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Learning Regional Engagement

A Re-evaluation of the Third Role
of Eastern Finland Universities

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Preface

The regional role of the three Eastern Finland Universities was first evaluated in 1998. This was the first of its kind for both the Finnish Higher Education Council (FINHEEC) and the universities themselves (FINHEEC Publications 8:1998), and it paved the way for later evaluations that concentrated on the same theme. Since that time the expectations concerning the regional engagement of Finnish higher education institutions has received increasing attention, as part of the development of the national innovation system. The role of the Polytechnics is seen in their direct collaboration and cooperation with local companies and organisations, while the regional engagement of the universities is seen as part of their wider role, the so-called Third Task. This new task is planned to be included in the new Universities' Act, though, admittedly, all universities in Finland have been engaged and have had impact also on local and regional developments, directly or indirectly, especially after the expansion of the university system since the 1960's. The Ministry of Education has already twice commissioned FINHEEC to evaluate the regional impact of Finnish polytechnics and to nominate centres of excellence of regional development.

This publication is a follow-up analysis of the developments since the 1998 evaluation of the University of Joensuu, University of Kuopio and the Lappeenranta University of Technology. Also the Mikkeli branch units of the University of Helsinki and of the Helsinki School of Economics were included in this evaluation. Thus actually activities of five universities altogether were involved. For the Mikkeli units this obviously was not a re-evaluation, but the first assessment of their regional role.

The evaluation method was similar to the one in 1998 in that the Universities first carried out a thorough self-evaluation, which was followed by an external peer review. This time the external team did not, however, visit the universities themselves, but met the University representatives in a two-day seminar in the Valamo Monastery, which is situated more or less equidistant from the campuses concerned. Two members of the Peer Review Team, Professor John Goddard as Chair and Professor Ilkka Virtanen, had been members of the 1998 team as well. To both of them and the other members of the team, Professor Bjørn T. Asheim and Dr. Tarja Cronberg, we wish to extend our thanks and gratitude for the demanding job well done.

We again see this report as one of the important pioneering works that further adds to the innovative capabilities of the Finnish higher education institutions in their Third Role. We hope and expect that it will also contribute to the HE institutions' and their partners' and stakeholders' strategy development and implementation in the future.

Ossi V. Lindqvist, Professor
Chairman of FINHEEC

Anna-Maija Liuhanen
Senior Adviser

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The Peer Review Team

Chair

Dr. **John Goddard**, Professor of Regional Development Studies and Deputy Vice-Chancellor of University of Newcastle upon Tyne, U.K. He was a member of the Peer Review Team which conducted the 1998 evaluation of the regional role of Eastern Finland Universities and subsequently chaired the review of the external engagement of Turku University in 2000. He led the OECD Institutional Management in Higher Education programme study on “The Response of Higher Education Institutions to Regional Needs” published in 1999.

Members

Professor **Bjørn T. Asheim** has since 2001 the chair in economic geography at the Department of Social and Economic Geography, University of Lund, Sweden, and is part time professor at the Centre of Technology, Innovation and Culture, University of Oslo, Norway. He was previously professor in human geography at the Department of Sociology and Human Geography, University of Oslo (1993–2001). He is a member of the international advisory committee for the Canadian Innovation Systems Research Network and MCRI Clusters project. He is editor of *Economic Geography and Regional Studies*, and has served as an international expert for UNCTAD, OECD and EU/DG XVI. Among relevant research carried out professor Asheim has been coordinator of a EU/TSER project on “SME Policy and the Regional Dimension of Innovation”, which will be published by Edward Elgar in 2003.

Tarja Cronberg, is dr. techn. from the Lund University and dr. merc. from the Copenhagen School of Business Administration (Institute of Organisation and Work Sociology). She has done extensive research on technology sociology and technology assessment and has been i.a. associate professor at the Danish Technical University and a visiting scholar at the Institute of Technology and Culture of Oslo University. She has published extensively on methods of technology assessment, on technology and democracy, on the information society and on military technology, particularly from the point of view of conversion after the Cold War. She has been i.a. a member of the Danish Social Science Research Council and the chairman of the EU COST committee on Social Shaping of Technology. In 1995 she was elected the director of the Regional Council of North Karelia, an institution in charge of regional development and the use of EU Structural Funds. In 2001 she returned to Denmark to become the director of COPRI, the Copenhagen Peace Research Institute but was in the spring of 2003 elected member of the Finnish Parliament.

Dr. **Ilkka Virtanen**, Professor of Operations Research and Management Science and Dean of the Faculty of Technology of University of Vaasa. He was a member of the Peer Review Team which conducted the 1998 evaluation of the regional role of Eastern Finland Universities and a team member in the review of the external engagement of University of Turku in 2000. He chairs the Accreditation Board of Professional Courses, a subsection of FINHEEC.

Secretariat

Kati-Jasmin Kosonen, (M.Soc.Sc.) a researcher at the Research Unit for Urban and Regional Development Studies SENTE at the University of Tampere, Finland. She is specialised on local and regional development policy, local innovation systems and activities of Centre of Expertise Programme (Tampere & Seinäjoki). She had a Marie Curie Fellowship as a visiting researcher at University of Newcastle upon Tyne, U.K, in the year 2001. She is currently working with her doctoral thesis with the title of “Building Innovation Capacity in the Less Favoured Regions”.

I

The Context of the Re-evaluation

This is a multiple evaluation of three Eastern Finland campus universities (Kuopio, Joensuu and Lappeenranta University of Technology) and the branch campus of the University of Helsinki and the Helsinki School of Economics in Mikkeli. It is a thematic evaluation, concentrating on regional engagement and follows up a similar exercise undertaken in 1998 (which did not include the Mikkeli units) and entitled *Towards the Responsive University*.

Normally under FINHEEC procedures re-evaluations are “light touch” designed to assess progress since the initial review. However, this re-evaluation has gained greater importance because it not only embraces several universities but also because of the heightened public policy interest in the wider role of universities in the Finnish economy and society, including the economic, social and cultural development of the less prosperous regions. The evaluation is essentially “bottom up” in that it is based on each university’s own assessment of its activities. Nevertheless, it has been impossible for the Peer Review Team to ignore the rapidly evolving national policy context. The institutional self evaluations and this report of the Peer Review Team provide an opportunity for the universities to shape national policy and at the same time to suggest how policies might be embedded in the actual customs and practices of individual institutions.

Recent Development in Finnish Higher Education Policy and Science and Technology Policy

As it commenced its work, the Peer Review Team became aware of a recently published Government report entitled *The Regional Development of Higher Education* (the Linna report). A number of principles underlying the Ministry of Education’s regional development strategy for the 10 year period from 2003 underpin this report. According to the Ministry of Education:

Attention will especially be paid to a regionally balanced population structure and to the promotion of knowledge in the regions. Modern society highlights the importance of knowledge, which is a significant factor for economic competitiveness. The promotion of knowledge and the development of the system of cultural, educational and welfare services are the primary means of influencing regional development. Knowledge input has a positive effect on the development of regional industrial structures, employment and economies and engenders other indirect social and cultural effects. Innovation and knowledge networks are gaining more and more importance in business. Scientific research, R&D, artistic activities and higher education have a growing role in generating and diffus-

ing knowledge and innovations. Furthermore, cultural industries and content production are growing areas which generate new opportunities also outside growth centres.

Principles of regional development in the Ministry of Education Sector p. 19.

Flowing from these principles the Linna report highlights a number of recommendations and these are summarised in Table 1. This agenda represents a bold attempt to introduce a new dimension into higher education, a field which hitherto has lacked a clear territorial perspective.

Table 1. Recommendations of the Working Group for Regional Development of Higher Education (Linna Report)

-
1. Strengthening the role of HE in regional innovation system.
 - a) The third role to be included in the university and polytechnic law
 - b) Ministry of Education creates a regional strategy for HE
 - c) Ministry of Education in active dialogue with other ministries in the regions
 - d) Regional targets and incentives for universities and polytechnics.
 2. Strengthening the co-operation and networking between universities and polytechnics and other partners.
 - a) Common strategies, common councils
 - b) Co-operation and networking between Swedish HE units
 - c) Regional co-ordination between different actors
 - d) Special programs for less developed regions.
 3. Structural development of universities and polytechnics
 - a) Increased co-operation between universities and polytechnics
 - b) Profiling of the universities
 - c) Structural development of polytechnics via fusion and merging.
 4. Research on regional impacts of HE
 - a) Research and evaluation
 - b) Development of statistical data
 - c) Development of "know-how-register"
 5. Special issues concerning the Helsinki metropolitan area
 - 6.-8. Special measures concerning different type of regions

| | |
|--|--|
| <ul style="list-style-type: none"> – Innovative growth regions – Neutral regions – Less developed regions | } classification by a regional barometer |
|--|--|
 9. Measures to develop education and research in engineering.
 10. Development of business knowledge
 11. Better utilisation of EU programs
 12. New HE supply (e.g. Pori and Mikkeli)
 13. New funding
-

In parallel with these developments the Science and Technology Policy Council of Finland has undertaken a triennial review entitled *Knowledge, Innovation and Internationalisation* which includes specific reference to the role of universities in regional development. The report notes the success of Finland “in combining extensive production and economic utilisation of knowledge and know-how with other aims, such as the promotion of welfare and sustainable development” (p. 1). It notes “employment rates must be raised and regional development balanced” (p.1). More specifically it states:

Education, science, technology and innovation policies must be able to support and also guide regional development to ensure that measures taken at the national and regional levels reinforce each other. The challenge is to raise the knowledge and know-how and their utilisation to a level which withstands international competition in all regions while further strengthening their natural strengths..... The issue in terms of national higher education policy is to merge this and regional development policy together in a rational and expedient way. The aim is to achieve internationally higher quality, and structural development is required to meet this goal. The danger in a decentralised higher education system is that it is dispersed into increasingly small and numerous units. Higher education units must be sufficiently large and versatile to achieve their aims..... Universities must carry on defining their profiles, and smaller polytechnic units must be combined into larger multi-field entities.

Science and Technology Policy Council, 2003 (p. 32)

The Science and Technology Policy Council does however highlight the challenge for the universities themselves in participating in this agenda.

One major question is how the university as an institution will be able to manage the pressures and growing expectations directed at it with regard to social, cultural and economic development – whether the university has the internal capacity for renewal needed to lighten its work load in the face of constant new challenges. The traditional mission of the university is to promote free research and scientific education and to provide higher education based on research. The burning question in today’s debate how to include the duty to promote the utilisation of new knowledge in the Universities Act as the university’s third mission. This question arises from both the growing expectations directed at universities by the users and from the legislative issues involved in efforts to reconcile the university’s administrative culture, business and research ethics. The need to address these questions is tangible, because the change taking place in universities’ mission and funding structure is systemic, shaking up the institution to its core.

Ibid (p. 19)

A new challenge for universities and the whole research system is to be able to combine in-depth specialised knowledge with versatile expertise for the benefit of users and in contract research and in joint projects with them. A question

partly relating to this is the future of higher education on the whole: how its different parts will take shape jointly and separately. Universities must have the possibility and capability for organising their economy and administration in a way which will enable their actual operations to develop flexibly. Ultimately the question is how the university itself promotes the education of good teachers and competent researchers, their career prospects in the university and their recruitment outside the university. Success can be seen in the capacity of the university to create dynamic operational environments.

Ibid (p.37)

The Science and Technology Policy Council report has been quoted at length for a number of reasons. First, because it highlights how regional engagement, the third role of universities, and institutional management are inter-related. Institutional management was a strong theme in the earlier evaluation of the Eastern Finland universities and it is encouraging to see that this issue is now being addressed at the national as well as the institutional level. Second, the quotations point to the potential for self-evaluation to assist the leadership of universities in their task both internally and externally. In this regard the self assessment reports can provide new information to the university on its role as a motor for regional development. They can also clarify goals being set for regional impact, the principle governing these activities, and the methods selected to meet the expectations of regional stakeholders.

Finally the quotations indicate the complex interplay between science and technology policy, higher education policy and regional development. Finnish science and technology policy has indeed developed a regional dimension, chiefly through the work of the Centres of Expertise; however, it is first and foremost a national policy implemented through universities and other institutions located in particular places. Likewise higher education policy is national; the universities in Eastern Finland, while founded in a period of re-distributive regional policy, have of necessity been establishing their national and international position in research and teaching. But at the same time they are being challenged to be active players in the development of their regions, arguably before the national policy framework for this activity has been sorted out. In short, the complex interplay between the development of individual institutions and evolving national policy makes this evaluation particularly challenging.

The EU Structural Funds

A further challenge for this review is posed by the impending reduction in availability of EU structural funds for Eastern Finland. It is through the vehicle of the structural funds that many of the measures designed to enhance regional engagement by the universities have been supported. These measures complement the science and technology thrust of national policy, in particular by seeking to ensure a greater innovativeness amongst SME's. Nevertheless, the re-

view of the EU sponsored *Eastern Finland Regional Innovation and Technology Transfer Strategy (RITTS)* undertaken in 2001 highlights the need to embed this activity within the mainstream university function. It notes:

“The final theme for debate concerns the role of the universities in the region and the need to define more precisely the way in which universities can reach out to existing companies in the region and complement the role of other support organisations, including polytechnics. The opportunities exist for universities to focus in future on differential strategies which could give the region a competitive edge by international comparison.”

Lautanen, 2001 (p. 9)

In summary, the interplay between national policy and regional engagement and how both roles are to be funded at the level of each university before the EU funding is phased out remains a key challenge.

The Role of Evaluation in Policy Development

It is arguably beyond our terms of reference to comment on matters of national policy in an evaluation that focuses on individual institutions. Indeed as a Peer Review Team we received little information on the evolving national context. Moreover the self-evaluation reports were remarkably silent on these national issues. Nevertheless **we would recommend to FINHEEC that institutional evaluations should be very much a partnership between the individual institution and the relevant national authorities.**

This was also a multiple institutional evaluation. Such evaluations create an opportunity for establishing a learning process. In Eastern Finland the last PRT sought to establish such a process at its follow up seminar held in Savonlinna with the central management teams of the three universities working together. This in turn led to a list of 12 priorities for joint action agreed by the Rectors. Unfortunately, this action list seems to have been lost sight of in the re-evaluation exercise, at least in two of the institutions. The move beyond description to evaluation is supposed to have senior management ownership – more junior staff cannot be expected to make judgements on the performance of the institution. The ownership of this re-evaluation process seemed to be somewhat unclear. Indeed, the notion of a “light touch” re-evaluation seems to be a contradiction in terms particularly as the nature of regional engagement is highly contingent on finely nuanced local circumstances (internal and external, past and present) which only senior management can be expected.

We therefore recommend to FINHEEC that thematic evaluations and re-evaluation are co-ordinated across institutions and that a formally constructed steering group is in place to ensure senior management engagement and follow on institutional development programmes which involve inter-institutional sharing of good practice.

Conduct of the Evaluation

This re-evaluation has benefited from a variety of inputs. First self assessment undertaken by the universities using a common template developed in association with FINHEEC. During the process representatives from the universities met three times (January, May and September 2002) in Joensuu, Mikkeli and Kuopio. Draft reports were shared for comments. The PR team was not established until some time through the preparation of the self-evaluation and had no influence on shaping the report and first met on the eve of a joint evaluation workshop with the universities held in New Valamo in October 2002. (Unlike the previous evaluations, no site visits or discussions with external stakeholders took place.)

At the New Valamo seminar the senior management team from each university provided valuable additional insights that supplemented the written reports. Following these discussions the universities were requested to submit to the PRT additional evidence and this request is detailed as Annex 1. In the light of this check list, the universities were given the option of revising their self evaluation reports, providing written responses or leaving the PRT to come to conclusions based on their interpretations of the reports and the discussions in the seminar. In practice, all universities opted to provide separate written responses and we hope these will be published.

In the light of this experience **we would recommend that FINHEEC forms a Peer Review Team at an early stage to influence the self-evaluation process. We would also advise against the overly rigid adherence to a common evaluation framework which in effect facilitates a certain “passing down” of the evaluation task from senior management.**

We would make one final comment on the Finnish expertise available to support this review and indeed the whole public policy field of universities and economic development. This is mentioned in the Linna report but deserves further comment here.

Whilst Finland has high quality policy research capacity in knowledge based development in Sitra there is no substantial research group focussing on regional aspects of this agenda. Some good work is being done in the Eastern Finland universities and this has fed through into some of the self-evaluation reports. But there is no group of international standing able to support the evolving thrust of central government policy, the work of regional agencies and of individual universities. **We therefore recommend that the Finnish Government consider a competition to establish such a research group, with initial pump priming funding. The group should embrace expertise in science and technology policy, entrepreneurial development, economics, social and cultural studies, labour market analyses and institutional change management. It could be established on a network basis and include international partners.**

Whither Eastern Finland Universities?

A final element of the context in which this evaluation has been conducted relates to uncertainties around the definition of Eastern Finland. It was clear to the PRT that in the area supposed to be defined as Eastern Finland there are very different universities (and Mikkeli units) with different trajectories of institutional development and operating within different sub-regional environments. Notwithstanding the initial logic underpinning their foundations **the notion of Eastern Finland universities is in our view an outmoded concept and we recommend that it is dropped from the Higher Education lexicon.** To be more specific on the institutional trajectories we see four different and perfectly legitimate models:

- science push creating a new industrial base from scratch
- contributing towards restructuring older industries
- a broadly based multi-faculty university building a learning region
- a branch based model through which established universities from outside the region enter the area.

We go on in the body of the report to discuss these models in relation to the individual institutions. Suffice it to say at this stage **we would not recommend a “one size fits all” policy for universities and regional engagement.**

As regards regional definitions, the RITTS evaluation which excludes the county of South Savo focussed on Mikkeli, notes:

By its geographical size, the RITTS Eastern Finland region is one of the largest among the over 100 RITTS or RIS regions in Europe. While a holistic approach to the RITTS region brings out important general features and points to be improved in the system of regional innovation, it does not appreciate the region-specific strengths or the differences in the technological orientation between the counties. In addition, with reasonably long distances between the capital towns of the counties, the co-ordination costs of co-operation may readily exceed the value added through this co-operation. Also, the existence of a common Eastern Finnish system of regional innovation is arbitrary: rather there are three (four if the region of South Savo was included) regional systems of innovation that are in interaction with other regional and industry-specific, and the national system of innovation.

Lautanen (p. 4)

On the other hand the Science and Technology Policy Council makes the following observation:

In discussion of regional development in Finland, the basic unit most often used is the traditional province. But if the subject is the development of high-level knowledge and know-how this causes problems: dividing a small population of five million into 20 still smaller sets does not necessarily offer a good basis for national or region-based development. According to the Ministry of Education's regional development strategy 2003–2013, the regional unit best suited for an examination of university education is larger than the traditional province, namely an area comprising several provinces. In the main, the division based on traditional provinces can be considered applicable to polytechnic education. The division of traditional provinces further into 82 districts for regional development purposes is considered impracticable in terms of higher education. The same also applies to research.

Whatever the unit used, it is clear that regional development has been uneven ever since Finland emerged from the early-nineties recession. The major knowledge and know-how concentrations, notably the Helsinki metropolitan area, the Oulu economic area, the Tampere and Turku areas, have done well both internationally and nationally in relation to other regions in Finland. Major university towns have become development centres for the knowledge-intensive new economy. In addition to knowledge, new business, wealth and migration accumulate in their spheres of influence.

Ibid p. 33

This discussion highlights the dangers of linking universities too specifically to particular territories when considering their contribution to economic, social and cultural development. Universities must operate within multiple territories – international, national, regional and local. This is a positive asset. In contrast, public administration of necessity operates within fixed boundaries. The key issue for public policy is how well the university manages the links within and between its various domains. In short, regional engagement is a matter for all universities everywhere. What we have to remember however, is that universities are not doing this on a level playing field. What differs is the economic and cultural vitality of their regional environment. And in this regard the universities in Eastern Finland are all operating in relatively less prosperous parts of a national territory which exhibits a pattern of highly concentrated spatial development.

With the above discussion in mind we would **recommend that FINHEEC, in partnership with other relevant stakeholders, conduct an evaluation of the regional engagement of Finnish universities across a variety of regional environments from more to less prosperous. But we certainly do not endorse the formal classification of regions proposed in the Linna Report.**

The Structure of the Report

In the next chapter we set the scene for the evaluation by describing the social and economic situation in “Eastern Finland” and discuss the various definitions of the region adopted by different public bodies. We also focus on the direct economic impacts of the universities on the economy.

Chapter 3 considers the role of the universities in regional innovation systems from both a theoretical and practical perspective. In this discussion we elaborate on some of the issues raised in this introductory chapter. Chapter 4 considers how the profiles of the universities match regional needs, focussing on the examples of collaboration that are possible between a set of autonomous institutions. The final chapter reviews how the individual institutions are managing the regional interface. It includes some high level comments with details about each institution being provided in the appendices. This chapter and the appendices draw heavily on the self evaluation reports and supplementary evidence provided by the universities and these should be read alongside our report.

2

The Socio-Economic Situation of Eastern Finland

Defining Eastern Finland

As noted in Chapter One, the notion of a “University Region” let alone a region for a group of autonomous universities is a slippery concept. This is even more the case when the so-called region of “Eastern Finland” is the subject of a myriad of different administrative definitions.

For statistical reporting purposes the Finnish Government identifies six high level regions: Uusimaa or the Greater Helsinki region; Southern Finland; Middle Finland; Eastern Finland and Northern Finland and the Swedish speaking and autonomous island of Åland. From Figure 1 it will be seen that Lappeenranta University lies outside of this definition of Eastern Finland.



Figure 1. Finnish high level regions (“Suuralue”) and the Eastern Finland University towns.

The second level unit which is used for certain central Government administrative purposes are the provinces. There are six provinces: Southern Finland, Western Finland, Eastern Finland, Oulu, Lapland and Åland. The third level are the counties, the principle unit for central administration. Counties nest within provinces and by this definition the province of Eastern Finland consists of the counties of North Karelia, North Savo, and South Savo. However the Ministry of Education does include South Karelia in its definition of Eastern Finland and this is the definition that is adopted in this report.

The basic unit of local Government is the municipality. Following accession to the European Union, and to meet the requirement of the European Structural funds for some autonomy at the regional level, counties were given some responsibilities from above and below for economic development. The structural funds are available for the Objective 1 programme area (the EU NUTS level 2 area) which includes the county of Kainuu but excludes South Karelia, the latter being an Objective 2 area (reflecting its “older industrial” base).

To summarise, for the purposes of this report, Eastern Finland comprises the counties and central municipalities noted below, with a total population of 725,000, one third of whom live in the central cities. Significantly, each of these cities contains a university or university campus.

- North Savo: Population 253,000: Central town Kuopio
- North Karelia: Population 171,000: Central town Joensuu
- South Savo: Population 164,000: Central town Mikkeli
- South Karelia: Population 137,000: Central town Lappeenranta

According to general demographic and economic indicators for the four counties above, three of them have a GNP per capita well below the Finnish average and have experienced considerable population decline over the period 1995–2001. However, growth has occurred within the central cities, particularly in the form of high skilled jobs. The dominant pattern is therefore one of centralised development within an overall declining peripheral region.

To what extent does the region have a common industrial base? According to the EU RITTS Report 2001 (where South Karelia was not represented but instead the region of Kainuu) the most important industrial sector is forest industries (including timber and wood products, pulp and paper, paper products and graphics industries); this is followed by metals and metal products; machinery and equipment; electronics and electrical products (including medical, precision and optical instruments), food and beverages; non-metal mineral products (stones, glass, cement products), textiles and clothing, and chemicals and plastics. This pattern is reinforced when account is taken of the South Karelian industries. While large forestry and wood processing companies and related industries are in common for all these four counties there are local differences viz:

- South Karelia; big forestry industry, logistical know how
- North Karelia; wood/stone/plastics
- North Savo; medical industry / export oriented SMEs
- South Savo; rural/environment/food production in micro firms

The industrial base also differs when measured by size of enterprise. In the South Karelia area there are large forestry companies, in the North Karelia there are both large enterprises and several world-class SMEs, in the North and South Savo there are mostly SMEs.

In relation to the enterprise structure, the RITTS evaluation also draws attention to the fact that:

Primary production, particularly forestry, and the public sector have more significance in Eastern Finland than for Finland on average. The regional economies are characterised by having relatively few large industrial concerns and many very small ones: almost 85% of all businesses in Eastern Finland employ less than 5 persons and only 115 (0.5%) businesses employ more than 100 persons. However, a wide diversity of manufacturing skills and technologies and a wide-ranging presence in export markets can be found within the larger and mid-size companies which do exist.

Lautanen, 2001 (p. 5)

A strong focus on specific industry sectors or technologies from the outset may well obscure other basic requirements or economic opportunities. By taking a holistic view of the innovation process, attention is clearly drawn to non-technological skills in companies, such as business development and marketing competencies, which are clearly identified as the growth-limiting factors in many instances. In addition, note is made of the general low propensity to entrepreneurialism, and the low demand that exists for the promotion of inter-company co-operation, including those that form supply chains and/or subcontracting networks. On the innovation support side, attention is drawn to the general fragmentation and poor visibility of support structures and services across the three counties, including the lack of focus on or specialisation toward particular target groups. A deficiency in services and skills that promote the rate of technology and knowledge transfer to enterprises is considered to be a critical issue for the region which has a large geographical area, a relatively low population and a rather peripheral location.

Lautanen, 2001(p. 8)

HEIs as Economic Actors

There are several higher education institutions in Eastern Finland. There are three independent universities, four polytechnics and several lower level education units and institutions. In the terms of research institutions, there are in addition several public research institutions such as, hospital and health care related research institutions, forestry research institutions and companies own research labs. In addition to the independent universities, there are several “branch” institutions located in South Savo region (Mikkeli, Savonlinna, Varkaus) and in South Karelia region (Imatra). Table 2¹ shows, that the independent universities form together a higher education “sector” with approx. 1,800 staff number and 16,700 students. The Universities are therefore key economic actors in their own right. In their local municipalities, these institutions are amongst the biggest employers, and the staff and student expenditure on local services is significant.

Table 2. Eastern Finland Universities – basic economic data (Source: KOTA database, Ministry of Education)

| The year 2001 | University of Kuopio | University of Joensuu | Lappeenranta University of Technology |
|---|-------------------------|--------------------------|---|
| Total staff* | 1,328 | 1,109 | 694 |
| Teaching staff | 328 | 374 | 208 |
| Other staff (budget funding) | 474 | 398 | 239 |
| Other staff (Academy of Finland) | 95 | 94 | 19 |
| Other staff, other sources | 431 | 243 | 228 |
| Total students | 5,287 | 6,817 | 4,631 |
| <i>Total funding</i> (1 000 €) | 82,127 | 63,007 | 41,762 |
| Budget funding (State Funding, 1 000 €) | 44,806 | 45,983 | 24,357 |
| <i>External funding:</i> (1000 €) | 37,321 | 17,024 | 17,405 |
| Academy of Finland | 4,322 | 4,148 | 857 |
| TEKES | 4,544 | 1,608 | 3,568 |
| Finnish companies | 2,463 | 761 | 3,183 |
| Other Finnish sources | 17,002 | 7,133 | 6,251 |
| EU | 6,109 | 3,209 | 3,374 |
| Foreign companies | 1,886 | - | 170 |
| Other foreign sources | 995 | 165 | 2 |

*Manpower years in 2001

¹ Source: KOTA database, year 2001. Ministry of Education

The funding from both Finnish state budget and external sources for these universities ranges from approx. 40 million euros for the Lappeenranta University of Technology to approx. 82 million euros to the University of Kuopio¹. The key difference in funding between the universities of Kuopio and Joensuu is in terms of awards from external sources, the University of Kuopio having gathered double the amount of the external funding in 2001.

Of the three universities, Joensuu has the lowest level of funding from industrial or industrial related sources, although it performs better in terms of academic funding from the Academy of Finland. These differences in sources of income are of importance in economic development terms because they reflect the natural “strength” of each university as an economic actor.

There are four polytechnics, in addition to the universities in Eastern Finland, one in each county. The polytechnics are: North Karelia Polytechnic, Joensuu; Mikkeli Polytechnic, Mikkeli; North-Savo Polytechnic, Kuopio; and South Carelia Polytechnic, Lappeenranta. The largest polytechnic in the area is the North Savo Polytechnic with over 6,000 degree students and almost 500 teachers and other personnel. The smallest Polytechnic is the South Karelia Polytechnic with less than 3,000 degree students and a little over 200 teachers and other personnel. The Mikkeli Polytechnic and North Karelia Polytechnic fall between former two institutions in terms of size (Table 3).

Table 3. The key figures of four polytechnics of East Finland area (Source: AMKOTA database, Ministry of Education)

| Year 2001 | South Carelia | Mikkeli | North Carelia | North Savo | Totally in Finland |
|-----------------|---------------|---------|---------------|------------|--------------------|
| Total Students | 2 893 | 4 306 | 3 555 | 6 206 | 121 461 |
| Full-time Staff | 212 | 384 | 277 | 536 | 9 661 |

Eastern Finland Universities as a Resource of Human Capital

In addition to their direct economic impact, what role do the universities play in developing human capital in Eastern Finland, that is by recruiting students from the region and supplying graduates to local employers?

For most of the universities the bulk of student recruitment takes place in Eastern Finland (including the regions or NUTS 3 areas of North Savo, South Savo, North Karelia and Kainuu). For example in 2001 the University of Kuopio recruited 60.8% of all the new students from the area Eastern Finland Province (NUTS 2).² The second largest Kuopio intake, 13.1%, was from the

² The University of Kuopio 2001, Statistics and the KOTA Database.

Southern Finland Province. For all the students registered in the university at the end of the year 2001, the majority of students are from the Eastern Finland Province, (64.3%). The next largest group was from Uusimaa, (14.3%), and Southern Finland, (12.0%).

A similar picture is presented in terms of graduate placement (Table 4). Eastern Finland universities play a key role in providing competitive and qualified labour to the Eastern Finland economy. While only 8.5% of all students graduating from Finnish Universities between years 1990–1999 were employed in the Eastern Finland province (excluding the graduates from LUT), the equivalent figures for the universities of Kuopio and Joensuu was between 46.7% and 48.8%. Most of the graduates from LUT found placement in the Southern Finland province (42.2%) or Uusimaa (44.3%).

Table 4. Graduate destinations by region 1990–1999 (% age of employed HEI graduates). (University of Kuopio 2001: Statistics)

| Graduates in 1990-1999 | LUT | University of Kuopio | University of Joensuu | All in Finland |
|-------------------------------|------------|-----------------------------|------------------------------|-----------------------|
| Total | 2,307 | 4,407 | 5,266 | 102,042 |
| Uusimaa (%) | 44.3 | 16.7 | 22.0 | 45.2 |
| Southern Finland (%) | 42.2 | 19.1 | 21.9 | 26.9 |
| Eastern Finland (%) | 5.9 | 48.3 | 46.7 | 8.5 |
| Middle Finland (%) | 6.2 | 9.7 | 5.5 | 10.1 |
| Northern Finland (%) | 1.4 | 6.1 | 3.9 | 9.1 |

Table 4 shows how the Helsinki region dominates the Finnish graduate labour market. Nevertheless whilst Eastern Finland is not a major source of graduate job opportunities, the Universities of Kuopio and Joensuu are major suppliers. In contrast LUT serves the stronger industrial base of the Helsinki region (44.3%) and Southern Finland (42.2%), with 46.7% destined for employment in manufacturing industry (Table 5). By contrast Kuopio and Joensuu graduates support the service sector at levels significantly above the average for all Finnish universities. Joensuu also records a level of graduate unemployment above the national average.

Table 5. The main position of the Eastern Finland students graduated in the year 1999 (Sources: Statistics Centre of Finland, University of Kuopio 2001)

| In 1999 | LUT | University of Kuopio | University of Joensuu | All in Finland |
|---------------------|-------|----------------------|-----------------------|----------------|
| Total Graduates | 2 744 | 5 796 | 6 983 | 136 499 |
| Employed, % | 91,9 | 89,4 | 85,5 | 87,4 |
| Unemployed, % | 3,1 | 2,8 | 5,2 | 3,7 |
| Student, % | 2,2 | 4,8 | 5,5 | 4,7 |
| Other status, % | 2,8 | 3 | 3,8 | 4,3 |
| Basic production % | 0,1 | 0,5 | 1,7 | 0,7 |
| Industry, % | 46,7 | 3,8 | 3,8 | 13,5 |
| Services, % | 52,8 | 94,9 | 92,4 | 84,3 |
| Undefined branch, % | 0,4 | 0,8 | 2,1 | 1,5 |

Conclusion

From this limited analysis we conclude that Eastern Finland has significant problems of economic development. In aggregate terms the chief impact of the universities would appear to be as major direct components in the service sector employment base focussed on the central cities of each county. Without universities that are competing successfully, nationally and internationally, the economic situation in Eastern Finland would undoubtedly be worse. The contribution of the universities to enhancing the skills base of the manufacturing sector or to the services that support that sector and / or compete outside the region is less clear.

Assessing the direct local and regional economic impact of the universities in Eastern Finland was beyond our terms of reference. Nevertheless, **we recommend that it is important for the universities and other local actors (schools, labour market agencies, employers, municipalities, technology transfer agencies and regional development offices) to have access to independent and regularly updated information about the regional impact of the universities.** This information could be gathered by the relevant central Government departments and regional and local authorities, working in partnership with the universities; such information would compliment the EU RITTS report and regional Foresight reports.

3

The Universities and Regional Innovation Systems

Introduction

We move on from considering the static impact of the universities to review their dynamic role in promoting and supporting regional innovation systems. We start with a discussion of some general principles building on the changing national higher education scene and technology policy context in Finland noted in Chapter 1 before addressing some of the regionally specific issues noted in Chapter 2, particularly those arising from the pursuit of EU inspired innovation orientated regional policies. We link this discussion to a consideration of the evolution of higher education provision in Eastern Finland, an evolution which has seen a changing relationship with innovation policy and regional policy.

Some Issues of Principle

It was noted in Chapter 1 that in order for universities to take up the challenges of the third task they must undergo necessary changes and adaptations in their internal and external organisation. Internally the third task must be reflected in and inform at least part of the teaching and research carried out, so that some sort of relationships is established between the third task and the two traditionally most important tasks or duties of a public university, teaching and research. Externally, the universities must link up with relevant public institutions, intermediary agencies and industry so that technology transfer and learning can take place between universities and their surroundings in order that requests and requirements from the 'customers' can be transmitted to relevant actors at the universities.

One way this linking up with firms and intermediate institutions could be achieved is through the formation of an innovation system. Innovation systems consist basically of a production structure, an institutional set-up and the systemic relationships between actors both internally and externally. However, the institutional system could be defined in a narrow as well as a broad way. Using a narrow definition would imply that only specifically dedicated parts of the institutional set-up, such as technical schools and universities, are considered to constitute the components of an innovation system. This could be called "the scientific or research based knowledge infrastructure". A broad definition would incorporate the general primary and secondary school system and also other sub-university teaching institutions beyond the technical ones. In this re-

port we intend to use the concept of innovation system in both ways, where the broader concept reflects the role of universities taking account of a wider range of factors affecting the conditions for innovation and learning.

The dynamic between the market and the public sector research can be seen as the interplay between three 'spheres' of society – industry, government and the higher education sector – with a 'triple helix' as a main model and metaphor for the relationship. In the triple helix model as well as in the systems approach to innovation based on the interactive learning model, innovation is increasingly seen as an evolutionary process of complex, interactive, non-linear learning processes inside firms and between firms and their environments.

Regional innovation systems (especially network based systems) can be an important part of a learning region strategy, but the two concepts should not be conflated into meaning the same thing. In the context of how universities deal with their third task, the notion of a regional innovation system is a more important and relevant concept than the learning region (this is said with reference to a triple-helix perspective).

Innovation systems can refer to different territorial scales (national and regional) as well as to different sectors and industries, which transcend territorial boundaries and borders. The latter type can either be sectoral innovation systems, which refer to the existence of knowledge infrastructures (research institutes) for specific branches or sectors, or technological systems, a term which is used to describe the way the knowledge base of some new, high tech sectors and industries is built up and exploited within basic and applied research in universities as well as in companies. An important question to ask in this context is: Who can do what for whom where? This question suggests that it is necessary to think systematically about the division of labour between different agencies and actors at different geographical levels that will be optimal with respect to the creation of a good environment for different actors (enterprises, agencies and also individuals) to innovate and further make economic success from "pure" innovations and inventions.

It is important to note that there will not be an innovation system if there are no (systemic) relations between the production structure and the institutional set-up. Thus, if we find only industry or a university in a region there will not be an organised innovation environment and innovation system in that region. But there also needs to be systemic relations and interactions between the university and industry. For such interactions and relations to be established there needs to be both a relevant knowledge infrastructure for the industry in question, and the industry must be willing and interested in co-operation with universities and technical schools, and have the necessary human capital and financial means to be able to exploit the knowledge that exists at the universities.

An innovation system approach has been an integral part of an endogenous strategy for regional development, and, as such, came into use at the end of the 1980s and beginning of the 1990s. In a historical perspective we can

talk about different types of regional innovation systems – basically a linear based system and an interactive system. The linear model of innovation is the traditional one, and it is most often natural science and research-based, emphasising the central role of inventions and creation of new research knowledge in achieving competitiveness. Lately, an alternative model has been introduced, looking at innovation as an institutionally and territorially contextualised process of interactive learning, emphasising that processes of innovation are as much a social as a technical process. Even if this second view has increased in importance, the traditional linear model is still valid especially when referring to the way some new high tech sectors (e.g. biotech) innovate, and, consequently, the kind of knowledge infrastructures that best support the need of such industries. Thus, a strategy of producing spin-off firms from basic research in biotech and medicine in first generation science parks is still a relevant and potential efficient strategy for stimulating growth of these knowledge based businesses.

We can therefore identify different approaches to regional innovation systems. The first is what can be called ‘regionalised national systems’, and could be exemplified by *the first generation science parks* (e.g. Cambridge, Ideon in Lund etc.) based on the linear model of innovation. The rationale for establishing these science parks was to construct a triple-helix relationship at the local/regional level, and the most important locational factor was the proximity to – and collaboration with – the nearby universities and technical universities. Thus, they are characterised by close and frequent bilateral relations between the individual firms and companies and various university departments on the one hand, but with nearly total lack of networking between and among the different firms within the science park on the other. This is still the most common model when it comes to promoting the establishment and growth of some new, knowledge based high-tech firms, where the creation of new knowledge being turned into new products is by far the most important activity.

To stimulate more networking between and among firms in science parks and regional clusters the second type of regional innovation systems, referred to as a networked regional innovation system, has been promoted. This could be called *the second generation science parks*, and has broadened the range and scope of regions to include peripheral regions as well as firms and sectors (to include medium-low and even low tech sectors) that could be the focus of such innovation policy initiatives. The network approach is basically a combination of elements from the regionalised system (e.g. the systemic relationships between university and industry) with elements from the various forms of innovation networks (not fully developed innovation systems) that are found in so called “new industrial spaces” dominated by organisations of production based on networks of SMEs constituting local production systems (e.g. industrial districts in the Third Italy). The most important aspects from these innovation networks that are incorporated into the network approach are interactive based industry-industry relationships (e.g. producer-user relationships) and which de-

pend upon close co-operation between local and regional firms and institutions and other actors and agencies.

The need for (systemic) relations and interactions between the production structure and the institutional set-up points towards the key role of strategic planning – top-down as well as bottom-up – to achieve this. This could be a problem in some areas in Finland, since not all the university cities have an industrial heritage or new industry willing to co-operate with universities or, where there are no university or similar knowledge creation institution in the region where some world level industrial facilities and companies are present. In some cases, there may be both, but the relationships between the two may have not evolved sufficiently to generate trust and a common knowledge culture. Internationally, there is a clear tendency for development agencies to move towards more networked and bottom-up created innovation systems, especially at the regional level, building on the interactive learning perspective on innovation.

The Finnish Structure

Innovation policy in Finland has traditionally and primarily been a top-down national policy with a very strong science and especially technology orientation. Typically, innovation policy in Finland is strongly embedded at the top governmental level through the Science and Technology Policy Council. This guarantees the legitimacy of the policy as well as underlines how important it is considered to be, and also ensures that innovation policy initiatives are well coordinated and orchestrated between the various ministries within the government. Finnish policy makers see the industry-university relations as a crucial edge in global competition, and more innovative firms in Finland than in other European countries cooperate with universities. The Finnish cluster programme could be considered to be a new example of a public policy aiming at stimulating and supporting multilevel research cooperation.

The Centres of Expertise Programme (CEP³) represents the key policy initiative of promoting a more regionally oriented development. This programme was created in accordance with the Regional Development Act, and started in 1994. The Ministry of the Interior is the main responsible authority. The overall objective of a Centre of Expertise is to identify regional strengths, and create economic growth by increasing the number of competitive products, services, enterprises and jobs based on the highest standard of knowledge and expertise. Local Centre of Expertise Programmes are realised through cooperation between industry, local government, technology centres, universities, polytechnics, research institutes and other branches of public administration. A Centre

³ The name of the programme is launched by the Ministry of Interior.

of Expertise should aim at supporting specialisation and cooperation between regions, and increase regional competitiveness. A central purpose of each programme is to bring leading experts in research, education and private enterprises in a region or network into close interaction. Seen in an international context the CE-program is a very interesting organisational as well as institutional innovation aiming at supporting and stimulating regional development. It has also proved to be a very successful policy instrument.

An interesting aspect of Finnish innovation policy is the fact Universities have taken up the role of knowledge transfer organisations. Acknowledging that a major part of the knowledge needed in Finland is produced abroad, the Finnish government stress the importance of international research cooperation, and the important role universities can play through cooperation with foreign universities and firms with regard to providing links between the regional and local economy and the global networks. This should be an efficient strategy in promoting the internationalisation of local SMEs as well as providing access to global knowledge production and R&D for local SMEs.

Different types of innovation systems can have a different form and degree of regional impact. Even if innovation systems at the regional level and regional production systems are both important, global competitive firms cannot obtain all necessary innovation support this level. The knowledge infrastructures (universities, technical universities) that constitute the national innovation system will reflect the dominant national export industries, and will have geographical impact where these industries are located (e.g. one industry towns). It can be suggested that in Finland, with the exception of most of the Centres of Expertise, there are no public ally promoted regional innovation systems, rather national or local innovation systems with close relationships to the national systems. This does not exclude the idea of regionalised or networked innovation systems, rather that Finland just forms a distinctive type of innovation system(s) with strong national agencies (Tekes, Finnish academy, Regional development programmes etc.).

Table 6 summarises how these various national policy innovations map out in Eastern Finland. It lists the Science Parks and Technology Centres in each county, university related R&D units, Centres of Excellence awarded to universities by the Academy of Finland, Centres of Expertise and finally other R&D institutions, chiefly those sponsored by the University. Appendix 2 provides more detail on the Centres of Expertise. We are unable to quantify the extent and significance of the interaction between these institutions and with the industrial base of Eastern Finland and the precise role of the universities. However, we make some general comments in the following sections.

Table 6. Table of Science parks, Centres of Excellence and Expertise in the area (Gathered from several sources)

| | Science Parks and Technology Centres | University related R&D Institutes | Centres of Excellence | Centres of Expertise | Other R&D Institutions |
|---|--|--|--|--|---|
| North Karelia/ Joensuu | Carelian Science Park Ltd (Joensuu) | 1. Karelian Institute (University of Joensuu) 2. SPATIA (University of Joensuu) 3. SMARC (University of Joensuu) 4. NEBEX (University of Joensuu) | 1. Centre of Excellence for Research: Forest Ecology and Management (Academy of Finland) 2. Centres of Educational Excellence; The Dept. of Chemistry (FINHEEC) | 1. North Karelia Centre of Expertise / Joensuu (1999) 2. Networked Centre of National Food Expertise Centre ELO (1999) | 1. European Forest Institute, EFI (Joensuu) 2. The Finnish Forest Research Institute (Metla) – The Joensuu Centre 3. Finnish Game and Fisheries Research Institute |
| South Karelia/ Lappeenranta, Imatra | 1. Technology Centre Kareltek (Lappeenranta+Imatra) 2. Technology Centre KOIWU (Imatra/LUT) | 1. South Carelian Institute (LUT) 2. Centre for Separation Technology (LUT) 3. Telecom Business Research Centre TBRC (LUT) 4. Intelligent Industrial Systems Laboratory, IISLab (LUT) 5. Northern Dimension Research Centre (LUT 2003) | Centre of Educational Excellence: The Dept. of Industrial Engineering and Management/LUT (FINHEEC) | Centre of Expertise in Southeast Finland/Lappeenranta (1994), Kotka (1998), Savonlinna and Varkaus (2003) | VTT Industrial Systems in Lappeenranta |
| North Savo/ Kuopio | Technology Centre Teknia Ltd (Kuopio) | 1. The A. I. Virtanen Institute for Molecular Sciences (Kuopio) 2. The Research Institute of Public Health (University of Kuopio) | Centres of Excellence for Research: (The Academy of Finland) 1. Cardiovascular Diseases and Type 2 Diabetes (Un. of Kuopio) 2. Physics, Chemistry and Biology of Atmospheric Composition and Climate Change (Un. of Helsinki and The Finnish Meteorological Institute) 3. Risk Assessment (National Public Health Institute, Kuopio Department) | 1. Kuopio Centre of Expertise (1994) 2. Networked centre of National Food Expertise Centre ELO (1999) | 1. Kuopio Regional Institute of Occupational Health 2. National Public Health Institute, Kuopio Department 3. Geological Survey of Finland 4. National Veterinary and Food Research Institute, Kuopio Department |
| South Savo/ Mikkeli | 1. New Business Incubator in Mikkeli (HSE, Mikkeli) 2. Savonlinna Innovation Centre Ltd. (Savonlinna) | 1. The Small Business Centre of HSE, Mikkeli 2. Mikkeli Institute for Rural Research and Training (University of Helsinki) 3. Savonlinna Centre for Continuing Education and Regional Development (Un. of Joensuu) | The Centre of Excellence in Adult Education: Helsinki School of Economics (Ministry of Education) | Centres of Expertise in: 1. Southeast Finland, Mikkeli, Savonlinna (2003) 2. Tourism /Savonlinna (2003) 3. Networked: ELO/National Food Expertise Centre (1999) | |

This also means that it should not be taken for granted that these national institutions as such will have a local or regional impact, if they are not co-located with the dominant industries they support. Thus, it seems important to ensure that firms in regional clusters have access to innovation support where relevant and high quality knowledge is available. Such a policy or strategy could be referred to as a multi-level approach to the management of innovation system, i.e. that knowledge should be accessed at centres of excellence (or expertise in the Finnish case) independent of geographical scale and national borders.

A strategy to increase local co-operation would involve systematically building social capital, for example by establishing support for increased networking through various forms of network programmes. These aspects are clearly more bottom-up compared to the more linear model of regional innovation systems, and, thus, resembles a learning region approach. Even in the case of first generation of science parks, it could be asked if the third generation model for R&D work, which increasingly is organised on a multidisciplinary basis involving experts with a diverse range of scientific expertise as well as non-R&D groups, would benefit from more networking among firms in the science park or locality.

The Eastern Finland Universities and the Governance of Eastern Finland

How do these principles map out in relation to the past and present interaction of the Eastern Finland universities with this part of the Finnish national space economy? More specifically, can we identify regional or even sub-regional innovation systems in Eastern Finland comprising the triple helix of government, industry and universities? To answer these questions we need to consider the foundation and trajectory of the universities.

The three main universities of Eastern Finland were created as part of the regional policy in the 60's and 70's. The challenge was the centralisation of institutions and enterprises in the greater Helsinki area. To counter this the Government supported regional development through subsidies to companies and through relocation of its own institutions. As part of this policy regions were to be selected as locations for a university. There was no agreement on one Eastern Finland University, so university institutions were dispersed to three different locations. The later branching out of the Helsinki University and the Helsinki School of Economics and Business Administration to Mikkeli were the part of the same process, although on a smaller scale. Today the dispersion of university institutes is greater than other elements in the knowledge economy and could therefore be considered as a success in terms of regional policy.

In this period from the 70's until the early 90's the universities sought to establish themselves as independent institutions, not regionally networked other than occasionally. On the contrary the universities were eager to create a distance and underline their independent knowledge production role, their

main regional contribution being as working places and the economic consequences of hundreds of teachers and thousands of students being located in a city. Intellectually the university provided a backbone for the life of the cities.

A dramatic change took place when Finland became a member of the European Union. The Finnish State had to adapt itself to the use of EU Structural Funds and to create a regional structure for economic and social development independent of Central Government. Until then the provinces had the responsibility of dispensing funds for regional development projects, although these were very limited in scope. Two regional institutions had existed until then, both based on the municipality structures. One of them was the regional planning institution (Seutukaavaliitto), the other a political lobby organisation (Maakuntaliitto). In the wake of the EU membership these two organisations were merged to one to form Regional Councils. These Regional Councils were charged with creating regional development plans, coordinating EU Structural Fund financing and evaluating regional development outcomes. Accountability was derived from municipal democracy and reflected the balance of power between political parties at this level. The governance of the regional councils was not determined through direct electors, but indirectly in the context of municipal elections.

This institutional reform took place at the same time as the concepts underpinning regional policy changed. The “old” regional policy of relocation and the dispersal of employment to peripheral regions was replaced by the concept of indigenous regional development (*omaehtoinen aluekehitys*). This change of paradigm meant that the regions should identify their weaknesses and strengths and build on what they had. In consequence regional development institutions had to look to the existing institutions for ideas, initiatives and innovations, rather than lobbying the state to divert resources and import employment to the region. At the same time, as EU structural funds offered financing on a completely different scale than those available to provincial institutions in the 80’s. At the same time central Government funding for universities was reduced and proportionately more available as a competitive based; it is therefore not surprising that the universities became interested in being involved in regional development!

The emergence during the late 90’s of the concept of knowledge – based regional development also focused the attention of universities on their regional role. A win-win situation was created, where this third role became more accepted. The universities were keen on additional financing and the regional development institutions welcomed a new and a stronger actor on the scene. As we have already noted the change of paradigm is also reflected in the fact that the Ministry of Education has in turn introduced its own regional strategy for the 2003–2013⁴. This strategy states that while taking care of its primary responsibility the Ministry will pay attention to the principle of equality in regional development.

⁴ Source: Regional Development Strategy 2003–2013. Ministry of Education.

Defining Regional Needs

The next set of questions to be addressed are: what kind of regional needs do the universities meet; how are these identified; and to what extent are they being met through public policies and their implementation? Here we consider the policies of both the regions and the universities in order to evaluate the match between them.

When considering regional needs a difficulty arises due to the fact that the universities identify very different territories as their regions and as the bases for their activities. As was stated in the Chapter 2, the concept of “Eastern Finland” is far from clear, and this fact is also reflected in the way the universities conceptualise the regions that they are a part of.

- *The University of Joensuu* sees itself as serving the three counties of the province of Eastern Finland (South Savo, North Savo and North Karelia) as well as Kainuu and South Karelia.
- *Lappeenranta University of Technology (LUT)* focuses on the South Karelia, the Kymi region, South Savo, North Karelia, South and North Savo up to paper mills of Varkaus. The University also has a branch in Lahti, which makes its region hardly concurrent with what could be called Eastern Finland.
- *The University of Kuopio* covers North and South Savo, reaching all the way North to the region of Kainuu. Its focus is more and more in cooperation with Oulu region.
- *The Mikkeli Campus* of Helsinki University covers South Savo in terms of rural development; other projects do involve other regions as well.
- *The Helsinki School of Economics* branch’s impact is confined to Mikkeli and its immediate surroundings.

Altogether this makes comparison in terms of the relationships to regional needs and how they are being met difficult. The overlapping of regional spheres of influence underlines the fact that universities create their own patterns of regional engagement depending on their specific capabilities and the needs of the region.

Regional Needs and Industrial Clusters

Indigenous development based on the strengths of the region requires in depth analysis as to where these strengths lie. This should lead to an understanding of the knowledge base of the region, more specifically the clusters of activities where special knowledge has historically emerged and where future potentials can be identified. The North Karelia Regional Development Plan “Pokat” 2006 was the first regional development plan to be structured in terms of clusters. North Karelia has the most diverse base of industries of the four regions including pulp and saw mill production, wood working industries, plastics and metal industries, as well as some food production. Clustering of knowledge needs in

the regional development plan has led to “Cluster Groups” where interalia industry and the University staff meets regularly to discuss development priorities and financing needs. In the Objective 1 Area Programme for EU for the years 2000–2006 in 1999 similar cluster groups were identified in the regions of South and North Savo and Kainuu. Here regional cooperation is in place in defining knowledge needs in fields such as welfare, wood working, food production, tourism and culture.

In South Karelia the industrial base focuses on large scale paper mill production and trade with Russia. South Karelia has the more monolithic industrial base, compensated however by its relative strength in national terms. The industrial base of Northern and Southern Savo is more difficult to define in terms of clusters. North Savo has an historic base in textiles and clothing as well as chemicals and pulp production. South Savo is mainly an agricultural area with emerging new industries in environmental protection.

In summary, the regional knowledge needs differ to a great extent depending on which of the sub-regions of Eastern Finland we are considering. To some extent all parts of Eastern Finland are involved in forestry and wood working, but differences exist when looking at the remaining components: textiles in North Savo, environment in South Savo and plastics and metal industry in North Karelia. It should be noted that none of the regions is very strong in tourism, although a more common approach across Eastern Finland has been proposed in the form of the “Lakeland” brand, in an effort to counteract Lapland’s dominance in the Finnish tourism industry.

University / Industry Relations

The third role of the university can only be implemented if there is an institutional structure to support interaction between the university and the region. Science parks are one internationally popular mechanism for facilitating university interaction with its surroundings. Some of the science parks in Eastern Finland have been established for some time, most notably in Kuopio and Joensuu, but have expanded significantly in the recent years.

Closely linked to the concept of Science Parks are the Centres of Expertises. This is an arena for the utilisation of top level knowledge, usually from a university, as a resource for business operations, job creation and regional development. The Finnish Centre of Expertise Programme began in 1994, and was positively evaluated in 2000. On the national level, the success of these institutions has been measured by the fact that in 2001 a total of 430 representatives from strategic interest groups sat in various advisory committees and groups for the Centres of Expertises. In total 3,000 businesses, 260 research and training units, and 480 other development organisations took part in the implementation of programmes in the year 2001. The results in job creation are equally impressive. During the period 1999–2002 over 7,000 new jobs were created and 9,000 jobs maintained. A total of 40,000 people were trained

and the number of projects implemented during the programme reached over 1,200. As all the three universities (Lappeenranta, Kuopio and Joensuu) are involved in the Centre of Expertise Programme, a comparison based on the interim evaluation of the programme is possible:

Lappeenranta

The Centre of Expertise of South East Finland embraces following fields: 1. high technology metal structures, 2. processes and systems for forest industry, 3. logistics, and as a new area (from 2003 onwards) Russian business development. While the Centre is managed by the Technology Centre Kareltech Inc., it reflects the relationship of the Lappeenranta University of Technology to the region. The main industrial clusters as well as transportation and trade with Russia are reflected in this centre. In 2002 the volume of the projects of the Centre was about 4,000 million Euros and 194 jobs had been created, and close to 900 saved. In the evaluation the strengths of the centre are identified as laser cutting and welding, and command of different materials and technologies. Weaknesses include the fact, that the centre has concentrated on "old" themes and paid less attention to new technologies. Particularly the high technology metal structures field of expertise gets a high mark, and on four counts: the criteria of innovativeness, entrepreneurship, competitiveness of training programmes and the use of resources, this Centre ranked better than the average for whole country.

Kuopio

The Centre of Expertise of Kuopio includes three areas: medicine, agro/biotechnology and health care technologies. The programme is administered by the Science Park in Kuopio, Teknia Oy. The Programme has a close relationship to the EU Structural Fund Objective 1 Programme. The selection of the areas of expertise are based on University strengths and some of the problems are related to the centre being too science based (this is also pointed out in the University of Kuopio self-evaluation report where a lack of correspondence between the university's priorities and the industry of the region is noted). When looking at the evaluation of this centre, the scores on most of the evaluation criteria fall below the national average. However, the Centre excels in competitiveness, entrepreneurship, internationalisation, and its contribution to diversifying the local industry.

Joensuu

The Centre of Expertise of North Karelia has two separate fields of expertise: plastics and metals and forestry and wood processing, although both are related to material sciences. The Joensuu programme started at 1999, during the second period of the implementation of the national programme. The programme

is managed by the Joensuu Science Park Ltd, and builds on the regional clusters. It is closely linked to implementation of the EU Objective 1 Programme. The evaluation of the North Karelia Centre of Expertise gives recovery above the national average on most criteria. Only the competitiveness and internationalisation counts are lower than the national average.

In relation to the regional impact and the profile of the Centre of Expertise, the evaluation allocates to the Centre of Expertise in Southeast Finland (i.e. Lappeenranta) a over-regional role (several regions), to the North Karelian Centre of Expertise a regional role and to the Centre of Expertise of Kuopio a role in the surrounding municipalities (seutukunnallinen)⁵. This scoring clearly reflects the relationship between each university and industry. The role of paper and pulp industry in Southeast Finland is national, while the role of plastics and metals sector as well as the wood working and forestry cluster (and food production) of North Karelia is of great regional importance. The location of new enterprises close to the university in Kuopio is a clear reflection of the science push of the university.

New arenas for collaboration have emerged as science parks, centres of expertises or cluster groups in the regions have developed. Also new structures for the management of the EU Structural Fund Programmes have facilitated interaction between each university, its management and expertise and industry and the public sector on two levels. Firstly there is the Regional Cooperation Committee (Maakunnan yhteistyöryhmä, MYR), which approves the use of EU structural funds and allocates them to projects. The Committee has three components: municipality representatives, core central Government representatives and social partners. The universities as part of the central Government structure have a seat at the strategic level. On the lower level, (definition of programmes, development of clusters, and steering of individual projects), experts from the universities also actively participate. In short, the great number of EU projects has greatly increased the interface between the universities and the local administrative and industrial elite.

Conclusions

Although all three universities operate in what could be defined as an Eastern Finland context, they all have very different orientations. Lappeenranta University of Technology is increasingly orientated toward Southeast Finland, as well as westward to Lahti. The University of Kuopio is reaching north, both to the hospital district of Kainuu, but particularly the University of Oulu. The University of Joensuu defines itself as “the University of Eastern Finland and its

⁵ Source: Mid-term evaluation of the Centres of Expertise for the period 1999–2002, p. 19–24, 71, 80 and 95. (Huippuosaamisesta alueille kilpailukykyä. Osaamiskeskusten väliarviointi 1999–2002). Ministry of Interior. 4/2003.

education”, while the Mikkeli Campus is strictly limited to South Savo. Given their different orientations and their very different profiles, they cannot be compared in how they meet regional needs related to common Eastern Finland problems such as migration or an aging population. However, they may be compared in terms of their relations to the industrial and economic base of different parts of the region, how they meet the needs of regional industry and commerce and contribute to building the regional knowledge economy.

LUT fulfils a national role as a specialised university with close relations to the large scale pulp and paper industry and machine building (high technology metal structures). Also the location of the university close to the Russian border and close to the pipe-lines of Russian trade defines specific knowledge needs. The LUT has responded to these and the Centre of Expertise reflects the core interaction between the University and the region. Its three fields of activity (high technology metal structures, key systems to forest industry and logistics and the Russian trade) define the University’s core competencies from the outside in. The opposite to this is the science push of the University of Kuopio where the Centre of Expertise functions as a means of establishing new enterprises in Kuopio with close relationship to the university.

The University of Joensuu occupies an intermediate position where a large part of the university supports interests other than those of the production clusters of the region. These include teaching training, training in natural sciences as well as humanistic disciplines. In spite of this, there is a core and a growing correspondence between the knowledge needs of the economic production clusters and the core activities of the university. There is the match between the research community on forestry and working comprising Metla, the University of Joensuu and the European Forestry Institute, the Centre of Expertise and wood working SMEs as well as the large saw mills. The physics and chemistry departments of the university are increasingly working towards the plastics and metal industries as expressed by the newly established Centre SMARC for research of special materials.

In many respects Mikkeli is not comparable with the three autonomous universities. The Helsinki University branch is one of the local points on the nationally networked Centre of Expertise and its involvement in rural development projects is clearly relevant to the region. Part of the Helsinki School of Economics operation operates in the region but does not aspire to be part of the region, although its Small Business Centre does promote entrepreneurship locally and facilitate the internationalisation of SMEs. In neither case is there an indication that the parent institutions are considering the establishment of a major second campus, either individually or together.

In summary we can note that no single model of engagement of universities with economic development of Eastern Finland prevails. National Science and Technology policy has been top down but is increasing its sensitivity to regional issues. Policy for universities has also been top down and implemented separately from Science and Technology policy but is also now becoming more attuned to regional development issues. In particular the availability of

EU structural funds with a strong regional innovation orientation has successfully stimulated a greater integration of the two national policy domains. Given the impending rundown of these funds **we would strongly recommend that Central Government, regional and local authorities, industry and the universities undertake a review of the functioning of regional innovation systems in Eastern Finland.**

Having said this we are conscious of the tensions between university policy and innovation policy at the national levels as noted by the Science and Technology Policy Council. If the universities and their staff are to play a full part in the economic development of Eastern Finland then the many ambiguities that inhibit entrepreneurial activity by the universities must be removed. **We therefore thoroughly endorse the conclusions of an international review of university / industry interactions in Finland.**

A key component of the Finnish approach has been a high degree of integration of policy-making across a number of key policy areas, including science, innovation, industrial, and economic policies. There is, however, in this co-ordinated policy-making, a missing link: namely higher education policy. From a Ministry of Education perspective, University entrepreneurship is on the one hand encouraged, and on the other hand illegalised: university funds should not be used for new business activities and entrepreneurship activities should not compete with teaching and research as the prime activities of universities. Universities are encouraged to promote research-based entrepreneurship, but it is also made clear that any substantial allocation of funds and/or resources in terms of working hours, is illegal. This construal of a fundamental opposition and conflict of interest between the traditional missions of universities – research and education – and the new third mission – promoting the utilisation of new knowledge and contributing to the economy – is highly problematic. Framed in this manner, university entrepreneurship seems to be alienated from the outset, rather than being taken up as truly a new mission for universities.

Framework conditions for university interaction with business and community – a comparative study of Finland, Sweden and UK. Report commissioned by the Danish Ministry of Science and Technology from the Copenhagen Business School, 2003.

Our final recommendation in this Chapter is therefore **to strongly support the on-going review of the third mission of universities and to encourage this to embrace responsibilities for engagement in regional economic development supported by public funds that can be invested by the universities, subject to appropriate accountability mechanisms.**

4

Matching Institutional Profiles to Regional Needs

Introduction

In the previous chapter we have concentrated on the role of universities in regional innovation systems and noted the different pattern of engagement with industry adopted by each university. We could characterise Kuopio as having adopted a “science push” model in creating an industrial base *de novo*, LUT as contributing towards restructuring of older industries, Joensuu as a broadly based multi-faculty university seeking to build a learning region and the Mikke-li campus representing a branch based model through which established universities from outside the region have entered the area. This pattern of engagement in part reflects the original foundation of the three autonomous universities but is this right profile to drive forward the future development of this part of Finland? More specifically, what should the future division of labour between the universities look like if they are to fulfil both national and regional roles? Does development in the round, embracing human capital, social and cultural issues as well as support for industry, require broadly based institutions rather than division of responsibilities between institutions? It is to these questions of institutional profile management to which we now turn.

Profile Management and the Third Task

One of the basic questions in profile management is, should all universities be, or aspire towards, a broadly based Humboldtian type university or should some universities aim to be institutions with a specialist profile. The importance of this question has increased with the emergence and growth of the university’s third role including regional engagement as well as in the context of more generally national higher education policy. There are 20 universities in Finland (or 21, if the National Defence College under governance of the Ministry of Defence is included). Out of the twenty universities, ten are multi-faculty universities, six specialised universities (technical universities and business schools) and four art schools. In addition to this, there are 29 polytechnics in the country. Universities and polytechnics have altogether more than 100 working locations.

National higher education policy has changed in the last five years by starting to consider the third role of higher education institutions and by emphasizing their social and regional engagement as a part of national innovation and

competitiveness policy. The Ministry of Education has in its own strategy work highlighted this new responsibility, and it is becoming a clear task for the universities in the proposed new university law. In developing the new financing model for universities, which will be applied from year 2004 onwards, one of the objectives has been to support the strengthening of social and regional impact of the universities. Universities themselves have also changed their views towards regional engagement and role division with other higher education and research institutions (polytechnics and technical research institutions). This in turn puts emphasis on profile management and the case for a clear-cut profiles for each university.

The emerging issue is therefore whether there is a possibility to divide the regional roles between polytechnics and between universities in such a way that all parties would be satisfied (local university, polytechnic, the local business life and national authorities)? The financing issues are still partly open, and universities see it as a necessity to become better resourced directly for third strand activities as their responsibilities are widened. For its part Government is emphasising the importance of external sources of financing. With national funds for research being increasingly awarded on a competitive basis, i.e. judged by merit rather than by the long-term development needs of particular institutions or regions.

It is clear that profiling has become an important factor in the strategic planning of the universities. (For polytechnics the situation is different, most of the polytechnics are broadly based institutions with multiple working locations). It is also the aim of the Ministry of Education that the universities should have clearly defined profiles. Support for strategic planning and profile management has also been an objective in developing the Ministry's new financing model. With clear-cut profiles, the universities could have improved opportunities for a rational division of labour and fruitful co-operation, both with other universities and the polytechnics.

The question of profile management has by no means only one answer. The universities of differing sizes, different existing collections of fields and disciplines, and different trajectories of institutional development. Also the structures of the industry and society in general vary in the regional environments of the universities. What fits for a large, already established university in a regional environment with high-tech industry (e.g. Universities of Helsinki, Turku and Oulu in the Finnish context) is not necessarily appropriate for a young, small or medium-sized and still developing university with a region of some growth centres and a large hinterland, (i.e. all the Eastern Finland universities).

The Development Trajectories of the Universities

The three universities in Eastern Finland together, have achieved a share of ten per cent share of the overall university capacity in Finland. In terms of broad subject groups, these three universities together cover most fields. The most important areas not represented in any of the universities are Law, Sport Sciences, Dentistry (from 1998 onwards), Veterinary Medicine, and all fields of Creative Arts. The 35 years old history of the universities can be divided into three main phases of development.

I Building a welfare state at the end of 1960's

- Eastern Finland Universities are quite new institutions, they were established during the third wave of creating university institutions (first: Helsinki and Turku, second: Tampere, Jyväskylä and Oulu)
- Universities of Kuopio and Joensuu were established to meet the needs for strengthening the welfare state under construction. The areas of medicine and health in addition to biological, environmental and social sciences in Kuopio and teacher training, humanities, social and natural sciences, and forestry in Joensuu (and Savonlinna) are results of this policy.
- In order to meet the needs of technological and business education in the eastern part of Finland, Lappeenranta University of Technology was established in 1969.
- As a result Eastern Finland acquired regional access to a wide range of university disciplines and education, the entity being divided, however, in three different locations (compared for example to Oulu or Tampere). This could be seen also as a start for a development process towards “a Humboldtian type university institution”.

II The need for strong research in the universities during the 1970–80's

- A need to create excellent research-based universities (both in the national and institutional level)
- As an outcome from this: Centres of Excellence (Finnish Academy) and high quality research and education unit-status (Ministry of Education).
- All the Eastern Finland universities have in their strategies an objective to achieve this kind of reputation and to become internationally recognised university institutions in their strong areas. In some degrees, the objective has been successfully achieved.
- The above development has been a necessary path for the universities to create and collect competencies and to be able to offer competitive research, education and development expertise to other regional parties and further, to form partnerships in the basis of high-level research.

III The knowledge society framework from 1990's

- The new round in the universities' tasks to build a knowledge society framework and learning region approaches to meet the regional needs (knowledge flows, student placement, imago-issues, work-places, industry-university collaboration etc.) from the 1990's onwards has made it possible for the universities to "look around" and start to create relationships with other regional and local partners in the surrounding community.
- Since 1990's there has been, especially in Eastern Finland, a great need for structural diversification and change in local production systems. Universities were needed to participate in this restructuring process.
- As an outcome, for example the Centres of Expertise Programme and the Regional Development Centre Programme (under governance of the Finnish Government, especially the Ministry of Interior), and EU frameworks for research were established.
- As local responses from the universities' side science parks and technology transfer centres were established and specialised institutions built up inside the universities in order to respond to the wide range of regional and national needs
- This development has put great emphasis on steering, management and more sophisticated funding. There is a need for specialised resources targeted for the third role activities.

As stated in the 1998 PRT report, the "Eastern Finland University total" forms a University entity with the same size and coverage of fields as, for example, the University of Oulu. Using this as a benchmark: the main region of Oulu (North Ostrobothnia and Kainuu) and Eastern Finland are equipped with almost the same amount of university resources, the implementation models being, however, totally different for the two areas. Each of the three universities in Eastern Finland have their own academic profiles. This leads to the question, whether the model applied in Eastern Finland should have had an effect on the profile management of the three Eastern Finland universities and if it should, what kind of effect? In practice the creation of three separate institutions in Eastern Finland, instead of establishing a single university, launched the institutions on separate development trajectories.

Each of the universities has followed, to a varying degree, its original individual profile, seeking to establish regional, national and international reputations in these fields. There has been, however, some diversification, most notably in the University of Joensuu, but in general the universities have built upon their established or regionally recognised strengths. Lappeenranta University of Technology has recently established a separate specialised institution, South Karelian Institute, to offer some diversified activities for the regional community.

Considering the institutional profiles in relation to regional needs, it was stated in the 1998 evaluation report:

“Having raised these questions the Team is well aware that attempts to shift the profile of the three universities towards activities that might better meet regional needs could run counter to national policy. The new universities act gives greater autonomy to the individual institutions and governmental pressure to change the profile might be seen as undermining that autonomy.”

However, since the last evaluation the universities have increasingly engaged with local and regional actors and taken part in several type of regional development activities (Centres of Expertise Programme, Regional Centre Development Programme, local initiatives, establishing short-term professorships, increased amount of joint-projects with local enterprises etc.). And what is even more important, this has happened under increased interest and support of national policy. Universities and polytechnics have also started to “find each others” and established several joint-initiatives in the recognised regional strength areas (organic food production, forestry etc.). This a notable improvement compared to the year 1998 situation, as stated in the report:

“The establishment of the polytechnics with strong regional roots could also provide a justification for the universities avoiding regional engagement and other stakeholders looking to these institutions for support. Indeed the general absence of dialogue with polytechnics was a worrying aspect of our review.”

Institutional Profiles and Regional Engagement

From the university’s point of view, the historical background and the trajectory of the development of the university forms a natural starting point for profile management. Over the years, each university has been able to create some areas of strength in its teaching and research. These areas of strength should be the cornerstones of profile development. In deciding on the re-definition of its profile, especially in striving to later new fields, synergies with the existing fields and disciplines will have to be borne in mind. This should not, however, happen at the expense of innovativeness or commonly accepted institutional values and targets.

Expectations from the region would typically mean, if taken without critique, a full-service university. Expectations for a university’s ability to solve all kinds of problems existing in the society are overwhelming. Internal tension for striving towards new activities to fulfil the region’s expectations increase with strengthened external dialogue. Each University has to carefully evaluate externally generated proposals and find out what are the unique features of the region to which it can contribute.

From the practical point of view, profile management will always be a compromise between the different views (academic and institutional, national HE policy, regional, funding and resources etc.). In the light of the third role especially, coherence with the surrounding society and response to its needs and

expectations has become more and more important. The response should, however, always be based on a strategy which respects the academic mission of the university. This will inevitably lead to a choice of partners. This is quite natural to firms and other actors in society always choose their partners.

The academic profiles of the three Eastern Finland universities are quite different. On the axis having a broadly based multidisciplinary university at the one end and a specialised university at the other, the University of Joensuu is situated near the former end and Lappeenranta University of Technology near the latter. The University of Kuopio's position is between these two. With its five faculties the University of Kuopio possesses perhaps the most clear-cut profile of the Finnish multi-faculty universities. Mikkeli University Campus represents a different mode for university activities, where established universities from outside the region in the form of branch-based model enter the area.

The University of Joensuu: A broadly based multi-faculty university building a learning region

The University of Joensuu is a multi-disciplinary, broadly based medium-sized university with a strong orientation towards the regional role and the whole Eastern Finland. The strength areas of the University are:

- multidisciplinary teacher education and life course studies
- teaching and research relating to forests, other renewable resources, and the environment
- development and application of high technology
- teaching and research relating to the social and cultural development of border regions and fringe areas.

The mission of the university is, therefore, composed of two interrelated objectives. One is to serve the whole of Eastern Finland from people to enterprises and local and regional authorities, and partly the Russian Karelian side, too. The other is wider, embracing national, European and even global co-operation (for example in the field of climate changes). The vision of the university seems to be "The university of Eastern Finland". To achieve this vision, the university puts more emphasis on broadening the coverage of its fields of research and teaching than on seeking a distinct profile among the Finnish and, especially, among the Eastern Finland universities. Much of this endeavor is explained by the historical origin of the university: teacher education requires a large collection of disciplines, especially in humanities, natural and social sciences.

The key question is whether it is a large enough institution to achieve this all encompassing vision.

The University of Kuopio: Science push creating a new industrial base from scratch

The University of Kuopio is a university with a clear-cut profile and emphasis on research. The mission of the university is to promote internationally recognized scientific research and learning skills. It specialises in health and environmental sciences as well as in related fields of technology and information technology:

- health sciences
- environmental sciences
- well-being research
- biotechnology
- IT and business management

The University of Kuopio sees itself as an institution of strong science based research, which is also internationally recognised. The university looks for national and international research cooperation and solutions and tries to play at the international arenas. From the international and national perspectives the institutions is ready to work with local and regional actors, for example in North-Savo and Kainuu, and most strongly in the Kuopio city region.

Lappeenranta University of Technology: Contributing towards restructuring older industries

Lappeenranta University of Technology is a university with two branches of science: technology/ engineering and business administration. To achieve business benefits, an integrated knowledge of technology and economics is the principle both in education and research. The university has directed itself at three basic activity areas: basic industry, information technologies and electrical engineering, and economics. The strength of the university are:

- business development and logistics
- Russia and other transitional economies
- forest industry
- high tech metal constructions
- electrical technologies and IT
- environmental and energy technologies

Lappeenranta University of Technology is undertaking activities from national to local levels. In its strong areas the university serves industry and attracts students from the whole country, but chiefly from Eastern and Southern Finland. In Eastern Finland the university is the only university of technology and the strongest (and, at least for the moment, the coordinating and degree-rewarding) university in business administration. The third geographical level,

South-Eastern Finland, bounded by Lahti in the west, and Varkaus and Savonlinna in the north, forms the main region of the university. At the local level the university has come under pressure to serve all the needs of society, not just industry. As one response the university has established a number of new institutions: the South Karelian Institute (2002), the Northern Dimension Research Centre (November 2003) and the Telecom Business Research Centre (1999).

Mikkeli University Campus: A branch-based model through which established universities from outside the region enter the area

Mikkeli University Campus consists of sub campuses of two host universities situating in Helsinki. The university units in Mikkeli are:

- Helsinki School of Economics, Mikkeli Business Campus
- University of Helsinki, Mikkeli Institute for Rural Research and Training

Besides representing reach out-activities of their host universities Mikkeli University Campus units form also a channel for testing the universities' innovative research and teaching ideas. In the case of University of Helsinki and its Faculty of Agriculture and Forestry, the Eco University concept and development of organic food production with contributions to sustainable development have found an opportune ground in South Savo region. Mikkeli Business Campus of Helsinki School of Economics runs a special, international bachelor degree program in business administration and maintains the Small Business Centre to promote entrepreneurship and accelerate the internationalisation of enterprises in the region.

In the framework of the Mikkeli Regional Centre program the university units have together with Mikkeli Polytechnics and the Agricultural Economic Research Institute (MTT) started to develop common activities for example in eco sciences, rural development, and co-operative business. The Mikkeli University Campus units are mainly serving local or Mid-Finland and Eastern Finland actors, enterprises and individuals. These have some international projects and aspects as well.

Institutional Profiles and University Co-operation

One consequence of the 1998 evaluation of the Eastern Finland universities' regional impact was the preparation of a joint co-operation strategy for the three institutions. This inter-university co-operation programme was also one element in the development programme for Eastern Finland launched by the Finnish Government. The joint strategy of the universities was completed in 1999. The strategy fixed the common goals and presented a programme of action for improving the welfare of the population of Eastern Finland and the vitality of the region. To these ends, the universities sought to create new job opportunities, especially for experts, to raise the level of education among the

population, to enhance the image and attractiveness of the region, and to contribute to the strengthening of the region's possible growth centres. The programme agreed in the strategy contained twelve areas of development, ranging from virtual university and common education programmes to co-operation in the framework of Centres of Expertise, Science Parks and Technology Centres, and in technology transfer and innovation services.

Co-operation seems to be most relevant for the University of Joensuu. In fact, it was the only university, which presented the common themes of the joint co-operation strategy in its self-evaluation report and additional material. This is perhaps due to the facts concerning both the profile of the universities and the nature of the selected co-operation fields. The University of Joensuu recognises its role and task as to be a real regional university and to help the whole Eastern Finland region and its individual inhabitants. The two other universities have concentrated more in international research, industry-university collaboration, innovation rush etc. Co-operation thus focused mainly on those fields where the University of Joensuu especially had interest to contribute.

In the following some forms of co-operation are discussed which are especially important, in matching the institutional profiles to regional needs. The areas discussed are university level education in business economics ("the Eastern Finland Business School"), engineering and technology, law, humanities and social sciences (in Lappeenranta region), and Russian expertise.

Master's degree education in business economics

Lappeenranta University of technology has undertaken education in business economics since 1991. As stated in the 1998 PRT Report, reformulation of the university's profile by combining engineering and management education was an excellent example of institutional development where both the strategic objectives of the university and the needs and expectations of the region came together. Business education started when Finland was heading towards a very deep recession. With the help of a substantial financial support from the city and a local foundation (about 7 M€ in the first five years) the implementation was successful. In Joensuu and Kuopio, teaching in business economics began in autumn 2001. Degrees are awarded by Lappeenranta University of Technology. Co-operation in running the programmes is quite limited and confined to administrative matters. None of the universities seems to be satisfied with the current model. It is also worth bearing in mind that also Helsinki School of Economics is also a player in business education in Eastern Finland (the international bachelor's degree programme of the Mikkeli Business Centre).

There are a number of different ways to develop and manage business economics programmes in Eastern Finland in the future. No self-evident solution exists but we recommend that the universities should carefully analyse the advantages and disadvantages of each of the potential models.

The first, quite natural way would be to intensify the co-operation within the framework of the present model. This would require that, in addition to the present administrative co-operation, academic co-operation should also be intensified. Examples of functioning common programmes in other areas are reported in the self-evaluation reports, for example the International Master's Program in Information Technology (IMPIT) and training in environmental technology. Is it possible to apply a similar model in business education? What are the possibilities for taking advantage of and developing the national Virtual University? And what possibilities does the new two-stage degree structure (bachelor's – master's degree according to Bologna agreement) offer for developing the present co-operation model?

A second option is that the Universities of Joensuu and Kuopio are also allowed to award degrees in business economics. This is the model preferred by these two universities. The model allows the universities to profile the teaching and research in business subjects in synergy with their areas of strength and according to the needs of their regions. A real danger, however, is that the units are doomed to remain small and narrow-based without real possibilities to fulfil sufficient scientific criteria and to respond to the needs and expectations of the regions. Alternatively if the universities could really create a critical mass in their business faculties, could Eastern Finland utilise the output of three full-scale business units?

Another possible way to organise the business education in Eastern Finland might be to establish an Eastern Finland Business School, where all the three Eastern Finland universities and possibly Helsinki School of Economics were partners. It is not our role to say, exactly how to organise such a Business School. However a possible model would be provided by The Stockholm School of Entrepreneurship (SSES). This is a joint initiative by the Royal Institute of Technology, the Stockholm School of Economics, Karolin Institute and the University College of Arts, Crafts and Design, in fact a coming together of the leading universities in Technology, Economics, Medicine and Design in Stockholm. The goal of SSES is to promote the Stockholm Region as one of the leading innovative and entrepreneurial hot spots in the world. The overall purpose of SSES is to support the development of Stockholm as a dynamic region for business creation, through scientific research, academic and practitioner education and business creation activities in close collaboration with universities, the business community and public agencies. SSES could be seen as a response to the demand for a more active role for institutions of higher education in industrial and social development (the triple helix model).

Education in engineering and technology

Education in engineering and technology is another area in which there are great expectations of the Universities from the regions but where co-operation and division of labour between them has been easier than in business economics.

Lappeenranta University of Technology is **the** technical university of Eastern Finland. Student recruitment, job placement and continuing education programmes in engineering and technology as well as co-operation with enterprises and various regional development organisations are important dimensions of the University's operations in the whole of Eastern Finland. The university also has some common programmes with the Universities of Joensuu and Kuopio, for example the International Master's Program in Information Technology (IMPIT) and training in environmental technology.

The University of Kuopio concentrates on technologies for the health and environmental sciences and on information/communication technologies. The University has co-operation both with Lappeenranta University of Technology and the University of Oulu. The general agreement between the Universities of Kuopio and Oulu covers basic and post-graduate education, graduate retraining, research co-operation and regional development. It is intended to establish a branch of the Technical Faculty of the University of Oulu in Kuopio. Teaching and research activities are planned to start in Environmental Engineering and Biomedical Engineering, Environmental Informatics, and Technology for Health Care. Co-operation will be intensified in the natural sciences and in information technology as it relates to health and welfare, environmental science and bio-science related applications and food biotechnology.

Joensuu has high-level expertise in forestry and in natural sciences, i.e. physics, chemistry and mathematics, biotechnology and computer science. These meet the criteria for high technology applications in business. The creation of content in new media (e.g. educational and language technology) also support the natural science. The University is also intensifying co-operation with the North Karelia Polytechnic, especially in the fields of educational technology as well as communication and media.

In summary we commend the universities on progress towards a sensible division of labour and fruitful co-operation, both in the region and outside it (Oulu), and with the polytechnics, in the fields of engineering and technology.

Studies in law subjects

The Universities of Joensuu and Lappeenranta have plans to start a common degree programme in law. At present, some law is already taught and researched in the Department of Business Administration in Lappeenranta University of Technology and in the Faculty of Social Sciences in the University of Joensuu. Subjects covered include economic law, tax law and environmental law. The need for a faculty (or at least a degree programme in law) is motivated by in the case of LUT by industry's need for lawyers who can also master the fundamental questions of business life and in the case of the University of Joensuu by the low participation of the region's student in law studies resulting from its lack of degree level provision in Eastern or Central Finland. There are three Faculties of Law in Finnish universities (Universities of Helsinki, Turku and

Lapland). In addition to this, law studies are taught and research made in Business Schools and in Business Faculties and Social Science Faculties in different universities. Law degrees are awarded, however, only in the three law faculties.

The possible foundation of a law faculty in Eastern Finland raises the question about the faculty's size and capacity to cover all facets of legal studies. When educating lawyers, specialised legal expertise in economic, tax, environmental or other subjects is not the only resource needed; criminology, judicial procedures and different areas of private and public law are also necessary. With these considerations in mind **we recommend that the University of Joensuu and Lappeenranta carefully reconsider the appropriateness of establishing a joint Faculty of Law.** It is possible to proceed by providing special law courses in existing or new engineering, business economics and social science programmes, and even to have some applied law as a major subject (as is done for example in business schools and social science faculties), and also to undertake continuing education in these areas. With such an approach, the knowledge of the university's other branches could be synergistically combined with expertise in law. It is not at all clear that a law faculty, even though common to the two universities, would be the right solution to the increased need of juridical expertise in Eastern Finland.

Humanities and social sciences to South Karelia via a separate institute

During 2001, Lappeenranta University of Technology initiated the planning of a separate institute (South Karelian Institute) to co-ordinate and enhance academic research and training not represented in the university in order to meet the needs of the regional community. The Institute is a network organisation whose aim is to initiate and carry out multidisciplinary research projects. An interesting question raises, whether a "consultancy or broker type" institute can be an answer to the problem of narrowness of the university profile, narrowness seen as a problem especially by the region.

The success of the Institute depends on many factors. How can expertise be brought in and maintained by the Institute? Co-operation with the University of Joensuu and its Karelian Institute could perhaps provide a way forward. What is the division of labour, or co-operation, with the University's own Centre for Training and Development? What is the role of the local Summer University in the future? There are many questions waiting for an answer before the Institute can be expected to be able to respond to the needs of the local and regional communities. Whilst commending Lappeenranta University of Technology for seeking to respond to the social and cultural needs of the region, **we recommend that further thought is given to how the South Karelian Institute can be supported by a technological university.**

Expertise in Russian studies

One of the recommendations in the 1998 PRT Report for the University of Joensuu was: "As the most broadly based university in Eastern Finland we recommend that the University of Joensuu takes the lead in co-ordinating an inter-university response to the academic opportunities arising in Russia".

In the past few years the University of Joensuu has developed its research and teaching on border and neighbouring areas and has increased its co-operation with Russian institutes of higher education and research. Teaching and research relating to the social and cultural development of border regions and fringe areas is one of the four strength areas of the University. The self-evaluation report presents several projects concerning Russia, many of them implemented in co-operation with Russian scholars and institutes. The projects range from basic study programmes and continuing education programmes to research and regional development projects. Some of the projects are EU-funded and they have partners from other parts of Europe.

Lappeenranta University of Technology is also in active co-operation across the border. The areas represented in the University, especially energy technology, environmental technology, logistics and forest industry, are central in the light of developments in Russia. In addition to co-operation in research and education, Russia with its nearby metropolitan area of St. Petersburg is also seen as an important area of student recruitment in the future.

The Universities of Joensuu and Lappeenranta seem to be increasingly interested and involved in Russian studies and their Russian contacts. Both universities have their own projects. A natural division of labour is evolving on a regional and subject basis. The universities have also some programmes and projects in common, e.g. the IMPIT programme. The University of Kuopio is a partner in some of these common projects.

Development of and co-operation with the Russian Karelia and St. Petersburg area are challenges for the Eastern Finland universities. We commend the universities, especially the University of Joensuu and Lappeenranta University of Technology for taking these challenges seriously and for having based their numerous Russian projects on their strong areas of expertise.

Conclusions

Collaboration between autonomous universities within a region in order to build a critical mass in key areas cost effectively by means of sensible divisions of labour and at the same time to meet regional needs is an elusive goal being chased by higher education administrators and regional development agencies everywhere. A number of common challenges arise:

- what happens when there are conflicts between institutional priorities and regional priorities?
- what are the opportunity costs of collaboration or non-collaboration?
- can collaboration in particular spheres proceed in isolation (e.g. teaching and not research)
- how can credit be shared between universities for joint endeavours?
- will there be winners and losers from collaboration and a regional hierarchy of institutions emerge?
- can multi-lateral collaboration between three or more institutions be pursued alongside bi-lateral relations?

These challenges are even greater in situations like Eastern Finland where there is no regional tier of Government with some responsibility for higher education and where the time distances between institutions is so great. As the universities gain more and more autonomy and particularly are enabled to become more entrepreneurial, the challenge for higher education planning will become greater. In these circumstances, **we recommend that the notion of a university for Eastern Finland be finally abandoned with the individual universities.**

5

Managing Regional Engagement

Introduction

In this chapter we shift our attention from the universities collectively to focus on how each individual institution is managing its interface with that elusive entity “Eastern Finland”. It is now widely understood that if a university is to effectively engage with the wider society, including the region in which it is located, the so-called “third role” needs to be fully integrated with mainstream teaching and research functions, not just handed over to interface units at the periphery of the institution.

The 1998 evaluation paid particular attention to these management questions. In this evaluation we were not able to re-visit each institution to ascertain in detail the strength of the response to the challenges that the review laid before them. We were also not able to make an initial visit to Mikkeli or to meet the senior management teams of the parent institutions in Helsinki. However, from the self-evaluation report, presentations and questioning at our new Valamo workshop and particularly the responses to our additional questions **the Peer Review Team commends the three campus universities on the great strides that have been made since 1998 in managing their regional engagement.**

Given this positive assessment and the generally high quality and in most cases comprehensive self-assessment reports, we felt it inappropriate to present detailed reviews of each institution in the main body of our report. Rather, we have chosen in this chapter to make some high level points about the challenges facing the institutions in the regional context and in the light of some of the national themes addressed earlier in this report. We move from the north through the “centre” to the south of Eastern Finland to reflect the differing regional orientations of the main campus universities before considering the special case of Mikkeli. (For greater detail the reader is referred to Appendices 3–6 derived from the responses to our requests for additional information and the individual self-evaluation reports.)

The University of Kuopio

The University of Kuopio has sought to establish its national and international profile by focusing on its core strengths in Medicine, Health and Life and Environmental Sciences. Other areas such as Social Sciences and the newly created faculty of Business and Information Technology we intended to support these core areas. The links to the University Hospital (which by definition is about translating knowledge into practice) appears to have embedded an ethos of serving the society into the university; and given that commercial exploitation of knowledge in the Life and Environmental Sciences is at the forefront of national policy in Finland as in many other OECD countries, it is not surprising that Kuopio can consider itself as an institution that is very much “on message”. Significantly these are domains where a linear model of innovation, including the creation of university spin off enterprises, is perhaps most appropriate.

How does this very clear trajectory connect with the development needs of Eastern Finland? In its self-evaluation report the university recognised that there is a mis-match between its profile and aspirations and the existing economic base of its region. For example, in terms of R&D in North Savo, the university and polytechnic account for 50.2% of the regional expenditure on this activity and companies only 35.7%; these figures compare with 26.4% and 60.0% in Jyväskylä and 78.7% and 15.4% in Oulu. The university’s strategy is therefore to focus on creating a new economic base around knowledge exploitation rather than transfer and build “aspirational” clusters of enterprises and supporting infrastructure rather than seek to reinvigorate established groupings. Because this model is highly dependent on close proximity between new businesses and the research and teaching base in a “creative milieu” and vibrant place (in this case the city of Kuopio), it inevitably implies limited spread effects through a wider region.

The interface units and “spin out” and “spin in” enterprises established on the Kuopio Science Park clearly exemplify this point and the advantages of proximity in knowledge exploitation. The Kuopio Technology Centre Technia embraces *interalia* drug development, health care technology and agro-biotechnology and IT applications from across the university as well as a Centre of Expertise. It is above all a place where university researchers and high technology business worlds come together, housing over 1,000 workers in companies or research institutes.

As Figure 1 in Appendix 3 shows the University does not regard Eastern Finland as defined for this review as its hinterland. The sphere of influence of the University Hospital extends west to include another university town, Jyväskylä, while the university regards the county of Kainuu which is outside of our definition of Eastern Finland, as within its domain. Indeed in terms of inter-institutional collaboration, we know that the university has a general collaboration agreement with the University of Oulu and no such agreement with the

two other Eastern Finland Universities. In part this reflects a better strategic fit between Kuopio and Oulu in academic terms rather than considerations of serving a particular territory. In relation to regions outside the City of Kuopio, the university has sensibly used its Centre for Training and Development to promote services via offices in Iisalmi, Varkaus and Siilinjärvi all located in North Savo county. These units focus on supporting activity related to the main fields of the university, notably biotechnology, pharmacy, ecology and environmental science, nutrition and food science, social and health sciences and entrepreneurship and management.

It is significant that the newly created Faculty of Business and Information Technology aims to promote innovation in traditional industries and new industries emerging from the core science base of the university with the latter regarding informatics applications as key business drivers. These activities are linked to programmes in local economic development with a major in entrepreneurship. In our view these are the kinds of activities that could form a core component of a distinctive Eastern Finland Business School which focuses on the interfaces between technology, its creation, management and commercial exploitation.

We were also impressed by how the senior team of the university were thinking through the principles of institutional management and the planning of regional engagement within it. In their analysis, the Rector should clearly lead the university supported by an administrative council, planning and development and public relations functions. The first vice rector should lead research supported by research and innovation, finance and computing services. The second vice rector should lead in teaching supported by the student affairs, careers service, international office and library learning and language centres. He should also have responsibility for adult education, overseeing the work of the Centre for Training and Development. Finally the rector and director of administration, guided by a regional committee, should draw the research and teaching functions together in relation to regional engagement and be supported in this task through the work of the Centre for Training and Development and the Careers Service. The rector and director of administration should also have oversight of the central services of HR, Finance, Estates, PR and IT. All of these functional areas should support and work through the academic activities of the Faculties and constituent departments, with each Faculty headed by a Dean. How far this model was adopted in Kuopio remained unclear to us but we would certainly commend it.

In terms of the leadership of the University, the Peer Review Team was impressed by the clear appreciation of the strengths and weaknesses of the university as set out below.

Table 7. The strengths and weaknesses of the University of Kuopio

| Strengths | Weaknesses |
|--|--|
| <ul style="list-style-type: none"> • Clear profile • Ability to modernise • Central regional impact • Clear national role | <ul style="list-style-type: none"> • The current level of budget financing • The image of East Finland; it has to be improved in the future |
| Opportunities | Threats |
| <ul style="list-style-type: none"> • Success to get more financing • University's expansion of its education will further improve the interaction between the university and regional commercial enterprises | <ul style="list-style-type: none"> • Are there skills enough to keep the expansion under control? • What will happen when the programmes funded and supported by national and EU funds are to be finished (Objective 1)? |

We particularly commend the recognition of the importance of graduates in regional business as a basis for establishing the social relations on which the exploitation of the university's science base can build.

In summary **we commend the university as a well managed academic institution that knows where it is going and which is paying regard to its regional obligations without being overwhelmed by them.**

The University of Joensuu

The 1998 evaluation of Eastern Finland universities suggested that the University of Joensuu had the furthest to travel in determining its strategic direction and actively managing its relations with the region and its internal academic affairs. **We are pleased to commend the University on the considerable progress that it has made in responding to the recommendations of the earlier review.** The self evaluation report was by far the most focused and its presentation at our Valamo Workshop demonstrated the strongest sense of senior management ownership of the evaluation process. Whilst the university has without doubt the most problematic profile of the three universities, the senior management team is acutely aware of this and is now actively managing the tensions between a strongly academic tradition and the demands for engagement with business and the community of Eastern Finland.

In certain respects, Joensuu has a profile not unlike the University of Turku but is much smaller in size and range of activities. It has some strengths in certain academic subjects in the sciences, social sciences and humanities recognised by the designation as Centre of Excellence and Graduate Schools (e.g. Chemistry), some well established applied science, notably forestry, and a range of outrange activities focused on regional cultural development. Of the three institutions, Joensuu has the deepest appreciation of the role of the university in building a learning region, ideas that would have greatest resonance with the views of an education ministry rather than an industry ministry. And yet, the

question remains as to whether it is of sufficient scale as an institution to operate across the waterfront in the manner demanded by this broadly based model of engagement.

In response to this challenge it is not surprising that the university has been the most active in attempting to achieve collaboration between the three universities. Following the 1998 Evaluation the rectors of the three universities identified 12 areas for co-operative development and these are listed below. Significantly this agenda was only mentioned in the self evaluation report from Joensuu.

1. The Virtual University
2. Welfare Services
3. Information Industry Programme
4. Business Economics and Technology
5. Environmental Expertise
6. Forestry Expertise
7. Teacher Education and Teachers' Continuing Education
8. Co-operation with the School System
9. Russia Expertise
10. Centres of Expertise, Science Parks, and Technology Centres
11. Technology Transfer
12. Career Services

In the view of the PRT these are all areas where there should be considerable opportunities for building academic critical mass and reaping economies of scale in specialist administrative processes like technology transfer. E-learning in particular could be a technology which underpins an inter-campus teaching programme. However, the fact that little joint progress would appear to have been made via voluntary collaboration is the very reason why we recommended in the previous chapter the abandonment of any notion of "Eastern Finland universities".

It is the view of the PRT that Joensuu exhibits many of the values of the traditional university, particularly in its faculties of social science and humanities. This is not to say that these values and subjects are not important in relation to regional engagement and to the sciences. This is clearly reflected in the work of the University's Karelian Institute with its ecology section. Thus for many disciplines the region can be a "laboratory" for research of international significance. As the demands placed on Lappeenranta to establish its own South Karelian Institute demonstrate, these activities relevant to cultural and community development are important to all regions. At the same time they must also have national and, if possible, international standing in order to act as a bridge between the region and the wider world.

A good example of the dilemmas in this domain relates to the decision of the University to establish a Faculty of Theology with an interest in eastern orthodoxy. On the one hand the case for establishing a new faculty where

many of the cognate areas are not well represented is debateable; on the other hand, Eastern Finland is an area of the country where the orthodox tradition demonstrates the strongest possibility of survival. And given the importance of the border region with Russia, this could be seen as an important investment on other grounds.

Although the links may be tenuous and difficult to quantify, the strong performance of the Joensuu city economy compared to the other university cities could be taken as indicative that the presence of the University has been a factor in making this an attractive place to live and work. As the table below (which is reproduced in the Joensuu self-evaluation report) indicates, over the period 1998–2000 Joensuu exhibited the strongest growth in value added and employment of all of the cities.

Table 8. Value-added change, Migration balance, and Development of employment in the central cities of Eastern Finland

| City | Value Added Change 95/97–98/00 | Migration balance 98-00 (annual average) | Number of jobs, change 98-00 |
|--------------|-----------------------------------|---|------------------------------|
| Joensuu | 20.9% | -0.1 | 5.4% |
| Kuopio | 13.7% | -0.7 | 3.3% |
| Lappeenranta | 17.3% | 2.1 | 4.0% |
| Mikkeli | 19.9% | -1.4 | 2.9% |
| Kajaani | 9.9% | -8.2 | -0.1% |

The self-evaluation report indicates how the University is now well embedded in many aspects of civic life and clearly plays a leadership role in the community. Its expertise in regional analysis, the strongest of the three universities, has clearly been influential in this respect.

In our discussion of regional innovation systems in Chapter Three we have highlighted the importance of the soft infrastructure within industrial clusters. While the University of Joensuu may not have the focused strength in exploitable science that characterises Kuopio, it could be well be indirectly contributing to a more vibrant entrepreneurial environment in its City.

These achievements are the product of a much tighter academic management structure than observed in the 1998 review. All of the criticisms in that review have been or are being addressed. In conclusion, **we recommend that the university remains focused on its strengths and endeavours to avoid the academic drift that preceded the last review.**

Lappeenranta University of Technology

As a University of Technology, Lappeenranta is by definition the most specialised of the Eastern Finland universities. Moreover, in EU terms it operates in a different regional environment from the other universities, namely an area of structural change in industry (Objective 2). As with the other universities, LUT has made considerable progress in addressing the recommendations of the 1998 Evaluation.

The key to the University's success is its integration of teaching and research in basic technologies with the development of skills in business management. This particular combination is arguably more readily achievable in a relatively small institution, particularly one with strong links to industry in its regional environment. This model very much emphasises the transfer of knowledge through teaching and learning via graduates entering established enterprises but also through fostering entrepreneurial skills amongst students and undertaking consultancy. As a small technological university the 1998 review sensed a possible inferiority complex, but **we commend the steps taken to generate a new spirit which celebrates the distinctive character of the university.** As indicators of this we note its share of research costs from external funding has risen from 31.2% of the total budget in 1998 to 41.6% in 2001 and formal collaboration arrangements with 85 companies. The establishment of the Intelligent Industrial Systems Laboratory, the Centre for Separation Technology and the Telecom Business Research Centre are also indicators of a growing confidence and integration of expertise across the university.

The impact of this profile in terms of human capital is admirably demonstrated by the fact that 46,7 % of all LUT graduates find employment in private industry and 25% in South Karelia. Most significantly 55% of IT graduates are employed in South Karelia whereas only 11% of those graduating in one of the University's strongest areas, Energy technology, found jobs in the region. And notwithstanding the core mission of the University, its student satisfaction surveys reveal complaints of poor preparation for working life in terms of training in social, communications and group working skills.

In addition to serving its region with graduates, the university has been active in establishing operations in smaller industrial centres working in collaboration with local industry. **We particularly commend the establishment of visiting Professorships endowed by external stakeholders in smaller Eastern Finland towns such as Varkaus and Mikkeli as an innovative mode of outreach.** Indeed, according to the self evaluation report, LUT is only surpassed by the Universities of Tampere and Helsinki in the number of industrial sponsored professorships, and these are much larger institutions. The University also has outreach activities in Lahti, Kotka, Imatra, Savonlinna, Mikkeli, and Kouvola, indicating its engagement with regional innovation systems by means of a variety of methods.

However as we have discussed elsewhere, interaction with business is not enough. The building of the softer innovation infrastructure is equally important. In this respect the evaluation of the Centre of Expertise in Southeast Finland has not had the most positive of outcomes. Moreover, as we have noted in the case of Joensuu, networks are structured through social and cultural interactions and this is challenge for a technological university. LUT has responded by participating in the establishment of the South Karelian Institute in partnership with the South Carelia Polytechnic. In Chapter 4 we challenged the wisdom of this initiative but understand the nature of the pressures on the University. We argued in that chapter for stronger collaboration in this area with the University of Joensuu and its Karelian Research Institute.

We close this review on Lappeenranta by commenting on resourcing issues. Teaching and research in basic technology to a national and hopefully international level is an expensive business. Taking an active role in regional industrial development is also resource demanding and LUT, like all of the Eastern Finland universities, has been fortunate in gaining access to EU resources for this purpose. Last, but not least, collaborative initiatives with other universities is demanding of senior management time. While these challenges face all of the universities in Eastern Finland, we have gained the impression that under resourcing is a particularly serious issue in LUT. In summary, **we commend the university for the progress it has made in strengthening its national standing and its regional engagement and recommend that the question of basic resourcing be further investigated by the Ministry of Education.**

The Mikkeli Campus

Mikkeli is one of the few significant cities in Finland without a university. It has a dynamic polytechnic with high aspirations and which is recruiting staff internationally. And it has “outstations” of two Helsinki Universities which both see themselves as international institutions, also serving the whole national territory. In an interesting experiment, these units (together with the organic production branch of the National Agricultural Economics Research Institute) occupy a common campus in Mikkeli but with no legally binding institutional links between the components.

Without visiting the campus and also reviewing the plans of the Polytechnic we were unable to come to any informed judgement as to whether the informal collaboration in the margin of the parent institutions would lead to a uniquely different approach to the contribution of higher education to regional development. **We note that some of the units are working together under the Mikkeli Regional Centre Programme to develop a model for collaboration under the provisional title “Mikkeli University Centre”. We therefore recommend that FINHEEC undertake a full evaluation of these developments. With these caveats in mind we would offer the following observations.**

The Mikkeli Institute for Rural Research and Training is part of the University of Helsinki Centre for Continuing Education which in turn one of the University's 16 independent institutes. As such it could not be seen as being at the heart of the University of Helsinki's business (although in 2004 the Institute will no longer be subordinate to the Centre of Continuing Education). The Institute has five spheres of activity – adult education, organic food production, the so-called “eco-university”, (embracing eco-studies, rural studies, and co-operative studies), co-operative development and services for enterprises. It employs 55 staff and has a turnover of 3.2m euros, 77% from external sources. This is a significant achievement but nevertheless represents a small venture in comparison to the other universities in Eastern Finland.

By definition local development in rural areas is at the heart of the mission of the Institute and this is rightly regarded as a national concern. However, we are not in a position to judge whether in terms of either research or teaching it would be regarded potentially as a national Centre of Excellence in its field. Clearly the links to a strong department in the University of Helsinki, notably Agricultural and Forestry, should be an asset, but whether those departments regard the Institute in these terms is unclear.

The Institute has a clear teaching niche, focusing on vocational development of graduates with an interest in organic cultivation, the food industry, and rural studies. Although funding for these programmes is regional, this is a national activity not exclusively for residents of South Savo. Significantly, limited funding for these programmes came from the University of Helsinki. Teaching is paralleled by research and consultancy services for small rural businesses of which 65% are based in South Savo. This work has in turn led to the support for the creation of new companies engaged in organic food production.

Our overall impression is of a well managed, highly entrepreneurial and innovative unit of national significance that has benefited from its location in Mikkeli, most notably from the availability of EU Objective 1 funding which its parent university would not otherwise have been able to access.

Similar conclusions could be reached regarding the *Mikkeli Business Campus of the Helsinki School of Economics*. The Small Business Centre was established so as to provide programmes of supplementary education and research and to promote entrepreneurship and diversification of the economy in Mikkeli. Subsequently a Bachelors programme in Business and Administration, taught in English and targeted at international students, has been established. The programme now has an intake of 480 students. 28 full time equivalent staff work in the Small Business Centre and 6 FTEs teach on the undergraduate programme with significant additional inputs from 70 visiting lecturers. Again this is a highly entrepreneurial but relatively small scale venture.

There is close co-operation with the Institute of Rural Research and Training, including a common degree programme in rural entrepreneurship and plans for a masters degree in eco-business. But by its own admission, “the Helsinki School of Economics has no separate programme of action that is aimed sepa-

rately towards the region". Training courses arranged by Small Business Centre attract students from across the country and are delivered in 20 localities – (including Helsinki and St. Petersburg!)

As regards the business administration degrees, the majority of the students come from outside the region and very few take up employment locally. In response to criticisms of this situation from the region, the self evaluation report notes that the Business Campus will make "fresh efforts to arrange for student to write their dissertations on topics of relevance to local companies and more attention will be paid to students from South Savo when marketing the degree programme".

In summary, we would regard the joint campus as having all the strengths and weaknesses of branch operations. As part of highly regarded parent institutions the units are able to operate on a national and even international stage. However, they are necessarily peripheral operations and survive through their own entrepreneurial endeavours. This national standing brings the "university" accolade to the City but this is brought at some cost in terms of regional engagement. Finally, the extent to which the two branches with different parents and which share accommodation overheads on the same estate can develop into one regionally engaged autonomous institution must be open to question. In this regard strong joint relations with the Polytechnic might provide a way forward.

6

Summary of Recommendations

Context of the Re-evaluation

- We would recommend to FINHEEC that institutional evaluations should be very much a partnership between the individual institution and the relevant national authorities.
- We recommend to FINHEEC that thematic evaluations and re-evaluation are co-ordinated across institutions and that a formally constructed steering group is in place to ensure senior management engagement and follow on institutional development programmes which involve inter-institutional sharing of good practice.
- We recommend that FINHEEC forms a Peer Review Team at an early stage to influence the self-evaluation process. We would also advise against the overly rigid adherence to a common evaluation framework which in effect facilitates a certain “passing down” of the evaluation task from senior management.
- We recommend that the Finnish Government consider a competition to establish a research group with expertise in the field of this review (with initial pump priming funding). The group should embrace expertise in science and technology policy, entrepreneurial development, economics, social and cultural studies, labour market analyses and institutional change management. It could be established on a network basis and include international partners.
- Notwithstanding the initial logic underpinning their foundations we suggest that the notion of Eastern Finland universities is an outmoded concept and we recommend that it is dropped from the Higher Education lexicon.
- We would not recommend a “one size fits all” policy for universities and regional engagement.
- We recommend that FINHEEC, in partnership with other relevant stakeholders, conduct an evaluation of the regional engagement of Finnish universities across a variety of regional environments from more to less prosperous. But we certainly do not endorse the formal classification of regions proposed in the Linna Report.

The Socio-economic situation of Eastern Finland

- We recommend that it is important for the universities and other local actors (schools, labour market agencies, employers, municipalities, technology transfer agencies and regional development offices) to have access to independent and regularly updated information about the regional impact of the universities.

The Universities and Regional Innovation Systems

- Given the impending rundown of the European Structural Fund we strongly recommend that Central Government, regional and local authorities, industry and the universities undertake a review of the functioning of regional innovation systems in Eastern Finland.
- We strongly support the on-going review of the third mission of universities and encourage this to embrace responsibilities for engagement in regional economic development supported by public funds that can be invested by the universities, subject to appropriate accountability mechanisms.

Matching institutional profiles to regional needs

- We recommend that the University of Joensuu and Lappeenranta University of Technology carefully reconsider the appropriateness of establishing a joint Faculty of Law.
- Whilst commending Lappeenranta University of Technology for seeking to respond to the social and cultural needs of the region, we recommend that further thought is given to how the Karelian Institute can be supported by a technological university.
- We recommend that the notion of a university for Eastern Finland be finally abandoned with the individual universities responding to the needs of their immediate localities to fulfil their third role obligations.

Managing Regional Engagement

- The Peer Review Team commends the three campus universities on the great strides that have been made since 1998 in managing their regional engagement.
- We commend the University of Kuopio as a well managed academic institution that knows where it is going and which is paying regard to its regional obligations without being overwhelmed by them.

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- We are pleased to commend the University of Joensuu on the considerable progress that it has made in responding to the recommendations of the earlier review. We applaud the University for its aspiration to be the university of Eastern Finland but recommend that it remains focused on its strengths and endeavours to avoid the academic drift that preceded the last review.
 - As a small technological university the 1998 review sensed a possible inferiority complex in Lappeenranta University of Technology, but we commend the steps taken to generate a new spirit which celebrates the distinctive character of the university. We particularly commend the establishment of visiting Professorships endowed by external stakeholders in smaller Eastern Finland towns such as Varkaus and Mikkeli as an innovative mode of outreach.
 - We commend Lappeenranta University for the progress it has made in strengthening its national standing and its regional engagement and recommend that the question of basic resourcing be further investigated by the Ministry of Education.
 - We note that some of the units are working together under the Mikkeli Regional Centre Programme to develop a model for collaboration under the provisional title “Mikkeli University Centre”. We therefore recommend that FINHEEC undertake a full evaluation of these developments.

References

- Antikainen A., Kallasvaara H., Kallio T. Karjalainen K. & Viiri A. 2002. Self evaluation report on the regional impact of the University of Joensuu. Evaluation project of the impact of Eastern Finland universities and the Mikkeli campus. Joensuun yliopisto. Hallintoviraston raportteja ja selvityksiä n:o 28. Joensuun yliopistopaino, Joensuu.
- Commission of the European Communities. 2003. The Role of the universities in the Europe of knowledge. Communication from the Commission. COM (2003). 58 final. Brussels, 05.02.2003.
- Dahllöf U., Goddard J., Huttunen J., O'Brien C., Román O. & Virtanen I. 1998. Towards the Responsive University. The Regional Role of Eastern Finland Universities. Publications of Higher Education Evaluation Council 8:1998. Edita. Helsinki.
- Dahlqvist A., Suomalainen H., Pentti J. & Lampi P. (ed.) 2001. Kuopion yliopisto 2001. Tilastotietoa. (University of Kuopio 2001: Statistics). Kuopion yliopisto. Suunnittelu ja kehittäminen. 2001.
- Helsinki School of Economics. Mikkeli Business Campus. Self-evaluation report on regional impact. 2002. Mikkeli 2002.
- Institute of Management, Politics and Philosophy Copenhagen Business School. 2003. Framework conditions for university interaction with business and community – a study of Finland, Sweden and UK. Commissioned by the Danish Ministry of Science & Technology. (Forthcoming publication).
- Itäisen Suomen yliopistojen yhteinen kehittämisstrategia 2000–2006. Joensuun yliopisto, Kuopion yliopisto ja Lappeenrannan teknillinen korkeakoulu. Joulukuun 1999. Kuopio/ Joensuu/ Lappeenranta.
- Kinnunen J. 2001. Korkeakoulujen alueellisen vaikuttavuuden arviointi. Kriteerejä vuorovaikutteisuuden arvottamiselle. Korkeakoulujen arviointineuvoston julkaisuja 5:2001. Edita. Helsinki.
- Kinnunen J., Pentti J. & Helve H. 2002. Self-assessment report of regional impact of the University of Kuopio. University of Kuopio Publications F. University Affairs 29. University of Kuopio. Kuopio.
- Kuopion yliopiston innovaatiostrategia ja sen toimeenpano. 2002.
- Lautanen T. 2001. Eastern Finland Regional Innovation and Technology Transfer Strategy RITTS 4445 "EFFORTS". Final report. SPATIA Reports 5:2001. Joensuu.
- Mid-term evaluation of the Finnish Centres of Expertise for the period 1999–2002 (Huippuosaamisesta alueille kilpailukykyä. Osaamiskeskusten väliarviointi 1999–2002). Ministry of Interior. 4/2003.
- Objective 1 Area Programme of Eastern Finland Area for EU for the years 2000–2006. North Karelia, North Savo, south Savo and Kainuu. 1999.
- Opetusministeriön työryhmien muistioita 28:2001. Korkeakoulujen alueellisen kehittämisen työryhmän muistio. (The Linna report). Opetusministeriö. 2001.
- Regional Development Strategy 2003–2013. Ministry of Education.

Science and Technology Policy Council of Finland. 2003. Knowledge, Innovation and Internationalisation. Science and Technology Policy Council. The Finnish Government.

The North Karelia Regional Development Plan “Pokat” 2006.

The Regional Effectiveness of Lappeenranta University of Technology. Self-Evaluation Report. 2002. Lappeenranta teknillinen korkeakoulu. Hallinnon julkaisuja 120: 2002. Lappeenranta.

University of Helsinki, Mikkeli Institute for Rural Research and Training. 2002. Self-evaluation Report on Regional impact. Mikkeli 2002.

Further information for the Peer Review Team, November 2002:

(Answers to the questions presented in Appendix 1). Unpublished.

- Helsinki School of Economics, Mikkeli Business Campus
- Lappeenranta University of Technology
- University of Helsinki, Mikkeli Institute for Rural Research and Training
- University of Joensuu
- University of Kuopio

The regional programmes for The National Centres of Expertises Programme:

- Kaakkois-Suomen osaamiskeskus. Osaamiskeskusohjelma 2003–2006. Centre of expertise in SouthEast Finland. 9.9.2002. (In Finnish only.)
- Kuopion seudun osaamiskeskus. Kuopion Seudun osaamiskeskusohjelma 1994 ja 1999–2006.
- Pohjois-Karjalan osaamiskeskus. Pohjois-Karjalan osaamiskeskusohjelman Muovi-metallikeskus- sekä Puu- ja metsäosaamiskeskus raportteja. 2002. (In Finnish only.)

APPENDIX I: Request for Additional Information

1. What is your region?

- How is your institution responding to the regional needs in that region/ area?
- What opportunities arise from being a border region with Russia?

2. How would you describe the national / regional innovation system and your role in it?

- The role of Centres of Expertise, especially in the light of the new review
- What place do you see for the Science Park/ for the Technology Centre in relation to your participation in the innovation system?
- Your response to the EU Regional Innovation and Technology Strategy (RITTS)

3. What is your response to each of the main proposals (presented below in the form of headings) in the Report of Working Group for Regional Development of Higher Education?⁶

I. Strengthening the role of HE in the regional innovation system

- a. The third role to be included in the university and polytechnic law
- b. Ministry of Education incorporates objectives for HE into its own regional strategy
- c. Ministry of Education shall be in active dialogue with regions and other ministries in the regions
- d. Budget funding should support co-operation and common activities of universities and polytechnics in regions

II. Strengthening co-operation and networking between universities and polytechnics and other partners in the region

- a. Common strategies and common councils for regions' HE units
- b. Co-operation and networking between Swedish HE units
- c. Regional co-ordination between different actors
- d. Special measures for less developed regions via networking

III. Structural development of universities and polytechnics

- a. Increased co-operation between universities and polytechnics in degree programmes
- b. Universities develop further and strengthen their profiles
- c. Structural development of polytechnics via fusion and merging
- d. Development of welfare services and SME sector via co-operation of HE units (knowledge centres)
- e. Development of tailor-made adult education programmes; use of virtual university
- f. Maintenance of good quality secondary education system

⁶ Korkeakoulujen alueellisen kehittämisen työryhmän muistio. Opetusministeriön työryhmien muistioita 28:2001.

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- IV. *Research on regional impacts of HE and development of relevant statistical data*
 - a. Research and evaluation
 - b. Development of statistical data
 - c. Development of “knowledge register”
 - d. Quality control of international activities in HE
 - e. Utilisation of data concerning EU’s regional development work
 - V. *Special measures concerning the Helsinki metropolis area*
 - VI. *Special measures concerning innovative growth regions*
 - VII. *Special measures concerning neutral regions (e.g. North Karelia, South Karelia, North Savo, Kymenlaakso)*
 - VIII. *Special measures concerning less developed regions (e.g. South Savo, Kainuu)*
 - IX. *Measures to develop education and research in engineering*
 - a. Kuopio, Joensuu, Jyväskylä: strengthening of applied IT-education on the universities’ areas of core competence
 - b. Vaasa: start of independent engineering education in 2004
 - X. *Development of engineering education in some non-university regions (Salo, Raahе) by the existing HE units*
 - XI. *Development of business knowledge (a special programme launched in 2001)*
 - XII. *Better utilization of EU programmes (several sub-issues, e.g. need of getting prepared to cessation of EU Structural Funds in 2006)*
 - XIII. *Suggestions concerning HE supply*
 - a. New university supply by outreaching of existing units (e.g. Mikkeli, Pori)
 - b. Measures because of cessation of EU Structural Funds
 - c. Volume and distribution of polytechnic education
 - d. Degree programmes in polytechnics after the basic degree
 - e. HE co-operation in regions in adult education
 - XIV. *New funding: 20–23 M€/year*

- 4. **Please outline progress made since the last review in relation the cross-cutting themes, (if not covered in the self-evaluation report) with the reference their relevance to in your external environment discussed in points 1–3 above.**
 - Strategic planning: especially the further development profile of your institution
 - Finance management
 - Student management
 - Human Resource management
 - The role of the Centres of the Continuing Education
 - Relationship management and Leadership
- 5. **What steps have been taken since last evaluation to ensure that the regional engagement is owned by the whole institution?**

6. **In the light of the above questions how do you see collaboration with other external regional stakeholders, including industry, now and in the future?**
7. **What do you consider to be the principal external barriers and drivers (threats / opportunities) to regional engagement (including role of central government and EU), for example:**
 - What cessation of EU Structural Funds out?
 - The Ministry Of Education Funding model
 - The Academy of Finland funding-policy
8. **The potential contribution of the Virtual University to enhancing your regional role?**
9. **With reference to your self-evaluation of business education in your institution how do you see this area contributing to the achievements of your regional mission?**
10. **What are your views on the links between self-evaluation and the development/ implementation of national higher education policy?⁷**

⁷Including the incorporation in the PRT report of the external information.

APPENDIX 2: The Centres of Expertise Programme

The national Centre of Expertise Programme (CEP) supports regional strength, specialisation between regions and collaboration between different centres of expertise. The result of the programme is a strong and workable Finnish network of centres of expertise to face the challenges of the 21st century information society. In the future the centres of expertise will be more and more attractive investment projects and locations also for international companies and investors.

A Finnish model

The Centre of Expertise Programme is an objective programme created in accordance with the Regional Development Act (1135/93). One of the objectives is to concentrate local, regional and national resources on the development of selected internationally competitive fields of expertise. The programme has been carried out by eleven centres of expertise in Finland from 1994 to 1998. On grounds of good experiences in the activity the Council of State has extended the programme by naming new fields and centres of expertise to carry out the second national programme. Fourteen regional centres of expertise and two national centres of network expertise have been named for the programme phase 1999–2006. The main principle in the realisation of the CEP is competition. Access to the programme has required an internationally high level concentration of know-how, innovative and impressive measures in the proposed programme and effective organisation. The centres of expertise also compete for the annual basic financing allocated by the state, which guarantees constant development work.

From ICT to new media and culture

In the new programme phase the emphasis is given to exploitation of know-how and increase in effects on enterprises. Also other than technology-based fields of expertise have now been taken into account in the selection of new centres of expertise. These new fields include new media, industry of experiences, culture, software products and know-how in design, quality and environment. The regional programme work is coordinated by the national work group of the centres of expertise. The members of the work group are experts in central ministries, economy, research, education, culture, cities and regional administration.

North Karelia Centre of Expertise (Joensuu)

Joensuu Science Park is in charge of the activity of North Karelia Centre of Expertise. The centre includes two fields of expertise, plastic-metal and wood technology and forestry, which are called:

1. Plastic and Tooling Centre of Expertise, and
2. Centre of Expertise for Wood Technology and Forestry.

These centres of expertise operate as an essential part of the organisation of Joensuu Science Park Ltd. Being responsible for technology transfer, education, development and networking of their sectors together with other operators. The essential aims of the Centre of Expertise are to create and develop internationally successful enterprises by promoting the introduction of know-how and new technology and to create new collaboration methods between enterprises, research institutes and educational establishments.

Kuopio Centre of Expertise

The Kuopio region boasts world class expertise in the fields of health care technology, pharmaceutical development and biotechnology. Findings in all these specialisations have been profitably commercialised. Information technology has also grown rapidly in the Kuopio region due to the efforts of the local university and polytechnic.

1. Pharmaceutical development

The University of Kuopio, the Kuopio University Hospital and pharmaceutical development enterprises in the Kuopio region are building up an expertise cluster in pharmaceutical research and development. Pharmaceutical development specialises in dosage systems and equipment for pharmaceuticals and in developing new pharmaceutical substances and products, particularly in the field of central nervous system and genetic pharmaceuticals. There are other Finnish and foreign universities, research institutes and pharmaceutical enterprises, which are involved in this pharmaceutical development work. Several pharmaceutical enterprises seeking product innovations, known as drug discovery companies, have been formed in the Kuopio region in recent years. There has also been an increase in the number of enterprises specialising in pharmaceutical industry subcontracting and contract manufacturing.

2. Health care technology

The principal fields of expertise in health care technology at the Kuopio Region Centre of Expertise are diagnostics, medical devices and health care data systems. Several university faculties and the Kuopio University Hospital possess state-of-the-art expertise in health care technology. The effort made by the university in education, research and development of information technology also creates a further basis of know-how for developing health care data systems in local enterprises. Enterprises operating in the field of health care technology products have specialised in developing and manufacturing the reagents and test kits needed in diagnostics, the sensors and measuring equipment used for measuring and recording life signs and the software and integrated systems supporting information technology in various forms of health care.

Local enterprises specialising in developing diagnostics have the advantage of a very high level of regional biotechnology expertise centred on the state-of-the-art *Bioteknia* development laboratories of the Teknia Technology Centre. Expertise in design, instrumentation and equipment manufacturing is concentrated in local enterprises and in the technology department of the North Savo Polytechnic at Kuopio, which has its own product development laboratory for information technology and electronics. The number of information technology enterprises has grown rapidly and the *Microteknia* complex provides such enterprises with specially designed facilities.

3. Agrobiotechnology

The University of Kuopio has advanced expertise in the fields of health and environmental sciences and biotechnology. The combination of resources in these areas of

research has created expertise in agrobiotechnology. The objective is to achieve specialised know-how covering the entire chain of production and distribution. The Centre of Expertise supplements otherwise available teaching and research in applied biotechnology in the fields of animal rearing, market gardening and foodstuffs production. Agrobiotechnology in Kuopio takes the form of the nutritional value, health and safety of foodstuffs as well as of animal, fish and plant agrobiotechnology. Examples of development work include food safety services, new berry species, farmed fish and night milk containing a higher than normal proportion of melatonin. Research in animal biotechnology focuses on production of transgenic animals as part of dairy products processing and the use of nuclear transfer techniques in animal breeding.

Centre of Expertise in Southeast Finland (Lappeenranta, Savonlinna, Mikkeli and Imatra)

Centre of Expertise in Southeast Finland is the local operator of the national Centre of Expertise Programme which aims at communicating, utilising and commercialising, regenerating and further developing internationally competitive, high tech fields of expertise, characteristic to a certain region. Managed by the Technology Centre Kareltek in Lappeenranta, the Centre of Expertise in Southeast Finland closely co-operates with – and actively networks – the experts of the Lappeenranta University of Technology as well as industry, polytechnics, research institutes and local government. Centre of Expertise in Southeast Finland provides knowledge, know-how, research and education information, contacts, networks, project management and catalytic project funding for new and expanding business as well as for local, national and international enterprises and investors seeking location, resources and/or partners for their knowledge-intensive operations concerning the characteristic fields of expertise to Southeast Finland.

Fields of expertise

1. The acknowledged and pioneering expertise on *High Technology Metal Constructions* is developed by the Lappeenranta University of Technology and the Technical Research Centre of Finland (VTT) in Lappeenranta. The fields of special interest cover:
 - welding: beam welding, welding automation, welding quality control
 - steel constructions: optimizing, testing, durability
 - sheet metal technology: FMS manufacturing systems, condition monitoring
 - virtual design: machine automation, mechanics.
2. The expertise on the *Key Systems for the Forest Industry* is based on the forest industry cluster of Southeast Finland with several large production and research units of international forest giants as well as advanced subcontracting and service sector. The focus is especially on the latest information technology applied in the forest industry systems:
 - industrial management systems
 - process control and automation systems
 - power supply systems
 - subcontracting systems
 - logistic systems.

Centre of Expertise in Southeast Finland has also sub-offices and industrial branches. In the town regions of Savonlinna and Varkaus there are subsequent units of forest industry related process and manufacturing industries. Therefore these towns and industrial/ technology areas was added to the Centre of Expertise in Southeast Finland from the beginning of the 2003 (State council decisions, November 2002.). Technology Centre Kareltek is also in the charge of these new operations.

3–4. The expertises on *Logistics*, and separately, *Russia expertise* (Russia as business environment) are based on the advantageous geographical location and strong traditions on cross-border operations in business, research, travel, transportation and public sector. This field, which combines academic research and practical business expertise, is developed in close co-operation with Kymenlaakso Polytechnic. The focus is on:

- training and education on and in Russia
- preparing and supporting companies for their Russian operations
- development of industrial logistic solutions and logistic infrastructure
- information technology applications for logistics
- development of shipping and transit operations.

Networked Centres of Expertise: National Food Expertise Centre: Offices in Mikkeli, Kuopio and in Joensuu

The National Food Expertise Centre's mission is to ensure the production conditions and competitiveness of the food sector in Finland. The top-level expertise offered by national and other units is further developed and made available to businesses. The partners in the network include research, training and development institutes as well as producers, regional developers and representatives of industry and trade. The main areas of activities include:

- research serving cultivation, processing and marketing
- training and consultancy for the different parties in the chain
- creation of data files for each vegetable species
- implementation of development programmes for each vegetable species
- development of vegetable processing
- development of packaging and storing
- assuring and improving quality
- development of joint marketing efforts
- dissemination of international knowledge to the different parties in the chain.

APPENDIX 3: The University of Kuopio

University of Kuopio has perhaps the most clearly defined profile of the Finnish universities (excl. the business schools and other one-branch special universities). The mission of the university is to promote internationally recognized scientific research and learning skills. It specialises in health and environmental sciences as well as related fields of technology and information technology:

- health sciences
- environmental sciences
- well-being research
- biotechnology
- IT and business management.

The University has five faculties: Business and Information Technology, Medicine, Natural and Environmental Sciences, Pharmacy, and Social Sciences. In addition there is the A.I.Virtanen Institute for molecular sciences. The University offers a variety of undergraduate and postgraduate programmes, specialist training, supplementary training, and adult education. 5,300 students enrolled, about 80% of them undergraduates. The number of continuing education students is almost 5,000 annually and the number of open university students about 3,500.

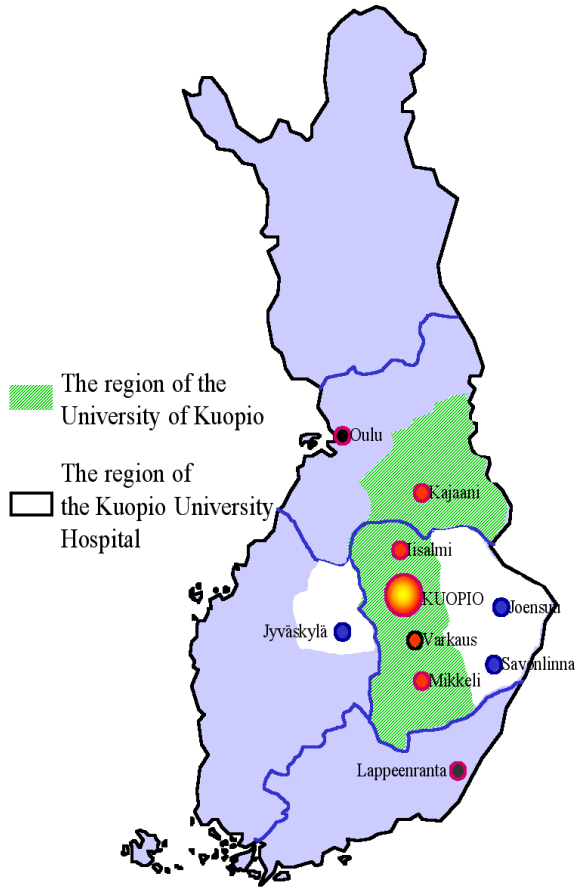
The following degree programmes are offered: Applied Biotechnology, Biochemistry, Clinical Nutrition, Computer Science, Business and Management, Environmental Sciences, Local Economic Development, Ergonomics, Exercise Medicine, Public Health, Health Economics, Health Management incl. Social and Health Informatics, Information Technology, Medicine, Nurse Teacher Education, Nursing Science, Pharmacy, Physics, Social and Health Management, Social Sciences: Social Pedagogics, Social Policy, Social Psychology, Social Work, and Sociology.

The University works in close cooperation with research in health and medicine conducted in the University Hospital. The University has 45 teaching and research units in total, including 14 clinics in the University Hospital. The main areas of research are:

- biotechnology
- molecular biology and molecular medicine
- chronic illnesses such as diabetes, cardiovascular diseases, musculoskeletal diseases (e.g. osteoarthritis and osteoporosis) and cancer
- multidisciplinary brain research
- nutritional research
- pharmacy: Preclinical development of new drugs and biopharmaceutical research
- environmental health and technology
- social and health care services, nursing, health economics
- health care technology
- entrepreneurship and management, local economic development.

The Central government provides little more than half of the institution's funding and the University has been successful in increasing the proportion of its income derived from external sources. The total funding in 2001 was about 500 million FIM (approx. 82 million €). The University employs approximately 1,400 people. The University has 130 professors and other teaching staff of about 200.

Through its activities, the university seeks to invigorate the economy nationally and specially in Eastern Finland region. The University has auxiliary institutes for teaching, research and a range of support services: Computing Centre, Research Centre for Public Health, Language Centre, Learning Centre, University Library, Centre for Training and Development, and the National Laboratory Animal Centre. In general, the university tries to act as a catalyst for growth and expansion for the Kuopio region and beyond.



Appendices Figure 1. The overlapping regional impacts of the University of Kuopio

The Self-evaluation

The self-assessment report of the regional impact of the University was completed in August 2002. The report reviewed the changes that had been undertaken since last review. Further it provided information on the university's actions to meet the increasing external demands for regional impact. Previously undertaken reviews of the University and the region were utilised in the preparation of the self-assessment. The preparation of the self-assessment report was supervised by a steering group appointed by the Rector, which contained members from the various faculties, the Centre for Training and Development and the students' association. In June 2002, the draft report

was also circulated to some external partners; the many interested parties within the region of North Savo; the towns and cities in the region, the provincial associations, educational institutes, other local government bodies and private enterprises closely with which the university undertakes cooperation. In addition, the draft proposal was sent to the Ministry of Education, The Ministry of Trade and Industry and the Ministry of Interior.

Progress made and steps taken since last evaluation to ensure that the regional engagement is owned by the whole institution

The regional engagement of the University has expanded significantly through projects financed through EU Objective I programmes. Regional development projects undertaken with both private and public sector partner organisations. Projects supported by structural funding are underway in all the University's faculties. The University's Research and Innovation Services provides valuable support e.g. help with grant applications, contracts and innovation-related activities. In particular, the innovation-linked activities have laid the foundations for the creation of new entrepreneurial activity within the region resulting from the University's expertise.

The core of the University of Kuopio's regional engagement is based on the teaching and research undertaken in the University's faculties and departments. With respect to service activities and transfer of expertise to the community, a crucial role is played by the Centre for Training and Development. Currently the institution is undertaking a reorganisation of its administration. It is envisaged that the Head of Administration will have responsibility for issues related to regional engagement and regional development. The Centre for Training and Development within the University of Kuopio acts as a link between the University and its external environment, especially East Finland, but also on a national basis. In this way it reinforces the University of Kuopio's regional role and also its national impact.

Strategic planning

In its self-assessment report, the University of Kuopio emphasises the importance of strategic planning and the administrative changes which it has made to achieve regional impact. According to its administration regulations, it is the responsibility of the University council to evaluate and improve the university's sphere of influence and efficiency of its activities.

Finance management

Finance management is an important component in the implementation of the activities associated with the regional development strategy. The financial regulations were revised in the spring of 2002. These new, clearly defined operational rules have eased the dialogue with external stakeholders. Following these changes, the University is cooperating with the National Audit Office in reviewing financial management in other universities.

Financial affairs and administration are kept centralized. Rules and regulations are kept up-to-date. Furthermore information policies and staff training have not been overlooked. The internal control system within the University of Kuopio has been enlarged and now covers to a greater extent financial management at the departmental and project level. The control system also includes external accounting experts. Whenever flaws have been noted in the system, immediate action has been taken to rectify the situation. In addition, the internal control system has guaranteed the efficacy of the chain of actions and ensured that there has been proper supervision. In

addition, audit control and visitations associated with structural funds are on schedule. The leaders of the many departments and units have received leadership training, which started in the year 2002.

The University follows with interest new policies coming from the Ministry of Education as well as the progress of the revisions to the laws relating to universities and regional development. The University considers as interesting the proposal being assessed in the Ministry of Education that changes be made to the law governing university affairs such that income from innovations activities as well as income from possible donations or other sources to the universities could be placed into special investment funds. These could then be used to finance activities considered to promote university expansion. In addition, the proposal that universities should be allowed to purchase the shares of private companies, which are exploiting research findings or promoting regional development is considered as an interesting prospect.

Student management

The committee on assessment and development of teaching activities has the overall responsibility for monitoring the quality of teaching within the University. They also support teaching improvement projects and applications for excellence in teaching status. They can undertake and monitor assessments of teaching quality. They guarantee that teachers can receive adequate and appropriate pedagogic training. They are also the committee which issues statements on teaching-related topics and keep the academic community informed on new developments in these areas. There are education development committees in all of the faculties, which actively participate in the planning and decision-making process related to new teaching initiatives.

The development strategy created at the end of 2001 on basic education forms the basis for the administration and future planning of basic and post-graduate education in the University. This document defines how graduate numbers will grow in the future, how teaching quality is to be assessed, what type of teaching support system is to be available. It also includes the report from 2001 that evaluated the quality of the university's research activities.

Human resource management

The personnel of the university now totals about 1800 individuals, made up of those with permanent positions, fixed-term contracts or part-time positions. Human resource management is centralized and led by the Chief of Human Resources. The welfare and satisfaction of the personnel is crucial not only for its internal importance but also for the positive image it provides to external sources.

The University of Kuopio has in force a personnel policy, which is followed in issues related to staffing. In addition, there is an individual in charge of quality assurance who also has responsibility to coordinate and improve personnel-related issues in the quality, efficiency and welfare of work place concerns. Ways to improve and develop staff-related issues are also a topic covered in the University's internal leadership training programmes. Resource management covers also the area of work-place safety, administration of employee health care and personnel training. The responsibility for these aspects has been delegated to the departmental level.

The role of the Centre of Continuing Education

The key role of the Centre for Training and Development in regional development is emphasised in the self-assessment report. The Centre has staff of 70 with Regional Offices in Iisalmi and Siilinjärvi, and offers a wide range of services and activities for the development of the Varkaus town region. The Centre is responsible for the organisation of adult education covering a wide range of fields. Further it undertakes the plan-

ning and realisation of tailor-made courses and development programmes for businesses and communities. The Centre's role is to act as a channel of collaboration, enabling businesses and other organisations to access and utilise the latest research results and knowledge from the University. The aim is to develop know-how and entrepreneurship in the local region. The Centre covers the main fields of the University: biotechnology, pharmacy, ecology and environmental sciences, nutrition and food sciences, social and health sciences, and entrepreneurship and management. The Centre provides education, development projects, professional adult education and Open University instruction.

Relationship management and leadership

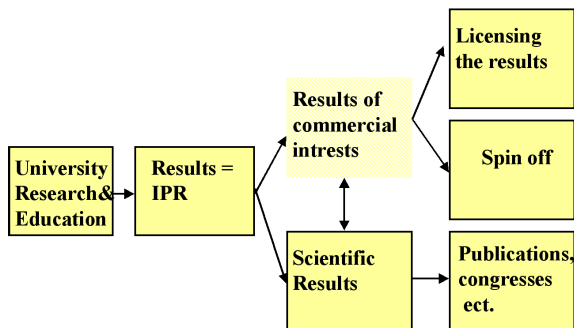
The Rector of the University is responsible for maintaining the University's overall links with external interested parties. The Rector is assisted in this role by two Vice-rectors; one of whom has responsibility for research and research-based education and the other supervises other educational activities. Regional engagement is one of the principal activities of the Head of the Administration. In addition, the central administration has overall responsibility for activities financed by structural funding. There is an advisory council within the University that is empowered to cultivate links with the university's sphere of influence and also to encourage the establishment of a dialogue between the University and its external environment. There is also a working committee made up of members of the advisory council; this committee considers issues related to the university's strategic planning as well as economic and operational planning.

Strengthening the role of HE in the regional innovation system

Internal innovation structure/system

The current emphasis of the University's innovation-linked activities has been the development of an innovation structure, a system, which ensures the practicality of technology transfer and a commercial basis for laboratory services. These activities form the foundation for the creation and development of technology-based commercial enterprises. In the Spring of 2002, the University of Kuopio published its innovation strategy, which stresses the continual need to develop innovation activities.

HOW TRANSMIT THE RESULTS FROM THE UNIVERSITY TO SURROUNDING SOCIETY?



Appendices Figure 2. The channels of the University of Kuopio to transmit new knowledge to the surrounding society (Source: Kuopion yliopiston innovaatiostrategia ja sen toimeenpano. 2002)

The development of activities has evolved to meet the demands imposed by contractual policies, changes in the university's external environment, as well as increased expectations for the university to undertake applied research and be more business-friendly. The central internal activities have been the creation of an invention notification procedure, the continuation of a dialogue with the Foundation for Finnish Inventions, the setting up of an advisory council, support for promotion of innovation, arranging training courses as well as participation in the Venture Cup, a competition aimed at rewarding novel business ideas. In addition, in the late 1990s, the University participated in the planning phase of the so-called RITTS, though it was not responsible for the strategy itself⁸. The University of Kuopio has now provided its innovation chain scheme for the benefit of RITS and has also participated in several draft projects and seminars.

It is clear from reports and studies⁹ made in the Kuopio city region, that there are some major problems concerning the regional effectiveness of the innovation work of the university. The problems concern both the selected branches (ICT and health care related technologies and studies) and the local weaknesses of these branches (so far). The Kuopio region has some capacity in the areas where the university is working, but the University's strengths do not necessarily show up as increasing employment in the region. There are four possible reasons for this. First the commercialisation process for medical innovations often transfers university innovations and start-ups to international ownership. Second is the gap between the University based new technology areas and the traditional entrepreneurship profile of the area. As new technology ideas have to work mostly on a weak platform, and traditional industries have difficulty to obtaining expertise and R&D help from the region, there is a big technology gap to fill. Third is the missing business expertise necessary to exploit the innovations created in the HEI's in the few high tech private companies located in the region. Finally is the limited role of local actors play in international networks.

Innovation promotion network

The University of Kuopio has a positive approach to research-based business activities and cooperation with private companies. The newly-established Faculty of Information Technology and Business Administration is designed to act as an important promoter of business expertise for the region of East Finland. Another source of expertise is the research undertaken in the so-called business laboratory and commercial networking which has been supported by private enterprise sector through their donation of a professorship in e-business. It is always intended that business activities should be transparent and open. To achieve this aim, a set of guidelines has been prepared for university personnel involved in commercial activity.

It is the intention of the University of Kuopio that any new cooperation initiatives should be aimed at diversifying the regional structures of North Savo and promoting regional prosperity. The University of Kuopio's innovation and intellectual property rights (IPR) strategies strive to support the commercialization of research findings. For example, the development of the Mediteknia complex, the collaborative efforts in the Centek project, the enlargement of the educational programmes and research in applied biotechnology and other regional investments, are targeted to meet the current and long-term needs of the region.

⁸ The Karelian Institute of the University of Joensuu was in charge of the process.

⁹ Pohjois Savo technology Strategy 2000-2006 and Mustikkamäki, N. 2002: Views from the Competitiveness of the Kuopio region (Näkemyksiä Kuopion kilpailukyvyvystä).

Innovation activities have been conducted in cooperation with many interested parties in the Science Park, in particular there has been an efficient dialogue with the Kuopio Technology Centre – Teknia Ltd, and collaboration with the Pohjois-Savo Polytechnic. The activities also include co-operation with the Foundation for Finnish Inventions (especially with its network of innovation experts) as well as cooperation in this field with other universities and innumerable other interested parties.

The University has participated in the inauguration of the Centres of Expertise Programme, both in the local centre and at the national level. In particular, the strengths of the University in health sciences, environmental sciences and biotechnology support the areas of expertise within the Kuopio CoES, (i.e. drug development, agrobiotechnology and health care technology). In addition, the University plays a major role in the national network of centres of expertise in food technology.

Collaboration with other external regional stakeholders

The University is actively involved in many development programmes covering the areas of North Savo and Eastern Finland. In addition, the University participates in implementing five regional centre programmes (based on Mikkeli, Varkaus, Kuopio, Iisalmi and Kajaani). From a regional standpoint, the University is especially committed to these areas and also to the development of Upper Savo and the Kainuu province via cooperation with the University of Oulu. Regional policies are frequently based on different programmes governed by a variety of regional- and industry-based organisations. The funding for these programmes can come from different ministries, regional government officials, municipalities and private enterprise. To ensure that these programmes succeed, the University seeks to be closely involved in all stages, from their very conception to their planning and implementation.

University-Industry collaboration

The maintenance of current cooperation agreements and those being planned are in harmony with the University's clearly defined profile and perception of its areas of expertise. The profile is internationally recognised and respected as a university specialising in the health and environmental sciences and expertise in welfare-related issues. The biosciences, biotechnology and information technology as well as business administration all complement and supplement the university's traditional expertise base. In the future, this expertise will be further strengthened by expansion of training and research in the fields of technology, especially the technologies related to health and the environment.

Positive experiences have been gained from the many university-private sector collaborations and the activities of the advisory councils, which are intended to maintain and improve the University's dialogue with the external environment. These encourage future co-operation with regional enterprises and other external stakeholders. The University is interested in developing closer links with the private sector and to act in a more transparent manner as a collaborative partner. In particular, the Centek collaborations provide the opportunity to create new forms of university-private enterprise cooperation, especially with small-to-medium enterprises. Cooperation with the private sector can provide novel insights that can be incorporated into educational strategies, new forms of organising research-based collaborations and identifying new service models, which can be targeted to specific groups.

Collaboration between the University of Kuopio and Pohjois-Savo Polytechnic

The University of Kuopio and the Pohjois-Savo (North Savo) Polytechnic have made major progress in promoting joint activities, especially in the fields of information technology, environmental expertise, foodstuff expertise and topics related to social and welfare issues. This cooperation dates back to the 1970s when the University of Kuopio was primarily a medical school and had cooperation with the then Kuopio Health Care College and the North Savo Hospital District. Educational cooperation is nowadays conducted in all fields represented in these institutes. Future cooperation with the Humanities Polytechnic will centre on issues of social welfare and health care.

The co-operation between the University of Kuopio and the Pohjois-Savo Polytechnic does not cover simply education and research; there is also cooperation with respect to infrastructure. The University of Kuopio and Pohjois-Savo Polytechnic have specific agreements covering how joint operations will be organized, tasks subdivided, financed and other relevant topics. The projects related to these joint activities are governed by the terms laid down in written contracts. The forms that cooperation between the University and the Polytechnic take are as follows:

- Developing teaching and research activities
- Training and further education for the personnel
- Research and development plus workplace-related projects
- Promotion of skill-based entrepreneurship and innovation-linked activities
- Provision of library and information services
- Career and recruitment services
- Immaterial property rights issues
- International activities.

In their assessment report and the further information, the University suggests that co-operation with the polytechnic is positive and to be encouraged as long as it takes place in a manner that follows the current “dual model”. Co-operation is welcomed when it is based on mutually advantageous activities. The close co-operation between the University of Kuopio and Pohjois-Savo Polytechnic is clearly reflected in the activities of the IT-Centek centre. There is further potential for co-operation for example in the educational and research activities associated with the training of technologists, the dissemination of these activities to a wider area, especially the region of Varkaus as well as exploiting more cooperation possibilities presented in the technologies associated with health care and environmental protection. One promising avenue is the creation of a new service model, where business and commercial enterprises can come to have their training needs met – a so-called one stop centre taking advantage of all of the special courses and development services offered by the University and the Polytechnic.

Virtual university aspects

Although the creation of the virtual university at the national level is still not quite ready, the University of Kuopio and Pohjois-Savo Polytechnic have made progress in this project. Currently the data network and infrastructure are being jointly developed; for example in the near future advantage will be taken of the latest wireless, Bluetooth-technology to permit staff and students of the University and Polytechnic

to utilise mobile technology after accessing the networks of both institutes via their own personal password.

The Learning Centre of the University of Kuopio is planning to produce digital teaching material in collaboration with Pohjois-Savo Polytechnic, the Pohjois-Savo Educational Vocational Colleges, the cities of Kuopio, Iisalmi and Varkaus (high school and basic schooling units), Kuopio University Hospital and the Finnish Broadcasting Service (Radio Kantti). The Centre's personnel consists of experts in network pedagogies, visual planning, data-handling and information techniques, commercial production and marketing, intellectual property rights. The activities undertaken by the Centre are:

- Consultation services for teachers in the planning of web-based teaching
- Training in how data-handling and information technology can be incorporated into teaching, teaching material and how the technology can be best used
- General advice on copyright issues and services related to commercialization and marketing of products
- The purchasing and management of software licenses and computer-related hardware.

In addition to co-operation with the Pohjois-Savo Polytechnic, the University of Kuopio also collaborates the Kuopio Department of the Sibelius Academy in the areas of music therapy, music technology, arts management as well as in the relevant fields of medicine, health care technology, social and welfare sciences. Co-operation is anticipated to intensify in the coming years, especially in the areas of music therapy, cultural management and the introduction of computer and information technologies in education.

External barriers and drivers (threats / opportunities) to regional engagement

The University has been able to take advantage of the opportunities provided by the EU Structural Funds programme and has also been able to prepare in advance for the proposed changes to the way it is organized. The University is now preparing its response to the memorandum prepared by the development working group set up by the Ministry of Education on the allocation of resources (26:2002). The University is in agreement with the working group that problems which have been noted associated with EU structural funding programmes should be rectified and furthermore it hopes that other regulations which limit the involvement of universities in similar programmes should also be re-written to remove these restrictions.

It is the view of the University that long-term regional development cannot be created simply on the basis of project-type activities. The starting point for development of financial models must be an effort to guarantee continuity. The University of Kuopio also emphasizes that without adequate funding of basic research activities, the impact on regional development will not meet the demands of the regional community to the extent that is desired. There has been a trend that funding provided by the Academy of Finland is increasingly directed to the larger universities. According to the assessments in the University of Kuopio, it has been more difficult for smaller universities to be awarded this kind of funding for their own projects. The University of Kuopio hopes that a solution can be found to this problem, e.g. through changes in the competitive funding arrangement and the targeting system for academic funding.

With respect to higher education places, it is clear that East Finland and North Savo suffer a clear shortfall in university-level student places, (according to 1999 data, only 22% of the age group gained a university-level admission compared to the national average of 29%; a shortfall of over 500 university admission places¹⁰). The most efficient way to increase education in technology areas is via a networking cooperation involving many universities. The networking model should take into consideration training needs, it should be flexible and should have a minimal organizational structure, so that all universities within its network should have flexibility in the rights to confer degrees to their students.

One special problem is the education of technologists. The University of Kuopio agrees the proposal of the working group that computer technology should receive more emphasis in universities. However, the University points out that not only does it have co-operation with the University of Oulu but it also collaborates with the Technical University of Lappeenranta. The University supports the proposal of the working group that biotechnology expertise should be improved and better linked to the IT disciplines. The University's new faculty of Information Technology and Business Administration should help in the revitalisation of the regional economic structures by its ability to integrate research and education in biotechnology and IT subjects.

The financing of services provided to the community should in future include appropriate activities intended to promote regional vitality as well as those activities which impact on all areas of university life through educational, research or cultural policies. The fact that regional development has been stated in the university law as the third mission of universities is, in the opinion of the University of Kuopio, to be applauded, as long as this is matched by the commitment of sufficient budgetary funding; this funding should not be related to the number of degrees awarded (i.e. student numbers). Funding should also be available to support the co-operation between universities and polytechnics aimed at improving their regional impact.

¹⁰KOTA database.

APPENDIX 4: The University of Joensuu

Joensuu is a medium-sized university with a strong orientation towards its regional role in Eastern Finland.

The principal area for student recruitment is the Province of East Finland and, within it, the Region of North Karelia in particular. In 2000, 68% of the new students came from the Province of East Finland. Recent statistics show that more than 50% of the graduates who found employment found it in Eastern Finland and more than 30% in North Karelia. Those completing a postgraduate degree (Licentiate's or Doctor's) find placement mainly in Eastern Finland, principally in Joensuu and Savonlinna. Eastern Finland has thus retained its position as the main region of the University's impact as regards education. Another main area of placement is the capital region, which attracts graduates from all universities. Of the graduates from Joensuu, about one fifth (approximately 20%) have found employment in the Helsinki region.

The regional role and impact of the University of Joensuu are clearly in evidence in the field of teacher education. Before the University was founded, there were problems in finding qualified teachers for the region's schools. Now the share of basic education teachers with requisite qualifications in the Province of East Finland (88.4%) and in North Karelia in particular (91.2%) exceeds the national level of 86.8%. On the upper secondary level, too, North Karelia's figure 94.7% exceeds the national figure 90.2%, although the whole Eastern Finland with its 88.0% is slightly below the national one. (Rönneberg 2000, 68, 111.) An important part of the University's all-round education mission in Eastern Finland is attended to by the Open University by offering a wide range of study opportunities open for all, regardless of prior education, and continuing education. The number of open and continuing education students, including Savonlinna, exceeds 7000 annually. Out of these, approximately 4,000 are Open University students.

The University has units of special national importance. The Faculty of Forestry is the second faculty in the national field for example. The first chair in Forestry in Joensuu was established in 1981 after a long debate about decentralisation of research and teaching in Forestry from Helsinki to that part of Finland where forestry plays an essential role. The department of Orthodox Theology is the only unit in Finland and in the Nordic Countries offering university-level education in Orthodox Theology. Both of these units are significant nationally and also relate closely to the region, its natural resources and culture. Other examples are career counsellor education and special education where the University's educational responsibility clearly extend beyond Eastern Finland. The University of Joensuu has four areas of emphasis, which all have a close connection to the region, besides their national and international links:

1. multidisciplinary teacher education and life course studies,
2. teaching and research relating to forests, other renewable resources, and the environment,
3. development and application of high technology,
4. teaching and research relating to the social and cultural development of border regions and fringe areas.

The first of these reflects the original mission of the University in Eastern Finland. The second and fourth areas reflect the geographical location as well as natural resources and culture of the surrounding region. The third area is linked with the new (current and potential) industrial base of the region. A good example is Arbonaut Ltd., an internationally recognised company, which was generated by expertise in applied mathematics and forestry. Besides these established strong areas of expertise, the University has developed teaching and research in law subjects, media and communication, business and tourism. All of these give new skills to students and serve the region's business life.

Savonlinna Campus

The operation of the Continuing Education Centre has been realigned so as to link adult education more closely to the expertise of the academic departments. In the realignment, the functions of the Continuing Education Centre on the Savonlinna campus have been delegated to two new non-faculty institutes, the Savonlinna Centre for Continuing Education and Regional Development and the Centre for Tourism Studies. On the Savonlinna campus, too, co-operation between the Savonlinna Centre for Continuing Education and Regional Development and the other Savonlinna units has been intensified. The Savonlinna Centre operates in three areas closely linked to the areas of the other Savonlinna units: Languages and Culture, Tourism, and Teaching and Education. The other units take part in the Savonlinna Centre's strategy work, project planning and if need be, in staff recruitment.

Self-evaluation

Eastern Finland can be defined as the main sphere of influence in student recruitment and placement, adult education, applied research and public services. The University is an integral part of a learning region and also part of the national, European and global science community. The University is committed to the development of Eastern Finland as stated in its strategy:

"The University strives to increase its impact on all Eastern Finland. To this end it collaborates with the other universities of Eastern Finland and will prepare a plan of action for strengthening its collaboration with the local polytechnics.... Besides the faculties, the Continuing Education Centre and the Karelian Institute play an essential role in the transfer of expertise outside the locations of the University."

The commitment to Eastern Finland is also reflected in the organisational structure of the University. The University has campuses not only in Joensuu, but also in Savonlinna. Mekrijärvi Research Station, the University's field station for forestry, natural sciences and ethnology is located in Ilomantsi, the easternmost municipality of Finland and the European Union. In Varkaus (North Savo), 130 kilometres west from Joensuu, the Eastern Finland Universities have a joint University Liaison Officer to channel the expertise of the universities to serve the needs of the region's commercial and industrial life. The Karelian Institute, a special research institute, carries out basic and applied research on the intellectual and material development of Eastern Finland and Karelia. The research covers the areas of humanities, ecology and social sciences.

SPATIA, Centre for Regional Research, a special unit affiliated to the Karelian Institute, was founded in 2001. It focuses on contract-based regional and local social science research. SPATIA produces studies on current topics, such as spatial development and planning, socio-economic issues and governance on the local, regional, na-

tional and supranational levels, and provides expert services related to regional and municipal development. The expertise of SPATIA derives from the multidisciplinary and regionally focused basic and applied research carried out at several departments of the University of Joensuu.

The centre is also responsible for several domestic and international research projects. It is the leading partner in the Finnish contact point in the European Spatial Planning Observation Network (ESPON) 2001–2006, and is carrying out part of the economic monitoring project of Northwest Russia funded by the Finnish Ministry for Foreign Affairs. Ongoing regional and local projects include evaluation of the POKAT 2006 -programme and consulting services for the regional centre programme of Joensuu Region in 2001–2003 as well as for the Injection Moulding and Tooling Engineering Centre (IMTEC). The RITTS Eastern Finland Final Report was prepared at the SPATIA (Lautanen 2001). The central benefits from the process in the case of RITTS Eastern Finland (“EFFORTS”) are

- Profound research on the needs of firms, the Eastern Finnish economy and the system of regional innovation, which already by now has been utilised in various development actions in the three counties of RITTS Eastern Finland,
- Definition of the areas of rapid development (innovation frontiers) and of visions of important industries in the Eastern Finland NUTS-2 region, and
- Identification of a number of potential vertical (cluster-specific) and horizontal development actions by regional actors, or areas of co-operation in innovation and technology policy between the three countries of RITTS Eastern Finland.

Progress made since the last evaluation to ensure that the regional engagement is owned by the whole institution

Strategic planning

The University engaged the whole academic community after the last review, in a thorough and wide-ranging strategy process of the “bottom-up” type, aimed at surfacing strategically important issues from the level of individual departments. The strategies drawn up by the departments and the faculties were then compiled to form the basic strategy document of the University, out of which the most important items were selected for inclusion in the general strategy document *To a New Millennium – The Strategy of the University of Joensuu for the Years 2000–2006*. To implement its strategy, the University has devised a portfolio of measures, and the realisation of the measures is annually monitored in connection with revising the Plan of Operation and Finance.

Finance management

A revised model for internal resource allocation was introduced in the 2001. The guidelines of the national resource allocation were taken into account in the model, so that the internal performance-based steering of the University is in line with national steering. For strategic development, a reserve fund has been created so as to be able to quickly respond to development tasks which are important from the University’s point of view and which often arise out of the needs of the region and working life.

The 1998 Peer Review Team reported the failure on the part of the universities to adequately charge overheads and core infrastructure costs in relation to the externally funded activities. The University has strengthened its systematic guidance on this matter, and all major project applications now have to include sufficient cost break-

downs, including proper estimations for institutional overheads. What actually is allowed to charge varies from one funding body to another, but a general improvement is evident, especially on the full-fledged research services market. More efforts are needed in obtaining full cost recovery on shared projects with more complex finance structures and even conflicts of interest.

The Academy of Finland remains a major source of external funding for the University of Joensuu. No reasons are foreseen for the Academy to expand its funding criteria or programmes to particularly emphasise regional issues. The University's view is that the Academy's funding policy has been and should remain in supporting basic research in Finland on a competitive basis.

Human Resource Management

The University of Joensuu has paid special attention to staff development. A special course for academic leaders has been carried out, and continuation is under preparation. Other staff training in finance and personnel affairs is carried out on the basis of need. The filling and possible re-orientation of professorships becoming vacant is carefully weighed, taking into consideration the University's need to develop its areas of strength and to support such new fields of study as enhance its social impact.

Student management

The University has invested heavily in student recruitment and on measures to improve student working-life skills. As soon as the project funding for the Career and Recruitment Services had terminated, the University ensured its continuation by making the posts of the staff permanent. Co-operation with the other Eastern Finland universities has been developed by endeavouring to establish joint marketing at fairs and seminars and by arranging joint Recruitment and School-leaver Days. The University has also carried out surveys on the placement and employment of its graduates (Haarala 2000).

In areas which are problematic from the point of view of student recruitment (information technology and the natural sciences), the University has endeavoured to develop co-operation with the grammar schools. In what is referred to as "Science grammar school" activities, courses are arranged for grammar school students, mostly in North Karelia, jointly by the grammar schools of North Karelia, the University of Joensuu, and Joensuu Adult Education Institute. Furthermore, as part of the virtual university activities, the Department of Computer Science offers grammar school pupils in North Karelia and South Savo the opportunity of completing the basic university-level studies (= approbatur) in Computer Science virtually, side by side with their grammar school studies.

The use of the present databases will be made more effective by means of user training, which will provide the departments and faculties with the means of faster and more up-to-date monitoring of the students' progress. Also, from 2002 onwards, the university units will draw up, as part of their annual report, a "Study Progress Balance Sheet". It will include an account of the number of degrees completed, the progress of studies, throughput, and the development of studies. A new Director of Educational Development (from August 2002), reporting to the Rector, co-ordinates and carries out educational development work together with the faculties and departments.

Centre of Continuing Education

On the Joensuu campus, co-operation between the faculties and the Continuing Education Centre has been organisationally intensified in all areas of operation (Open University, Teaching and Education, Forests and the Environment, Work and Welfare,

Entrepreneurship, Regional and Community Development, Border and Russia Expertise, and Congress Services) by setting up development teams to take charge of the development of each area. In the development teams, both the faculties and the relevant client groups are represented.

In Savonlinna, in the strategy process initiated upon the conclusion of the previous evaluation process, the operation of the Continuing Education Centre was realigned so as to link adult education more closely to the expertise of the academic departments. In the realignment, the functions of the Continuing Education Centre on the Savonlinna campus were delegated to two new non-faculty institutes, the Savonlinna Centre for Continuing Education and Regional Development and the Centre for Tourism Studies. On the Savonlinna campus, co-operation between the Savonlinna Centre for Continuing Education and Regional Development and the other Savonlinna units has been intensified. The Savonlinna Centre operates in three areas closely linked to the areas of the other Savonlinna units: Languages and Culture, Tourism, and Teaching and Education. The other units take part in the Savonlinna Centre's strategy work and project planning. They are also heard, if need be, in staff recruitment.

Open-university co-operation with the academic departments is additionally governed by separate detailed agreements. In the projects of the new programme period, co-operation with the academic departments has been intensified significantly. Many of the projects are joint projects with the faculties. In Joensuu, continuing education has also been steered towards closer orientation to the University's areas of emphasis and new developing areas (e.g. law subjects such as Tax Law and Environmental Law). The Director of Continuing Education Centre is a member in the Executive Group.

Relationship management and leadership

The highest decision-making organ at the University is the Senate. The Deans are not Senate members *ex officio*. Instead, to aid the Rector in managing the University, there is an Executive Group, which comprises, besides the Rector and the Vice-Rector, the Deans of the Faculties and the Director of Administration, plus one representative of the Savonlinna units and one representative of the non-faculty institutes, whom the Rector calls for not longer than the duration of his/her period of office. In the University Senate, the Cities of Joensuu and Savonlinna have their representatives as active members. The external members have been members of full standing in the Senate since 1st August 1998, when new legislation came into force permitting universities to organise their administration in a new way. The Director of Continuing Education Centre is the representative of the non-faculty units.

Strengthening the role of HE in the regional innovation system

Innovation networks in the Eastern Finland area

The University is involved in building an innovation system in Eastern Finland. The core of the expertise that the university transfers into its sphere of influence lies in the research, development and education carried on at various departments and faculties. Besides these, the crucial channels of the transfer of expertise are the Joensuu Science Park and the North Karelia Centre of Expertise, in Savonlinna the new Centre of Expertise in Tourism.

The strong areas of the Joensuu region and North Karelia are forestry and wood technology, plastics and metal industry, and certain special fields in information technology. To intensify project activities in these areas and provide for closer co-operation, the University, North Karelia Polytechnic and Joensuu Science Park contracted a

three-year “framework agreement” in 2000. The agreement defines the projects agreed to be strategically the most important and to be implemented under the auspices of the Objective 1 Programme of the EU’s Structural Fund Period 2000–2006. A continuation of the “agreement” between the University, the Joensuu Science Park and the North Karelia Polytechnic is under preparation.

A crucial channel of the transfer of expertise is the Joensuu Science Park. The Science Park and the University form a concentration of expertise in the immediate vicinity of the centre of Joensuu. The Science Park is a conglomeration of activities in information technology, the media optics, and high tech services supported by the University’s research and teaching in Computer Science, the Plant Biotechnology and Natural Product Research laboratories, and the Educational Technology Centre, all of which operate in the premises. The University and the North Karelia Polytechnic have a joint library unit located in the Science Park serving also the needs of commercial life.

The Joensuu Science Park also operates the North Karelia Centre of Expertise, which has two areas of expertise: Wood Technology and Forestry, and Injection Moulding and Tooling Engineering. In the successful inclusion of wood and forestry expertise in the North Karelia Centre of Expertise programme, the Faculty of Forestry played a role by beginning instruction in wood technology. The leading project of the Wood and Forestry Centre of Expertise is the Wood Technology Centre Puugia, which brings together enterprises and the different levels of education in the field. The operation of the Plastics and Metals Centre is associated with the research done at the Departments of Chemistry and Physics and the Special Materials Research Centre SMARC at the Chemistry Department.

Savonlinna operations

In Savonlinna, the University had a leading role in the preparatory work of the Centre of Expertise in Tourism, which has been accepted into the National Centre of Expertise Programme from 2003 onwards. The Centre of Expertise in Tourism is co-ordinated by the Savonlinna Innovation Centre (Ltd), which was founded in August 2002 by the Foundation for the University of Joensuu, the City of Savonlinna and Mikkeli Polytechnic. The regions of both North Karelia and South Savo have increasingly based their development work on the strong areas of the University, especially those associated with technology. The academic expertise in Savonlinna is linked through co-operation with the City of Savonlinna and Mikkeli Polytechnic.

The collaboration with other external regional stakeholders

The University has made determined efforts to strengthen its external interest group relations in the past years. By taking part in the Centre-of-expertise activities and Regional Centre Programme both in North Karelia and Savonlinna the University has created strong links to local authorities and industry. Examples of the central regional stakeholders in industrial co-operation include the North Karelia Business Association, North Karelia Chamber of Commerce, and Joensuu Regional Development Company Ltd.

The University and the North Karelia Polytechnic are preparing a joint strategy of regional development. In South Savo, a similar strategic development process is in progress with the Mikkeli Polytechnic. The idea of the Open Campus Project in Savonlinna is to offer the region opportunities of more flexible co-operation with the academic community and thereby find new innovative modes of operation, which serve

the needs of both parties. In Joensuu, the Science Park functions as a forum where the personnel of the enterprises and the researchers, teachers and students can meet and generate new ideas and opportunities.

The University co-operates also with other partners than those representing commercial and industrial life. Multidisciplinary teacher education and lifelong learning being one of the strengths of the University with schools and municipalities in the region as important co-operation organisations with the University. In applied theological studies the University is in close co-operation with Joensuu and Kuopio parishes. An advisory board in Orthodox Theology with external members from the Orthodox Church has been established to prepare issues relating to the development of education and research in the field. In the field of forestry, important co-operation partners are the Joensuu Research Centre of the Finnish Forest Research Institute and European Forest Institute (EFI).

Border cooperation

Nebex, the Network of Border Expertise, is a joint project of the University of Joensuu, the City of Joensuu, the North Karelia Polytechnic, the North Karelia Educational Federation of Municipalities, the North Karelia Chamber of Commerce, the University of Petrozavodsk, the city of Petrozavodsk and the Petrozavodsk State University, Karelia Science Centre. The project seeks to establish wide-scale co-operation with objective-oriented centres of expertise. Nebex is one of Euregio Karelia's prioritised projects and it is co-funded by the Interreg III A Karelia programme. Nebex aims at applying know-how to business life, at developing and applying research activities serving the European border regions, and at developing new training and education models by utilising the expertise and opportunities of border regions. Furthermore, the border region expertise concerning Russia is one focus in the regional centre programme in the Joensuu Region.

In the past few years the University has purposefully increased its co-operation with Russian institutes of higher education and research especially in North-western Russia. Some examples of ongoing co-operation with Russia include the research projects on Russia and Russian Karelia pursued jointly by the Karelian Institute and Russian researchers, as well as co-operation of the Faculty of Forestry with Petrozavodsk University and St Petersburg Academy of Forestry in order to develop the degree education and continuing education in forestry offered in the latter institutions. In the Continuing Education Centre, the Itäinnova unit implements different Interreg and Tacis-related training and development projects.

The University has also Russia-related co-operation with Lappeenranta University of Technology. The ongoing International Master Programme in Information Technology (IMPIT) is an example of co-operation, where Russian students, among other students, are trained in an English-medium Master's Degree programme to be experts in Information Technology. The University of Kuopio, too, is about to join in as a participant in the implementation of the IMPIT programme. In a similar vein, there is preparatory work going on in the area of Wood Technology and Forestry to investigate the possibilities of implementing an international Master's Degree programme of the same type co-operatively by the University of Joensuu and Lappeenranta University of Technology.

The principal external barriers and drivers (threats / opportunities) to regional engagement

The University considers the third role important and is committed to seeking means of supporting the development of its sphere of influence. The University supports the proposal to include the third role to the University Act.

Funding Issues

A major and acute concern for the Objective 1 region universities is the blunt refusal of the Treasury and the Ministry of Education to allow universities to assign any of their own budgetary resources to projects funded by the Structural funds. This is argued on the basis that as EU contribution is automatically matched by governmental allocation, this should be the limit of the government's share in a single project and it is not for the University to exceed through its own allocations. However, this rigid interpretation has already led to cessation of some perfectly satisfactory projects with a significant regional potential. The universities face a situation where they are hampered in the competition for the structural funds, in comparison with actors that are able to invest in projects themselves and thereby demonstrate commitment. Some fund managers, notably the Technology Development Centre, have avoided the problem and have been able to make occasional funding decisions for up to 100%. However, as the Commission requires the fund managers to show approximately one third of the participant's own funding in project portfolios over time, exceptions given for the universities are rare. Eventually, participation in the remaining lifetime of the current Objective 1 Programme may become difficult for the universities, very much against their potential leading role in regional development.

APPENDIX 5: Lappeenranta University of Technology

Lappeenranta University of Technology (LUT) is a small university with two branches: technology / engineering and business administration. It is clearly a university with relevant (and from the region's side expected) areas able to meet external needs. Its specific strengths in teaching and research are:

- business development and logistics
- Russia and other transitional economies
- forest industry
- high tech metal constructions
- electrical technologies and IT
- environmental energy technologies.

One of LUT's main responsibilities defined in its strategy (and demanded by regional authorities) side), is development of South Karelia and Eastern Finland by supporting start-ups, established companies and entrepreneurship. Also the expansion of education in technology and economics are designed to have a positive effect on the regional competitiveness and attractiveness. According to a recent study made at LUT, key challenges in the development of the South Karelia region are as follows: negative migration, low degree of entrepreneurship, sensitivity of the region's industry to economic fluctuation, low number of medium-sized enterprises as well as the fact that highly educated people are not committed to the region. LUT is responding to these regional needs in the following ways:

- 1) The growth and development of the institution (university)
- 2) New degree programmes
- 3) The Technology Entrepreneurship Training -programme
- 4) Continuing education programmes
- 5) New institutes
- 6) Development and systematisation of LUT's internal innovation operations.

The activities with partners located outside Lappeenranta can be divided into three categories: those covering the whole country, the whole of Eastern Finland and South East Finland. The operations in LUT's strong areas, such as the metal industry, cover the whole country and include both research and further education. In these areas, the University serves industry and attracts students from the whole country, mostly however from Eastern and Southern Finland. The same is true for LUT's graduate placement in general.

LUT is the only university of technology and the strongest and, at least for the moment, the coordinating and degree-rewarding university of business administration in Eastern Finland. The third geographical level, South East Finland, bounded by Lahti in the west and Varkaus and Savonlinna in the north, forms the main region of the University. The following table shows the overall development path of the institution.

Appendices Table 1. Number of students, personnel, degrees completed and finance of the Lappeenranta University of Technology

| | 1997 | 1998 | 1999 | 2000 | 2001 |
|----------------------------|------|------|------|-------|------|
| Students | | | | | |
| New students | 599 | 559 | 664 | 796 | 818 |
| All undergraduate students | 3347 | 3579 | 3655 | 33939 | 4128 |
| All postgraduate students | 456 | 467 | 465 | 482 | 496 |
| Degrees completed | | | | | |
| Master's degrees | 295 | 306 | 377 | 386 | 363 |
| Doctor's degree | 10 | 8 | 20 | 16 | 16 |
| Personnel | 533 | 603 | 625 | 642 | 694 |
| Finance | | | | | |
| Budget funding (€ mill.) | 21.3 | 21.8 | 22.3 | 23.7 | 24.4 |
| External funding (€ mill.) | 8.5 | 9.9 | 10.9 | 15.1 | 17.4 |

LUT has had education in business administration since 1991. This is an excellent example of a new degree programme where both the strategic objectives of the university and the needs and expectations of the region have come together. Through its business education, more than 100 graduates (25 percent of all the graduates of business administration) have been employed in the South Karelia region during the last ten years. In 2002, as many as 35 graduates found employment in South Karelia. The Department of Business Administration has created a large network of adult education in areas where business education has not been available previously, for example further education courses and programmes in business administration in Eastern Finland and business education courses offered by the Open University. Approximately 100 graduates in Business Administration have been educated in Eastern Finland (including Lahti) through further education programmes.

Self-evaluation

The university has come under a great deal of pressure to serve all local needs. As a solution it has established new institutions (the South Carelian Institute, the Institute for Economic and Technological Research for Northern Dimension Policy, the Telecom Business Research Centre) and started co-operation with other Eastern Finland universities. As well as the co-operation with enterprises and various regional development organisations, this is seen as bringing an important additional advantage to LUT's operations in the eastern part of the country. The regional impact of LUT in Lappeenranta and its immediate surroundings is also reflected in the direct and indirect financial flows into the regional economy attributable to the activities of LUT personnel and students

Progress since the last evaluation to ensure that the regional engagement is owned by the whole institution

After the previous assessment, there has been a great deal of internal discussion of the university's regional effectiveness, its overall image and degree of participation in regional initiatives. The results of the previous assessment were reported extensively both internally and externally. There are now annual meetings between rectors and departments where the university's regional role and effectiveness are being discussed. Due to the facts that the activities of the Centre of Expertise in South East Finland are expanding and the number of different programmes of the Regional Centre is growing, more and more people are involved in the regional development and other similar activities. Also, in the university's finance model, four percent of the basic funding is allocated on the basis of external influence.

Strategic Planning

In 1998, the LUT 2010 strategy was elaborated, and this strategy is currently being reviewed. The authority for making operative decisions has been shifted to the rector and to the Administrative Office. External stakeholder representatives have been chosen to the University's Governing Board as well as to the Executive Group of the Centre for Training and Development. The nomination of professors and major teaching and research equipment acquisitions have been added to the role of the Scientific Council. The aim of these changes in the duties of the Scientific Council is to ensure its role in the co-ordination of scientific activities.

Financial Administration

The proportion of external funding in relation to total funding has grown strongly over the last few years at LUT. LUT's funds are now allocated internally according to an allocation model. External funding practices have been developed in such a way that there are now detailed instructions for the administration of projects. At present, cost accounting is one of the main areas of development in LUT's financial administration.

Student Administration

The organisation of Student Administration has been reorganised and rationalised. The number of study affairs secretaries has been increased and there is now one secretary at every department. The Oodi student information system has been developed in cooperation with other universities. The system gives the students better service and improves the follow-up of study progress. Even though problems were experienced in the implementation of the system, considerable improvement has taken place recently.

Human Resource Management

At the beginning of 2002, LUT started a three year trial to handle matters related to the personnel, with only one committee. This staff committee deals with matters that were previously handled by the joint action council and occupational safety, personnel training and equality committees. Now, LUT is a member of an employer group established by the Ministry of Education, the task of which is to make a proposal on a remuneration system for Finnish universities. The aim of the remuneration system is to increase motivation, productivity and the competitiveness of university salaries as well as to develop the expertise of university personnel and to promote career advancement.

The role of the Centre of Continuing Education

The Centre for Training and Development is an important part of LUT's regional activity. After the previous assessment, the centre's activities in Eastern Finland have increased and changed, and now support more clearly the development programmes of the region, provinces, towns, municipalities and industry. Industry and its suppliers are seeking new business concepts and areas of application for new technologies. The Centre for Training and Development is creating new activities based on multi-disciplinary expertise in order to meet these needs. The Centre functions actively in Varkaus in the joint branch of Eastern Finland universities through which the expertise and resources of the universities serve the region's training and development projects.

The education programmes of the Centre contain sections of degrees and programmes, which have been "tested" in the education offered by the centre and later adopted in undergraduate education at LUT. In the future, the expansion of education that is outside the present fields of the University will take place within the framework of the South Karelian Institute. The training project in information and communication technology for comprehensive and upper secondary school teachers in South Karelia, part of the South Karelian Information Province -project, is a good example of the creation of a broad contact surface between LUT and the environment: in practice, all the teachers in South Karelia are participants in the project.

Relationship Management and Leadership

External representatives have been chosen for the University's governing board as well as the executive group of the Centre for Training and Development. LUT seeks to maintain solid relations with its graduates. For this purpose, an Alumni association has been established with the specific purpose of acting as a bridge between graduates from LUT and the University's current or former staff members as well as between former staff members and the University. The purpose of the association is also to promote relations between the University and the rest of the society, the University's international co-operation and to financially and morally support, both the university's students, researches and students. In order to achieve its objectives, the association organises meetings, training courses, parties and other similar events. It also grants scholarships, makes different kinds of proposals, and collects information on the university and on its students.

Strengthening the role of HE in the regional innovation system

LUT has a somewhat different conception of innovation systems than other Eastern Finland universities. LUT has established its own innovation technology transfer system as part of its core business, it also has some specific actions targeted to expand regional accessibility and provide specialised services. As an outcome of expanding the service palette, LUT has nominated fixed-term professorships (external funding, mostly from companies or cities / municipalities) and established sub-campuses in the neighbouring regions. As a small and strongly specialised institution, LUT also comes under pressure which is somewhat difficult to cope with from the region, other universities and the Ministry of Education (through the establishment of business and technological education in new institutions elsewhere in Finland).

LUT's internal innovation support system

Internally LUT has developed an innovation strategy, which was approved by the board last year. The strategy describes the general rules for LUT's innovation activities. It also examines entrepreneurship carried out in the university as well as to the related prin-

ciples. "LUT supports innovation activities and entrepreneurship and encourages staff to establish firms by utilising research results". LUT's internal innovation support activities are shown in the following table:

Appendices Table 2. LUT functions supporting the dispersion of innovations (Source: Supplementary report of the LUT)

| Function | Regional Effectiveness |
|--|---|
| Education | |
| • basic education | Transfer of experts to companies and the improvement of the skills of company staff |
| • further education | |
| Research and researcher training | Creation of information improving competitiveness, training of specialists |
| Development projects | Improvement of the competitiveness of small- and medium-sized companies through management, quality, internationalisation and networking projects |
| Transfer of technology | Creation of information, expertise and innovations, such as inventions and computer software, generated at educational institutions for company use |
| Diagnostic activity and laboratory services | Solving of company problems through small-scale projects |

In principal, the researchers are the owners of their research results. At LUT, a procedure has been created whereby researchers may voluntarily transfer their rights to the university so that research results can be exploited as joint efforts. The LUT model is partly a pilot model for the rest of Finland Higher Education. As a result of independent research, 3–5 firms have been established annually and they are principally located in the Technology Centre Kareltek. During the last 2 years, about 80 ideas have been examined by the innovation manager group, and the major parts of these ideas are related to LUT. Only a few ideas have led to an agreement between *Innokarelia Ltd* and a commercial company.

External innovation support network

There is active co-operation regionally with the local polytechnic and with the technology centres. LUT also participates in promoting regional innovation activities. There are plans to gather the regional innovators together in order to increase the number of ideas for establishing new enterprises in South Karelia. LUT gives research and service support to this new concept. The development of LUT's innovation support and technology transfer operations are based on demand of knowledge-based or high tech intensive industries located in the region. In order to be able to meet this need, LUT has created or will create fixed-term professorships by utilising regional resources. These professorships are closely linked to the disciplines of the university. The laboratory and equipment resources of polytechnics and firms in the region are also utilised in research activities.

The role of Centre of Expertise of Southeast Finland

A report by the State Audit Office (2001) on the roles of centres of expertise in regional development shows that as a result of the activity of the Centre of Expertise in Southeast Finland, 770 new jobs were created during the programme period of 1994 – 1998, and during the programme period, which started in 1999, more than 500 jobs have already been created. Altogether 350 projects were initiated between 1994 and 1998 as a result of the activity of the Centre of Expertise. LUT is a key player in the Centre. The activities of the Centre which specialises in:

- High Technology Metal Construction
- Key Systems for the Forest Industry
- Logistics and Expertise in Russia.

The forms and volumes of operation as well as the results vary significantly from one field of expertise to another; however the main emphasis in all the fields has been on the preparation or co-ordination of joint training or development projects for corporate, research, training and public organisations. The key results in the *High Technology Metal Construction* show that the activity in this field has increased the efficiency and quality of the production of steel structures through, for instance, computer-aided design and simulation, production automation as well as through new products. A special feature of this field of expertise has been the exceptionally large number of non-local companies that have benefited from the results. As a result of the activity a new small- and medium-scale metal industry has emerged in Southeast Finland.

The main results in the *Key Systems for Forest Industry* field have been the inter-regional networking of the partners in development projects, the creation of many product development projects based on regional expertise and the involvement of local small- and medium-sized companies in both these projects and expertise activity as a whole. The main results in the *Logistics and Expertise on Russia* field have been the initiation of diverse projects in the Kotka-Hamina region of diverse projects that are related principally to transportation logistics, networking with international logistics development projects, especially in the Baltic region, the development of an interactive and transfer mechanism for the connection of practical Russian business with Russia-related research as well as the enhancement of project activity related to the Russian forestry industry.

Collaboration with other external regional stakeholders, including industry

LUT has many long-term partnerships with companies in the region. LUT co-operates with the Technology Centre Kareltek, other companies in the region and other stakeholders in order to develop South Karelia in the fields of education, research and technology transfer. The most important forms of co-operation are research and development, student traineeships, assignments and theses. In addition, sponsored professorships have proved to be useful means of co-operation. At present, there are 15 sponsored, short-term professorships at LUT.

The University is engaged in the expansion, diversification and development of training, expertise and research. It is also involved in elaborating regional strategies. The Technology Centre Kareltek has used the knowledge and services of the Department of Business Administration in many ways apart from the recruitment of its graduates. The Department has been actively involved in developing the regional co-operation and industry policy for South Eastern Finland, of which the sponsored professor-

ships in Lappeenranta and in Lahti are good examples. At present, some representatives from LUT are members in one negotiating committee and in two executive committees of the South Karelian Growth Centre -programme: "Expertise, Information Province, Research and Training" as well as "Internationalisation and Industry". The key goal of the Growth Centre programme is to develop the competitiveness of South Karelia, to increase employment and to guarantee highly skilled workforce for the employers in the region.

The knowledge transfer between the University and companies has increased remarkably through research co-operation. The Department of Business Administration co-operates closely with regional firms; for example, 80 percent of the masters' theses in Business Administration are written directly for companies, including regional companies. This knowledge transfer through theses does benefit the individual companies, but the linkage between the companies and the University are often bilateral and not necessarily networked.

The principal external barriers and drivers (threats / opportunities) to regional engagement

The cessation of EU Structural Funds in 2006 will decrease the regional engagement of the University, unless some alternative fund is made available in the future. Also, the bureaucratic problems related to the EU Structural Funds can be seen as an external barrier to regional engagement. There are many factors and issues in the regional activity of the University, which are not directly visible in the Ministry of Education funding model and therefore they cannot formally be taken into account. Regional activity by the University will become increasingly difficult if there is no direct funding for it.

What opportunities arise from being a border region with Russia?

The areas represented by LUT, especially energy technology, environmental technology, logistics and the forest industry, are central to the development of the Russian economy and that surprisingly the Russian authorities actively promotes the co-operation with LUT. In addition to co-operation in research and education, Russia can also be seen as an important area for student recruitment in the future. (The St. Petersburg area has 5 million inhabitants). LUT has already been co-operating with universities in St. Petersburg, and the importance of this kind of co-operation will certainly grow in the future.

APPENDIX 6: The Mikkeli Campus

South Savo has no university of its own and the level of education of its population has been calculated to be the third lowest in the country. Also, the volume of research and development work per inhabitant is the lowest of all the regions in Finland. Its economic base is also narrow. One reason for this is the traditionally high numbers of jobs in primary production. South Savo is therefore “unserved” in terms of higher education, supplementary education and R&D activities.

In order to change the situations, the university units in Mikkeli have formed a University Centre, in the heart of the City. Mikkeli University Campus consists of units from Helsinki and Mikkeli. The units are:

- Helsinki School of Economics, Mikkeli Business Campus (HSE and Small Business Centre)
- University of Helsinki, Mikkeli Institute for Rural Research and Training
- Mikkeli Polytechnic
- Agricultural Economics Research Institute (MTT).

The Mikkeli units from Helsinki represent some of the reach out-activities of their host universities: This is true especially in the case of University of Helsinki and the department of wood and agriculture, where the Mikkeli (and Seinäjoki units) are a channel to test new and innovative ideas and launch new initiatives in areas that would be difficult to test in the Helsinki area. Mikkeli university campus has regional impacts and effects on the regional economy, especially with Small Business Centre of Helsinki School of Economics. Without these units, the regional capacity of R&D functions would be much lower. The Campus is also important in creating critical mass for R&D activities.

Helsinki University’s Mikkeli Institute for Rural Research and Training is a national rural development organisation whose purpose is to work for improvements in rural living conditions and economic activities by means of research, development projects, supplementary education, open university teaching, publications and the Eco University programme, i.e. university-level teaching and research in Eco Studies, Rural Studies and Co-op Studies. The unit participates in the development of economic activities, rural living conditions and social capital in its region. Social capital is developed regionally through adult education (supplementary and open university education) and research and development projects. The unit now participates in the Regional Centre Programme of Mikkeli region.

The Institute’s work of developing economic activity in the region concentrates on the promotion of organic farming and food processing, and the impacts are visible in the progress made regionally in production, processing and entrepreneurship in this sector. Other forms of entrepreneurship – especially those with a rural connection – are also promoted by means of projects and the New Business Centre (DYNAMO). The unit is committed to the principles of sustainable development and played an important part in the work of the Ecoprovince project in its time. More recently it has been working in the same direction through the concept of the Eco University, for which it has also succeeded in obtaining project finance.

Mikkeli Business Campus (MBC) develops business activities needed in South Savo. In the Small Business Centre evaluation research has been done on the effectiveness of its education programmes. It has studied, for example, start-up companies, business knowledge in companies and the development of export trade. The results of these studies reflect the regional impacts of the Small Business Centre. No research has been conducted on its regional impact of no B.Sc. programmes. However the programme has a quality assurance system that includes an alumni survey.

Self-evaluation

Regional co-ordination is taking place in the form of the "Mikkeli University Centre". Inside Mikkeli Regional Centre programme both university level actors, have together with Mikkeli Polytechnics and MTT (Agricultural Economics Research Institute) developed university level activities – research and education programmes – and presented their common regional strategy for the Mikkeli University Centre and regional development. Units in the University Centre have planned to apply funding for customised education programme development.

The development of Mikkeli university campus is partly the result of strong development work from the local and regional side and represents a more demand-based approach. In areas such as organic food production, business education and environmental businesses, the university units are working together. The Mikkeli University campus units are mostly serving local or Mid-Finland and Eastern Finland actors, enterprises and individuals. These have some international projects and aspects as well.

In its self evaluation report, Mikkeli Institute for Rural Research and Training warmly welcomed the regional strategy of the Ministry of Education as well as the active dialogue with regions and other ministries in the regions. The unit has always had projects funded by different ministries including the Ministry of Education, Ministry of Agriculture and Forestry, Ministry of Interior and Ministry of Environment. Also on the regional level the unit has projects funded by the Regional Government and different departments of the Southern Savo Employment and Economic Development Centre. A summary of its regional impact would suggest:

- increase in and development of organic production in the area
- increase in rural entrepreneurship, especially small-scale food-processing and new products
- contributions to the awareness of sustainable development and involvement in the Mikkeli Ecoprovince programme
- preparation of and participation in regional development programmes and strategies
- spin-off activities of New Business Centre (DYNAMO)
- development of human capital in the area by means of projects, adult education and open university studies
- innovation of the Eco University concept and starting university level activities (research and teaching) in Mikkeli in Eco, Rural and Co-op studies in co-operation with local actors

The Mikkeli Business Centre of Helsinki School of Economics sets out to function regionally, nationally and internationally. It has no separate programme of action that is directed specifically towards its own region. The MBC intends, together with other university-level organisations, to draw up its own strategy of regional action, as laid down in the timetable for the Regional Centre programme. This will be integrated into

the HSE strategy. The Mikkeli Business Campus primarily contributes to the development of South Savo in the following ways:

- by accelerating the internationalization of private enterprise in the region;
- by promoting the start up of new enterprises, especially in the IT field;
- by intensifying its business research;
- by increasing the business expertise available to small companies;
- by developing virtual modes of instruction and distance working and
- by improving the study and working opportunities open to young people in the region.

The Small Business Centre has systematically developed its services in the field of Russian trade and is now one of the leading providers of supplementary education on this subject in Finland. The Small Business Centre has an office in St. Petersburg. South Savo has no joint border with Russia, but the nearness of Russia is seen as an opportunity by the MBC. Above all, Russia has seen a substantial market area for enterprises of South Savo.

Collaboration with regional stakeholders, including industry

Collaboration between University Centre institutions

HE institutions and R&D functions in Mikkeli are involved in the Mikkeli Regional Centre Programme to develop a model under the provisional title of the "Mikkeli University Centre". The MBC has close co-operation with University of Helsinki, Mikkeli Institute for Rural Research and Training, which is located on the same campus as the MBC, and with Mikkeli Polytechnic. Co-operation has increased in the last years. In the region co-operation has also begun with the University of Joensuu in Savonlinna.

In practice, co-operation with the polytechnic in degree programmes has been such that Mikkeli Polytechnic students have taken some courses in the open university to their degrees. The Bachelor of Business Administration programme had a joint summer term with Mikkeli Polytechnic which meant that students from the Polytechnic took some courses in the BBA programme. The MBC and Mikkeli Institute for Rural Research and Training have plans for a master's degree in Eco Business, which combines the rural and ecologic expertise of Mikkeli Institute for Rural Research and Training and the MBC's business expertise.

The collaboration with other external regional and national stakeholders

The unit occupied an important role in the preparation of regional programmes and strategies in the early 1990s, and its most recent contributions have been a programme for the food processing sector in Southern Savo, a rural programme for the new administrative district of Mikkeli and participation in the development of regional expertise for the Mikkeli Regional Centre Programme. Mikkeli Institute for Rural Research and Training is co-operating with the Technology Centre of Mikkeli. Now the unit participates the Regional Centre Programme of Mikkeli region. The main partners are:

- Mikkeli City Council and Regional Association
- The Regional Council
- The Employment and Economic Development Centre
- Municipalities
- SMEs, farmers, forest-owners
- Pro Agria (consultancy)
- Forest Centre.

The Eco University represents an attempt at gaining additional permanent university-level basic teaching and research in the region. Other university level partners in Rural Studies University Network are: Helsinki, Turku, Tampere, Vaasa, Jyväskylä and Joensuu. Mikkeli Institute for Rural Research and Training is the co-ordinator of the Rural Studies University Network. Mikkeli Institute for Rural Research and Training is coordinating the Nordic-Scottish University Network for Rural and Regional Development and co-operates in Sweden with the Mid-Sweden University in Östersund. Also some students from the University of Joensuu in Savonlinna have taken some courses in the BScBA programme.

Virtual modes of instruction have been increasing at the MBC. The BScBA programme has instruction material on the internet and also the Small Business Centre, including the open university, is supplementing its internet-based instruction material. Under development is a continuing education e-learning programme in entrepreneurship. Also, in the open university the first wholly internet-based course is scheduled to start next year. The intention is to develop virtual modes of instruction alongside existing face-to-face instruction.

In co-operation with its stakeholders the MBC is developing different kinds of programmes and projects (for example need-based training), participates in the planning and implementation of regional development programmes and maintains strong communication links with its stakeholders. The business incubator, The New Business Centre in Mikkeli, is the product of an extensive joint project with the Small Business Centre, Mikkeli Polytechnic, the local authorities in the Mikkeli and the South Savo Employment and Economic Development Centre.

Centres of Expertises and the industry collaboration

The MBC is involved in the Centre of Expertise in Mikkeli. The role of the MBC is to bring business knowledge as a cross-cutting theme in all fields. The Small Business Centre has a business incubator in the area, where it offers business support. Mikkeli Institute for Rural Research and Training is not involved in the Centre of Expertise in Mikkeli (material technics), but is one of the main actors in the national Centre of Expertise in Foodstuffs where its specialisation is organic food.

Most of the enterprises in South Savo are involved in SME management training offered by the Small Business Centre. So, co-operation has been close and it will continue in the future. Some 600 firms were involved in the education and development programmes of the Small Business Centre arranged in 2001. Some of the programmes arranged by the Small Business Centre are tailor-made, company-specific programmes. Small rural enterprises and farms are the main counterparts of the Mikkeli Institute for Rural Research and Training. There is also cooperation with larger scale food processing industry (e.g. Karjaportti, Saarioinen, Lännen Tehtaat). The BScBA-programme has increased its co-operation with local industry. For example, it has arranged for students to write their senior thesis on topics of relevance to local companies. More attention will be also paid to recruiting students from South Savo.

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- 14:2000** Gordon, C., Knodt, G., Lundin, R., Oger, O. & Shenton, G.: *Hanken in European Comparison. EQUIS Evaluation Report*. Helsinki: Edita.
- 15:2000** Almefelt, P., Kekäle, T., Malm, K., Miikkulainen, L. & Kangasniemi, J.: *Audit of Quality Work. Satakunta Polytechnic*. Helsinki: Edita.
- 16:2000** Kells, H.R., Lindqvist, O.V. & Premfors, R.: *Follow-up Evaluation of the University of Vaasa. Challenges of a small regional university*. Helsinki: Edita.
- 17:2000** Mansikkamäki, J., Kekäle, T., Miikkulainen, L., Stone, J., Tolppi, V.-M. & Kangasniemi, J.: *Audit of Quality Work. Tampere Polytechnic*. Helsinki: Edita.
- 18:2000** Baran, H., Gladrow, W., Klaudy, K., Locher, J. P., Toivakka, P. & Moitus, S.: *Evaluation of Education and Research in Slavonic and Baltic Studies*. Helsinki: Edita.
- 19:2000** Harlio, R., Kekäle, T., Miikkulainen, L. & Kangasniemi, J.: *Laatutyön auditointi. Kymenlaakson ammattikorkeakoulu*. Helsinki: Edita.
- 20:2000** Mansikkamäki, J., Kekäle, T., Kähkönen, J., Miikkulainen, L., Mäki, M. & Kangasniemi, J.: *Laatutyön auditointi. Pohjois-Savon ammattikorkeakoulu*. Helsinki: Edita.
- 21:2000** Almefelt, P., Kantola, J., Kekäle, T., Papp, I., Manninen, J. & Karppanen, T.: *Audit of Quality Work. South Carelia Polytechnic*. Helsinki: Edita.
- 1:2001** Valtonen, H.: *Oppimisen arviointi Sibelius-Akatemiassa*. Helsinki: Edita.
- 2:2001** Laine, I., Kilpinen, A., Lajunen, L., Pennanen, J., Stenius, M., Uronen, P. & Kekäle, T.: *Maanpuolustuskorkeakoulun arviointi*. Helsinki: Edita.
- 3:2001** Vähäpassi, A. (toim.): *Erikoistumisopintojen akkreditointi*. Helsinki: Edita.
- 4:2001** Baran, H., Gladrow, W., Klaudy, K., Locher, J. P., Toivakka, P. & Moitus, S.: *Экспертиза образования и научно-исследовательской работы в области славистики и балтистики (Ekspertiza obrazovaniya i naučno-issledovatel'skoj raboty v oblasti slavistiki i baltistiki)*. Helsinki: Edita.
- 5:2001** Kinnunen, J.: *Korkeakoulujen alueellisen vaikuttavuuden arviointi. Kriteerijä vuorovaikutteisuuden arvottamiselle*. Helsinki: Edita.
- 6:2001** Löfström, E.: *Benchmarking korkeakoulujen kielenopetuksen kehittämisessä*. Helsinki: Edita.
- 7:2001** Kaartinen-Koutaniemi, M.: *Korkeakouluopiskelijoiden harjoittelun kehittäminen. Helsingin yliopiston, Diakonia-ammattikorkeakoulun ja Lahden ammattikorkeakoulun benchmarking-projekti*. Helsinki: Edita.
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- 9:2001** Welander, C. (red.): *Den synliga yrkeshögskolan. Ålands yrkeshögskola*. Helsingfors: Edita.
- 10:2001** Valtonen, H.: *Learning Assessment at the Sibelius Academy*. Helsinki: Edita.

- 11:2001** Ponkala, O. (toim.): *Terveysalan korkeakoulutuksen arvioinnin seuranta*. Helsinki: Edita.
- 12:2001** Miettinen, A. & Pajarre, E.: *Tuotantotalouden koulutuksen arvioinnin seuranta*. Helsinki: Edita.
- 13:2001** Moitus, S., Huttu, K., Isohanni, I., Lerkkanen, J., Mieliyinen, I., Talvi, U., Uusi-Rauva, E. & Vuorinen, R.: *Opintojen ohjauksen arviointi korkeakouluissa*. Helsinki: Edita.
- 14:2001** Fonselius, J., Hakala, M.K. & Holm, K.: *Evaluation of Mechanical Engineering Education at Universities and Polytechnics*. Helsinki: Edita.
- 15:2001** Kekäle, T. (ed.): *A Human Vision with Higher Education Perspective. Institutional Evaluation of the Humanistic Polytechnic*. Helsinki: Edita.
- 1:2002** Kantola, I. (toim.): *Ammattikorkeakoulun jatkotutkinnon kokeilulupahakemusten arviointi*. Helsinki: Edita.
- 2:2002** Kallio, E.: *Yksilöllisiä heijastuksia. Toimiiko yliopisto-opetuksen paikallinen itsearviointi?* Helsinki: Edita.
- 3:2002** Raivola, R., Himberg, T., Lappalainen, A., Mustonen, K. & Varmola, T.: *Monta tietä maisteriksi. Yliopistojen maisteriohjelmien arviointi*. Helsinki: Edita.
- 4:2002** Nurmela-Antikainen, M., Ropo, E., Sava, I. & Skinnari, S.: *Kokonaisvaltainen opettajuus. Steiner-pedagogisen opettajankoulutuksen arviointi*. Helsinki: Edita.
- 5:2002** Toikka, M. & Hakkarainen, S.: *Opintojen ohjauksen benchmarking tekniikan alan koulutusohjelmissa. Kymenlaakson, Mikkelin ja Pohjois-Savon ammattikorkeakoulut*. Helsinki: Edita.
- 6:2002** Kess, P., Hulikko, K., Jussila, M., Kallio, U., Larsen, S., Pohjolainen, T. & Seppälä, K.: *Suomen avoimen yliopisto. Avoimen yliopisto-opetuksen arviointiraportti*. Helsinki: Edita.
- 7:2002** Rantanen, T., Ellä, H., Engblom, L.-Å., Heinonen, J., Laaksovirta, T., Pohjanpalo, L., Rajamäki, T. & Woodman, J.: *Evaluation of Media and Communication Studies in Higher Education in Finland*. Helsinki: Edita.
- 8:2002** Katajamäki, H., Artima, E., Hannelin, M., Kinnunen, J., Lyytinen, H. K., Oikari, A. & Tenhunen, M.-L.: *Mahdollinen korkeakoulu yhteisö. Lahden korkeakouluyksiköiden alueellisen vaikuttavuuden arviointi*. Helsinki: Edita.
- 9:2002** Kekäle, T. & Scheele, J.P.: *With care. Institutional Evaluation of the Diaconia Polytechnic*. Helsinki: Edita.
- 10:2002** Härkönen, A., Juntunen, K. & Pyykkönen, E.-L.: *Kajaanin ammattikorkeakoulun yritys-palveluiden benchmarking*. Helsinki: Edita.
- 11:2002** Katajamäki, H. (toim.): *Ammattikorkeakoulut alueidensa kehittäjinä. Näkökulmia ammatti-korkeakoulujen aluekehitystehtävän toteutukseen*. Helsinki: Edita.
- 12:2002** Huttula, T. (toim.): *Ammattikorkeakoulujen koulutuksen laatuysiköt 2002–2003*. Helsinki: Edita.
- 13:2002** Hämäläinen, K. & Kaartinen-Koutaniemi, M. (toim.): *Benchmarking korkeakoulujen kehittämisvälineenä*. Helsinki: Edita.
- 14:2002** Ylipulli-Kairala, K. & Lohiniva, V. (eds.): *Development of Supervised Practice in Nurse Education. Oulu and Rovaniemi Polytechnics*. Helsinki: Edita.
- 15:2002** Löfström, E., Kantelinen, R., Johnson, E., Huhta, M., Luoma, M., Nikko, T., Korhonen, A., Penttilä, J., Jakobsson, M. & Miikkulainen, L.: *Ammattikorkeakoulun kielenopetus tienhaarassa. Kielenopetuksen arviointi Helsingin ja Keski-Pohjanmaan ammattikorkeakouluissa*. Helsinki: Edita.
- 16:2002** Davies, L., Hietala, H., Kolehmainen, S., Parjanen, M. & Welander, C.: *Audit of Quality Work. Vaasa Polytechnic*. Helsinki: Edita.
- 17:2002** Sajavaara, K., Hakkarainen, K., Henttonen, A., Niinistö, K., Pakkanen, T., Piilonen, A.-R. & Moitus, S.: *Yliopistojen opiskelijavalintojen arviointi*. Helsinki: Edita.
- 18:2002** Tuomi, O. & Pakkanen, P.: *Towards Excellence in Teaching. Evaluation of the Quality of Education and the Degree Programmes in the University of Helsinki*. Helsinki: Edita.
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- 6:2003** Kettunen, P., Carlsson, C., Hukka, M., Hyppänen, T., Lyytinen, K., Mehtälä, M., Rissanen, R., Suviranta, L. & Mustonen, K.: *Suomalaista kilpailukykyä liiketoimintaosaamisella. Kauppatieteiden ja liiketalouden korkeakoulutuksen arviointi*. Helsinki: Edita.
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