



# Lund University

## EUEREK Case study, Sweden

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ROYAL INSTITUTE  
OF TECHNOLOGY

## **Lund University**

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Founded in 1666, Lund University is the largest institution of higher education in Sweden (and also the largest in Scandinavia). It is situated in the extreme south of Sweden, 600 km from Stockholm and 40 km from Copenhagen, Denmark.

#### **History and background**

Lund University is a nearly 340 year old institution located in the old cathedral city of Lund, close to the city of Malmö and to Copenhagen, Denmark. It is a comprehensive university with approximately 44,000 students at undergraduate and doctoral levels (2004). The university holds a leading position in the region as well as a solid position nationally and internationally.

Lund is the oldest city in present-day Sweden. As early as the 10<sup>th</sup> century a settlement grew around a church and a royal mint. In the Middle Ages the city became the seat of an archbishop and also a centre with political, cultural and commercial importance for the whole of Scandinavia. The population today is about 100 000 and students dominate city life.

According to the peace treaty of Roskilde in 1658, the three former Danish provinces Skåne, Blekinge and Halland, became Swedish. Soon thereafter, plans were drawn up for founding a new academy or university in this part of the country in order to make the new provinces more Swedish, and to create an alternative to (and diminish the influence of) Copenhagen University and Danish hegemony.

Sweden's first university was the University of Uppsala, established in 1477, followed by two other universities established in the 17<sup>th</sup> century, one in the Baltic provinces in 1632, the University of Dorpat (now Tartu in Estonia) and the other in Finland, Åbo Academy in 1640. This was a reflection of Sweden's political ambitions as an emerging European great power. In order to acquire modern knowledge and improved competence, many young men were sent for studies at universities abroad. However, the educational needs of the State administration and the Church were to be met through the seats of learning within the country.

Already in 1438, the Franciscan friary founded a *studium generale* for the education of priests in Lund, the first higher education institution in Scandinavia, which operated until the early 16<sup>th</sup> century. In 1666, the charters were issued and in 1668 Lund University was inaugurated under the name of *Academia Carolina Conciliatrix*, as a sign of reconciliation between Sweden and the recently conquered provinces. Rights and freedoms of academics were regulated and the university had its own jurisdiction for the first two centuries.

The initial financial basis of the university was close to 1,200 homesteads which had belonged to Lund Cathedral. The income from these farms was used to pay the teachers, a payment received in kind such as meat or grain which the professors had to sell to get cash. The first years were filled with problems, the professors and tutors recruited from many countries and mainly made up of Danes and Germans and the financial situation somewhat shaky. Later, during the new war between Sweden and Denmark, the university had to be closed. During

that time a move to another place was considered, but in 1682, for political reasons, Lund University was reopened by Charles XI, now with a faculty of Swedes. Unfortunately, at the same time, the king annexed most of the homesteads in order to finance his armed forces and the university lost most of its property, leaving some twenty farms which the university still owns.

The oldest university buildings were donated by the King in the late 17<sup>th</sup> century, but it was not until the 18<sup>th</sup> century that the university began to grow, as new professorial chairs were established and the student body increased. Student numbers have risen over the years from 100, mostly students at the theological faculty, but there was also a medical and a philosophical faculty. As late as the end of the 18<sup>th</sup> century the student body numbered less than 500. In 1852, the university got new statutes, replacing the old ones, and more uniformity of the organisation was created, and in 1882 a major new main building was opened. The student body in 1900 was a small elite group of 1,000 who were preparing for higher positions in civil service or law, or as clergymen, doctors or teachers. From 1880 a few women were admitted into this male environment and at the same time research received increased emphasis. The faculty should not only teach but also try to do research, look for new knowledge and teach the students scientific methods.

Dramatic changes took place after World War II, in research, subjects, student numbers and income, an unequalled transition from an elitist to a mass university. More funds were allocated by the state to research and the student body grew gradually from 3,000 in 1950 to 20,000 in 1970. In the early 1960s the expansion was more rapid in Sweden than in any other country in the western world.

For centuries the university had only four faculties, Theology, Medicine, Law and Philosophy, but at the end of the 19<sup>th</sup> century the latter was divided into the Liberal Arts (Humanities) and the Natural Sciences. In 1964 the faculty of Humanities was subdivided as the Social Sciences formed a faculty of their own. In the same year the education programme for dentists, located in Malmö, became part of the university as the Faculty of Odontology. In 1969, the Lund Institute of Technology was incorporated into the university as the Faculty of Technology. During the 1960s the university also started new programmes leading to degrees in Engineering, Economics/Management and Fine Arts.

The Higher Education Reform of 1977 which had the aim of creating a uniform tertiary education system, paved the way for several additions to the university, the School of Social Work, the Institute of Physiotherapy and also several institutions in Malmö, the School of Education, the Academy of Music and the Theatre Academy, Malmö Academy of fine Arts inaugurated in 1995 is also part of the university. With the new additions the university had eight faculties.

As Malmö University College was created in the late 1990s the School of Education was transferred to that new institution together with some of Lund Institute of Technology engineering programmes taught as an extension in Malmö as was the Centre for Oral Health Sciences from 1999. Almost at the same time, in 1998, the Lund-Helsingborg School of Nursing and the School of Aviation at Ljungbyhed became part of Lund University.

### **Lund University today: programmes and structures**

Today, Lund University has eight faculties and several research centres and specialised schools. The university programmes and schools are mostly located in Lund, but, as

mentioned, some academic and research institutes are to be found in Malmö and the School of Aviation at Ljungbyhed. In addition, there is a campus in Helsingborg and learning centres in several towns in the province of Skåne. Educational programmes cover a wide range of traditional academic disciplines and also specialised areas such as fine arts and commercial aviation.

The university also provides upgrading and continuing education and specialised programmes for the public and private sectors and cooperates with higher education institutions and research institutes globally. An example of extended regional cooperation, across country borders, is the *Öresund University*, which is a joint venture between Lund University and 13 other Danish and Swedish higher education institutions in the region. The university participates in the EU educational exchange and research programmes and is also the only Nordic member of Universitas 21, a group of 16 HEIs, mostly outside Europe with half a million students and 40, 000 researchers. Within Sweden the university has wide and intensive cooperation with the wider society, business and industry, public agencies and private organisations in the region as well as in Sweden as a whole and internationally.

### **Organisation, governance and decision-making**

After the higher education reforms in the 1990s the university is governed by a university board which is made up of representatives of the academic faculty, students and a majority of external members from public society or working life. The chairperson is an external member. The university Vice-Chancellor, *Rektor*, is responsible for the management of university activities and directly responsible to the board. Students are always represented in all boards, councils and working groups dealing with issues to be seen as in some way related to their education. Trade union representation, however, is nowadays restricted to the right to have a representative of each union confederation (mostly three at Swedish universities) present with the right to take part in discussions, but not to vote. Union influence, according to the law, is supposed to be exercised through obligatory negotiations before important issues are decided and also in the local negotiation of local collective agreements on working conditions and salaries. Some HEIs have collaboration agreements with the unions making regular interactions smoother. In some ways, it can be argued that that union influence has diminished while student involvement, on the other hand, has increased in the past decade.

The eight main faculties (sometimes called schools) of the university are as follows:

**Lund Institute of Technology (LTH), the Faculty of Science, the Faculty of Law, the Faculty of Social Sciences, the School of Economics and Management, the Faculty of Medicine, the Faculties of Humanities and Theology and Malmö Academies of Performing Arts.** Each faculty has a faculty board with the overall responsibility for educational programmes and research activities of the faculty and the chairperson of these boards is the collegially elected dean, *dekanus*. In these boards, in contrast to the university board, the teachers are in majority but you find external representatives there as well. There are Faculty Offices, staffed by managing directors and specialized professionals, as management support. The organization of Lund University is decentralised, and this was the case even before the 1993 reforms that opened up for more locally adjusted solutions to organisational and management structures in all Swedish HEIs. There are indications, however that some kind of "mild centralisation" is attempted at present in the effort to profile and position the university further as **one** organisation and in order to streamline some of the shared service and administrative functions.

In many ways, the separate schools or faculties function like several small universities under the umbrella of the Lund University brand. This is particularly true for the Lund Institute of Technology with close to 6,000 undergraduate student and the School of Economics and Management with around 4,500 undergraduates and Campus Helsingborg, now with around 3 000 students on campus and steadily growing. All three have their own deans, called *rektor*. The other faculties are also quite large.

The next level down is the department and academic programmes, research and development activities are mostly conducted at this level. Departments, also, are governed by boards, chaired by the department head, *prefekt*, made up of a majority of teachers, and representatives of students at the undergraduate and doctoral levels as well as technical-administrative staff. There are also multidisciplinary centres, research institutes and some programmes and other activities organised outside the faculties such as Campus Helsingborg and the MAX-laboratory and some museums and an impressive university library system.

### **Organisational change**

The major change, affecting all HEIs in Sweden, which has influenced university operations and organisation, was the reform in 1993. This reform opened up for more freedom of universities to decide about their own business, internal structure, decision-making bodies etc. It also made it possible to create and appoint people for professorial chairs and more emphasis was placed on leadership positions, such as the department heads, the *prefekt*. They are responsible for the department activities and finances, mostly together with the department board. Lund University had a rather decentralized organisation even prior to the reform, with funds allocated directly to different faculty areas, but other effects of this reform are to be noticed today, including the composition of faculty boards with external members from the private as well as the public sphere. Student influence at all levels has increased in the past decade. There are statements from some of the persons interviewed that indicate rather fundamental changes of the ways in which the university is governed. Before, departments were more or less independent, governed by a department board and a director, *prefekt*, elected by the colleagues, but now the directors are mostly appointed from above. There is also stronger steering from the faculty leadership level.

Mergers and other types of restructuring measures have been commonplace in many faculties lately. The reasons for these changes are to achieve better efficiency, sometimes to share administrative and other infrastructure or to afford my professional support staff, economies of scale. In terms of research, it is sometimes motivated by achieving synergies or reaching a "critical mass."

During the period since 1994, some major reorganisations have taken place with effects on structures and financing within the university. Whole schools (the School of Education in Malmö) and major educational programmes have moved in and out of the university as new HEIs have been created in the region (Malmö University College is one example) and as certain educational programmes have been subject to academic drift and been upgraded to higher education, later to become integrated under the giant Lund University umbrella. One example of this latter phenomenon is the programme for pilots, the School of Aviation, at Ljungbyhed, north of Lund. The creation of Campus Helsingborg is another important change. The university with all its subunits is so large that it is possible to observe the development of new programme areas, sometimes in internal competition, which is not considered as positive. This difficulty was pointed out as follows: "*you need to be at the cutting edge without stepping on somebody's toes.*" We observed that many of the recently

created units or centres are eager to establish advisory boards with representatives from private business or industry as well as local politicians or senior executives from the area. Campus Helsingborg has such a set-up, quite successful for mobilising regional support and mutually beneficial. It is very helpful in providing opportunities for student internships, summer jobs and ultimately useful networks for students and faculty as well as for inputs into the educational programmes on offer or to be created. New programmes, also, tend to be created as thematic areas rather than being disciplinary based as has been the tradition.

### **Mission, goals and strategies**

The people interviewed at Lund University do not talk so much about missions. In a way, the main mission is given in the Higher Education Act, which states that universities should educate, do research and interact with the surrounding society. The Higher Education ordinance also presents rules about how the mission is to be fulfilled. In addition, the university's activity is regulated in parliamentary budget decisions, in spending authorisations as well as other government decisions. It is within this framework that the university could develop and formulate a mission and strategies of action. Certain values are highlighted. Core values of the university, according to official presentations, include a democratic philosophy, critical thinking, concern for the global environment and ethnic and social diversity. Important also is humour, innovation and a humanist perspective.

There is a general strategic plan for 2002-2006, the second strategic plan for the whole university, ratified by the Board, which formulates visions, values, objectives and strategies for the immediate future. This document is the point of departure for each faculty, department and unit to formulate specific goals and strategies of their own. It is also the basis of many other policies and plans adopted by the Board, such as gender equity plans, industrial liaisons and plans for environment protection. The strategic plan has recently been evaluated and also discussed and criticised in the university journal and a new plan is in the making. The evaluation group considers the plan hard to follow as it lacks clear priorities and sufficient quality assurance mechanisms. This plan was the result of a major effort and substantial work with the participation of leaders from many faculty areas and therefore enjoys high legitimacy and is not questioned *per se*. Nationally, this plan is to be seen as a fore-runner since there are very few of its kind in Sweden, but from an international perspective leaves a lot to be desired. According to the evaluators the plan is "more like a manifest and a declaration of intent than an instrument for joint action and self-critical analysis of one's own actions." On a more positive note, however, it is pointed out that the university is by far the most successful one in Sweden in getting funding from the EU. Almost four out of ten applications result in funding and since many years LU-researchers participate in about 200 EU-projects each year.

One of the goals, to be "internationally leading" is a point for debate. International evaluations and rankings have placed LU among the 100-200 best in the world among a total including around 2000 universities. If this means being "internationally leading", LU is already there, but to move up among the 20 best in the near future is not considered to be very likely. The strategic plan does not seem to be very helpful in such an effort, with its 28 bullet phrases which contain all too much, say the evaluators. According to the Vice-Chancellor's analysis the goal could at least be that some disciplines would be counted among the ten best in Europe and thereby compete with prominent universities in the whole world. This would not be unrealistic, he claims, as LU was recently invited to become a member of The European Research Universities, which, until now, has had only twelve members.

Better follow-up is asked for and the ten prioritised areas in the plan should emerge more clearly. Areas to be improved are highlighted:

**Research funding;** the university has to improve in this area, in particular for Humanities-Theology, and the Social Sciences and Law, areas with comparatively less external research funding than other large universities. The Faculty of Medicine and the School of Engineering have been more successful.

**Employability** is another area of concern. LU lags behind the national average for graduates' establishment in the labour market. In spite of this, students are quite content with their education, according to the Evaluation Office.

**International exchange agreements** have to be reviewed and a clear policy for how to handle them developed. At present there are 1012 agreements with 536 universities. This is considered to be too many as several are inactive or overlapping.

In addition to the LU strategic plan every faculty or school has its own strategic plan or plan of action. It was our impression from comments by the interviewed persons that these plans were considered more useful as they were steadily anchored in the reality of everyday actions and therefore easier to follow and follow up.

External economic or social factors were considered as the most important for the goals and strategies developed within the university. Market forces have played a more important role than state policies in driving the process, but goals and objectives to be met and basic values that are to be cherished are internally generated. The external environment has become more important for strategies and activities. *Decision-making becomes more informal and has to be speeded up since we are working in a market. Leadership is increasingly stressed-steering with an eye to the surrounding world is more complicated-you have to keep juggling internal and external wishes and demands.*

Most of the persons interviewed underline that the space for individual action or non-action is quite wide at a university. It could sometimes be seen as a collection of 700 SMEs. Every research group with financing of their own has plenty of room for individual initiatives.

### **Undergraduate education today**

Undergraduate education at Swedish universities is funded via a system of per full-time student compensation, the amount of which varies according to programmes and disciplines. This compensation is composed of one part called whole-year full-time student registered (in Swedish *HÅS*, the other part is production based and paid for course credits reported (*HÅP*). The quota between the *HÅS* and the *HÅP* is 60-40 (see the Statistical Data section before the Appendix for a detailed table comparing compensation rates).

The total number of undergraduate students enrolled in the autumn 2004 was 30,500. 27,900 students were full-time equivalents and out of these close to 16,000 were enrolled in programmes full-time and around 12,000 full-time in single courses. More than half of the students were women (51-55 per cent in each category). The university offered more than 90 programmes and about 1,000 different courses and 11 International Master's Programmes. There were more than 250 courses offered in English.

Important to note is the age distribution of the student body. Students under the age of 25 comprise 55 per cent, between 25-34 years of age 34 per cent and over the age of 34 around 11 per cent. Students in Swedish HEIs tend to be somewhat older. They leave secondary school at the age of 19 and for the male school leavers there is frequently around one year of military service, although a diminishing proportion of each age cohort receives military training at present. Military conscription, however, is still obligatory. In addition, some students study to improve their grade point averages in order to qualify for admission into high prestige, high demand programmes such as medicine, journalism, law and some other programmes leading to professions. Also, many young persons spend a year or more working or travelling to other continents between school leaving and university studies.

In 2004 the university issued 664 Bachelor degrees, 1,133 Master's and 1,905 professional degrees, over half of those degrees were awarded to women. There was also small number of short university certificates (85) granted. In the context of international exchange, it is interesting to note that Lund University follows the national trend in having a much higher number of incoming students (1,563) than those outgoing (911). Not all of these students stay for a whole year some spend only one semester within the framework of European exchange programmes. However, in some educational areas Lund has agreements with a number of universities outside Europe, among them in China, reflected in the fact that there is a Chinese language version of the university home page.

Total income for undergraduate education in 2004 was 1,652 million SEK, with expenditures of 1,673 million SEK, representing a loss of 21 million.

### **University research and postgraduate education**

In 2004, research at Lund University was financed as follows: 1,455 million SEK is allocated via the state budget for research and postgraduate education (so called faculty funding). External funding of research and post-graduate education exceeded that sum somewhat, 1,661 million and, finally, income from sponsored research and postgraduate education, 131 million SEK.

In the same year, there were 3,045 active postgraduate students, 45 per cent of those were women. There were 458 PhD degrees and 89 licentiate degrees (an intermediary degree, between masters and doctorate) awarded. The majority of new doctorates were awarded in the medical and technical fields.

### **Staff and economy**

The total number of employees, full-time, was 6,102 out of which 46 per cent were women. Professors, lecturers and other staff with a doctorate numbered some 1,500 and in this case only one quarter women. Other teachers and researchers totalled some 1,300 (women 41 per cent). Postgraduate fellowships were as many as 1,295 with 42 per cent women and finally, technical and administrative staff, some 1,900; in this category women predominate, with 68 per cent of the total.

In this context, we need to point out that the very great majority of doctoral students receive some kind of scholarship or paid position, the latter kind with full social benefits. This is a result of a reform in 1998, which made it compulsory for the faculty (or university) to find



some financing for each doctoral student admitted for the four year period of their studies. This change was introduced in order to speed up the pace of doctoral studies. In addition, many doctoral students teach and do administrative or other kinds of work in the department. This work, however, is not supposed to be included in the four years, but would grant some prolongation of the study financing period. Without the doctoral students many departments would not be able to carry out their education and research tasks.

### Lund University finances (in thousand of kronor)

	2004	2003	2002	2001	2000	1999	1998	1997	1996	95/96	94/95
<b>Income</b>											
<b>Verksamhetens intäkter</b>											
Income from national appropriations (block grant) Intäkter av statsanslag	2955791	2904250	2787827	2556851	2435124	2317841	2434143	2467648	2493752	3909665	2530214
Income from county council appropriations Intäkter av landstingsanslag				62874	80173	79541	60499				
Income from fees and other payments Intäkter av avgifter och andra ersättningar	409858	432648	397744	394487	418706	381799	321745	239470	209860	296469	193477
Income from other allowances, subsidies & grants Intäkter av bidrag	1425421	1490670	1463816	1351882	1189230	1113516	1179695	1132957	898649	1425616	865537
Financial (deposit / investment) income X1 Finansiella intäkter	29943	46169	61572	51006	47430	43224	58581	54562	226714	327389	159118
work income total A Summa verksamhetsintäkter	4821013	4873737	4710960	4417101	4170662	3935922	4054663	1426989	1335223	2049474	1218132
<b>Costs</b>											
<b>Verksamhetens kostnader</b>											
Personnel costs Personalkostnader	3074586	2986932	2805861	2629473	2490087	2343772	2424266	2392055	2277057	3271124	2109466
Office space overheads Lokalkostnader	662909	659885	589288	562990	501609	475410	458949	451588	446178	661661	421976
Clinical educ & research Ers t landsting/kommuner för klinisk utb och forsk	333290	326350	318515	309207	303353	300474	297920	295376	290190	582028	284609
Other operating costs Övriga driftskostnader	702409	712744	697064	669159	654619	667328	608087	564332	545619	808080	456638
writeoffs & deductions Avskrivningar	257003	253680	245510	238098	226720	220549	214535	207006	188850	283707	171068
Financial costs X2 Finansiella kostnader	12974	17111	25705	23598	22651	21651	24856	21486	35545	56133	28994
work costs total B Summa verksamhetskostnader	5043171	4956701	4681944	4432525	4199039	4029184	4028613	3931843	3783439	5662733	3472751
<b>Result</b>											
<b>Verksamhetsutfall</b>											
results of activities (from 1999, A - B) Verksamhetsutfall	-222158	-82963	29016	-15424	-28377	-93262	-7676	-70281	-145633	25150	145471
<b>Årets kapitalförändring</b>											
capital value change over year (1998 & earlier, A - B) Årets kapitalförändring	-220352	-83624	35959	-12731	-27568	-139497	27481	-37207	45536	296406	212093

Note: Financial income and costs (X1 & X2) are part of results (Verksamhetsutfall) from 1999; earlier they are treated separately and totalled in Capital value change over year (Årets kapitalförändring)

Salaries represented almost 61 per cent of the total expenses in 2004 (3,075 million SEK). Costs for premises and buildings were 663 million. It is important to mention that Swedish state HEIs rent their buildings, mostly from the state owned building and maintenance company, *Akademiska Hus*, expected to operate with relatively high profit margins. The transfer of state owned buildings into two companies was implemented by a Social Democratic Government in the early 1990s. Other operating expenses were 709 million SEK

and the rest of the expenditures were depreciation (257 million SEK), transfers (173 million SEK) and financial expenses (13 million SEK).

The main sources of income were allocations for undergraduate education (1,652 million SEK), Research, financed through government grants (1,434 million SEK) and research financed through grants (1,516 million SEK), all figures from 2004.

In the annual report from 2004 there are comments about the pressing economic situation. Due to efforts to lower the costs for undergraduate education, the losses were 10 million SEK less. Staff costs did not rise as much as the year before and not as many new recruitments were made as wished for. Instead, teaching staff had to take on additional teaching hours. These hours would represent an additional cost as well, likely to appear in the 2005 results. The university has "overproduced," which means that more students have completed courses or programmes (per full-time student production) than the target agreed with the government, the so called "ceiling amount." This overproduction is not compensated, but it could be used to cover any possible "underproduction" the following year.

Research and postgraduate education had a deficit of 199 million SEK in 2004, and at same time running costs for these activities have risen by 3.2 per cent. On the positive side the influx of external grants has increased over 2004, mostly from the EU and other sources outside Sweden as well as from Swedish enterprises. Also, the introduction of new models for the financial reporting and follow-up of such external income has had a negative impact on the results equal to about 150 million SEK for 2004. Total income for research, post-graduate education and artistic development was 2,976 million. Contract research brought in 132 million SEK. The costs for staff and other expenditures were higher, however, resulting in a deficit.

### **Schools and faculties:**

#### **The Lund Institute of Technology:**

The Lund Institute of Technology, *LTH*, has about 5,800 undergraduates, 800 postgraduate students and 1,500 employees. Technical education and research in a variety of fields of technology, architecture and design is conducted at the Lund Institute of Technology. The wide range of courses and programmes offered are made possible through cooperation with other disciplines within the university, such as science, medicine and humanities. In addition, there are many cross-disciplinary research centres and participation in consortia across disciplines.

#### *Mission, strategic plans and organisation*

The LTH has had its own strategic plan for three years, which is being followed up continuously. There is an increased awareness about the needs for such plans. Market forces, external economic or social factors in conjunction with internal dynamics are the main drivers, but the providers of external funding also have an indirect impact via the research funding. According to the Dean, *Rector*, of the school, they benefit from being a technical faculty within the university (rather than a separate HEI) and they are soon to move together with the Biomedical Centre.

Recent change within the university has meant greater freedom in each faculty and the openness to discuss, according to the dean. She claims that there are some centralisation

tendencies, to do certain things jointly for the whole university. Each such situation, however, and the problems and promises it brings, has to be reviewed separately. Also, there is good cooperation between departments within the school and less of barriers between departments. There are some indications of strengthened faculty steering as well.

LTH has very tight links with private industry. All doctoral students with employment are so called *industridoktorander*, employed within the framework of university-industry agreements, and there are many adjunct professors, *adjungerade professorer*, a construction which allows a qualified person to work 20-50 per cent as professor while keeping employment outside the university. The dean herself is a board member in several enterprises in order to gain better knowledge and competence in the *delicate task of how to develop a company, create an enterprise*.

LTH could be considered as being entrepreneurial (as well as the School of Economics and Management and the Faculty of Medicine), certain individuals in particular as well as the Venture Lab (which will be treated below), but not really the whole university, says the dean. It is easy to miss some odd persons who do not fit into teams, this is a risk.

#### *Economic resources*

At LTH, all professorships are financed by a basic 40 per cent from the faculty budget and over and above that all professors teach and search for external funding. At present LTH receives the lowest amount of faculty funding of all faculties, but the education task (number of full-time student equivalents to educate each year) is the largest.

External funding (for research mainly) constitutes 70 per cent. The school has been successful in landing EU-funded projects. When people run such projects the school will give some support by helping out with some overhead. The main Swedish sources of research funding found at LTH are the Swedish Research Council (*VR*), the Swedish Foundation for Strategic Research (*SSF*), the Swedish Research Council for Environmental Agricultural Sciences and Spatial Planning (*Formas*), the Foundation for Strategic Environmental Research (*MISTRA*) and the Swedish Governmental Agency for Innovation Systems (*Vinnova*). In the case of landing large grants from *Vinnova*, 1 million Swedish crowns of extra funding will be provided by LTH. Another important source of external funding is the Swedish Energy Agency (*SEM*) which pays for 100 researchers. The importance of external funding is not to be underestimated, but a problem is that you get tied up in such activities with many persons employed on such grants. The result could be some lack of continuity and many young researchers were made redundant as external funding ran out. Ericsson, a company that paid for extensive activities at LTH, had economic problems and therefore discontinued these activities, which had as a result that some departments lost up to 3-4 million SEK. In this situation you run the risk of losing very able persons. Also, in the future it might become necessary to close one of the institutes. This is the kind of risks you run when you have very large proportions of external funding.

External money is used to cross-subsidise other activities by working with companies and "borrowing" technological equipment from them. Also, such money is used for festivals or conferences and for building networks for women academics.

#### *Development of new knowledge*

There are many examples of new knowledge emanating from research at LTH such as Bluetooth technology for mobile phones, imaging for hospitals, the use of lasers as measuring technology. In the field of environmental technology you find more environmentally friendly

engines without dangerous emissions and ethanol technology used for large scale solutions in developing countries.

These initiatives have developed bottom up, driven by academic curiosity, but with the support of the leadership. There are some indications of tendencies to walk in the same directions in terms of external resources. However, there has been an attempt to support what is important and exciting to Lund University. The school will give 50 per cent support over and above what is provided from central funds at the university. There is competition for these funds as well.

#### *Dissemination of knowledge*

LTH has its own journal and their reporter is also providing materials for the Lund University journal (*Lunds universitet meddelar, LUM*). Festivals and conferences, aimed at a wider public are organised regularly.

#### *Mechanisms for exploitation of knowledge and knowledge transfer*

There are several mechanisms created for knowledge transfer at Lund University. However, all these mechanisms are not used by LTH. Some persons take direct contact with LU Innovation, but LU Education is not involved in managing LTH's contract education. The companies that LTH has contracts with preferred to have a direct dialogue with LTH and for this reason a person has been employed on project basis to take care of these programmes. At present, the opinion expressed by the dean is that such programmes ought to be increased. The experiences of the university central organisational mechanisms for knowledge transfer have been somewhat mixed. The external climate has encouraged knowledge transfer and stressed the importance of dialogue with business and industry. This has also been a demand and a requirement from one of the funding agencies, *Vinnova*.

#### *Competition*

It is underlined that LTH has to take part in all competitions for students by being specialised as well as having broad provisions. It is considered important that the educational programmes be research-based and have a majority of the teaching staff consist of lecturers and professors rather than assistant lecturers, *universitetsadjunkter*. The latter category, often women, have to be encouraged to complete a doctorate, the dean points out. LTH has a slightly less favourable point of departure in competition than Chalmers or the Royal Institute of Technology.

#### *Human resource management, incentives and rewards*

The primary incentive system available at LTH is the individual salaries. Otherwise there are no other organised mechanisms at hand. Salaries for full professors vary quite considerably ranging from the lowest at 35-40,000 SEK per month up to around 70,000 per month. Some persons apply for professorships at LTH with the better salaries in mind, but then go to the Natural Sciences faculty. However, the dean of LTH has at her disposal more funds than the Vice-chancellor of the whole university and therefore it is possible to make decisions that reward those persons who are particularly entrepreneurial, for example in bringing in large external grants.

#### *Entrepreneurial behaviour?*

According to our interview persons there are no major regulations or rigidities that inhibit entrepreneurial behaviour at the school or individual levels except the budget. Risks involved in relying to heavily on external funds were discussed earlier. *Entrepreneurship is a learning process for the universities. There are no set rules; these are formed by people today. There is*

*some responsiveness here within the university, which is manifested through the creation of various organisations for this purpose such as LUAB. UNIVA (see below for more information on these organisations) has also been created to be a link to small and medium size enterprises. We have a long journey in front of us since among some professors there is absolutely no acceptance for this view. Open access to articles is to be considered. However, LTH has an easier time than the humanities or the natural science faculties because we work more concretely with problem solving.*

## **The Faculty of Science**

The Faculty of Science had about 1,700 undergraduates, 440 postgraduate students and 800 employees in 2004. It is active in research and education in the fields of Biology, Computer Science, Physics, Geoscience, Chemistry, Mathematics and Environmental Science. Undergraduate education constitutes 120-130 million SEK and the faculty grant for research and postgraduate education is 315 million SEK. 250-270 million is brought in via competitive applications from researchers. 100 million SEK is for basic research funded by the Swedish Research Council, *VR*.

### *Mission, strategic plans and organisation*

At present, the faculty is in a phase of dynamic development. Some restructuring, including mergers, has been undertaken in order to improve conditions for research and education, and all geo-scientific research and education is now located to the new Geo Biosphere Centre. All biological research is gathered in two large departments and environmental studies in this faculty concentrated into one department.

The overall strategic plan for the whole university is of a rather general in character and includes some undisputed "truths." However, the working plans and budgets of the faculty of science, being more concrete, are subject to regular follow-up in terms of graduate degrees, publications, external funding and external relations and cooperation. An increased demand for strategic plans, primarily because of economic forces and the constant hunting for external funding is a rather recent phenomenon, but, as pointed out by one representative of the faculty, *you cannot create activity by these plans. The role of the faculty leadership, rather, is to see to it that the best possible conditions are there, to provide fertile soil for growth. In addition, it is necessary to rely on strong individuals.*

The faculty has organised a leadership group made up of the director of the faculty office and two deans which has frequent meetings. The faculty board, which has 13 members, meets once a month and has a somewhat weaker role. The number of reports is increasing, indicating a certain level of bureaucratisation. The role of department head, *prefekt*, is increasing in importance, but it is still important to have the legitimacy as a good researcher. There are fewer departments now, 13 instead of 20. Also, looking into the relative power of the department board and the *prefekt*, there has been a distinct development towards increased steering by the latter. This is for several reasons, but the situation today requires more of day-to-day decision-making concerning such issues as personnel, security, equal treatment, gender equality and cut-downs rather than "core activities", education and research. In addition, leaders are faced with more complex issues to resolve-all in an ever-increasing tempo of decision-making. There are more decisions to be made at the department levels, about premises and rent and in general about resources. The demands on the organisation, at all levels, have increased alongside teaching and research. In recent years there have been attempts at stronger coordination, or even centralisation, within the university and there are now four rectors.

### *Economic resources*

It is important to note, that research is the most important activity of the faculty. This is mirrored in the relative share of the total turn over. Undergraduate education brings in 120-130 million SEK, which should be seen in relation to the faculty budget for research and postgraduate education, which amounts to 315 million SEK. In addition, 250-270 million SEK is brought in via applications from researchers. *The pressure is enormous, and the lack of security in the system painful for many, says the faculty office director.*

In line with the profile of the faculty, 100 million SEK from the Swedish Research Council, *VR*, is for basic research. EU-funding is less, 20-25 million. Examples of other external funders are the Wallenberg foundation, *Formas*, *SSF* and *MISTRA*. The latter give funding for more "applied" types of research. The external funding is important, but has not had any direct effects on the academic or organisational structures of the faculty. There are five deans, one dealing almost exclusively with undergraduate education. However, there are financial risks attached to the present system of external funding, which, according to our sources, could be considered too individualised. There is an example of a venture that failed because large funding was aimed at one individual and that person's specific competence. A whole unit was financed (20-30 million SEK) around that person who, in the end, did not show up. A more careful inspection and assessment of sustainability and risks would be needed in order to avoid such problems in the future.

There is no cross-subsidising with external money in this faculty according to the faculty office. The opposite is rather the case since there are increasing demands for co-financing or counter financing in order to receive some grants. However, some equipment which has been bought with project money could perhaps be made use of also for other purposes in the future.

### *Development of new knowledge and dissemination of knowledge*

New knowledge is primarily created by curiosity driven research initiated by academics. The main faculty profile, as mentioned, is aimed at research which is not very applied in nature.

Knowledge dissemination to a wider audience outside academia takes place in the usual ways such as open days for the general public, lectures and participation in debates and public hearings etc.

### *Competition*

There is very heavy competition for external research funding, in particular for large scale grants which are now being made available to the Swedish research community, such as the *Linnébidrag*, Linnaeus grants, highly competitive, requiring rather massive co-financing by the higher education institutions successful in winning such a grant. An interesting feature of these applications is that they are submitted by the *university* and this is, of course, a consequence of the system of co-financing. Such schemes will make it necessary for the university to be able to coordinate and make clear priorities at the central level and eventually lead to increasing centralisation at the same time as there are many decisions and responsibilities that are decentralised. The natural science disciplines are continuously evaluated and in international competition. The Linnaeus applications, for example, are evaluated by scientific experts from university experts in the UK and the Netherlands.

### *Human resources*

Individually set salaries function reasonably well as incentives, according to the faculty office director. There is a widening scale. Over and above the salaries as an instrument 14 million

SEK of faculty resources are used for targeted study financing for doctoral students of newly appointed professors. Other new research activities could also receive money for doctoral students. This is rather important, as natural science research is frequently carried out in larger groups of doctoral students, post-docs and senior researchers( As mentioned earlier, doctoral students in Sweden are to receive some kind of scholarship or paid employment).It is difficult to judge whether or not these systems have had any effect on the behaviour of academic staff.

#### *Entrepreneurial behaviour?*

The most important inhibitor of entrepreneurial behaviour at any level, institutional or individual, is academic culture and also envy. The inner forces or cultures include clear rankings in some disciplines. The academic world is rather tough in this way, according to the opinion of our informants.

Leaders of the most renowned research groups are key personalities with charisma, knowledge and dedication as well as entrepreneurial spirit, but those who take care of what they have achieved and bring it further are few. Too few are interested and intent on taking advantage of what they are doing and transferring it into something commercially or socially useful. There is a dominant culture in scientific research which entails that being occupied with basic research has a higher status while doing something more useful is not valued as highly. There is a very slow development away from this kind of view towards the understanding that applied, socially relevant research could give interesting results.

#### **Faculty of Law**

The Faculty of Law and the Department of Law carry out research and offer education in all central areas of the field. In 2004, the faculty has about 1,700 undergraduates, 40 postgraduate students and 100 employees. There is a Master's programme in International Law, leading to a degree in Human Rights. Other programmes are directed to intellectual property and there is also a Master of European Affairs programme, in which the faculty is responsible for a concentration. Instruction is in English and the course open to Swedish and foreign students.

#### *Mission, strategic plans and organisation*

According to our informant the need for mission statements and strategic plans, which is a relatively new phenomenon, has to do with the way in which the global research world has evolved. It is primarily because of the university's own interest in positioning itself and streamlining university activities for the outside world and at the same time identify priorities. Many factors have been important for this process, internal dynamics and international league tables. What are the characteristics of our university? It is both about internationalisation and positioning nationally

*There is very tight competition for research money between universities and in order to succeed we have to become much better as an "enterprise".*

The Faculty of Law has developed its own strategic plan alongside that of the university. This is a very goal oriented plan for education, research, including external financing, external relations and internationalisation as well as gender equality and human resource policies and it is evaluated annually.

*In terms of the organisation there has been a power shift towards centralisation and the university leaders have gained an increased importance. There is an attempt at "pulling together" the university in order to make it function as a certain kind of enterprise. Before it*

*was more like small enterprises within a consortium, but now there is a tighter grip.* In general, you find more evidence of top-down steering in the university world of today. We have examples close by, in Denmark, where the Ministry gives the task to universities to employ a dean.

#### *Economic resources*

The main sources of external income within the faculty, besides compensations for undergraduate education and faculty funding for research and postgraduate education, are grants from the Swedish Research Council, *VR*, the Swedish National Council for Crime Prevention, *Brå*, and the Swedish Environmental Agency, *Naturvårdsverket*, and the Swedish Competition Authority, *Konkurrensverket*.... *Without external resources we cannot survive. Every senior lecturer needs to find 50 % of the salary and every professor needs to finance one doctoral student.*

The risks involved are that all external resources are time limited. The personnel structure is changing and it is much harder to get steady employment, according to our informant. However, no such undertakings have failed. There is no cross-subsidising with external money at present and no such plans for the future.

#### *Development of new knowledge*

An example of the development new knowledge via projects in the faculty is a development cooperation project with Vietnam (legal infrastructure) which was a result of a successful competition to meet a call by the Swedish International Development Agency, *Sida*. A new international cooperation project aimed at the development of law in developing countries has been one of the outcomes. These projects were developed via initiatives from researchers. However, it is possible to apply for some funds from the faculty. In the budget there is a small sum reserved for the purpose of inspiring people to work more actively with projects.

#### *Dissemination of knowledge*

Many teachers participate in different types of continuous education and seminars. Examples of clients are the Swedish Courts, the Judiciary, the Office of the Swedish Prosecutors, the National Economic Crimes Bureau and the Swedish Work Environment Authority. Also, they frequently participate in legislative work as members of committees and in reviewing various government proposals forwarded for consideration. In addition, there are also frequent contacts with lawyers and banks. Every year a popular open doors day is organised, inviting the wider public to learn more about what is going on in the field of law. There are also web-based courses for social workers.

#### *Competition*

There is a lot of competition with other universities - for money and prestige. The university's faculty of medicine competes nationally with the Karolinska Institute and Lund Institute of Technology competes with Chalmers. In the field of law there is not really any competition for students, not even with Gothenburg. Internationally, different universities co-operate. In such fields as biology and biotechnology there is competition with the pharmaceutical industry. *Some competition is fundamentally sound, it counteracts stagnation, but there has to be some time left for other activities.*

#### *Human resource management*

More emphasis has been placed on leadership and external relations lately. There are special work conditions at the faculty which gives the opportunity for spending a certain amount of time for research. The salaries play a role too. They are based on the following five criteria:



1. Research activity, primarily activity as a researcher and external funding.
2. Initiatives in education.
3. Level of activity in the internal administration.
4. Active involvement in "the third task"-external relations.
5. Visibility in society – participation in the public debate.

#### *Entrepreneurial behaviour?*

This system of incentives has contributed to a more entrepreneurial approach. An inhibitor, however, is the current opinion in society that research is something which mostly has to do with medicine, technology and the natural sciences creates a problem for people in law, social sciences and humanities. There are now national initiatives among law researchers with the aim of highlighting the importance of legal research. There are also some restrictions imposed by the budget which hinder the development of entrepreneurialism.

*Entrepreneurship has a different and wider connotation nowadays. Until two or three years ago it was more about direct contacts between parts of the academy and parts of business or industry and disseminating the knowledge you have within the university to the rest of society. Now there is more of two-way communication and we have not been able to prepare ourselves within the university to respond to this development. This was the first time we were to report to the university leaders about what kind of entrepreneurial activities we had going.*

#### **Faculty of the Social Sciences**

The Faculty of the social Sciences is engaged in education and research aimed at understanding people and human interaction in relation to structures and systems. The faculty has about 4,300 undergraduates, 300 postgraduate students and 420 employees. This faculty is now separated from the school of economics and management.

#### *Mission, strategic plans and organisational change*

The Social Science faculty has had its own strategic plan for some time. The pressure for systematic profiling and positioning has increased a lot during the past decade for a number of reasons. There is an enormous production of researchers in Sweden. The automatic expansion of the faculty decreased after 1993 which was beneficial for social science. Stiffer competition was brought about by the new way of governing universities. Sector research was continuously expanded, but there was also new and harder competition for these grants.

In the faculty there has been some kind of soft centralisation, according to the faculty dean. The faculty leadership sees it as their responsibility to pull together all activities in terms of research and education as well as collecting strengths, promoting development, improving infrastructures and cooperation. There are a lot of changes taking place at the moment. The department of sociology is transformed and media-and communication separated from it, which is some kind of encouragement for them. Some smaller units, such as gender studies, got postgraduate programmes and other small units now have joint administration and economy. It is considered important to have better administrators, but the faculty also needs to save money.

There are elements of these changes that could be seen as being caused by emerging entrepreneurial culture within the university, but you also have to add opportunism and cleverness or cunning, according to the dean. *All the time human beings invent new rules within the university. There is space for improvisations. It is all about how stories congeal into cultural configurations. You need to be careful with the use of the concept culture- I do it*

*like this because I have to... Who has decided? Shared narratives are more like- You could do it in this way. (Compare Erving Goffman's "interaction rituals"). There is also some "secretary dependency" and a certain petrification which characterises the situation.*

#### *Economic resources*

The faculty experienced some budget problems last year. The faculty grants for research and postgraduate education have decreased. The share for financing the research of doctoral students is not sufficient for sustaining the present volume of post-graduate education and this is a problem.

The faculty external resources for research are around 50 % of all research funding. These resources are important, but not enough. The most important risk with external funding is that you get bound up. *You commit yourself to doing things that distort your own priorities. Some projects have been failures and deficits have had to be covered by faculty resources, a deficit of 200 million SEK was the result of such a failure.*

#### *Development of new knowledge*

New knowledge has been created by the creation of new jobs via contacts and networks with other organisations, outside the public sector. Within the faculty there is a research interest in non-public organisations as well. The driving forces behind new developments have been both academic and economic. It has been considered important politically to participate in a development which many run the risk of missing, such as what is happening in new partnerships (public, private and-not-for profit organisations- local boards and councils in cities receive impulses from new directions. This research has partly been financed by the EU.

#### *Dissemination of knowledge*

The faculty organises the Social Science Day for a wider public. Several times each autumn academic staff inform about education and research in upper secondary schools in the well-established format of "Ask Lund" (*Fråga Lund*), for many years a popular television programme sent from Lund. In general the faculty is quite open about its activities. There is also some contract education and research commissioned by the Ministry of Justice related to democracy. In addition, the department for sociology of law has agreements with several government agencies.

#### *Mechanisms for exploitation of knowledge*

The mechanisms, and people in charge of these organisations created by the university, are basically product oriented. It is difficult to find an interest in service-based companies offering consultancies. It is necessary to tie ideas to ongoing praxis. It is hard to know where to turn with your ideas. The university has not been as successful with these new companies as had been hoped. *Every kind of effort to build a new enterprise requires some kind of departure or breaking up. Academics are not good businessmen.*

#### *Competition*

Competition with other universities has increased, in education as well as research. This tends to influence behaviour by forcing universities to be much clearer in their priorities and profiling themselves.

#### *Human resources*

The salary policy at Lund University is focused clearly on results, work performance and productivity. It is considered relatively easy to justify and explain salary differentials. Salaries for professors are considerably higher than in Stockholm. In some cases, our informants point out, you could see that a person has been given the wrong salary level. However, to carry out such a salary policy requires some effort on behalf of the leaders, heads of departments and deans, and a need for careful explanations.

#### *Entrepreneurial behaviour?*

There are not really any barriers to entrepreneurial behaviour within the university. It is more difficult when it comes to finding money. Marketing is very important as are partners who could help, and networkers of different kinds. In the faculty (the School of Social Work) there has been a project on the European Certificate in Community Enterprise, and how to promote new routes to jobs, financed within EQUAL by the European Social Fund. Also, the faculty has had projects to create cooperatives for former addicts. *A good academic is an entrepreneur and if what you do is for students or for research it is fine but if you do it to make money it is less popular.*

### **School of Economics and Management**

The School of Economics and Management has about 4,500 undergraduates, 160 postgraduate students and 280 employees. This school became a separate faculty in 2004, profiling itself further, and is active in research and education in the history of economics, business administration, business law, informatics, economics, statistics and research policy. The Institute of Economic Research coordinates externally funded research.

#### *Mission, strategic plans and organisation*

As is the case in all other faculties, SEM has developed its own plans alongside missions and plans for the university as a whole. *There are some limiting conditions for possible strategies being state financed for education and research, although the content of those activities are steered from here. European strategies tend to be quite unrealistic and Sweden's advantage in terms of human capital and competence is on the way to disappear, unless we build companies that are able to build knowledge faster than others.*

There are a number of reasons for the focus on strategic planning, including internal dynamics and the insight that there is competition. The Bologna process is bound to open many eyes, however.

A number of changes have taken place since the School of Economics and Management became its own faculty. These changes have been discussed since the 1960s. All together seven departments cooperate in running the education for economists.

#### *Economic resources*

External funding in the school amounts to 40-50 million SEK annually. In addition, the SEM has some foundations of its own to finance professorships and other categories of employees. The donated buildings have been important as well. External resources are absolutely crucial. Faculty grants have decreased and this leads to a certain turbulence or instability. It makes it hard to decide about the proper volume of positions and some departments have more employees than they could cope with financially. This is the major problem with external financing. However, there is no evidence of any projects that have failed so far. There is no cross-subsidising of other activities with external money. The research contracts state clearly what is to and could be done.

### *Development of new knowledge*

All researchers are in a way entrepreneurial when it comes to writing applications for funding. Initiatives for entrepreneurial activity originate from individuals as well as with support from the central level. One example of central support is that joint exercises were organised where people cooperated over department limits, in this case business administration, the research policy institute and economic history. As to the driving forces, our informant says that they are both academic and financial, "*researchers hungry for fame.*"

Some seed money has been made available in order to support the development of new projects. The director of the Economic Research Institute decides about such funds.

### *Dissemination of knowledge*

SEM has been working with education for enterprises for 35 years. They run an Executive Programme. Components of the educational programmes on offer are such specialties as human resource management and leadership. Cooperation with business and industry in the whole region of southern Sweden is well developed and this creates important links for students as well. The school has a partnership programme with 50 companies and many seminars and other events, for the general public or invited audiences, are organised for knowledge dissemination. Another recent activity is "China Goes Global" run together with partners in Shanghai.

### *Mechanisms for exploitation of knowledge*

One organisation which needs to be mentioned here is the **Venture Lab**, which is a joint venture of Lund Institute of Technology, the School of Economics and Management, the Faculty of Medicine, and LU Innovation (located near the first three). This incubator for student initiated and student run companies will be discussed in a separate section below.

### *Competition*

As mentioned above there is stiff competition between universities and this will increase.

### *Human resource management*

The Institute of Economic Research has a system of incentives with bonuses for persons who are responsible as leaders of research teams. This bonus is from 1000 to 5000 SEK per month. Some additional pay is also granted for those who uphold certain administrative or management tasks related to education or research. According to the dean, these kinds of bonuses, targeted at a rather small group, could still have had a positive effect in promoting a more entrepreneurial approach among the employees.

### *Entrepreneurial behaviour?*

*The dilemma is that being cross-disciplinary is not easy, to move out of your own field. Academic attitudes could also be seen as inhibiting entrepreneurialism. According to that kind of thinking it is "ugly" or "not nice" to be entrepreneurial. Good academics are entrepreneurial, but they are not so many. The whole academic career system and what is rewarded in the academic world is to write many articles- to be innovative and open up new ways of thinking is important. There are also "secure" ways of writing articles- to build on the results of other researchers. There are some persons in particular who have tried hard to make the School of Economics and Management more entrepreneurial, one of them is a now running the Venture Lab, where students work on business ideas and business plans at an early stage during their studies. This is a joint venture with the Lund Institute of Technology. One of the professors has been actively involved with the Technology Bridge.*

## Faculty of Medicine

The Faculty of Medicine offers nine degree programmes in the care and health sectors. Medicine and nursing are the largest. The faculty cooperates with two teaching hospitals, one in Lund and one in Malmö. There are about 2,500 undergraduates, 1000 postgraduate students and 1,500 employees in the faculty. The faculty has a very high proportion of external funding for research.

### *Mission, strategic plans and organisation*

There are five year strategic plans with clearly formulated goals. One of these seven goals is to bring in more income by better entrepreneurship. Clear leadership needed as are visions that are thoroughly discussed and agreed by all. There have been several and fundamental organisational changes in the past years in the direction of a matrix organisation. Research and education are processes with its own funds. Now there is more of a problem oriented organisation than a discipline based. Departments have decreased in number from 80 to 21, and now there are six. The reasons for these changes are primarily due to changes within biomedical research in the direction of larger research groups. Also, funders wish to coordinate research in order to have better chances for break-through results.

### *Economic resources*

The main sources of income within the faculty of medicine are, over and above the state grants the following:

- Compensation for clinical research and education, approximately 350 million SEK.
- Research grants from the Swedish Research Council, VR, 100 million.
- Major grants from private foundations, such as the Wallenberg foundation and the Swedish Foundation for Strategic Research, SSF, 400 million SEK.

In addition, there are a few research contracts with industry, 30 million SEK and also some contract education for the health sector and municipalities. *The new focus on coordination of the major fund givers has had an impact on the internal organisation and priorities within it. There is also greater dependency on areas which are receiving such funding. This, in turn could result in research which is unidirectional.* Major resources are directed to 6-10 strong research areas (the most common major deceases in the population). Areas with weaker research basis, for example psychiatry, ear-nose throat and infectious deceases could run the risk of being further weakened.

No direct failures could be reported in connection with projects, but, as the dean points out, *it is not a good idea to have too much steering from the top-down, it could result in misdirected efforts.* The research groupings have been formed by researchers on their own terms and then they have been subject to evaluation in order to get strong environments of research excellence.

External resources are not used to cross-subsidise other activities within the faculty. In fact, it is almost the other way round. *The increasing demands for co-financing raised by fund giving partners require that you, in turn, need to be a strong partner in negotiating the contracts.*

### *Development of new knowledge*

There are several concrete examples of new knowledge created as a result of research and in different kinds of partnerships. The 1950s and 1960s were particularly creative years. Ultra sound technology developed via cooperation with Lund Institute of Technology and

cardiologists here and in Japan. Dialysis was developed via the GAMBRO company. Contrast X-rays is another example. At present, a new vaccine against heart attacks is being developed by experimental researchers in cardiology in Lund and in the United States. Many innovations are developed in cooperation with researchers at UCLA, *their attitudes are more positive and they have a stronger drive- they dare to make mistakes*. The initiatives, emanating primarily from the researchers received some support from central levels. The motivation, as in most cases reported, was both academic financial.

Before, there was considerable funding for such efforts. Professors could use 85 per cent of their time for research. This is not the case any longer.

#### *Dissemination of knowledge*

The faculty of medicine devotes a lot of effort and resources on the dissemination activities. Being dependant on external funding it becomes crucial to create an interest in and understanding of the societal need for medical research. The information unit is very strong and a journal directed towards the public is distributed twice every month. Once a year there is an open day to present ongoing research in Malmö/Lund and lecture series are organised at hospitals and for media.

#### *Mechanisms for exploitation of knowledge/knowledge transfer*

There has been some change and reorganisation of the mechanisms for knowledge transfer lately. They will be described in more detail below. *The university was too passive in the field of knowledge transfer three to four years ago. Now these organisations belong to the whole university. Before there was no coordination and no common goals, there was even some kind of competition between them.*

#### *Competition*

There is very strong competition for research money, as mentioned above.

#### *Human resource management*

Academic merits are still the most important for academic careers and salaries, but the faculty also considers it important to be a holder of patents.

#### *Entrepreneurial behaviour?*

Our informant mentioned state regulations as the main inhibitor to entrepreneurial activity. In the faculty there is a positive attitude towards entrepreneurship and innovations as well as commercialisation. But, as he added, *ethical issues are important and these are extremely challenging and difficult to handle. It is a balancing act with the implication that any possible conflicts of interest need to be declared. There is a professional agreement with industry to protect the intellectual property rights for 90 days.*

Research and development is also carried out in the publicly financed health care sector, which is a different kind of environment for innovation when it comes to commercialisation and patenting. In general, there have been major changes of attitudes during the past ten years and it is now considered positive to make money out of research, but in various partnerships and co-operations with other parties it is important to keep one's integrity. It is difficult to finance a large group of researchers of up to 20 persons. It is only possible through large programmes and by pooling resources.

### **Faculties of Humanities and Theology**

Humanities and theology together form an administrative faculty within Lund University. The faculties have about 4,600 undergraduate students, 480 postgraduate students and 600 employees. Several of the subjects taught have been offered since the university was founded in 1666.

#### *Mission, strategic plans and organisation*

The strategic plan of the university is not used so much, only in some areas such as gender studies, it has been considered to general, according to recent evaluations. Nowadays there are educational programmes and profiles that emerge, which were never mentioned in the plans. *Plans are about being politically correct. You write in a way that sounds nice to the people who require them. Also, self-evaluations are being replaced by more direct evaluations by the National Agency of Higher Education.* There are many reasons for the interest in developing plans, one of them being the new government budget system and the price tags for the education of students. There are other changes too that have to do with governance of the university. Students and the leadership of the university are more set in their respective roles and student influence is now more indirect.

In the faculties of humanities and theology there has been some reorganisation. Some centres have been created and mergers taken place, but the umbrella administrative board for the allocation of resources remains (*områdesstyrelsen*). Some decisions by working group of the faculties are sent on directly to that board. The board for undergraduate education takes responsibility for curricular issues and is heavily involved in the Bologna process. A research board is in charge of issues such as areas of research to prioritise and where to find external money for research. There is also a board in charge of postdoctoral education with a very clear mandate to deal with the sky rocketing costs for doctoral students' salaries. The task is now to cut the annual number of doctoral students to be admitted by half, down to 25 for 50 research education subjects in total. The Bologna adjustments will have to be taken into account as they impact this level as well. The suggested reasons for these reorganisations are, apart from Bologna requirements, primarily the pressure from above to review expenditures and to have units large enough to allow for the employment of a professional administrative manager beside the department head (*prefekt*).

#### *Economic resources*

The most important external funds in the area of humanities and theology are the Swedish Research Council, the Bank of Sweden Tercentenary Fund and a number of (20-25) smaller grants from donation funds. In addition, there are seven projects funded by the European Union framework programmes. These sources of research funding, 80 million SEK, are very important as they exceed the amount allocated via the government faculty grants (60 million SEK). It is interesting to note that the humanities and theology faculties have a higher proportion of external financing, than the average of around 50 per cent.

*Lack of money forces new ideas to come forward. People are used to look for new routes, but continuity could be a problem. There is some instability for post-docs for example. An incredible amount of time is spent on writing applications and the success rate has dropped from one project per three applications to one in twelve. But there is some research involved in actually writing these proposals as well and the faculty tries to support. Co-financing, which is common now, also means that the faculty takes some financial responsibility.*

External resources are not used for supporting other activities, but instead, as in most other faculties, it is necessary to use faculty research grants as a supplement. These project grants cover their direct cost, but they do not contribute their share of overhead costs. EU-projects

provide only 20 per cent overhead and the Swedish Research Council 35 percent. These amounts are not sufficient for full cost coverage.

#### *Development of new knowledge*

There are many examples of the development of new knowledge in this area. **Hum Lab** is a dynamic place with truly entrepreneurial features. Interdisciplinary groups are involved in the development of a new tactile script programme for blind people. Another project deals with digitalisation of the cultural heritage. Some ideas for projects have been initiated by a dean and the library has also been involved in a project about reading processes. The driver for these projects was mostly academic, however. These projects have been financed primarily by grants from several donations funds. Contacts by fundraisers have been used in the process of searching for these grants.

#### *Dissemination of knowledge*

Some contract education is sold via **LU Education**. Technically, and in terms of web based educational programmes the faculties are out front. Via the Swedish Net University courses are provided in theology, archaeology, philosophy, languages, including Chinese, and Middle East studies. Researchers are heard, seen and read in the media; newspapers, TV and radio. In relation to the number of employees they are the most active and visible. Open days are also organised regularly with a focus on the work of the two faculties.

#### *Mechanisms for the exploitation of knowledge/knowledge transfer*

LU Education is a mechanism for selling courses. It functions rather well. The Öresund University is an educational platform to look for joint interests or cooperation, where needed, in order to keep smaller subjects.

#### *Competition*

There is certainly competition, in for grants and for students, but some cooperation with other universities as well. Before, teachers were educated primarily in Lund, before the new college in Malmö was created, but now there is a lot of competition with them. Some subjects, such as languages, are rather easy to launch at a new HEI. There are several smaller HEIs in the region, Kristianstad and Ronneby, offering language courses. In Lund there is an attempt to make language courses more of a total experience, like offering the continuation course in Chinese in Peking. Such courses attract students from the whole country.

#### *Human resource management*

Budget incitements have been created in order to promote the search for external funding. In the local collective agreement on university teachers working hours it is stated that teachers could use 20 percent of their working time for competence development and searching for funds. Research money has also been used to support these efforts. Project money, including overheads, goes directly to the department in question and those who receive project money get some additional funds from the research budget. As a result those departments are much better off.

#### *Entrepreneurial behaviour*

The time factor is the main inhibitor for entrepreneurial activity. It is time consuming to write potentially successful applications. Administrative tasks take up a lot of time in the new monitoring and evaluation bureaucracy. *There is a neurotic need among decision-makers to have total control over everything that is going on. They want a lot of statistics, follow-ups and such things that take time.*



*There are entrepreneurs and those who maintain, manage or lead research. If a person is driven by passion, it does not always function with follow-ups according to given schedules. Everything needs to be documented in our democratic system. We need both types of people, but it is better that the entrepreneurs, rather than being leaders, have a more independent role.*

### **Campus Helsingborg**

Lund offers five degree programmes and several subject courses at Campus Helsingborg. There are around 1800 students. Lund Institute of Technology is also educating around 500 engineering students there. All in all, there are around 3 000 students studying at campus Helsingborg, full-time or part-time. The head of Campus Helsingborg since 2002, *rektor*, or dean, has a background in industry and the business sector. He describes Campus Helsingborg as a new space for Lund University to be a little different. The triple helix idea permeates the daily activities. There are many links to municipalities and enterprises and they play a central role in answering to the needs of the surrounding society.

There has been a unique opportunity to create something totally new and this chance has been used. It is easier in a smaller organisation. There is a Master level programme in environmental strategy, another one at the Institute of Communications. A new educational programme in service management has been successfully launched, which was developed after a needs analysis and in 2004 a programme in health management. There are also some separate courses in entrepreneurship offered. These courses are not highly demanded, it is probably a better idea to have such courses more integrated. Entrepreneurship is more of a mindset, says the campus *rektor*, and project work which is more or less like running small companies has proven more successful. CH works very closely with enterprises and also receives a lot of support from the municipality of Helsingborg and other surrounding communities in the North-West Skåne region. Representatives from travel companies, airlines, ferry lines and hotel chains as well as representatives from the retail sector as well as the health sector, both public and private, meet four times a year and review the educational programmes from their perspective. Is the focus the right one or are there some aspects that need to be fine tuned? In this way there is an opportunity for continuous adjustment of the programmes. Also, students are offered summer jobs, to work as trainees and to do case work for their studies in these enterprises and organisations that will function as networks for the future. This fast growing campus functions as a rejuvenation area for the whole university, developing many new ideas, and starting from December 2005, CH will be able to offer postgraduate studies for the doctoral degree in service management.

The main sources of funding for CH are as follows: 140 million SEK from Lund University, 26 million from the city of Helsingborg. Income from various contracts 36 million SEK. Contract education brings in around 5-7 million SEK and is organised for enterprises in specialised areas. In addition, there is some money for the development of the doctoral program.

Via the Decision Training Academy courses in crisis management are offered. Teachers have their own companies, but otherwise there are no particular incentives or rewards introduced. Salaries are individual and could reflect such activity. *Overall, the campus culture could be considered quite entrepreneurial, but the service management section more so. Academic interest is still the strongest driver and people often work in teams. There are some budgetary restrictions which inhibit the further development of entrepreneurial activities at CH. There is not time for everything. Due to restrictions people cannot work more than 150 hours overtime*

*and it is very difficult to get development funds from within so we get some external money instead. We would be able to get a lot of development money from donations, but there is no money for running costs. At the individual level the problem is idiotic tax rules for private companies. For every 100 SEK you need to bring in 300. Another difficulty is the labour legislation.*

There is some kind of "frontier spirit" which characterises this campus at this stage of rapid expansion, claiming new areas for cultivation.

Lund University has many specialised schools, academies, institutes and centres under its large umbrella. In the following some examples will be brought up.

### **Malmö Academies of Performing Arts**

The Academy of Music has around 200 teachers, corresponding to approximately 100 full-time as well as 30 technical/administrative staff, almost 480 undergraduates and 10 postgraduates. The Malmö Theatre Academy has 55 students and 25 employees (teachers and technical-administrative staff). Also, professional actors and directors teach at the school. Malmö Art Academy offers a five-year fine arts programme leading to a Master's degree. It has more than 80 undergraduates (including about a dozen foreign exchange students) and twenty employees (teachers and technical-administrative staff). The academy opened in 1995 and has two professorships in the fine arts and one international visiting professorships divided into short-term periods. Postgraduate education has been offered since 2002.

### **School of Aviation**

The school has been part of the university since 1998 and is the only such school to have both theoretical and practical flight training. The School of aviation has been training commercial pilots for the past 20 years and also provides contract education for organisations, including the Swedish armed forces. Around 25 students are accepted into the programme every year. In addition, there is a flight instructor programme since 2004 and a distance education course in the theory of flight for commercial pilots.

In addition there are other units within the university like The Botanical Gardens, the International Institute for Industrial Environmental Economics, the Lund University Museum, the Museum of Sketches of Public Art, the Max-laboratory, the Raoul Wallenberg Institute for Human Rights and Humanitarian Law and 24 centres such as the Centre for East Asia and Southeast Asia Studies, the Work Science Centre, to mention but a few. It will not be possible to treat all these in the present study; suffice it to say that the diversity is enormous!

### **Examples of mechanisms, functions or organisations for exploitation of knowledge/ knowledge transfer inside or outside the university:**

#### *LU Education Inc.*

LU Education AB, (the Swedish word for joint stock company), created in 2000 as the first such company in Sweden is, owned by Lund University via LUAB (described below), with the purpose of developing, packaging and selling knowledge from within LU as contract education in dialogue with customers from private and public sectors nationally and internationally. The role is to act as a broker between customer and provider. During these years the company has been rather successful, thereby generating income for the departments/teachers involved. Some departments choose to handle their own contacts and

contracts for education, and all selling of courses does not have to be via LU Education. However, those who use LU Education are pleased with their services. An additional number of teachers have been employed because of these contracts. The turnover in 2004 was over 100 million SEK.

From 2008 it is expected that Swedish universities would be allowed to charge fees from overseas students at undergraduate and Master degree levels. This will be a challenge that LU Education, as in other universities, is preparing for. China, for example is a fast growing market that LU Education is already involved with. (As mentioned, LU homepage is available in Chinese).

### *LU Innovation*

LU Innovation is the new name for the unit for cooperation with business within Lund University. It has been strengthened in order to function as a modern technology transfer office. This office is supposed to actively encourage researchers to commercialise their research findings. The method includes “vacuuming or Hoovering” the university and its researchers for commercially viable results or ideas via direct contacts and meetings-not by e-mail! 400 such visits resulted in 200 possible commercial ideas, which became 100 commercial projects, and, in turn, those resulted in 50 business plans later to materialise into 25 companies. The ideas are developed within platforms such as IDEON, UNIVA, Teknopol (gives legal and other advice) and various incubators.

There are three main forces driving universities to commercialise, according to the Managing Director of LU, P O Hegg:

- Benefit for society (such as cancer medicines)
- Economic growth (by creating successful in the region)
- Income for the university.

There have been too many actors involved in the process of commercialisation and linkages with business and industry, but now these actors and their activities are more clearly defined as to roles and responsibilities and also coordinated. Some of these organisations, together with the research organisation CIRCLE, with a research focus on innovation and entrepreneurship, are to move to new joint premises.

### *LUAB*

LUAB is the holding company of Lund University, which started in 1997 with 10 million SEK as the founding capital from the Swedish government. All large universities in Sweden received some capital for this purpose from the Swedish government at that time. The primary role for LUAB is to commercialise knowledge from the university according to business principles, taking into account the goals, values and conditions within the university.

LUAB provides venture capital for new companies in exchange for part ownership, around 10 percent. At present, LUAB has shares in 40 companies, two interest companies and two daughter companies (UNIVA and LU Education AB). LUAB, as other university holding companies, due to lack of capital, operates via other channels and tight links to banks and various enterprises in the region in order to compensate for it. LUAB does not bring in very large sums of money on a running basis.

The managing director of LUAB, B G Svensson, is also the CEO of **CONNECT Skåne**, (also in Malmö, Helsingborg and Kristianstad), a platform for linking innovators and entrepreneurs to the financial, technical, marketing and leadership resources needed in order to create

growth companies in the region. This idea emanates from UC San Diego, where the CONNECT-programme has created close to one thousand companies during the past twenty years. CONNECT Sweden has 20 offices around the country. CONNECT Skåne is a very large business unit, 450 persons work over 1000 hours annually to support new companies with venture capital and advice.

#### *UNIVA*

UNIVA is a fully owned daughter company of LUAB. The role of UNIVA is to be a natural partner for enterprises and organisations who seek to develop and improve their products, technology, staff and organisation, using resources and knowledge from Lund University and the colleges at Malmö and Kristianstad. UNIVA carries out many kinds of contracted tasks, ranging from applied research to activities connected to products or services in the market. UNIVA also initiated and carries out long term development projects and competence building efforts primarily targeted at SMEs. In 2004, a three-year EU-financed project with a focus on mechanical and food production arenas, TANGO, was concluded. This project involved 117 companies. The project turn over that year was 13 million SEK. Total turnover for this company in the same year was 26, 9 million SEK. The economic contribution to the HEIs involved that year was 6, 7 million to research at LU, 843, 000 and 251,000 SEK respectively, went to the colleges at Kristianstad and Malmö. UNIVA is now established as the leading university institute in the country.

#### *VentureLab*

VentureLab is an incubator for start up companies, a joint project between three faculties, Lund Institute of Technology, the Faculty of Medicine, the Institute of Economic Research and LU Innovation. Several partner companies belong to the network. The goal of the VentureLab is, according to the project leader, Kristoffer Bennis

- to stimulate entrepreneurship among students and researchers at Lund University
- to inspire students and researchers at Lund University to start new companies
- to study entrepreneurs “in real time” in a research project (diaries).

For this purpose, the VentureLab provides places in the incubator (free for one year), advice, courses seminars, matchmaking, networks, web resources and organises a VentureForum. Women students in fields such as psychology and health care are especially encouraged to become entrepreneurs. The ultimate goal is

- to present entrepreneurship as an alternative career to ALL students
- to have more companies started in the region
- to inspire students who have the courage to start up their own company
- to link up students with different competencies in entrepreneurial projects.

Educational programmes in Economics as well as Engineering have mostly been focussed on large companies and future employment as well as cases during the period. It is important to at least pose the question to students: have you ever thought about starting your own company? Like many other persons we interviewed, Kristoffer Bennis stresses the importance of attitudes. It is too late to do something about those at the university. This kind of thinking has to be introduced at earlier stages.

Two employees and some helping hands run the VentureLab and the turnover in 2005 was 1,6 million SEK.

### *IDEON*

IDEON Science Park is located close to Lund Institute of Technology, the Economy Centre, the Bio Science centre and several other departments, and centres in the northern part of Lund. It was the first “research village”, *forskningsby*, in Sweden, modelled on examples from abroad, established in the early 1980s. In 1983 Sweden, Skåne included, experienced an industrial crisis, ship yards were closed down and there was increasing unemployment. The county governor at the time, Nils Hörjel, was used to dealing with such problems. The vision was to take advantage of all the ideas and knowledge within Lund University in order to create new successful growth companies. In Europe, he visited Oxford and Cambridge and in the United States he went to Stanford in order to learn about technology transfer. Another reason for starting IDEON was that the university wanted to move companies out of the university.

Since the start around 500 companies have been or are located at IDEON. Around 75 per cent of these have connections with the university. Ericsson is an early example. They moved in and started the development of mobile telephones in 1983 with eight engineers. The overall survival rate has been quite good, since only some thirty companies have been forced to close since the start. During the early period biotechnology, pharmaceutical and functional food companies dominated the scene, but since 1999 IT became more dominant. There are other science parks nearby, such as MEDEON in Malmö and MINC, the incubator, but these science parks are not really in competition, being too dependent on their mother institutions. Such science parks are now created every day all over the world. China, for example is in the process of building 400 “IDEONs”. IDEON is a member of the Swedish Incubators and Science Park Association (SISP) and the international organisation called IASP.

The city of Lund owns one of the buildings at IDEON since the 1990s, together with the savings bank in the region and Erik Penser, a Swedish venture capitalist. In addition, large sums have been invested in buildings by the IKANO bank (the owners of IKEA), 100+700+500 million SEK). *IDEON has both hardware and software*, says Hans Möller, CEO at IDEON. *It is an ecosystem of different organisations in cooperation*. IDEON Centre provides the infrastructure for the companies and IDEON Innovation the expertise.

### *CIRCLE*

CIRCLE, the Centre for Innovation, Research and Competence in the Learning Economy was established in July 2004 and is a centre of Excellence based at Lund University and Blekinge Institute of Technology, financed by the Swedish Agency for Innovation Systems (VINNOVA). The mandate of CIRCLE is to carry out multidisciplinary research and education on

- long-term perspectives on innovation, structural changes and economic growth,
- entrepreneurship and venture capital formation (focussed on new ventures),
- the dynamics of R&D and technological systems, including impact on entrepreneurship and growth,
- regional innovation systems in different national and international contexts,
- international comparative analyses of national innovation systems,
- policy design based on policy learning.

The structure of CIRCLE is multidisciplinary with six founding partners from the fields of innovation studies and management, economic geography, business administration, economic history, research policy and regional economics. Twelve persons are employed at CIRCLE,

headed by Professor Charles Edquist. Theory and practice focussed on innovation and entrepreneurship will be combined in a future new building, shared by CIRCLE and LU Innovation and others. *Innovations are new creations of economic significance, while entrepreneurship is to see an opportunity and to exploit it*, according to professor Edquist.

### **University income -some observations**

There are some general observations to be made about the funding base seen over the past ten year period. The proportion of external research funding as an average over all faculties and seen over a ten year period, stays rather constant, with minor fluctuations, around 50 per cent. It is only one per cent higher at the end of this period. But during the same time period faculty grants for research have not increased at the same rate as costs. External money has become a matter of survival and this is mirrored in the tightening competition for grants with success rates for applications lower than 10 per cent.

There are some differences between the faculties, however, and it is interesting to take notice of the fact that the joint faculties of humanities and theology have the highest proportion of external funding for research. Being not so impressive in real numbers one has to keep in mind that these areas do not receive nearly as much via the basic grants as for example “wet” subjects like biology and applied areas as technology, so this was both impressive and a bit surprising to see. You need money, time or other resources to get money.

Compensation for undergraduate education cost developments have not been covered either. Lund University receives its number of students to educate via the education task contract with the Ministry, just as any other HEI in Sweden, public, private or foundation and this task has increased more than the accompanying funding over the ten year period.

Contract education is a rather small source of funding. During the past four years it represented only about **one** percent of the total income of the university or between 50 and 60 million SEK. Contract research is not a very large source of income either. During the past four years there was a slight increase from 80-130 million SEK and it is now around 3 per cent. However, it is not easy to get a clear picture of the total income from external sources as the university has created companies, private, judicial entities, whose results are not included as part of the annual reports, even if some of these companies are fully owned by the university. In some cases, as mentioned above, the university owns part of the stock, and these holdings would only be reported as assets. So, if the university and its mechanisms are very successful in creating new companies, the effects could not always be seen in the university accounts.

### **Summary comments**

#### *Lund University facing the future – tradition **and** transformation*

Through our study of Lund University a very complex picture emerges and the question of whether or not the university as an institution could be considered an entrepreneurial organisation or, rather, if the university as a whole is permeated by entrepreneurial culture, cannot be answered so simply. Being such a large institution, located in various geographical locations with a very wide range of areas of activity, it is difficult to give such summary judgements.

Few of our informants claim that Lund University as a whole is characterised by an entrepreneurial culture. Equally few say, with conviction, that the university by no means

could be considered as entrepreneurial. Instead, most of our interview persons say that there has been a marked shift toward encouraging and supporting entrepreneurial activities at the university, and point out some units and also some individuals that could be labelled as particularly entrepreneurial. The many mechanisms created by the university, supporting entrepreneurship and innovation, are an indication of an ongoing transformation process. However, a culture resting on old traditions with a focus on academic excellence has its own incentives and rewards, not always with the same goals as those that characterise enterprises. It is a question of mind-set, according to several interviewees. Some have it, but most do not.

Facing the future, it is necessary to keep and sustain the long-standing traditions of academic excellence and search for new knowledge, which remain as the unique contribution of such an organisation, while linking more to society at large. The example of Lund University tells us that some units could act as spear heads in this process or as “areas of rejuvenation”, such as Campus Helsingborg, for the benefit of all.

Some units, according to the interviews, such as the Lund Institute of Technology and the Faculty of Medicine, for example are mentioned by many as being entrepreneurial, fields where it is easier to identify concrete knowledge-based outcomes: lasers and ultra sound for example. With a less product oriented approach, it is possible to note many other entrepreneurial parts of the university like the Hum Lab in the faculty of humanities and consultancy services in the field of law and social sciences. The number of patents received by academics and other employees (210 persons) has increased and is now 5-600, mostly in the fields of technology and medicine, according to research at CIRCLE.

Discussing factors that could inhibit the development of entrepreneurialism several persons mention the time factor as a problem. Academics today are swamped in too many activities and under pressure all the time. In addition to time and attitudes, few bring up regulations or organisational stiffness as a problem, however. In the area of incentives, it is clear that it would help a lot if successfully landing large projects or patents obtained could count as merits in the academic career race. The general impression we got was that we were definitely not encountering any ivory tower mentality. Most people were very much outwardly oriented and involved in a process of continuous transformation while resting on solid academic ground.

### **Interviews, Lund University, October, November, 2005 and January 2006**

1. Rector, Campus Helsingborg  
Dr. Anders Hallgren

2. University Director  
Mr. Peter Honeth

3. Director, CIRCLE (Center for Innovation, Research and Competence in the Innovation Economy)  
Prof. Charles Edquist

4. Rector (Dean), School of Economics and Management  
Prof. Allan T. Malm

5. Union negotiator, SACO/SULF (Elected local representative, the Confederation of Academic Unions and the Swedish Association of University Teachers) Mr. Pehr Osbeck

6. Dean, Faculty of Medicine  
Prof. Jan Nilsson

7. Dean, Social Science Faculty  
Prof. Sune Sunesson

8. Vice-Rector for research and internationalisation  
Prof. Björn Wittenmark

9. Dean, Faculty of Law  
Prof. Per Ole Träskman

10. Managing Director, Lund Education  
Mr. Detlew Clöwe

11. Director, Office of the Faculty of Humanities  
Mrs. Gunnel Holm

12. Economic Controller, Office of the Faculty of Humanities and Theology  
Mr. Håkan Werner

13. Director, Office of the Faculty of Science  
Mr. Claes Odeskog

14. Senior Scientific Advisor of the Vice-Chancellor  
Prof. Sture Forsén

15. Rector (Dean), Lund Institute of Technology  
Prof. Gun Jönsson

16. Deputy Director, International Office  
Mrs. Boel Billgren

17. Director, Hum. Lab., Faculty of Humanities and Theology  
Prof. Sven Strömqvist

18. Director, Planning Division,  
Mr. Sten Wennerström

19. Analyst, Planning Division,  
Mrs. Marta Santander

20. Managing Director, LUAB  
Mr. BG Svensson, responsible for Connect

21. Managing Director, Ideon  
Mr. Hans Möller,



22. Project Leader, Venture Lab  
Mr. Kristoffer Bennis,

23. Managing Director, LU Innovation  
Prof. Per.Olof Hegg,

24. Head of Unit, Research Services  
Mr. Magnus Edblad,

25. Professor of Entrepreneurship, Dep. of Business Administration, School of Economics  
and management  
Prof. Hans Landström

26. Managing Director, UN IVA  
Mr. Lars Svensson

### **References:**

Högskoleverket (Swedish National Agency for Higher Education). (2005) *Nationell Uppföljningsdatabas, NU*. Stockholm: Swedish National Agency for Higher Education; available (in Swedish) online via: <http://nu.hsv.se/nu/index1.html>

Lund University Board. (2002) *Strategic Plan 2002 - 2006: Lund University*. (adopted 17 December 2001), Lund: Lund University, Information Office and Planning Division. [http://www3.lu.se/info/strategiskplan/dokument/strategisk\\_plan\\_LU\\_eng.pdf](http://www3.lu.se/info/strategiskplan/dokument/strategisk_plan_LU_eng.pdf)

Lund University. (various years) *Annual Report: Lund University*. Lund: Lund University, Information Office and Planning Division.

Sarbäck, Staffan. (2004) *"Financial Management and Governance in HEIS: Sweden."* (OECD IMHE-HEFCE Project on International Comparative Higher Education Financial Management and Governance; 51 pages). Paris: OECD.

Swedish Ministry of Industry, Employment and Communication & Ministry of Education and Science. (2004) *Innovative Sweden - A strategy through renewal*. (DS 2004:36; English translation of *Innovativa Sverige - En strategi för tillväxt genom förnyelse*; 18 October 2004) Stockholm: Fritzes.

Ekonomihögskolan vid Lunds universitet	Presentation
	Verksamhetsplan 2005
Explorerer´s handbook	Lund university
IDEON	IDEON Science park
Lunds kommun	Idéernas stad

Lunds tekniska högskola	Policy och handlägningsordning för LTHs internationella verksamhet 2004-2007
Lund university:	Annual reports 1993/94-2004
	Lunds universitet i världsklass
	Organisationer i gränsytan mot näringslivet - en beskrivning av samverkanssystemet
	Sammanställning av strategiska dokument
	Forskningsstrategi för Lunds universitet
	Internationaliseringspolicy
	Jämställdhetspolicy
	Strategi för Lunds universitets samverkan med det omgivande samhället
	Samverkan med näringslivet
	Beslut om enhetliga regler i frågor som rör EG-projekt
	Handlägningsordning för forskningsprojekt inom EU:s ramprogram
	Placeringsregler för Lunds universitets stiftelser med anknuten förvaltning
	Beslut om strategi och inriktning för Lunds universitets utvecklingsbolag (LUAB)
	Lunds universitets policy för integrering av miljöfrågor i utbildning och forskning
	Policy för uppdragsutbildning vid Lunds universitet
	Policy för Lunds universitets samverkan med näringslivet
	Sammanställning av styrdokument för fakultetsområdena
	Vision för Lunds universitet Campus Helsingborg
	Mål och strategier för Lunds universitet Campus Helsingborg
	Strategisk plan för juridiska fakulteten
	Strategisk plan för medicinsk fakultet

Uppföljningsrapport Strategisk plan 2002-2006

Teknopol

Teknopol förverkligar bra idéer

UNIVA

UNIVA- Forskning och företagande

Venturelab

Venturelab presentation

## Statistical Data

### Net Registered Students, Lund University

	Part time	Full time	Total			Part time	Full time	Total
Spring 05	6994	21622	28616		Spring 99	5629	19632	25261
Autumn 04	7858	22662	30520		Autumn 98	6042	20890	26932
Spring 04	7326	21994	29320		Spring 98	6211	22485	28696
Autumn 03	7756	22451	30207		Autumn 97	6065	23885	29950
Spring 03	6909	20707	27616		Spring 97	5556	23104	28660
Autumn 02	7110	21598	28708		Autumn 96	5534	24090	29624
Spring 02	5769	20038	25807		Spring 96	5615	21949	27564
Autumn 01	5097	20717	25814		Autumn 95	5752	22579	28331
Spring 01	4865	18829	23694		Spring 95	5524	20593	26117
Autumn 00	5269	19580	24849		Autumn 94	5695	21301	26996
Spring 00	5376	18694	24070		Spring 94	5221	20464	25685
Autumn 99	5748	19517	25265		Autumn 93	5314	20853	26167

Data: as reported by the university to Sweden's National Agency for Higher Education, Högskoleverket

### Lund University **Exchange & international students: incoming and outgoing** IN- OCH UTRESANDE STUDENTER NETTO PER HÖGSKOLA

	Incoming	Change from prior year	Outgoing	Change from prior year	Incoming / Outgoing
2004	1563	+7%	911	+13%	172%
2003	1459	+4%	803	+11%	182%
2002	1406	+17%	721	0%	195%
2001	1201	+8%	722	-17%	166%
2000	1117	+15%	872	-10%	128%
1999	968	+5%	964	+5%	100%
1998	924	+15%	919	-6%	101%
1997	806	--	980	--	82%

Data: as reported by the university to Sweden's National Agency for Higher Education, Högskoleverket

### Lund University: Selectivity

	Term	Applicants Sökande	Available Places Platser	Competition rate for each place: Söktryck	
				at Lund	national average
Entry to all programs (totals)	Spring 2006 VT06	3993	1159	3,4	3,2
	Autumn 2005 HT 05	9929	3095	3,2	2,3
Summan av alla utbildningspgm.	Spring 2005 VT05	4889	1307	3,7	3,4
	Autumn 2004 HT 04	10393	3437	3,0	2,2
	Spring 2004 VT04	5086	1348	3,8	3,4
	Autumn 2003 HT 03	10253	3391	3,0	2,1
	Spring 2003 VT03	5026	1167	4,3	3,1
	Autumn 2002 HT 02	10420	3154	3,3	2,1
	Spring 2002 VT02	4828	1129	4,3	3,5
	Autumn 2001 HT 01	10082	2999	3,4	2,2

Data: as reported by the university to Sweden's National Agency for Higher Education, Högskoleverket

**Lund University Personnel Numbers (Lunds universitet)**

(full time equivalents / heltidsekvivalenter)			Male	Female	Total
Administrative personnel	(Administrativ personal)	2004	763,5	230,3	993,8
"	"	2003	749,1	233,8	982,9
"	"	2002	706,7	214,6	921,4
"	"	2001	673,8	212,2	886,0
"	"	2000	727,4	255,0	982,4
"	"	1999	698,1	233,5	931,6
"	"	1998	720	237	958
"	"	1997	732	222	954
"	"	95/96	733	209	942
"	"	94/95	709	208	918
"	"	93/94	677	199	876
Library personnel	(Bibliotekspersonal)	2004	101,1	57,1	158,2
"	"	2003	101,9	54,7	156,6
"	"	2002	96,1	58,4	154,4
"	"	2001	98,3	56,4	154,7
"	"	2000	98,4	58,5	156,9
"	"	1999	93,7	56,3	150,0
"	"	1998	106	62	168
"	"	1997	106	66	173
"	"	95/96	115	71	186
"	"	94/95	112	74	187
"	"	93/94	113	72	185
Technical personnel	(Teknisk personal)	2004	493,9	600,4	1094,3
"	"	2003	509,7	598,5	1108,2
"	"	2002	512,2	575,6	1087,9
"	"	2001	488,7	544,9	1033,6
	(Teknisk/övrig personal)	2000	403,4	266,0	669,3
"	"	1999	439,2	267,2	706,4
"	"	1998	534	287	820
"	"	1997	573	304	877
	(Teknisk personal)	95/96	614	342	956
"	"	94/95	636	353	989
"	"	93/94	628	348	976
Custodial staff	(Lokalvårdare)	2004	96,1	15,3	111,4
"	"	2003	98,6	14,3	112,9
"	"	2002	96,4	16,2	112,6
"	"	2001	103,6	19,4	122,9
Doctoral research students	(Forskarstuderande)	2004	586,2	747,8	1333,9
"	"	2003	562,1	788,7	1350,7
"	"	2002	555,9	769,4	1325,3
"	"	2001	509,8	764,3	1274,1
	(Anst. som Doktorand)	2000	489,2	795,0	1284,2
"	"	1999	454,4	786,4	1240,8
	(Doktorandtjänster)	1998	439	734	1173
"	"	1997	398	706	1104
"	"	95/96	375	719	1093
"	"	94/95	355	724	1079
"	"	93/94	304	644	948
Total teachers	(Summa Lärarpersonal)	2000	512,8	1295,9	1808,8
"	"	1999	510,6	1321,2	1831,8
Teachers	(Lärare)	1998	647	1581	2228
"	"	1997	496	1431	1927
"	"	95/96	634	1603	2237

	"	"	94/95	477	1402	1878
	"	"	93/94	561	1532	2093
Other teaching staff	(Övr. underv. personal)		2000	142,2	317,8	460,0
	"	"	1999	120,4	314,4	434,8
	"	"	1998	137	322	459
	"	"	1997	122	327	449
	"	"	95/96	121	315	435
	"	"	94/95	132	328	460
	"	"	93/94	140	358	498
Guest / Part-time teacher	(Gäst/Timlärare)		2004	11,4	20,1	31,5
	"	"	2003	9,3	27,9	37,1
	"	"	2002	12,1	18,5	30,7
	"	"	2001	6,9	19,2	26,1
	"	"	2000	73,9	160,4	234,4
	"	"	1999	80,0	164,6	244,6
Junior lecturer	(Adjunkt)		2004	178,5	189,1	367,6
	"	"	2003	182,8	189,8	372,6
	"	"	2002	182,1	184,6	366,7
	"	"	2001	188,3	188,2	376,5
Other research & teaching staff	(Annan forskande och underv. personal)		2004	86,8	149,1	235,9
	"	"	2003	78,0	147,1	225,1
	"	"	2002	69,2	149,2	218,4
	"	"	2001	54,4	123,8	178,2
Limited-contract teachers	(Arvodister)		2004	112,3	151,4	263,7
	"	"	2003	134,5	173,2	307,7
	"	"	2002	136,3	171,7	308,0
	"	"	2001	115,9	171,0	286,9
Post-doctoral assistant	(Forskarassistent)		2004	65,1	105,3	170,4
	"	"	2003	79,1	121,9	201,1
	"	"	2002	79,2	127,8	207,0
	"	"	2001	82,5	131,9	214,4
Lecturer	(Lektor)		2004	238,2	522,5	760,7
	"	"	2003	226,8	506,8	733,6
	"	"	2002	206,8	492,6	699,4
	"	"	2001	183,5	492,8	676,3
Professor	(Professor)		2004	79,4	501,5	580,9
	"	"	2003	67,6	490,7	558,3
	"	"	2002	61,1	479,3	540,4
	"	"	2001	58,1	432,8	490,9

Personnel data from Högskoleverket's NU database (Sweden's National Agency for Higher Education)

**Swedish Higher Education: Key nationwide data for comparisons**

	% of teachers with doctorate -- PE: Andel disputerade lärare (%)						
	% income from govt budget -- EK: Andel (statliga) anslag (%)						
	% financing from Research Councils -- EK: Finansiering från forskningsråd (%)						
	Ratio of external financing -- EK: Andel extern finansiering totalt (%)						
all	Full time students per teacher -- PE: Helårsstudenter per lärare						
2004	Successful results ratio -- GU: Prestationsgrad (%)						
	# of Fulltime students -- GU: Antal helårsstudenter (HST)						
<b>National totals / Riket</b>	<b>302562</b>	<b>83</b>	<b>12.6</b>	<b>35.2</b>	16.1	64,8	51
Beckmans designhögskola	119	100	12.3				-
Blekinge internationella hälsöhögskola							31
Blekinge tekniska högskola	3120	75	16.3	32.0	2.9	68,0	
Chalmers tekniska högskola	8459	87	9.6	51.3	14.7	48,7	62
Danshögskolan	139	87	6	14.2	54.6	85,8	7
Dramatiska institutet	151	99	6.3	10.0	96.5	90,0	2
Övr. enskilda anordn. psykoterapeutub.	196	100	9.5				16
Ericastiftelsen	33	100	5.4				14
Ersta Sköndal högskola	774	89	10.9				32
Gymnastik- och idrottshögskolan	515	88	8.8	30.1		69,9	36
Gammelkroppa Skogsskola	19	100	3.2				-
Göteborgs universitet	26066	82	11.8	33.4	18.3	66,6	58
Högskolan i Borås	5329	89	17.2	16.0	2.7	84,0	26
Högskolan Dalarna	5218	84	15.4	16.9	1.3	83,1	33
Högskolan på Gotland	1973	67	22	32.0	12.6	68,0	29
Högskolan i Halmstad	5394	85	22.9	16.6		83,4	39
Hälsöhögskolan i Jönköping							
Handelshögskolan i Stockholm	1321	91	15	77.2	5.5	22,8	76
Högskolan i Gävle	6311	80	15.5	15.7	2.7	84,3	35
Högskolan i Jönköping	***	7052	85	21.4	28.1	2.1	29
Högskolan i Kalmar		6394	86	17.5	25.4	11.2	74,6
Högskolan Kristianstad		5622	85	17.5	11.6	27.2	88,4
Högskolan i Skövde		4307	80	22.9	11.7	3.3	88,3
Högskolan i Trollhättan/Uddevalla		4442	84	17.5	17.1		82,9
Hälsöhögskolan Väst i Vänersborg							
Ingesunds Musikhögskola							
Johannelunds Teologiska högskola	74	96	8				48
Karlstads universitet	8863	81	14.7	22.0	7.3	78,0	32
Konstfack	623	90	8.8	7.8	89.7	92,2	3
Karolinska institutet	5850	90	4.2	51.0	14.5	49,0	65
Kungl. Konsthögskolan	216	100	7.6	7.9	71.3	92,1	4
Kungl. Musikhögskolan i Stockholm	556	101	6.3	11.9		88,1	6
Kungl. Tekniska högskolan	***	12367	82	10.7	44.6	15.5	42
Lärarhögskolan i Stockholm		6601	90	20.1	24.9	24.7	75,1
Linköpings universitet	18227	83	13.7	31.8	16.7	68,2	58
Luleå tekniska universitet	8479	84	13.7	32.3	4.6	67,7	42
Lunds universitet	***	27970	82	11.2	38.3	20.6	35
Malmö högskola	10733	87	18.5	20.4	20.7	79,6	37
Mälardalens högskola	8861	83	17.8	17.7	5.4	82,3	33
Mittuniversitetet	8124	78	17.2	24.8	1.3	75,2	35
Operahögskolan i Stockholm	74	100	6.2	11.8		88,2	-
Röda Korsets högskola	420	102	13.7				28
Södertörns Högskola	7056	76	24.7	42.4	5.6	57,6	56
Sophiahemmet högskola	316	101	10.6				29
Sveriges lantbruksuniversitet	3340	92	2.9	45.6	4.0	54,4	64
Stockholms Musikpedagogiska Institut	69	96	7.3				8
Stockholms universitet	24204	75	14.3	33.1	27.0	66,9	59
Hälsöhögskolan Väst, Skövde							
Teaterhögskolan i Stockholm	69	100	3.9	1.7		98,3	0
Teologiska Högskolan, Stockholm	217	81	16.4				71
Umeå universitet	***	16744	84	9.6	31.9	17.8	42
Uppsala universitet	21337	81	10.3	38.5	23.3	61,5	64
Vårdhögskolan Boden							
Vårdhögskolan Falun							
Vårdhögskolan Gävle							
Vårdhögskolan i Borås							
Vårdhögskolan i Växjö							
Växjö universitet	8336	82	19.7	22.8	13.4	77,2	35
Örebro teologiska högskola	154	73	13.7				40
Örebro universitet	9731	84	19.3	18.1	13.8	81,9	42

\*\*\* four Swedish EUEREC cases Reported totals do not match: subtotals add to 302,565; 302,562 reported.  
[http://nu.hsv.se/NyckeltalController?event=NYCKELTAL\\_URVAL](http://nu.hsv.se/NyckeltalController?event=NYCKELTAL_URVAL)

## Swedish State Educational Compensation for the 2005 budgetary year

Följande ersättningsbelopp (kronor) skall tillämpas för budgetåret 2005

Educational field	Utbildningsområde (Swedish designations)	Annual compensation per full-time student		Annual compensation for successful full-time study		Total compensation per successful student year
		Ersättning per helårsstudent (HÅS)		Ersättning per helårsprestation (HÅP)		
		€	sek	€	sek	
Humanities, Theology, Law, Social Sciences	Humanistiskt, teologiskt, juridiskt, samhällsvetenskapligt	€ 1,812	17,217	1,785	16,958	€ 3,597
Natural Sciences, Technology	Naturvetenskapligt, tekniskt	€ 4,572	43,431	3,939	37,421	€ 8,511
Pharmacy	Farmaceutiskt	€ 4,572	43,431	3,939	37,421	€ 8,511
Health Care	Vård	€ 5,078	48,241	4,398	41,783	€ 9,476
Dental Health	Odontologiskt	€ 4,199	39,893	4,892	46,471	€ 9,091
Medicine	Medicinskt	€ 5,675	53,908	6,902	65,572	€ 12,577
Teaching <sup>1</sup>	Undervisning <sup>1</sup>	€ 3,315	31,490	3,904	37,086	€ 7,219
Other <sup>2</sup>	Övrigt <sup>2</sup>	€ 3,836	36,441	3,116	29,602	€ 6,952
Design	Design	€ 13,535	128,583	8,247	78,342	€ 21,782
Art	Konst	€ 19,215	182,547	8,250	78,372	€ 27,465
Music	Musik	€ 11,677	110,932	7,383	70,141	€ 19,060
Opera	Opera	€ 27,828	264,364	16,647	158,146	€ 44,475
Theatre	Teater	€ 26,909	255,635	13,403	127,329	€ 40,312
Media	Media	€ 27,460	260,874	21,997	208,971	€ 49,457
Dance	Dans	€ 18,925	179,788	10,457	99,343	€ 29,382
Physical Education	Idrott	€ 9,862	93,688	4,564	43,356	€ 14,426

€1= 9,5 sek (2005-07-01 midyear exchange rate)

1 Utbildning inom det allmänna utbildningsområdet samt övrig verksamhetsförlagd utbildning.

2 Avser journalist- och bibliotekarieutbildningar, praktisk-estetiska kurser inom bl.a. lärarutbildning med inriktning mot tidigare år samt utbildning vid Grafiska institutet/Institutet för högre reklamutbildning vid Stockholms universitet.

Regleringsbrev för budgetåret 2005 avseende Gemensamma bestämmelser för universitet och högskolor m.m. Riksdagen har beslutat om anslagen till universitet och högskolor m.m. för budgetåret 2005 (prop. 2004/05:1, utg. omr. 16, bet. 2004/05:UbU1, rskr. 2004/05:124). Utbildningsdepartementet; Regeringsbeslut 8; 2004-12-16; Ekonomistyrningsverket U2004/5173/DK (delvis) <http://webapp.esv.se/statsliggaren/document.asp?regleringsbrevId=7465&visningTyp=1>

Swedish Higher Education: Indicators & statistics		Nationally	Jönköping	KTH	Lund	Umeå
Beginners at specific institution of Higher Education GU: Nybörjare vid lärosätet	2004	145353	3757	5649	12270	6655
	2003	143725	4409	5003	11450	6417
	2002	132442	4666	4572	9985	5953
	2001	120868	2384	4172	9124	5784
	2000	118274	2145	3981	8631	5842
First time in Higher Education GU: Första gången i högskoleutbildning	2004	83301	2547	3400	7718	4026
	2003	83319	2853	2916	7316	3912



	2002	78298	2361	2809	6684	3936
	2001	72066	1705	2628	6131	3709
	2000	70043	1557	2504	5649	3896
% beginners achieving first choice GU: Andel nybörjare på förstahandsval (%)	2004	73	69	-	76	73
	2003	76	73	84	80	75
	2002	76	74	83	82	75
	2001	74	73	82	79	75
% remaining after 2 years GU: Kvarvarande år 2 (%)	2004	67	70	78	66	71
	2003	69	70	79	69	72
	2002	68	69	81	68	71
	2001	68	69	78	67	71
Median age, new students GU: Medianålder, högskolenybörjare	2004	22,5	22,3	22,6	21,6	22,3
	2003	22,6	22,6	22,2	21,5	22
	2002	22,4	21,9	21,6	21,4	22
	2001	22,3	22,1	21,5	21,3	22,0
	2000	22,3	22	21,8	21,3	21,8
Percentage male, new students GU: Andel män, högskolenybörjare (%)	2004	43	41	74	46	40
	2003	42	42	74	46	40
	2002	42	45	75	45	41
	2001	42	47	74	45	40
	2000	42	46	72	45	39
% from working class background GU: Andel med arbetarbakgrund (%)	2004	24	29	17	17	26
	2003	24	29	18	16	25
	2002	23	25	16	16	25
	2001	23	25	15	17	25
Working class background compared to index figure GU: Jämförelsetal, arbetarbakgrund	2004	0,72	0,78	0,63	0,52	0,75
	2003	0,73	0,8	0,66	0,52	0,73
	2002	0,70	0,7	0,6	0,5	0,72
	2001	0,69	0,69	0,58	0,53	0,72
<b>Indicator or statistic</b>		<b>Nationally</b>	<b>Jönköping</b>	<b>KTH</b>	<b>Lund</b>	<b>Umeå</b>
% with foreign background GU: Andel med utländsk bakgrund (%)	2004	16	14	29	15	10
	2003	15	14	28	13	8
	2002	14	12	26	14	8
	2001	13	11	22	13	7
Foreign background compared to index figure GU: Jämförelsetal, utländsk bakgrund	2004	0,98	1	1,3	0,88	1,05
	2003	0,96	1,04	1,28	0,78	0,89
	2002	0,92	0,93	1,25	0,87	0,94
	2001	0,92	0,87	1,09	0,89	0,91
% w Parents w HEduc GU: Andel med högutbildade föräldrar (%)	2004	29	17	40	42	29
	2003	28	21	40	42	29
	2002	29	21	42	43	28
	2001	29	22	41	42	29
Students w Parents w HEduc compared to index figure GU: Jämförelsetal, föräldrars utbildning	2004	1,45	1,16	1,55	1,88	1,49
	2003	1,43	1,34	1,54	1,84	1,5
	2002	1,47	1,37	1,64	1,87	1,48
	2001	1,52	1,46	1,62	1,89	1,54
Number of students, Autumn term GU: Antal studenter (hösttermin)	2004	337415	8098	14195	30520	19286
	2003	340034	8676	14118	30207	18332

	2002	328804	8485	13004	28708	17921
	2001	300800	5683	11888	25814	17275
	2000	284998	5313	11564	24849	17166
% male registrants GU: Andel män av registrerade (%)	2004	40	36	72	46	38
	2003	40	37	72	46	39
	2002	40	37	72	46	38
	2001	40	44	72	46	39
# full time students GU: Antal helårsstudenter (HST)	2004	302562	7052	12367	27970	16744
	2003	299746	7229	12032	27013	16345
	2002	287236	6863	11262	25648	15911
	2001	268061	4922	10573	23643	15739
	2000	256850	4619	10393	23219	15516
# full time successful results GU: Antal helårsprestationer (HPR)	2004	250000	6008	10112	22882	14004
	2003	246369	6038	9955	21640	13782
	2002	234982	5667	9798	20780	13356
	2001	222651	4180	9311	19354	13318
	2000	212891	3819	9082	18977	13087
Successful results ratio % GU: Prestationsgrad (%)	2004	83	85	82	82	84
	2003	82	84	83	80	84
	2002	82	83	87	81	84
	2001	83	85	88	82	85
	2000	83	83	87	82	84
<b>Indicator or statistic</b>		<b>Nationally</b>	<b>Jönköping</b>	<b>KTH</b>	<b>Lund</b>	<b>Umeå</b>
% courses w even gender balance GU: Kurser med jämn könsfördelning (%)	2004	25	26	17	35	27
	2003	26	24	17	32	29
	2002	25	31	14	35	28
	2001	27	35	16	39	27
% non-trad students GU: Andel icke-traditionella studenter (%)	2004	51	43	42	40	50
	2003	52	46	40	40	49
	2002	52	48	39	41	49
	2001	50	41	36	38	48
% not completing? GU: Andel i återkommande utbildning (%)	2004	25	20	18	20	27
	2003	25	21	18	20	25
	2002	25	20	16	20	25
	2001	24	16	14	19	24
Resitting after graduation GU: Återkommande efter examen (%)	2004	10,4	9,9	5,7	6,8	12,5
	2003	10,6	10,3	5,8	6,4	11,5
	2002	10,6	9,9	4,9	6,7	11,7
	2001	9,9	5,6	3,5	6,3	10,8
% full time students in Humanities, SocSci, Law GU: HSJ, andel Hst (%)	2004	44	44	8	55	43
	2003	45	45	7	56	44
	2002	45	45	6	56	44
	2001	44	52	6	55	44
	2000	45	51	5	55	45
% full time students in Natural Sciences GU: N, andel HST (%)	2004	12	5	22	8	13
	2003	12	5	22	8	13
	2002	13	6	22	8	14
	2001	14	8	25	8	15
	2000	15	10	25	9	16

% full time students in technical studies GU: T, andel HST (%)	2004	18	22	70	20	10
	2003	18	22	72	20	10
	2002	19	22	71	19	11
	2001	19	26	70	20	11
	2000	19	27	70	20	10
% full time students in other programmes GU: Övriga, andel HST (%)	2004	26	29	1	17	34
	2003	25	28	1	16	33
	2002	24	27	-	16	31
	2001	22	14	-	17	30
	2000	22	13	-	17	28
Total # graduates GU: Totalt antal avlagda examina	2004	52343	1695	2027	4050	3215
	2003	47755	1150	1935	3693	3392
	2002	42949	1034	1795	3479	2963
	2001	39675	656	1741	3380	2678
	2000	39960	685	2048	3701	2580
# Magister degrees GU: Antal magisterexamina	2004	10321	230	212	1133	604
	2003	9054	217	154	1081	761
	2002	8284	214	29	1031	692
	2001	7473	167	1	920	642
	2000	6799	155	-	947	578
# MSc degrees GU: Antal civ.ing.examina	2004	4212	-	1169	662	135
	2003	3951	-	1137	631	139
	2002	3861	-	1146	554	135
	2001	3599	-	1161	509	104
	2000	3796	-	1438	516	89
# Bachelor degrees GU: Antal kandidatexamina	2004	12501	462	14	664	810
	2003	10982	216	4	579	677
	2002	9713	255	14	664	581
	2001	9003	169	12	645	523
	2000	8450	157	43	731	496
<b>Indicator or statistic</b>		<b>Nationally</b>	<b>Jönköping</b>	<b>KTH</b>	<b>Lund</b>	<b>Umeå</b>
# receiving first degree GU: Antal förstagångs examinerade	2004	38657	1086	1893	3200	2152
	2003	36423	988	1840	2983	2367
	2002	33923	886	1686	2831	2210
	2001	31757	601	1642	2747	2024
	2000	32202	638	1918	2971	1929
% receiving first degree GU: Andel förstagångs examinerade (%)	2004	74	64	93	79	67
	2003	76	86	95	81	70
	2002	79	86	94	81	75
	2001	80	92	94	81	76
	2000	81	93	94	80	75
Ave length yrs (usually 3 yr course) GU: Examenslängd (antal år)	2004	3,7	3,4	4	4,1	3,6
	2003	3,6	3,4	3,9	4,1	3,6
	2002	3,6	3,4	3,9	4,1	3,6
	2001	3,7	3,5	4,0	4,1	3,6
	2000	3,6	3,5	4,1	4	3,6
Completion rate within 7 yrs GU: Examinerade alt. 120 poäng inom 7 år (%)	2004	64	69	66	66	70
	2003	63	69	66	67	68

	2002	63	70	67	67	66
	2001	62	64	67	69	68
Ave credits completed after 3 yrs GU: Genomsnittspoäng efter 3 år	2004	76	78	84	73	78
	2003	76	78	83	73	79
	2002	75	79	80	72	80
	2001	77	88	84	73	82
Incoming exchange & intl. students GU: Antal inresande studenter	2004	11934	609	901	1563	414
	2003	10566	621	775	1459	340
	2002	9515	541	734	1406	326
	2001	8467	404	631	1201	291
	2000	7933	327	562	1117	323
Outgoing exchange & intl. students GU: Antal utresande studenter	2004	6759	492	665	911	259
	2003	6434	398	604	803	240
	2002	5959	345	560	721	243
	2001	5988	304	642	722	358
	2000	6258	297	598	872	324
% who took degree w foreign study GU: Utresande av examinerade (%)	2004	17	45	35	28	12
	2003	18	40	33	27	10
	2002	18	39	33	25	11
	2001	19	51	39	26	18
	2000	19	47	31	29	17
<b>Indicator or statistic</b>		<b>Nationally</b>	<b>Jönköping</b>	<b>KTH</b>	<b>Lund</b>	<b>Umeå</b>
% continuing to research FU: Övergång till forskarutbildning (%)	2004	7,2	0,9	10,3	10,6	8,5
	2003	7,1	1	11,3	10,3	9,2
	2002	6,9	0,8	12	10,1	9,6
	2001	6,5	0,7	12,1	10,0	9,4
	2000	5,7	0,7	12,8	8,8	8,2
% continuing to research but for certain designated degrees FU: Övergång till forskarutb. vissa examina (%)	2004	12	3	12	15	14
	2003	13	3	13	15	15
	2002	14	3	14	16	16
	2001	15	3	15	16	17
Beginning doctoral researchers FU: Nybörjare i forskarutbildning	2004	2944	5	290	432	193
	2003	3828	7	313	597	248
	2002	3862	18	317	588	237
	2001	3544	11	305	498	222
	2000	3060	1	255	438	161
	1999	3034	11	316	459	145
% of researchers developed within same univ. FU: Rekrytering från egen högskola	2004	45	20	47	53	52
	2003	46	14	49	55	60
	2002	44	50	41	53	46
	2001	43	36	29	57	49
	2000	42	100	45	47	45
	1999	43	27	40	53	51
Active doctoral researchers FU: Aktiva forskarstuderande (ht)	2004	19260	65	1715	3045	1230
	2003	20050	64	1732	3147	1259
	2002	19420	65	1692	3085	1153
	2001	18951	49	1663	3090	1179
	2000	18657	41	1690	3138	1109
	1999	18854	42	1742	3278	1162

Median age of active doctoral researchers FU: Medianålder, aktiva forskarstuderande (ht)	2004	32,9	31,6	31,3	32,9	33,7
	2003	32,8	31,1	31,5	32,8	33,8
	2002	33	30,5	31,5	33,1	33,4
	2001	33,1	29,5	31,2	33,3	33,8
	2000	33,2	30	31,1	33,2	33,9
	1999	33,2	29	30,8	33,3	33,9
Ave activity active doctoral researchers FU: Medelaktivitet, forskarstuderande (ht)	2004	70	64	71	68	70
	2003	71	63	72	69	70
	2002	70	67	71	69	70
	2001	70	64	70	70	66
	2000	70	71	71	70	69
	1999	69	72	70	68	69
Doctoral student FTE FU: Forskarstuderande (heltidsekv.), ht	2004	13519	42	1216	2077	858
	2003	14148	40	1244	2167	881
	2002	13619	43	1200	2124	811
	2001	13196	31	1166	2151	782
	2000	13069	29	1196	2182	764
	1999	13084	30	1228	2237	807
# employed as doctoral students, FTE FU: Antal anställda som doktorand, heltidsekv.	2004	7396	37	716	1211	513
	2003	7616	35	765	1231	523
	2002	7176	39	723	1169	526
	2001	6720	29	693	1167	454
	2000	6561	28	675	1162	457
	1999	6358	28	667	1139	496
<b>Indicator or statistic</b>		<b>Nationally</b>	<b>Jönköping</b>	<b>KTH</b>	<b>Lund</b>	<b>Umeå</b>
% employed as researchers FTE FU: Andel doktorand anställningar (heltidsekv.), %	2004	55	90	59	58	60
	2003	54	87	61	57	59
	2002	53	89	60	55	65
	2001	51	94	59	54	58
	2000	50	95	56	53	60
	1999	49	91	54	51	62
Ratio doctoral students FTE to doctoral degrees FU: Forskarstuderande (heltidsekv.) / Dr.examina	2004	5	8	5	5	5
	2003	5	20	6	4	6
	2002	6	9	7	5	5
	2001	5	8	6	5	5
	2000	6	-	7	6	5
	1999	6	8	8	6	7
# doctoral degrees FU: Antal doktorsexamina	2004	2741	5	223	458	161
	2003	2701	2	223	483	150
	2002	2476	5	175	458	148
	2001	2413	4	202	399	162
	2000	2176	-	171	368	156
	1999	2148	4	163	381	117
# of licentiate degrees FU: Antal licentiatexamen	2004	1096	-	195	89	27
	2003	1041	-	163	127	22
	2002	1024	1	156	109	24
	2001	1045	-	176	112	28
	2000	1009	-	200	118	31
	1999	968	2	165	131	32

# employed FTE PE: Antal anställda (heltidsekv.)	2004	43207	580	2081	4768	3018
	2003	43861	588	2128	4796	3074
	2002	42575	570	2133	4647	2956
	2001	41067	385	2055	4447	2871
% teachers PE: Andel lärare (%)	2004	56	57	56	53	58
	2003	55	57	56	53	57
	2002	55	54	55	50	57
	2001	53	48	53	51	56
# teachers FTE PE: Antal lärare (heltidsekv.)	2004	24080	330	1157	2505	1738
	2003	24227	336	1189	2529	1740
	2002	23327	308	1163	2321	1684
	2001	21878	185	1087	2251	1607
% women teachers PE: Andel kvinnor (%)	2004	40	49	18	32	43
	2003	39	49	18	31	43
	2002	38	45	16	30	43
	2001	37	32	15	29	42
FT students per teacher PE: Helårsstudenter per lärare	2004	12,6	21,4	10,7	11,2	9,6
	2003	12,4	21,5	10,1	10,7	9,4
	2002	12,3	22,3	9,7	11,1	9,4
	2001	12,3	26,5	9,7	10,5	9,8
Teachers with doctorate FTE PE: Disputerade lärare (heltidsekv.)	2004	12338	100	660	1594	836
	2003	11957	104	645	1557	810
	2002	11205	97	608	1449	761
	2001	10590	60	586	1390	715
% of teachers with doctorate PE: Andel disputerade lärare (%)	2004	51	30	57	64	48
	2003	49	31	54	62	47
	2002	48	32	52	62	45
	2001	48	32	54	62	45
# professors FTE PE: Antal professorer (heltidsekv.)	2004	3841	32	229	581	237
	2003	3659	29	219	558	232
	2002	3503	27	212	540	226
	2001	3268	21	205	491	217
% professors PE: Andel professorer (av lärare, %)	2004	16	10	20	23	14
	2003	15	9	18	22	13
	2002	15	9	18	23	13
	2001	15	11	19	22	13
<b>Indicator or statistic</b>		<b>Nationally</b>	<b>Jönköping</b>	<b>KTH</b>	<b>Lund</b>	<b>Umeå</b>
Turnover (in millions of kronor) EK: Omslutning (miljoner kronor)	2004	44725	560	2738	5043	2874
	2003	43701	537	2741	4957	2749
	2002	41468	483	2702	4682	2601
	2001	38175	327	2414	4433	2386
	2000	36522	308	2414	4199	2249
Office costs as % of turnover EK: Andel lokalkostnad av omslutning (%)	2004	14,4	14,0	19,4	13,1	9,8
	2003	14,2	14,7	18,4	13,3	10,4
	2002	14,2	16,3	18,9	12,6	10,4
	2001	14,1	19,8	17,3	12,7	10,1
	2000	13,8	18,1	17,3	11,9	10,6
Library as % of total costs	2003	2,7	2,6		2	2,2

EK: Andel bibliotekskostnad av omslutning (%)						
	2002	2,3			2	2,2
	2001	2,7	-	3,0	2,2	2,3
	2000	-	-	-	-	-
Undergraduate education as % total costs EK: Andel grundutbildning av total kostnad (%)	2004	46,3	74,9	35,6	34,4	45,8
	2003	46,4	77,5	35,1	35,4	45,3
	2002	45,3	79,6	33,2	34,8	44
	2001	44,9	76,9	33,6	33,9	42,3
	2000	44,1	73,2	33,6	31,5	42,3
% research education EK: Andel forskning/forskarutbildning (%)	2004	53,5	25,1	64,4	65,6	54,2
	2003	53,3	22,5	64,9	64,6	54,7
	2002	54,2	20,4	66,8	65,2	56
	2001	54,3	23,1	66,4	66,1	54,9
	2000	53,7	26,8	66,4	64,6	55
% external financing EK: Andel extern finansiering totalt (%)	2004	35,2	28,1	44,6	38,3	31,9
	2003	35,3	25,5	45,5	40,4	31
	2002	35,5	20,9	46,5	40,8	30,2
	2001	39,2	26,2	46,0	42,1	32,2
	2000	40,4	27,6	46	42,7	31,2
% income from govt budget EK: Andel (statliga) anslag (%)	2004	64,8	71,9	55,4	61,7	68,1
	2003	64,7	74,5	54,5	59,6	69
	2002	64,5	79,1	53,5	59,2	69,8
	2001	60,8	73,8	54,0	57,9	67,8
	2000	59,6	72,4	54	57,3	68,8
% research grants EK: Andel forskningsanslag (%)	2004	37,6	9,3	42,7	48,5	44,1
	2003	37	9	43,5	48	44,6
	2002	37,8	8,5	44,8	48,9	45,6
	2001	41,4	10,9	46,2	53,2	47,0
	2000	42,3	10,1	46,2	53,7	48,9
<b>Indicator or statistic</b>		<b>Nationally</b>	<b>Jönköping</b>	<b>KTH</b>	<b>Lund</b>	<b>Umeå</b>
Grants for research & research educ per doctorate granted as % of total research funds EK: Anslag forskning/forskarutb. per Dr. examina	2004	3,9	-	2,9	3,1	5,2
	2003	3,9	-	2,9	2,9	5,6
	2002	4,1	-	3,6	3,0	5,5
	2001	4,0	-	3,0	3,4	4,8
	2000	4,2	-	3,5	3,5	4,9
	1999	4,0	-	3,2	3,4	5,7
% external commissioned education EK: Andel uppdragsutbildning (%)	2004	5,4	5,1	1,2	2,8	10,8
	2003	5,3	5,6	2,1	2,5	10,4
% external research EK: Andel uppdragsforskning (%)	2004	7,0	31,5	5,7	4,2	9,1
	2003	6,2	4,2	5,2	3,1	8,1
Income from research EK: Intäkter, forskning (milj. kr.)	2004	23464	144	1758	3116	1521
	2003	23072	121	1772	3175	1484
	2002	22195	94	1764	3082	1423
	2001	20390	75	1591	2923	1307
	2000	19479	82	1591	2667	1252
Ratio external financing EK: Andel extern finansiering, FFU (%)	2004	53,5	71,7	63,0	53,3	44,1
	2003	54,8	69,8	63,4	56,1	43,6
	2002	54,6	65,5	63,9	55,7	42,9

	2001	53,2	64,7	62,3	53,5	40,5
	2000	52,6	71,9	62,3	51,9	38,8
% financing from Research Councils EK: Finansiering från forskningsråd (%)	2004	16,1	2,1	15,5	20,6	17,8
	2003	15	4,1	15,6	19,3	14,6
	2002	13,5	1,8	14,6	17,2	14,3
	2001	13,2	-	16,3	17,2	16,5
	2000	14,9	-	16,3	20,9	19
<b>Indicator or statistic</b>		<b>Nationally</b>	<b>Jönköping</b>	<b>KTH</b>	<b>Lund</b>	<b>Umeå</b>

[http://nu.hsv.se/NUController?event=NYCKELTAL\\_RESULTAT](http://nu.hsv.se/NUController?event=NYCKELTAL_RESULTAT)



**Attachment A:**

Lund University Board. (2002) *Strategic Plan 2002 - 2006: Lund University*. (adopted by the Lund University Board 17 December 2001), Lund: Lund University, Information Office and Planning Division; document online at:

[http://www3.lu.se/info/strategiskplan/dokument/strategisk\\_plan\\_LU\\_eng.pdf](http://www3.lu.se/info/strategiskplan/dokument/strategisk_plan_LU_eng.pdf)



strategic plan 2002–2006

LUND UNIVERSITY

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This document was adopted by the Board of Lund University on 17 December 2001. A small edition has been distributed to all the departments and units of Lund University as information to non-Swedish-speaking employees and students. The strategic plan is also available in a Swedish version which has been issued to all the University's employees.

Further copies of the English or the Swedish version of the strategic plan may be ordered from the Information Office, Lund University Box 117, 221 00, tel. +46 46 222 70 10, fax +46 46 222 47 11, e-mail: [info@info.lu.se](mailto:info@info.lu.se)

Both documents are available on the University's website at:  
[www.lu.se/info/strategiskplan/](http://www.lu.se/info/strategiskplan/)

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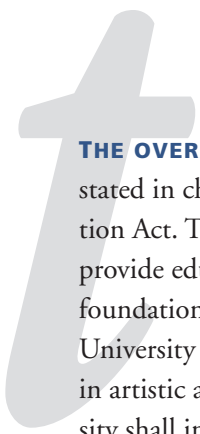
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# introduction



**THE OVERALL MISSION** of Swedish universities is stated in chapter 1, section 2, of the Higher Education Act. This declares that the University shall provide education based on a scientific or artistic foundation and on proven experience, and that the University shall pursue research and development in artistic and other fields. In addition, the University shall interact with the surrounding society and inform about its work. The Higher Education Act and the Higher Education Ordinance also contain rules about how the mission is to be fulfilled, and there is further regulation of the University's activities in parliamentary budget decisions, in spending authorizations, and other government decisions. Within the framework of parliamentary and governmental regulations and decisions, the University has the freedom to formulate its mission and how it is to be carried out.

**THE GOALS AND STRATEGIES** formulated by the University itself are thus vital if the University is to be able to fulfil the commitments formulated by the government and parliament, and simultaneously to develop its full potential. The diversity of the University's activities and the requirement that every part of the University must be allowed to develop on the basis of its specific task and potential makes the commitment to the University's unifying common values crucial in all planning processes and hence in this strategic plan.

**HIGH PRESTIGE** as a university is perhaps the most important asset for Lund University as a whole. Dynamic development and a capacity for change,

a commitment to culture and the development of society, international openness, freedom to pursue research and teaching without economic or political ties and to occupy a prominent role in the international scholarly community are properties that are generally associated with a prominent university. Every university must furthermore develop and utilize its own special potential. A strategic plan for Lund University must aim both to strengthen the general qualities and to develop the University's particular potential.

**THIS STRATEGIC PLAN**, ratified by the Board of Lund University, formulates vision, values, objectives, and strategies for the immediate future. The document is the basis on which each faculty, department, and unit will then formulate its own specific goals and strategies. The common strategic plan is also the foundation for the policies and plans that the Board of Lund University adopts for various matters, such as work for gender equality, for industrial liaison and for environmental work. In particular, it serves as a basis for the University's quality assurance programme. Objectives and strategies, policies and plans at various levels and on various matters should thus work jointly to further the overall achievement of the University.

**IN ORDER FOR** the strategic plan to have an impact it has to be taken into consideration in the University's planning process, as regards both activities and allocation of resources. Here, the strategic plan should serve as the guideline for important priority decisions.



## Lund University's vision

Lund University has a leading international, national, and regional position. Education, research, and artistic development work are carried out at the highest international level. In collaboration with the various sectors of society, Lund University helps to explain and shape people's living conditions and the development of society.

A versatile academic environment, well developed international collaboration, closeness to other universities, and vigorous cultural life and business in the Öresund region lead to boundary-transcending and innovative cooperation. Lund University is

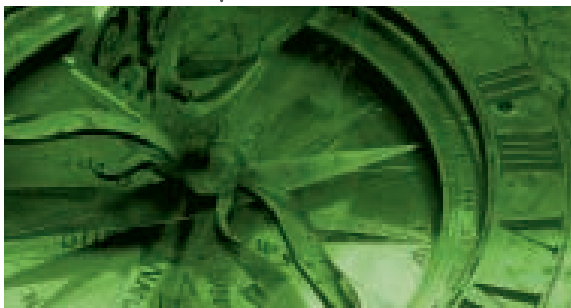
developing its multidisciplinary, creative, and innovative capacity and creating new meeting places in education and research.

Lund University is continuously renewing an attractive and dynamic setting, characterized by social and ethnic diversity, gender equality, democratic values, openness and critical thinking, and by work for sustainable global development. Lund University is an important cultural institution in society, preserving and renewing a long tradition of culture and scholarship.



## basic values

- The basis of the University's work is the pursuit of knowledge and perspectives, along with analysis, synthesis, critical testing and assessment of facts and values. All activities are carried out with respect for arguments and with objectivity. The University stands by the individual's freedom to test arguments, freedom of thought and expression, and the freedom to choose research tasks and to publish one's findings.
- The University – employees and students – is an active voice in society. The University makes its knowledge available and adds perspectives and alternative outlooks, and is thereby not just a reflection of society but also an actor criticizing and exerting influence on society.
- The University builds on and communicates democratic values. The integrity of the individual is upheld. Employees and students have influence over their work and their studies, sharing responsibility for the development of the University.
- The University's work is based on gender equality and an aspiration for ethnic and social diversity. The equal value of all people is recognized, and the University combats racism and xenophobia.
- The University is an international environment. All activities are pursued in an internationally open way, thereby furthering peaceful cooperation across cultural and national boundaries.
- The University is an organization, which is very open to the rest of society and to individual citizens. The University interacts with the surrounding society in order to contribute to cultural and economic development – regionally, nationally, and internationally.
- All work at the University is based on quality and innovative thinking.
- The University is an environment characterized by openness to new ideas, focus on human beings, and curiosity about the unknown, with humour, scepticism, and humanism as key words.



## objectives and overall strategies

On the basis of its vision, its fundamental values, and its understanding of the challenges formulated by society at large, Lund University formulates the following objectives and strategies for the coming five-year period.

### **Research and education**

Lund University shall strengthen its position as a leading international research-intensive university with undergraduate education, which is in close contact with research and society, and which maintains the highest pedagogical quality. The education offered shall meet the needs and demands of the students and of society. The students shall take active part in the educational process. Students from Lund shall have a good knowledge of their subjects, and be well equipped for their future tasks for leadership in general and leading change in working life.

Education at all levels shall develop the students' analytical ability, critical thinking, and ability to search for, compile, and present information.

### *Strategies towards this objective are:*

- To continue developing a research strategy at faculty and university level. The University shall establish Creative Centres for concerting the efforts of leading research and education, both within the faculties of the University and across faculty boundaries. Special efforts shall be made on behalf of younger researchers.
- To strengthen the administrative infrastructure with the best possible service for research and its development. This also includes being prepared to plan and implement international and national cooperation on major research projects.
- To implement and devise the quality-development programme for postgraduate education in each faculty.
- To strive to provide a wide range of subjects but at the same time be prepared to appraise the quality and legitimacy of every subject.
- To increase the number of multidisciplinary courses in undergraduate and postgraduate education.



- To introduce new and more varied forms of teaching with increased student activity. The special potential of information technology shall be utilized for this. Pedagogical training for teachers and doctoral students shall be developed.
- To allow students to meet the University's prominent researchers at an early stage in their education.
- To develop features in the education, which have practical links to a future working life.
- To continue to play a leading role in the development of lifelong learning. Supplementary training and in-service training of similar quality as other education shall be a natural part of the University's activities.
- To develop education adjusted to groups, which are under-represented at the University today.
- To establish real student influence at all levels, both formal and informal, with an active dialogue between teachers and students.

### **The people and the university environment**

Lund University shall attract the best researchers and teachers. A stimulating, demanding, and meaningful education and a creative and international environment shall attract the students. A good working environment, vital internal democracy,

and good cooperation between students, teachers, and other staff shall characterize the University.

#### *Strategies towards this objective are:*

- On the basis of an analysis of such things as retirements in the coming ten-year period, to design a programme for recruiting first-class researchers and teachers.
- To develop the range of education so that it satisfies the needs existing in a changed labour market and simultaneously attracts motivated students.
- To work for a reformed and appropriate admissions system.
- With the aid of the continued use of barometers for students, doctoral students, and teachers as well as for other activities and staff, to make continuous improvements to the work environment and student welfare.
- To provide new students and employees with a good introduction to studies and work at the University.
- To develop the academic environment continuously for the benefit of education and research, through e.g. libraries and information centres.

- To try new forms of consultation and discussion in order to vitalize internal democracy.
- To further the social, ethnic, and international diversity of the academic environment.
- To implement and develop in each faculty the University's gender equality plan.
- To stimulate shared responsibility and through education and other measures to improve leadership at different levels throughout the University.

### **Meetingplaces and cooperation**

Lund University shall actively further both diversity, in the sense of broad and multifaceted activity, and cooperation. This applies both within the University and in relation to the surrounding society. With respect for differences, there shall be increased awareness among employees and students that they belong to a shared university with its possibilities for boundary-transcending and innovative cooperation. The insight that the University as a whole has a value, to which each individual part contributes, and from which each part benefits, will thereby increase as well.

#### *Strategies towards this objective are:*

- To create better and simpler cooperation in education and research between different sections and departments.

- To establish new formal and informal meeting places – especially for meetings between teachers and between teachers and students – for example, by means of premises, seminars, and new forms of interaction.
- To develop cooperation with the various parts of the surrounding society, for example, school, business, politics, public authorities, culture, the health service, and the care sector.
- To strengthen cooperation with external financiers and donors, while a policy programme is simultaneously adopted to guarantee the University's fundamental values.
- To develop cooperation with other universities and colleges, e.g. within the Öresund University.
- To demonstrate the importance to society of the University's research and artistic activity by means of increased information and by stimulating researchers and artists to take an active part in the social debate.
- To develop the University's communication with the surrounding world and the communication within the University.



## prioritized strategic target areas

### **Recruitment of students**

A good influx to undergraduate education, of motivated, well prepared students is of the utmost importance to the University. Recruitment must therefore be given top priority. Information about and marketing of the University's educational range must therefore be increased. Active measures in schools and other education providers must be implemented to increase interest in the University's education. Special efforts must be made to attract new groups to higher education. In this connection, the University shall also develop its role in contributing to lifelong learning.

### **Recruitment of teachers**

Large numbers of teachers will be leaving the University as they reach retirement age in the next ten years. The University must make considerable efforts to recruit teachers, researchers, and doctoral students. This work must take into consideration the special necessity of a more even division between the sexes among the University's teachers and researchers. The results of the University's postgraduate education are also of major importance for the possibility of being able to recruit qualified teachers.

### **Research priorities**

The work hitherto carried out with the aim of deciding on research strategies and research priorities must be continued. In this connection it is also essential to develop mechanisms for winding down research, which is unable to maintain a good quality, in order to enable investment in new areas with a high development potential.

### **Leadership development**

The University's leadership development shall continue. Special importance will be attached to education in conflict handling and to staff policy.

### **Multidisciplinary efforts in research and education**

The breadth of the University must be utilized by means of activities in research and education, which transcend section and subject boundaries.

### **Development of postgraduate education**

Training of supervisors will be developed. Doctoral students will be given opportunities for pedagogical education and training as part of their postgraduate education.

**Cooperation with the surrounding society**

The University’s cooperation with the surrounding society will be further developed. A communication platform for Lund University will be developed to support this work. The project *The Image of Lund University* will be completed.

simultaneously be attached to the organization of systematic and continuous follow-up and feedback on the work of the University, as regards both quality and results.

**Pedagogical renewal**

The renewal of the University’s pedagogical work will be intensified. The organization *Learning Lund* and the use of new information and communication technology will play a significant role in this. Special efforts will be made to develop education in university pedagogy.

**Review of the organization of Lund University**

The organization of the University will be reviewed. The need for short and efficient decision-making channels and the need to facilitate change and cooperation across department and faculty boundaries will serve as starting points for this review.

**System for quality assurance and follow-up**

The University’s system for quality assurance will be further developed, while great importance will





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**Attachment B:**

Stenlund, Bengt & Jef Van den Branden. (1999) *Evaluation of university strategies for new technologies in teaching and learning: Report on the visit to Lund University, Sweden*. Geneva: CRE (Association of European Universities); document online at:  
[http://www.evaluat.lu.se/overutv/CRE/Report/Lund\\_report\\_final.pdf](http://www.evaluat.lu.se/overutv/CRE/Report/Lund_report_final.pdf)



## **Evaluation of university strategies for new technologies in teaching and learning**

*Report on the visit to Lund University, Sweden*

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## Introduction

In this report, the authors give an overview from their impressions, comments and remarks as resulting from the written information provided by Lund University and their two days visit to this university on 27-28 April 1999 in the framework of the CRE project. During this visit also Jacqueline Garner from the CRE Office, Geneva was present.

A very extensive information was available in English and/or Swedish:

- The answers to the CRE questionnaire
- Lund's annual report 1997 and facts sheet 1998
- Review of IT Support at Lund University (P. Liddell, 1998)
- The IT for Quality strategy paper (1998-2000)
- English summaries of faculty IT plans (Faculties of Humanities and Theology, Faculty of Science, Faculty of Law, Faculty of Medicine, Faculty of Technology, Faculty of Social Science, Academies of Performing Arts)
- Activity reports from the various units in the central IT support organisation (Centre for Teaching and Learning – UPC, Centre for Information Technology in Education – CITU, Office of Continuing and Distance Education – OCDE, Lund University Library – LUB, LUB Netlab, Lund University Computing Centre – LDC)
- The university's web site

During the visit, the following university units and persons were contacted:

Vice-Chancellor (Rector), Prof. Boel Flodgren

Pro Rector, Prof. Arne Ardeberg

Mr. Hans Näslund (Office of Evaluation)

The Deans of the various Faculties

The Chairman of the Working Group for IT-Strategy, Prof. Hans Andersson

Mrs. Eva Falk Nilsson, Dr. Jan Billgren, Mr. Torgny Roxå at UPC

Dr. Eva Wigforss, Mr. Jörgen Hasth and Dr. Anders Järnegren at OCDE

Dr. Eva Fasth, Ms. Jenny Hällen, Dr. Jan-Olof Nilsson, Dr. Kjell Nilsson, at the Department of Sociology,

Mr. Sten Weijdegård, Mr. Torgny Hallenmark, Mr. Gunnar Knutsson at LDC

Dr. Skotte Mårtensson, Dr. Stefan Persson, Dr. Bengt Kjöllnerström, Prof. Peter Löwenhielm at CITU

Dr. Göran Gellerstam, Mr. Snorre Rufelt, Mr. Colin Doyle at the University Library

Mr. Michael Eriksson, Mr. Matthias Person at the Student Association



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## Lund University

Lund University is the largest institution for research and higher education in Sweden, with eight faculties and a number of research centres and specialised institutes. Although the major part of the university is situated in Lund, some of the departments are located in Malmö.

The total student number (1997) is 42.000 (30.000 FTE - half of which are women), in majority studying at undergraduate level: 3.600 (2.200 FTE – 41 % women) are doing postgraduate studies. Since then, the student number has decreased by ca 6.000, belonging to departments that have been transferred to the newly established University College in Malmö. Student mobility is situated at about 800 incoming and about 1000 outgoing students.

The university offers about 850 subject courses in 50 degree programmes. At present more than 150 distance courses are in use, between 80 and 90 of which are Internet-supported, whereas 25 are supported through local study centres.

The total number of staff is approximately 6.200 (5.800 FTE – about 45 % of which are women), including 400 professors and ca 1.700 lecturers, 1.500 research fellows and 2.500 technical and administrative staff.

Lund University focuses on *active learning*, stimulating teachers to encourage the students' (independent) learning, and acting as mentors and resource persons rather than as traditional lecturers. Education aims at total understanding, problem solving, project work, competence building, communication skills; through individual as well as co-operative learning approaches.

## Overall mission of the university and technology strategy

### *The university's overall mission*

The university's overall mission is expressed in the following way in its Strategic Plan from 1995 ([www.evaluat.lu.se/dokument/strategiplan](http://www.evaluat.lu.se/dokument/strategiplan)).

“Lund University shall, as an institution for research and academic and artistic education, meet the modern society's needs for knowledge based on classical university ideals.

Lund University claims its position among the foremost universities of Europe. This means that all activities within the university must maintain a high level of quality. All decision-making within the university shall be guided by this quest for quality.

In its main tasks – undergraduate education, research and research training – the university shall

- offer undergraduate academic and artistic education in areas where research and development work is carried out;
- in areas where necessary conditions exist or can be developed, carry out research and artistic development work on a level comparable to the world's leading universities;
- offer an efficient research training of a high international class. Research training shall be organised in such a way that students get a solid scientific training and become capable – with proper guidance – to produce dissertations on a high scholarly level within the required time limits.

To carry out these tasks the university must

- participate actively in international co-operation in research and education.

The university also has a responsibility for disseminating research results to the surrounding society. To this end, the university shall

- disseminate results from research and development work through various media and utilising modern information technologies;
- together with industry and commerce, as well as with state and local authorities, work actively for the utilisation of research results;
- together with industry and commerce, as well as with authorities and organisations, support competence development, i.a. through further education and training for persons in employment.

The university shall also

- take responsibility for the environment within the university and in its surroundings, and contribute actively towards a sustainable way of utilising the Earth's resources;
- actively support equality between men and women.”

### *Information and communication technologies (ICT) in teaching and learning*

Within this mission, the university's policy is aimed at

- the integration and use of new technologies in the *mainstream activities*
- ICT and technology supported learning (TL) activities that are *guided by a central strategy*
- *Emergent ICT and TL activities* that are not related to the central strategy

Globally, the Strategic Plan expresses the university's aims with regard to ICT as follows:

“The goal must be that all employees – teaching and research staff as well as administrative staff – and all students, undergraduates as well as research students, shall be well acquainted with the possibilities of information technology and the tools for using IT. Our ambition is that every student leaving the university shall have achieved such a level of competence in computer usage and information technology as will be needed in the society of the future.”

A more concrete perspective is given in the Quality Development Programme for the years 1996–1998 (March 1996; [www.evaluat.lu.se/dokument/kvalitetsprogram](http://www.evaluat.lu.se/dokument/kvalitetsprogram)), in making reference to the Centre for Information Technology in Education (CITU) created in 1995.

The goals concerning the pedagogical use of information technology were expressed in the following sentences in the Quality Plan:

- “The possibilities offered by new information technologies for strengthening the quality of teaching and support students’ learning shall be tried out in all teaching programmes of the university. During the planning period, teachers shall be offered consultancy and funding for such projects. Funded projects shall be followed-up and evaluated. Such development work must also be adequately assessed within the university.”
- “Each faculty is responsible for supporting this development. The responsibility of CITU applies mainly to development projects of a more general character or having a common pedagogical interest.”

In the IT plan “IT for Quality. Goals and strategies for the information technology development at Lund University 1998-2000”, adopted by the University Board on 15 December 1997, it is stated that

- By the year 2000, Lund University shall have attained an internationally competitive level with regard to the use of information technology, combining advanced subject knowledge with modern learning concepts. Today, modern information technology is in fact one of the most powerful factors for pedagogical change and development. The long-range developmental strategy of the university shall therefore be to become maximally competitive in this area. The university shall take advantage of the potential of the IT tools in all areas in teaching and learning, in research, in information and in administration. The university shall see to it that there is enough competence and capacity to follow the national and international development in the field.
- The responsibility for the IT development within the university lies primarily with each faculty – and ultimately each single department. The responsibility of the central management of the university concerns primarily the common infrastructure and general support measures.
- Before 1 July 1998 each faculty board shall present a plan for the IT development within its own domain, specifying goals for the next years and a plan of action for realising the goals.

As Strategic aims and objectives, this document repeats the 1996 objectives, adding explicitly a dimension of co-operation with universities in Sweden and abroad, and giving a number of concrete goals for the planning period with respect to:

- Libraries and information retrieval (creating access for staff and students to national and international databases and develop forms for electronic publishing)
- Information technology for external contacts (promoting and facilitating access to the university from the world around and dissemination of information about research and education at the university through Internet)
- Gender perspectives (paying specific attention in training programmes to the needs of female staff and students)

- Access to computing and IT resources (access of all staff and students to local and global computer networks, as far as possible from their workplaces as well as from their homes, and facilitating IT-supported distance work)
- Administration (compatible administrative systems, using platform independent web-based interfaces)
- Ethical and legal aspects (paying attention to international norms for network usage, to integrity of users, to copyrights, data security and secrecy)
- Central management and co-ordination (through a central organisation for IT matters, reporting directly to the Rector).

## **Development, communication and implementation of this strategy throughout the university**

The university is a very decentralised organisation, the Central University Board covering the general questions, all other issues (including budget and financial administration, personnel) being largely dealt with at faculty level. Most central services/offices are directly positioned at the central level, and co-ordination and IT management are for the time being done by the Pro-Rector, who devotes about 20-25 % of his time for this purpose. The university might consider whether this capacity is sufficient. A full time position with an identified responsibility for ICT-development and especially IT-pedagogy might be more appropriate.

Central initiatives to stimulate IT use resulted in the already mentioned IT Quality plan. An evaluation of the IT support was done by an external expert, Prof. P. Liddell (University of Victoria, BC Canada), and a task force established (Working Group on IT strategies) under chairmanship of the Dean of Humanities, and with a composition that covers the available expertise and spread in attitudes towards ICT. According to its Chairman, this group had an inspiring discussion, and a final document that was very well received by the faculties. Follow up, evaluation and quality assurance is covered within the Office of Evaluation (supporting faculties with self-evaluation and external evaluators), in which one of the five staff members is responsible for IT development).

In preparation of a common IT plan, all faculties had to produce their own IT plan, developing their own IT objectives and priorities. As a common denominator, all faculties consider the access of students and staff as an important issue (in some cases devoting explicitly attention to the aspect of IT training and infrastructure), as well as the use of IT for teaching and learning (e.g. the use of e-mail, electronic conferences, virtual seminars). Some go into the aspects of distance education and/or electronic libraries and electronic publishing. Plans of various faculties tackle the costs and (human) resources connected to the plans.

The provided IT faculty plans as well as the contact with the Board of Deans, demonstrate clearly that IT has become a top priority throughout the universities, although the various faculties and departments set out slightly different objectives, rather different priorities within

these objectives and quite different pathways to meet the objectives (e.g. nature and scope of activities in the Institute of Technology as compared with Malmö Academy of Performing Arts).

## **Key activities; link and impact of strategy**

At the faculties level:

As can be expected, the Institute of Technology pays a large attention to the computer for modelling, simulations, computation, and is moving from the common students' use of computer labs to the private availability of computers to students. IT supported learning is clearly oncoming, but distance education is not considered as an issue as such for on campus use.

The Faculty of Science also considers the availability of computers for students as an essential issue, and has strong ambitions in enhancing computer mediated communication in its education. The question is nevertheless raised whether students recognise the need/added value of electronic discussion boards as they reside on campus. Distance education is not directly a Faculty issue, but rather a departmental concern. Some courses have already been developed (e.g. in physics, biology) or are under development (e.g. in chemistry).

The Faculty of Medicine experiences the push of (especially younger) staff, but scarcity of financial resources forces to prioritise. IT (e.g. web) is considered to be a common tool (also for administration) and computer classes are used for training. Computer assisted teaching remains however costly and buying materials in tends to be more cost-effective (certainly if this can be done in the framework of collaboration as is the case with Harvard) then developing them. "Telemedicine" is considered as a priority, and is being researched in collaboration with companies.

The Faculty of Social Sciences considers the central IT strategy document of the university as a useful basis, but experiences problems with its practical implementation. Teaching staff is quite satisfied with the available equipment. Implementation of distance education is different between the departments: some outstanding results have been booked by the Department of Sociology, other departments have far less experience.

At the central level:

Cross-checking of the faculty plans as a way to feed the central IT strategy plans is considered necessary, but should still be worked out, and may/should feed the update of the central IT strategy.

A central management and co-ordination organisation for IT matters, reporting directly to the Rector is to be established. The intention is also to appoint 1 full time special task officer for co-ordination in the near future.

As the main responsibility for IT use is situated in the faculties/departments (e.g. financing the replacement of outdated equipment, paying for course development, etc.), an additional amount of 4 M SEK (450 m\_) has been set aside in 1998 to support the development. It has been used for about 25 % to centrally support projects. The remaining money of 1998 will be added to the 1999 budget to intensify the operation (e.g. by extra supporting CITU, for the development of an IT-based lifelong learning strategy, for new projects).

Although the initiative to introduce IT in Lund University was centrally taken (with support of the Board of Deans) and presented to the university in a top-down approach, implementation evolved towards a movement of complementing top-down and bottom-up initiated activities. This finds its expression not only in the Faculty IT plans, complementing and partly also orienting the central IT for quality plan, but also in the direct support (including sometimes financial “support” and/or pay per service) that is given by the faculties to the central support units.

Lund University is planning to bring all central support units into one building, hoping that synergies and mutual co-operation will be strengthened and support to users (faculties, students, central administration) maximised.

Two examples to illustrate the link to strategy and its impact:

Humanities and Theology:

The central IT-plan functioned as the starting point for the development of the own Humanities plan. In 1999, 2 million SEK was offered to Humanities and Theology for courses and for the development of infrastructure (for enabling distributed learning through Internet and for electronic libraries/electronic publishing as necessary tools for teaching and learning). LUVIT (a brief description of this support environment is given when CITU is discussed) has contributed to remarkable progress in distributed learning in literature, theology and medieval archaeology. Plans now exist for collaboration with several European universities for distributed courses.

Large (and very appreciated) support was offered by CITU and other central services, although some overlapping was mentioned (which provoked the remark of the Dean "Do we have the best possible organisations"?). Remaining issues are:

- Need to develop courses where the benefits of IT are really used from a pedagogic perspective. It is noticed that the departments of the Faculties of Humanities and Theology are not able to perform this alone.
- Internet is invading teaching and learning; there is a need to teach source criticism in the use of Internet. This need is not yet addressed.
- Printing on demand is of interest to humanities (specifically for small volumes) and should be considered by the university ('s central services ?)
- Use of IT in classroom is still problematic; especially in small classrooms there is a lack of equipment

Sociology:

The Department of Sociology developed a full masters in distance education mode with the use of IT and delivers and awards it through Internet. It originally started in 1996 in the transformation of traditional distance education courses into IT based ones, coming from personal interest of some academic staff after attending the Online Educa Berlin conference. The chosen solution is a low tech one in a high tech environment: problem based and collaborative learning oriented and enabling people with modest performance computers and connections to use the web. Therefore the materials are as much as possible text based, but interaction (through assignments, a cybercafe, discussion of papers, etc.) is intense. At the moment at least half of the staff is teaching both face-to-face and on Internet, and the consequently the suggestion is made to change all evening classes into Internet courses. Motivation of staff to work on the Internet courses was supported by extra paying them for the development (financed via projects) and by going with them to conferences where the potential of ICT was clearly demonstrated. Important was the restriction of the decisive level to the Department (instead of the Faculty): it enabled smoother operation. For the moment the interest is at least as much outgoing to internationalisation. Collaboration is (being) established with universities in Romania, Bulgaria, China, Japan. Although not directly recognised as problematic by the interviewed staff, the accreditation through Internet of the masters degree might cause problems in such an international environment.

## Partnerships

Lund University is (as the only large European university) a member of the New Media Centres organisation ([www.newmediacenters.org](http://www.newmediacenters.org)). The university is also a member of the Swedish Consortium for Distance Education ([www.distans.kth.se](http://www.distans.kth.se)). ICT-based in-service training courses for external partners have also been developed.



Many partnerships are established in the framework of projects. European projects (Socrates, Telematics Applications, Esprit, Innovation, Multimedia, ISPO). In total, more than 260 contracts have been entered in the fourth framework, about 10 of which are directly oriented towards ICT, and 3 Socrates projects with ODL/ICT impact are being co-ordinated by the university. Finally, Lund is represented as the only Swedish university in the Steering Committee of the new EU initiative PROMETEUS (promotion of multimedia access to education and training).

To be specially mentioned is the preparation of a 3 years project, funded by the Wallenberg Foundation that intends to revitalising higher education in Sweden by using modern technology and modern teaching methods. For this purpose, partnership with the Knowledge Network/Knowledge TV, Chalmers University as co-manager of the project, a number of Swedish Universities and maybe also the Center for Global Learning-Stanford University are set up.

Also with industry there are partnerships set up. An example was given during the visit of the partnership between OCDE and Scandia for training of employees of this large insurance company via distance education.

On the commercial level, a locally developed WWW tool for distance learning (LUVIT) is being commercialised ([www.luvit.org](http://www.luvit.org)). The university has acquired half of the shares of Swedec AB, a company specialised in international educational projects ([www.hifab.se/English/Swedec](http://www.hifab.se/English/Swedec)).

## **Technical infrastructure**

By the end of 1998, the university had over 27.000 computers (and peripheral equipment) connected to Internet, the number of students with centrally administered individual user identities was 13.200, whereas the figures for dial-up connections were 5.900 for students and 3.500 for staff. To these figures of student IDs and connections should be added those provided by the technology faculties (using their own network management). All student dormitories are connected to the university network.

## **Financial situation**

The total funding reached in 1997 424 M Euro. State grants were obtained for undergraduate education (173 M Euro) and research and postgraduate education (104 M Euro), external funding came from research councils (33 M Euro), other public research grants (30 M Euro), commissioned research (26 M Euro), foreign grants (4 M Euro) and EU (6 M Euro).

## **Organisational issues: support services/offices**

### *CITU – Centre for Information Technology in Education*

CITU's main task is to support, in various ways, staff development concerning information technology as a pedagogical tool. CITU should be a knowledge and competence centre supporting teachers who want to use IT in their teaching and as a learning tool for their students (e.g. by providing a helpdesk, videoconferencing facilities and support). CITU should also play a role in research and development in IT pedagogy and in the present expansion of distance education. CITU is also supposed to follow, and contribute to, the expanding international development in IT pedagogy. Finally, a part of CITU's role as an IT centre is also to participate in negotiating favourable license agreements for computer software for educational use.

To stimulate the use of IT, the Vice-Chancellor's Office yearly distributes funds to faculty projects. CITU has been involved in the evaluation of the project plans and the support to projects. CITU created a database of these projects for dissemination purposes.

Several tools for education have been developed within CITU:

- an evaluation tool 'EVA' (<http://bengt2.citu.lu.se/eval>), used for questioning the students' attitude towards ICT as well as for teacher evaluation
- 'LUVIT' – an environment and a toolbox for the development, delivery and student support of web-based courses, distance education, further education, continuous learning and on-campus courses (<http://www.luvit.com>)
- 'IT Campus', a forum for students and teachers at universities for co-operation, production and acquisition of good course materials, resources, links, etc. (<http://ITCampus.org>)

CITU provides training in the use of LUVIT, is running the multimedia lab (together with LDC, OCDE and UPC). It is planning a 'sim school' (support to teachers to develop simulations) and has been asked to build Lund's virtual university (in collaboration with Glasgow university and Dave Whittington (the developer of Clyde Virtual University)).

An important way to implement IT use in the university is the involvement of "IT Tutors": regular staff from faculties, seconded for 25 % of their time for a period of 2 years to CITU (mainly for web mastering and the development of web courses). The advantage of this approach is that they bring into CITU the problems faculties are confronted with, and then return to the faculties CITU's services to solve the problems.

### *UPC - Centre for Teaching and Learning*

UPC is primarily a training unit, and its main task is to support general pedagogical competence development for teaching staff. It has clearly a good reputation for its workshops on the principles and techniques of university instruction. Its annual budget of 4,5 M SEK and from selling of services (training of teachers and postgraduates, consultancy) comes mainly from faculties. Although UPC introduced the discussion regarding ICT in teaching already in de mid eighties, only small resources have been used for this purpose. It was later CITU which took over the IT-oriented activities (which now creates a "healthy tension" between CITU and UPC to discuss quality issues, according to the UPC director). UPC pointed out the possibility to use IT as a support in creating source criticism among students, an pointed out the potential of the EVA(luation) tool for support to study what happens in the minds of students in a learning situation.

In Liddell's external evaluation it was already mentioned, but it is also fully agreed by the UPC staff, that UPC should be (more) involved in pedagogical research with respect to ICT ("the learner's viewpoint, rather than the teacher's one"), e.g. with respect to problem based learning.

### *OCDE - Office for Continuing and Distance education*

The Office for Continuing and Distance Education (OCDE) is created three - four years ago to primarily promote and support educational initiatives for competence development professionals: continuing education, industrial and business training. This is envisaged by making courses more flexible and available both for campus students and non-traditional students, but also by offering tailor-made training, i.e. learning on demand. Lund University wanted to reach this flexibility through distance education, be it one that is based on Internet. LUVIT is considered to be a most appropriate tool for that purpose, and OCDE and CITU are consequently collaborating, together with the commercial company that took LUVIT in exploitation, to turn the potential into reality. Also within this environment pedagogy is considered as more important than technology to enhance the quality and effectiveness of learning technology , and the Institute of Educational Technology of the British Open University (Diana Laurillard) has been contacted for consultancy.

As an interface towards the outside world, OCDE is successfully exploring contracts with industry, business world and public sector.

### *LDC - Lund University Computing Centre*

As independent business unit, LDC runs its activities on the basis of a lump sum and contracts for additional services. It is however competing with the market for services to the university, but has also customers outside the university. The turn over is between 35 and 40 M SEK per

year, the number of employees is about 50. Besides its primary task as the university's IT service provider (being responsible for operation and development of the university network, for certain common computer facilities and applications, for the university administrative systems, for support to departments etc), it offers maintenance of equipment, consultancy services, security services, backup services, e-mail administration, helpdesks, runs systems for the university (e.g. the Library system), and houses systems ("computer hotel") for other units. At the moment, the network is a fast ethernet one (100 Mbit now, upgrade capability to a gigabit network), which offers sufficient capacity to fulfil the needs. Finally, LDC offers training of university employees in software applications (productivity tools, office suites, etc.). For the near future an integration of telecommunication and data communication through the new generation of switchboards will lead to a higher involvement of LDC in the functioning of the university. Even if LDC is an independent business unit, we felt a certain lack of offensiveness in the activities of the department.

### *LUB - University Library*

LUB is very decentralised, and in fact a network of libraries of about 150 libraries, 30-40 of which are large ones. The libraries are close to the users, well equipped and staffed (about two hundred people, more than half of them working in the central library part). The library counts 8 million volumes and has a yearly turn over of about 100 M SEK). LUB has also a deposit function for Sweden, which has implications for the staff as all these deposits need to be catalogued.

LUB is heavily involved in IT matters: it has its own systems department for IT based circulation, acquisition, bibliographic databases, network services with other libraries, etc.(working together with LDC), including an intranet: it has a media service (for reproduction purposes), it is involved in electronic publishing (ranging from dissertation abstract database, to copyrights and license issues - providing online journals to the users, publishing course materials on the web, control of metadata and long-term maintenance of electronic documents. Internal training of staff as well as training of users and user support is also directly handled by LUB.

One of the important developments is Netlab: a development and research organisation, specialised in electronic library development. It co-operates closely with the Danish Technical Knowledge centre (DTV) which led to a joint competence centre and Nordic Net. Netlab was and is very successful in CEC's projects, which support the funding (70 % directly coming from faculties, 10 % from central University Board). LUB is also involved in the SAFARI project (Swedish National Agency for Higher Education), to develop a standardised description of research information for the web.

## Student unions

Opposite to the information above, which reflects "objective" viewpoints, the information provided by the Student Unions should rather be considered as the personal, and consequently "subjective" viewpoints of their spokesman. The issue of implementation of ICT in education is clearly not a top priority in the Unions, although it is reported that in most unions some people are working on the topic. Nevertheless, the students note huge differences between faculties (compare the availability of infrastructure in Technologies and Humanities) and teachers' capabilities and attitudes with respect to ICT.

Students are familiar with ICT as a basic information resource for coming courses, as a presentation and simulation tools in classrooms, as communication tool (e-mail, however not in every faculty) and sometimes also in its format of interactive courses.

They have mixed feelings: experiencing the technology use by teachers sometimes as a technology driven approach (for fashion ?), as an substitute for personal contacts (unavailability of staff), as a dangerous substitute for lectures; but recognise at the same time its capability to stimulate thinking and problem solving, to provide access to nearly unlimited resources of information, to enhance interaction.

Top priority for students is the availability/access to computers: in some faculties (e.g. Humanities) the computer/student ratio is unacceptably low (2 computers per 100 students). Reference is made to the example of the Technologies Faculty where students can lease equipment as an example of solution. Crucial is also the attitude of teachers, as it defines the opportunities that students can/may take.

Students seem not to be familiar with central support structures in the university. Though students have their representatives in boards (including the ones that monitor directly some of these support units as is the case with CITU), the information is not spread within the student population. They plea for a greater co-operation between the various units to prevent that ICT would be identified with distance education, and for an introduction of every student in the potential of ICT, so that a positive attitude can be generated towards the tools with which they are expected to work.

## **Commentaries :**

### *pedagogical perspective/evaluation?*

Pedagogy is experienced to be more important with respect to IT matters than technology. This has been repeatedly stated by the Vice-Chancellor, the Pro-Rector, in our contacts with CITU, OCDE, UPC. It is also to be found explicitly in the various documents. The lack of sufficient research in IT-pedagogy in Lund was identified in several of these contacts. We would therefore strongly emphasise the implementation of the plans to invite a foreign expert.

UPC, OCDE and CITU as central support services are also clearly taking initiatives to “translate” this statement into action (see descriptions above). Teacher training is systematically organised (and in e.g. the Medical Faculty made compulsory). To implement pedagogic approaches in the development of ICT based materials, the LUVIT environment provides excellent services. Also the IT-tutors (cf. supra) are an effective way to raise pedagogic expertise in faculties by involving academic faculty staff in the CITU activities and make these persons the tutors (and advocates of good practices) of their peers during after their stay in CITU.

The virtual campus could serve as a discussion, demonstration and resources forum inside and outside the university. Pedagogic expertise is being introduced by co-operation with other universities and experts, as described above. Important is the recognition that this expertise should further be developed through (applied) research.

Evaluation is being done at various levels: the Office of Evaluation is systematically monitoring the overall implementation process. This Office co-ordinates the national evaluation, the peer reviews as well as the teachers evaluation. One person within this Office is specifically charged with the follow up of IT strategy implementation. UPC and CITU are using the EVA tool to measure the students’ reactions. Faculties have to evaluate their own IT strategy plans and to report on that. Finally, external evaluation has been recently undertaken by Prof. Liddell. This evaluation led to a number of recommendations, and although only dating from May 1998, many of them have been or are being executed as we could notice during the visit.

### *strategic perspective*

Lund University has clearly developed a very elaborated strategy, which puts ICT implementation in the perspective of both innovation in teaching and learning, and of quality assurance. As this strategy was initiated by the central university management on request of the Vice-chancellor, implementation could – most importantly – start with the full support of

the top level decision structure of the university. However, it could also rely on a broad consensus within the university; as it grounded in existing orientations towards the use of ICT in teaching (and learning) of various central services and in a number of activities that were undertaken by individual teachers. Although certain resistances still exist, the overall impression is that a sufficient quantity of teachers and students exist to make the evolution irreversible. The fact that in the meantime IT strategy plan of all faculties and central services have been developed, will only speed up things.

In the decentralised organisation of this university, not in the least with respect to financial management, it can not be avoided that the various faculty plans put different priorities. So far this has rather be an asset than a drawback, but cross checking to keep convergence with the overall university strategy and with the strategies of central services will be needed, both to maintain momentum and to avoid conflicts in the future.

The fact that some of the central services have to raise at least part of their income from faculties (as payment for services) forces them on the one hand to customise their services to real needs, which in turn assures also credibility when the customers are satisfied, while the remaining income part (mostly coming from the central administration) enables them to anticipate on evolutions in which faculties are not interested yet. A typical example is distance education, which is only recognised of a strategic value by some departments within some faculties, but to which attention is clearly paid by these central services.

Also the interest that is being paid to electronic publishing is following the same line: it is of great concern at the central level, supported in this attitude by some faculties, where others are still rather indifferent to it at the moment. This dialectic dialogue of top down and bottom up approaches could be noticed in many examples and is clearly resulting in impressive effects.

Most important for the apparent success is the monitoring of the implementation process. Regular evaluation is not only done by internal units (Office of Evaluation) but also by external instances. Where needed and appropriate, external experts are also contracted for specific tasks (e.g. pedagogic expertise) and collaboration (networking !) is set up with leading universities elsewhere, avoiding that way to reinvent the wheel.

Intentions may be good, but when the necessary (financial) means are not liberated, they will never be realised. Where the necessary measures are taken on the central level, including extensive fund raising (as e.g. contract with Wallenberg Foundation), the same can not always be noticed in faculties. The complaints of students about still insufficient availability of equipment is an indication.

Although students are involved in the evolution, e.g. through their structural representation in Boards, the impression remains that this aspect can be ameliorated (and if this impression is correct, it should be done to avoid loss of momentum).

Prof. Liddell suggested that the various central services should be given opportunities to strengthen their synergies into collaboration by bringing them together in the same premises. In our contacts some critical remarks could indicate that such an operation might be not fully supported by everyone in every unit. If this impression turns out to be correct, than preparatory work should still be done before the operation is started up. In line with Liddell's evaluation report, the specific tasks and responsibilities of the various units should the same time be more clearly defined.

### *ICT environmental perspective/future evolutions*

The implementation process has started and broadly accepted. Revision of the IT strategy is foreseen on regular moments, as the result of the ongoing monitoring process and of emerging evolutions.

To support the implementation process, the university is trying to recruit a full-time researcher with responsibility for the ICT implementation process on the central level. Faculties are recommended to appoint their ICT co-ordinators as well.

The transition from conventional teaching to autonomous learning is gaining interest. Web based, virtual university activities seem to take up a greater share of the education in the near future. This will enable at the same time to create more space and adapted pedagogy for problem based learning, which has growing interest in a number of faculties.

It was repeatedly expressed that strengthening the (pedagogic) research base for ICT based learning and teaching is a priority in future evolutions.



## Conclusions

Lund University has demonstrated an excellent, creative atmosphere in all contacts we had. Such an atmosphere is of course a fertile soil for innovation, and the university makes good use of it.

There are plenty of elements that may act as good examples for other universities; they have been described in detail above. We just want to remind some specific examples as bullet points:

- the use of IT tutors to disseminate concepts and expertise, to act as an interface between central services (and their direct relation to the central IT strategies) and the faculties, and as an excellent training of teaching staff in the appropriate use of ICT for teaching and learning
- the LUVIT environment as a tool which provides a pedagogically justified use of ICT while developing course materials, without the need to overwhelm teachers with technicalities.
- the balanced mix of top down and bottom up approaches in the implementation process
- the recognition of the important role of distance education in the education of tomorrow
- the understanding of the central role of electronic publishing and online libraries as tools of that education
- the development of central services that are accepted and appreciated in their role by faculties
- the use of external evaluators and experts where appropriate
- the involvement in interuniversity networks to share resources, to develop common courses, programmes, and to create a more solid base for fund raising

There are of course also a number of recommendations and attention points which we would suggest:

- the autonomy of faculties and departments within the organisation of the university creates a certain differentiation in pace, priorities and impact of ICT between the various faculties and departments. This can be considered as normal in a large organisation, and it may even stimulate the overall evolution, as it may challenge those who are in the front edge of the development to continue their efforts and may stimulate the others to catch up. It should however be prevented that the gap between the extremes becomes too wide as it could affect the image of the overall university; specifically if the variation in priorities would lead to insufficient allocation of resources (equipment, staff) in certain faculties. The fact that students made some complaints about availability of equipment in certain faculties could suggest this danger
- the previous remark is even more valid with respect to distance education, where the range of developments are even broader

- cross-checking of faculty plans to feed the central IT-strategy plans is considered necessary by faculties, but not (sufficiently) undertaken yet
- the position of LDC as an independent business unit creates a certain lack of offensiveness in the activities of the department with respect to the faculties. This point should get the necessary attention to avoid that faculties (have to) search on the market for ICT-services (with as consequences problems of standardisation, services that are less tailored to the specific needs, confrontation with business driven innovation instead of pedagogy driven one)
- P. Liddell's suggestion to bring the various central support units together into one building and even merge these units, can give a boost to the implementation but should also closely be monitored; especially to prevent that inevitable existing tensions between people of the actual units interfere with the unifying process
- the development of distance education in the department of sociology should be supported; their accreditation plans through Internet with respect to their Internet based degree should however be given attention (identity checks, security checks)
- the lack of research in IT-pedagogy in Lund should be given (more) attention, both at the levels of the university management and of the faculties/departments. The implementation of the plan to invite a foreign expert in IT-pedagogy is strongly emphasised. This expert should be able to have real impact on the innovation process in teaching and learning. Therefore, it is needed that the input of such expert is really implemented
- a full time position with an identified responsibility for ICT-development and especially IT-pedagogy should be considered to continue the implementation of the ICT plans, to keep momentum in the implementation process and to maintain the operation on track
- the efforts to establish partnerships and international collaboration where experienced as very important for the strategic development of the university. The percentage that is devoted to ICT-related innovation is however limited. It should be recommended to focus on extension of this share, as it may considerably contribute to the ICT developments within the university itself.