals for project investigation in the next period

In-depth evaluation of investigated projects will be realised by the provider in the scope and using the methods described above.

Evaluation of proposals for project investigation in the next period will be carried out by the provider on the basis of proposals for project investigation in the next period submitted by the beneficiary before the end of the 42nd month of project investigation. Proposals for project investigation in the next period will be mainly evaluated according to the following:

- proposed method of implementation of the strategic research agenda;
- application potential of expected R&D results;
- adequacy of costs for the implementation of the strategic research agenda;
- extent and character of collaboration within the partnership and
- method of organisational arrangement of the centre's activities.

#### Evaluation of completed projects

Evaluation of completed projects will be carried out on two levels:

- evaluation of project results
- evaluation of project impact

Evaluation of project results will be realised by the provider on the basis of final reports submitted by the beneficiaries, concluded contracts on the utilisation of results (in accordance with the Section 11 of the act) and the provider's on-site inspections. The evaluation of results will assess whether the achieved results are in accord with the objectives stated in the strategic research agendas. Project results will be evaluated based on the following three categories:

- Category A: project fulfilled stated results
- Category B: project failed to fulfil stated results because of reasons that could not have been foreseen by either the provider or the applicant

- Category C: project failed to fulfil stated results

Evaluation of project impact will be realised on the basis of the plan for the implementation of achieved results in practical applications and the strategy for the development of future collaboration between the project partners on research, development and innovations submitted by the beneficiary. The implementation plan and the strategy for the development of future collaboration will be included in the final report. Within three years of project completion, support beneficiaries will be obligated to inform the provider of concrete practical impacts of the realisation of project results in accordance with the implementation plan.