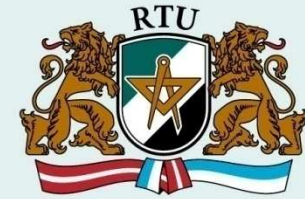




**EUA/CDE Cooperation Workshop:
“Building a research environment for Doctoral Education”
15.-16. April 2010, Wageningen University, The Netherlands**

**QUALITY AND ‘EFFICIENCY’ OF DOCTORAL EDUCATION:
EXPERIENCE OF RIGA TECHNICAL UNIVERSITY**

Professor, Leonīds Ribickis
Vice-Rector for Science
Riga Technical University, Latvia



Content

1. Riga Technical University (RTU) in brief
2. Doctoral Education in Latvia and RTU
3. Quality and 'Efficiency' of Doctoral Education in RTU
4. European support for doctoral studies
5. International Cooperation
6. Problems
7. Future plans



1. Riga Technical University in brief



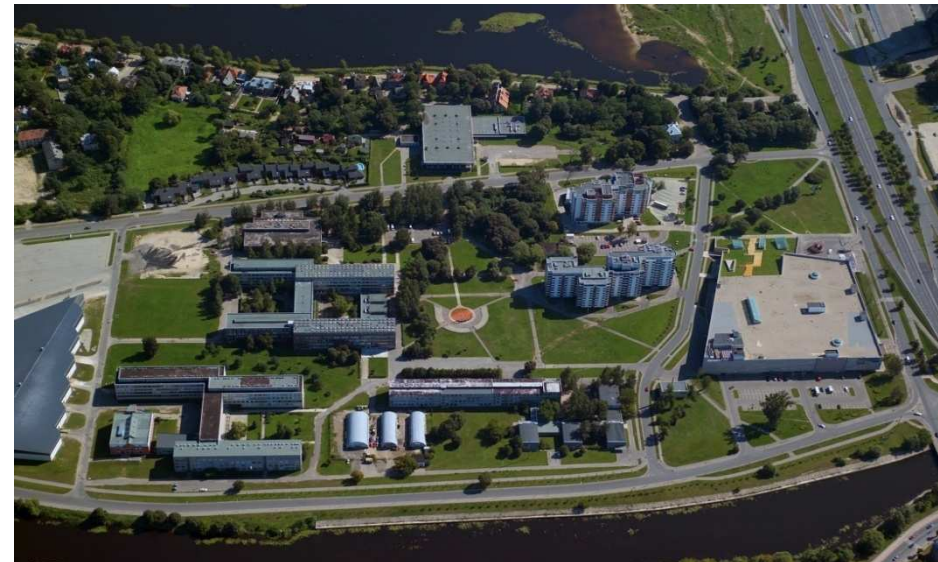
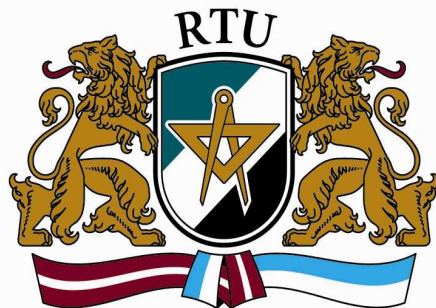
Founded in 1862.

Mission

To provide the Latvian national economy with qualified human resources for its stable growth and development.

Vision

RTU – accredited, internationally recognized European level university as a cornerstone of: European studies, scientific research, and Innovation centre.





Structural units

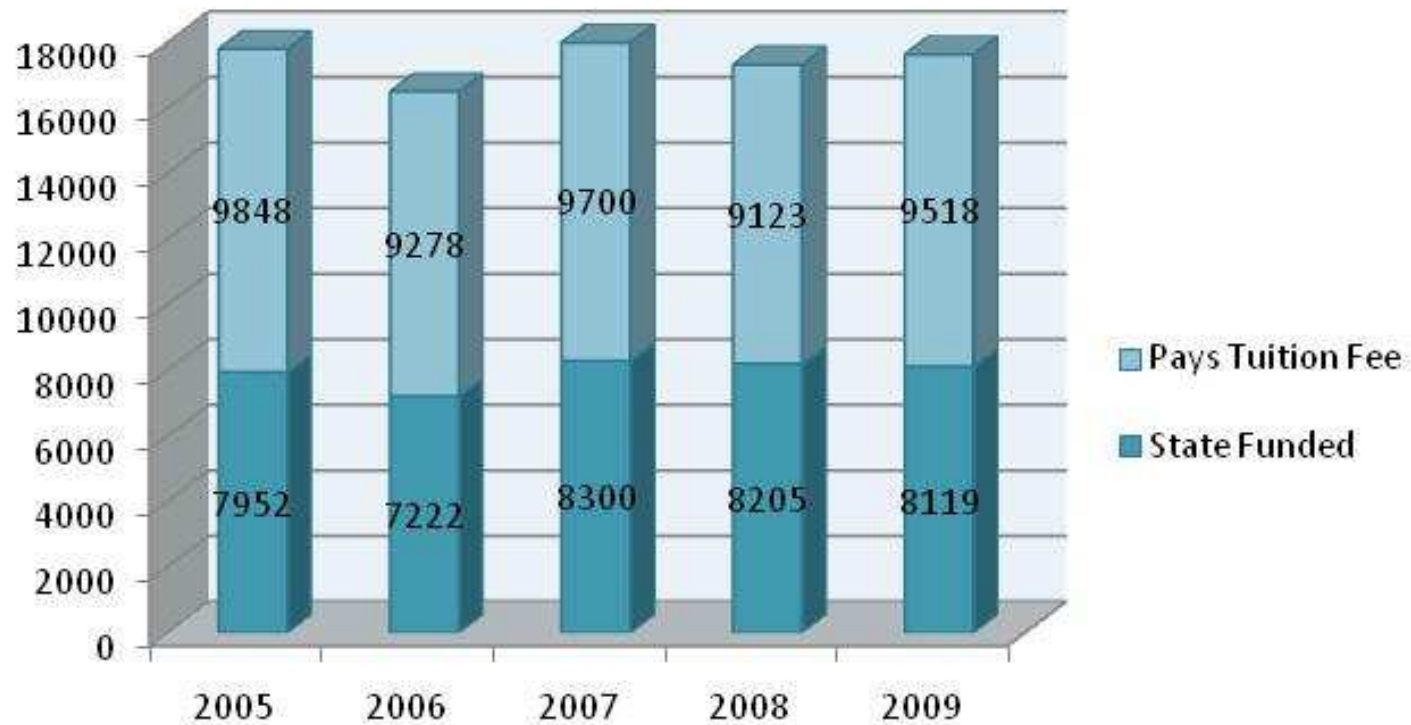
8 Faculties

(17 500 students)

- **ARCHITECTURE AND URBAN PLANNING**
 - **CIVIL ENGINEERING**
 - **COMPUTER SCIENCE AND INFORMATION TECHNOLOGY**
 - **ELECTRONICS AND TELECOMMUNICATIONS**
 - **POWER AND ELECTRICAL ENGINEERING**
 - **ENGINEERING ECONOMICS AND MANAGEMENT**
 - **MATERIALS SCIENCE AND APPLIED CHEMISTRY**
 - **TRANSPORT AND MECHANICAL ENGINEERING**
-
- **34 institutes, 1 independent institute, 44 departments, 48 professor's groups, 27 laboratories, 19 centers**

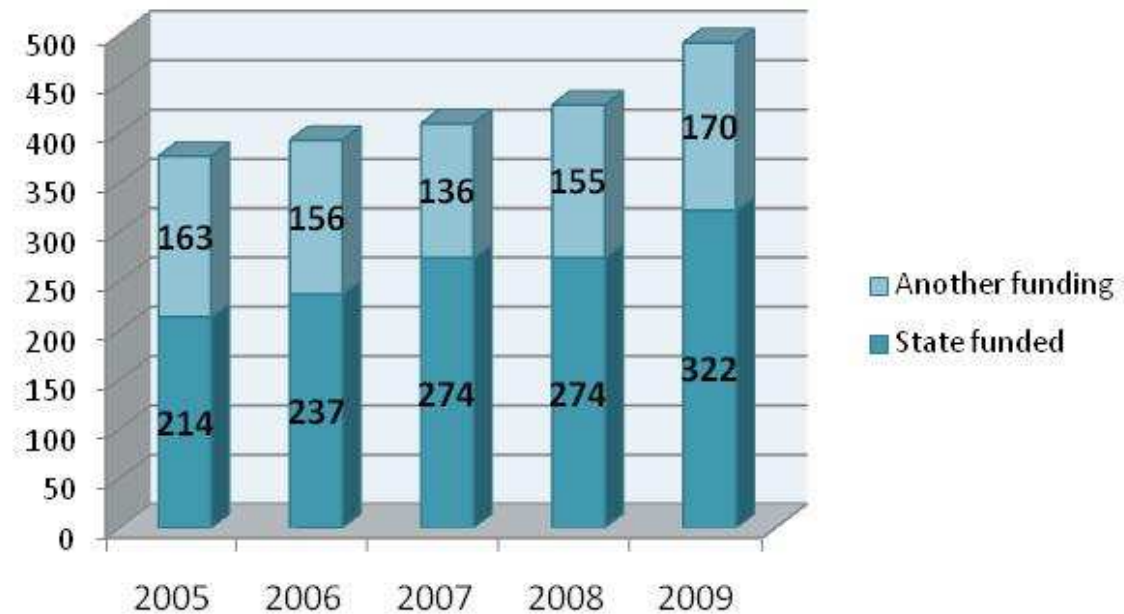


Students



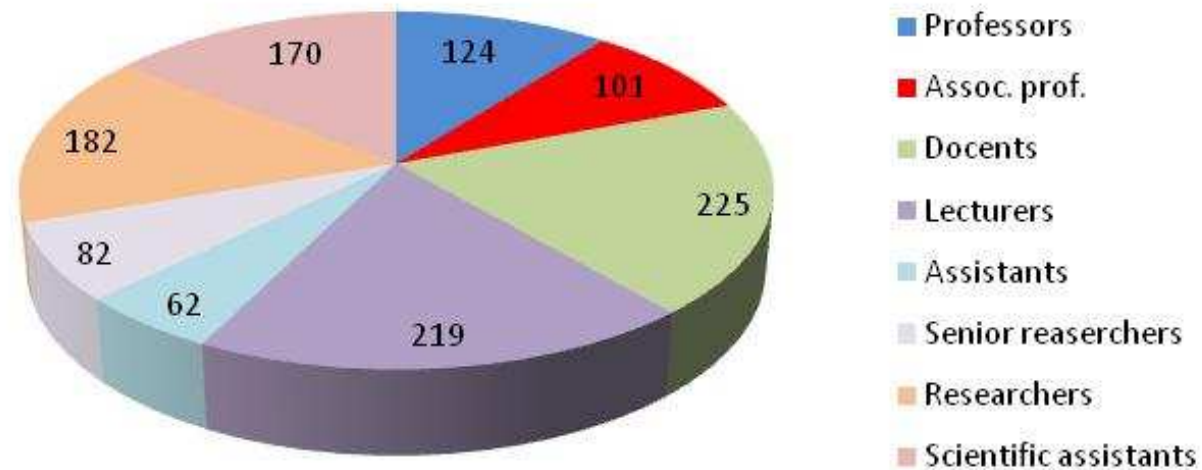


Doctoral Students in RTU





Academic Personnel in 2009



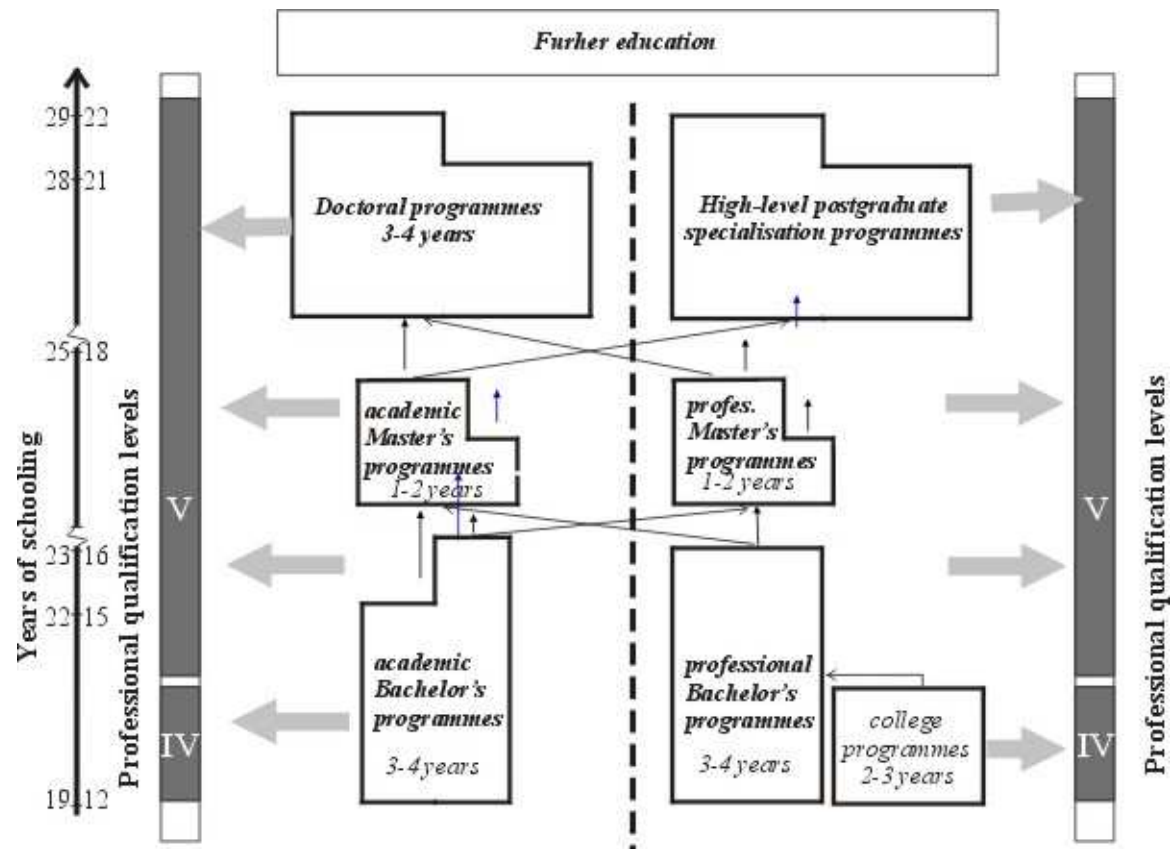
➤ **Total - 1165**



2. Doctoral Education in Latvia and RTU

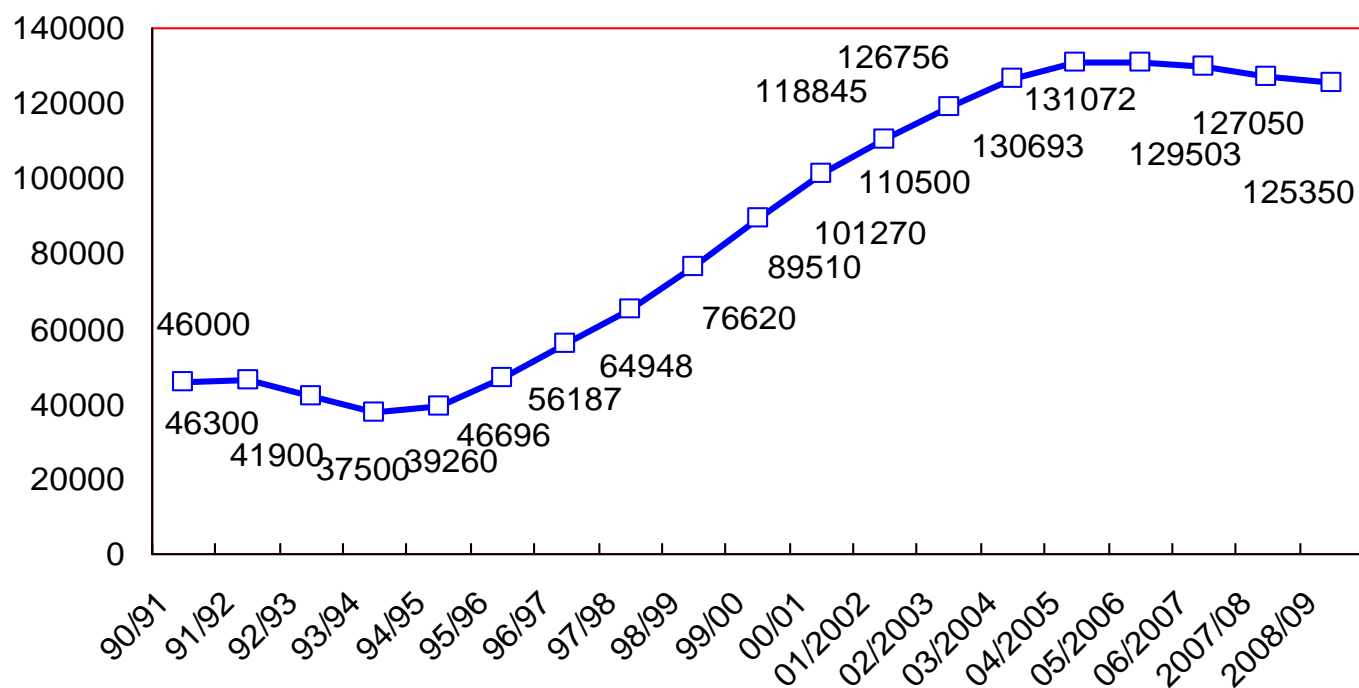


Educational System in Latvia





Total number of students in Latvia



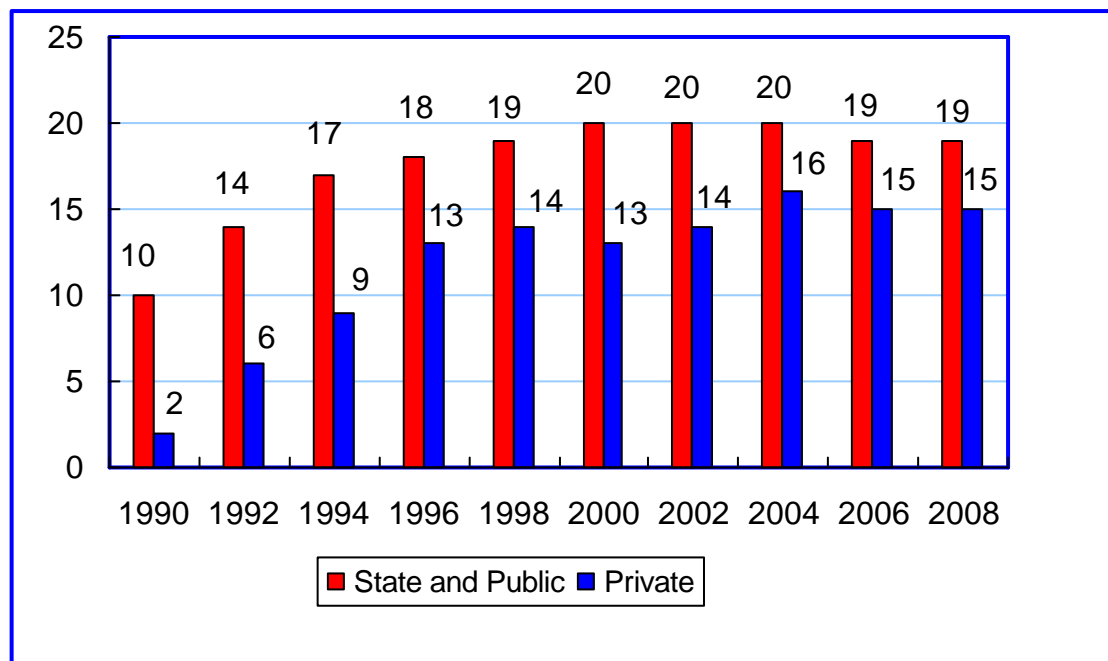


Doctoral students in % from all students in Latvia

Academic year	Number of students		Number of imatriculated students	
	Total	% of total number of students	Total	% of total number of students
2004./2005.	1428	1	420	1
2005./2006.	1809	1,4	530	1,2
2006./2007.	1797	2	484	1
2007./2008.	1982	2	462	1
2008./2009.	2025	2	619	1,5

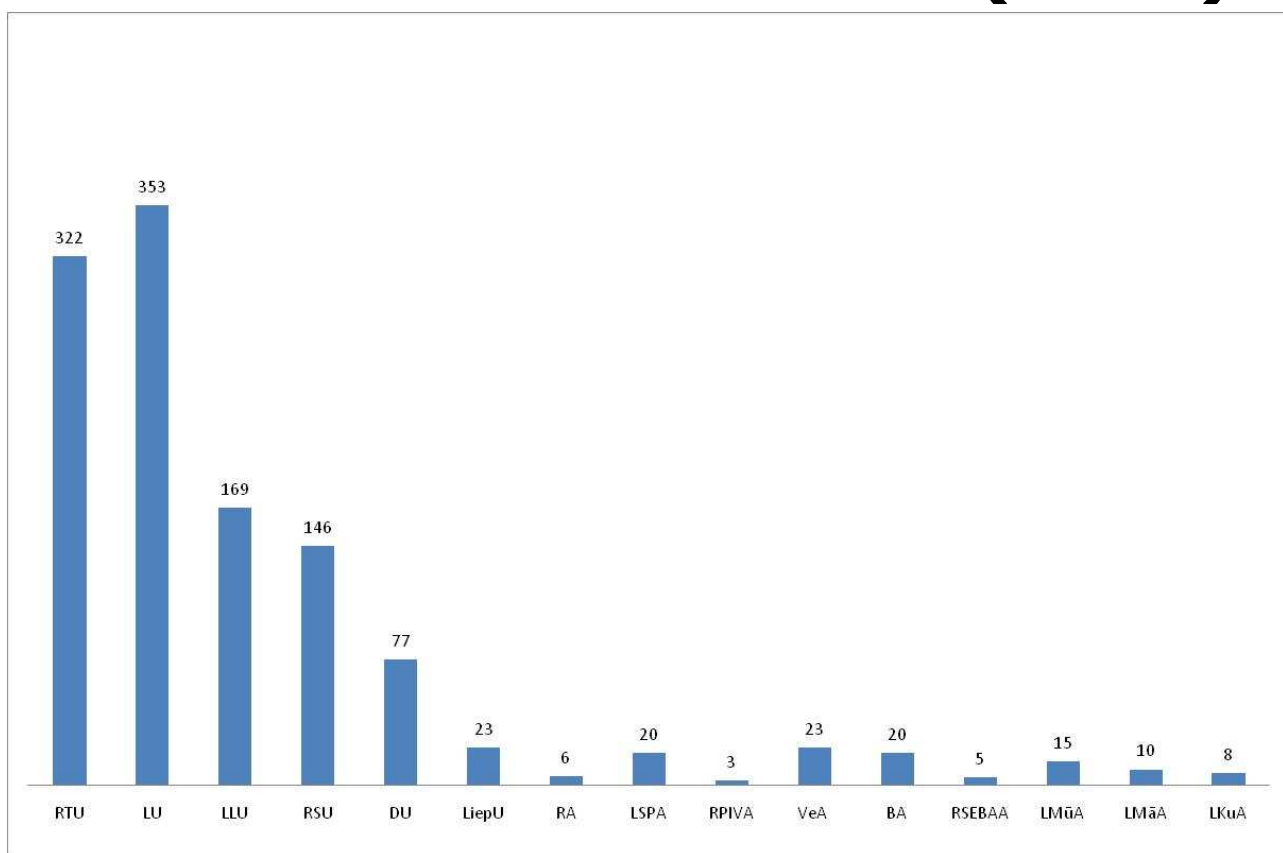


Number of public and private higher educational institutions in Latvia (except colleges)





State funded doctoral students in Latvian Higher Educational institutions (2009)





Riga Technical University has 22 doctoral study programs.

Accreditation of study program for 6 years is organized by independent institution "*Higher Education Quality Evaluation Centre*" and final acceptance is done by the Accreditation Commission set up by the Ministry for Education and Science after hearing the recommendations of the Evaluation Commission.



Full time Doctoral study program in RTU must be completed in 3 academic years, but in part time studies – in 4 years. Doctoral candidates have rights to interrupt active studies twice for maximum break time – 1 year.

University information system is keeping doctoral candidate files for 3 till 6 years (5 – for full time, 6 – for part time).



Doctoral study program (144 KP) consists of 2 main parts:

- a) Study subjects (42 KP);
- b) Scientific research work (102 KP).

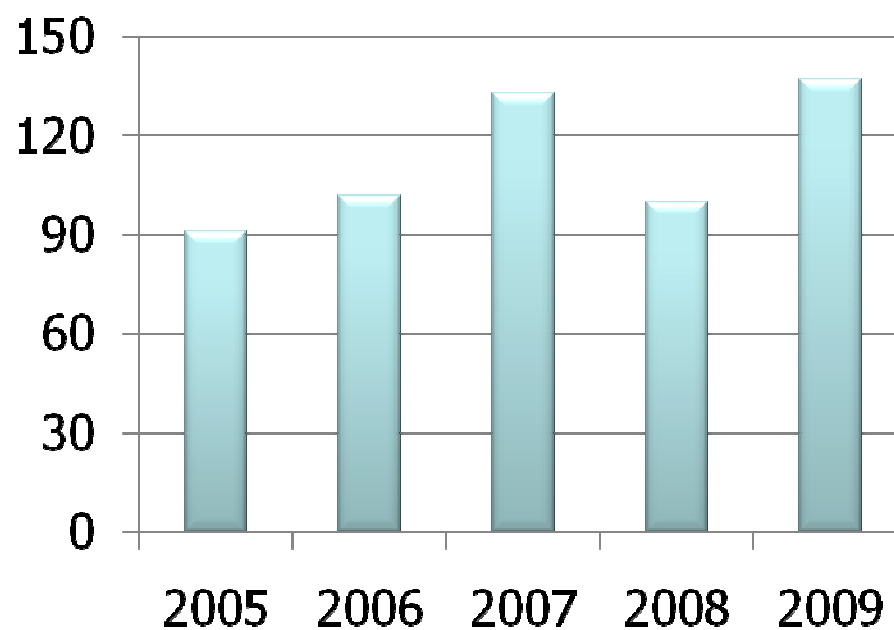
Study subjects mostly are planned in the 1st, 2nd and 3rd semesters and are divided into 3 blocks:

- a) Compulsory subjects (15 KP);
- b) Subjects of obligatory choice (21 KP);
- c) Free choice (6 KP).

(1 KP = 1.5 ECTS)

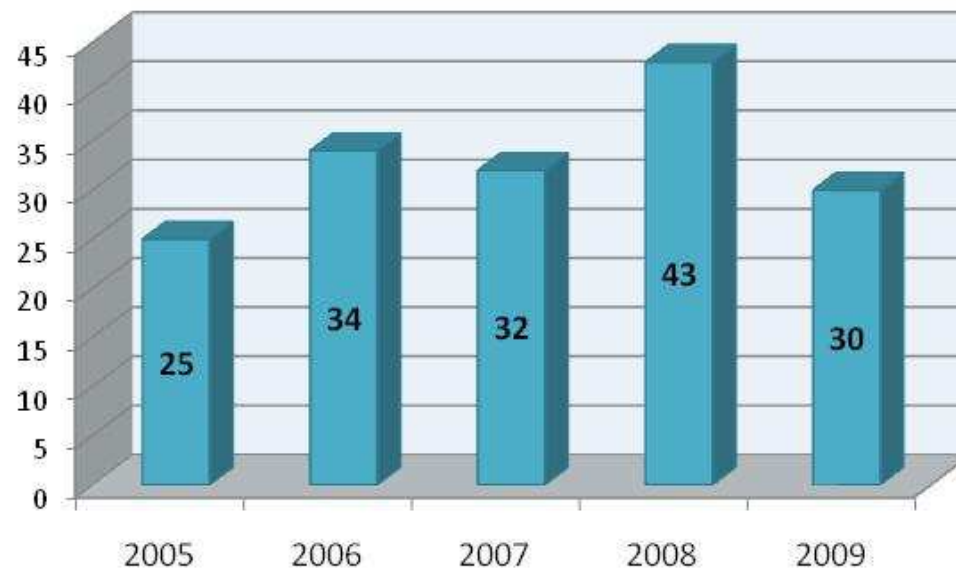


Enrolled doctoral students per year in RTU





Dynamics of Defended Dissertations in RTU





Defended Doctoral Theses Over a Period of 2005 – 2009 in Faculties of RTU

	2005	2006	2007	2008	2009
Faculty of Architecture and Urban Planning	0	2	0	1	1
Faculty of Computer Science and Information Technology	2	5	7	6	6
Faculty of Civil Engineering	2	5	3	5	5
Faculty of Electronics and Telecommunications	0	2	0	2	3
Faculty of Power and Electrical Engineering	8	4	9	10	4
Faculty of Engineering Economics and Management	3	3	4	8	3
Faculty of Materials Science and Applied Chemistry	5	7	5	6	6
Faculty of Transport and Mechanical Engineering	7	6	4	5	6
Total	27	34	32	43	30



3. Quality and 'Efficiency' of Doctoral Education in RTU



Quality monitoring

Department of Doctoral studies in RTU is a structural unit (3 full time employee) of Science Department under supervision of Vice-Rector for Science and Research.



Advisors

Doctoral student advisor in RTU can be professor and associated professor.

Special permission from Senate of RTU is needed for other staff members with doctoral degree to be advisors of doctoral students.



Quality Test

Every year centralized checking of doctoral student progress in research and study is done twice. The head or deputy head of RTU Doctoral study department are present on this doctoral student's progress meeting, so if the progress of research of the studies is not sufficient, the financial support is reduced for this student and his/her supervisor.



Quality level of PhD thesis (promotion work)

- From 1999-2005 an official request for quality level of promotion work was defined with necessity of minimum 5 publications in internationally recognized scientific journals and at least 2 reports on international scientific conferences;
- From 2006 till now in official documents are written that the main results of promotion work must be published in scientific journals and at least 1 report must be done on international scientific conference.



Scholarships

- Students of RTU can get a scholarship on competition base from RTU scholarship Fund, which depends from funding given by Ministry of Education and Science;
- Private scholarships (companies, funds, filantrops...)



Governmental scholarship can obtain only full-time government budget financed students, which are successfully passed examination till the end of regular session. Scholarship is awarded for one semester by means of contest according to previous results of semester or matriculation contest.



Students of RTU can get also a credit-like scholarship, which is subsidised by government budget funding. Student is signing an agreement with RTU, where, if student successfully finishes his studies, the credit is covered by government, if not; student starts to pay back it as usual bank credit.



'Efficiency' of Doctoral Education in RTU

Question is: How to calculate?

1. After first 3 years of Doctoral studies average Graduation (PhD degree) rate is critically low < 5%

Time period 2000-2010



2. From total number of defended PhD thesis graduation rate is following:

In 3 years – 17%

In 4 years – 30%

In 5 years – 35%

In 6-8 years – 18%

Time period 2000-2010

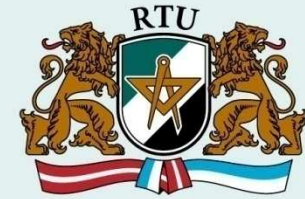


3. Official average graduation rate per year is ~45%.

There we are comparing the number of defended PhD thesis per year with number of remaining 3rd Year PhD students.



2. European Support for Doctoral Studies



A new scholarship is available, thanks to European Social Funds.

Since 2004 two projects are realized for the development of doctor course in RTU:

1. "Support for the doctor program development of RTU", agreement Nr.2004/0002/VPD1/ESF/PIAA/04/NP/3.2.3.1/0001/0002/0007 (2005-2008);

2. "Development of doctor program and its quality in Riga Technical University", agreement Nr.2005/0132/VPD1/ESF/PIAA/04/APK/3.2.3.2/0050/0007 (2009-2013)



From year 2004, many ERAF projects were implemented to upgrade scientific equipment at RTU scientific research laboratories. Those projects made available many large, complex hi-tec and very expensive systems at RTU research laboratories for scientists, PhD students and as service for Latvian enterprises.



Within the ESF project “Improvement of doctor studies effectiveness with the use of distance education”, equipment of seminar and presentation rooms was modernised to support PhD students, who are preparing scientific articles, practising their speech, presentations, which are learning by means of distance education, or attending web or e-conferences.



At the EU educational programme Erasmus PhD students has a possibility, in competition procedure, get funding and possibility to make their studies and researches in higher education establishments, enterprises ,or research centres in Europe, with whom RTU has a partnership contracts. Erasmus grant can be allocated from 3-12 months within study period.



In frame of European social fund financed project „Development of doctor program and its quality in Riga Technical University”, agreement

Nr.2005/0132/VPD1/ESF/PIAA/04/APK/3.2.3.2/ 0050/0007 was developed and introduced three important study subjects „Intellectual Property Protection”, „Planning of experiments” and “Management of Scientific Projects”.

These study subjects help students to formalize and finish their research results and make ready results of their research for the market.



5. International Cooperation



Scholarship programmes of the German Academic Exchange Service (DAAD) offer possibilities to undertake studies and research in Germany.

Swiss Baltic Net scholarships were used by students doing doctoral degree studies to realise their research objectives in Switzerland.



From year 2002 annually there is organized International Doctoral School in Energy and Geotechnology in Estonia (Kuresare and from 2010 in Parnu).

Participants: Doctoral students and professors from ESTONIA, LATVIA, LITHUANIA, POLAND, GERMANY, UKRAINE, MOLDOVA, RUSSIA, FINLAND

This is one week event in cooperation with International conference "Topical Problems in the Field of Electrical and Power Engineering".

BALTECH CONSORTIUM



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BALTECH homepage: www.baltech.lt

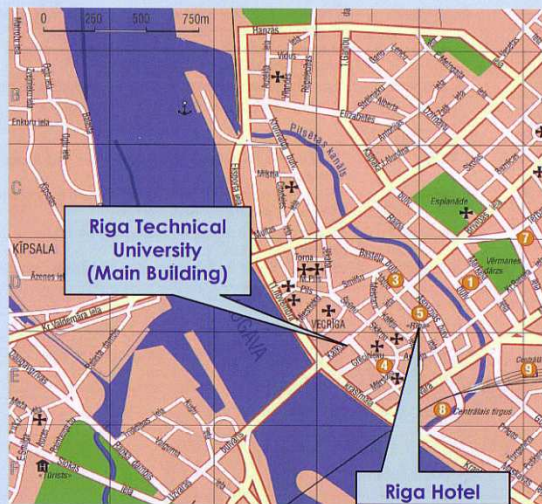
BALTECH

The BALTECH university consortium
– Strategic resource for longterm development of Education and Research in the Baltic Sea region



MAJOR ACTIVITIES OF BALTECH CONSORTIUM

1. Joint Master programmes in Industrial Engineering and Management (started 1999), and Environmental Management and Cleaner Production (start 2002).
2. Annual conferences and additional **scientific conferences**
3. Teacher and student exchange
4. **Support to scientific and educational projects**
5. **Mobility scholarships** to bachelor, master and **PhD students**
6. Exchange of information among administrative and academic staff
Baltech Student Union



NANOBALTECH Riga November 8-10, 2006

Venue The symposium is held at the main building of Riga Technical University, located at Kalku street 1, in central Riga. The University is at a walking distance from the Old Town and the Central Railway Station. From Riga Airport, you may take a taxi to RTU or Riga Hotel (cost ca 10 Lats). There is also a regular bus service from the Airport to Central Railway Station (cost less than 1 Lats). The University building is about 500 m from the Central Railway Station.

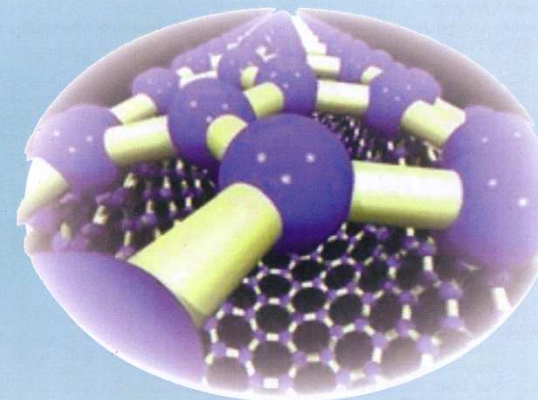
The Registration and Reception on the evening of Wednesday, October 8, and the symposium Dinner on Thursday, October 9, will be at Hotel Riga, Aspazijas Boulevard 22, Riga. Hotel Riga is at a walking distance from the main university building and Central railway station.

For assistance, please call the RTU office of International Relations; Ms. Jolanta Jurevica, Phone 371-7089055 and Mobile +371-29449770



NANOBALTECH

Networking event
Symposium on Nanotechnology in the Baltic Region



8-10 November 2006
Riga Technical University
kalku Street, Riga - LATVIA

Organized by
Royal Institute of Technology (KTH), Stockholm
Riga Technical University (RTU), Riga



April 16, 2010
The BALTECH Spring Conference in
Kaunas

*„Quality assessment
and indicators of higher education“*



RTU PhD and Master students in KTH campus (2009)





6. Problems

- 3 Year Doctoral Studies for Full time Student is too short for the field of Engineering Sciences (only 5% are graduating in time);
- Dramatical decrease in the financing of scientific research in Latvia is heavily disturbing doctoral education;



Future plans

- It is necessary to expand Full time doctoral education till 4 years in engineering and natural science programs
- RTU is planning to organize doctoral school including mentoring of doctoral candidates and carrier development of graduates;
- Increase of graduation rate till 70% in 5 Year period



Thank you!

