

Accreditation Report

Doctoral Studies in the Field of Science and Engineering

Reykjavik University

Expert Committee Report

February 2010

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1. Introduction

1.1 The Expert Committee

Dr. Hans Peter Jensen, former Rector of the Technical University of Denmark (DTU),
Chair

Dr. Per Nyborg, former Secretary General of the Norwegian Association of Higher
Education Institutions

Dr. Paavo Uronen, former Rector of Helsinki University of Technology

Magnus Lyngdal Magnusson, Head of Research and Deputy Director, The Icelandic
Centre for Research – RANNIS, Reykjavik, Iceland (Liaison Officer).

1.2 Terms of Reference

The Expert Committee is appointed according to Article 4 of Rules No. 37/2006 on Doctoral Studies in Higher Education Institutions to provide reference of the ability of higher education institutions to provide Doctorate Degrees. The Committee is to base its reference on the components of Article 3 of the same act. They are:

- a. Role and objectives of higher education institutions for organising doctoral studies.
- b. Definition of doctoral studies with regard to the National Qualification Framework issued by the Minister of Education.
- c. Title of degree and duration of doctoral study programme.
- d. Description of admission requirements and demands for satisfactory preparation.
- e. Description of application procedure.
- f. Information about structure of doctoral study administration, including doctorate committee, doctoral defence and qualifications requirements of examiners.
- g. Accreditation of the field of study by the Ministry of Education, Science and Culture.
- h. Supervisors' position within the relevant study field, activity in research and published work.
- i. Information about the structure of research activities and future strategy within the relevant field of study.
- j. Information about relation between undergraduate and graduate study programmes and the number of graduated students at Master's level for the past few years.

- k. Position of the higher education institution within the study and research field and its sub-fields in international comparison. Cooperation with research institutions at national and international level, higher education institutions and companies.
- l. Description of financing of doctoral studies.

1.3 Working Method

The Expert Committee received the application and documentation for doctoral programmes at the School of Science and Engineering (SSE) on 11 November 2009. The Committee meet on 25 January 2010, having a first discussion of the potential of the RU for a PhD accreditation based on the application dated 15 May 2009 and its appendices.

The Expert Committee made a site visit to Reykjavik University (hence referred to as RU) 25 and 26 January 2010 during which it had the opportunity to discuss with management, faculty, students and external representatives and look at facilities (see agenda in Appendix 1). The Expert Committee then discussed among itself and wrote the first draft of observations during an afternoon meeting. First impression was then given at a meeting with representatives from the Ministry of Education, Science and Culture on 26 January.

Further editions of the report where then made after the Iceland visit and circulated amongst Committee members by email correspondence.

The descriptive parts of the final version were sent to RU for a check of factual errors and misinterpretations on 29 January 2010. The Committee received some corrections and made minor changes.

1.4 Short evaluation of the work process

The Expert Committee had a well functioning cooperation from the first meeting in Iceland on 25 January. Members of the Committee have been complementing each other in a very balanced way both during discussions with representatives from RU and among themselves.

The Committee has in a very constructive way been supported in all practical aspects by Magnús Lyngdal Magnússon from RANNIS. The experts are very appreciative towards Magnús for his open and helpful way of acting during the working period of the Committee.

2. Research and PhD education in Iceland

Based on the statistics and other material published by RANNIS, the Icelandic Centre for Research, it can be seen that in generally the research funding and its results are in international comparison at a satisfactory level. For example the total R&D-expenditure has steadily been at a level of 2.5% of GDP which is one of the highest among OECD countries and calculated as per capita it was in 2007 the highest in all OECD countries.

The major part of the research funding is coming from the private sector ca. 50%, the public sector gives roughly 40% and the rest is coming from abroad (incl. EU Framework Program and NIH).

Most part of the private sector financing will be used in industry for its own purposes and the share of higher education institutions of the total expenditure is 25%.

The total funding from RANNIS has been steadily rising; flattening out in 2010 to just over 2 billion ISK and it is mainly based on open competition.

The number of full time equivalent researchers in Iceland is about at the same level as the other Nordic countries scaled per population. Also the patent and publication activities in Iceland are at a good international level (Iceland being second among OECD countries in regards to impact of publications 2003-2007).

The scientists of Iceland are internationally well networked and active for example in European Framework programs.

A central element in research is the training of research personnel, especially the education of PhD's. The biggest share of PhD's in Icelandic research has an educational background in foreign universities. As far as Iceland is concerned the University of Iceland (a classical comprehensive university) has until recently been the only university awarding PhD degrees, including some engineering programs. Total number of doctoral students in Iceland has been during the recent years a little over 250 and the number of doctoral degrees on average during 2002 to 2007 is 63 doctors per year.

RU has a recently been accredited for PhD programs in the School of Computer Science, the School of Business and the School of Law. Only one doctor has been graduated so far. At the current moment (January 2010) 7 students are registered in PhD programs at RU (one in the School of Business, and 6 in the School of Computer Science).

These numbers in relation to the population or national economy are somewhat low. The biggest share of doctors is in medicine, natural and social sciences and the numbers in engineering is quite low (see Table 1). Of course we must take into account the fact that there are many Icelandic students going for their PhD's abroad. However in order to keep the industries and businesses in Iceland competitive and creative the Expert Committee is of the general opinion that it would be necessary to enhance and increase the doctoral education in engineering sciences in Iceland.

Field of science	Gender	Number
<i>Humanities</i>	<i>Women</i>	<i>23</i>
<i>Social Sciences</i>	<i>Women</i>	<i>34</i>
<i>Natural sciences</i>	<i>Women</i>	<i>37</i>
<i>Engineering and technology</i>	<i>Women</i>	<i>5</i>
<i>Medical and health sciences</i>	<i>Women</i>	<i>46</i>
<i>Agricultural sciences</i>	<i>Women</i>	<i>2</i>
<i>Humanities</i>	<i>Men</i>	<i>12</i>
<i>Social Sciences</i>	<i>Men</i>	<i>25</i>
<i>Natural sciences</i>	<i>Men</i>	<i>49</i>
<i>Engineering and technology</i>	<i>Men</i>	<i>6</i>
<i>Medical and health sciences</i>	<i>Men</i>	<i>16</i>
<i>Agricultural sciences</i>	<i>Men</i>	<i>2</i>
Total		257

Table 1: Number of PhD students in Iceland in 2008
Source: RANNIS

3. Reykjavik University

3.1 Roles and objectives

RU is a private, government supported, technology and business oriented university. It was established in 1998 as a university with two schools, Business and Computer Science.

The university was established in order to strengthen the competitiveness of Icelandic business and industry. In 2005 the Technical University of Iceland was merged with RU.

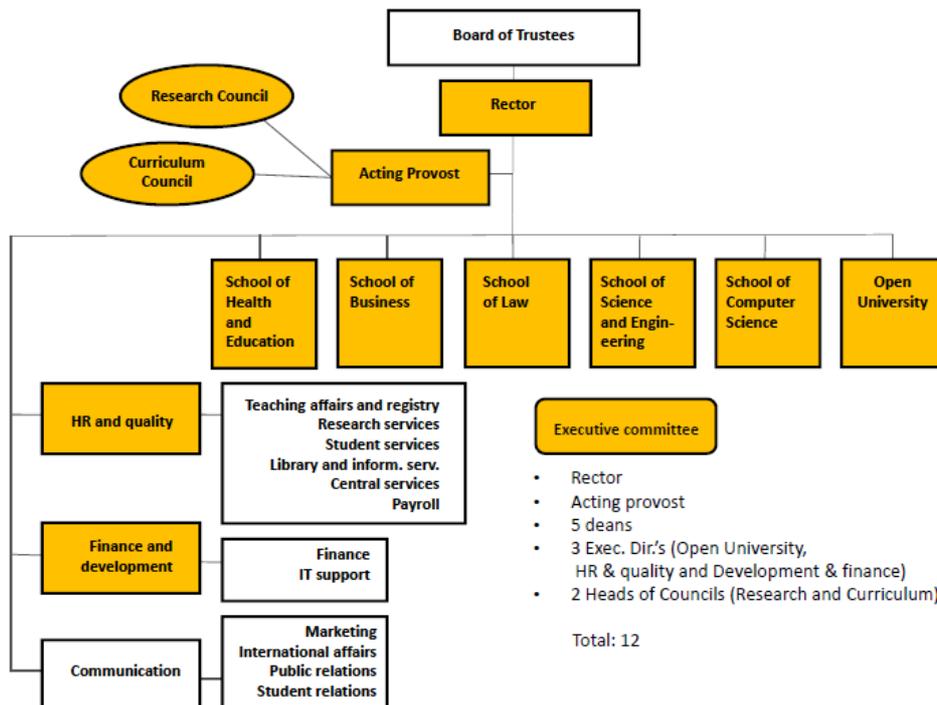
It now has 3000 students and almost 500 faculty and staff in five different schools.

The university has defined six elements as the basis for the implementation of its strategy:

- To increase research activity;
- To increase quality of instruction and introduce more progressive teaching methods;
- To internationalise operations;
- To integrate operations to make studies more interdisciplinary;
- To build a stronger strategic network with the industry, foreign universities, and the scientific community;
- To further improve operations and financial standing.

3.2 Administration and organization of the university

The Board of Trustees is the highest unit in the RU organizational chart (see Picture 1).



Picture 1. RU organizational chart
Source: RU

The Rector, as representative of the Board of Trustees, is responsible for the daily operations of RU and is as such, essentially the manager of the University.

The Board of Trustees is composed of representatives of the boards of the Iceland Chamber of Commerce, the Confederation of Icelandic Employers (Samtök atvinnulífsins) and the Federation of Icelandic Industries (Samtök iðnaðarins). The Board of Trustees is responsible for the budget, for formulating University strategy and for decision-making concerning the establishment of new departments, entry requirements and study fees. The Board of Trustees appoints RU's Rector.

The Executive Committee of RU is composed of the Rector, who is also the chair, deans and other key personnel as decided by the Rector. The Rector determines rules for the operation of Executive Committee defining its role and procedure.

RU operates five Schools: School of Health and Education, School of Law, School of Business, School of Computer Science, School of Science and Engineering.

The School of Science and Engineering (SSE) has close to 1000 students. The Dean of the School is responsible for academic management and also to carry operational and financial responsibility while reporting to the Rector. The School of Science and Engineering is organised in four departments (see Section 3.3).

Programs	# Students	# Students	
	2007	2010	
Construction Technology	25	54	
Electrical Technology	70	65	Diploma programs
Diploma in Technology - Business Administration	1	9	
Mechanical Technology	21	39	
Construction Architecture		19	
Biomedical Science B.Sc	32		The health sciences were being phased out in 2007
Radiological Sciences - Radiography B.Sc.	27		
Civil Engineering B.Sc	70	83	
Mechanical/Energy Engineering B.Sc.	40	47	3 1/2 year programs leading to Certified Engineering qualification
Industrial Engineering B.Sc.	15		
Electrical Engineering	31	28	
Computer and Information Technology B.Sc.	6		
Biomedical Engineering	31	80	
Engineering Management	54	123	3 year programs leading to BSc in Engineering
Financial Engineering	63	68	
Mechatronics Engineering	29	63	
MSc single subjects in SSE	1	7	
MSc in Structural Design/Civil Engineering	2	11	
MSc in Concrete Technology/Civil Engineering	3	1	
MSc in Construction Management	2		
MSc in Construction Management/Civil Engineering	31	16	
MSc in Transport and Urban Planning/Civil Engineering	6	14	2 year programs leading to an MS in engineering or applied sciences
MSc in Engineering Bioscience		2	
MSc in Biomedical Engineering		4	
MSc in Engineering Management		5	
MSc in Financial Engineering		5	
MSc in Decision Engineering		10	
MSc in Mechanical and Electrical Engineering		7	
MSc in Sustainable Energy - REYST		11	
TOTALS	560	771	

Table 2: Number of students at the RU SSE in 2007 and 2010
Source: RU

Programs	Spring	# Students		
	2010	2010	2011	2012
MSc in Structural Design/Civil Engineering	3	4	5	3
MSc in Concrete Technology/Civil Engineering	1	1	1	2
MSc in Construction Management/Civil Engineering	7	9	8	8
MSc in Transport and Urban Planning/Civil Engineering	2	4	8	12
MSc in Engineering Bioscience			2	2
MSc in Biomedical Engineering	1	1	2	5
MSc in Engineering Management	0	0	4	7
MSc in Financial Engineering	3	3	2	2
MSc in Decision Engineering	4	4	6	8
MSc in Mechanical and Electrical Engineering			4	6
MSc in Sustainable Energy - REYST	4	4	7	12
TOTALS	25	30	49	67

Table 3: Number of expected MSc graduates from the RU SSE in 2010-2012
Source: RU

3.3 Teaching and research in the School of Science and Engineering

At present the total number of students in the School of Science and Engineering is around 1000, corresponding to 771 full-time equivalents, 94 of those being MSc students.

MSc programs offered by the School of Science and Engineering in spring term 2010:

- *Department of Biomedical Engineering:*
MSc in Biomedical Engineering
MSc in Engineering Bioscience
- *Department of Financial Engineering and Engineering Management:*
MSc in Financial Engineering
MSc in Decision Engineering
MSc in Engineering Management
- *Department of Mechanical and Electrical Engineering:*
MSc in Mechanical Engineering
MSc in Electrical Engineering
- *Department of Civil Engineering:*
MSc in Civil Engineering

Over the last few years, SSE has actively recruited academic staff for education and research, now having around 45 permanent faculty members.

The University actively encourages the development of research centres and laboratories by offering initial seed funding for their establishment. Furthermore, applications to

competitive research funds are highly encouraged and contributing funds are frequently allocated to such applications.

In order to build a stimulating research environment, RU offers workspace, laboratories and computing facilities to each of its students pursuing a MSc degree.. The University has an “open office” policy for the staff. Staff members regularly interact with one another and with the research students. There is an active Research Council in the School of Science and Engineering.

Researchers in the School of Science and Engineering contribute to the international research community in their fields of expertise as one would expect of any active scholar. They conduct quality research, published in internationally recognised peer-reviewed journals.

3.4 Personnel qualification requirements

The Rector, Dean and other key persons are sought internationally by a ‘head hunting’ process. Professors are normally hired on basis of international announcements. All professors have individual contracts with the University.

RU Regulations stipulate the provisions which faculty and other academic personnel must fulfil prior to appointment. Special emphasis is placed on increasing the number of faculty and other academic employees holding a doctorate degree in the fields of study in which accreditation is sought, and the vast majority of new employees recruited in the last two years have a doctorate degree.

New appointments and career advancements are based on the positions of assistant professor, associate professor and full professor. An assistant professor should hold a PhD from a recognized university and have participated in research or development activity and teaching at university level. An associate professor is expected to be an established scholar in his/her academic discipline. For a full professor, high level achievements are expected in academic work.

A three-person evaluation committee assesses the eligibility of candidates for an academic position. A candidate who has been deemed eligible for a comparable position at another recognized university may be appointed on the basis of such an assessment.

3.5 Teacher and student facilities and services

RU moved into its new building (23,000 m²) in January 2010. In the fall of 2010 there will be a total of 30,000 m² in use. The total surface of buildings in the new campus can easily be extended to 45,000 m² according to future needs.

Thus, the university can now provide its students with a very good learning environment. Students in the science and engineering programmes have access to study facilities in a reading room as well as to group work facilities. Classrooms are equipped with computers, projectors and writing boards and “smart-screens”. Laboratories are moved to the new building; new equipment is already in place.

All permanent faculty and staff members have their own working-place. Workingspace will also be available for PhD students.

A sabbatical leave semester is available at 3 year intervals for the academic staff.

RU cooperates with a number of European universities through the Erasmus and Nordplus programmes and has also made bilateral agreements with universities outside of Europe. Cooperation provides opportunities for teacher and student exchanges.

The role of RU's Library and Information Service (BUHR) is to support and reinforce studies, teaching and research at RU, by choosing and collecting relevant material in RU's fields of study, making it accessible and providing all users with diverse and personal service. The emphasis is on high level services and largely electronic library, with the aim of providing access to electronic material for students and faculty in their fields of study, comparable to best practice in the international university community. BUHR subscribes to approx. 90 databases and 20.000 electronic publications in RU's fields of study, either on its own or in cooperation with others.

3.6 Internal quality assurance system

The Quality Handbook for Teachers describes the RU quality control processes for teaching and the main criteria applied in RU to assess teaching and to encourage interaction with students are defined.

Teaching and research performance are key elements discussed in annual staff performance interviews within RU. Each School within RU is expected to publish a report on its research activity for each year and to undergo periodic research evaluations, each three to five years, carried out by panels of experts in the respective fields. Annual publication lists are evaluated and these figures have impact on governmental research funding for the next year.

4. Follow up on evaluation report from 2007

As evaluators of the proposed PhD program at SSE in RU we have used the accreditation report on the Master's programme in engineering and technology at RU from June 2007 as a platform.

This report summarizes 19 findings some of which were of a critical nature. However, the overall impression at that time was of such positive nature that it was concluded that RU should be accredited to award Bachelor's and Master's degrees in engineering and technology with the proposed condition that a new accreditation exercise ought to be performed in 2012.

We will here make comments to the findings of the report from 2007 since it of course is imperative for establishing a PhD programme that the underlying educational levels and especially the Master's programmes are well functioning.

The findings from 2007 start out by expressing an admiration from the Expert Committee in relationship to the professionalism and high standards found at RU. This is a statement which the present Expert Committee can endorse.

The second point in the report from 2007 concerned the plans for the new RU campus, which were found impressive. Today, when the new campus is underway and is already

used as location for most of the RU activities we can again endorse the statement from 2007 and furthermore say that the design of the new campus and its buildings seems in the layout well suited as supporting background for all teaching activities and the cross-boundary research and development which is the declared central activity at RU.

In the third point from the 2007 report it was stated that the connection and the support from the Icelandic business community is supportive and “non-invasive”. The present Committee can again endorse the statement from before. We had the opportunity to meet with three external members of the RU board of trustees, who strongly expressed their support towards RU, their commitment in relationship to bringing RU safely through the present economical crisis and a strongly expressed support of the necessity for giving RU the right to award PhD degrees as soon as possible.

In the fourth finding from the 2007 report it was stated that some decision in RU may have been taken too quickly and without sufficient consultation with the academic staff. We were discussing this issue with the present management (including the new Rector) and were convinced that the situation has improved in this aspect through the formation of a Research Council and a Curriculum Council both of which in the diagram of RU (see Picture 1) are reporting to the institution through the Acting Provost.

In the seventh finding from 2007 the Committee stated that it is impressed with the commitment and support offered to RU by its students. This present Committee can add to this that the students still find the atmosphere in RU welcoming, supportive and inspiring, and the teachers to be open, competent, available and helpful.

In the ninth finding from 2007 an application for accreditation of a Doctoral Programme in Computer Science was debated. It is expressed as an opinion of the former Committee that Doctoral programs are a necessity for any university, but in the case of RU this should be started in close cooperation with more experienced universities. This present Committee wants to commend RU for having done so, and we were presented with several examples of PhD projects which were running in cooperation with advisors from University of Iceland.

In the tenth finding from 2007 it is observed that the overall scientific level is relatively low but improving rapidly. This Committee was presented with diagrams on e.g. the total peer reviewed output from SSE which from 2006 to 2009 has almost doubled. We have also been seeing CVs and publication lists from 29 persons (as of May 2009) out an academic staff which today (January 2010) is 45. These documents are impressive and illustrated both that the staff at RU is competent and internationally recruited and oriented.

In the eleventh finding from 2007 it was stated that student and researcher exchange with advanced universities abroad should be encouraged. This present Committee takes note of the growing number of staff members being recruited from abroad and also that it according to the rules of the coming PhD programmes at RU is obligatory for PhD student to spend between 3 month and one year at another university or research laboratory.

The twelfth finding in the 2007 report urged RU to seek further strategic partnerships with universities within and without Iceland. This point relates to the comments to the eleventh finding which are also valid in this context and furthermore we find it essential to mention that we got the impression that cooperation with University of Iceland is going on at a reasonable level. E.g. are several PhD students at RU registered at UI and are getting advice and support at both institutions.

The thirteenth finding in the 2007 report was concerned with the relative high number of degree programs. This finding may be less valid today where the number of student at RU is around 3000.

The fourteenth finding raised the question about the proper integration of the former Technical University of Iceland, but it was expected that this problem may disappear through the establishment of the new RU campus. The present Committee finds that this expectation is fulfilled.

In the sixteenth finding from 2007 a warning signal was raised against “staff in-breeding”. This present Committee is of the opinion that the management of RU is well aware of the danger and takes serious measures in order to recruit both staff and coming PhD students

based on international call for applications to both jobs and PhD stipends. The staff hiring's since 2007 have been truly international.

In the seventeenth finding of 2007 the need for investments in basic and research facilities was noted, and again it was anticipated that this problem would be solved when RU moved to its new site. According to what the present Committee saw on a guided tour of the new campus the expectation is fulfilled and makes a relevant basis for the management of RU to declare that the institution for a period will now invest more in people than in expensive equipment. This may also bring down the presently relative high student/teacher ratio of approximately 20/1.

In the eighteenth finding from 2007 the Committee noted a need for further investment in library facilities etc. Also this problem have been solved by moving to the new campus and by the fact that all students and staff have lab-tops and that there is an extensive and well functioning wireless internet connection at the new facility.

Finally in the nineteenth finding of 2007 there was a call for increasing the number of full professors, a remark which to the present Committee is still valid (there are currently (January 2010) only three full professors at SSE), but hopefully the situation will be improved through the statement from the Rector cited above: to invest more in people than in expensive equipment for a period.

All in all the Expert Committee finds the development at RU since 2007 very positive and progressive and we do not think there is a need for a follow up visit in 2012.

5. Finances

As all other institutions in Iceland, RU has been hit by the financial crisis in 2008. Over the past years roughly half of the funds have been received from government and the other half from industries and students (through tuition fees). The real impact of the crisis has been felt by lower allocations to Icelandic universities (this applies not only to RU but to all higher education institutions in Iceland). The total reduction of funds coming from the government over the period of 2008-2010 might be just under 10%. RU has meet this by

making cuts within the university in regards to both staff and the new building. Still, the management is convinced that the current financial uncertainties will not stop further development at the university. The members of the Board of Trustees also expressed their clear will to insure the financing of PhD studies at RU.

6. Summary of Findings

- 1) The Expert Committee understands the need for having a PhD program in a research university.
- 2) From the discussions with representatives from various groups from the university the Expert Committee has a good impression about the general ambitions in relation to creating a PhD program in SSE:
 - a. The Rector and the Dean of SSE are strongly committed to developing the school and to start PhD studies as soon as possible. The management is convinced that the financial crisis will not stop the development. It might slow things down and may give rise to some cuts, however RU will do it in a prioritised way.
 - b. The faculty members of SSE are ready to take on the responsibility of supervising PhD students and some of them already do that for students being registered at other universities, e.g. University of Iceland.
 - c. MSc students are very supportive of the university and find their study environment excellent and the supervision from the staff competent and supportive. Those we were speaking to expressed hope of starting PhD studies at RU soon.
 - d. Members of the Board of Trustees were very supportive of the university in general and its relation to industry specifically. They recognised the need for doctoral studies to be started and the importance of research for the benefit of business and industrial environment of Iceland. In their opinion lack of PhD studies at RU would hamper the further development of the institution.

The members of the Board of Trustees expressed their will to insure the financing of PhD studies.

- 3) RU has an excellent potential in the new well functioning building which forms a good platform for running a university. It has many rooms for group work and an open environment that makes it easy to work together. The new facilities will give RU the opportunity to create adequate scientific environment which includes PhD studies. RU has various experimental facilities and we noticed and support that, for the time being, RU is investing more in people than expensive equipment.
- 4) After a number of recent hiring's the teaching and research staff is scientifically well qualified and internationally active. We have noticed a relatively high student/staff ratio (20/1). RU intends to improve this situation and continue recruiting staff internationally.
- 5) The Expert Committee finds the profile and the goals described in the SSE research strategy to be well formulated. Among the goals the Committee especially points to the ambition of graduating at least 5 PhD students per year, based on a MSc programme that graduates annually at least 50 students.
- 6) The rules for the proposed PhD program is well composed and in accordance with regulation 63/2006. This goes for the title of the degree and the duration of the doctoral programme, the description of the admission requirements and demands for satisfactory preparation, the description of the application procedure, and the information about structure of doctoral study and administration.
- 7) The Expert Committee supports the requirement in the rules that each PhD student should spend an extended period at another university or a research laboratory. We think, however, that this study period should preferably be spent abroad. It should also be consider formulating the rules more specifically regarding the approval of staff members as PhD supervisors by the Research Council during the process of setting up the individual PhD study.

- 8) We noticed the good cooperation with the School of Computer Science and with a number of research institutions, e.g. The Innovation Centre, University of Iceland, REYST, Blood and Tissue Bank, etc. We are aware that individual professors have a number of working relationships with colleagues in other countries. This should be supplemented by formal cooperation agreements with foreign universities.
- 9) The issue of critical mass of each research group supporting a PhD student was a subject of intensive discussions during the meetings at RU. According to some of the information given to the Expert Committee it looked like 45 academic staff member were working in 20 separate research groups. This gave a feeling of difficulties in relationships to critical mass. After a discussion with the Research Council we propose for the time being a more coherent composition in focus groups:
- *Energy*
 - *Operation research*
 - *Computational physics*
 - *Concrete*
 - *Biomedical engineering*

In this way it is possible to create a common environment of a certain size for PhD students and also in the longer perspective to form research schools with joint courses and research seminars.

- 10) Recruitment to PhD studies requires a pool of MSc-graduates. It should be a condition for an accreditation of PhD studies that the school graduates MSc candidates in the various focus areas. We further recommend the RU only starts PhD studies in the individual focus areas when a sufficient number of qualified graduates are available in the respective areas.
- 11) The SSE has developed a description of the learning outcomes for their PhD program that is in good agreement with the national qualification framework of Iceland. Requirements of knowledge and understanding, practical and theoretical skills, communication and learning skills are even described in more detail than

in the national framework. Engineering challenges could later be formulated in connection with establishing the separate focus areas.

- 12) The national qualification framework of Iceland requires the quality assurance of teaching and research activities in higher education. This includes internal and external procedures. In case of PhD studies in RU the most central quality assurance measure is the election of supervisors, doctoral committees and examiners, some of whom are external. The Expert Committee is of the opinion that for the time being this is satisfactory. Later on the quality of research is controlled by feedback from the international science community. Further it is up to the Ministry of Education, Science and Culture to decide on the external evaluation.
- 13) The Expert Committee recommends that RU should continue its efforts to enhance its relationship with industry. In the long run RU should have an incubation centre, a business park and other services for commercialisation of relevant research results. RU might also consider setting up an industrial PhD program.
- 14) For the recruitment of qualified PhD students it will be necessary to have a scheme for student financing. Students will usually be financed by grants, teaching assistantships are another possibility. Tuition fees for PhD students should be covered by grants and not by the individual student.
- 15) RU was accredited for MSc studies in 2007. The report pointed at some critical issues to be further looked into, among them the need for basic and research laboratory facilities and equipment, an increase in teaching and research staff and the need for more research. Based on our observations during this evaluation we believe that these issues from the report in 2007 have been resolved (see Section 4 for detailed comments).

7. Recommendation

Based on information given in the application and the observations and the recommendations described above, the Expert Committee recommends that RU be accredited to award PhD degrees within the School of Science and Engineering as soon as a sufficient number of MSc candidates in the relevant fields are graduated from RU.

8. Signatures of the Accreditation Expert Committee

Dr. Hans Peter Jensen, *Denmark*
Chairman

Dr. Per Nyborg, *Norway*

Dr. Paavo Uronen, *Finland*

Appendix 1: Agenda of site visit of Expert Committee to RU 25 and 26 January 2010

25 January 2010:

12:00 – 13:00 Lunch/Meeting. With SSE Executive Committee.

Present: Gunnar Guðni Tómasson, Dean SSE, Brynjar Karlsson, Director Research and Graduate Studies SSE, Ingunn Sæmundsdóttir, Director of Undergraduate Studies, Ásdís Hlökk Theodórsdóttir, Head of Civil Engineering, Guðrún Sævarsdóttir, Head of Mechanical and Electrical Engineering, Haraldur Auðunsson, Head of Biomedical Engineering, Hlynur Stefánsson, Head of Financial Engineering, Sigrún Þorgeirsdóttir, Office Manager.

13:00 – 14:00 Meeting with the Rector, Provost, Head of the RU Science Council, Dean SSE and SSE director of graduate studies

Subject: The vision and the commitment of RU towards research in general and research education for PhDs in particular.

Present: Ari Kr. Jónson, Rector, John B Vander Sande, Provost (by teleconference), Gunnar Guðni Tómasson, Dean SSE, Brynjar Karlsson, Director Research and Graduate Studies SSE, Luca Aceto, Head of RU-Research Council

14:00 – 15:00 Meeting with the SSE research council

Subject: The SSE PhD programme, overview, details, questions and answers

Present: Gunnar Guðni Tómasson, Dean SSE, Brynjar Karlsson, Director Research and Graduate Studies, Ólafur Guðmundsson, Professor, Ólafur H. Wallevik, Professor, Karl Æ. Karlsson, Associate Professor, Eyjólfur I. Ásgeirsson, Assistant Professor

16:00 – 17:00 Visit of the new RU building including proposed laboratory space

Present: Gunnar Guðni Tómasson, Dean SSE, Brynjar Karlsson, Director Research and Graduate Studies, Ólafur H. Wallevik, Professor

19:00 Dinner Perlan Restaurant

Present: Ari Kr. Jónson, Rector, Gunnar Guðni Tómasson, Dean SSE, Brynjar Karlsson, Director Research and Graduate Studies

26 January 2010:

08:30 – 09:30 Meeting potential supervisors on the SSE staff

Present: Eyjólfur I. Ásgeirsson, Assistant Professor, Andrei Manolescu, Associate Professor, Bjarni V. Halldórsson, Associate Professor, Marco Raberto, Assistant Professor

09:30 – 10:30 Meeting external members of the Board of trustees

Present: Finnur Oddson, Chairman Board of Trustees, Eggert Guðmundsson, CEO of HB Grandi, Kolbeinn Kolbeinsson, Deputy Managing Director, Istak, Þórður Magnússon, Chairman, Eyrir Invest, Gunnar Guðni Tómasson, Dean SSE, Brynjar Karlsson, Director Research and Graduate Studies

10:30 – 11:30 Meeting students

Present: Jóhann Sigurðsson, MSc student, Viðar Helgason, MSc student, Sonja Oesterheld, PhD candidate, Silja Rán Sigurðardóttir, Research Assistant

11:30 Wrap up and light lunch with SSE Science Council

Present: Gunnar Guðni Tómasson, Dean SSE, Brynjar Karlsson, Director research and Graduate Studies, Ólafur Guðmundsson, Professor, Ólafur H. Wallevik, Professor, Karl Æ. Karlsson, Associate Professor, Eyjólfur I. Ásgeirsson, Assistant Professor

16.30 Meeting with the Ministry for a preliminary reporting.

Appendix 2: List of documents received

From the Ministry of Education, Science and Culture

Act on Public Higher Education Institutions 85/2008 (draft translation)

Higher Education Act no. 63/2006 (draft translation)

Rules no. 37/2006 on Doctoral Studies in Higher Education Institutions according to art. 7 of the Higher Education Act no. 63/2006 (draft translation)

Rules no. 1067/2006 on Accreditation of Higher Education Institutions according to art. 3 of the Higher Education Act no. 63/2006 (draft translation)

National Qualification Framework for Iceland (dated 8 February 2007)

Accreditation Report, 2007: Faculty of Engineering and Technology, Reykjavik University

From the Reykjavik University

Cover letter and application for a PhD program in School of Science and Engineering (dated 15 May 2009)

Appendix A: Rules for the PhD program in SSE

Appendix B: Learning Outcomes

Appendix C: Research strategy for SSE

Appendix D: CVs of potential supervisors

Appendix E: History and statistics