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Universities and Industry

Experience from the Technology Agency of the Czech Republic

L. Musilek

Professor of Experimental Physics
Czech Technical University in Prague,
Faculty of Nuclear Sciences and Physical Engineering
Prague, Czech Republic
musilek@fffi.cvut.cz

Conference Topic: University - Business Cooperation

Keywords: Technical university, company, projects, technology agency

The Technology Agency of the Czech Republic [1] was established a few years ago as a complementary institution to the Grant Agency, but in the field of applied research and development. An important task of this new Agency was to support research and development collaboration between universities and other research institutions, on the one hand, and industrial companies (including small and medium-size enterprises), on the other. This decision has been incorporated into the legislation of the Czech Republic [2].

Grant-funded programmes of the Technology agency are:

- The ALFA programme, which supports applied research and development in progressive technologies, materials and systems, power sources and the environment, including sustainable transportation. It is accessible both for research institutions and for private companies, with a preference for joint projects between these two groups. This means that it is very suitable for establishing and financing collaboration between engineering universities and industry on individual projects.
- The BETA programme, which is aimed at the needs of public administration bodies, i.e., ministries and other state institutions (Czech Mining Office, State Office for Nuclear Safety, etc.) The topics are selected and ordered by these institutions. Universities can participate in this programme, but there is limited freedom in the choice of methods, and the projects must be oriented toward a goal that has been determined a priori.
- The OMEGA programme, which supports research and development in the applied social sciences, and is therefore more useful for “classical” universities than for research and collaboration in engineering sciences (however, some IT technologies, software production, etc., can also be included).
- The Competence Centres programme, which provides support not for individual projects, but for long-term collaboration between the public sector and the private sector. There must be a minimum of three enterprises and one research institution, but the consortia usually consist of a larger number of participants. The centres may be distributed, i.e., they need not necessarily be “under one



roof", and they may be located on the premises of partner institutions. The system is required to be self-sustainable; the centres should continuously generate further research questions and issues in their field of activity, solve problems and apply solutions in practical applications. An important component of the programme is mobility of researchers, especially early-stage researchers, between academia and industry.

Due to lack of funding for Czech higher education, the technical universities have shown extraordinary interest especially in the ALFA programme and in the Competence Centres programme, which are the most suitable for engineering research. The most frequent participants are, needless to say, the two most important technical universities in the country, i.e., the Czech Technical University in Prague and the Technical University in Brno, but regional universities that also provide engineering education, e.g. in Liberec, Plzeň and Ostrava, are also well represented.

The main problems:

- Though the total funding distributed by the Technology Agency may seem to be a great amount, it still does not meet the needs of the Czech academic community and industrial capacities.
- Unambiguous conditions for applications. The effort to give access to all types of participants has led to very complicated project structures and project documentation, lengthy instructions, not always clear and straightforward. It was therefore not always easy to fulfil the formal requirements, and as a result a considerable number of projects were disqualified. The Presidium, the Office and the Supervisory Board of the Agency are now making a concerted effort to clean up the rules, simplify them, and thus eliminate similar problems and make the administrative procedures smoother in the future.
- Each project was reviewed by at least two reviewers, selected at random from the database of specialists in fields close to the topic of the project. This scheme, on the one hand, prevents undesirable influence on the reviewers; on the other hand, the reviewer's field of specialisation is not necessarily very close to the topic of the application.

The establishment and operation of the Technology Agency of the Czech Republic as the analogue for applied research to the Grant Agency of the Czech Republic was initially received by the universities, and especially by the technical universities, as a positive step toward a simpler and better funding system for applied research and development. However, some initial problems with this institution have led to lowered confidence in the usefulness of this innovation. Improving the system step-by-step and learning from previous experience can rebuild confidence in the Agency. It can clearly make a contribution to closer and firmer collaboration between the universities and industry. However, it is still too early to draw responsible conclusions about its ability to shift Czech industry toward high technologies, and to improve the competitiveness of the country in the international market. ■

REFERENCES

- [1] Web page: <http://www.tacr.cz> (mostly in Czech, some basic information also in English).
- [2] Act No. 130/2002 Coll. on support for research, experimental development and innovation, establishment of the Technology Agency of the Czech Republic took effect on July 1, 2009.