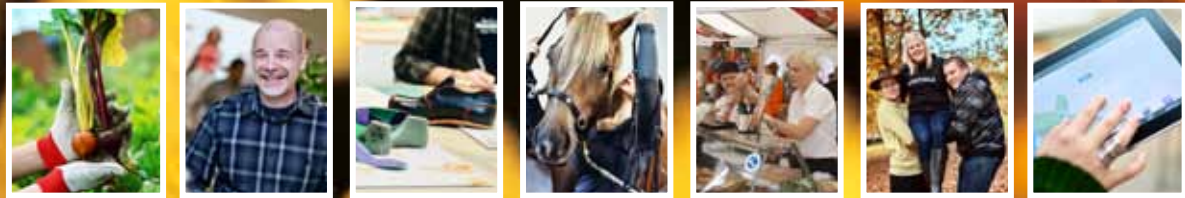


Responsibility and Effectiveness – Regional responsibility report by HAMK University of Applied Sciences



Lea Mustonen (ed.)

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Regional responsibility report by HAMK University of Applied Sciences
Lea Mustonen (ed.)**



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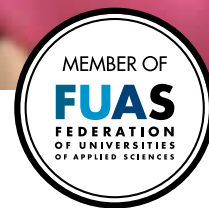


PHOTO: Ville Salminen

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1 President's review: Responsibility for the future

Much is expected of HAMK as concerns the development of the region. We are an important part of the region's development strategy, in which central starting points include the development of business and industry and promoting the economy and employment. We are the only higher education institution operating in this region that is strategically significant for the whole nation. Therefore, HAMK plays a major role in increasing the level of competence in the region and promoting entrepreneurial activities. This is a responsibility we recognise.

HAMK has excellent partners in the world of work who are committed to long-term development work. Other elements necessary for success include staff, maintaining organisations and other cooperation partners committed to development work.

Education, research and development that serve the needs of industry and commerce must be integrated into a seamless whole. This idea is clear in the strategic thinking of HAMK, and a great deal of work is put into realising it in practice. We would also like to make our entire service selection available to the HAMK operating area as a whole, instead of limiting them to certain towns or municipalities.

We are also happy to be able to offer the expertise of our strategic partners for the benefit of our customers. Together with Lahti University of Applied Sciences and Laurea University of Applied Sciences, HAMK has formed the Federation of Universities of Applied Sciences (FUAS), the largest alliance of universities of applied sciences in Finland. Both FUAS and our international strategic partners enable new measures for the purpose of developing business and industry. The goal is, of course, mutual benefit: what measures should be taken to develop the region as a whole and how does the development and internationalisation of the region benefit our students.

This regional responsibility report is the second of its kind. In the first one, we placed strong emphasis on the ideas of the representatives of our maintaining organisations and partners. In this second one, we will include a large number of concrete descriptions of functions that illustrate the responsibility of HAMK for the development of the region. The descriptions are short summaries, but they are based on broad networks, a strong willingness to cooperate, an atmosphere of creating something new and the joy of learning.

Pertti Puusaari
President, HAMK University of Applied Sciences
Tel. +358 (0)3 646 4220



President and vice presidents of HAMK University of Applied Sciences. Vice President Janne Salminen (left), President Pertti Puusaari and Vice President Risto Salminen.
PHOTO: Petri Kuittinen

2 Message from a representative of the maintaining organisation

The Finnish system of universities of applied sciences is currently undergoing major readjustments through significant and multiple changes. Legislation, cuts in resources and global challenges guide the development from the outside, but the most essential changes are generated at HAMK through our own work, in cooperation with owners and other organisations in the region.

The Finnish welfare society has always been able to negotiate agreements suitable for all parties. This remains true even today. Increasing regional effectiveness and securing long-term operations are best accomplished through agreeing on the division of labour and shared objectives together with the partners. It is necessary to agree on joint objectives, on the means to achieve them and on the responsibilities, obligations and roles employed in the process. Last year, HAMK concluded an alliance agreement with the FUAS universities of applied sciences, with the objective to become a central operator and a visible organisation in the activities to develop the extended metropolitan area. An extensive Wellbeing Agreement and a Higher Education Agreement have been concluded in the Hämeenlinna region in order to ensure future operations and enhance the competence level and competitiveness in the region.

HAMK is also a party to the Growth Agreement for the Hämeenlinna region, with the aim of participating in the systematic development of larger urban regions in order to generate dynamism for the entire Häme region and for Finland as a whole.

Reaching agreements requires trust, knowing your partners, anticipating future developments as well as creativity, courage and a visionary capacity. At HAMK, we know how to achieve this: through cooperation.

Sari Rautio

Chair of the Council of the Municipal Federation,
Häme Municipal Federation of Professional Higher Education
Chair of City Council Hämeenlinna



3 Responsibility for competitiveness in the region

3.1 Learning, R&D activities and innovations as factors in regional development

We at HAMK are committed to improving customer service and increasing customer orientation. We aim to make the service experienced by the customer as easy to use, clear and effective as possible.

To an increasing degree, innovation and R&D activities servicing the region are associated with various courses. Approximately one fourth of the studies have already been integrated into R&D activities in different ways. This means that students and teachers form an integral part of our innovation system servicing and developing the region. At the same time, we are strengthening the growth of professional competence among students and staff and the workplace-orientation of studies. The most widely-known form of these activities probably consists of bachelor's and master's theses completed by HAMK students for the benefit of enterprises and other organisations in the region.

Cooperation in the form of projects between HAMK and the workplace in publicly-funded projects has also been extensive.

In the future, a second line of development for HAMK R&D activities will be to identify and further strengthen central competence areas. R&D funding will be for these core competence areas and simultaneously the funding base will broaden and become more international. From the perspective of the region, the aim is to significantly increase the competence level, to promote the visibility and attractiveness of the region and, naturally, to enhance the flow of R&D funding to the region. The support and participation of partner companies and other organisations will be of primary importance in this profiling work.

Janne Salminen
Vice President, RDI and System Development
tel. +358 (0)3 646 4282

3.2 Case: Sheet Metal Centre as development partner of sheet metal industry

Case

The high-level technological-scientific expertise, goal-oriented development of operations and financial profitability of the HAMK Sheet Metal Centre have enabled several years of close cooperation with the world of business. The centre is also active in the national and international networks of research institutes in the field.

Sheet metal and components manufactured out of it are one of the core areas of expertise of the Finnish metal industry. The research projects of the Sheet Metal Centre aim at improving the competitiveness of the products and production of the Finnish sheet metal industry. Research and product development are carried out in cooperation with the industry and other research institutes in the following areas of expertise: research services related to sheet metal forming and joining, the development of

materials and coatings, corrosion and weathering testing and the analysis and test loading of structures.

The main research equipment at the Sheet Metal Centre are equipment for corrosion and weathering testing, a loading frame for full-scale structures, and tensile testing machines and friction testing equipment for formability analyses. The central task of the Sheet Metal Centre is to promote cooperation between the university of applied sciences and industry by engaging in applied research and product development necessary for the industry and by acting as a link between companies and degree programmes and, also, between companies and students.

For further information, please contact: Kauko Jyrkäs, Head of Laboratory, tel. +358 (0)3 646 6416



PHOTO: Ville Salminen

3.3 Case: Learning through home visits and listening to the elderly



Through its RECO (Regions in collaboration for the improvement of methods promoting health and quality of life) project, HAMK's Education and Research Centre for Wellbeing is involved in developing entrepreneurship and international corporate cooperation in the wellbeing sector. The programme sought good operating models, products and services that could be used to improve the living conditions of ageing people and generate new business opportunities for enterprises based on challenges related to the ageing of the population.

The Myllymäki area in Hämeenlinna was developed into a Living Lab for home care. In order to develop services for the elderly, the project workers sought user-centred information from elderly individuals living at home. At the same time, teaching in accordance with the new curriculum for nursing was tested by introducing first-year students into a workplace context after only two weeks of studies. Third-year nursing and public health nursing students implemented a total of 32 preventive home visits as part of the course in multiprofessional rehabilitative elderly care. Within the same course, a module on instructing the aged in the use of computers (10 hours) was implemented in cooperation with the Degree Programme in Information Technology. In 2011 and 2012, the students imple-

mented a total of 330 home visits to their own clients in Myllymäki. The following year, the activities were expanded to the centre of Hämeenlinna and the Jukola area. The total number of home visits was approximately 484. Second-year students mentored first-year students in matters related to the implementation of the home visits and the formation of interactive relationships as part of a course in health promotion. They also took part in a special event for activating the elderly organised by the Creator projects at Verkatehdas. In addition to someone to talk to, the visits provided many elderly people with the opportunity to spend time outdoors and engage in other activities. The project (2011–2013) gave rise to 5 theses and generated a total of 3,195 credits.

RECO: The Regions in Collaboration for the Improvement of Methods Promoting Health and Quality of Life (RECO) project funded by Interreg IV is part of the CREATOR programme.

For further information, please contact: Merja Saarela, Research Director, Education and Research Centre for Wellbeing, tel. +358 (0)3 646 3661

3.4 Case: Making the transfer to the next generation easier through continuing education

Continuing education in Traffic and Transport Management has provided training for beginning and active entrepreneurs in the fields of traffic and transport management and driving schools since the early 1990s. Among other things, the process of transfer to the next generation taking place in an enterprise involves assigning the responsibility related to the company's operating licence to the new head of the company. Diverse continuing education services have been offered in the area of entrepreneurship in traffic and transport management on topics such as transferring responsibility, expanding the activities of an existing enterprise and the establishment of a new business. The training courses organised have covered the areas of both passenger and freight transport, including bus entrepreneur training and entrepreneurial training in the field of freight transport and tractors registered for road use, as well as entrepreneurial training in the traffic school sector.

More than 3,000 individuals have taken part in the training courses. Most commonly, participants have come from the areas close to Hämeenlinna, i.e. the Kanta-Häme, Pirkanmaa and Päijät-Häme regions, but have also included students from the very south of Finland to the northernmost Lapland. Topics addressed in entrepreneurial education include marketing, management/leadership and the financial administration of enterprises. The training courses also focus on the planning of transport and educational services from a sector-specific perspective. Entrepreneurial training in traffic and transport management has been organised in close cooperation with experts in the field, including operators such as Finnish Transport and Logistics, the Finnish Bus and Coach Association, the Confederation of Finnish Industries and the Finnish Employer's Federation of Road Transport.

For further information, please contact: Esa Inget, Head of Continuing Education, tel. +358 (0)3 646 3430



3.5 Case: Local food from Häme promoted through cooperation

Finland's largest local food event gathered 150 producers of local and organic food and other stakeholders from 18 different regions in all parts of Finland to the Rautatien Square in Helsinki. The joint section for the Kanta-Häme and Päijät-Häme regions included the following contributors: Heila Lähiuokatori, Hämeen ruokamatkaverkosto, Korpelan Mehiläistarhat, Kultasuklaa Oy, Maatila-Liha Meronen Oy, Makuliha Oy, Orastava Aurinko Oy, Peltosirkun tila, SunSpelt Oy, Tuulosrievä, Viipurilainen Kotileipomo, Vuohelan Herkku Oy and Vääkсын Mylly Oy. In addition, Pappilanpuisto from Loppi was presented on the programme stage on Friday. The Häme and Päijät-Häme Regional Councils supported the event.

Visitors to the fair were able to purchase the following products from Häme: Rye bread made from rye grown in Asikkala, traditional butter-milk loaves and buns baked in the form of a plait from Häme, gluten-free oatmeal-carrot rolls, smoke-flavoured talkkuna flour mixture, spelt pasta, barbecue sausages, genuine sauna-smoked ham, garlic, strawberry juice, carrot jam, comb honey, hand-made chocolate, etc.

Local expertise in design was employed to make sure the Häme section stood out from the others. Design students Elina Haverinen, Veera Kolehmainen and Kati Mattila designed a warm harvest atmosphere for the section. Elina Haverinen designed the Eloherkut textiles that were used to decorate the walls of the section. The names of the producers were clearly displayed on information boards and signs positioned on the tables.

For further information, please contact: Sanna Lento, Production Assistant, tel. +358 (0)3 646 5247

3.6 Case: Small components come together to form an impressive whole

Projects linked to courses do not always have to be extensive and complex, but the combination of small elements may produce an impressive end result. In autumn 2012, a review of the prices of riding lessons was implemented by part-time students from the Degree Programme in Sustainable Development. The project gained visibility in the national Maaseudun tulevaisuus newspaper and constituted learning method that was positively received by the students.

In the project, the students inquired the prices of riding lessons at stables offering such services and produced a map of Finland illustrating the differences in prices according to location. The project was implemented in connection with two courses: Marketing and Accountancy and the Utilisation of Spatial Data. The report focused on stables accepted by the Equestrian Federa-

Case



PHOTO: Sanna Lento

tion of Finland, the contact information and websites of which were available at the federation's online service. Each student found out the price information for ten businesses, after which the data was pooled. The total number of price information items collected was 227. Thematic maps were produced based on the data that displayed differences in the pricing of the services. The prices were higher in the vicinity of towns and cities than in more remote rural areas. The average price of a riding lesson was EUR 27.

The students enjoyed completing the project that was both useful to them and produced up-to-date information for the equine sector. The map and other results were presented at a national event for equestrian entrepreneurs in Laukaa, Hämeenlinna and Oulu. In addition, the project and its results featured in an illustrated article published in the Maaseudun Tulevaisuus.

For further information, please contact: Sirpa Pussinen, Project Manager, tel. +358 (0)3 646 4280

Case

3.7 Case: Business Point

HAMK University of Applied Sciences applies a one-stop shop service concept in its Local Business Services. When a customer does not have a specific contact person at HAMK, the one-stop shop service makes it easier for them to approach us. The right service can be identified for the customer irrespective of the channel through which the contact came from. Local Business Services coordinates HAMK's specialist resources to make sure they match the customer's needs. Finding ways to meet the customer's needs is located at the very core of the activities.

A central element of the Local Business Services is HAMK Business Point that offers services for companies in areas such as marketing, sales, accountancy and design. Students have the

opportunity to take part in the project as part of their studies. With the help of service concepts, real-life assignments from the industry are integrated into teaching in higher education: students gain contacts to the workplace and entrepreneurs in the region have the opportunity to benefit from competence at the university of applied sciences.

For further information, please contact:
Sari Hanka, Business Services Manager,
tel. +358 (0)3 646 3417

Case

3.8 Case: Conceptor

Konseptori (Conceptor): An Open Innovation Environment is a concrete example of enhancing research and development activities through cooperation. Conceptor brings together students, unemployed professionals and experts from different fields into teams that develop prototypes for products and services based on ideas derived from businesses, development organisations and private innovators. The development work generates new solutions that can then be commercialised, and individuals participating in the development work gain the opportunity to advance their careers as developers of a successful innovation and as entrepreneurs.

For instance, Conceptor has put together a team that develops a mobile educational game for children aged 5 to 7. The project includes students from the Degree Programme in Business

Information Technology and the Degree Programme in Crafts and Recreation and pre-schoolers from the Miemala School. The work was assigned by Aatos Media, a local company from Hämeenlinna. In terms of learning, central topics for this particular project include team work, which is one of the central competences sought after by employers today. One example of the challenges of working in a multidisciplinary team is finding a common language between coders, graphic designers and experts in pedagogy.

Further information: www.facebook.com/konseptori

Case

PHOTO: Anne Friis



4 Responsibility for learning

4.1 HAMK's responsibility for learning in the region

HAMK operates almost exclusively in the competence sector. Simplified, it can be described as the distribution of existing knowledge and as the production of new knowledge. HAMK is active in both aspects. Through our educational activities, we support the growth of competence in the region, and through our research activities we promote the generation of new innovations. In contemporary terms, we perceive HAMK as a strong creator of networks in the field of learning in the different ecosystems of the region.

A dynamic region needs both competitiveness and wellbeing. Both require competencies traditionally existing in the region as well as the development of new things. According to studies, new competence is needed particularly in the area of international activities and, more generally, to increase the share of population with a higher education degree. It is widely known that even traditional professions are undergoing increasingly rapid changes, which also requires new expertise.

What is essential for us is transforming the signals on the shifts in learning needs into actions in the context of our daily educational and research activities. Within HAMK, we are already developing a more agile model for implementing education, which would enable rapid reactions to the changes required. At the same time, to increase our awareness of local needs, we are seeking new ways to diversify and strengthen our contacts to different people and organisations in the region. The construction of new and stronger communication channels always requires changes at both ends. Fortunately, there is a clear willingness for this as well as already existing examples.

Risto Salminen
Vice President, Education
tel. +358 (0)3 646 4283

4.2 Case: Demepass module

In HAMK's Education and Research Centre for Wellbeing, the most significant educational activity related to regional development is continuing education. For a long time, the objective has been to create new educational and RDI products through development projects implemented in cooperation with people and organisations in the region. These results can then be used to enhance the development of competence in the region also after the completion of the project.

A good example of such activities is DEMEPASSI®, a 30-credit module offered since 2007. The module was originally created in a development project on caring for persons with dementia. It contains the most recent information on memory disorders and their treatment and tools for the rehabilitation of dementia

patients, for supporting coping and wellbeing at work among carers and for acting in multiprofessional work communities. So far, more than 200 professionals in social and health care have participated in the course, with the majority of participants coming from the regions of Hämeenlinna, Forssa, Riihimäki and Pirkanmaa. As officially registered training, DEMEPASSI® is also held in value by employers.

Some employers also acknowledge the competence acquired by the worker via an increase in salary.

For further information, please contact: Merja Saarela, Research Director, Education and Research Centre for Wellbeing, tel. +358 (0)3 646 3661

Case

PHOTO: Ville Salminen

4.3 Case: Education and Research Centre for Master's Degrees and Professional Teacher Education

In autumn 2012, HAMK University of Applied Sciences launched an ERDF-funded project called Development of competence structure in education leading to master's degrees (Ylermi).

The aim of the project is to promote the competitiveness, internationalisation and workplace innovations of the Kanta-Häme region by developing the competence structures of a new research and education centre established at HAMK: the Education and Research Centre for Master's Degrees and Professional Teacher Education. The new education and research centre began operations on 1 January 2013, and it is the only unit offering master's level education in the Kanta-Häme region.

The new education and research centre will meet the challenge of the Häme Region, as according to the regional programme, Häme is one of the regions with the lowest levels of internationalisation in Finland. As a result, the region requires new combinations promoting internationalisation in the areas of research and education. There is also need for R&D and innovation activities arising from the starting points of business

and industry and meeting international standards. The Education and Research Centre for Master's Degrees and Professional Teacher Education unites the strengths of the HAMK Professional Teacher Education Unit (PTEU) and the Centre for Master's Degree Programmes (YAMK) into a single entity.

The development project will continue until 30 June 2014 and will create operating models and networks for international research and development activities and new continuing and further education products aiming at workplace development. The project is divided into four subprojects: 1) Development and research activities, 2) Internationalisation and research activities, 3) New study paths (PTEU and YAMK), 4) Entirely new continuing education products supporting workplace innovations.

For further information, please contact:

Seija Mahlamäki-Kultanen, Director, Education and Research Centre for Master's Degrees and Professional Teacher Education, tel. +358 (0)3 646 3300



4.4 Case: Media workshop

Project activities related to media and information technology are implemented at the Media Workshop at the Riihimäki campus. The main objective is increasing the professional skills of students in sector-specific projects and a genuine work environment. In practice, this means implementing projects for customers in a manner that involves students assuming the main responsibility for the work.

A separate office is reserved for the activities. The office contains personal workstations for the workers/students and other equipment and furnishings required. It is possible for a student to take part in several projects at the Media Workshop at the same time, all of which may be implemented for a differ-

ent customer. Professional guidance must, however, always be available, and the progress of the projects is monitored together with the students.

The projects must be sufficiently challenging, and the implementation of each assignment aims at a high-quality end result. Successful projects function as excellent references for the professional skills of the students.

For further information, please contact:

Antti Laakso, Project Engineer, tel. +358 (0)3 6462 418



PHOTO: Ville Salminen



4.5 Case: Campus solutions strengthen cooperation with upper secondary education and initial vocational education

The aim of the Campus Trimola project is to increase cooperation between educational institutions in the campus area and to utilise all resources available in the region. A central goal is to create a new operating model with workplace-oriented project learning as the main frame of reference. Other participants in the project are the HAMK Valkeakoski Campus, the Valkeakoski Tietotie General Upper Secondary School and the Valkeakoski Vocational College.

For students, the operating model offers a nationally unique opportunity to develop their competence and professional skills beyond the boundaries of different institutions. It is possible to complete studies simultaneously in a vocational institute, general upper secondary school and a university of applied sciences. In addition, young people are instructed in an entrepreneurial way of working and taught skills necessary to establish their own company. Development projects implemented in cooperation with companies are included as an integral element of teaching. The model is based on the pedagogical framework of workplace-oriented project learning.

The physical preconditions for the implementation of the Campus Trimola concept are created by the Robola project. It provides the educational institutions with a joint learning environment (both physical and virtual) in the field of automation technology. The learning environment is used by the Valkeakoski Vocational College and HAMK University of Applied Sciences in all training in automation technology and the Tietotie General Upper Secondary School in Valkeakoski in connection with optional courses in automation technology. It is also used in joint projects between the different people on the campus.

In the future, the plan is to expand the learning environment for example with a separate learning environment for industrial processes related to process automation and new material technologies (nanotechnology and biotechnology). One of the benefits of a virtual learning environment is that the learner is able to make mistakes without fear of serious consequences, which enhances the learning process based on doing things oneself.

For further information, please contact: Antti Aimo, Principal Lecturer, tel. +358 (0)3 6462 301

4.6 Case: Footwear cluster on the Visamäki campus

In autumn 2013, the Visamäki campus at HAMK University of Applied Sciences will see the launch of a Footwear Cluster containing footwear designer training forming part of the Degree Programme in Design at HAMK and shoemaker training at the Tavastia Vocational College.

The activities, study paths and functional premises for education have been planned jointly between the organisations. The objective of the cluster has been to develop cooperation with shoemaker training at the Tavastia Vocational College so that aspects of the studies and study paths could be shared by students in both programmes. The idea behind the study paths is to create a continuum between upper secondary education and education provided by universities of applied sciences. In addition, the cluster will support joint activities between students in shoemaking and students of footwear design, such as entre-

preneurial activities initiated during studies, with a particular focus on the early stages of entrepreneurship.

The entrepreneurial activities may focus on the student's trademark or on the manufacturing of footwear or accessories commissioned by customers. These include designing the product, product development, technical implementation such as CAD pattern making, serialising, creating prototypes, visual product presentations, commercialisation, marketing and business activities. The cooperation will produce a learning environment supporting industrial activities and arts and crafts style manufacturing to cater for the needs of the region at the Visamäki Campus.

For further information, please contact: Mirja Niemelä, Principal Lecturer, tel. +358 (0)3 646 3651

PHOTO: Ville Salminen

4.7 Case: Specialisation studies in the management of spatial data and laser technology

Spatial data, or geographic information, is information that includes geographic location. It is a logical data entity that describes a positioned target or phenomenon can be analysed using computer software. In the daily lives of individuals, electronic maps and GPS positioning are the most commonly encountered software for the processing of geographic information.

Geographic information technology has been in use in the forestry sector since the 1980s. In the 2000s, the use of geographic information has seen a strong increase in various sectors, including the forestry sector. This has generated a need to develop expertise in the processing of geographic information among individuals already working in order to enable effective use of the new technology. The Degree Programme in Forestry responded to this need by developing specialisation studies in geographic information, which were implemented a total of eight times between 2001 and 2011. Approximately 160 students took part in the studies. The majority of students were employed in the forest sector: employees from forest management associations, forest centres and forestry. Students also included employees of state-level forest administration and municipalities as well as researchers operating in various research

institutes and companies of different sectors. The majority of students were from the Kanta-Häme and Päijät-Häme regions and from the metropolitan area, although other parts of Finland were also represented.

Specialisation studies in the management of geographic information generated productive corporate cooperation and networking that was beneficial for both parties. The students brought with them problems and development needs encountered in the companies and organisations in which they worked, for which solutions were then sought during the courses. A project focusing on a development task related to geographic information significant for the student's own organisation was performed as the final thesis of the studies. Teachers of specialisation studies were able to update and develop their own expertise through actual problems experienced in the workplace.

For further information, please contact: Terhikki Mäkelä, Director of Education, Bioeconomy Education and Research Centre, tel. +358 (0)3 646 5393

Case

4.8 FUAS brings new opportunities

Students of FUAS (Federation of Universities of Applied Sciences) are able to select studies from the summer courses offered by the entire federation, i.e. also from institutions other than their own. The aim of summer studies is that the students can progress more rapidly in their studies, thus graduating at a faster pace. Last year, the number of courses offered over the summer was 95. One in four courses was implemented in English, and a third was offered online. The total number of credits for the courses offered was 405. In total, 1,244 students had obtained credits from summer courses by the end of October. The total number of credits completed was 6,083, with an average of 4.9 credits per student. Based on the feedback obtained, a more diverse range of courses and an increasing focus on students regarding the courses offered emerged as central development targets. There will be more choices for studies completed during the academic year. Students are allowed to choose 30 credits worth of studies from other FUAS institutions during each academic year.

FUAS creates more opportunities for the development of the region. A broader competence base and networks for research and development are made available for business and indus-

try. For example, companies are able to hire students to complete their final thesis on topics beneficial for them also from the partner universities of applied sciences. A broader course selection increases the opportunities of students to construct their personal study plan in a manner that ensures that their competence matches the needs of the region.

Strong investment in internationalisation is central for the alliance. The number of institutions and universities in the joint network is more than 500. This offers broad and high-quality opportunities for mobility and enables contributions by visiting teachers and experts in the courses. The international network also creates new opportunities for business and industry. FUAS and its international network enable us to respond to new needs for expertise emerging in a global world far better than would be possible by working alone. Thus, an alliance of universities of applied sciences utilising the strengths of its member organisations strengthens the competitiveness of the region, which constitutes a central benefit from the alliance and a form of regional development.

Further information: www.fuas.fi



In a field course in development cooperation studies, eight students worked for two weeks with the Oligiek people living in the Cherangai hills in Kenya. The cooperation consisted of designing a centre for ecotourism and initiating local energy production by erecting a wind turbine and introducing solar panels. PHOTO: Eija Laitinen



Student of sustainable development Mira Kuusisto and a group of local women discussed the position of women and girls in the community. PHOTO: Eija Laitinen

5 Responsibility for internationalisation

5.1 HAMK's role in the internationalisation of the region

One goal of the international activities of HAMK is to promote the internationalisation of communities and companies in the region through different forms of cooperation

The most central element in the process is the solid internationalisation competence of HAMK students entering the job market. In addition to student mobility, the development of this competence is ensured through language studies and effective utilisation of the input of both foreign students and experts.

Stakeholders in the region utilise the competence of the approximately 600 foreign degree students through means such

as project work, work placements and theses. Joint international operating areas (e.g. St. Petersburg) have been agreed upon between HAMK and representatives of business and industry in the region. This way, the existing partnerships can be utilised together. RDI activities also provide an opportunity for cooperation. Cooperation structures and networks are developed based on joint assessment.

For further information, please contact: Marja Räikkönen, Head of International Affairs, tel. +358 (0)3 646 4401, and Maaret Viskari, Project Manager, tel. +358 (0)3 646 4277

5.2 Case: Studies in development cooperation

Internationalisation is important in our globalising world. Education can be used to promote the solution of solve global problems jointly irrespective of the cultural and economic differences that may exist between countries. Internationalisation and global responsibility also constitute central elements in the strategic policies of FUAS.

Studies in development cooperation (15 credits), offered in English, have been organised for four academic years. The studies are cross-disciplinary, and they provide good basic capabilities for working in the field of development cooperation. All students, including all exchange students, interested in development cooperation may take part in the studies, irrespective of

their field of study. The studies can also be completed through the open university of applied sciences. The module is organised by FUAS in cooperation with Metropolia University of Applied Sciences.

According to student feedback, the courses have been rewarding especially due to the strong expert network and the practical assignments and examples. The field course element of the module has also been perceived as expanding the thinking and perception of students.

For further information, please contact: Eija Laiinen, Teacher, tel. +358 (0)3 646 5230

Case

5.3 Case: Connect project supports the export of renewable energy to Africa

The aim of the Connect project of FUAS is to support the export activities of SMEs in the field of renewable energy to developing countries. The aim of the project is to model the creation of networks with a particular focus on utilising the potential of foreign students studying in Finland. Students are provided with the opportunity to make use of their own background and special expertise in the right projects. In addition, the students gain corporate contacts that can make it easier to find work placements, interesting subjects for theses and possibly even jobs.

In the Connect project, the students have produced country reports and market analysis on English-speaking countries in Africa. The student cooperation will continue in the form of bachelor's and master's theses; workshops organised for businesses, students and other stakeholders, and courses offered by the universities of applied sciences. So far, approximately 200 students have been involved in the project, funded by the Tekes Groove programme.

For further information, please contact: Kristiina Ranta, Lecturer, tel. +358 (0)3 646 2610

Case

5.4 Case: Language Centre

Case

The Language Centre has taken part in developing the teaching of languages and communication on the national level in cooperation with other universities of applied sciences and universities. HAMK acts as coordinator for universities of applied sciences in a project developing the compatibility of Swedish-language studies implemented between the language centres of universities and universities of applied sciences in 2003–2005.

As examples of national projects to develop language teaching in universities of applied sciences, we should mention the project for promoting continuing education among teachers of Swedish at universities of applied sciences (2012–2014) and unifying the assessment of language studies at universities of

applied sciences (2000–2005). Cooperation with universities has been the most active with the University of Jyväskylä (expert tasks, such as acting as opponent at the defence of a dissertation, guest lectures and joint publication in 2011) and with the University of Eastern Finland (joint research project in 2008–2009). Language teachers have also taken part in international EU projects, on topics such as the development of content and language integrated learning (CLIL).

For further information, please contact:

Taina Juurakko-Paavola, Director of the Language Centre, tel. +358 (0)3 646 2241

5.5 Case: Digital Enterprise: Online solutions to support internationalisation at home

In the Degree Programmes in Business Administration and Business Information Technology students are taught in English about business processes and enterprise-resource management systems. A minor subject module, intended primarily for third-year students, in which students learn about topics including the processes of trading and purchasing, has been developed jointly by the degree programmes.

The students study these subjects in virtual companies operating both in a Finnish network of practice enterprises maintained by Finpec and its international counterpart and in cooperation with the degree programmes' own partners in Austria, Holland and Norway. For example, a practice enterprise entitled Amentia Design sells Finnish design to Austria and

Holland. Correspondingly, we purchase bicycles from Krems, Austria, and computers from Avans, Holland. The virtual companies of the Norwegian partner provide the transport services required. This teaches the students about topics such as the pricing of products, international logistics and how to handle business negotiations in English via video conferencing. The products and finances may be virtual, but the negotiations are carried out by actual people. The significance of information systems is crucial in all these activities.

For further information, please contact: Lasse Seppänen, Principal Lecturer, tel. +358 (0)3 646 6677, and Leena Vainio, Research Director, Education and Research Centre for Entrepreneurship and Business, tel. +358 (0)3 646 4380



Case

PHOTO: Tommi Saksä

6 Responsibility for the economy and the environment

6.1 Finances on a solid foundation

The structural change of universities of applied sciences as stipulated in the Government Programme and the spending cuts associated with it provide a boost for measures to increase the efficiency of the activities of universities of applied sciences. We have initiated preparations for the funding cuts in order to provide HAMK with better chances to respond to the challenges in the future.

The annual contribution margin of the municipal federation in 2012 amounted to almost twice the sum estimated. This was enabled by larger than estimated funding per student, which, in turn, indicates success in the performance-based portion of the funding. The financial situation and liquidity of the municipal federation are solid, and they will be used to prepare us for the structural changes anticipated for the universities of applied sciences. They can be used as a buffer in the process of adapting the cost structure to funding forecasts for the future.

The large number of real estate owned by the municipal federation has a significant impact on the finances. Investments are made in the maintenance of the real estate, the use of the premises is rendered more effective and energy solutions are renewed to enhance their cost efficiency.

In 2012, HAMK University of Applied Sciences initiated the planning of a significant reform and began active cooperation

with the City of Hämeenlinna, Technology Centre Innopark Ltd and Development Centre Häme Ltd. The aim is to develop the Visamäki Campus area in Hämeenlinna into a genuine and dynamic centre for higher education. In addition to greater cooperation, the aim is also to develop the activities of the university of applied sciences and to improve its competitiveness. To ensure these outcomes, the HAMK University of Applied Sciences will concentrate all its activities in Hämeenlinna to the University Centre in Visamäki by the end of 2015.

The plan is also to concentrate the majority of student housing in Hämeenlinna to the Visamäki Campus area. For students, a more uniform campus will signify better services, more diverse opportunities for study and an active campus life.

The renovation of the main and dormitory building, to be completed in summer 2013, was initiated at the Mustiala Campus. The campus facilities in other localities have been recently renovated and are in a very good condition. However, with view to our current number of students, the amount of space is in fact a little too large, enabling us to rent out surplus facilities to other organisations in the areas in question.

For further information, please contact: Mirja Pöhö, Finance Director, tel. +358 (0)3 646 4810



PHOTO: Ville Salminen



6.2 Case: Solutions for own heating plant on a sustainable foundation

Case

The third heating plant of the municipal federation was completed in Lepaa in autumn 2012. The plant, providing a thermal capacity of 1.2 MW, enables the burning of wood fuel, woodchips and waste wood. The plant produces the majority of the heating needed for the real estate owned by the municipal federation in the area, including a greenhouse. This has enabled us to discontinue the use of light fuel oil and significantly reduce the use of natural gas. The investment generates an annual saving of approximately EUR 150,000. Total costs from the project were approximately EUR 1,200,000.

The combined annual consumption of three plants amounts to approximately 15,000 to 18,000 cubic metres. Some of the woodchips used are sourced from forests owned by the federation. Experiences from both the heating and production plants are utilised in teaching.

For further information, please contact: Tuomas Salonen, Head of Facilities Management, tel. +358 (0)3 646 4863

6.3 Case: Development of the Safe Journey application

Spring 2013 saw the completion of the national Safe Journey application produced by students of traffic and transport management and information technology. The application can be used in the teaching of schools to chart and analyse possible dangers on children's school journeys. The aim is that the information collected can be used to direct and guide children and young people in how to act safely and responsibly in traffic.

tion of producing their own traffic guidebooks including information on how to act in traffic and a list of the most hazardous locations in the school's immediate environment. The tool will be available to everyone on the website of Liikenneturva.

For further information, please contact: Nina Karasmaa, Principal Lecturer, tel. +358 (0)3 646 2269

The information can be used both for individual teaching and exercises completed in class. Schools and classes have the op-

Case

6.4 Case: Sustainable energy programmes in Kanta-Häme and Päijät-Häme regions

Sustainable energy programmes for the Kanta-Häme and Päijät-Häme regions aim to find out whether it is possible for the regions to start using sustainable and locally produced energy. The programmes have been prepared by experts and can be used as background reports for plans produced by authorities but they also contain a great deal of useful information for both specialists and citizens interested in matters related to the environment.

HAMK publications 9/2011 and 10/2011 contain proposals for regional sustainable energy programmes including suggested measures. In addition, the publications contain regional energy balances containing information from 2008 that function as a backdrop against which the development is monitored. As technical background information, the publication presents the most important sources of sustainable energy in the region, their usability and potential as part of the spectrum of energy supply. The text of the publication was produced as a joint effort several different expert organisations.

A group of students from the Degree Programme in Sustainable Development took part in the preparation of the technical background review. The prioritisation of the measures proposed in the programmes was discussed in an extensive seminar organised in November 2012, in which several students from the Sustainable Development Degree Programme also took part.

The programmes were prepared by the Sustainable Energy from Häme project administered by the Bioeconomy Education and Research Centre. The project was funded by the Rural Development Programme for Mainland Finland.

For further information, please contact:

Antti Peltola, Principal Lecturer, tel. +358 (0)3 646 4271,
and Tapani Pöykkö, Research Director,
Bioeconomy Education and Research Centre,
tel. +358 (0)3 646 4270

Case

6.5 Case: Waste textiles recycled

The term waste textiles is used to refer to textile materials no longer used for their original purpose by industry, companies or consumers. Finland does not have a nation-wide network for the recycling of waste textiles, and approximately 17 kilos of waste textiles per person are disposed of at waste tips every year. This bulk of textiles, amounting to approximately 90,000 tons in total, could be recycled before dumping it at tips or incinerating it.

The opportunities for the re-use and recycling of waste textiles are being addressed in two EU-funded projects in the Forssa region. A national-level report on the possibility of establishing a material bank for waste textiles is being created in the POISTARI project; a further aim of the project is lobbying members of the European Parliament to advance legislation

on the responsibility of producers. The Development of Green Competitiveness and Innovation in the Forssa region (VIHI) project is implementing a TEXVEX waste textile pilot in cooperation with Globe Hope, UFF, Loimi-Häme Waste Management, Suomen poistotekstiilit ry and the Humppila Youth Workshop. The idea behind the pilot is to keep waste textiles in rotation for as long as possible.

There is an interest in accumulating expertise in environmental business in the Forssa Region. The textile recycling initiative is unique on the national level.

For further information, please contact: Kirsi Sippola,
Head of Regional Development, tel. +358 (0)3 646 2659

Case



PHOTO: Pirjo Kuisma

7 Responsibility for the community

7.1 Good practices and focal areas in the area of student wellbeing at HAMK

HAMK has produced a common guideline containing a description of the entity, roles and division of work for providing guidance to the student and supporting professional growth. To promote equal treatment and account for any special needs of students and applicants, HAMK has issued a guideline entitled *The Promotion of Equality*. An action plan and annual report on student wellbeing are produced annually. The documents outline development targets and measures to be implemented in the following year based on experiences from the previous year.

HAMK employs a full-time Student Welfare Officer and a Student Psychologist. The joint steering group for student wellbeing is a multiprofessional cooperative organ for guiding the development of student wellbeing. A multiprofessional student wellbeing team operates on each campus. The teams consist of a student welfare officer, student counsellors, coordinators of education and a campus nurse. The campuses organise theme days in cooperation with regional organisations providing cultural, sports and recreational activities.

Several courses supporting progress in studies are implemented during each academic year: in 2012–2013, the courses offered totalled 10 credits. A Facebook group on student wellbeing established in the Second Life project in autumn 2012 has been adopted into active use. It is employed as a channel to bring up issues related to wellbeing in all aspects of HAMK's operations. Moreover, a course in student wellbeing containing lessons from experts in the field is included in the orientation studies compulsory for all students. Consultation and advice for staff is also provided. Based on the Equality Plan, students have the opportunity to obtain special arrangements for their studies, for example in test situations. In spring 2012, a leaflet was compiled that contained ideas related to student wellbeing as perceived by the students themselves.

Student wellbeing surveys are implemented systematically. Starting 2013, a joint student wellbeing survey will be implemented every other year by each university of applied sciences in FUAS. The surveys will be processed at the FUAS level, at the level of each individual institution and by each degree programme. The results are used to develop the services and practices of HAMK University of Applied Sciences to promote student wellbeing and study capacity.

For further information, please contact: Pirjo Kuisma, Development Manager, tel. +358 (0)3 646 4517

7.2 Model for the development of competence

At the end of 2012, the number of staff employed by the Häme Municipal Federation for Professional Higher Education was 811. The municipal federation's personnel strategy for 2010 to 2015 highlights the management and development of competence. The focus on competence as a strategic choice places particular significance on people and human factors as enablers of the development and renewal of activities. Personnel resources in an organisation should be seen as a dynamic whole, the development of which also enables the success of the organisation as a whole.

In 2012, the Häme Municipal Federation for Professional Higher Education introduced an operating model promoting the management and development of competence. The model was built through a joint effort that included experts from different staff groups within the organisation. The operating model accounts for competence goals arising from strategies and the changes in the operating environment in a more effective manner thus supporting the development and renewal of the operations of the organisation. This way, the opportunities of HAMK to serve the operating region and its stakeholders are improved further.

For further information, please contact: Heidi Ahokallio-Leppälä, Head of Human Resources, tel. +358 (0)3 646 4202

7.3 HAMKO brings the perspective of students to development

The Student Union of HAMK University of Applied Sciences (HAMKO) functions as the voice of students at HAMK. The student union has a statutory role to protect the interests of students at all HAMK campuses by stating its position and taking action in various matter related to student life. The protection of interests consists of significant and broad-based entities that include social and educational policy, tutoring, international affairs, recreational activities and communication. The student union appoints representatives of students to the board of HAMK and other organs and working groups of the university of applied sciences. This ensures that the viewpoint of students is accounted for in matters concerning students.

For further information, please contact: Riku Kemppinen, Chair, the Student Union of HAMK University of Applied Sciences, tel. +358 (0)44 722 1001

PHOTO: Ville Salminen

8 Theses in regional development

8.1 A thesis is a workplace-oriented development assignment

A bachelor's thesis produced at a university of applied sciences is a workplace-oriented development task that acts as a bridge between the student and the workplace. It helps the student to create connections to people and businesses in his or her field while, in a spirit of reciprocity, producing results that benefit the workplace. For many graduating students, the thesis functions as a path to employment.

For the university of applied sciences, the cooperation taking place in the context of theses provides an ongoing contact to the workplace and an opportunity to monitor its changes and trends.

The scope of a bachelor's thesis is 15 credits, corresponding to some ten weeks of full-time studies. Approximately 1,000 bachelor's theses are completed at HAMK every year.

The national open repository for theses produced at universities of applied sciences can be found at www.theseus.fi.

8.2 Examples of theses produced at HAMK

Education and Research Centre for Entrepreneurship and Business

Degree Programme in Business Administration:

Karri Koskelo: Social Media as a method of Digital Marketing in SMEs in Kanta-Häme region

Commissioned by: Hämeen yrittäjät (local entrepreneur association)

The thesis explored the use of social media as a marketing channel for SMEs in the Kanta-Häme region. A central goal was to determine the extent and ways in which social media is used. The work explored the use of social media particularly from the perspective of B2B marketing. The empirical element of the study was implemented via a survey directed at the target group.

Teemu Sorste: Developing the accounting process of a service centre

Commissioned by: The Finnish Government Shared Services Centre for Finance and HR

The thesis focuses on the accounting process of the wages administration of the commissioning enterprise. The objective of the thesis was to increase efficiency in the different stages of the accounting process and to reduce the margin for error. The thesis generated the following results: online guideline for the implementation of the accounting process and a spreadsheet to assist in the practical element of the process.

Degree Programme in Business Information Technology:

Ville Harteela: Conversion optimisation of an order form for a newsletter

Commissioned by: Frugal Oy

The aim of the thesis was to determine how to increase the conversion of visitors to the website Alennuskoodit.fi by Frugal Oy into customers. In practice, the thesis focused on an order form for a newsletter, the features of which were edited and tested using an A/B test. As a result of the thesis, the conversion rate was increased by 19.34%.

Henri Lemetyinen: Compatibility of applications when shifting to a new operating system

Commissioned by: ICT Service Centre for the Judicial Administration

The thesis was produced as a part of a process of shifting to a new operating system, and its aim was to explore compatibility problems with Legacy applications when replacing XP with Windows7. Problems in functionality introduced by the new system were identified in the early stages of the project, making it necessary to produce solution models. The aim was to find the best possible solutions for the problems in question.

Degree Programme in International Business:

Nguyen Thi Khanh Linh: Integration of corporate social responsibility strategy into corporate communication

Commissioned by: PriceWaterhouseCoopers Egypt

Creating a framework for the integration of CSR strategy into the corporate communication of PwC Egypt. The theoretical framework for this study was established through prominent CSR theories as well as an account of recent studies and developments related to CSR in Egypt. The work also provides an extensive overview of CSR communication literature over the past decades. Within the scope of qualitative research, the study constructs and applies a conceptual framework to empirical data gathered through in-depth interviews and benchmarking. The study defines PwC's key constituents as three major groups: employees and managers, clients, and community representatives.

Kieu Nguyen Hong Nhung: Positioning the Häagen-Dazs ice cream franchise in Ho Chi Minh City for selected target markets

Commissioned by: International Lifestyle JSC, Ho Chi Minh City, Vietnam

Finding targeted customers for Häagen-Dazs and building a comprehensive positioning for the brand that will serve as a solid background for further strategic development. The research is based on a thorough desk study as well as applying appropriate benchmarking and case studies.

Degree Programme in Design:

Saila Hastrup: Real estate art: Case Pajakatu 4 and 6

Commissioned by: Kruunuasunnot Oy, Hämeenlinna

The objective of the thesis was to create real estate art for new buildings to be constructed in Pajakatu 4 and 6 in Myllymäki, Hämeenlinna, and explore the concept of real estate art.

Liisa Oila: Burgundian dress for the costume rental of Hämeenlinna Theatre

Commissioned by: The Hämeenlinna Theatre

The work consisted of designing, preparing a pattern for and creating a middle age Burgundian-themed costume for the use of costumer rental at the Hämeenlinna Theatre. The student

studied Burgundian fashion from the middle ages and its development in the 15th century. The outfit consisted of a dress and a hennin headdress. The main sources used were paintings and sculptures from the period and interpretations produced by amateur historians.

Education and Research Centre for Technology

Degree Programme in Automation Engineering:

Emmanuel Adefila: Creating a system that monitors in real time the amount of newspaper coming into the mailrooms

Commissioned by: Alma Manu Oy

The aim of the thesis was to create a new system that monitors in real time the amount of newspaper production that goes into the mailroom and to select the best sensors and counters in order to improve the accuracy of the machine. Further objectives were also to optimise the stoppage of the press and to reduce wastage. The work also aimed to create cost savings, maximise profit and facilitate decision making.

Jan-Peter Nowak: Automating a Production Cell: Case: Sisu Axles

Commissioned by: Sisu Axles

The object of the project was to determine the current status and operational limits of a differential casing manufacturing cell (TPKS), to produce improvements to the process flow, and to provide assistance with an investment decision regarding machinery. A thorough analysis of all data revealed that automation is needed to increase productivity and allow unmanned runs.

Degree Programme in Automation Technology:

Jukka Kokkonen: Designing a computing software for a calender on an OS server

Commissioned by: Metso Paper Järvenpää

The aim of the work was to update the control room OS server for a calender control system and to transfer the control and computing software for operating the rolls from the HP Unix work station to the updated OS server. The project included the design for a new control room, the necessary documentation, the commissioning of the control room and the training of operators.

Eero Teeriaho: Automatisation of a log machine: Adding an automated function to the software

Commissioned by: Siirtohöylä Puntala

The objective was to create an automated function for an existing software, so that a single log model can be created from beginning to end by pressing a single button. The work was based on the Arlacon MC300 motion control system. A prototype software was developed for the customer as well as 16 finalised versions of the log software producing the most common log types.

Degree Programme in Logistics:

Jani Kossi: Designing transport routes for a new local food company

Commissioned by: LähiPuoti Remes Oy

The work consisted of designing transport route models for a beginning local food wholesale trader and assessing the impact of the location of storage facilities for transport activities. The commissioner will be able to utilise the results of the work and computation models used in the work in the planning of practical activities and transport routes.

Degree Programme in Information Technology:

Kati Vainola: Agile and Iterative Requirement Definition

Commissioned by: Nokia Siemens Networks

The main objectives of the thesis were to analyse and recommend possible development targets compared to current methods used in requirements engineering in the NSN mobile voice sector and produce instructions for the adoption of these new methods.

Degree Programme in Mechanical Engineering and Production Technology:

Kimmo Virtanen: Improving service level by developing the demand-supply chain process

Commissioned by: Reka Kaapeli, Hyvinkää

This thesis concentrates on analysing methods by which the company can develop its demand-supply chain based on understanding the principles of demand management, developing a realistic and viable sales and operations plan, and improving the management of inventories.

Deepak Paudel: Davit Design

Commissioned by: Rostek Oy

Davit in this case is a supporting structure on the roof of buildings, permanently fixed for building maintenance and window cleaning purposes. The main objective of this project was to design new davits using aluminium profiles. The design focused on making the whole structure light and ergonomic. Calculations were performed using Euler's small displacement hypothesis.

Degree Programme in Media Technology:

Niko Sopenperä: Multi-camera production and streaming

Commissioned by: Precis Oy

The goal of the thesis was to outline for the reader the many stages of an event broadcast as a multi-camera production from planning to the streaming of the video. The thesis was based on a need for creating a systematic but constantly evolving guideline for the creation of a high-quality video product.

Degree Programme in Mechanical and Production Engineering:

Ville Uotila: Computing software for machine runs of gear grinding and internal and external cylindrical grinding

Commissioned by: Konecranes Corporation, Hyvinkää

The thesis produced computing software for the different stages in the grinding processes of gear manufacturing. The software for the calculation of machining times assists in the management of production and staff, and helps shorten production lead time and maximise the use of equipment.

Degree Programme in Product Development:

Mikko Rämä: Product development process for a protective cover of cash box section in a cash register

Commissioned by: ITAB Pan-Oston Oy, Villähde

The student developed a protective cover for the cash box section of the cash register. The protective cover blocks the customer's view to the cash box thus preventing thefts.

PHOTO: Ville Salminen

Degree Programme in Traffic and Transport Management:

Lauri Jorasmaa: Regional plan for the posting of commercial signs in the Hyvinkää-Riihimäki area: A regional guideline for road signs

Commissioned by: YritysVoimala oy

The aim of the plan on the posting of commercial signs was to create a regional guideline for the posting of signs thus enhancing the realisation of regional planning. The plan functions as a guideline for centres of economic development, transport and the environment when granting licences for commercial signs for the road network. The plan was created with the further aim of also generating benefits for towns and cities when granting the permits. The plan was prepared in cooperation with the Centres for Economic Development, Transport and the Environment for Uusimaa and Pirkanmaa as well as municipalities in the region.

Tapio Kinnunen: Planning of public transport for Metsäkalteva

Commissioned by: City of Hyvinkää

The thesis focuses on the designing of public transport solutions for the Metsäkalteva area in the City of Hyvinkää. The centre of Metsäkalteva will be the location for a housing fair organised in summer 2013, and the aim is to get the public transport to be functional for the new inhabitants immediately after the fair.

Degree Programme in Building and Construction Engineering:

Risto Nurmi: Quality assurance manual for industrially manufactured residential buildings: Lammi Kivitalot oy

Commissioned by: Lammi Kivitalot oy

The thesis produced a quality assurance guideline for the production of Lammi Kivitalot Oy. The work was based on new, stricter construction regulations and requirements for energy efficiency. The thesis addressed the entire process from the planning of the production process to the completed residential building. The results obtained included new structural details, guidelines for work and documents for more efficient supervision of construction work.

Outi Aaltonen: Guidelines for repairs for sheet metal roofs of protected buildings

Commissioned by: University of Helsinki, Facilities and Real Estate Services / Vanhanen Oy

The study explored the functionality of ventilated mechanically-seamed sheet metal roofs after renovation work carried out in the roof structure. Several of the targets displayed humidity problems after the repairs, and the study aimed to determine the reasons for the failure. Long-term humidity and temperature measurements were carried out in the loft premises. The measurements showed that the temperatures in the lofts were significantly higher than estimated, which resulted in snow melting on the roofs and problems caused by water refreezing in the eaves. The thesis contains a guideline for the planning of repairs for mechanically-seamed sheet metal roofs.

Degree Programme in Construction Management:

Jari Ruotjärvi: Production planning, control and guidance in construction

Commissioned by: several construction firms in the Lahti region

The thesis was implemented in portfolio form for the Degree Programme in Construction Management. The student produced production plan documents for several construction firms in the Lahti region.

Tiina Janhunen: "Fake plinth" structures in detached houses

Commissioned by: Raksystems-Anticimex

The thesis examined the thermal and humidity conditions in fake plinth structures and the occurrence of microbes in three targets using field measurements and laboratory tests. The results showed that the targets contained microbe species that indicated moisture damage. The results can be utilised in future repairs carried out on fake plinth structures. The material produced can also be used as training material.

Degree Programme in Construction engineering:

Annikki Teiniranta: Ten year Renovation Debt Assessment of 57 Housing Associations Located in Hämeenlinna and Nearby Towns

Commissioned by: Tähtiranta Oy

The thesis explored the amount of renovation debt accumulated in housing associations of differently aged buildings. Based on the results, the need for future renovation and resulting costs and their impact on maintenance fee and capital charge were assessed. The study concluded that in many cases the renovation debt is greater than estimated, and in some cases renovation of the target is not economically sound.

Degree Programme in Industrial Management:

Sami Teininen: The use of Oracle's Value Chain Planning for raw material procurement, Case Nokian Tyres

Commissioned by: Nokian Tyres Plc, Nokia

The objectives of the thesis were to make the numbers in MRP more reliable, map the present processes, and introduce GPL (global planning tool) as a tool for procurement teams in Russia and Finland, as well as to make procurement teams work easier with raw material simulating tool.

Veli-Pekka Pirttijoki: Implementation of the 5S-operation in the ST-Koneistus Ltd

Commissioned by: ST-Koneistus, Ylöjärvi

The objective of the thesis was to plan and implement a LEAN production process and method development project for a contract manufacturer in the metal industry, including the 5S-operation description and implementation in the workshop.

Degree Programme in Industrial Management and Engineering:

Tomi Kuusisto: Selecting an ERP system for Muovityö Hiltunen Oy

Commissioned by: Muovityö Hiltunen Oy, Valkeakoski

The objective of the thesis was to select an enterprise resource planning system for Muovityö Hiltunen Oy and to increase the efficiency of the company's operations.

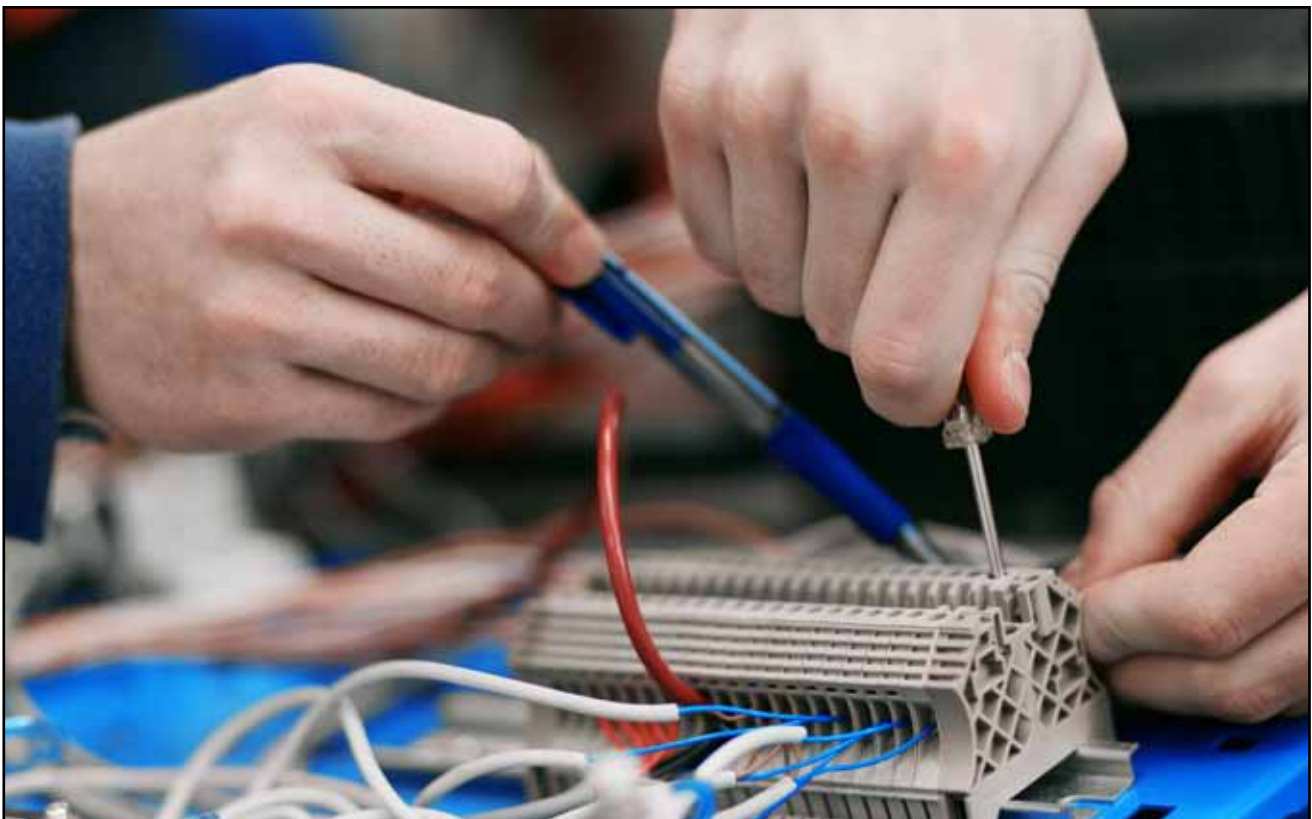


PHOTO: Ville Salminen

Osmo Hanhinen: Establishing a team of architects in the ICT sector

Commissioned by: Digia Oyj, Tampere

The aim of the thesis was to create a plan for the establishment of a team of architects and launch its activities in the company's Tampere branch. The team of architects was to concentrate on central problem areas in projects to be implemented for customers and their solution.

Degree Programme in Biotechnology and Food Engineering:

Juuso Laaksonen: From sectoral management to process management

Commissioned by: Saarioinen Oy, Valkeakoski

This thesis focused on process management and the benefits offered by it to the manufacturing processes of the food industry. The thesis also explored the role of leadership in change management.

Tuomo Viitaja: Increasing the efficiency of methane production in microalgae

Commissioned by: Tekes-funded ALDIGA project/Hämeenlinna

Concern over climate change and the depletion of fossil fuel has created the need for developing alternative forms of energy. In the production of biofuel, algae are deemed a promising alternative to more traditional energy sources.

Bioeconomy Education and Research Centre

Degree Programme in Horticulture:

Olli-Matti Tuorila: Establishment of a heat energy company: Centralised production of heat energy for the needs of two companies

Commissioned by: Tuorilan Puutarha Oy

The thesis determined the establishment and operating costs of a heating plant in joint use, based on which the profitability of the heating company was assessed with different plant and fuel alternatives. The thesis utilised theoretical information available on different types of fuel, heating systems, entrepreneurship in the heating sector and the establishment of a heat energy company.

Elisa Santanen: The suitability of organically and chemically fertilised peat growing media for the pot culture of vegetables

Commissioned by: Kekkilä Oy

The thesis explored the suitability of differently (organically or chemically) fertilised peat growing media for the pot culture of vegetables. Out of the growing media examined, nine were organically fertilised and three chemically fertilised. In addition to the experimental section implemented in greenhouses at Lepaa, a further aim for the thesis was to determine, based on literature, the properties of peat as a growing media and their impacts for cultivation.

Degree Programme in Landscape Design:

Satu Karjalainen: Measuring the quality of the maintenance of public green areas: Comparative analysis of Helsinki and Oslo

Commissioned by: The Street and Park Division of The City of Helsinki Public Works Department

The benchmarking material provides a backdrop against which the quality of the maintenance of public green areas can be measured. In the study, the results from Helsinki are compared to the average of Calgary, Oslo and some other Nordic cities. The benchmarking data is presented alongside the results of a user satisfaction survey, which is another way of measuring the quality of public services.

Tuovi Mutanen: The aesthetics of perennials: The realisation of the western conception of beauty in the designing of a group of perennials

The thesis explored the aesthetic essence of perennials. The objective was to locate a model for aesthetic design that can facilitate the work of the designer and increase the efficiency of the work.

Degree Programme in Agricultural and Rural Industries:

Annina Saine: Developing the productisation of milk and meat from Finnish native cattle

Commissioned by: MTT Agrifood Research Finland

The central objective for the thesis was developing the productisation of products processed from the meat of Finnish native cattle. The aim was to locate a functional plan for enhancing the development of productisation through interviews and benchmarking.

Marketta Tunnela: The activities and development of state-owned stud-farm from the perspective of breeding

Commissioned by: The Equine College of Ypäjä

The aim of the thesis was to present the developments in horse breeding that have taken place in the last 75 years at the Equine College of Ypäjä. At the start of the thesis, the author presents the social backgrounds that have affected horse management and the impact of changes in society on the breeding of horses and the objectives prevailing in the breeding in different time periods. The final part of the thesis describes the most significant breeding horses in history and their descendants up until today.

Degree Programme in Forestry:

Maria Laine: The utilisation of laser materials in the charting of the risk for snow and wind damage

Commissioned by: Forestry Centre Häme-Uusimaa

The thesis helps to identify risk targets in advance and also enable timely intervention.

Juha Kekki: Use of the forest management association fee: Satisfaction with services obtained with the fee among members of the Päijät-Häme Forest Management Association

Commissioned by: Forest Management Association Päijät-Häme

The thesis included a survey that gauged the opinions of forest owners on services obtained with the forestry fee. The fee will be abolished with the new legislation.

Education and Research Centre for Wellbeing

Degree Programme in Social Services:

Sanna Hatakka and Tuire Hyvönen: Cultural activities at the Visämäki and Vanajanharju assisted living facility: A report on the impacts of cultural activities in daily life on a sense of community and the well-being of the community in facilities for individuals recovering from mental illness

Commissioned by: Promoting the Cultural Mentoring Model in Kanta-Häme 2010–2011 project by the HAMK Education and Research Centre for Wellbeing

The aim of the thesis was to produce information on the functionality of a cultural committee and its impacts on a sense of community and the well-being of the community in assisted living facilities for individuals recovering from mental illness.

Marinja Savonniemi: Future as described by female prisoners of the Vanaja Prison

Commissioned by: The Vanaja Prison in Hämeenlinna

The aim of the thesis was to determine the future plans of prisoners in the women's ward of the Vanaja Prison, the obstacles for their realisation and the women's needs for support.



PHOTO: Ville Salminen

Degree Programme in Nursing, Public Health Nursing Option:

Riikka Pelkonen: Social media as a health promotion tool in the work of public health nurses

Commissioned by: The joint project Promoting the health of students in Second Life by HAMK, Lahti, Laurea and Metropolia Universities of Applied Sciences

The purpose of the thesis was to chart the types of experiences of university nurses regarding the use of social media as a tool in health promotion. Based on the results, the most central tools in the work of public health nurses are the telephone, text messages and email. The social media was perceived as a useful source of information and support.

Degree Programme in Crafts and Recreation:

Kirsi Salo: The promise of a high-quality camp: Internal auditing of the quality manual for the camp activities of Lasten Kesä ry

Commissioned by: Lasten kesä ry

The thesis explored what constitutes high-quality camp activities, and how the quality manual of camp activities has guided the activities of camp staff in the planning and organisation of the camps. Based on the results obtained and conclusions based on them, an updated version was produced of the Leirilupaus (Camp Promise) document.

Maiju Havia: A brook through time: From an old double-cloth model to a modern course product

Commissioned by: Taito Häme

The commissioner was hoping to utilise old crafts patterns in its ownership in its current activities. The main objective of the thesis was creating a course product that utilises an old double cloth pattern in contemporary arts and crafts. The product design work created the Puro (brook) series of wall textiles inspired by a double cloth model of the same name by Mirjami Marttila. The techniques to produce the work can also be applied to the manufacturing and patterning of other products using the patterns in the double-cloth models in the ownership of the association.

8.3 General description and examples of master's theses produced at HAMK

The master's thesis forms a significant portion of the total scope of the studies (30 credits). The master's thesis is a development assignment based on studies completed and theoretical and practical information obtained through other means, e.g. at the workplace. The thesis contains the elements of both research and development.

Degree Programme in Construction and Environmental Engineering:

Heli Voittonen: Contractor's construction services in renovation jobs

Commissioned by: Lujatalo Oy / Häme unit

Based on an operating model developed as a result of the thesis, the contractor is able to implement the project in its entirety from project planning to the adoption of the premises into use. Should the purchaser so require, the contract may include to pre-planning mappings and studies to obtain the necessary background information. As a general rule, contracts based on the operating model are implemented as design&build contracts and pricing is based on target price.

Kim Westerholm: Planning and implementation of water supply networks in central Hämeenlinna

Commissioned by: Hämeenlinnan Seudun Vesi Oy

The thesis explored the needs for maintenance in water supply networks in central Hämeenlinna area and considered suitable maintenance measures. Aimed at water supply plants, the thesis acts as a guideline for the systematic maintenance of water supply networks. The objective of the thesis was to guarantee the functionality of the networks.

Degree Programme in Rural Development:

Juha Heikkilä: Preconditions for Sustainable Rural Co-working Spaces in Southwest Finland. Field Study England – Case Study Mietoinen

Commissioned by: Valonia, the service centre for sustainable development and energy issues of Southwest Finland

Co-working is a global phenomenon that was developed to provide self-employed people with the opportunity to become part of a work community. Moreover, co-working activates local economies and enhances environmentally-friendly behaviour. The study analysed experiences of co-working facilities in the UK, including ways in which sustainable development was accounted for in the facilities, and the needs of potential users of co-working facilities in rural areas in Southwest Finland. The study indicated that Rural Southwest Finland would seem to have a need for co-working opportunities and established preconditions for the arrangements, starting with the establishment of the community itself.

Suvi Louhelainen: Development of an assessment system for Finnish trotting tracks

Commissioned by: Suomen Hippos ry

The assessment system produced in the thesis is based on the concepts and theory of quality management. Its basic idea is that, based on data obtained using specific indicators, trotting tracks submit annual reports on the various areas of assessment to Suomen Hippos. Through the system, the trotting tracks receive information on the development of their own activities and comparative data on other trotting tracks as well as information on functional operating models adopted in different trotting tracks. The assessment system encourages the self-evaluation of trotting tracks, the continuous development of activities and the maintenance of quality culture. For Suomen Hippos, the system produces objective information to develop Finnish harness racing.



PHOTO: Ville Salminen

Degree Programme in Entrepreneurship and Business Competence:

Hanna-Leena Nurminen: Developing the internationalisation of master's programmes offered by universities of applied sciences

Commissioned by: HAMK University of Applied Sciences

Based on the study, internationalisation in higher education should be viewed as a broader concept than just student mobility. Higher education has become increasingly multicultural in recent years, and one of the focal points of education is intercultural competence. Higher education institutions should actively develop different forms of internationalisation in order to be able to respond to the demand from students. Due to the nature of the studies of part-time students, different forms of internationalisation at home must be actively developed and refined, for example in cooperation with partner universities abroad.

Jenni Rantanen: Creating an attractive employer brand: How IT companies in Finland develop their employer brands to attract young employees

The thesis explored whether Finnish IT companies have identified the expectations and requirements aimed at employers by young people. Further it explored the means used by companies in the IT sector to develop their image as employers.

The significance of the conscious development of the employer brand increases as the young generation enters the workplace, as the values of young people today are different significantly from those of the previous generations. It is important for companies to be aware of young people's expectations concerning the workplace. In addition to the construction of an external employer brand, in order to become attractive to young prospective employees, companies should also engage in the genuine development of operating methods and practices.

Degree Programme in Business Management and Entrepreneurship:

Outi Mäntylä Baeza: Future marketing opportunities in the alcohol sector in Finland

Commissioned by: Vienti DPM

The aim of the thesis was to gather information on future trends and changes in the sector and utilise this information in the strategic decision making of the company. Four possible future scenarios were identified in the results regarding the ways in which the tightening/loosening of alcohol legislation and the amount of cooperation/competition in the sector determines future development paths in the market and the sector as a whole. The future product concepts introduced by the study consist of exotic, health-promoting alcoholic beverages that have been produced using ecological and organic production methods and thus are also of a very high quality. It is important that the products respond to two challenges: the rising local food trend and the interest in exotic produce.

PHOTO: Ville Salminen



*Degree Programme in Entrepreneurship and Business
Competence:*

Pekka Kärpänen: Developing risk management on the grain market: The perspective of a grain farm

The significance of risk management is increasing on the grain market. Fluctuation in prices causes significant risks for grain farms concentrating on professional grain production. The research was carried out on grain farms of more than 50 hectares in support regions A and B. Based on the results, farmers are good at acknowledging the various business risks, but take few measures to actually prepare for them. Fixed-price contracts are rare. Even though the grain market is widely monitored, the reasons for decisions leading to the sale of the crops are not generally recorded. The thesis functions as an information package in which the grower can find information on the functioning of the market, on risks present on the market and on methods to control risks.

Degree Programme in Strategic Leading of Technology-Based Business:

Veli-Pekka Niemikallio: Strategy of the Rescue Department

Commissioned by: The Päijät-Häme Rescue Department

The thesis consisted of a study on the strategy of the rescue department. The work explored the grounds for the strategy, the various stages of analysis that go with the preparation of a strategy and the implementation of the strategy. The end result was a strategy for the Rescue Department, which was immediately adopted into use. Moreover, the decision has been made to repeat the strategy process at regular intervals.

Jukka Sandelin: Developing the management of water supply networks in Akaa

Commissioned by: Technical Department of the Town of Akaa

In the thesis, the management of the water supply networks in Akaa was enhanced by developing a model that improves the opportunities to control and monitor the network by identify-

ing the processes of water supply and the central factors impacting the activities. The model feature best applicable practices as concerns maintaining the value of the system and the effective use of the system. The model also presents a new, patented system for assessing the condition of water supply networks.

Degree Programme in Industrial Business Services:

Olli Syrjä: Potential of service business in strategic partnership

Commissioned by: The Finnish Defence Forces and Millog Oy

The thesis explored the potential of service business in strategic partnership at the outsourcing interface. The research showed that social capital built through long-term cooperation is a significant factor in the outsourcing of strategic partnership. Strategic guidance, controlling compliance with operating models and sufficient definition of cooperative interfaces can be used to achieve significant savings in integration costs in business activities following the outsourcing. The operating models developed in the thesis are currently being adopted in the cooperation between Millog Oy and the Finnish Defence Forces.

Keijo Houhala: Productisation of trade union activities

Commissioned by: KTK Tekniikan Asiantuntijat ry (Union of Technical Professionals, KTK)

The thesis explored the productisation of labour market organisations, indicators for assessing the activities of the organisations and development proposals for managing changes in their operating environment. The result was a model describing the ways in which the organisation produces added value, how the operating models of the organisations can be reformed and how the activities of the organisation creates products and services that generate value for the member/customer. The development work also produced new indicators for assessing the activities of labour market organisations. Member organisations of the Confederation of Unions for Academic Professionals in Finland (Akava) are currently adopting the operating methods created in the thesis.

8.4 General description and examples of theses produced at the HAMK Professional Teacher Education Unit

In 2012, a thesis of 8 credits was part of the curriculum of professional teacher education, and a development thesis of 8 credits was part of the special needs teacher and student counsellor programmes. All of the theses were small in scale consisting mainly of studies and reports arising from various development needs within an organisation. The full extent of all of the above-mentioned programmes is 60 credits. Professional teacher education offers general pedagogical qualifications for working as a teacher. The special needs teacher and student counsellor programmes constitute further qualifications for which the students are required to have previously obtained the basic qualifications for a teacher.

In 2012, a total of 330 theses were completed for professional teacher education, whereas 38 development theses were produced for professional special needs teacher education and 46 for student counsellor education.

Professional teacher education:

Laura Aro: The development of on-the-job learning and opportunities for expanded on-the-job learning for the basic qualification for tourism, catering and domestic services at the Tavastia Vocational College

The thesis contains proposals for development measures concerning an expanded register of enterprises for on-the-job learning, improved focus in guidance and supervision provided in the context of on-the-job learning, the training of workplace supervisors and more holistic planning of periods of on-the-job learning.

Jere Rauhala: Cooperation between vocational institutions and Metsähallitus in the Kanta-Häme and Päijät-Häme regions in 2006 to 2011

The thesis described the practical cooperation between Metsähallitus and vocational institutions in Kanta-Häme and Päijät-Häme regions in 2006 to 2011. The cooperation has included areas such as on-the-job learning, teachers' placements in enterprises, study assignments, work placements, project activities and the implementation of bachelor's and master's theses.



PHOTO: Ville Salminen

Professional student counsellor education:

Riikka Vanninen: Job description for a student counsellor in adult education for Tavastia Vocational College

The thesis focuses on the development of student counselling in vocational adult education and training. Annually, approximately 3,000 adults participate in trainings of varying durations at the Tavastia Vocational College. The starting points of the work are related to assessment information concerning guidance provided to adults in adult education and also on the need of the institution to develop student counselling for adult students. The project developed the job description of student counsellors in adult education and an implementation model for student counselling in adult education based on student counsellors specialising in a particular field of study.

Professional special needs teacher education:

Heidi Heikkinen: Job-seeking portfolio to support job seekers with special needs

An element was designed for the Paikantaja training offered in Riihimäki to help young job seekers to describe their competence, process of professional growth and future plans.

HAMK University of Applied Sciences is the only higher education institution operating in a region that is strategically significant for the whole nation. As a result, we bear a great responsibility for tasks assigned to higher education institutions.

HAMK has an important role as a producer of information and a promoter of new technology and entrepreneurial activity. In addition to the degree-awarding education we offer, R&D activities and a high level of internationalisation improve the competitiveness of the region.

This regional responsibility report contains a selection of examples illustrating the effectiveness and commitment of HAMK University of Applied Sciences concerning its operating area and its development.



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