

## Administration and Management of Research at Kaunas University of Technology

Vytautas Ostasėvičius

*Kauno technologijos universitetas  
Donelaičio g. 73, LT-44029, Kaunas*

Kaunas University of Technology (KTU) is the largest technical university in both Lithuania and the Baltic States. It contains 11 faculties, Panevezys branch with 2 faculties, library, high school (gymnasium), 14 research institutes and centres, 5 faculty institutes and 22 centres.

Over 20 000 students are enrolled in studies including 500 Doctoral (Ph.D.) students; the academic staff exceeds 1000. The main study fields are as follows: technological, physical and social sciences, humanities, biomedicine. The University offers 36 Bachelor's, 59 Master's and 8 Master Engineer's degree study programs. Lectures at the University are given in five different languages – Lithuanian, English, French, German and Russian. Students are enabled to frame their individual study plans that would meet their wishes, potential and future plans the best way.

Scientific research and research-based studies are the basis of the University's activity, therefore all members of

University research-academic staff allot no less than one third of their working time for research. The University also employs more than one hundred of research staff whose main area of activity is research work. Participation in research projects is especially important for Master's and Doctoral students, as it is a productive form of learning, allowing to gain practical experience and take part in the creative scientific process. Those scientists who have done research as students, even if they do not become researchers, are exposed to the newest technological advances, develop skills and a scientific approach. In turn, this enables science to renew itself and retain its vitality. Research and technological development is funded by various sources: the State budget, the Lithuanian State Science and Studies Foundation, State and branch programmes, local and foreign economy subjects, and international programmes. Research and technological development funding is shown in thousands LTL in Figure 1.

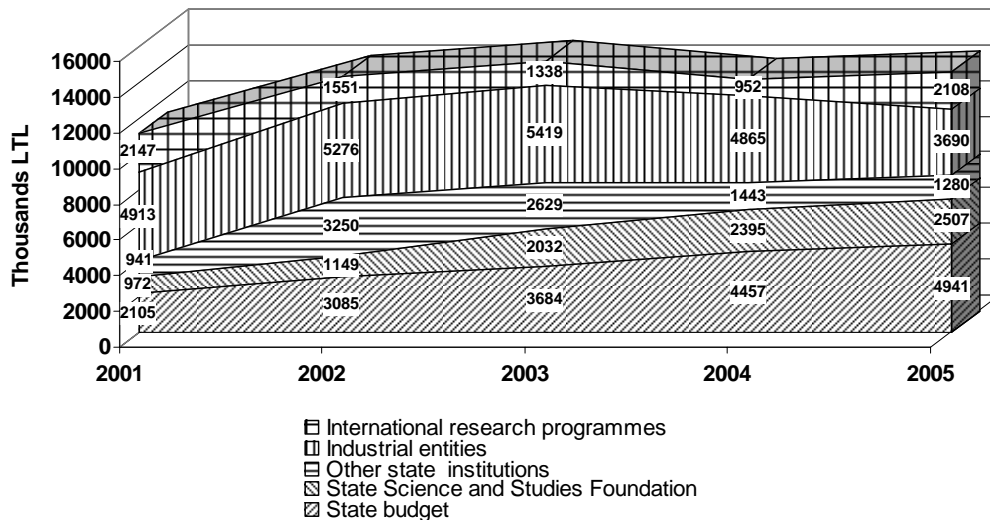


Figure 1. Sources of Research Funding

### Appropriations from the Governmental Budget

The allocation of State budget committed to the University for every year is approved by Parliament. Senate makes reference to the University strategic plan and allocates funds to particular activities and subdivisions, including funds to organize and finance researches. Seeing that those researches are pretty related to studies, expenses for R&D according to Frascati Manual methods reach about 37 % of total budget; these expenses are: funds for researches, available relating to miscellaneous international projects and economy subjects' orders, expenses for doctoral studies, part of lecturers' wages, etc.

In 2006 University Research Fund allocation for faculties, institutes, centres and projects amounts about 7,8 % of University budget.

Attempting to increase effectiveness of research and use of funds and to motivate research groups to solve urgent problems, the funds are distributed according to priority criteria set by the University Senate. Finances from the Research Fund are distributed to the subdivisions, following the number of academic and research staff and their last year's productivity of the research activity – number of publications, significance and funds received while carrying out international programme pro-

jects as well as the orders of local and foreign economy subjects. Besides, competitions are being organized and new researches, selected by Senate Research Committee, are being financed on the University scale. By the Senate's resolution, all research staff that gets paid from the budget funds must carry out a pedagogical work of no less than a quarter of a full-time job volume. 1 million LTL of the University Research Fund is allotted to subsidize the following activities: organization of exhibitions and advertisement of innovation projects; organization of research conferences; sabbaticals of academic staff of the University; publishing of periodicals, textbooks, and monographs; preparation of subject area development programmes; other necessary expenses.

**Lithuanian State Science and Studies Foundation**

The Lithuanian State Science and Studies Foundation was established pursuant to the Government resolution of the Republic of Lithuania No. 540 of 21 July 1993, in order to allocate funds to support research and studies in the country. Every year the Foundation publicly announces the amount of appropriations for each area of activity supported:

1. Research initiated by the Fund's tenders, if the same research is not funded from other sources;
2. Research projects (programmes) initiated by the scientists' groups or individual scientists, if the same research does not double the scientific activity funded from other sources;
3. Research and scientific applied work projects executed by research and study institutions under the order of economy subjects, if the projects are partly funded by the economy subject and if they do not double the activity of institutions funded from other sources;
4. Research and research programmes executed by research and study institutions, which are implemented under international agreements, if these research programmes and works are not funded by in

5. ternational organizations and funds or if international agreements foresee a partial use of national funds;
6. Scientific conferences, symposiums and other scientific venues;
7. Preparation of scientific monographs and other scientific works.

In 2003 the activity of the Foundation has enlarged and now it funds in the way of contest researches of underlying science's directions, certified by government, and high technologies development.

Research institutes, higher schools, scientific institutions, public organizations, and other legal entities, scientists and groups of scientists may apply to the Foundation for support.

In 2006, the Foundation supported 11 international, 8 projects carried out by the groups of researchers, 2 projects carried out according to the order of enterprises, 1 R&D project, 5 projects of High Technology Development, and 4 Priority Lithuanian R&D projects, allocating 2,5 million LTL. In 2006, 123 doctoral students have received support.

**Self-Supporting Projects**

The largest part of the University's non-governmental funds is earned by carrying out self-supporting agreements with enterprises, firms, and other institutions for research, design, and even small-scale manufacturing. In 2005, the total amount for these contracts was 3,7 million LTL.

**International Programmes**

Various international funds and long-term programmes contribute greatly to the internationalization of science and study programmes, expansion of international ties, and support of the society's intellectual development.

Researchers of the University participate in European research programmes as follows: Framework, EUREKA, COST and other programmes. The number of the projects carried out by KTU researchers is shown in Figure 2.

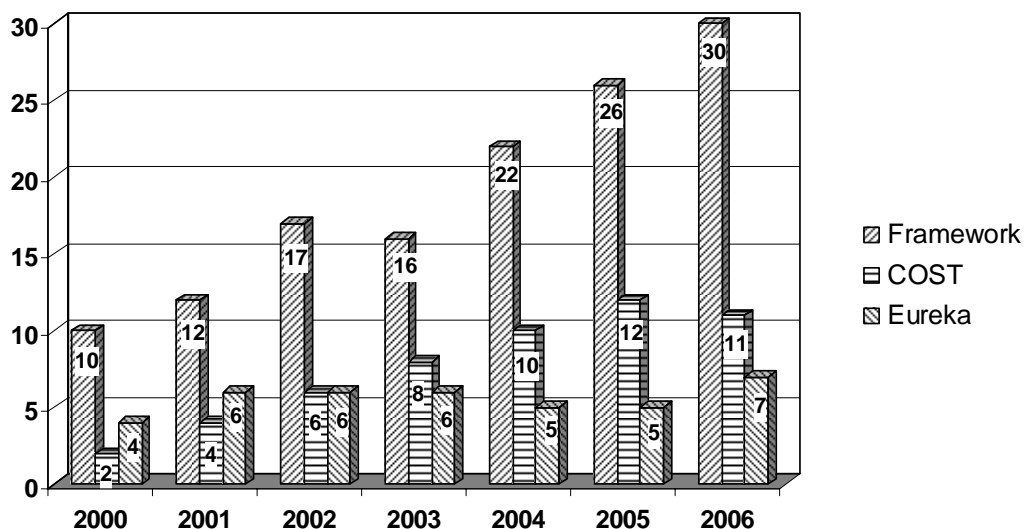


Figure 2. Participation in EU R&D programmes

Every year the significance of the research financed by international foundations and co-ordinated on an international scale grows larger. Researchers show a great interest to the coming Seventh Framework Programme.

The budget of the University is very limited and the profit earned by carrying out research enables the University to retain staff and to renew and develop experimental and computer equipment and facilities. Working on the projects ordered by firms or scientific institutes, it becomes easier to predict the possible expansion of separate branches of the economy and the demand for specialists in those areas. Over many years, the University has gained the unique research facilities, skilled specialists and experience; it holds a leading position in many areas of technological, physical, and social sciences in Lithuania.

University is ruled by democratic self-government. Government and self-government institutions comprise University Council, Senate, and Rector (together with its advisory institution – Rectorate). University Council comprises 21 members, 1/3 of them being designated by Senate, another third – by the Ministry of Education and Science, and the rest designated by Minister of Education and Science with Rector's approval. Senate is made of executives elected by subdivisions, students' representatives, and representatives from other institutions elected by officers' conference. There are 51 members in the Senate at the moment.

Senate Research Committee determines the strategic guidelines of the university's scientific work; Vice-Rector for Research is in charge of scientific topics, in cooperation with Office of Academic Affairs and other subdivisions. Senate Research Committee creates strategic provisions of scientific work; performs observation of research degrees' and academic titles' conferment; performs evaluation of subdivisions research activity; grants a status of monograph to the significant scientific publications; organizes standard and other documents of University's scientific work.

The Science Group of Office of Academic Affairs administrates doctoral studies and habilitation, nostrification of research degrees and academic titles, science funds, screening and financing of scientific publications, organizes conferences, prepares statistical and self-analysis reports and exploits the bases of scientific work's data of University's information system.

Doctoral commissions form doctoral studies' programmes; select and lend to Senate for affirmation research supervisors for doctoral students; assess doctoral students; supervise level of doctoral dissertation of particular branch; perform expertise of research program's requisitions and reports.

The mission of Kaunas University of Technology is to be an important part of the global university community and one of the most significant centres of the Lithuanian science, to be involved in development of the information and knowledge-based society, and to aim for excellence through diversity. In pursuit of this, one among University main objectives is an innovation-oriented university.

It is nevertheless clear that Lithuanian economy is and will be increasingly a subject to accelerating scientific and technological progress. Innovations are the driving forces of economical growth and new job creation.

An innovation mentality needs to be promoted. We continue to review our courses and teaching methods above all for their ability to stimulate creativity and a spirit of entrepreneurship. We also develop our national system of lifelong training and teletraining. Lithuanian long term strategy in the field of innovations is presented in our national "White Book on Lithuanian Science and Technology", which is also the intellectual product of the group of leading scientists and innovators from our University

Scientists from our University have created a lot of inventions and hold European, US and national patents in different countries. We are strong and competitive in a lot of high technologies, including mechatronics, biomedical engineering, non-destructive testing, chemistry, environment protecting technologies, control systems and information technologies, etc.

Looking for the perspective of 2007-2013 from six main objectives identified in future European Union Research Policy, three of them are very important for our university, as follows:

- Improvement of the coordination of national research programmes
- Creation of European centres of excellence through collaboration between laboratories
- Launching of European technological initiatives

From the point of view of Lithuanian High-Tech priorities, Ministry of Economy has established Councils for Biotechnology and Lasers technology. We are looking for future possibility to have such structures for other high-tech priorities as ICT, electronics, nanotechnology and mechatronics.

EU Structural Funds supported establishment of two Centres of Excellence at University: Distance Education ICT-based Network in Lithuania and Lithuanian Virtual Library and Mechatronics Science, Studies and Information Centre.

As well we have already established Centre of Excellence at Institute of Environmental Engineering, funded by Fifth Framework Programme project SID-APINI.

Lithuanian has already made the first steps to integrate into European Technology Platforms. Representatives of Lithuanian academia and industry are delegated to 25 European Technology Platforms, when 20 of them are researchers of Kaunas University of Technology.

Vytautas Ostaševičius

**Kauno technologijos universiteto mokslinio darbo administravimas ir valdymas**

Santrauka

Kauno technologijos universitetas yra didžiausia techniškoji aukštoji mokykla tiek Lietuvoje, tiek Baltijos šalyse. Universitete yra 11 fakultetų, Panevėžio filialas su dviem fakultetais, biblioteka, gimnazija, 14 tyrimo institutų ir centrų, 5 fakultetiniai institutai ir 22 centrai.

Universitete mokosi daugiau kaip 20 000 studentų, 500 iš jų –

doktorantūros skyriuje. Akademinių darbuotojų daugiau kaip 1000. Pagrindines studijas sudaro technologiniai, fizikos, socialinių ir humanitarinių mokslų, biomedicinos dalykai. Studijos vyksta lietuvių, anglų, prancūzų, vokiečių ir rusų kalbomis. Studentų mokymosi planai derinami su studentų siekiais, galimybėmis ir ateities planais.

Mokslinis darbas yra visos universiteto veiklos pagrindas. Visi universiteto mokslininkai skiria daugiau nei trečdalį savo darbo laiko moksliniams tyrinėjimams. Dalyvavimas mokslinėje veikloje ypač svarbus doktorantų ir magistrantų studijose, nes padeda būsimiems specialistams išsiugdyti mokslinį požiūrį į gyvenimą ir darbą bei kelia jų kvalifikaciją. Mokslinis darbas finansuojamas iš įvairių šaltinių: valstybės biudžeto, valstybės ir šakos programos, vietinių ir užsienio investicinių fondų, tarptautinių programų ir t.t.

Universiteto Senatas nustato mokslinio darbo prioritetus ir pagal tai paskirsto lėšas. Skiriamų lėšų dydis priklauso nuo mokslinio personalo skaičiaus, darbo našumo bei efektyvumo. Biudžeto finansuojami universiteto mokslininkai privalo dirbti ir pedagoginį darbą, kuris sudaro ne mažesnę negu ketvirtį viso darbo krūvio.

Ypač svarbūs yra moksliniai darbai, atliekami pagal tarptautinius užsakymus. Jie ryškiai pagyvina mokymo programas, daro jas internacionalines ir padeda įgyvendinti žinių visuomenės reikavimus. Tarptautinių programų kiekvienais metais daugėja.

Per daugelį metų universitetas išsiugdė daug įvairių sričių kvalifikuotų mokslininkų. Mokslinio darbo sėkmę lemia demokratinio valdymo principai, glaudūs ryšiai su vidaus padaliniais, vyriausybės instancijomis bei įvairiomis užsienio organizacijomis. Mokslinio darbo pasiekimai labai prisideda prie šalies ekonomikos augimo, o mokymosi visą gyvenimą programų diegimas skatina dar labiau plėsti mokslinę veiklą. Universiteto mokslininkų pasiekimai aukštųjų technologijų, įskaitant mechatronikos, biomedicinos, chemijos, aplinkos, kontrolės ir kitose srityse, plačiai taikomi ne tik mūsų šalyje, bet ir užsienyje.

Kalbant apie 2007-2013 metų perspektyvą, kurią nubrėžė Europos Sąjungos mokslo plėtojimo politika, universiteto mokslinė veikla turėtų būti nukreipta į šias svarbias sritis:

- Suformuoti nacionalines programas;
- Sukurti kompetencijos centrus;
- Kelti naujas Europos technologines iniciatyvas.

Vykdamas Lietuvos aukštųjų technologijų įdiegimo programas, Ekonomikos ministerija suformavo biotechnologijų ir lazerių nacionalinių programų tarybas. Tikimės, kad bus suformuotos elektronikos, mechatronikos ir kitų mokslo sričių nacionalinių programų tarybos. Lietuva jau žengia savo pirmuosius žingsnius Europos technologijų platformose. Lietuvoje įkurtos 22 Nacionalinės technologijų platformos, o beveik 20 platformų universitetas yra partneris.

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