Annual Report 2013
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About KTH

KTH is responsible for one third of Sweden’s capacity for technical research and is the country’s largest provider of technical/engineering education at university level. KTH education and research covers a broad spectrum – from natural sciences to all branches of engineering plus architecture, industrial economics, urban planning and learning. In addition to the research at KTH schools there are a large number of national and local competence centres located at KTH, as well as research programmes financed by various national research foundations.

KTH offers degree programmes: Master of architecture, Master of Science in Engineering, Bachelor of Science in Engineering, Bachelor’s degree, Master’s degrees (one or two years), Licentiate or PhDs. KTH also educate subject teachers for upper secondary school and teachers for grades 7–9 of compulsory school. There is a technical preparatory course, as well as further and commissioned education. There are more than 11,000 full year students at first and second levels, almost 1,900 active research students (at least 50 per cent) and a little more than 4,900 employees or almost 3,600 full time positions.

KTH was founded in 1827 and its current site is at Norra Djurgården in central Stockholm. Other operations are located at AlbaNova close to Roslagstull, where KTH, together with Stockholm University, arranges education and research within biotechnology and physics. In addition KTH runs activities at other campuses in the Greater Stockholm area. In the Karolinska Institutet Science Park in Solna there is the Science for Life Laboratory (SciLifeLab) that is operated jointly with Karolinska Institutet and Stockholm and Uppsala universities. In Kista in the northern part of Stockholm, the School of Information and Communication Technology (ICT) while in southern Stockholm the School of Architecture and the Built Environment (ABE) is placed in Haninge. The School of Technology and Health (STE) is located in Flemingsberg where it operates in collaboration with Karolinska University Hospital. The School of Industrial Engineering and Management (ITM) has certain activities located in Södertälje.

KTH carries out extensive international research and educational exchange with universities and university colleges primarily in Europe, USA and Asia. KTH participates actively in the various EU research programmes. Collaboration with Swedish and international development cooperation agencies is also undertaken.

A substantial level of collaboration is underway with Swedish companies, government agencies and organisations. Strategic collaboration agreements have been concluded with several larger-scale companies and Stockholm County Council.

KTH in figures 2013

Educational activities
- Master of Architecture and 15 Master of Science in Engineering programmes
- Master of Science in Engineering combined with Degree in Education
- 8 Bachelor of Science in Engineering programmes
- Subject teacher programmes grades 7–9
- Master’s programmes (one and two year)
- Bachelor’s programmes and two-year university diplomas
- Further education, technical preparatory programme
- 11,473 full time students, of which 31 per cent are women and 69 per cent men (including fee-paying students)
- 8,968 annual performance equivalents (including fee-paying students)
- 1,894 active research students (at least 50 per cent activity), of which 30 per cent are women and 70 per cent men

Admissions
- 2,566 new students on the first year of Master of Science in Engineering, Master of Architecture and Bachelor of Science in Engineering programmes of which 30 per cent are women and 70 per cent men
- 818 admitted to the Technical Preparatory Programme, of which 30 per cent are women and 70 per cent men
- 1,798 new students on one and two-year Master’s programmes, 31 per cent women and 69 per cent men, of whom 969 students previously on Master of Science in Engineering studies programmes and 683 students studying on a one or two-year Master’s programme at KTH
- 316 newly-admitted students to doctoral studies programmes, of which 30 per cent are women and 70 per cent men

Degrees
- 928 Master of Architecture, 54 per cent to women and 54 per cent to men
- 908 Master of Science in Engineering degrees, 31 per cent to women and 69 per cent to men
- 1,255 Bachelor of Science in Engineering degrees, 26 per cent to women and 74 per cent to men
- 1,413 Master/Master of Science (one and two-year) degrees, 30 per cent to women and 70 per cent to men
- 252 PhDs, 25 per cent to women and 75 per cent to men
- 135 licentiate degrees, 27 per cent to women and 73 per cent to men

Research
- Primary responsibility for five national strategic research areas:
  - E science
  - IT and mobile communication
  - Transport research
  - Production engineering
  - Molecular biosciences (Science for Life Laboratory)
- Partner in another five areas
- Lead partner in two programme areas within the European Institute of Innovation and Technology (EIT)
- InnoEnergy
- ICT Labs

Financial situation
- MSEEK 4,419 in total turnover (of which SEK 381 million transfers)
- Government grants (excluding transfers)
  - MSEEK 957 First and second level (undergraduate) educational programmes
  - MSEEK 1,064 research/doctoral studies
- External financing (excluding transfers)
  - MSEEK 328 the Swedish Research Council
  - MSEEK 281 EU
  - MSEEK 155 Vinnova
  - MSEEK 132 Wallenberg Foundations
  - MSEEK 359 other government agencies
  - MSEEK 321 other external financing including private funds

Employees
- 4,906 employees, the equivalent of 3,621 full time positions, of which 1,319 are women and 2,592 men of which:
  - 303 professors, 42 women and 261 men (including visiting and adjunct professors)
  - 250 associate professors, 55 women and 195 men (including assistant professors)

Lokalarea
- 266,000 m²
KTH management and faculty

KTH educational and research operations are organised into schools. Each school consists of the relevant departments and centres. Schools report directly to the President and are headed by a Dean and a Vice-Dean with the help of a management team. Each school has a Strategic Council that acts as an advisory body to the Dean on certain issues.

The University Board supervises all KTH operations and is responsible for ensuring that tasks are properly fulfilled. The Board consists of 15 members – eight external representatives, the President, three lecturers and three student representatives.

The President leads operations reporting to the University Board. One Vice President acts as the President’s Deputy. The President’s Group deals with strategic educational, research and quality issues and consists of the President, Deputy President, Dean of Faculty, Vice-Dean of Faculty, Vice-President with Responsibility for Research, the University Director and a student representative. The KTH Management Group deals with matters concerning all KTH schools and consists of the President, Deputy President, Dean of Faculty, Vice-Dean of Faculty, Vice-Presidents, University Director, all Deans of Schools and student representatives.

The Faculty Council bears overall responsibility for issues concerning quality in education, research and collaboration with society. The Faculty Council is also an advisory body to the President.

In order to facilitate and strengthen faculty access to information and influence concerning processes and decisions, a Board of Trustees has also been formed. The Board of Trustees has the primary task of communicating and gaining acceptance for issues of particular importance from faculty. The Faculty Council Education Committee has three main tasks: overall design of educational programmes at first, second and third levels, preparation of KTH activities concerning quality and follow-up of education and preparation of the KTH overall development of regulations and guidelines on education. The Faculty Council Appointments Committee has three main tasks: preparation and decisions regarding promotion matters, preparation and decisions concerning matters related to teacher recruitment and preparation of KTH operations on quality and follow-up regarding teaching positions. The Faculty Council also has a Resource Allocation Committee.

KTH Schools with operating areas

In the following list, the operating areas for each school are listed.

**School of Architecture and the Built Environment (ABE)**
- Architecture
- Civil and Architectural Engineering
- Real Estate and Construction Management
- Philosophy and History of Technology
- Land and Water Resources Engineering
- Urban Planning and Environment
- Transport Sciences

**School of Biotechnology (BIO)**
- Industrial & Environmental Biotechnology
- Genetic Biotechnology
- Glycoscience
- Proteomics and Nano Biotechnology
- Theoretical Chemistry and Biology

**School of Computer Science and Communication (CSC)**
- Theoretical Computer Science
- Computer Vision and Robotics
- Computational Biology
- High Performance Calculations and Visualisations
- Parallel Computing Centre
- Media Technology and Interaction Design
- Speech, Music and Hearing Communication

**School of Electrical Engineering (EES)**
- Electrical Power Engineering
- Fusion and Space Plasma Physics
- Information and Communications Systems
- Medical Technology and Microsystems

**School of Industrial Engineering and Management (TM)**
- Energy Technology
- Industrial Management
- Industrial Production
- Mechanical Constructions
- Materials Science and Engineering
- Applied Mechanical Engineering

**School of Information and Communication Technology (ICT)**
- Electronic Systems
- Integrated Components, Circuits and Systems
- Communication Systems
- Material and Nano Physics
- Software Technology and Computer Systems

**School of Chemical Science and Engineering (CHE)**
- Fibre and Polymer Technology
- Chemistry
- Chemical Engineering

**School of Technology and Health (STH)**
- Health and System Science
- Medical Engineering
- Natural Science and Biomedicine

**School of Engineering Sciences (SCI)**
- Aeronautical and Vehicle Engineering
- Physics
- Solid Mechanics
- Mathematics
- Mechanics
- Theoretical Physics
- Applied Physics

**School of Education and Communication in Engineering Science (ECE)**
- Library Services
- Learning, Languages and Communication
- KTH Education
President’s preface

After several years of rapid growth, we are now seeing a slowdown. KTH is growing, but at a slower pace than in previous years. The lower growth rate is reflected in the financial outcome of MSEK 8 – which is also a reduction from previous years.

The forecast for 2014 and the future is continued lower rates of growth. It is, consequently, especially important to maintain good cost control. However the establishment of a stable agency capital in recent years and a good level of unutilised grants mean that we have a solid foundation to build on.

One step in streamlining KTH administration will be the evaluation to be conducted in 2014, the Administrative Assessment Exercise (AAE). Work with AAE was initiated in autumn of 2013. There is a parallel here with the research (RAE 2008, 2012) and education (EAE 2011) evaluations previously implemented at KTH. The administration will be evaluated from three aspects: competence, service and cost. The results will generate the necessary changes.

As concerns operations, KTH is developing well. This is reflected in various rankings. According to the latest results from the Times Higher Education rankings, KTH is now in place 177 among world universities as compared to 140 in 2012 and 187 in 2011. Among the technical universities of Europe, KTH is ranked as the sixth best university.

The fact that Master of Science in Engineering graduate numbers are increasing is also welcome news. This year’s 908 graduate engineers is the highest number since 2007, with the exception of 2010 when a special project was underway. However, graduation numbers should be even better. According to the KTH Strategic Plan, 4,120 engineers were to graduate 2013–16, which corresponds to 1,030 degrees per year on average. Efforts to increase throughflow remain a top priority.

Another positive trend is that the number of applicants for KTH programmes continues to increase. Also the number of international applicants to KTH Master’s courses, both European and non-European students, has seen a strong rise. For fee-paying students, KTH had established an ambitious target of 1,000 students by autumn 2016. This may be difficult to achieve, but the trend is pointing in the right direction and recruitment efforts remain a high priority.

KTH is still very attractive to incoming exchange students. In the light of the reduced grant ceiling for education, it is not possible to offer all applicants a place. The past three years’ work aimed at encouraging KTH students to go on foreign exchanges is beginning to deliver visible results. Once again here is a positive trend that will hopefully continue in 2014.

In the autumn of 2013, the Swedish Higher Education Authority presented evaluations of KTH engineering, architecture and mathematics programmes. Three courses were considered to hold very high quality, 25 programmes were rated high quality while eight were judged to have poor quality. These results are disappointing. Especially in the light of all the positive feedback given by those who employ our graduates and that virtually all KTH students get jobs as soon as they leave the university.

For the courses that were rated poor quality, extensive work has been initiated to develop action plans. In the autumn of 2014, the plans will be presented to the Higher Education Authority. Parallel with this KTH will make efforts to reduce the huge role that degree projects play in the Authority evaluation system and how much they are weighted in the assessments. For professional programme such as Master’s and Bachelor’s of Science in Engineering and Architecture there are many other elements of the programme that are not necessarily visible in the final thesis.

Research and doctoral studies continue to develop well. The number of doctorates granted, 252, has never been higher. In view of the large number of doctoral students who have been accepted in recent years, I expect similar or higher levels in the years to come. The number of students admitted to doctoral studies in 2013 was lower than previous years, which is an indication of the slowdown in growth currently underway.

KTH’s strength in research is also clearly reflected in Research Council grants for 2013. In the area of Natural Sciences and Technology KTH was the most successful university in Sweden. Of the total grant research funds in this field of MSEK 937, MSEK 167.5 went to KTH (18 per cent).

Research related to the Science for Life Laboratory (SciLifeLab) is the fastest growing area at KTH. As a result of the Government Research Bill in the autumn of 2012, further investments were made to form a national centre, primarily for the financing and operation of national infrastructure. The centre is a collaboration between KTH, Karolinska Institutet, Stockholm University and Uppsala University, KTH being the host university. In 2013 a board was appointed and Mathias Uhlen (KTH) was appointed Director. Operations have started well.

Efforts to strengthen KTH collaboration with society have continued intensively during the year. By the end of 2013, strategic partnerships had been formed with seven partners and more are in the pipeline. The idea is to maintain continuous dialogue at management level on long-term educational and research issues. A structure for collaboration with partners at various levels, from small businesses to global enterprises, has also been developed.

Collaboration efforts include increasing the mobility of researchers and teachers between KTH and other actors. There is a clear increase in the number of adjunct professors at KTH. In 2013 the new position affiliated faculty was also used in increasing numbers. Affiliated faculty is an instrument to facilitate for external teachers and scholars, one level below an adjunct professor, to collaborate with KTH part time. More exchanges and mobility between KTH and business/industry/society are planned.

KTH is operating on a solid foundation and is in a good position to make further progress in international competition in the years to come.

Peter Gudmundson
Education

Education at first and second levels
Recruitment of students for KTH programmes at first and second level

Recruitment goals
The overall goal for recruitment activities is to interest young people in the education on offer at KTH. Target groups are primarily young people at upper secondary schools, adult education students and individuals who have started their careers. In addition, KTH works long-term with children in the ordinary school. KTH has established a communications platform aimed at promoting and broadening the KTH student recruitment base. This platform states what KTH should communicate to possible future students and it forms the basis of the activities and measures planned or underway aimed at achieving goals such as a better gender balance, less skewed recruitment as concerns social groupings and the stimulation of diversity regarding gender, ethnicity, disabilities etc.

Recruitment activities
Recruitment activities have prioritised face-to-face meetings between representatives of KTH and possible future students. KTH runs intensive cooperation programmes with upper secondary schools. These activities are primarily carried out by around 45 student ambassadors who are the KTH front line in meetings with possible future students. Student Ambassadors represent the majority of KTH programmes and the various KTH campuses. They are selected with great care and the ability to inspire young people is a priority. The student ambassadors reflect the diversity at KTH in terms of gender, geographical origin, ethnicity and social background.

Internet has proven to be the primary KTH communication channel and, together with other digital initiatives such as social media and student blogs, this is one way to make KTH accessible to more potential students, regardless of where they live. In 2013 KTH analysed national and international educational websites. These analyses formed the basis of the structural changes that were initiated in 2013. KTH will continue to focus on educational websites as a communication channel to reach prospective students, nationally and internationally.

Cooperation with schools
In order to encourage more children and young people to become interested in technology and engineering, KTH organises joint activities with a number of schools. KTH currently cooperates with around 30 upper secondary schools in Stockholm. Upper secondary school students and their teachers gain access to KTH competence and equipment in various ways, for example through lectures, courses, theme work or lab work. Via KTH’s website, upper secondary school students are offered projects within areas where KTH is able to provide knowledge and support. This gives the school students the opportunity to gain in-depth knowledge of subjects and brings them into closer contact with higher education.

The House of Science is operated by KTH and Stockholm University with the primary aim of increasing knowledge and interest in engineering, science and mathematics among young people. School pupils, from pre-school to upper secondary, visit the premises at AlbaNova or in the Bergius Botanical Gardens and perform experiments and hands-on activities in biology, physics, chemistry, mathematics or engineering. Further training courses for teachers are also offered in these subjects. The House of Science is also host to a variety of other initiatives aimed at increasing knowledge and interest in engineering, science and mathematics. These include, for example Technology 8th grade, Research Friday, First Lego League and Maths Coach Online. The House of Science receives over 40,000 visitors per year.

KTH and tuition fees
Since the Swedish Parliament passed the Government Bill on tuition fees for international students, student recruitment activities at KTH have gained a new, more broadly-based mission. According to the KTH Strategic Plan 2013–2016, the target is 1 000 fee-paying students by the autumn term of 2016, i.e. many more than the 269 studying in the autumn term of 2013. KTH has prioritised a number of selected regions for targeted activities. In 2013 the priority regions were China, India, Southeast Asia and Brazil. For each region, there is one person in the faculty who is tasked to increase student exchanges with the best universities, to disseminate the KTH brand and also to create opportunities for the recruitment of Master’s students. As in 2012, China has also been a particular priority this year largely due to previous technical and communication barriers. In order to reach prospective Chinese fee-paying students, KTH has consequently established a Chinese website and launched a strong presence in the Chinese social media. A person has been employed part time at KTH in order to meet the specific communication challenges that a digital presence in China brings. More on this can be found in the Internationalisation section.

Work with digital ambassadors in the form of international Master’s students has intensified in 2013. These ambassadors blog and maintain an active presence within various digital marketing activities. The aim is to attract fee-paying students. The international ambassadors also represent KTH at various events and visits.

Admissions
Admission to the all KTH educational programmes is carried out through nationally coordinated services provided by the NyA Admissions System. This system is managed by the Swedish Council for Higher Education. Also local admissions to the later parts of KTH educational programmes and to European collaboration projects such as Erasmus Mundus and the European Institute of Innovation and Technology are implemented via this admissions system.

In 2013 a total of 2,566 (2,551) students began in Year 1 of one of KTH’s traditional educational programmes leading to
<table>
<thead>
<tr>
<th>Master of Science in Engineering and Master of Architecture, Degree Programme 300 HE credits</th>
<th>2013</th>
<th>2012</th>
<th>2011</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>112</td>
<td>65%</td>
<td>140</td>
<td>49%</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>64</td>
<td>52%</td>
<td>68</td>
<td>54%</td>
</tr>
<tr>
<td>Engineering and Education</td>
<td>49</td>
<td>45%</td>
<td>50</td>
<td>40%</td>
</tr>
<tr>
<td>Computer Science and Engineering</td>
<td>192</td>
<td>11%</td>
<td>176</td>
<td>13%</td>
</tr>
<tr>
<td>Design and Product Realisation</td>
<td>117</td>
<td>51%</td>
<td>112</td>
<td>48%</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>79</td>
<td>8%</td>
<td>72</td>
<td>11%</td>
</tr>
<tr>
<td>Energy and Environment</td>
<td>81</td>
<td>49%</td>
<td>86</td>
<td>48%</td>
</tr>
<tr>
<td>Vehicle Engineering</td>
<td>107</td>
<td>17%</td>
<td>111</td>
<td>13%</td>
</tr>
<tr>
<td>Industrial Engineering and Management</td>
<td>173</td>
<td>36%</td>
<td>162</td>
<td>32%</td>
</tr>
<tr>
<td>Information and Communication Technology</td>
<td>77</td>
<td>16%</td>
<td>91</td>
<td>15%</td>
</tr>
<tr>
<td>Chemical Science and Engineering/Engineering Chemistry</td>
<td>71</td>
<td>52%</td>
<td>70</td>
<td>50%</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>157</td>
<td>27%</td>
<td>157</td>
<td>17%</td>
</tr>
<tr>
<td>Materials Design and Engineering</td>
<td>47</td>
<td>28%</td>
<td>45</td>
<td>33%</td>
</tr>
<tr>
<td>Medical Engineering</td>
<td>56</td>
<td>61%</td>
<td>58</td>
<td>59%</td>
</tr>
<tr>
<td>Media Technology</td>
<td>69</td>
<td>51%</td>
<td>69</td>
<td>45%</td>
</tr>
<tr>
<td>Microelectronics</td>
<td></td>
<td></td>
<td>51</td>
<td>16%</td>
</tr>
<tr>
<td>Civil Engineering and Urban Management</td>
<td>162</td>
<td>40%</td>
<td>157</td>
<td>48%</td>
</tr>
<tr>
<td>Engineering Physics</td>
<td>142</td>
<td>13%</td>
<td>127</td>
<td>13%</td>
</tr>
<tr>
<td>Open entrance</td>
<td>137</td>
<td>28%</td>
<td>124</td>
<td>32%</td>
</tr>
<tr>
<td>Sub-total</td>
<td>1,892</td>
<td>33%</td>
<td>1,875</td>
<td>32%</td>
</tr>
<tr>
<td>Bachelor of Science in Engineering, Degree programme 180 HE credits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructional Engineering and Design</td>
<td>167</td>
<td>35%</td>
<td>163</td>
<td>32%</td>
</tr>
<tr>
<td>Computer Engineering</td>
<td>136</td>
<td>7%</td>
<td>137</td>
<td>9%</td>
</tr>
<tr>
<td>Electronics and Computer Engineering</td>
<td>34</td>
<td>21%</td>
<td>55</td>
<td>7%</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>39</td>
<td>8%</td>
<td>46</td>
<td>11%</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>48</td>
<td>42%</td>
<td>39</td>
<td>31%</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>121</td>
<td>10%</td>
<td>101</td>
<td>18%</td>
</tr>
<tr>
<td>Medical Engineering</td>
<td>46</td>
<td>35%</td>
<td>45</td>
<td>51%</td>
</tr>
<tr>
<td>Engineering and Economics</td>
<td>83</td>
<td>29%</td>
<td>90</td>
<td>31%</td>
</tr>
<tr>
<td>Sub-total</td>
<td>674</td>
<td>22%</td>
<td>676</td>
<td>23%</td>
</tr>
<tr>
<td>Masters programmes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masters programmes 120HE credits</td>
<td>1,652</td>
<td>30%</td>
<td>1,574</td>
<td>32%</td>
</tr>
<tr>
<td>of which within Master of Science in Engineering programmes</td>
<td>969</td>
<td>30%</td>
<td>967</td>
<td>34%</td>
</tr>
<tr>
<td>Masters programmes 60 HE credits</td>
<td>146</td>
<td>49%</td>
<td>141</td>
<td>43%</td>
</tr>
<tr>
<td>Sub-total</td>
<td>1,798</td>
<td>31%</td>
<td>1,715</td>
<td>33%</td>
</tr>
<tr>
<td>Subject Teacher Education in Technology, Secondary Education, 270 HE credits</td>
<td>4</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors programmes 180 HE credits</td>
<td>162</td>
<td>35%</td>
<td>161</td>
<td>43%</td>
</tr>
<tr>
<td>University Diploma programmes 120 HE credits</td>
<td>49</td>
<td>22%</td>
<td>42</td>
<td>26%</td>
</tr>
<tr>
<td>Technical Preparatory Year, Technical Preparatory Semester</td>
<td>818</td>
<td>30%</td>
<td>816</td>
<td>33%</td>
</tr>
<tr>
<td>Total</td>
<td>5,397</td>
<td>31%</td>
<td>5,285</td>
<td>32%</td>
</tr>
</tbody>
</table>

Source: Ladok
a professional qualification, of which 1,892 (1,879) began on the Master of Architecture and Master of Science in Engineering programmes and 674 (676) on the Bachelor of Science in Engineering programmes.

KTH Bachelor degrees saw 162 (161) new students. The two-year university course Construction Technology had 49 (42) new students. A total of 1,652 (1,574) new students began Master’s programmes of which 683 (607) were new students to KTH and 969 (967) had previously been registered in a Master of Science in Engineering programme.

The two final year of Master of Science in Engineering degrees are simultaneously Master’s programmes causing MSc students, since 2011, to be registered as a new student on a Master’s programme when they begin the fourth year of their engineering programme. The number of students who have begun a one-year Master’s degree programme is 146 (144). Of new students in Master’s (one and two-year) programmes, 216 (228) were fee-paying of which 54 (70) had been awarded scholarships. See more under Internationalisation.

In addition to the admission of beginners in Year 1, 311 (318) new students began in the later parts of the KTH Master or Bachelor of Science courses in 2013. It is also possible to begin on the later parts of a Master’s one or two year degree programme, which 19 (57) new students did.

There were 888 (816) new students in the Technical Preparatory Programme, (technical base year and technical base term). Of all the new students at KTH in 2013, 31 per cent were women and 69 per cent men. Beginners on Master of Architecture and Master of Science in Engineering programmes consisted of 33 per cent (32 per cent) women. The gender structure however, differs widely among the various KTH programmes. On some the proportion of women over several years has exceeded 40 per cent, these include architecture, engineering programmes in biotechnology, design and product development, energy and environment and medical technology. Of the new students on the Bachelor of Science in Engineering programmes, 22 per cent (30 per cent) were women. The proportion of women entrants on one and two year Master’s programme was 31 per cent (39 per cent). The new student group in the Bachelor’s programmes comprised 35 per cent (43 per cent) and the two-year diploma programmes 22 per cent (25 per cent) women. The KTH goal for 2016 is that there will be 35 per cent and 25 per cent women of the new students in the Master of Science and Bachelor of Science programmes respectively.

The median age for new students on architecture and engineering programmes in 2013 is 20 years old (21 years for women and 20 years for men). For beginners on B.Sc. in Engineering, the median age is 21 years. The median age for both women and men on the one and two year Master’s degree programmes is 24 years old. For Bachelor’s courses and the Technical Preparatory Programme the median age is 21 years old for both genders. The median age for the two-year diploma is 22 years old (24 for women and 22 for men). This is basically the same as in 2012.

**Figure 2**

<table>
<thead>
<tr>
<th>Gender structure – new female students 2004–2013 in percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Architecture/Master of Science in Engineering</td>
</tr>
<tr>
<td>Bachelor of Science in Engineering</td>
</tr>
</tbody>
</table>

Source: Ladok

**Alternative selection**

Since 2011 KTH has utilised a maths and physics test (MaFy) to allocate a number of places on the Master of Science in Vehicle Engineering and Engineering Physics programmes. The Bachelor’s programme, Simulation Technology and Virtual Design joined in 2012 and Master of Science in Electrical Engineering in 2013. This test is administered in cooperation with Chalmers who have used the test as a selection model for admission to certain engineering programmes since 2007. MaFy aims to study whether this is a selection instrument that KTH can use to identify prospective students with good prospects of academic success. A maximum of one third of the places in these programmes may be awarded to candidates successful in the MaFy test. To be accepted via MaFy a minimum result on the test must be achieved.

During the course of this three-year study 41, 20 and 34 students have been admitted from the MaFy group to Engineering Physics while Vehicle Engineering has accepted 4, 1 and 1 respectively. These include both students who have good enough school grades to gain entrance through the normal route and those who do not. Two students were accepted into Electrical Engineering. No students have been admitted to the Bachelor’s programme via MaFy.

**First and Second Level Academic Performance Degrees**

The KTH Strategic Plan 2013–2016 states targets as 4,120 Masters of Science in Engineering, 380 Masters of Architecture, 1,750 Master’s degrees without previous studies on KTH Master of Science in Engineering programmes and 1,110 Bachelor of Science in Engineering degrees. In 2013 a total of 908 (838) Master’s of Science in Engineering, 85 (82) Masters of Architecture and 850 (900) Master’s degrees without previous studies on KTH Master of Science in Engineering programmes as well as 325 (321) Bachelor’s degrees were awarded. KTH must ensure the graduation of more Master’s of Science in Engi-
neering and Masters of Architecture on an annual basis if these targets are to be achieved.

This year 103 (83) one-year Master’s degrees and 1,287 (1,056) two-year Master’s degrees were awarded. Of the Master’s graduates, 428 have also been awarded Master of Science in Engineering degrees in 2013 or previously. In accordance with the older regulations, 18 (53) Master of Science degrees and 5 (9) Master’s degrees in broader-based subjects were awarded this year.

The number of Bachelor’s degrees continues to increase on the previous year, KTH has awarded 599 (547) such degrees in 2013. Of these 432 (592) have been awarded to students on Masters of Science in Engineering programmes and 67 (93) to students on the Master of Architecture programme.

The figures above show that many students at KTH choose to take out multiple degrees based on the same studies. Most common is to take out the Master of Science in Engineering degree in combination with Master or Bachelor degrees. Almost half of those who took out a Master of Science in Engineering in 2013 also took out one or two more degrees based on the same studies. This will, of course, take up increased amounts of administrative resources.

The proportion of women graduates in Master of Science in Engineering was 31 per cent (30 per cent) and the proportion

### Table: First degrees 2010–2013

<table>
<thead>
<tr>
<th>Degree of Master of Science in Engineering 270/300 HE credits</th>
<th>2013</th>
<th>2012</th>
<th>2011</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of Master of Architecture 270/300 HE credits</td>
<td>85</td>
<td>82</td>
<td>78</td>
<td>86</td>
</tr>
<tr>
<td>Degree of Bachelor of Science in Engineering 180 HE credits</td>
<td>325</td>
<td>321</td>
<td>250</td>
<td>258</td>
</tr>
<tr>
<td>Degree of Master of Science 240 HE credits</td>
<td>18</td>
<td>33</td>
<td>43</td>
<td>74</td>
</tr>
<tr>
<td>Degree of Master of Science 120 HE credits</td>
<td>1,287</td>
<td>1,056</td>
<td>708</td>
<td>686</td>
</tr>
<tr>
<td>not within programme/specialisation</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Engineering and Education</td>
<td>21</td>
<td>19</td>
<td>56</td>
<td>79</td>
</tr>
<tr>
<td>Computer Science and Engineering</td>
<td>70</td>
<td>68</td>
<td>56</td>
<td>76</td>
</tr>
<tr>
<td>Design and Product Realisation</td>
<td>93</td>
<td>62</td>
<td>55</td>
<td>64</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>44</td>
<td>54</td>
<td>67</td>
<td>28</td>
</tr>
<tr>
<td>Vehicle Engineering</td>
<td>62</td>
<td>84</td>
<td>64</td>
<td>87</td>
</tr>
<tr>
<td>Industrial Engineering and Management</td>
<td>102</td>
<td>70</td>
<td>76</td>
<td>125</td>
</tr>
<tr>
<td>Information and Communication Technology</td>
<td>37</td>
<td>19</td>
<td>28</td>
<td>26</td>
</tr>
<tr>
<td>Chemistry and Chemical Engineering/Chemical Science and Engineering</td>
<td>39</td>
<td>54</td>
<td>51</td>
<td>82</td>
</tr>
<tr>
<td>Surveying</td>
<td>12</td>
<td>3</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>89</td>
<td>79</td>
<td>85</td>
<td>144</td>
</tr>
<tr>
<td>Materials Design and Engineering</td>
<td>29</td>
<td>23</td>
<td>19</td>
<td>39</td>
</tr>
<tr>
<td>Materials Engineering</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Medical Engineering</td>
<td>15</td>
<td>1</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Media Technology</td>
<td>42</td>
<td>19</td>
<td>48</td>
<td>26</td>
</tr>
<tr>
<td>Microelectronics</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Civil Engineering and Urban Management</td>
<td>123</td>
<td>130</td>
<td>125</td>
<td>124</td>
</tr>
<tr>
<td>Engineering Physics</td>
<td>83</td>
<td>76</td>
<td>73</td>
<td>89</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>8</td>
<td>10</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>of which also graduated as a Master of Science in Engineering</td>
<td>428</td>
<td>156</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Degree of Master of Science 60 HE credits</td>
<td>103</td>
<td>83</td>
<td>123</td>
<td>126</td>
</tr>
<tr>
<td>Master Degree 90 HE credits</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Degree of Bachelor of Science 180 HE credits</td>
<td>559</td>
<td>347</td>
<td>233</td>
<td>192</td>
</tr>
<tr>
<td>University Diploma 120 HE credits</td>
<td>66</td>
<td>68</td>
<td>34</td>
<td>60</td>
</tr>
</tbody>
</table>

1) this year and earlier
Source: Ladok
of men 69 per cent (70 per cent), for Master of Architecture women made up 54 per cent (52 per cent) and men 46 per cent (48 per cent). In 2013 29 per cent of Master’s degrees went to women and 71 per cent to men. The percentage of one-year Master’s degrees awarded to women is higher – 46 per cent (41 per cent), men 54 per cent (59 per cent). Bachelor of Science in Engineering saw 26 per cent (25 per cent) women graduates and 74 per cent (75 per cent) men. Bachelor’s degrees were awarded 36 per cent (39 per cent) to women and 64 per cent (61 per cent) to men.

For the first time in 2013, KTH issued Master’s degrees jointly with other universities. These degrees are based on cooperation in Erasmus Mundus. There were 15 such degrees awarded this year. As KTH has more recently established other partnerships that will lead to joint degrees, the number of such degrees will increase in the future.

Degrees have now been issued to fee-paying students at KTH. In 2012, 9 one-year Master’s degrees and 6 two-year Master’s degrees were awarded. In 2013, the corresponding numbers are 7 and 26 respectively. These degrees are included in the data presented above.

Performances
In 2013, there were a total of 11,143 state-funded, full-year equivalent students and 8,742 full-year equivalent performances in first and second level education. Both these figures are considerably lower than last year. There are two main reasons for this. From the academic year 2013/2014 the KTH academic calendar has been reorganised in that the bulk of the autumn term examinations now take place in January instead of earlier in December. Consequently 2013 is a year lacking a large proportion of its examinations for one term. Also the registration of performances attributable to the weeks of the autumn term that fall in January 2014 have been moved to January, which is also new. The other reason that fewer performances are recorded is a planned reduction in educational volume to deal with the reduction of the funding ceiling in 2013. Of the total number of full-year equivalent students, 92 per cent were studying on engineering or natural science courses.

KTH is able to offset a maximum of 123 full-time students and full-time performances to the design educational field. The design area, however, include 324 full-time students and 333 full-year performances for 2013. The full-time students and performances that exceed 123 are counted in the field of education technology.

The proportion of women in the full-year student group is 31 per cent which is the same level as in recent years. Within the Master of Science programmes and Master of Architecture, women represent 32 per cent and within the Bachelor of Science programmes women make up 22 per cent. Master’s programmes show 31 per cent women and 69 per cent men. In addition to the state-funded performances, fee-paying students generated 330 (239) full time students and 226 (212) full year performance in 2013. Also in this context the changing school calendar plan has affected the number of performances in the same manner as described above.

Bridging courses between upper secondary school and university
2013 also saw KTH offering Internet-based courses aimed at bridging the gap between upper secondary school and university for technical and natural science course applicants. The aim is to support university first year students and facilitate the transfer from upper secondary to university levels. KTH cooperates with several other universities and university colleges as concerns this mathematics bridging course. Students are registered and graduate from the universities they apply to. These preparatory courses in mathematics were joined by 1,894 (1,687) students. In 2013 KTH also offered bridging courses in other subjects such as physics, chemistry, computer engineering, urban planning and architecture. These bridging courses showed a total of 3,174 (2,374) participants.

Technical Preparatory Programme
This programme is a one-year qualifying course aimed at students who have not fully achieved the qualifications for KTH programmes in upper secondary school. The Technical Preparatory Year encompasses two terms and provides additional training at upper secondary school level in mathematics, physics and chemistry. It is also possible to study only one term of this year which is suitable for students who undertook the technical programme at upper secondary school. Passing the technical preparatory year or term guarantees the student a place on one of KTH’s Master or Bachelor of Science in Engineering programmes. KTH also provides a technical preparatory year in combination with a Bachelor of Science in Engineering specialising in Medical Engineering or Bachelor of Science in Engineering in combination with Economics.

In 2013, 818 students began on these courses as compared to 816 the previous year. Of these new students, 30 per cent (33 per cent) were women and 70 per cent (67 per cent) men. Results for 2013 amount to 580 (634) full year students and 396 (457) full year performances.

Of those who began the Technical Preparatory Programme in the autumn term of 2012 or the spring term of 2013, 44 per cent (44 per cent) or a total of 339 students (27 per cent women, 71 per cent men) continued on to a KTH Master of Science in Engineering or a Bachelor of Science programme in 2013. The majority, 79 per cent, of those who continue at KTH joined a Master of Science programme.

Student influence at KTH
The University Board took a decision in 2013 that Tekniska Högskolans Studentkår (THS) would be awarded continued status as the student union for the entire university from 1 July 2013 until 30 July 2016. KTH and THS have a long history of cooperation and KTH students are represented in all decision-mak-
ing bodies and in almost all drafting committees and working groups such as the University Board, the Faculty Council, KTH Management Group, the President’s Group, the Education Committee, the Employment Committee, the Disciplinary Board, the School Strategic Councils, the Appointments Committees and working groups for various studies. THS appoints representatives to these various bodies and groups. KTH’s experience is that THS selects students representing different parts of KTH and also, as far as possible, reflecting the university’s social, ethnic and cultural diversity.

During the year, KTH and THS have jointly developed guidelines for student influence at KTH. The purpose of this document is to outline the framework for, and the goals of, student influence at KTH as well as to clarify the relationship between KTH and THS at different levels.

Another important activity for KTH and THS is the reception of new students. This is organised by senior students and the relevant staff. Reception activities are conducted in collaboration with the students in the student union sections. In recent years, special efforts have been made to develop reception activities for international students.

**E-learning**

One goal stated in the KTH Strategic Plan 2013–2016 is that e-learning is to become an integral part of KTH education. Rapid developments are underway in this field. KTH has been very active in e-learning over a long period of time, and this will continue. Consequently KTH will work actively with the implementation of e-learning in educational programmes and also invest in the relevant infrastructure. A vision for e-learning at KTH in 2016 has been developed by the Steering Committee for KTH Common Learning Environments. E-learning will be an integral element of the educational programmes now under development at KTH. The aim is to support student learning. Increased quality of educational programmes will be at the forefront and the digital resources must be valuable to the students and easy to use. In 2013, funds were earmarked for further development of current projects and for central support.

**Research and Doctoral Studies**

**Objective**

The objective of KTH third level programmes is to provide society with qualified, independent researchers who can contribute to sustainable social development.

**Recruitment**

Interest in doctoral student positions at KTH is considerable. In 2013, KTH carried out coordinated advertising of research places in the daily newspapers on five different occasions with the aim of making KTH more visible and increasing interest in the university as a place for work or study.

During the year 143 (149) salaried doctoral positions have been advertised. Applicants numbered 7,894 (6,639) individuals. For 2013, KTH chose to generate data on applicants in a manner that does not distinguish between female and male applicants.

Recruitment to doctoral studies often occurs without previous advertising. This concerns scholarship holders, doctoral students funded through partnerships with industry and also those taking part in educational collaborations. Many people who are interested contact KTH directly, for example via e-mail, and these can then usually be referred to KTH coordinated advertising activities.

**Admissions**

Doctoral studies at KTH are extremely attractive, consequently there are many applicants for each place. High application rates should promote quality. According to the KTH Strategic Plan 2013–2016, totally 1,750 doctoral students are to be admitted during this period. In 2013, 316 doctoral students were admitted as compared to 420 in 2012, 30 per cent were women and 70 per cent men. Of the first-year doctoral students, 14 per cent were admitted to take a licentiate degree (33 per cent women and 67 per cent men). A total of 31 (42) of the new research students, 48 per cent women and 52 per cent men, have their primary operations outside the university and are taking their doctorates within the framework of their employment at, for example, a company or government agency (industrial doctoral students).

Of those admitted to third level studies in 2013, 35 per cent (33 per cent) or 110 (139) were KTH graduates. Of those holding KTH degrees, 48 per cent (62 per cent) held a Master’s degree and 52 per cent (38 per cent) a Master of Science in Engineering or Master of Architecture degree.

The proportion of newly-admitted research students with a foreign educational background is at approximately the same level as in 2012. Of the new students in 2013, 45 per cent (46 per cent) graduated in a country other than Sweden.

The number of newly-admitted doctoral students has decreased, which is not in line with the KTH Strategic Plan. Probable reasons for this downward trend include increased cost of financing studies. KTH has taken a decision not to establish any new educational grants. In addition, the impact of Sweden’s introduction of tuition fees for third country students at first and second levels is becoming apparent. KTH has considerably smaller numbers of students on Master’s programmes, without previous studies on the Master of Science in Engineering programme since these fees were introduced. The number of new doctoral students with a one or two-year Master’s degree from KTH has decreased substantially from 90 to 53.

**Financing of studies**

Of a total of 2,184 registered doctoral students at KTH in 2013, 1,894 have shown at least 50 per cent activity and 2,143 show a degree of activity of at least 10 per cent.

In 2013, doctoral studies undertaken in a salaried position continued to be the dominant form of financing of studies. At year end, 1,136, or 60 per cent (58 per cent) of KTH doctoral stu-
students utilised this form of financing on a full time or part time basis. Of the students employed in these positions, 29 per cent were women and 71 per cent men.

Educational grants are another type of financing that has been utilised to a very limited extent. At the end of 2013, 3 per cent of KTH doctoral students (19 women and 37 men) enjoyed this form of financing full or part time. KTH took a decision that, from 1 July 2012, no more educational grants would be awarded, consequently the share of doctoral students with this form of financing will decrease rapidly.

The remaining doctoral students at KTH finance their studies in other ways: 12 per cent through employment linked to their studies (industrial doctoral students), 5 per cent via other employment at KTH and 15 per cent through scholarships, full or part time, while 8 per cent finance their studies, full or part time, in other ways.

**Doctoral programmes and research schools**

Doctoral programmes were established at KTH in 2011 and there are 30 in number. All new doctoral students are admitted to a doctoral programme. The purpose of the doctoral programs is to ensure the quality of education through an organised study structure and secure employment conditions for doctoral students. In order to be permitted to set up doctoral programmes, a number of quality requirements must be fulfilled as concerns aim, target group, content etc. Doctoral programmes may involve one or more schools within KTH and allow for interaction between educational fields in order to achieve a wider range of courses and broader perspectives for theses. This also provides students with opportunities to be part of a larger group and to participate in a programme of joint activities which improves social inclusion. Within the doctoral programmes there are also greater opportunities to work with complementary skills.
KTH is currently involved in nearly 20 collaborations with other universities and/or business and industry in the form of research schools. A research school is defined as a coherent programme with participation from KTH and partner universities. Research schools often enjoy external funding, a defined lifespan and may have interdisciplinary breadth. KTH has initiated a pilot project with the aim of providing a shorter postgraduate licentiate degree in close collaboration with business/industry. These operations are to be conducted as a research school using a model developed in the Netherlands.

Degrees
The KTH Strategic Plan for 2013–2016 states the target for number of PhDs awarded during the period at 1,000. In 2013, 252 (235) doctorates and 135 (153) licentiates were awarded, 25 per cent (24 per cent) to women and 75 per cent (76 per cent) to men. For licentiate degrees, the gender balance was 27 per cent (30 per cent) women and 73 per cent (70 per cent) men.

A licentiate degree is the first step of doctoral studies, and provides a natural monitoring opportunity for studies to date. Taking out these degrees is very common at KTH. Of PhD graduates in 2013, 46 per cent had previously been awarded a licentiate. This degree is also extremely relevant for employment within industry.

Calculations of the study period for students who are awarded third level degrees show that the gross period for successful doctoral studies was 5.5 years in 2013, the same as the previous year and it is also the same for women and for men. Net study period is 4.3 years and a little longer for women than for men. Graduating with a licentiate degree has a gross study period of 3.5 years, the same as the previous year and the same for both genders. The net study period is 2.6 years which is shorter than last year and also somewhat shorter for women than for men. The calculations of study periods have been carried out according to the routines provided by LADOK, the KTH study documentation system.

Multi-university programme cooperation
Preconditions for multi-university cooperation leading to joint degrees
Since the amendments made to the Higher Education Ordinance in 2009 that permit the issuing of joint degrees with other universities, KTH has concluded only a few such agreements. These agreements have demonstrated that there are unanticipated pitfalls in such arrangements. In addition it is stated in the KTH Strategic Plan 2013–2016 that KTH will develop structures for educational collaboration. Consequently activities were initiated in the autumn of 2013 aimed at achieving a more streamlined management of such agreements, primarily agreements that lead to the issuing of joint degrees. These activities will continue for part of 2014 with the aim of establishing a body of in-house regulations, administrative routines and various types of support for the planning of educational cooperation leading to joint degrees.

Teacher education at KTH
The KTH Strategic Plan 2013–2016 emphasises the importance of teachers in the work of interesting young people in technical subjects. Since 2010 KTH has been authorised to issue degrees in education for subject teachers in upper secondary school and since 2012 for technology subject teachers in Grades 7–9. KTH maintains close contacts with relevant business areas and is focussed on building up a modern, scientifically-based and professionally-relevant teacher education programme. This KTH programme is provided in close cooperation with Stockholm University.

The Master of Science and Education programme leads to both a Master of Science in Engineering degree and an Education degree for upper secondary school in Maths and Physics, Chemistry or Technology. Student recruitment to this programme has been stable over the last few years at just under 70 first hand choices for the programme’s 40 places. In the autumn term of 2013, 49 students began on this programme. Women made up 45 per cent of the new student group. In 2013, 21 students graduated.

In the autumn of 2013 KTH initiated a new educational programme aimed at teachers for Grades 7–9 of the compulsory school in the subjects Technology, Maths and Physics, Chemistry or English. This programme accepted four new students which was a good result in comparison to other universities. This programme is in its establishment phase and many courses are taken together with the students on the other teaching programme and on other engineering programmes. Students will be awarded a Bachelor of Technology degree specialised in technical communications after three years of study.
**Cooperation with University College of Arts, Crafts and Design**

The KTH Strategic Plan 2013–2016 states that cooperation is to be developed with artistically-oriented university colleges, especially the University College of Arts, Crafts and Design. In 2011, a Declaration of Intent was signed concerning extended cooperation within education and research between KTH and this University College. In 2013 a doctoral programme was established at KTH in which the University College of Arts, Crafts and Design is responsible for a considerable part of the teaching.

A new subject at the graduate level was also set up with a particular focus on the intersection of art, technology and design. The evolution of cooperation continues now with the admission of the first doctoral students, which is expected in early 2014. Furthermore, enhanced cooperation in education is also to take place at first and second levels, as well as continued development of partnerships in research. In order to provide graduate students, tutors and researchers with a good collaborative environment, a research centre is also planned with the University College of Arts, Crafts and Design as principal.

**Other cooperation projects**

In addition to teacher education programmes, collaboration with Stockholm University is also underway at AlbaNova in the form of the Stockholm Centre for Physics, Astronomy and Biotechnology. Furthermore in 2012, KTH and Stockholm University concluded an agreement on a programme at Master’s level in maths that will lead to joint degree. KTH undertakes, through its School of Technology and Health, close collaboration with Karolinska Institutet. Cooperation takes place within the framework of a Bachelor and Master of Science in Engineering programmes and doctoral studies in medical technology, the latter leading to a joint degree. A three-party cooperation project between KTH, Karolinska Institutet and Stockholm University is planned based on the Science for Life Laboratory (SciLifeLab) in Stockholm within the framework of a Master’s programme leading to joint degree. Planning will be completed on 2014.
### Licentiate degrees per research field

<table>
<thead>
<tr>
<th>Field</th>
<th>2013 Total</th>
<th>2012 Total</th>
<th>2011 Total</th>
<th>2010 Total</th>
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<tr>
<td>Biological Sciences</td>
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<tr>
<td>Computer and Information Science</td>
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<td>2 0%</td>
<td>8 50%</td>
<td>5 20%</td>
</tr>
<tr>
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<td>19 11%</td>
<td>36 25%</td>
<td>27 30%</td>
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<td>Physical Sciences</td>
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<td>6 17%</td>
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<td>Health Sciences</td>
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<td>0 0%</td>
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<td>Chemical Sciences</td>
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</tr>
<tr>
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<td>1 0%</td>
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<tr>
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<td>12 58%</td>
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<td>Arts</td>
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<td>Mechanical Engineering</td>
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<td>3 33%</td>
<td>4 25%</td>
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<tr>
<td>Materials Engineering</td>
<td>27 15%</td>
<td>23 13%</td>
<td>31 29%</td>
<td>19 26%</td>
</tr>
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<td>Medical Engineering</td>
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<td>0 0%</td>
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<tr>
<td>Civil Engineering</td>
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<td>21 38%</td>
<td>25 36%</td>
<td>13 23%</td>
</tr>
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<tr>
<td>Other Engineering Technologies</td>
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<td>0 0%</td>
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<td><strong>Total</strong></td>
<td>135 27%</td>
<td>153 30%</td>
<td>150 31%</td>
<td>113 21%</td>
</tr>
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### Doctorates per research field

<table>
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<tr>
<th>Field</th>
<th>2013 Total</th>
<th>2012 Total</th>
<th>2011 Total</th>
<th>2010 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Sciences</td>
<td>2 50%</td>
<td>1 0%</td>
<td>0 0%</td>
<td>2 100%</td>
</tr>
<tr>
<td>Computer and Information Science</td>
<td>16 6%</td>
<td>13 38%</td>
<td>10 0%</td>
<td>8 50%</td>
</tr>
<tr>
<td>Economics and Business</td>
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<td>2 0%</td>
<td>4 25%</td>
<td>5 20%</td>
</tr>
<tr>
<td>Electrical Engineering, Electronic Engineering, Information Engineering</td>
<td>53 19%</td>
<td>39 10%</td>
<td>41 5%</td>
<td>25 8%</td>
</tr>
<tr>
<td>Philosophy, Ethics and Religion</td>
<td>1 100%</td>
<td>2 0%</td>
<td>2 0%</td>
<td>1 0%</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>13 15%</td>
<td>14 29%</td>
<td>10 20%</td>
<td>11 27%</td>
</tr>
<tr>
<td>History and Archaeology</td>
<td>4 25%</td>
<td>0 0%</td>
<td>1 0%</td>
<td>1 100%</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>1 0%</td>
<td>6 33%</td>
<td>2 50%</td>
<td>10 30%</td>
</tr>
<tr>
<td>Industrial Biotechnology</td>
<td>13 23%</td>
<td>13 31%</td>
<td>22 50%</td>
<td>21 48%</td>
</tr>
<tr>
<td>Chemical Sciences</td>
<td>8 63%</td>
<td>20 40%</td>
<td>19 32%</td>
<td>13 31%</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>29 45%</td>
<td>15 40%</td>
<td>18 33%</td>
<td>14 57%</td>
</tr>
<tr>
<td>Arts</td>
<td>1 0%</td>
<td>4 50%</td>
<td>3 33%</td>
<td>3 100%</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>24 8%</td>
<td>30 23%</td>
<td>26 23%</td>
<td>21 19%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>8 25%</td>
<td>10 10%</td>
<td>9 11%</td>
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<td>Materials Engineering</td>
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<tr>
<td>Medical Engineering</td>
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<tr>
<td>Environmental Engineering</td>
<td>10 10%</td>
<td>5 40%</td>
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<tr>
<td>Civil Engineering</td>
<td>26 31%</td>
<td>23 22%</td>
<td>24 50%</td>
<td>19 53%</td>
</tr>
<tr>
<td>Other Engineering Technologies</td>
<td>0 0%</td>
<td>4 0%</td>
<td>3 0%</td>
<td>2 50%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>252 25%</td>
<td>235 24%</td>
<td>235 26%</td>
<td>201 33%</td>
</tr>
</tbody>
</table>

Source: Ladok
In January 2011, KTH and Mid Sweden University signed an agreement to jointly strengthen their Master’s of Science in Engineering programmes. This agreement is valid until 2017 and states that students, after the first three years in the engineering programme at Mid Sweden University, may continue in certain Master’s programmes at KTH. The first students will arrive at KTH in 2014 at the earliest.

Sfinx
Sfinx (Swedish for Engineers in Stockholm County) began in project form in 2008 but is now included in standard operations. Sfinx is a cooperative venture between KTH, Järfälla Municipality, Stockholm City and Stockholm County Administrative Board. The period of study extends over 18 months in which students study Swedish, from Swedish for immigrants level through to secondary education, English and Technology. They also learn about Swedish business and how the labour market works.

Overall, the education aims to facilitate entry into the Swedish labour market through the application of processes. While they are studying Swedish, and possibly English, they also have the opportunity of participating in a mentoring programme run by the Swedish Association of Graduate Engineers, and to observe or earn credits in their engineering fields at KTH.

In 2013, the Sfinx cooperated with the National Matching Project at the Employment Service aimed at matching skills against employer needs. As part of this cooperation, Sfinx participated in a targeted recruitment fair for foreign engineers from all over Sweden.

Approximately 100 students participate in the programme each year, a total of more than 550 students have benefitted from Sfinx. As in 2012, the students in 2013 have, to a greater extent, observed courses at first and second levels rather than following full courses. Reporting has been in the form of feedback integrated into Swedish language training and has contributed to students’ Swedish grades. After completing the programme, approximately 40 per cent of the participants in the latest group have been employed in engineering jobs.

Figure 9
Licentiates and doctorates 2002–2013

Source: Ladok
Internationalisation

Targets
In the KTH Strategic Plan for 2013–2016, the overall goal is for KTH to strengthen its position as one of Europe’s most eminent technical universities. KTH operates in an international market and must compete with other excellent universities for the best researchers and students. KTH is already a multicultural university where nationalities and cultures meet and KTH will work actively to ensure that students increasingly undertake a part of their education abroad.

The following specific targets have been established for what KTH is to achieve within the internationalisation of education 2013–2016:
- The number of KTH students spending at least a term at an exchange university: 700 (618 in 2013).
- Efforts will be made to achieve a balance in the number of incoming and outgoing exchange students.
- The number of fee-paying students registered in the autumn term of 2016: 1,000 (2013: 269 fee-paying students).
- The number of externally-recruited new students at second level from the EU/EEA/Switzerland registered in the autumn term 2016: 700 (2013: 570).
- The number of international strategic university partners: 12 (2013: 2).

International mobility (exchanges)
The University Board took a decision in June 2012 to move student exchange activities towards balance. The number of incoming exchange students will be reduced while the preconditions for KTH students to study abroad will be developed. Comprehensive efforts to review the management of exchange agreements have since been implemented and a number of priority, mainly central, contractual partners have been identified both within and outside Europe.

The reduction in the number of incoming students will primarily be carried out within other collaborations at school level. KTH Schools will, in their Operating Plans, receive exact numbers concerning incoming and outgoing exchange students for the school. This process was established in 2013 and is expected to come into full effect by 2015. Since 2011, a reversal of the trend could be discerned, with more outgoing and fewer incoming students as a result which indicates that KTH is moving in the right direction.

The KTH Strategic Plan 2013–2016 states that there will be 700 students spending at least one term at an exchange university in 2016. In 2013 a total of 618 (509) students began studying abroad. Of them, 51 per cent studied at a university outside Europe. Of Masters of Architecture and Masters of Science in Engineering, 34 per cent (33 per cent) graduates studied abroad for at least one term. The most common countries for studying abroad were Singapore, Switzerland, Australia, USA, France and Germany.

During the year, 1,058 (1,372) exchange students began studying at KTH. Most students came from universities in Germany, France and Spain. From outside the EU/EEA/Switzer-
In the KTH Strategic Plan 2013–2016, the target is set at 1,000 fee-paying students registered in the autumn term 2016. In order to achieve this target, major efforts are underway including recruitment and the development of effective administration and services for the fee-paying students which means activities surrounding fee-paying students are so far running at a deficit. KTH assesses that costs will not grow at the same rate as income and expects that income and expenses will be in balance within a few years’ time.

In the autumn of 2013, a total of 269 new fee-paying students were registered. Of these, 54 had been awarded scholarships. Another 9 fee-paying students registered on individual courses in 2013. Of the new students funding their own studies, 28 are studying through collaboration with universities in China and 42 plus 9 students are at KTH through the EIT ICT Labs and EIT InnoEnergy respectively. In 2013 KTH hosted a total of 591 fee-paying students, of whom 180 were on scholarships.

Scholarships

The scholarship funds KTH had available for fee-paying students in Master’s programs in 2013 amounted to the equivalent of 35 full two-year tuition fee scholarships via Ordinance (2010:718) known as UHR scholarships, and 7 full scholarships funded by the Engineer Ernst Johnson Foundation administered by KTH; a total of 42 scholarships. Selection was based on academic excellence.

KTH offered scholarships in the form of full fee waivers to a total of 92 (100) new students. Of these, 51 accepted the offer and 25 (51) were registered as of 15 September. Of these 25 scholarships, 7 (6) were funded by the Engineer Ernst Johnson Foundation and 18 (41) were UHR scholarships. In addition, 29 (9) students were awarded scholarships by the Swedish Institute.

Of all KTH scholarship holders, including those granted in previous years, 15 (25) are funded by the Engineer Ernst Johnson’s Foundation, 51 (75) are UHR scholarships, 2 are from the KTH – India Scholarship Foundation and 2 are part-financed by the KTH Opportunities Fund. In addition, there are a total of 45 (53) Master’s students with scholarships from the Swedish Institute. Overall, KTH hosted 115 (133) scholarship-holders funded by KTH or Swedish scholarships. In addition to these categories, there are also scholarship holders funded by Erasmus Mundus Action 1 and 2 and by the EIT enrolled in KTH Master’s programmes. 2013 was the final year that KTH had the opportunity to offer new student scholarships from the Engineer Ernst Johnson’s Foundation.

Priority regions

In connection with tuition fee introduction, KTH determined to prioritise a number of selected regions for targeted activities. The priority regions since 2010 have been China, India, Southeast Asia and Brazil.

For each region, KTH has also appointed a faculty member and an administrator with the task of disseminating the KTH brand, increasing student exchanges with top universities in the region, creating opportunities to recruit fee-paying students and developing future collaborative research activities. In 2013, KTH has given priority to extending cooperation with partners in the regions. Great emphasis has also been placed on student recruitment in the form of various types of marketing such as trade fairs and student competitions.

China

Collaboration between KTH and Tsinghua University was intensified in 2013 with the C-Campus Project. A launch was held in August when the first course Highway Engineering was presented. The purpose of the initiative is to, by using virtual technology and distance learning, offer excellence in education, research and innovation. In August the Swedish Centre at Shanghai Jiaotong University (SJTU) was inaugurated. SJTU is an important partner for KTH and ranked in the top five universities in China. The centre will be used as a focal point for collaboration between the universities and with Swedish companies in the region.

Student recruitment in China in 2013 was focused on cooperation with Chinese universities to achieve long-term recruitment opportunities. The two primary models for recruitment agreements used are 3+2, where students in selected Bachelor’s programmes are permitted to apply to Master’s programmes at KTH in the third year of the four, and 4+2 where students apply during their fourth year. In both cases, students are interviewed prior to admission. KTH has now three agreements of the 3+2 type and eleven agreements of the 4+2 design. The 26 students who, in 2013, completed their first academic year at KTH in a pilot project using 3+2 have shown good academic results.

In 2013 KTH also participated in student fairs in China. This activity will be evaluated together with contract recruitment in 2014. In order to increase visibility and accessibility for prospective applicants from China, KTH has established a Chinese website and increased its presence in the Chinese social media. Within KTH cooperation with the China Scholarship Council (CSC) KTH has received 31 doctoral students, one Master’s student and researchers.

During the year 362 (321) students from China applied to Master’s programmes at KTH outside established agreements and 91 (26) within the agreements. Of the applicants, 104 (91) students were accepted outside agreements and 83 (26) within the agreements. Of those admitted 35 (37) students arrived outside agreements, 21 of whom were self-financing, while 32 (26) students came according to agreements, 28 of whom were self-financing.

India

KTH has nine established partner universities in India and strategic initiatives in the region focus on these. During the year, KTH has participated in two Erasmus Mundus Action 2 projects (INDIA4EU and Svagata) that primarily aim at
INTERNATIONALISATION

recruitment of Indian scholarship holders at the second and third levels. In the autumn of 2013, an agreement was signed on cooperation with Amrita University in which their students on four-year Bachelor's programmes would have the opportunity to apply for admission to Master's programmes at KTH after three years of completed studies.

The KTH Master's competition in India attracted 4,090 participants. The prizes consisted of three scholarships for Master's level programmes as well as internships or thesis projects at ABB. The aim of the competition was to promote KTH among talented Indian students. Furthermore, university visits and trade fairs have been attended in order to recruit fee-paying students. During the year 480 Indian students applied to join a Master's programme at KTH, 126 were accepted and of them 29 (23) began their studies, 26 were self-financed.

Southeast Asia

During the year KTH signed a cooperation agreement with the University of Malaysia and Mapua Institute of Technology, Philippines. KTH now has agreements with universities in six countries in the region. Student exchange with the National University of Singapore (NUS) and Nanyang Technological University in Singapore, covers about 40 term places per university in both directions, and they are consequently KTH's largest exchange partners. In addition, exchanges with the NUS, which include business internships and courses in entrepreneurship, with 11 outgoing and 18 incoming students, are also underway. In November, the KTH President visited partners in Singapore and Bangkok and discussions concerning broader strategic collaboration with Nanyang Technological University were initiated.

Recruitment in the region has intensified. In October a Study in Sweden Day was organised at the Swedish Embassy in Hanoi, Vietnam together with Lund University, Uppsala University and Karolinska Institutet. Prior to this event a digital contest was held, the Sweden-Vietnam Challenge, to attract students to the event. Earlier in the year KTH also participated in the contest entitled the Great KL Challenge in Malaysia. This year, KTH has also signed a contract with a recruitment agent in Thailand. There were 112 students from Southeast Asia who applied for a Master's programme at KTH in 2013, 8 (1) of whom were registered.

Brazil

The upward trend for outgoing students on exchanges persisted in 2013 and 8 students took part in exchanges in Brazil, consequently KTH had students of all five of its partner universities.

KTH actively participated for the first time in the Brazilian state scholarship program Science without Borders, which resulted in 15 Brazilian students registered for the course package in the project. In addition, one fee-paying Brazilian student registered on a KTH Master's programme.

Figure 10
Student exchange 2010–2013
Number of students who began student exchange per year

Exchange students arriving at KTH, women
Exchange students arriving at KTH, men
KTH students travelling to other universities, women
KTH students travelling to other universities, men

Source: Ladok

Figure 11
Student exchange – most popular countries 2013
Number of students who began student exchange during the year – the most popular countries KTH students travel to and exchange students originate from

Exchange students arriving at KTH, women
Exchange students arriving at KTH, men
KTH students travelling to other universities, women
KTH students travelling to other universities, men

Source: Ladok
Several trips have been made during the year to recruit students and establish academic contacts. In November, a large delegation from KTH attended a number of events in Brazil in cooperation with several other Swedish universities and actors in the market. The purpose of the trip was primarily to promote KTH and Sweden as locations for research and study. This year KTH has signed an agreement with Curitiba City and a number of universities in Curitiba in the hope of developing research projects in the energy and urban planning fields.

Cooperation with universities abroad
The KTH Strategic Plan 2013–2016 states one goal as attracting twelve international strategic university partners by 2016. In the current situation, KTH has two strategic partners, the University of Illinois at Urbana-Champaign in the U.S. and Aalto University in Finland. Efforts to establish more strategic relationships with selected partners have begun.

Strategic partnership with the University of Illinois, Urbana-Champaign
KTH collaboration with the University of Illinois, Urbana-Champaign within the strategic alliance created in 2011 has been further extended during the year. Collaboration involves mobility for students, doctoral students and researchers, joint courses, summer courses and collaboration with society. The 40 or so cooperative projects underway are found in fields such as regional development and sustainability, railways, media technology, algae and glycoscience.

CLUSTER
The CLUSTER network consists of twelve eminent technical universities in Europe. The network has evolved into a platform and skills base for the development of future joint Master’s programmes, for applications for funding under EU programmes and as a coherent actor in relations with the EU Commission.

In 2013, strategic partnerships were developed with university networks IDEA League and Eurotech to coordinate lobbying activities at the EU level and create joint projects in education and research. Cooperation between CLUSTER and 16 Chinese universities within the platform SINO-European Engineering Platform, $3EP, has developed as this year saw the first call issued by the joint doctoral schools.

A project aimed at exchange of experience on the topic of Strategic University Management (SUM_UP), within the framework of the EU Lifelong Learning programme, has been completed and the final report submitted. The project Attract (Enhancing the Attractiveness of Studies in Science and Technology) has been followed up by a workshop on throughput at the Université Catholique de Louvain, Belgium, in October. Furthermore, a workshop on recruitment of international fee-paying students was arranged at KTH in May.

Nordic Five Tech
The objective of Nordic Five Tech (N5T), which consists of a network of the Nordic region’s five largest universities of technology, is to utilise mutual strengths and create synergies in education, research and innovation. The network collaborates within five Master’s programmes. Admissions for the autumn term 2014 will also include a Master’s in Polymer Technology with KTH as coordinator. Cooperation within the Master’s programmes has led to, among other advantages, further pedagogical development, peer evaluation of programmes and student union cooperation. A common course database has been created and a comparative survey of national regulations and local guidelines has been implemented for doctoral studies. The aim is to facilitate the development of cooperation and exchange. In the spring of 2013, the Technical University of Denmark handed over the Presidency to Aalto University.

The Deans’ Forum
Since 2010 KTH has been a member of the network entitled the Deans’ Forum which includes the University of Tokyo, Massachusetts Institute of Technology (MIT), Boston, University of California, Berkeley, ETH Zurich, Imperial College, London, and a group of French Grandes Ecoles. The network was initiated by the University of Tokyo to start up collaboration on a global scale concerning technical universities’ common future issues. In February 2014, the Royal Institute of Technology will host the network’s second meeting.

Participation in international programmes and projects
European Institute of Innovation and Technology (EIT)
KTH is a partner in two of the three Knowledge and Innovation Communities within the European Institute of Technology (EIT): information and communication technology (ICT Labs) and energy (InnoEnergy). KTH is the driving force behind the Master’s School and has been entrusted to coordinate admission, scholarship and project management.

In 2013, EIT ICT Labs more than doubled its number of applicants to 821 (380). The number of students admitted was 384 (120), of whom 173 (94) were registered. Of them 56 (21) began their studies at KTH, the remainder began at one of the other partner universities in the consortium. After spending their first academic year at one of the partner universities, 15 students began their second academic year at KTH. Of the students 37 per cent pay tuition fees, a number of whom have partial scholarships.

Within KIC InnoEnergy, seven Master’s programmes are offered and KTH participates in five of these. In the autumn of 2013, 24 (22) students began their first year and 14 (22) students began the second year of their studies at KTH. The task of admission to all programmes starting in 2014 has been transferred to the Karlsruhe Institute of Technology. During the year, agreements were concluded concerning a research school.
**Erasmus Mundus**

In 2013 KTH coordinated five Master’s programmes and three PhD programmes within Erasmus Mundus Action 1.

In total, KTH is participating in eight Master’s programmes and five PhD programmes. The contract of one of the Master’s programmes with the Commission came to an end during the year. A total of 284 Erasmus Mundus Action 1 students were registered in 2013, of whom 5 (18) were at doctoral level.

In the autumn the European Commission invited consortia, whose programmes were in their final round of admissions in 2014, to participate in an evaluation, the Quality Review, with an opportunity for extension of the contract and certain funding for another three years. As coordinator, KTH has submitted expressions of interest for three Master’s programmes to participate in the Quality Review.

In the next project phase, Erasmus Mundus Master’s programmes will be included in Erasmus + while PhD programmes will be integrated into Marie Curie Actions.

In 2013, KTH coordinated three Erasmus Mundus Action 2 projects for the mobility of students, doctoral students and researchers from around twenty universities in Europe, India and Central Asia. One of the projects has submitted its final report during the year. KTH is a partner in another eleven projects, two of which have submitted their final reports in 2013. During the year KTH received a total of 26 new scholarship holders within Erasmus Mundus Action 2, four at second level, five at third level, five postdocs and twelve guest researchers.

**Tempus**

Tempus is an EU-funded programme for cooperation between EU countries and a number of countries bordering Europe. KTH is a major player in the Tempus Programme and was the most successful university as concerns the granting of new projects in 2013. Of the 171 projects approved, KTH participated in 11, including two as lead university. KTH is currently involved in 38 Tempus projects.

These new projects will be implemented in Asia, North Africa, the Middle East and the Western Balkans. The projects involve the development of new courses in technology, environment and sustainable development, geographical information systems, geoinformatics, enterprise systems and the development of infrastructure for student support, innovations and university management.

In the future Tempus will be absorbed into the new Erasmus +. In a summary of the more than 20 years the Tempus programme has been underway, KTH has been responsible for 69 of the 122 projects approved in Sweden and thus been the most successful university in Europe in this field.

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**Marie Curie**

People/Marie Curie is one of the four elements of the EU’s Seventh Framework Programme (FP7). The basic concept is the mobility of researchers and doctoral students in order to promote innovation and collaboration between European and non-European universities and with business/industry. The aim is to strengthen Europe’s competitiveness in the world market. Marie Curie provides funding for salaries for researchers and doctoral students and core funds for administration, travel and living expenses.

KTH currently participates in 16 educational partnerships at the third level (Initial Training Networks, ITN) that recruit doctoral students from around the world. Furthermore KTH participates in five collaborative research projects with regions outside Europe (IRSES) and six projects with a focus on research collaboration with European industry (IAPP). In addition there are ten individual mobility projects. Overall, KTH schools cooperate with around 130 foreign universities within Marie Curie.

**Linnaeus-Palme**

Linnaeus-Palme is an programme aimed at stimulating exchange between universities in Sweden and developing countries financed by Sida. The programme is based on collaboration between institutions and may include teacher or student exchanges. KTH is currently involved in eight projects, one of which was initiated in 2013.

**Stockholm Summer School**

Stockholm Summer School is a collaboration between Stockholm University, Karolinska Institutet and KTH. The purpose is to promote the three universities’ joint strengths and possibly recruit more international students to the universities’ Master’s degree programmes. The summer school was conducted for the second time in 2013. Six parallel courses were given, each worth 6 credits, for four weeks in June/July. A total of 85 students participated. In addition to the courses a joint social programme was offered.
Research

In 2013, KTH enjoyed continued success in obtaining external funding for research, both nationally and internationally. During the year MSEK 1 518 in external research funding has been awarded to the university, equivalent to 34 per cent of total turnover. The KTH external funding situation remains stable as compared to the previous year.

KTH’s research base continues to evolve, both via significant individual grants from such programmes as the five-year initiative (2010–2014) for strategic research. The Science for Life Laboratory (SciLifeLab) has, in 2013, been awarded the status of national research institute through additional funding from government and the Knut and Alice Wallenberg Foundation.

In addition to the established research centres, in 2013 several initiatives were developed focusing on consolidating research fields and developing collaborative relationships and new funding, for example within the sustainable development of society and in space technology.

KTH also operates strong international collaboration through the two Knowledge and Innovation Communities (KIC) – ICT Labs and InnoEnergy – as well as through its EU projects. These are supported to an increasing degree by national initiatives such as the Vinnova strategic innovation areas.

Research platforms

In 2013, KTH’s five research platforms (energy, information and communication technologies, materials, medical and biomedical engineering, and transport) conducted a number of activities that resulted in new cross-disciplinary projects and applications, as well as new collaborative groups both within KTH and with external partners. The Energy and ICT platforms, for example, through a successful partnership received funding to formulate a national strategic innovation agenda within Smart Sustainable Cities with the goal of leading a future strategic innovation area. The Materials Platform is leading efforts to create an innovation agenda in the field of nano-manufacturing for biobased materials. The relevant platforms have been very active in preparing for the upcoming KIC applications within Innovation for healthy living and active aging and Raw materials.

A number of platform days have been organised in which researchers from KTH and representatives of society discuss common issues and opportunities for interdisciplinary collaboration. Examples are AIMday Transport, ICT for Transport, Materials for health and Frontiers in Life Science Technologies at KTH.

During the autumn, major focus has been on preparing for the new EU Framework Programme Horizon 2020. Within the framework of the platforms, the Research Office held a workshop on opportunities for research conducted within the platforms within the new EU programme.

EIT European Institute of Technology

KTH’s involvement in the EIT ICT Labs and EIT InnoEnergy has developed well in 2013 and KTH has also positioned itself in the areas of Raw Materials and Innovation for healthy living and active aging in order to eventually be able to become involved in establishing these as new KICs.

In 2013, both current KICs have undergone a planned audit of their initial years of operation. As a result, KTH has been subjected to a repayment demand of MSEK 6.3 concerning KTH involvement in InnoEnergy in 2010.

ICT Labs

KTH participates in all sub-programmes within ICT Labs, which means it is the single largest partner in the consortium. In 2013, ICT Labs has continued to develop activities and partnerships with a focus on entrepreneurship and innovation-driven research leading to commercialisation. The first students have been accepted and completed the first phases of the innovation and entrepreneurship programme.

ICT Labs Master’s School, ICT Innovation, led by KTH, has doubled its admissions in the autumn of 2013 to nearly 200 new students. The School runs seven sub-programmes with different focuses, however all of them blend traditional engineering courses with a joint programme in innovation, entrepreneurship and industry contacts.

The European network of technology consultants and business coaches in all ICT Lab nodes has been expanded in 2013 and has resulted in several start-ups originating in ICT Lab activities. The hub of operations is the Co-location Centre in Electrum, Kista – a modern, well-equipped and popular venue for both in-house and external events and meetings.

Overall, the development of KTH ICT Labs has been very positive in 2013 with enhanced cooperation at European level and with the other Swedish participants Ericsson, the Swedish Institute of Computer Science (SICS) and Stockholm Innovation and Growth (STING).

InnoEnergy

The vision for InnoEnergy is to pave the way for an independent and sustainable energy system through successful commercialisation of innovations in terms of new products, services and business ideas. Operations within InnoEnergy are conducted through six nodes where each node is responsible for a specific thematic area. The Swedish node’s responsibility is to manage projects within the smart grid and electric energy storage fields.

This year KTH has been involved in a total of 39 projects – 27 innovation projects, nine educational programmes and three lighthouse projects which cross the borders between different thematic areas. There are eight new projects in the study phase during the latter part of the year. KTH participates, within the framework of the 39 projects, in all six nodes’ thematic areas, making the university this year one of the most active parties in InnoEnergy. The greatest commitments KTH
has are in the areas of Smart Grids and Electrical Energy Storage with thematic responsibilities in Sweden, as well as in the field of Energy from Chemical Fuels with thematic responsibilities in Germany. The Master’s programme Environmetrical Pathways for Sustainable Energy Systems (SELECT) is one of InnoEnergy’s educational programmes coordinated by KTH. Participating students have, on several occasions, been able to win international competitions for projects focusing on sustainable energy solutions.

**Strategic research areas**

The government’s investment in strategic research was initiated in 2010. KTH won such funding within the research areas of energy, e-science, IT and mobile communications, molecular biosciences, industrial and transportation research. KTH also participates in additional environments at other universities.

In 2013, KTH research environments continued to evolve and consolidate and the total allocations for the university amounted to MSEK 216. KTH has simultaneously transferred MSEK 107 million to co-applicant universities, and has received MSEK 29 million from other universities as their co-applicants.

One key purpose of this government investment was to strengthen the research base and its impact on society in these specific fields. The resultant Swedish e-Science Research Centre (SeRC), which includes Stockholm University, Karolinska Institutet and Linköping University has, in 2013, been transformed into a KTH centre of excellence.

2014 is the final year of this government funding initiative in accordance with the original design and all activities will be evaluated. In 2015, a decision will be made on whether to continue the financing of such environments.

**SciLifeLab**

SciLifeLab is operated in collaboration with Karolinska Institutet, Uppsala University and Stockholm University. Through special initiatives from the government, in 2013 the SciLifeLab evolved from a regional collaboration node to a national research resource. KTH has continued to bear responsibility as organisational host for SciLifeLab. Due to increased allocations, the lab is now specialising in two areas: first, acting as national infrastructure in the field of life sciences, medicine and the environment, and second contributing directly to the development of new pharmaceuticals.

As SciLifeLab has now become a significant national initiative, the government has requested special, separate reporting of operational development to be submitted with the KTH Management Report. KTH received MSEK 190 million in increased funding in 2013, MSEK 111 of this sum has been transferred.

**Research centres**

Research centres develop collaboration with business/industry and society in general. This helps to establish viable research environments often based on socially-relevant issues. In 2013, there were 45 such centres at KTH and the majority were funded through long-term commitments from VINNOVA, the Swedish Energy Agency and the Swedish Transport Administration.

During the year a number of centres were allocated extended financing, such as the Direct Gasification Centre (CDBG) research node which, through the Swedish Gasification Centre (SFC), receives financing from the Swedish Energy Agency, and the Parallel Computer Centre (PDC), which is funded by the Research Council through the Swedish National Infrastructure for Computing (SNIC).

In 2013, additional centres were established as interim centres with a focus on consolidating their research base and developing collaboration and funding. These do not enjoy long-term financing, however it is regarded as essential to develop the underlying research environments through new interdisciplinary collaboration.

These interim centres are the Centre for Sustainable Social Development (CHS) at the School of Architecture and the Built Environment which focuses on strengthening and making cohesive broadly-based sustainability research related to the built environment, the Centre for Space at the School of Engineering Sciences designed to collect and profile competence and research in aerospace engineering at KTH, the Swedish Aerospace Physiology Centre (SAPC) at the School of Technology and Health in collaboration with the Karolinska Institutet whose task is to collect and profile competence and research in aerospace physiology.

A new resource centre, the Jonasson Centre for Medical Imaging, has been established in collaboration with Karolinska University Hospital and will use a donation from Kerstin and Rune Jonasson for investment in infrastructure. The centre will also help to create scientific competence at different levels vital to medical imaging.

**Research infrastructure**

A long-term investment and maintenance strategy for research infrastructure is essential for institutions with laboratory activities, particularly as national financiers have reduced their contributions to infrastructure. According to the KTH Strategic Plan 2013–2016, all KTH Schools will establish long-term investment and maintenance plans for strategic infrastructure.

Large comprehensive applications will thus become important, as well as donations. In 2011, KTH received a significant donation from Rune and Kerstin Jonasson which will be used to further develop the instrument infrastructure in medical technology and to enhance the competence base in this field. It will also, in the long term, help to develop regional collaboration with Karolinska Institutet and Stockholm County Council via Karolinska University Hospital and relationships with business/industry. A resource centre has been established as an organisational framework.
The researcher faculty

KTH’s research profile is also affected by the changes and developments taking place within the research faculty. Figure 12 shows the subject areas of the newly-employed KTH professors. Faculty collaboration and exchanges with other universities, both national and international, as well as publications and contributions to conferences are essential for the development and quality of research. They also act as important channels for the communication of KTH research and scientific production.

External research financing

The EU Seventh Framework Programme (FP7) has now made its final call for applications. In 2014 the new EU research programme Horizon 2020 will be launched which will receive increased funding and provide new opportunities for KTH. The design of this programme also brings challenges as the link between research and innovation is enhanced and a higher degree of applied research is required in many applications. The excellence-oriented element will also be reinforced.

In 2013, the Swedish Research Council was KTH’s largest single funder. This year KTH was awarded new grants of MSEK 178. KTH became the largest national recipient of Swedish Research Council financing in 2013. As an example, Bengt Lund-Jensen at the School of Engineering Sciences was awarded MSEK 25 in infrastructure grants.

The Knut and Alice Wallenberg Foundation granted KTH MSEK 55 in project funding this year. KTH is its second largest recipient nationally. This year this foundation required universities to make their own evaluations and nominate the candidates who may apply. The two major calls were for research projects with high scientific potential and for Wallenberg Academy Fellows.

Within the call for nationally significant infrastructure, Jonas Weissenrieder at the School of Information and Communication was granted MSEK 36. Alexander Balatsky at the School of Engineering Sciences was awarded grants totalling MSEK 32 and Michael Östling at the School of Information and Communication Technology was granted MSEK 22.9. Furthermore KTH received three new Academy Fellow Laureates in Petter Brändén (School of Engineering Sciences), Philip Schlatter (School of Engineering Sciences) and Panagiotis Papadimitratos (School of Electrical Engineering) who received a total of between MSEK 5 and MSEK 9 each.

KTH researchers who excelled in Forma calls in 2013 were Göran Finnveden (School of Architecture and the Built Environment) granted MSEK 23 and Lina Suleiman (School of Architecture and the Built Environment) who succeeded in attracting grants for three projects of between MSEK 4.3 and MSEK 7.3 in three different calls.

The Foundation for Strategic Research granted two KTH researchers, Laura Didymus and Eric Tyrode, (School of Chemical Science) funding under the future research leaders call. Each researcher will receive SEK 10 million and a total of 20 young researchers were appointed.

The Transport Agency has granted MSEK 28 to Sebastian Stichel (School of Engineering Science) and the Swedish Energy Agency has granted Oskar Wallmark (School of Electrical Engineering) MSEK 6.1 and David Bauner (School of Industrial Engineering and Management) MSEK 8.

European Research Council (ERC)

The European Research Council, which was established by the European Commission in connection with FP7, aims to support pioneering and cross-discipline basic research of the highest quality in all fields in Europe. Grants are allocated using various financial instruments to both junior and senior scientists based on scientific excellence. The various types of ERC funding available are Starting Grants, Consolidator Grants, Advanced Grants, Synergy Grants and Proof of Concept. In the KTH Strategic Plan for 2013–2016 a target of 20 new ERC grants has been established.

KTH has, since the start-up of FP7, received grants for 21 ERC projects, two of which were completed in 2013 and one of which has moved to another university. Four contracts are currently under negotiation with the ERC. KTH has also taken over a Starting Grant from Stockholm University and is included as an additional partner in an Advanced Grant led from Linköping University.

From the last FP7 calls in 2013 KTH, has received the following new ERC grants:

- A Proof of Concept grant (Frank Niklaus, School of Electrical Engineering) as continuation of a previous Starting Grant awarded in 2011.
- An Advanced Grant (Konstantin Zarembo, School of Engineering Sciences).
- Three Consolidator Grants (Joachim Oberhammer, School of Electrical Engineering, Luca Brandt, School of Engineering Sciences and Helene Andersson Svahn, School of Biotechnology).

National collaborative financing

KTH collaboratively-based research is funded from both national and international sources. The EU Research Framework Programme is helping to move forward the development of the KTH international network of contacts with business/industry and other universities, while the national programmes promote Swedish contacts.

Several national funding agencies have, in recent years, launched initiatives designed to support and further develop Swedish universities’ capacity for both increased collaboration and for participation in Horizon 2020.

Vinnova’s Strategic Innovation Areas published its first call in 2013 and of a total of five approved applications, KTH is participating in three: Production in Sweden, Lightweight and Metallic Materials. This initiative involves substantial support for research in these areas in future years and is structured so that the leading partners, together with the coordinator in each Strategic Innovation Area, determines
the calls to be made in the field. The final total of investments in 2013 is still to be determined by the financiers.

During the year, Vinnova funded multiple, bilateral cooperation programmes in environment and biotechnology with emerging countries. KTH has participated in all calls for proposals and approved projects will start up in 2014.

KTH has continued to be successful in industrial cooperation programmes such as the Programme for Strategic Vehicle Research and Innovation and the National Air Research Programme.

International financing
During the year, FP7 approved or started up 42 new projects, nine of which are coordinated by KTH. This is a decrease compared with recent years and is likely due to the fact that this was the FP7 final year.

As a result of FP7 ending in 2013, KTH’s involvement in other EU-funded research has increased slightly for example through co-funded programmes by the EU and member states or industry. This trend has continued since 2012 and today means that KTH is participating in some 20 different types of European research in addition to FP7.

Under FP7 in 2013, the EU awarded grants for two FET Flagships which are ten-year initiatives to support pioneering research. KTH is participating in one of these – the Human Brain Project – which has total assets of more than BSEK 5. The purpose of the Human Brain Project is to improve the understanding of the human brain through research in areas such as neuroscience and computational biology. Researchers from the School of Computer Science and Communication at KTH are participating and leading parts of the work within the Platform for Simulation (Jeanette Hellgren Kotaliski) and the Platform for Neuro Morphic (Anders Lansner and Erwin Laure).

Honorary Doctors
- Dame Ann P Dowling is Professor of Mechanical Engineering at Cambridge University and is a leading researcher in the fields of fluid mechanics and thermo-acoustics. She is a Fellow of the Royal Society, Royal Academy of Engineering and is a Foreign Member of the U.S. National Academy of Engineering and of the French Academy of Sciences. Professor Dowling has in many ways promoted broad cooperation between KTH and the University of Cambridge. She was the President of the UK RAE Engineering in 2008 and has given KTH graduate students the opportunity to spend postdoc periods in Cambridge.

- Antonia Ax:son Johnson, head of the Axel Johnson Group, is a successful business leader with great commitment to social development. With a focus on sustainability, Antonia Ax:son Johnson supports initiatives and research on life and urban planning through her foundation for environment and development. Through her active participation in the interaction between the entrepreneurial and research communities she has created valuable concepts and ideas for building a sustainable future.
• *Romas Kazlauskas*, Professor in Biochemistry, Molecular Biology and Biophysics at the University of Minnesota, USA, is a distinguished scholar working within wide fields of activity in chemistry/biotechnology focusing on biocatalysis. He is a frequent guest at KTH as a partner and as a faculty opponent and has spent considerable time cooperating with the schools of Chemistry and Biotechnology. Professor Kazlauskas contributes substantially to the implementation of co-financed projects and research exchange between the University of Minnesota and KTH.

• *Vikram Krishnamurthy*, Professor of Signal Processing at the University of British Columbia, Canada, is a leading researcher in signal processing, with more than 170 articles published in leading journals. Professor Krishnamurthy is a frequent guest researcher at KTH and has given courses for doctoral students from several of the KTH Schools. He has been a supervisor of PhD students at KTH and contributes greatly to scientific exchange between KTH and the University of British Columbia.

• *Paras N Prasad*, Professor of photonics, ultrafast optical processes, nonlinear optics at the State University of New York at Buffalo, USA and Director of the Institute for Lasers, Photonics and Biophotonics. He is a world leader in the field with nearly 700 publications and an H-index of 83. His research has provided important new insights into how light and matter interact which has led to new applications in the energy, health and IT research fields. His long and fruitful collaboration with KTH has resulted in several breakthroughs in research and numerous publications as well as research funding, summer schools and conferences.
Collaboration

In 2013, KTH’s ambitions for closer collaboration with society have been further developed in close dialogue with KTH teachers and researchers. The work has been conducted according to the KTH model for collaboration in a positive atmosphere where KTH alumni, partners and other key employees helped to strengthen KTH’s position as a leading technical university whose activities will lead to the identification of solutions to major societal challenges through excellent research and by educating innovative individuals.

Collaboration with business/industry
KTH is to promote, broaden and deepen relations with society using the support provided by the KTH Business Liaison Department. During the year, a team of six collaboration coordinators, one of whom is 100 per cent financed by Scania, have worked to promote collaboration. They act as guides for KTH schools, strategic research platforms, companies and organisations. This year they have also run, and collaborated with external partners in, a number of projects and activities:

- Innovationskraft (Innovation Power) Stockholm is one of the coordination and cooperation initiatives in the region which is ultimately headed by the County Governor. During the year, KTH has been an active partner in the development and realisation of a new regional innovation strategy. KTH operates one of the five constituent programmes – research and innovation infrastructure. During the year, KTH has organised or co-hosted eleven meetings.
- Kunskapsslotsen (Knowledge Guide) works to develop effective forms of collaboration between small and medium sized companies and academia in the region within two main themes: health and the environment. The project, financed by the Regional Fund, has been running since 2008 and is led by KTH, Karolinska Institutet and Stockholm Academic Forum. Within the framework of Kunskapsslotsen, KTH has developed the concept AIMday (Academia-Industry Meeting day) in collaboration with Uppsala University and in 2013 arranged AIMday Materials, AIMday Sustainable Solutions for Cities and AIMday Transport at KTH. A series of workshops aimed at starting up collaborative projects between providers and academics on the topic of care of the elderly has been held during the year consisting of five meetings. The concept ForestBeyond, which aims to create more innovations from wood-based materials, has been further developed.
- Stockholm Cleantech is a regional enterprise network aimed at increasing growth and exports of environmental technology. KTH is a member of the network and also has a seat on the board. KTH arranges meetings of the network where academia, companies and other actors meet to establish contact. During the year, eight activities were offered to its member companies, including six arranged by KTH and two invitations to events from partners.
- Kraftcentrum Stockholm Life (Powerhouse Stockholm Life), was a three-year project that was concluded in 2013. The aim was to develop tools and processes for collaboration and knowledge transfer between academia, health care and industry in life sciences in the region. The project included, in addition to KTH, Karolinska Institutet Science Park, real estate companies and Stockholm Science City Foundation. KTH has used the project to further develop meetings forms, mainly AIMday, and establish engineering science more clearly as a contributor to life sciences.

The KTH Exjobb Portal (Degree Project Portal) was established in 2013 and more than 1,450 ads have been placed since its launch in April 2012, of which 1,040 were theses projects and rest trainee jobs, internships, temporary/part-time work and project tasks.

Incoming requests via the KTH Collaboration Portal in 2013 resulted in around a hundred requests for collaborative or technical inputs. This portal acts as a liaison between the outside world and KTH researchers for general incoming requests without a clear destination.

The Future Female Leader Award (FFLA) was given for the tenth and final time at KTH. During the spring, inspirational activities, competitions, company visits, mentoring programmes and networking events were arranged for some 20 participating young women and y March saw the naming of the winner at a ceremony. Parallel to this year’s competition, the concept has been evaluated and at the end of the year KTH took a decision to terminate FFLA in its current form and to develop new ways of demonstrating the importance of engineers in 2014.

Partnership
During the year, efforts to strengthen systematic collaboration with society using the KTH model for collaboration continued. This includes formalised partnerships, personnel mobility and the identification of different arenas that strengthen Stockholm and KTH. The partnership process has been further developed during the year in dialogue with the relevant group at KTH schools. This creates the preconditions for the implementation of the KTH Strategic Plan 2013–2016 where a clear objective is to create more long-term partnerships, at both central and school levels.

In addition to previously-established partnerships with the Stockholm County Council and Scania in 2011, ABB, Skanska and Ericsson in 2012, KTH has, during the year, entered into and allocated resources to two more partnerships with Saab and Vattenfall.

Personnel mobility
The Forum for Adjunct Faculty at KTH (formed 1 July, 2012) held three meetings during the year. This has acted as an arena for the discussion of collaboration between academia, industry and society as well as an advisory body for KTH management on issues such as a two-year, industry-relevant research programme and how KTH and industry can jointly
exploit the opportunities available through the next EU framework programme Horizon 2020. The number of adjunct professors during the year has increased from 48 to 55 (6 women and 47 men).

In the autumn of 2012, KTH introduced an affiliate faculty position which may consist of either research or teaching, or a combination of these. These appointments should be regarded as a strategic instrument for both parties to strengthen and influence the direction of a research area and/or field of study. In 2013, three women and six men were appointed to the affiliate faculty while affiliation for two men has ceased. Seven people have been appointed as affiliated professor while affiliation has ceased for five people. Consequently at the end of 2013, KTH has 32 affiliate professors (three women and 29 men). Affiliation involves no financial commitment from KTH and no employment relationship exists. The affiliated individuals are not included in the number of employees and calculation of personnel statistics in the Management Report.

**OpenLab**

In November 2012, the leadership of the City of Stockholm, Stockholm County Council, County Administrative Board of Stockholm, Karolinska Institutet, Stockholm University, Södertörn University and KTH took a decision to establish closer cooperation through the arena of the OpenLab. Here, people from different fields of knowledge come together for educational or research collaboration to solve complex social problems in close cooperation with an active client. During the year, an operations manager was recruited. One course at second level has been established at all four universities. OpenLab will be located at Valhallavagen 79, where remodelling of premises has begun. Operations will be built up gradually. In 2013, OpenLab was formally established as a KTH centre.

**Alumni**

KTH’s alumni activities are intended to create opportunities for former students to keep in contact with KTH and contribute to KTH’s strategic development and networking. In 2013, KTH Alumni launched the KTH Opportunities Fund which enables KTH alumni and friends to support students and young research talent at KTH. In 2013, close to MSEK 1 was collected and ten scholarships were awarded.

An Alumni Advisory Board (AAB) was established during the year consisting of representatives of KTH management and faculty, THS and KTH alumni from business/industry and society. The AAB plays an advisory role in relation to KTH alumni activities, processes applications to the KTH Opportunities Fund and makes recommendations to the President on the utilisation of funds raised.

Efforts to offer alumni the opportunity to meet and develop their personal networks have continued during the year. In the first week of October, a KTH Alumni Week was held for the second consecutive year in collaboration with the ICT, CSC, EE, BIO/CHE schools. Almost 400 alumni came back to campus and participated in some of the 16 events on offer. On Saturday alumni with children and grandchildren were invited to attend a full day packed with activities. The Alumnus of the Year Award 2013 was won by Magnus Egerstedt F-92, now a Professor at the Department of Electrical and Computer Engineering at the Georgia Institute of Technology in Atlanta, USA.

In addition, 41 alumni events have been arranged in and outside Sweden attracting 4070 different alumni participants. The development of KTH’s global network of alumni has led to increased activity internationally. A new structure for alumni chapters has been established with the introduction of an agreement for chapters to sign. Five Chapter Agreements have been signed in Munich, Oslo, Singapore, Shanghai and New York. Alumni chapters are also found in other countries such as India, Switzerland, Japan, Brazil, China, Australia, Tanzania and Sweden.

The Alumni Database has been developed further and at year end there were 56,600 contactable alumni in the database of whom 17,550 had activated their profiles in the KTH Alumni Community. Extra attention during the year has been paid to Master’s and exchange students. Seminars focusing on career opportunities in Sweden have been arranged plus the reception of new students with the International Student Office and a Farewell Ceremony conducted at the end of each term. In 2013, a strategy for stronger social media presence was established. Through a clear, structured social media presence KTH has increased dialogue with alumni and widened the scope of marketing for KTH Alumni, the Opportunities Fund and the KTH Alumni Community.

**Notis**

Natural Sciences and Technology in Society (NOTIS) is a project run by the Stockholm Academic Forum, KTH and Stockholm University. The project is funded by the European Social Fund. The aim is to improve the links between educational programmes and business/industry by providing KTH teachers with more knowledge about the world of work outside academia. The project is in its final stage and will run until June 2014. Activities implemented include dialogue between teachers and KTH collaboration partners, field trips for teachers, mentoring programmes for teachers, training in project management and more. During the spring term of 2014, the project will also work with materials, underlying information and proposals for a support organisation so that activities will be able to continue after the project ends. The project is planning a dissemination conference in early June where results will be presented to other universities in Sweden.

**Commissioned and further education**

The KTH collaboration task includes providing education for companies and people already working. KTH offers courses and programmes within a number of different areas aimed at providing broader or deeper competence for, primarily, active
engineers and architects, but also targets other groups, such as teachers who are in need of competence-enhancement activities.

This year KTH has offered courses and educational packages within both the regular allocation-funded activities and in the form of specially commissioned courses. These courses are intended to be combined with a professional life so most of them have been provided as distance education. Some courses have been taught in English.

KTH Innovation

KTH Innovation is working to ensure that research and business ideas from researchers and students at KTH evolve and meet the market. The strategy for 2013 was to maintain a high level of inflow of ideas while resources were devoted to activities aimed at obtaining a qualitative and quantitative increase in the outflow. This has been achieved through a series of projects run by the Innovation Office.

This year KTH Innovation has received 184 new ideas, evenly split between researchers and students. The commercialisation projects supported by KTH Innovation have attracted approximately MSEK 15 in funding from, for example, the VINNOVA-funded Verifiering för Tillväxt (Verification for Growth) Programme which is managed by KTH Holding AB at KTH. During the year, 23 companies have been formed including five student companies, and four commercial agreements with customers have been concluded based on KTH research, 64 patent applications have been filed and 26 patents have been granted. This year, four companies have been admitted to the business incubator STING.

KTH Innovation and KTH Holding AB maintained very close cooperation during the year which resulted in the holding company investing in six new companies from KTH. KTH Innovation uses no selection process for new ideas but accepts everyone with an idea who fulfils the basic requirements of KTH affiliation plus that the idea is linked to KTH operations. Support for the innovation process is based on the individual receiving support to test their idea to the market, and based on the outcome take a decision on whether to take the idea further. Evaluating viability may take up to two years.

In 2013 collaboration with Student Inc., the KTH student incubator that is run in cooperation with the non-profit student organisation Excitera, was extended. A manager has been employed to develop the business to become more operative and increase the visibility among KTH students. During the year Student Inc. hosted 25 student projects.

Armada Startup was held for the first time in 2013. It was organised jointly with the student union. This is a fair with a view to introducing entrepreneurship as a possible career path after completion of studies at KTH.

KTH Innovation had been tasked by the President this year to develop a policy for the management of intellectual assets at KTH. The policy was adopted by the KTH Board in December 2013. It will be introduced in 2014 and implemented throughout KTH, operations that will be led by KTH Innovation.

Innovation Office

According to government instructions for 2009, KTH and others were to start up an Innovation Office. One prerequisite for this was that KTH invited other institutions to cooperate within the framework of the Office. The premise is, with existing businesses as its basis and in close collaboration with regional partners, to build a scalable innovation support system for higher education in the Mälardalen Region. The KTH Innovation Office, which is a partnership between KTH, Mälardalen University and Stockholm University has been named InterAct. This year it entered a more operational phase in which collaborations and processes established in the construction phase have been further developed and extended.

The qualitative goals for InterAct are to broaden, extend and improve the efficiency of the innovation support system in the Mälardalen Region. In 2013, overall strategy has, with a maintained inflow of ideas, consolidated the work of increasing the throughput in the innovation support process. Activities leading to increased outflow and more efficient processes have been prioritised.
Quality activities

General quality operations
KTH, in its Quality Policy entitled Quality through continuous improvement, established for the period 2011–2015, interpreted and formulated the principles of, and priority measures in, quality activities. An Action Plan is linked to the KTH Quality Policy that includes, for example, a schedule for when larger-scale follow-up projects are to be initiated and implemented. Quality activities are also governed by the objectives of KTH Strategic Plan 2013–2016.

Since 2011, KTH has also issued a separate annual quality report. The purpose of this is to provide a comprehensive and detailed picture of quality operations and to highlight the evaluations and follow-ups performed to improve and ensure the quality of KTH’s various operations. The quality report is thus part of efforts to communicate quality both internally and externally.

The formal division of responsibilities and the administrative support organisation provides the framework for KTH quality activities. This basically means that the Faculty Council, led by the Dean, is the collegiate body with overall responsibility for the quality of education (at first, second and third levels), for the quality of research and the quality of collaboration with society. Each school has a member of faculty appointed to be in charge of education at first and second levels, titled Basic Education Coordinator and one responsible for the school’s doctoral studies, termed Graduate Studies Coordinator. Each educational programme has a Programme Director.

The KTH Quality Policy and Action Plan are based on the areas education, research, competence management and collaboration. The work undertaken in these areas in 2013 is primarily described in the relevant section.

Quality within education
In education, primary quality activities are undertaken at local level by individual teachers, course coordinators and programme directors. In addition, shared strategic initiatives have been introduced. In 2013 more such inputs were focussed on strengthening the role of programme directors. The year has also largely been characterised by working with the national evaluation carried out by the Swedish Higher Education Authority.

University pedagogical activities
University pedagogical activities play an important role in KTH quality activities. Operations are based on three cornerstones:
• University teaching courses including postgraduate supervisor courses and leadership courses.
• University pedagogical support to programme and course development, as well as to teachers.
• University pedagogical research and development plus business intelligence.

In 2013 operations have expanded as a result of the very satisfactory demand for skills in university teaching, especially in the projects currently underway in the area, as well as requests from KTH management for greater breadth and accessibility with regard to university pedagogical courses.

Swedish Higher Education Authority evaluation
In 2012 the Swedish Higher Education Authority initiated three national evaluation projects that included KTH educational programmes:
1. Engineering and Engineering Sciences educational programmes
2. Architecture and related programmes
3. Mathematics and related programmes

For KTH these evaluations meant extensive efforts to provide underlying material. Most of the work was done at the local level coordinated by cluster managers along with course and programme directors. Altogether around 600 theses and 36 self-assessment reports describing and analysing goal fulfilment for each degree specialisation were submitted just before the end of 2012.

Evaluation results were published in the autumn of 2013. The total outcome for KTH was that three programmes were considered to maintain very high quality, 25 programmes were judged of high quality while eight were judged to have poor quality. The programmes that received the highest assessment were Master of Mathematics, Master of Engineering Physics and the Master of Science in Engineering in Industrial Management. Programme directors highlighted deeply dedicated teachers, highly-motivated students and long-term, intensive development efforts as the most significant reasons for the good results.

The eight programmes that were rated poor quality will be monitored by the Swedish Higher Education Authority in the autumn of 2014. KTH has also established an internal working procedure for follow-up. At the end of 2014, the relevant heads of schools submitted action plans on how to address the gaps in the programmes that had done poorly.

One major quality issue at KTH, and for many of the country’s other technical universities, is that the general degrees received worse evaluations than the professional degrees. Although the 2011 internal EAE evaluation showed the difficulties in reconciling the objectives of the Master’s and Master of Science degrees in the same programme. One important element of future quality activities will therefore be to clarify degree objectives and main fields of activity. Another priority concerns the quality of degree projects.

Follow-up of first, second and third level students
KTH performs four periodic surveys of students and alumni: the start survey, the intermediate survey, career monitoring and doctoral studies follow-up. In that these surveys are repeated it is possible to monitor progress over time. Survey
responses can be analysed by gender, age, native Swedish speakers, Swedish/non-Swedish citizens and parents’ academic background. Results are presented both in general terms and in specific tables for KTH as a whole, by programme type, programme and school. Consequently these surveys provide the basis of continuous quality activities at different levels.

This year, the results of the 2013 doctoral survey were presented. The survey questionnaire was sent to the last graduate students who were admitted before the introduction of the current doctoral programmes and contained questions about work after graduation and views on education, research environment and KTH. The survey yielded largely positive results. The vast majority of students had received appropriate and qualified tasks. The clear majority described the research environment at KTH as supportive and stimulating. Most were satisfied with relations with other universities and other research as well as with business/industry. Doctoral students indicated that postgraduate education had given them deep subject knowledge and critical thinking skills, abilities concerning independent problem solving and collaboration. However, they were less satisfied with their education in terms of project management, financial analysis, entrepreneurship, sustainable development and career guidance. The clear majority of postgraduates would have chosen KTH for postgraduate studies again.

Quality activities within research

Follow-up of Research Assessment Exercise (RAE)

In 2012, KTH conducted its second evaluation – Research Assessment Exercise (RAE) – of all KTH research. RAE2012 generally showed very high quality in KTH’s research in the three areas that were evaluated: research quality, impact on, and collaboration with, society and the research environment. In 2013, the RAE results were followed up in various ways, including reallocation of resources and monitoring of projects, for example within environmental and sustainable development and collaboration.

This year also saw a meta-evaluation of both KTH RAE projects (2008 and 2012). The study was conducted using interviews, document studies and bibliometric analysis. Case studies were carried out at research groups from three KTH schools. The evaluation showed that KTH researchers are in favour of the RAE project’s emphasis on collaboration, and that some individual environments have been able to use RAE processes as a springboard and have improved their performance significantly over the four years. Many research groups have begun to focus more on strategy and communication. In contrast, it was perceived that the RAE projects came too close together and there is also ambiguity regarding financial incentives. Consequently this evaluation recommended a longer evaluation cycle which would take into account possible future national evaluations, as well as improved communications regarding the consequences of these evaluations.

Rankings

The importance of rankings for, for example, the recruitment of international researchers, international collaboration, student recruitment and funding opportunities is increasing. As is their influence on various policies and initiatives for excellence. KTH works actively with ranking issues and priorities rankings that best fit the concept the World Class University.

In 2013, the previous KTH positive ranking trend continued. In the THE World University Rankings, KTH advanced from place 140 to 117 and in the QS World University Rankings KTH moved from position 142 to 118. Advancement in THE was mainly due to an increase in the KTH field normalised citation rate and that the university continues to perform strongly in many of the indicators that, in different ways, measure excellence in research, education, collaboration and internationalisation. The QS success can primarily be attributed to progress in several underlying indicators including Academic Reputation and Employers’ Reputation. These are strongly connected to the brand and reputation of the university. The only indicator where KTH performance deteriorated in both THE and QS was the percentage of international students, which is explained by the introduction of tuition fees now being reflected in the statistics.

KTH has also performed very well in the subject area and topic rankings. In THE’s subject area rankings for Engineering and Technology KTH ranked as 34th best university in the world and in the corresponding QS rankings KTH was the 27th best. In NTU (formerly HEEACT) and QS subject rankings, KTH performed particularly well in mechanical engineering, electrical engineering, chemical engineering and materials science. In mechanical engineering, for example, KTH’s position was 21 in the QS and the 25th best university in NTU. In ten subjects, i.e. all the major topics represented at the university, KTH is found among the 300 best in both the NTU and QS subject rankings.

This year, KTH has also made a considerable effort to take part in the EU Commission’s ranking system, U-Multirank. This is multi-dimensional ranking system using various indicators and dimensions, including the quality of education. The idea is that users are able to choose which indicators they are interested in and create their own rankings. The results will be announced in 2014 and will contain university rankings and subject rankings in engineering (mechanical and electrical engineering), economics and physics.

Quality activities within administration

For many years KTH has been running annual development projects within its administrative departments. In 2014, KTH will evaluate administrative support in accordance with the KTH Strategic Plan. Preparations for the project Administrative Assessment Exercise (AAE) began in 2013 when the project’s purpose, scope, evaluation subjects and methods were determined. The main purpose of AAE is to contribute to the quality improvement of the administrative support functions.
A further aim is to provide administrative staff with increased knowledge of evaluation and quality assurance, including an increased understanding of the processes that teachers and researchers are continually experiencing. Another aim is to make the work of the Administration more visible.

In AAE, administration will be assessed based on three aspects: competence, service and cost. Evaluation is performed in a similar manner to EAE and RAE, i.e. in three steps: self-assessment, external assessment and monitoring. The subjects of the evaluation in AAE are administrative processes. A total of 14 such processes were selected in 2013 based on suggestions received from KTH operations at different levels after discussion and acceptance by the faculty:

- The educational process from system support and student perspective/study and career counselling.
- Provision of premises.
- Recruitment, promotion, recruitment of faculty.
- Working environment, complicated HR cases.
- International students.
- Contract management.
- Support for external financing.
- Innovation and collaboration.
- Document management.
- Controller function, forecasting, budgeting, monitoring.
- In-house communications.
- Procurement.
- Control structure; Strategic Plan, action plan, business missions, indicators.
- Internal audit review process.

Each management process is subject to a self-assessment. The self-assessments were initiated in the autumn of 2013 and reports are to be completed by 1 March 2014. Work is based on a specific template that covers issues related to competence, service and cost. In the self-assessment, the process will be described using a flowchart/situation analysis. Furthermore, a stakeholder analysis will be carried out in which observations are made by key stakeholders, particularly students and teachers.

An internal reference group and an external assessor are linked to each self-assessment. These groups were formed at year-end 2013. As in the RAE and EAE, assessment groups consist mainly of peers from similar operations. In June 2014, all assessment groups will visit KTH to conduct interviews and provide feedback. The assessors will summarise their impressions in a short report based on the three aspects: competence, service and cost.
The environment and sustainable development

In the EU research programme Horizon 2020, seven challenges are listed all concerning sustainable development related to climate change, energy and transport, as well as to health and wellness including communities, sustainable agriculture and security. This illustrates how sustainability issues currently affect technical and other research and education, and the challenges our students will face after graduation.

One of the KTH objectives is to become a leading European technical university in the environment and sustainable development fields. Our identity and our brand must consequently be linked to first class work in these areas.

KTH operations do impact the environment. Examples of environmental impact include energy consumption, use of materials, construction, the travel and transportation carried out on KTH’s behalf and goods and services procured.

KTH Environment Policy
KTH is to contribute to sustainable development through education, research, collaboration and by reducing its own environmental impact. KTH will:
• Be represented by an identity and a brand that is associated with a first-class contribution to the environment and sustainable development.
• Be a place where the issues of environment and sustainable development are presented and debated, and where different disciplines, approaches and actors meet.
• Consist of staff, students, alumni and partners who contribute to sustainable development by developing, disseminating and applying the techniques, methods, approaches and knowledge that include these issues.
• Encourage and train staff and students in environmental awareness in and outside KTH operations.
• Continually and systematically prevent pollution and improve environmental performance.
• Conserve energy, goods and materials and impose environmental requirements on purchasing and procurement.
• Comply with all relevant environmental legislation and requirements.
• Inform about, and report on, KTH environmental performance both in-house and externally.

KTH strategic operations with the environment and sustainable development is performed parallel by KTH-Sustainability and Sustainable Campus. A variety of activities have been implemented during the year.

Education, research and collaboration with society
KTH-Sustainability is a council that has been formed to work with the environment and sustainable development in KTH educational programmes, research and collaboration. It is an advisory body to the President and fulfils a preparatory function for the Faculty Council. KTH-Sustainability is headed by the Vice President for Sustainable Development and consists of teachers and student representatives as well as the Environmental Director. KTH-Sustainability was formed as a project for 2011 and 2012 and has since been extended to 2015. The project has both a project plan and a communication plan. Examples of communication activities during the year include a monthly in-house newsletter and information and compilation of research calls within the environment and sustainable development. In 2013 an external newsletter was also initiated targeting business/industry, policy makers, government agencies and organisations – published approximately six times per year.

Environment and sustainable development are the focus of several educational programmes, especially the Master of Science in Engineering, Energy and Environment. In addition, there are several Master’s programmes using environment and sustainable development as their theme.

A number of activities were carried out in the educational field in 2013. At several schools, new courses with relevance to environment and sustainable development evolved and new elements have been introduced into existing courses including some programmes that added introductory lectures on sustainable development to existing courses.

In 2012, all programme directors of KTH Master and Bachelor of Science in Engineering and Architecture programmes carried out a self-assessment with a view to supporting the continuous quality activities concerning sustainable development on KTH programmes. Self-assessments were followed up in 2013 and have resulted in action plans within each school for further efforts to integrate environmental and sustainability issues into KTH programmes so that Higher Education Act objectives are fulfilled. A toolkit for teachers has been launched and is available on the KTH website. The aim is that teaching staff at KTH will find it easier to identify examples of how sustainable development can be integrated into courses and programmes. The information material contains examples and tools for teaching about sustainable development.

KTH-Sustainability has also supported the development of the university pedagogical course, Education for Sustainable Development, which took place in the autumn of 2013.

In the spring of 2013, an examination of KTH research that has a bearing on sustainable development was undertaken. The starting point was the RAE (Research Assessment Exercise) conducted in 2012. RAE material was supplemented with an optional update after which three external assessors visited KTH. The review resulted in a number of recommendations to KTH that will contribute to the strengthening of research on environment and sustainable development.

This year KTH-Sustainability organised seminars and other meeting places for teachers, researchers and students. For example, the Science Café for students on sustainable consumption and seminars on sustainable economic and social development. In October, KTH Sustainability Day was held that attracted around 200 participants. This was directed both at KTH researchers and external target groups.
KTH-Sustainability has supported several projects during the year in order to encourage greater collaboration within KTH education and research. The aim has often been networking to improve contacts between researchers and teachers in various parts of the university. KTH-Sustainability has also organised meetings of a doctoral forum on environment and sustainable development. A doctoral student dialogue with five other universities in the region was organised in a collaboration between KTH-Sustainability and KTH Doctoral Student Forum to strengthen trans-disciplinary research and cooperation with other universities in the area. An inventory of existing doctoral studies courses has been made and will form the basis for continued development of course range. An agreement on increased collaboration with the Swedish Environmental Research Institute, has been established and will be followed up in 2014.

Sustainable Campus
The focus of Sustainable Campus operations during the year continued to be the introduction of a certifiable environmental management system. The goal is to have one in place by late 2014. The foundations of an environmental management system have been laid and during 2014, the implementation of the systematic environmental operations will be carried out. KTH will, according to the Ordinance on environmental management in government agencies, establish an environmental management system with an annual report to be submitted to the EPA. This report was submitted in 2012 and was ranked significantly higher than in the previous year which proves that the basic environmental work completed has produced results. During the year the following were carried out:

- Documentation of working methods both centrally and in schools.
- School and university administration have established and are working with local environmental objectives that will contribute to meeting the KTH overall targets for environmental performance.
- Several communication initiatives, such as the establishment of pages on environmental management systems in KTH Intranet, a newsletter for Sustainable Campus and web pages of information about both the Sustainable Campus and KTH-Sustainability.

Other activities that have been started or completed include:

- Several projects have been started up and completed, for example on energy statistics and waste reduction.
- Support to small environmental projects in schools as part of environmental management.
- The development of an online training input for KTH employees.

Environmental management operations are conducted centrally by the Environment Group in the Environmental and Construction Department at the university administration. The role of the Environment Group is to provide support for schools and university administration in their environmental management activities. In operations, at KTH Schools there are environmental representatives appointed who, together with school management, will run local environmental efforts.
KTH is a university where people from different backgrounds and with different experience work with a common purpose to manage, innovate and deliver knowledge for the society of today and tomorrow. KTH’s ability to maintain its position as a successful international technical university is dependent on its staff and students. High quality, ethics and a free and open exchange of thoughts and ideas form the basis of KTH operations at all levels and require competent and conscientious staff. Below is a sample of HR and working environment activities conducted in 2013 in accordance with KTH HR Policy.

Employees and managers, participation and influence

In 2013 an employee survey was conducted at KTH for the third time. This survey should be regarded as a temperature gauge concerning the KTH working environment and is an important strategic tool for its development. Results will be compiled and presented in early 2014. The employee surveys in 2009 and 2011 found that stress and workload were perceived as high. As a consequence, in 2013 KTH organised a series of lectures to support employees and managers in their stress management. The lectures were recorded and posted on the KTH website.

Also in 2013, KTH employees had the opportunity to participate in a programme of life and career planning designed to give them the opportunity to develop their skills and further develop their professional roles.

Excellent environments require excellent management. KTH focuses on leadership at all levels, both academically and administratively. Management with personal responsibility is essential to create an attractive workplace. Interest in leadership and management training is great and courses offered are usually fully booked. The schools’ requests for external management training has also increased, as well as the demand for individual management counselling/coaching.

The KTH management programme consists of three steps. Step one aims to deepen understanding of how KTH is organised and managed, to highlight current issues and to provide a picture of the management of the university. The programme consists of a number of inspirational seminars on topics such as management, leadership and KTH organisation. It also offers the opportunity to benchmark with an international university. In 2013 the University of Cambridge was visited for the second time. Step two involves a five-day personal leadership development programme. A more long-term external national or international management programme is recommended as Step three. Continuous leadership courses for teachers deal with themes such as constructive communication and feedback.

The management planning programme entitled Morgondagens Akademiska Ledarskap (Tomorrow’s Academic Leadership) was held in 2013 for the seventh time since start up in 2003. It is directed at teachers and researchers who face tasks involving personnel management. Participating universities this round were KTH, Karolinska Institutet, Stockholm University, Södertörn University College and the National Defence College. KTH and KI are responsible for course management. Participants are selected by each university management.

KTH also funds a number of longer management development programmes for which the President selects candidates including the Higher Management Programme run by the Association of Swedish Higher Education. In addition the President has appointed two participants to the Novare Management Programme, Investor’s development programme for women. KTH is also exploring the opportunities of sending participants to international management programmes in Europe.

Gender equality, diversity and equal opportunities

KTH is a university enriched with wide diversity among students and employees. Individuals from different backgrounds and with different experiences are valuable resources in the achievement of the university’s full potential. In late 2012 a variety of projects were initiated aimed at increasing KTH expertise on issues of diversity and intercultural learning in order to utilise and gain advantage from the potential represented by the employees and students. In 2013 a current situation analysis was established based on policy documents and dialogues held with all the schools, the university administration and THS to identify needs. During the project’s second year, activity plans will be developed. Diversity projects will run throughout 2014.

This year KTH Schools updated, or established new, gender equality plans for 2013–2016. Each school has a designated representative who is responsible for faculty development and gender equality. The Faculty Council has reviewed the employment conditions of the research and adjunct groups of employees in order to strengthen gender equality in these categories. It has also developed an equal opportunities plan for students for 2013. The student union associations Gaytek and Malvina have been awarded grants for the academic year 2013/14.

The prize for gender equality and diversity work at KTH was awarded to Irina Radulescu, HR Manager at the School of Electrical Engineering, for her deep commitment and systematic gender equality efforts.

With funding from the Delegation for Gender Equality in Higher Education, KTH completed its comprehensive gender equality project Inventera on the connection between gender and actual work situation within the faculty. Based on the project, a number of action points have been highlighted in the Action Plan of the KTH Strategic Plan 2013–2016, including investments in management and gender equality in the faculty. The quantitative target for 2016 is at least 25 per cent women in the faculty. In 2013, the proportion of women in the faculty was 19 per cent. KTH also has a recruitment target stated by government for professors (adjunct professors not
included) during the period 2012–2015. The goal is that at least 20 per cent of professors recruited are to be women. During the period 2012–2013, KTH has hired 71 professors and of these 20 are women, i.e. 28 per cent.

The Action Plan includes activities aimed at increasing gender equality within the faculty. In 2013, a steering committee for such issues was established. One of the key elements of the Action Plan is training at management level. This has resulted in a training programme in gender equality issues for KTH management teams that began at the end of 2013. A review has been launched regarding the decision-making process when appointing new managers at KTH. It must be ensured that the men and women are appointed according to qualifications and suitability and that an appropriate balance is achieved. The review also touches on the development of the recruitment process and the analysis and follow-up of women who leave their employment at KTH.

Competence and career development

The Tenure Track academic career has now been introduced at KTH. One of the main features is that recruitment for assistant professor will be the main method of recruiting new faculty. Career Development Support is intended to clarify what is required for further qualification to associate professor and professor and to provide opportunities for development in areas that are relevant to a further career at KTH.

Competence Support consists of four elements: the KTH mentoring program Partners in Learning, Scientific Development, Pedagogical Development and Management Development.

The President has taken a decision that a management system for active career planning will be introduced. This includes the development of career planning for assistant associate professors and associate professors, the introduction of annual career dialogues, the establishment of mentoring programmes and the creation of functions for central support and coordination of career planning.

As support for the Tenure Track System there is a steering committee with insight into the various merits necessary. The task is to coordinate the career support offered to young faculty in order for them to be successful in gaining the qualifications for promotion to associate professor and professor.

In 2013, KTH participated for the fifth time in a partner mentoring program along with Peab, Skandia, SVT and Sj. Each organisation contributed mentees and mentors. The programme runs for one year and includes, in addition to the mentor/mentee meetings, also separate events for the two groups. Evaluations of past programmes show good returns on the time invested and the relatively low cost of the project, which is characteristic of mentoring programmes in general. Following the same model KTH, Södertörn University, the National Defence College and the Stockholm School of Economics launched a joint mentoring programme. In both mentoring projects, participants are nominated from both the faculty and the administration. According to the KTH Action Plan 2013–2016, all new managers must have access to a mentor.

Cooperation within staff training with the other universities in the Stockholm area continues. The advantages consist in particular of a larger participant base and increased cost efficiency. If possible the universities share course responsibility and offer each other places on courses. For example in 2013, three people from KTH were given the opportunity of participating in the Karolinska Institutet project management training course for research managers. Other staff training programmes offered at KTH in 2013 include management, project management, language and IT courses.

KTH Relocation

Every year KTH welcomes a large number of people who come to Sweden as employees or in an employment-like situation, with the intention of staying more than three months. KTH Relocation will work to ensure that their first period in Sweden, regardless of their employment position, will be as welcoming, flexible and well-thought-through as possible. KTH Relocation began operations in late 2012. Its purpose is to centralise, streamline and systematise the reception of everyone recruited by KTH from abroad. In addition to providing housing, KTH Relocation also acts as a channel of information as concerns all kinds of matters related to the move to Sweden.

KTH Relocation offers everyone called to interview for higher positions a meeting at an early stage so that candidates are aware of the services offered by KTH Relocation and that KTH will be able to meet requirements and expectations associated with a possible move to Sweden. In 2013, a network was launched aimed at accompanying spouses as this group is large in number and very important for successful relocation.

KTH för mig (KTH for me)

In 2013, KTH implemented an employee portal, KTH för mig. The aim is to compile, simplify and clarify the benefits and conditions of employment KTH offers. In KTH för mig, employees can learn more about benefits such as computer glasses, wellness grants and health care reimbursement. One new feature is the ability to make gross salary deductions for laser eye surgery, fertility treatments and obesity surgery. Another popular option is to buy a bus pass through net deduction from salary. Via KTH för mig, employees can also order wellness products directly through the i-portal.

Staff structure

In 2013 the average number of employees increased by 95 to 4,906, as compared to 4,811 in 2012 and 4,615 in 2011. The average number of employees is calculated from measurements taken each month in 2013. When converted into full time equivalent positions this is an increase of 79 to 3,621 in 2013 compared to 3,542 in 2012 and 3,375 in 2011. Measured in full time positions, women form 36 per cent of the workforce which is the same as the previous year.
Teachers and researchers

The number of teachers has decreased by 21 full time equivalent positions to 827 (the number of women has decreased by three to 172 and men by 18 to 655). The teacher group includes professors, direct appointment professors, visiting professors, adjunct professors, assistant professors, associate professors, assistant associate professors, lecturers and guest lecturers. The proportion of women teachers is 21 per cent, which is unchanged since 2012.

The number of researchers, research engineers and postdocs, i.e. staff who primarily work in research and research support, has increased by 53 full time equivalent positions to 635 (the number of women by 18 to 166 and men by 35 to 469).

The number of full year employees in the Professor group (Professors, direct appointment professors, visiting professors and adjunct professors) has increased by 4 full time equivalent positions to 303 (the number of women by 3 to 42 and men by 1 to 261).

Professors have increased by eight full time equivalent positions to 276 (women by 3 to 32 and men by 5 to 244). The proportion of women has increased during the year by one percentage point to 12 per cent.

Visiting professors have decreased by 3 full time equivalent positions to 17 (women unchanged at 9 and men decreased by 3 to 8). The proportion of women visiting professors has increased by eight percentage points to 53 per cent.

Adjunct professors had, at the end of 2013, increased by 7 to 55 (women by 1 to 8 and men by 6 to 47). However in terms of full time equivalent positions this is a total of 1 to 10 (women remain unchanged and men have decreased by 1 to 9).

The number of associate professors including assistant associate professors has increased by ten full time equivalent positions to 250 (women by 3 to 55 and men by 7 to 195). The proportion of women was unchanged at 22 per cent.

The number of assistant professors has fallen by 9 full time equivalent positions to 74 (women by 2 to 19 and men by 7 to 55). The proportion of women has increased by one percentage point to 26 per cent as compared with 2012. During the year, five assistant professors have been recruited (3 men).

The number of lecturers has fallen by one full time equivalent position to 167 (women unchanged at 41 and men decreased by 11 to 126). The proportion of women in this category is unchanged at 25 per cent as compared to 2012.

Doctoral students with employment or educational grants

Doctoral students with employment or educational grants increased in 2013 by 1 full time equivalent position to a total of 1,035 (number of women unchanged at 310 and men increased by 1 to 725). Of the 1,035 doctoral students, 37 had educational grants (13 women and 24 men). The proportion of female doctoral students with employment or educational grants was 30 per cent, which is unchanged from 2012.

Technical and administrative staff

Technical and administrative staff, including library staff, has increased by 49 full time equivalent positions to total 998 (women by 46 to 620 and men by 3 to 378). The proportion of women has increased by two percentage points to 62 per cent over the previous year.
Premises

KTH premises
At the end of 2013, KTH had at its disposal approximately 266,000 (261,000) m² of floor space, an increase of around 2 per cent on the previous year.

The proportion of vacant or unused premises at the end of 2013 remained very low, about 1 per cent of the area leased. Consequently the space to meet growing needs for premises is still very limited.

Over the past three years, as a consequence of KTH’s expansion, more extensive projects have been underway.

The following projects have been completed in 2013:
- The redevelopment of the former Red Cross Hospital, Brinellvägen 8 into modern, efficient office space for KTH management and university administration was completed in January 2013 and encompasses more than 7,300 m².
- Repair and extension of No. 14, Teknikringen 8 for School of Engineering Sciences totalling more than 10,000 m² was completed in spring 2013. The extension added another approximately 2,500 m², mainly for advanced research laboratories.
- Repair and extension of No. 11, Teknikringen 74 for the School of Architecture and the Built Environment was completed in December. Occupancy is scheduled for January 2014. The extension covers 2,032 m² and will mainly be used for school management and administration.
- Redevelopment of the study areas on the second floor of the teaching building, Building 37, Brinellvägen 64B.
- Additional premises on Solna Campus for Science for Life Laboratory (SciLifeLab). Totally KTH currently rents 13,919 m², of which just under 30 per cent is related to KTH research activities. The remaining space is charged to Karolinska Institutet, Stockholm University and the National Centre for Life Science Research according to use. The floor area increase between 2012 and 2013 was 9,804 m².

Projects to be completed in 2014
- In May 2014, parts of the university administration, the IT Department and Service Department will leave their premises in Q-block and move into the newly-renovated space in Building 94:1 on Drottning Kristinas väg 48 (3,950 m²). This move will enable the School of Electrical Engineering to expand in direct connection to its existing premises in Q-block.
- In August 2014, the School of Information and Communication Technology’s new premises in Electrum in Kista will be ready to move into. As a consequence KTH will leave the Forum Building and all operations will be consolidated in the Electrum building. This means a reduction in the premises in Kista by more than 4,000 m².

Other ongoing projects
- New construction and renovation of facilities for the School of Architecture and KTH entrance function is underway and the premises will be ready for occupancy in August 2015. The project consists of over 11,000 m² of which 7,000 m² is new construction. As a consequence of this, KTH will vacate the School of Architecture’s current premises on Östermalmsgatan.
- As a result of the decision to move the Bachelor of Science in Construction Techniques and Design from Campus Haninge to the KTH Main Campus, which thus results in an increased number of students at KTH Main Campus, extensive activities concerning the adaptation of Building 12 Brinellvägen 22–28 has commenced. A decision was also taken to construct a new teaching building on this block. This project will be implemented in close collaboration with faculty and students and a key aspect of planning is the future learning environment.
- In the autumn of 2012, a decision was taken that the School of Technology and Health will eventually focus its activities in Huddinge in new facilities directly adjacent to the Karolinska University Hospital. Planned date for occupancy is June 2016.
- A new building is planned adjacent and linked to Building 10, Teknikringen 10, which is occupied by the Department of Transport Studies. The building will be approximately 5,000 m² and will contain administrative premises.

Student and guest researcher housing
KTH currently provides a large number of student apartments and student rooms for exchange students and foreign Master’s students. In 2013 efforts were also made to meet the need for housing for visiting scientists. In the autumn of 2013, KTH was able to supply accommodation to approximately 1,500 students. Its rental portfolio amounts to almost 1,100 rooms and apartments. The occupancy rate has been around 75 per cent spread out across the year. Accommodation for visiting scientists is administered via KTH Relocation, which started up in late 2012 and is intended to supply homes to this category. In 2013 it supplied approximately 100 apartments and rooms.

In 2013, the University Board decided that, in principle, the university would endeavour to provide an increased amount of student and visiting researcher accommodation on the KTH Campus. In collaboration with Akademiska Hus, the property company, KTH has therefore invited a number of developers to submit proposals for the construction of housing at a number of specified locations on campus. The district plan development process is currently underway with the intention that at least 500 dwellings will be ready for occupation by 2017.
Financial outcome and changes to capital

Net income is MSEK 8, which is an expected decline in relation to last year’s MSEK 58. The positive results of the last few years are largely explained by the increased allocation of funds from government for the strategic research areas and the introduction of the actions that took place within them. Now the projects are in full operation, and consequently costs have increased.

In 2013 KTH received MSEK 190 in increased funding for development of infrastructure at the National Centre for Life Science Research and to fund research in the early stages of drug development to generate pharmaceutical candidates. Operations are conducted within the Science for Life Laboratory (SciLifeLab) in collaboration with the Karolinska Institutet, Stockholm University and Uppsala University to whom KTH has transferred MSEK 111 after allocation decisions by the newly-formed National Board.

KTH income for 2013 was affected positively by this to the amount of MSEK 49 as the new allocations have not yet been fully utilised for agreed initiatives. The agency capital arising from this is not free for KTH to dispose of but is earmarked for future activities within SciLifeLab.

At first and second education level, the anticipated decline continued partly due to the introduction of tuition fees for students from outside the EU/EEA which resulted in fewer students and a reduced grant ceiling. During the year, changes were made to the academic year which reduced the number of student performances. Thanks to reserved performances worth MSEK 48, KTH was still able to claim the greater part of the grant ceiling which for the year amounted to MSEK 995.

The KTH goal is to achieve the same number of third-country students as were at KTH before the introduction of tuition fees i.e. 1,000 fee-paying students in the autumn term of 2016.

KTH turnover has increased by 5 per cent and amounted to MSEK 4,419, measured as operating income including contributions to the funding of transfers. There is an expected slowdown in the rate of expansion and the outcome is in line with budgets and forecasts for the year. For 2014 KTH expects outcome at approximately the same level as 2013.

KTH’s agency capital amounts to MSEK 672 which represents approximately 15 per cent of turnover as defined above. KTH’s long-term goal is for its agency capital to amount to 10 per cent of turnover. Agency capital within research and doctoral education are again 19 per cent of turnover this year.

KTH’s agency capital provides continued opportunities for strategic initiatives in accordance with the KTH Strategic Plan for 2013–2016.

Income

Operating income increased by 2 per cent and is now MSEK 4,038.

Figure 15
Profit/loss

<table>
<thead>
<tr>
<th>(MSEK)</th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>4,038</td>
<td>3,948</td>
</tr>
<tr>
<td>Costs</td>
<td>4,031</td>
<td>3,891</td>
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<tr>
<td>Profit/loss</td>
<td>7</td>
<td>57</td>
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<tr>
<td>Profit/loss subsidaries</td>
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<td>1</td>
</tr>
<tr>
<td>Revenues for transfers</td>
<td>381</td>
<td>266</td>
</tr>
<tr>
<td>Grants issued (costs for transfers)</td>
<td>381</td>
<td>266</td>
</tr>
<tr>
<td>Profit/loss</td>
<td>8</td>
<td>58</td>
</tr>
</tbody>
</table>

Figure 16
Capital development

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First and second level studies</td>
<td>59</td>
<td>-50</td>
<td>-7</td>
<td>117</td>
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<tr>
<td>Purchased courses</td>
<td>6</td>
<td>1</td>
<td>-1</td>
<td>5</td>
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<tr>
<td>Commissioned courses</td>
<td>1</td>
<td>-1</td>
<td>5</td>
<td>-3</td>
</tr>
<tr>
<td>Research and doctoral studies</td>
<td>592</td>
<td>54</td>
<td>61</td>
<td>475</td>
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<tr>
<td>Commissioned research</td>
<td>14</td>
<td>5</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>672</td>
<td>8</td>
<td>58</td>
<td>603</td>
</tr>
</tbody>
</table>

First and second level education

Grants for first and second level education represent almost 30 per cent of total income, which is an even lower proportion than the previous year. Income amounted to MSEK 1,302 which is a decrease of around 4 per cent on the previous year. Income from first and second level grants has decreased by 7 per cent, amounting to MSEK 957.
Income from fees and other remuneration has increased by approximately 7 per cent and amounted to MSEK 184. Income from commissioned education declined compared with the previous year, partly due to reduced demand. Charges levied on fee-paying students amounted to MSEK 42 million compared with MSEK 30 for 2012.

Research and doctoral studies
Income from research and doctoral studies represents 70 per cent of total income and amounted to MSEK 2,836 which is an increase of around 5 per cent on the previous year.

Income from research and doctoral studies government grants increased by approximately 8 per cent, amounting to MSEK 1,064 excluding transfers. Transfers were carried out to other universities in the Strategic Research Area projects and SciLifeLab to the amount of MSEK 218.

Income from fees and other remuneration has increased by about 13 per cent, even though commissioned research has decreased. SciLifeLab accounted for the largest increase, partly as a result of the change in management of premises. Grant income increased by MSEK 43 million and the majority of this increase has occurred through consumption of unused grants, a budget item that continued to decrease in size.

Expenses
Operating expenses have increased by almost 4 per cent and now total MSEK 4,031. Operations within research and doctoral studies continue to claim an ever larger share of KTH funds.

First and second level education
Expenses for first and second level education account for 31 per cent of total costs which is lower than previous years. Costs amount to MSEK 1,252 which is an increase of MSEK 2 on the previous year.

Staff costs increased by MSEK 2 million compared to the previous year, while costs for premises increased by MSEK 7.

Operating expenses decreased by MSEK 4, the reduction being due to commissioned education which declined sharply this year.

Research and doctoral studies
Expenses for research and doctoral education represent 69 per cent of total costs. They amount to MSEK 2,779 which is an increase of 5 per cent compared to the previous year. As a result of the expected decline in commissioned research, costs have fallen sharply.

Staff costs have increased by MSEK 86, an increase of approximately 5 per cent.

Costs for premises have increased by MSEK 51 as SciLifeLab represents an increase of around MSEK 20 as compared with the previous year. In 2013, the management of the common areas within SciLifeLab has been changed and another building has been rented, Gamma, which became operational in the third quarter. KTH is now the lessee of all the premises and charges Karolinska Institutet and Stockholm University according to their utilisation.

Operating expenses increased by MSEK 10 while depreciation expenses decreased by MSEK 4, of which MSEK 2 emanate from commissioned research.
Foundations and donations

Foundation management
There are currently 114 private foundations with legal requirements for administration by KTH. These foundations have been formed based on various donations to KTH over the course of its history. In 2013, KTH took over management of an existing foundation and another foundation used up all its capital and has thus been closed down. Management of the Rolf L. Paulson Memorial Foundation was transferred to KTH in January. This Foundation was established in 1996 in memory of Rolf L. Paulsson and awards travel grants to young students studying Chemistry at first and second level at KTH.

The two oldest foundations managed by KTH have their origin in donations from 1866, when they were deeded to the KTH predecessor, Kongl. Teknologiska Institutet. These gifts came from Manufacturer Jon. Michaelson and Wållofliga Borgareståndet in 1866. Both donations are intended to create scholarship funds for indigent students who have distinguished themselves for hard work, good origins and honest behaviour. These foundations continue to distribute scholarships to students at KTH.

Purpose management
Each foundation has a purpose stated in its donation documentation. In 2013, KTH-managed foundations allocated a total of MSEK 20.6. The largest group of these foundations, around 55 in number, are intended for scholarships for students at first and second levels and decisions were taken to award 426 scholarships totalling MSEK 7.6 this year. Of these, approximately MSEK 4.4 in funding came from the largest foundation, Henrik Göransson Sandviken Scholarship Fund, with a capital of MSEK 117 primarily to be invested in securities connected to Sandvik AB. Some 30 foundations award travel grants to teachers, researchers and doctoral students. During the year, decisions were made to distribute MSEK 4.8 from these foundations. Other foundations contribute to a particular branch of KTH research. During the year MSEK 8.2 million was awarded to such operations at KTH.

The second largest foundation managed by KTH is the KTH Great Prize Foundation from the 19,444 donation. The prize in 2013 was MSEK 1,2. The donor, who wished to remain anonymous, stipulated that the prize was to be awarded to a Swedish citizen who, through epoch-making discoveries, ingenious applications or artistic effort had great significance for Sweden. The KTH Grand Prize for 2013 was awarded to Robin Miriam Carlsson, better known by her stage name Robyn. The jury’s motivation reads “Robyn is a world-renowned cultural person of great integrity. Even though she is best known as a singer, she is also a songwriter, inspirational source and entrepreneur. In her creativity she uses the new technology in IT, audio and video in innovative and exciting ways. In order to gain control over her musical activities and creative processes, she has chosen release her music on her own recording label. Both in Sweden and abroad she has established herself as a style icon and role model for audiences of all ages.”

The foundations pay an annual management fee to KTH for costs incurred which amounted to MSEK 1,7 in 2013.

Capital management
Capital is managed by two external discretionary investment managers. These managers are entitled to carry out transfers in the KTH portfolio within the framework outlined in the KTH Investment Policy for these foundations. Total foundation assets at year end were MSEK 623 (MSEK 600 in 2012).

Fundraising
Fundraising consists of strategic, systematic and long-term efforts to secure future income for KTH through donations and private funding, and should be regarded as complementary to other funding. Major donors with multi-year commitments include the Erling-Persson Family Foundation and Kerstin and Rune Jonasson. Fundraising efforts also resulted in the formation of a new foundation in 2012.
### Financial Statement

In order to provide an overall picture that reflects the character of KTH operations, the Financial Statement is shown not only for this and the previous financial years but also for a five-year period.

#### SEK thousand

<table>
<thead>
<tr>
<th>Operating revenues</th>
<th>Note</th>
<th>2013</th>
<th>2012</th>
<th>2011</th>
<th>2010</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government grants</td>
<td>1</td>
<td>2,021,228</td>
<td>2,011,781</td>
<td>1,970,901</td>
<td>1,992,218</td>
<td>1,779,215</td>
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<tr>
<td>Revenues from tuition fees and other charges</td>
<td>2</td>
<td>423,844</td>
<td>384,963</td>
<td>328,890</td>
<td>316,824</td>
<td>322,629</td>
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<tr>
<td>Revenues from grants</td>
<td>1,576,814</td>
<td>1,522,060</td>
<td>1,431,031</td>
<td>1,205,385</td>
<td>1,129,804</td>
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<tr>
<td>Financial income</td>
<td>3</td>
<td>16,236</td>
<td>29,035</td>
<td>24,563</td>
<td>8,354</td>
<td>9,126</td>
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<tr>
<td><strong>Total operating revenues</strong></td>
<td></td>
<td>4,038,122</td>
<td>3,947,839</td>
<td>3,755,385</td>
<td>3,522,781</td>
<td>3,240,775</td>
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<table>
<thead>
<tr>
<th>Operating costs</th>
<th>Note</th>
<th>2013</th>
<th>2012</th>
<th>2011</th>
<th>2010</th>
<th>2009</th>
</tr>
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<tbody>
<tr>
<td>Staff costs</td>
<td>4</td>
<td>2,460,926</td>
<td>2,372,901</td>
<td>2,197,870</td>
<td>1,994,068</td>
<td>1,831,350</td>
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<td>Costs for premises</td>
<td>698,343</td>
<td>643,665</td>
<td>621,401</td>
<td>583,900</td>
<td>589,784</td>
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<tr>
<td>Other operating costs</td>
<td>684,704</td>
<td>678,153</td>
<td>630,460</td>
<td>598,591</td>
<td>483,326</td>
<td></td>
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<tr>
<td>Financial costs</td>
<td>3</td>
<td>5,527</td>
<td>7,655</td>
<td>15,420</td>
<td>3,733</td>
<td>4,059</td>
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<td>Depreciation</td>
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<td>188,791</td>
<td>182,205</td>
<td>149,028</td>
<td>135,288</td>
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<tr>
<td><strong>Total operating costs</strong></td>
<td></td>
<td>4,031,359</td>
<td>3,891,163</td>
<td>3,647,357</td>
<td>3,329,320</td>
<td>3,043,807</td>
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</tbody>
</table>

| Total operating outcome | | 6,762      | 56,676     | 108,029    | 193,461    | 196,968    |

| Outcome from shares of subsidiary companies and other interests | 5 | 1,337 | 1,091 | -463 | 278 | -515 |

| Transfers | | | | | | |
| Funds allocated from government budget for financing of grants | 249,144 | 131,048 | 92,368 | 59,857 | 20,362 |
| Funds allocated from government agencies for financing of grants | 90,320 | 101,428 | 93,573 | 86,171 | 94,507 |
| Other funds received for financing of grants | 41,288 | 34,001 | 42,354 | 47,917 | 45,883 |
| Grants made | 7 | 380,751 | 266,478 | 218,296 | 193,945 | 160,753 |
| **Outcome of transfers** | | 0 | 0 | 0 | 0 | 0 |

| **CHANGES TO CAPITAL FOR YEAR** | | 8 | 8,099 | 57,676 | 107,565 | 193,740 | 196,452 |

### Financial Statement per operational area

#### SEK thousand

<table>
<thead>
<tr>
<th>Operating revenues</th>
<th>Note</th>
<th>Total</th>
<th>First and second level studies</th>
<th>Purchased courses</th>
<th>Commissioned courses</th>
<th>Research and doctoral studies</th>
<th>Commissioned research</th>
</tr>
</thead>
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<tr>
<td>Government grants</td>
<td>1</td>
<td>2,021,228</td>
<td>957,166</td>
<td>0</td>
<td>0</td>
<td>1,064,061</td>
<td>0</td>
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<td>Revenues from tuition fees and other charges</td>
<td>2</td>
<td>423,844</td>
<td>138,009</td>
<td>20,961</td>
<td>25,247</td>
<td>163,207</td>
<td>76,421</td>
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<td>Revenues from grants</td>
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<td>0</td>
<td>0</td>
<td>1,518,490</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Financial income</td>
<td>3</td>
<td>16,236</td>
<td>2,131</td>
<td>1</td>
<td>8</td>
<td>13,475</td>
<td>621</td>
</tr>
<tr>
<td><strong>Total operating revenues</strong></td>
<td></td>
<td>4,038,122</td>
<td>1,155,629</td>
<td>20,963</td>
<td>25,255</td>
<td>2,759,233</td>
<td>77,042</td>
</tr>
</tbody>
</table>

| Operating costs | Note | Total | First and second level studies | Purchased courses | Commissioned courses | Research and doctoral studies | Commissioned research |
| Staff costs     | 4    | 2,460,926 | 702,067 | 8,574 | 14,746 | 1,692,552 | 42,988 |
| Costs for premises | 698,343 | 284,761 | 1,593 | 1,848 | 401,007 | 9,132 |
| Other operating costs | 684,704 | 189,668 | 9,375 | 9,549 | 458,223 | 17,889 |
| Financial costs | 3    | 5,527  | 495   | 9 | 18 | 4,112 | 893 |
| Depreciation    | 181,860 | 29,013 | 145 | 343 | 151,131 | 1,228 |
| **Total operating costs** | | 4,031,359 | 1,206,004 | 19,696 | 26,505 | 2,707,025 | 72,130 |

| Total operating outcome | | 6,762 | -50,375 | 1,266 | -1,250 | 52,208 | 4,912 |

| Outcome from shares of subsidiary companies and other interests | 5 | 1,337 | 0 | 0 | 0 | 1,337 | 0 |

| Transfers | | | | | | | |
| Funds allocated from government budget for financing of grants | 249,144 | 10,225 | 0 | 0 | 238,919 | 0 |
| Funds allocated from government agencies for financing of grants | 90,320 | 22,627 | 0 | 0 | 67,693 | 0 |
| Other funds received for financing of grants | 41,288 | 1,510 | 0 | 0 | 39,778 | 0 |
| Grants made | 7 | 380,751 | 34,361 | 0 | 0 | 346,390 | 0 |
| **Outcome of transfers** | | 0 | 0 | 0 | 0 | 0 |

| **CHANGES TO CAPITAL FOR YEAR** | | 8 | 8,099 | -50,375 | 1,266 | -1,250 | 53,545 | 4,912 |

---

42 | KTH: S ÅRSREDVISNING 2013
## Balance Sheet

**SEK thousand**

### ASSETS

<table>
<thead>
<tr>
<th>Note</th>
<th>2013-12-31</th>
<th>2012-12-31</th>
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<tr>
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<tr>
<td>I. Intangible fixed assets</td>
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</tr>
<tr>
<td>9</td>
<td>187</td>
<td>3,661</td>
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<td></td>
<td>Development costs brought forward</td>
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<td></td>
<td>Intellectual rights and other intangible assets</td>
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<td>II. Tangible fixed assets</td>
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<td>10</td>
<td>517,796</td>
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<td></td>
<td>Improvements to non-owned real estate</td>
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<td></td>
<td>Machines, inventory items, installations etc</td>
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<td>Construction in progress</td>
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<td>Advances concerning tangible fixed assets</td>
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<td>III. Financial fixed assets</td>
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<tr>
<td>11</td>
<td>23,074</td>
<td>20,904</td>
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<td></td>
<td>Interests in wholly and partially-owned companies</td>
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<tr>
<td></td>
<td>Other investments held as fixed assets</td>
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<td>VI. Receivables</td>
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<td>104,824</td>
</tr>
<tr>
<td>12</td>
<td>Receivables – customers</td>
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<td></td>
<td>Receivables – other government agencies</td>
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</tr>
<tr>
<td></td>
<td>Other receivables</td>
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<td>VII. Cut off items</td>
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<td>13</td>
<td>Prepaid expenses</td>
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<td>Accrued grant revenues</td>
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<td></td>
<td>Other accrued revenues</td>
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<td>VIII. Settlement with Government</td>
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<td>X. Cash and cash equivalents</td>
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<td>Balance and interest-bearing account at Swedish National Debt Office</td>
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<td>Cash and cash equivalents</td>
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### CAPITAL AND LIABILITIES

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<td>I. Agency Capital</td>
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<td>Outcome from shares of/in subsidiary companies and other interests</td>
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<td>Changes to capital brought forward</td>
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<td>Provisions for pensions and similar commitments</td>
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<td>Other provisions</td>
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<td>IV. Liabilities etc.</td>
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<td>Accounts payable – other government agencies</td>
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<td>Accounts payable – suppliers</td>
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<td>V. Cut-off Items</td>
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<td>Accrued expenses</td>
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<td>Unutilised grants</td>
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<td>Other prepaid revenues</td>
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### CONTINGENT LIABILITIES

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<td>Government guarantees for loan and credits</td>
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<td>Other contingent liabilities</td>
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