

Supporting the contribution of Higher Education Institutions to Regional Development in Jutland Funen

Subreport University of Southern Denmark



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Contents

1.	Main findings of the evaluation	1
Ho	ow does research contribute to regional development and innovation?	1
1.1	The university's regional strategy	1
1.2	The University of Southern Denmark's policy for technology transfer and	
	commercialisation	1
1.3	The commercial profile	2
1.4	The decentralised campus structure	2
Ho	ow can education and learning contribute to the labour market and qualifications	
in t	the region?	2
1.5	Dialogue with partners on education and development of the regional labour market	2
1.6	Initiatives which can counteract the negative demographic trend with respect to education	on,
	the labour market and qualifications	3
1.7	Partnerships with business and long-term cooperation	3
1.8	Regional cooperation on entrepreneurship and regional business development	3
1.9	Concrete ideas from IDEA	4
Co	ntribution to environmental, cultural and social development	4
1.10	0 Environmental development	4
1.1	1 Cultural development	4
1.12	2 Social development	4
1.1.	3 Building up capacity for regional partnerships	5
2.	Introduction	6
2.1	The purpose of the evaluation for the University of Southern Denmark	7
3.	Evaluation design	8
3.1	Interviews	8
3.2	Workshop	9
4.	The university's development	9
4.1	Human resources	10
4.2	Benchmarking	10
4.3	New subjects in courses offered	10
4.4	Courses	11

4.5	Communication	11
5.	Research and innovation	11
5.1	The institution's regional research strategy	11
5.2	The special regional conditions	13
5.3	The external/regional dimension in research	13
5.4	Mechanisms for inclusion of an external/regional dimension in research	17
5.5	Partnership with the regional innovation system	20
5.6	Commercialisation of research and innovation	20
5.7	The university's regional challenges	22
6.	Education strategy	26
6.1	The special regional conditions	27
6.2	The regional dimension in teaching and learning	27
6.3	Student recruitment and the regional labour market	28
6.4	Life-long learning and continuous development and education of the professions	29
6.5	Modified forms of educational offers/forms	30
6.6	The regional education system.	31
6.7	The University of Southern Denmark's regional challenges concerning education, the	
	labour market and qualifications	32
7.	Social, cultural and environmental development	35
7.1	Environmental development	35
7.2	The environment and sustainable development	35
7.3	Planning of the environment	35
7.4	Cultural development	35
7.5	Social development	36
7.6	Building up capacity	37

Enclosures

Enclosure 1:	Internal timetable
Enclosure 2:	Internal key persons
Enclosure 3:	External key persons
Enclosure 4:	Workshop program
Enclosure 5:	Participants at the workshop
Enclosure 6:	Research and partnership projects between the University of Southern Denmark - Faculty
	of Science & Engineering and the Danish Institute of Agricultural Sciences (DIAS)
Enclosure 7:	Guide to Networks and Partnerships (danish version)

Supporting the Contribution of Higher Institutions to Regional Development in Jutland and Funen

1. Main findings of the evaluation

The principal objective of the OECD project Supporting the Contribution of Higher Education Institutions to Regional Development in Jutland and Funen is to strengthen the institutions' contribution by designing steps which can improve the outreach and the common generation of capacity between institutions of higher education and regional interested parties and partners.

The main findings of the evaluation are summarised in this section.

How does research contribute to regional development and innovation?

1.1 The university's regional strategy

- The regional strategy is not adequately clear and defined with respect to regional cooperation. There is a lack of focus and matching between research and innovation and the regional conditions and characteristics.
- A clarification of regional strategy should be coordinated with public and private partners so that the university can utilise its prominent position for the benefit of the entire region.
- Regional strategy should be based on a client- and service-oriented access to the university.
- Focus on interdisciplinary cooperation and open knowledge environments which invite cooperation with regional businesses and other parties.

1.2 The University of Southern Denmark's policy for technology transfer and commercialisation

- Technology transfer from the University of Southern Denmark will take place in various ways, but actual commercialisation will occur to a limited extent only.
- A policy which defines goals and means at the regional level is required.
- Substantial external expectations for the University of Southern Denmark to act as a regional engine of growth will require dialogue with our partners on goals and means.
- The University of Southern Denmark's active role in connection with technology transfer and commercialisation raises the question of which activities are to be undertaken internally in the university.

1.3 The commercial profile

- Interdisciplinary and open knowledge environments and new non-traditional forms of cooperation are considered to be a prerequisite for a fruitful partnership with business.
- An internal need for a corporate identity which can be presented to the outside world in the form of a more commercially oriented profile (clarification of strategy).
- Access to the University of Southern Denmark is difficult for new partners who do not know
 who to approach at the university. The external dialogue is often based on "chance" personal
 relationships and "ambassadors".
- The University of Southern Denmark's website does not provide adequate information and an overview of where and to whom inquiries should be directed concerning specific options for collaboration.

1.4 The decentralised campus structure

- Internal integration, including the distribution of expertise among the various campuses, will
 increasingly become a prerequisite for the campuses to act in a regional and interdisciplinary
 context.
- The inclusion of local knowledge environments will be an important factor in an efficient regional partnership which will be able to support development and innovation in the groups of companies which contribute to local/regional development and growth.
- The University of Southern Denmark must achieve a higher profile (as one organisation to the external world). The need for coordination and communication is growing with the university's radius of action.
- Interdisciplinary cooperation will be emphasised as a way of highlighting the possibilities for internal synergy at the University of Southern Denmark.
- A distinct regional research profile which supports local/regional areas of strength is considered to be very important.

How can education and learning contribute to the labour market and qualifications in the region?

1.5 Dialogue with partners on education and development of the regional labour market

- A good and smooth partnership with educational institutions as the University of Southern Denmark's "food chain".
- A good and fruitful partnership with counties and municipalities in the southern region.
- A comprehensive and integrated partnership with the health service in the southern region.

• Good partnerships are not reflected in an actual strategy for outreach activities, such that these will be a part of the university's everyday life.

1.6 Initiatives which can counteract the negative demographic trend with respect to education, the labour market and qualifications

- Course content and profile will be regularly adapted to regional conditions in the campus cities.
- Cooperation with Aarhus School of Business, Aalborg University and other institutions, especially with respect to master's courses (cooperation because of considerations of "critical mass").
- Flexibility with respect to credits and mobility.
- Critical role in ensuring professional health staff at academic level.
- Regional studies, flexible research-based in-service training and "popular" courses for business (most recently the law course in Odense).

1.7 Partnerships with business and long-term cooperation

- The good working relationship with counties, municipalities and other bodies should be utilised in a number of binding long-term partnerships with companies, networks etc., which often have the character of isolated individual projects.
- The University of Southern Denmark must become better at "selling" the transfer of knowledge via education, e.g. targeted packages for companies.
- There is a need for an actual strategy for outreach activities.

1.8 Regional cooperation on entrepreneurship and regional business development

- More cooperation with regional companies (small and medium-size companies), of which the University of Southern Denmark has a good knowledge, is generally required.
- Too few research projects find practical application in business.
- The partnership is often too theoretical and on the university's premises.
- More cross-faculty initiatives, e.g. combination courses and non-traditional structures, should be tried (e.g. biotechnology-law, IT-communication, medicine-management etc.)
- It is important that the premises for partnership are defined from the start, and that the University of Southern Denmark plays an active role in research and development-related projects.

1.9 Concrete ideas from IDEA

- IDEA house: a house for entrepreneurs, where young people receive an intensive course after their educations. Current courses are in Kolding and Horsens.
- Business projects; entrepreneurship in cooperation with Danfoss; creation of a business network in which private consultants are used in elitist projects (in contrast to the business service centres).

Contribution to environmental, cultural and social development

1.10 Environmental development

- Operational focus on water, heating and electricity consumption.
- Cooperation forum on environmental initiatives.
- Dialogue with counties and municipalities on local planning.
- Focus on efficient study and work environment.
- Importance of attracting students and recruiting employees, e.g. partnership with the university towns on an attractive cultural life.

1.11 Cultural development

- A high level of artistic embellishment in the university's buildings.
- Establishment of the Centre for Art and Science. The Centre will integrate artistic disciplines for use in the communication of scientific knowledge and research results, including public science exhibitions for the benefit of the region's population, presentation of the university's best research, and courses for children and young people aimed at promoting interest in the natural sciences.
- The university will promote the development of sporting activities via financial support for sports organisations which offer fitness activities to students.

1.12 Social development

- The University of Southern Denmark will provide special guidance to students with e.g. physical disabilities and psychiatric problems.
- Participation in the mentor network KVINFO (the Danish Centre for Information on Women and Gender) on the establishment of a mentor network in which the University of Southern Denmark provides study and vocational guidance and courses for mentors/mentees.

- Students and graduates require different services. This contributes to the development of different service industries, e.g. international students contribute to an international atmosphere in the urban picture.
- The University of Southern Denmark's decentralised structure will be emphasised as an important factor for entering into and developing formal and informal partnerships, and loyalty to the university is high.
- A unifying role is required, where the University of Southern Denmark will act as the "lighthouse", which will also increasingly benefit the decentralised areas.
- Despite such commercial initiatives as Knowledge for Growth, the Career Centre, the Research Contact and professors of innovation, the general attitude is that it is difficult to make contact with the University of Southern Denmark.
- Several people have pointed out that social sciences and humanities subjects have an inbuilt openness and friendliness, which can be a good reason to utilise them to a higher degree when establishing partnerships between the university and business.

1.13 Building up capacity for regional partnerships

- The university ranks cooperation and dialogue with the surrounding community very highly, and external partnerships are of major significance for the university.
- There are major expectations with respect to the University of Southern Denmark's role within the southern region, as a number of central interests expect that the university will act as a catalyst for the region's future development and innovation.
- A sound basis has been established for extending interaction and dialogue with the university's partners, including regional business.
- In future the regional partnership will gain a bigger geographic "marketplace", which will require dialogue, coordination and cooperation.
- The University of Southern Denmark is currently having an internal debate on the attitudes and values which can support an open and client-oriented culture to match regional challenges.
- The university needs to define a regional strategy which can ensure a constructive and targeted dialogue on the university's role in development and innovation in the southwest.
- The dialogue with external parties will be critical in the discovery of regional "client needs" as a part of the general strategy in which regional, national and international aspects must be observed.

2. Introduction

The title of the OECD project is "Supporting the contribution of higher education institutions to regional development", and it will be carried out under the auspices of the OECD Programme on Institutional Management in Higher Education (IMHE).

The University of Southern Denmark, Aalborg University, Aarhus University, Aarhus School of Business and the Foulum branch of the Danish Institute of Agricultural Sciences together comprise one of twelve participating regions world-wide.

Collectively, the individual educational institutions will provide a broad picture of the importance of institutions of higher education for regional development throughout Jutland and Funen. Although focus in the survey is not on a comparison of the institutions/regions, the work will naturally provide experience for later benchmarking processes.

This will enable both the highlighting of individual strengths and possible areas of initiative, and the collective contribution to regional development by the institutions via their diversity.

The individual institutions' contributions to the full project in the form of a self-assessment were made by the participating institutions in cooperation with the regional partners on the basis of four main themes and jointly agreed guidelines for the self-assessment.

The project's four main themes are:

- How does research contribute to regional innovation?
- How can teaching and learning contribute to the labour market and qualifications in the region?
- How can the university contribute to the region's social, cultural and environmental development?
- How can capacity for regional partnerships be built up?

Emphasis will be placed in the project on possible learning processes and the scope for potential development, both internally in the individual institution and among the institutions. This also applies in a broader perspective via possible exchanges of experiences among the twelve participating regions.

The OECD's intention is that the participating universities should obtain a positive yield in two phases of the process: in the self-assessment process, which is described in this report, and in the subsequent publication phase, where both visits by the OECD assessment group and experiences from the other regions will be able to inspire development in the southern region.

The project can help to:

- highlight the university's importance for regional development locally, regionally, nationally and internationally
- strengthen the university's interaction with regional players, including a strengthening of cooperation with business by researchers and students
- create awareness and new initiatives in order to attract more companies/expertise to the region, thus helping to retain more graduates.
- give the university a prominent role in future regional development in a new regional structure.

2.1 The purpose of the evaluation for the University of Southern Denmark

Under the 2003 University Act, universities must work together with the surrounding community and help to promote growth, welfare and development in the community. As central institutions of knowledge and cultural values, universities must exchange knowledge and expertise with the surrounding community.

Under the University of Southern Denmark's development contract for 2005, the university has indicated its desire to make a significant contribution to social development, and it would like to strengthen its formalised partnership with both private and public institutions. The University of Southern Denmark's aim is broader than simply regional: the university operates at national and international levels. The region is, however, also a part of the surrounding community, also containing potential partners in both the public and private sectors. The university places a high priority on local partnerships. Many of the members of the university council, for example, are from the southern region.

The role of the regions will change by virtue of the new municipal reform, under which the present counties will be replaced by five regions. The new regions will have two central tasks. One task is in the area of health, and the new regions will now design regional development plans, each of which will function as a comprehensive plan for the region's development within business, education, employment, the environment, tourism and culture. A regional growth forum will also be established with representatives from municipalities, the regional council, business, employee and employer organisations, and members of knowledge and educational institutions.

The regional growth forums will provide input and act as sparring partners in relation to preparation of the regional development plan, and they will also have the right to make recommendations to the regional council for the financing of activities which can promote regional commercial development within themes such as innovation, the sharing and accumulation of knowledge, and the use of new technology.

As a central institution of knowledge, the University of Southern Denmark has gained a place in the provisional growth forum in the southern region, and the university is expected to remain in the continuing growth forum, and thus to play a significant role in the shaping of future regional development. This should be seen in light of the fact that the University of Southern Denmark is an essential source of education, knowledge and research, which can mean growth and development of the entire community in an increasingly knowledge-based economy.

The University of Southern Denmark binds the region together in several ways and supports commercial development with educational and research environments in Odense, Esbjerg, Kolding and Sønderborg/Flensburg.

The region also has a large number of innovative environments and networks which unite business, institutions of knowledge and public authorities. The University of Southern Denmark has many relationships with regional companies in the form of research and development partnerships, other forms of transfer of knowledge, and network partnerships, the aim of which is to initiate innovative processes in partnership with business.

The university's regional partnership with business is within regional areas of strength such as commercial vegetable growers on Funen, foods and steel in the Børkop-Fredericia-Kolding-Lunderskov-Middelfart-Vamdrup-Vejen-Vejle partnership (known after the geographic locations of

these cities as the "Triangle"), the aluminium industry and mechatronics in southern Jutland, and the offshore and plastic industries in the Esbjerg area.

The University of Southern Denmark currently has a large number of research affiliation agreements with centres of further education/medium-length further education as well as a number of agreements on fixed credits for short further education courses. The university has research affiliation agreements with nine centres of further education/medium-length further education in the health area and eight such institutions within the teaching area.

The university's role as a central research partner for the further education/medium-length further education sector is expected to be further developed in the coming southern region. The university also has a research affiliation agreement with the mercantile centre of further education Slagelse Business School.

The Ministry of Education and the Ministry of Science, Technology and Innovation recently approved the mergers of Odense University College of Engineering and Slagelse Business School with the University of Southern Denmark. The terms of the merger have not yet been finalised.

3. Evaluation design

This self assessment of the University of Southern Denmark is based on questionnaires, interviews (Enclosure 1: Internal timetable), and a workshop in which the university's external partners primarily participated.¹

3.1 Interviews

The OECD questionnaire was initially adapted to "University of Southern Denmark conditions" without changes in structure and content.

A number of internal key persons at the university were sent written questions from the guide² within the project's theme areas (Enclosure 2: Internal key persons).

In order to highlight the university's contribution to and importance for regional development, a number of interviews were subsequently conducted with external parties³ and individual internal persons.

The choice of persons to be interviewed was based on their importance and "weight" as partners, their decision-making expertise (overview and "vision") and a desire to have geographic representation from central areas in the coming southern region.

The external key persons interviewed are listed in Enclosure 3.

¹ The self-assessment was also based on the university's framework conditions (development contract for 2005 between the ministry of Science, Technology and Innovation and the University of Southern Denmark), the 2004 annual report, other internal documents and the law/regulations to the relevant extent.

² Apart from internal key persons, external persons physically located at the University of Southern Denmark who have a wide-ranging partnership with external parties answered selected parts of the questionnaire.

³ Individual internal key persons were also interviewed to cover partnerships primarily in relation to research and education.

The questions for the interviews were adapted to the interviewees' areas of partnership with the university and are related to the questionnaire⁴.

A questionnaire was sent to interviewees a week before interviews for guidance so that they could be properly prepared.

Before commencing the interviews, we emphasised anonymity in connection with the assessment report, and openness and the importance of positive/negative critical comments were also emphasised.

3.2 Workshop

The primary purpose of the workshop was to involve external interested parties in a debate on central areas of importance for the university's role in and contribution to regional development and innovation. Central internal key persons also participated in the workshop.

The aim of the workshop was also to add interesting new contributions/aspects to the data which were available via the questionnaires and interviews which had been held.

A number of carefully examined theme questions were formulated as a discussion paper for the workshop⁵. These questions had proved in the interviews to be of critical significance for the university's role in relation to the four theme areas in the project⁶ (Enclosure 4 and 5: Workshop program and participants at the workshop).

The workshop was thus intended to provide a more in-depth dialogue on the University of Southern Denmark's contribution to regional development and innovation in relation to a number of "critical factors" which were previously identified in the project.

Tage Koed Madsen, head of the Department of Management & Marketing, and Johs. Nørregaard Frandsen, head of the Department of Literature, Culture & Media took part in the group and plenum discussions.

4. The university's development

The University of Southern Denmark is based in Odense, Kolding, Esbjerg and Sønderborg with a campus in each city. The university possesses expertise within Health Sciences, Natural Science and Technology, Social Sciences and the Humanities.

The university belongs under the Ministry of Science, Technology and Innovation.

The university's mission is to conduct research and provide further education to the highest scientific level, and to contribute to the dissemination of knowledge of scientific methods and results.

The university is an active partner in the transfer of knowledge to society, traditionally via the education of graduates and via concrete partnerships with other public institutions and private companies.

⁴ Topics and questions in the questionnaire served as suggestions for topics for discussion. We have thus consciously provided abundant latitude for the choice of topics which could be discussed within the four theme areas.

⁵ The SWOT assessments from internal and external interviews are included in the choice of factors of special significance.

⁶ It was emphasised in the group discussion and the subsequent plenum that the workshop served primarily as a forum for further analysis of the interviews which had been held earlier, and concrete proposals/initiatives for an improved contribution by the university were emphasised as a goal of the workshop.

The general goal is to retain and further develop a strong internationally-oriented and regionally based university which can function as a dynamo for the region's cultural, human and economic development.

The university has set up a number of internal areas of initiative which will contribute to realising its general goals:

4.1 Human resources

Under its 2005 development contract, the university is committed to actively ensuring a more equal distribution of sexes among tenured scientific staff.

The university established an HR department at the beginning of 2005, the task of which is to work towards implementation of the university's e-learning strategy, development and continued operation of the diploma of education, and further development of the university's staff policy and staff education.

4.2 Benchmarking

Benchmarking is used as a component in the university's budget model.

Use is made of a model under which funds are allocated to the faculties which perform best with respect to the number of PhD theses relative to total turnover.

A benchmark model has also been established with associated incentives. The model measures the main areas' ability to attract external funding.

4.3 New subjects in courses offered

The University of Southern Denmark offers about 50 basic courses. The university is continuously adjusting its course portfolio so that it is in step with developments in the community and the need for new expertise.

The development of new courses is an important task for the university, and the university devotes considerable resources to developing and adjusting its course portfolio in close partnership with the region.

The ministry approved the following courses in 2004 for the beginning of the 2005 academic year:

BA in Audiology and master's course in Audiologopaedy, civil engineering course in Structural Engineering, master's course in Media Science, BA in International Business Communication in Arabic, master's course in Middle Eastern Studies, master's course in International Business Communication, and master's course (modular) in business administration – MBA.

The ministry subsequently approved a master's course in Evaluation commencing in 2006.

In 2005 the university sought approval of the following courses for the start of the 2006 academic year:

BSc and master's in Pharmacy and master's course in Clinical Pharmacology, civil engineering course in Product Development and Innovation, BA and master's in European Studies, master's course in Journalism (cand.public), BA in Pedagogics, BA in Design and Cultural Economics, BA/cand.negot. with Chinese, master's course in Marine Archaeology.

The university has also sought approval of the following master's courses:

Master's in IT, master's in Maritime Management, master's in Editorial Management, and Master's in Public Quality Management.

4.4 Courses

Courses at the universities were audited in 2005. The audit was done together with the Danish Evaluation Institute.

4.5 Communication

The university will strengthen communication of its store of knowledge via a number of initiatives, one of which is the introduction of a prize for the communication of research, and initiate a radical revision of the university's website. The website's user-friendliness will be improved, among other ways by targeting information to identified groups. The university has established the Centre for Art and Science together with Funen County and the City of Odense. The Centre will publicise research in a creative and non-traditional manner across the traditional borders of scientific disciplines.

5. Research and innovation

The University of Southern Denmark has set concrete goals in its development contract for the following research activities:

- Publishing
- Doctoral degrees
- External activities
- Research schools and PhD courses
- Recruitment

Goals of special relevance to regional research and innovation are described in the following sections.

5.1 The institution's regional research strategy

The University of Southern Denmark is a national university with an international orientation and a strong base in the south of Denmark with activities in a number of cities.

In cooperation with the regional innovation council, the university has set the goal of accelerating growth in the number of knowledge-intensive jobs (10,000 in 2015) in the region.

This goal will be attained in a partnership between the University of Southern Denmark, regional companies, public players and others (work experience schemes and courses in entrepreneurship for all of the university's students).

The University of Southern Denmark will act together with regional business promotion activities and public institutions within a number of special cutting-edge areas of research expertise where the university seeks to play a leading international role. This goal applies to cutting-edge expertise within the areas of Media and Communication, Health and Biotechnology, and Technology and Management.

The regional research initiatives will be defined at faculty level in a number of areas of cooperation/focus.

The Faculty of Social Sciences' ambition is to build up research environments with a regional dimension. There are research activities in Esbjerg which match regional commercial strengths within fisheries, maritime activities, tourism and more. The Department of Maritime Research and Innovation was established in 2005 in cooperation with the Danish Maritime Authority.

Research is underway in Kolding on commercial development in small and medium-size companies, supporting the local business structure.

Research in Sønderborg is expected to be directed to some extent towards the interface between technology and business economics, which also matches the local business structure.

The Department of Research in the border region in Aabenraa is also a part of the faculty. The department's activities are influenced by its proximity to the Danish-German border, and regional economics is also a central area of study.

The focus within the Faculty of Science and Engineering is similarly on regional undertakings ahead of those with an international orientation.

This is expressed, for example, in a comprehensive regional partnership with business and Funen County within mechatronics (mechanics, robot technology and electronics) and the aquatic environment.

A special feature of the Faculty of Health Sciences is that its research policy has a marked regional dimension: together with the parties in the Health Service of Southern Denmark, the University of Southern Denmark has built up a research framework as a basis for clinical activities and development and research-based education over a number of years.

This is expressed in the operation of the university hospital in Odense, which ensures professional, regional geographic and managerial integration between Funen County, Odense University Hospital and the Faculty of Health Sciences.

The Department of Regional Health Research similarly forms the framework for a research and education partnership between the University of Southern Denmark and Funen County, Vejle County, Ribe County, Sønderjylland County and West Zealand County, primarily by virtue of centres for research and education in health sciences established in Vejle, Ribe and South Jutland Counties.

Like the Faculty of Social Sciences, the Faculty of Humanities has a regional dimension in its research, which in Esbjerg finds expression in Maritime and Regional Studies and Tourism. The faculty has also included the regional dimension in Sønderborg/Flensburg in its cross-border studies.

5.2 The special regional conditions

The region is distinguished by a number of innovative and dynamic environments in business, cities and towns, educational institutions and other players. The region is internationally oriented, not least because of its proximity to the German market. The region has experienced economic growth, especially around the Triangle. The region has an efficient infrastructure, with nearby motorways, important commercial harbours, railway lines and western Denmark's international airport in Billund.

The following sectors/groups are particularly important employers in the region: commercial vegetable growers on Funen, foods and steel in the Triangle, the aluminium industry in southern Jutland and the offshore and plastics industries in the Esbjerg area. Transport and tourism are also important employers in southern Denmark.

The region's commercial mix is directed predominantly towards production, and the jobs in the region are thus in particular danger of being fully or partly outsourced as far as production is concerned. This risk is magnified by the relatively low level of education and the relatively low number of knowledge-intensive jobs.

The partnership between public parties and private companies is relatively extensive: regional strengths are supported by environments and networks which connect business, institutions of knowledge and public authorities.

5.3 The external/regional dimension in research

The University of Southern Denmark will continue to play an active role which can attract increased external funding to the university. The university has developed a new financial allocation model for a pool with supplementary basic research funds which will promote the faculties' incentives to increase their efforts in this area. The model is based on a benchmarking with Danish sister faculties of the ability to attract external research funding, and additional research funds are provided to those faculties which perform above the average for the sister faculties. The object of this incentive model is to increase the university's external financing by 10% over the next five years.

In 2004 the University of Southern Denmark was able to attract 22 grants for research projects from EU programmes.

The university's goal is that the number of grants from EU programmes will increase by 10% a year over the next five years. In the same period, the university will also focus on attracting other major international programme grants.

(Development contract, University of Southern Denmark 2005)

The following centres, networks and partners playing a significant role in regional development and innovation can be highlighted in the Faculty of Science and Engineering:

The Centre for Software Innovation (CSI), one of four Jutland-Funen IT centres of expertise, specialises in innovation, development and improvement of "embedded" software in mechatronic products and in general process improvement in software development.

The CSI works with Danish and foreign institutions of knowledge, including the Mads Clausen Institute at the University of Southern Denmark in Sønderborg. This partnership has found expression in a number of research and development projects with various leading South Jutland companies such as:

Danfoss Maersk Data Defence OJ Electronics Agramkow Focon Scientific-Atlanta

RoboCluster is an expertise network specialising in robot and automation technology. The network consists of suppliers and buyers, and research and educational institutions which at the University of Southern Denmark are based in the Maersk McKinney Møller Institute for Production Technology.

RoboCluster's object is to develop partnerships between:

- Institutions within research, development and education
- Regional centres of knowledge and expertise
- Innovative companies in and around the robot and automation sector.

RoboCluster's activities are intended to improve the sector's national and international competitiveness.

The Technical Innovation and Research Centre Odense (TUFCO): an interdisciplinary innovation centre between the faculty and Odense University College of Engineering which generates regional R&D projects of a chemical-technical character in cooperation with regional companies.

Close contact (membership of the board of directors) with the Development Centre Aarslev (Danish Institute of Agricultural Sciences – DIAS) ensures fruitful contacts within horticulture and agriculture in the region, including development tasks within e.g. juice production (Rynkeby) and a biofuel plant at Emmelev Mølle on Funen (which makes biodiesel).

Apart from its partnership with horticultural and agricultural organisations, TUFCO works together with counties, business and research institutions (DIAS, Risø National Laboratory and the Technical University of Denmark).

The Faculty of Science and Engineering has a particularly good and comprehensive research partnership with DIAS⁷ in the form of a number of cooperation contracts within health and lifestyle-related diseases, animal welfare (including a joint chair with Bygholm Research Centre in Horsens on environments in stables), operation of biogas plants etc. The partnership also involves various cooperative arrangements in PhD courses, exchange of students etc.

Much of the faculty's partnership with DIAS is at the Development Centre Aarslev (UCAA) on Funen. The partnership with UCAA involves plant-based drugs and research aspects of technological developments within horticulture.

The projects are related to a large extent to development, innovation and implementation in regional businesses, where RoboCluster's initiatives and contribution to coordination should also be emphasised.

⁷ *Enclosure 6:* Research and partnership projects between the faculty of Science and Engeneering and the Danish Institute of Agricultural Sciences.

A number of the faculty's centres and departments have a comprehensive partnership with Danfoss via the Mads Clausen Institute for Product Innovation in Sønderborg, where cooperative relationships within e.g. biophysics (NanoBioCentrum)⁸ should be emphasised.

Finally, the faculty's appointment of three professors of innovation in the Departments of Biochemistry and Molecular Biology, Mathematics, and Computer Science and Physics is an example of the special initiatives which will strengthen cooperation with external interested parties and promote research and innovation in regional business. One of the tasks of the three professors is to attract additional external funding – from foundations and regional companies – for their areas of research.

Partnerships with external regional parties on the transfer of research, education and knowledge are generally organised in centres in the Faculty of Health Sciences. Examples include bioTEAMsouth, CAST, ACES, the Centre for Research into Aging, CPA, the Danish Stem Cell Research Centre and others. The following centres were established in 2004-2005:

- The Centre for Art and Science
- The Centre for Research in Sport, Health and Civil Society
- MBC the Medical Biotechnology Centre
- The Centre for Research, Development and Education in Health
- Human Locomotion Science
- The Centre for Health Sciences Research and Education in Veile County
- The Centre for Health Sciences Research and Education in Sønderjylland County.

The latter two centres – to which a further two will be added in the southern region – will form the Institute for Regional Health Research, a centre for research into and development of the provision of health services with the direct aim of securing the health services' competitiveness in the coming regional structure for the provision of health services in Denmark. The centres will employ academic staff in appointments which are shared between clinical work and research. The intention is thus to recruit staff who would otherwise be difficult to attract.

The principal centre for research and development in the health sciences is the Clinical Institute in the Faculty of Health Sciences, which is based in the clinical department at Odense University Hospital. The partnership between the faculty and Odense University Hospital will be strengthened in the years to come by extending the infrastructure to promote clinical research as the basis for highly specialised functions, and by increasing the number of shared appointments between research and clinical work.

The Centre for Art and Science is located in the Faculty of Health Sciences. The Centre's mission is to communicate science and research in creative new ways, including in the form of "science theatres" involving various sciences, organisational structures and traditions.

This will involve non-traditional dialogue with the surrounding community, which is in full agreement with the recommendations of the Think Tank for Scientific Communication. The centre is partly financed externally.

⁸ The department works with Danfoss in the area of physics and technology (optics, acoustics and materials) and in biophysics, where NanoBioCentrum is located in the pure research centres MEMPHYS (biomembrane physics), NAC (nucleic acid) and CEBI (bioinformatics) in the University of Southern Denmark.

The Centre for Applied Health Services (CAST) is an inter-faculty centre established in partnership between the Faculty of Social Sciences and the Faculty of Health Sciences, where the centre's functions are located.

CAST's mission is to undertake research-based projects with an applied orientation within research in the health services, alone or in collaboration with external partners, including generating expertise in the health services within the evaluation of medical technology and other health service research.

CAST is located in close association with the Institute of Public Health, which possesses expertise within research in the following areas: epidemiology, health economics, clinical pharmacology, general practice and environmental medicine, with close relationships with other university departments which possess expertise of relevance to public health research. CAST also has a comprehensive network of national and international researchers from other research centres and institutes, and is a member of work and strategy committees in the area of assessment of medical technology.

Researchers associated with CAST undertake consultancy and development work in cooperation with clients, primarily from the counties in the southern region, and others including the primary municipal sector, private organisations and industry.

The Faculty of Health Sciences has extensive experience in partnerships with big companies, and limited experience in partnerships with small and medium-size companies.

The Faculty of Social Sciences undertakes regional research activities, usually together with local parties, business and public authorities (county, municipality and similar).

Regional/local research relationships have been established predominantly via local knowledge, where personal relationships often play a major role.

The regional research environment the Centre for Small Business Studies (CESFO) in Kolding is in close contact with other players in the area of technology and innovation in the region.

CESFO works together with regional businesses and consultancy companies and also with an international research network.

On the basis of a private donation, the University of Southern Denmark has initiated a partnership in Esbjerg with the Danish Maritime Authority on the establishment of an institute for Maritime Research and Innovation, including development of a master's course in maritime studies which will support local business development in the area.

In general, the transfer of technology proceeds as a transfer of knowledge, where cooperation with public and private companies occurs in exchange of experiences.

Like the Centre for Software Innovation, Knowledge Lab at the University of Southern Denmark in Odense is one of four IT centres of expertise whose object is to undertake research and development within knowledge management and the development of digital expertise (e-learning).

In the Faculty of Humanities, the Danish Institute for Upper Secondary Education and the Institute of Literature, Media and Cultural Studies (Centre for Media Studies) participate in a research consortium, the Danish Research Centre for Education and Advanced Media (DREAM), which, together with a number of publishers and software developers, will help to develop new Danish teaching aids for secondary schools and other youth courses.

Research is carried out into how young people learn natural science topics, interactive text analysis in Danish, and "edutainment" – education and entertainment. This is a very popular genre in which education and entertainment merge, often in computer games. The area has a high potential for innovation as it is growing quickly, and is also new and unresearched.

To further strengthen the Faculty of Humanities in the area of teaching, and thus to add further expertise to the partnership with centres of further education and the secondary school sector, the Institutes for Upper Secondary Education and Educational Research and Development have been merged in a new Institute for Education, Philosophy and Religious Studies.

The partners in the faculty's regional research policy have traditionally been counties, educational institutions (secondary schools and centres of further education), the region's centres of further education (including Flensburg University), and to a limited extent, private companies.

There is, however, an increasing partnership with private business, deriving in part from a report "Humanities graduates in business: a study of humanities graduates' expertise from a business perspective" (2002). This trend is supported by a general reorganisation to more business-oriented courses in the Humanities. Where two thirds of students previously sought courses directed towards secondary school teacher training and one third sought the more business-oriented courses, this pattern is now reversed. The courses which the ministry has approved for the faculty in recent years have also generally been business-oriented.

5.4 Mechanisms for inclusion of an external/regional dimension in research

There is a comprehensive and efficient public-private partnership in the southern region, where innovative environments and networks function as interfaces between business, institutions of knowledge and public authorities.

The University of Southern Denmark is involved in a large number of regional networks⁹ in which the university is the host or a participant in external boards of directors/steering groups, from which the university's research activities and their communication are undertaken in cooperation with regional business. The university is working towards a strengthening of these regionally-based networks.

This comprehensive public-private partnership can be illustrated by a number of partnerships/networks in the region:

The "bridge-building project", based on selected highly specialised expertise, makes research an element in the regional development strategy. The research relates to the four technologies/innovation players which are largely based at the University of Southern Denmark:

Biotechnology/the health area has gained formal status via the network bioTEAMsouth with the goal of distinguishing the region as a centre of technology with highly specialised expertise within biotechnology. Work is proceeding on the creation of other specialist networks in Europe and on accumulating knowledge and expertise in southern Denmark.

Decisive progress has been made in the area of robot technology with the development of RoboCluster, which is a European network of companies and research institutions within robot

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⁹ The reader is referred to *enclosure 7:* the "Guide to Networks and Partnerships".

technology centred at the Maersk Institute at the University of Southern Denmark. At the regional level, work is proceeding with Kompan, Danfoss and others on the development of intelligent playground equipment – "Project Body Games". RoboCluster has publicised a number of research and development projects based on partnership with the Maersk Institute, Odense University College of Engineering (IOT) and regional business.

The Development Centre Aarslev (UCAA) is a regional growth environment and consultancy network within the area of horticulture on Funen with close association with the Danish Market Gardeners' Association. The centre is organised as a consortium with players from horticulture, business and educational environments, all focused on strengthening Danish horticulture in a regional, national and international perspective. The Centre's principal activities are "Plants for Health" and technological development within horticulture.

BizzKit represents the communication/IT area, located at the University of Southern Denmark in Brand Base and the IT centre of expertise Knowledge Lab.

BizzKit functions as the secretariat for the bridge-building project's IT and expertise clusters, which comprise one of the four important areas of strength on Funen. There are partnerships with KommitFyn (the IT expertise network) and IT-Forum Fyn, which represents Funen IT companies, educational institutions and organisations.

The University of Southern Denmark possesses comprehensive research expertise in cluster computing and offers a number of long and short courses within media science, marketing, communication and information technology.

Brand Base is an association of commercial companies and researchers who together wish to develop expertise within brands and branding, and thus function as a "workshop" for studies in the economics of symbols.

Brand Base's activities range from pure research to the development of specific expertise and tools via project work and group activities.

Brand Base has affiliated researchers with substantial and recognised expertise within consumer behaviour, communication and strategy.

The consortium TCM Denmark was established as a joint venture between Funen County, Funen Enterprise Development Centre, the City of Odense, the Danish Institute of Agricultural Sciences/Development Centre Aarslev, the University of Southern Denmark, Odense University Hospital and Science Parks of Southern Denmark.

In January 2005, TCM Denmark entered into a cooperation agreement with the Chinese Government Department for Traditional Chinese Medicine on the development of Chinese herbal medicines¹⁰.

The vision is to make Denmark a European centre for the development and production of herbal medicines. An important interim goal for Funen County is – in the longer term – to share in the economic and job growth which will come with the development and production of herbal medicines in Denmark.

The results achieved in UCAA and TCM Denmark's cooperation agreement with China have strengthened confidence in the economic potential in developing herbal medicines on Funen. It is

¹⁰ The next conference will be held from 16-19 October in Odense, where the focus will be on research, use and commercial aspects. The conference will feature a broad international panel of researchers who will report on how far they have come with the project's research development.

hoped that Danish authorities, doctors, makers and users can enter into fruitful new partnerships to realise the project's potential.

TCM Denmark has also obtained money from the social fund, intended to strengthen the culture of entrepreneurship/innovation in the southern region within the area of plants and health.

The University of Southern Denmark is represented in the IT partnership Egion, which arose from the Jutland-Funen IT initiatives, via Knowledge Lab. Egion's mission is to strengthen and develop the use of IT in business, educational institutions and public administration. Services include project generation, matchmaking of knowledge agents and companies, and collaboration and communication of knowledge on the use of IT in business and educational institutions.

The University of Southern Denmark is represented on the board of directors of the food network Foodture (the Danish Food Innovation Network), and is also involved in the training of researchers in two networks with grants under the Science and Enterprise Network. Foodture is an interdisciplinary growth and innovation partnership between knowledge institutions and business in the value chain within the food sector. The network builds bridges between business and knowledge institutions via network groups, communication of research, conferences etc.

External relations are secured at the University of Southern Denmark via the Contract and IPR Management (CIM), which functions as a one-stop shop for researchers at the University of Southern Denmark and Odense University Hospital for externally financed projects, where the office's employees also advise and service researchers at the university on contracts, patents, legislation, ethics and financial considerations.

Apart from actual legality control, CIM administers the university's external projects (decentralised financial control at the University of Southern Denmark). The office also undertakes commercialisation tasks at the University of Southern Denmark, including internal commercial evaluation and development, and assistance with the preparation of business plans, contact with partners and investors, establishment of project organisations etc.

Finally, CIM is involved in consultancy.

The Contract and IPR Management has an extensive interface and dialogue with the University of Southern Denmark's regional interested parties, including counties, municipalities, organisations and companies which ask for research within areas of relevance to the university.

The Science and Enterprise Network, which was established under the auspices of the Jutland-Funen Commercial Partnership, is also an example of how research-based knowledge is disseminated to regional companies. The project's mission is to establish professional networks and create relationships with small and medium-size companies which can be developed into actual innovation projects in existing or new companies. More than a hundred companies in the southern region are currently involved in professional networks under the Science and Enterprise Network.

Finally, projects can be highlighted via research and innovation consortia as examples of contributions to the generation of a regional dimension in research.

5.5 Partnership with the regional innovation system

The object of the University of Southern Denmark's partnership with the innovation system is to bring ideas and inventions to fruition for the benefit of the surrounding community. The university will help to ensure that the implementation of the Act on Inventions is a success so that business will be able to use inventions discovered at the university. The university's mission in taking out patents is also to generate an income in connection with the resale of patents or by entering into licensing agreements.

(Development contract, University of Southern Denmark 2005)

The investment partnership with the regional innovation system (Syddansk Innovation A/S) was recently tested in a joint investment in the company Universal Robots ApS¹¹ on the basis of research done by the Maersk Institute.

The University of Southern Denmark works closely with Science Parks of Southern Denmark via spin-off companies from the biotechnology, medical and engineering environments at the university.

In cooperation with regional businesspeople, the university has had a major influence on the establishment of Syddansk Venture.

The University of Southern Denmark's vice-chancellor is on the board of directors of Science Parks of Southern Denmark and Syddansk Venture¹².

The University of Southern Denmark has worked at the regional level for the establishment of the International Danish Entrepreneurship Academy IDEA¹³ and the Science and Enterprise Network, and partnerships with Danfoss and A. P. Møller/Maersk have resulted in support via family trusts for the establishment of regionally oriented engineering institutes. The university has also played an active role in the TCM project, which is intended to ensure regional readiness. A good working relationship with sectorial research (e.g. DIAS) has involved a number of research and development projects which were implemented in existing regional companies.

It was emphasised in the locating of IDEA that the consortium founded by the University of Southern Denmark has a "strong research and development basis with a high level of involvement of private players within innovation and research in Denmark". IDEA's mission is to create an internationally based network organisation which, in a novel, binding and committed way, will bring researchers, teachers, consultants, investors and business leaders together to create additional and more competent entrepreneurs with a knowledge rooted in the further education system.

5.6 Commercialisation of research and innovation

The university's goal is to commercialise ideas and inventions, including to sell patents to, or enter into licensing agreements with, companies. The annual number of agreements/contracts will be increased to 100 within the next five years. Via its

¹¹ The University of Southern Denmark can contribute the patent rights to the company when it is converted to a public limited company.

¹² As well as a large number of regional private companies and external institutions with relations with the University of Southern Denmark.

¹³ The University of Southern Denmark is closely associated with the International Danish Entrepreneurship Academy (IDEA), whose secretariat is based on the Kolding campus. The university has won the tender, and the Ministry of Science, Technology and Innovation is contributing DKK 40 million.

work in the Contract and IPR Management, the university's goal is also to contribute to the establishment of 2-3 start-up companies a year over a five year period.

(Development contract, University of Southern Denmark 2005)

To achieve this goal, the university has established the Contract and IPR Management (CIM), which provides advice and guidance to the university's researchers on entering into cooperation agreements, patenting, licensing agreements etc.

The Act on Inventions in Public Research Institutions (L347) and the Act on the Transfer of Technology (L483) support the University of Southern Denmark's role in research and innovation. The incentives for relationships between the university and business are the opportunities for full or partial financing of interesting research projects and the possibility of utilising the university's research and partnerships among parties with various approaches and expertise. Seen from the university's point of view, barriers can arise around the question of lack of freedom to establish and participate in the corporate constructions which are appropriate in the concrete situation, and the lower level of freedom to protect the university's financial options for partnership with the surrounding community.

As for the Jutland universities in Aarhus and Aalborg, not all patent applications submitted by the University of Southern Denmark result in commercial agreements. Commercial agreements have been used to a limited extent to date as an investment in start-up companies, where the university has received shares as payment for intellectual property rights.

The three universities have joined together to develop a common concept for the commercialisation of their inventions. The concept will be implemented over a four-year period¹⁴.

The University of Southern Denmark will also be the first Danish university to establish a holding company on the basis of L483. This company will strengthen the transfer of knowledge and research from the university to business. The act gives universities the right to establish and own independent public companies which can commercialise research on ordinary market terms, and thus contribute to the creation of growth and development in society. The company will be established as a so-called "Section 4 company" with a provisional capital of DKK 5 million.

The company, which is expected to be established at the end of 2005/beginning of 2006, is a clear signal that the university ranks partnerships with innovation environments and research parks highly, and emphasises the university's continued focus on the commercialisation and exploitation of knowledge and research results.

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¹⁴ The project's total budget is about DKK 9 million, about five million of which is being provided by the Council for Technology and Innovation, while the rest is being provided by the three participating universities.

The University of Southern Denmark has entered into an agreement with Funen County under which the university's Contract and IPR Management (CIM) is handling patent work on behalf of Odense University Hospital from autumn 2004. The Science and Enterprise Network has also been located at CIM in order to strengthen relationships between the university and the region's small and medium-size companies. CIM is in close dialogue with regional innovation environments, including Syddansk Innovation, on the commercial exploitation of research-based inventions and innovation activities which can support the university's contribution to regional development and innovation.

5.7 The university's regional challenges

This section provides a summary of the replies received from questionnaires and interviews and the workshop.

The workshop was based on a number of theme questions which were derived from replies to interviews and assessments, including strengths, weaknesses, possibilities and threats.

The object of the workshop was to enable the University of Southern Denmark's external interested parties ¹⁵ to express an opinion on and refine the provisional statements/results of the project, including contributing new viewpoints, initiatives and recommendations.

The following theme questions were the basis of group and plenum discussion on research and education at the workshop:

- 1. Has the University of Southern Denmark's strategy and ranking with respect to regional partnerships been made adequately clear and public?
- 2. What role will the University of Southern Denmark play in connection with the transfer of technology and commercialisation, including the university's importance for regional development and innovation?
- 3. How can the University of Southern Denmark promote a higher commercial profile?
- 4. Implications of decentralised campuses: what criteria are critical in order for a decentralised campus structure to be able to support regional development and innovation?

The following conclusions were reached in relation to the four themes on the basis of interviews and debate:

- 1. Has the University of Southern Denmark's strategy and ranking with respect to regional partnerships been made adequately clear and public?
 - The University of Southern Denmark does not have an adequately clear and public strategy for regional partnerships.
 It is necessary to focus and rank the research areas of initiative. There must be a higher degree of matching and synergy between research/innovation and regional conditions and

characteristics.

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¹⁵ The university's management and the head of the Contract and IPR Management represented internal key persons at the workshop.

- The University of Southern Denmark has an obligation to enter into dialogue with regional partners/decision makers. The coordination of regional areas of priority should enter into the university's regional prioritisation such that both public and private partners are involved.
 - The university can then utilise its prominent position to a higher degree for the benefit of the entire region.
- The regional strategy should be based on a client- and service-oriented access to the university. An example is the current restructuring of the University of Southern Denmark's portal (website).
- There is a major challenge internally at the university in broadening the attitude to the highly individualistic research tradition and finding a model for incentives which will promote cross-disciplinary cooperation and more open knowledge environments which will "invite" partnerships with regional business to a higher degree.
- 2. What role will the University of Southern Denmark play in connection with the transfer of technology and commercialisation, including the university's importance for regional development and innovation?
 - The transfer of technology from the University of Southern Denmark will take place at regional level in the form of mediation, often via social sciences researchers in business development projects, and there is also a comprehensive partnership with regional companies in connection with scientific/technological research and development projects.
 - Commercialisation¹⁶ in the form of sold research-based inventions is traditionally based on partnership between the Faculty of Science and Engineering/the Faculty of Health Sciences, innovation environments and other external partners.
 - The fact is that commercialisation has only been able to generate new jobs in the region to a very limited extent.
 - A policy is required which specifies goals and means for transfer of technology and commercialisation at regional level. It is an internal challenge for the University of Southern Denmark to clarify how faculties, departments, researchers and the Contract and IPR Management (CIM) will be able to find forms of partnership with business which support innovation and development in the region in the future.
 - There is broad world class scientific research in individual areas, the knowledge of regional business and corporate cultures is good, and there is a close and good partnership from the university's side with the political bodies in counties and municipalities.

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¹⁶ Sold patents, licences and investment in start-up companies. The University Act (2000) enables the universities to take over and transfer (sell) inventions produced by university researchers. CIM's task is to ensure that the relationship with external partners proceeds within the framework of the law and the policies specified by the University of Southern Denmark for technology transfer and commercialisation.

An increased visibility where regional goals and means are known should proceed in dialogue with partners/mediators¹⁷ such that the University of Southern Denmark's policy is formulated in accordance with regional conditions and characteristics.

There is a prevailing perception that the University of Southern Denmark will be the leader of the regional team and will work actively for an increased effort in the area of transfer of technology and commercialisation in the coming southern region.

To achieve a satisfactory result, it is therefore necessary that the other players know the team's "tactics".

Communication from the university to individual companies is less satisfactory, and the companies' knowledge of the options for partnership with the university is limited. Finally, companies' willingness to enter into partnerships has been limited.

There is, however, continuous activity around the possibilities of partnerships with the university via RoboCluster, bioTEAMsouth, the Development Centre Aarslev, Science Parks, the Science and Enterprise Network and specific collaborative projects.

The intention to commercialise ideas and inventions at the University of Southern Denmark raises a question of which activities are to be undertaken internally at the university and which belong in an external environment (see also note 19). The universities' core tasks will continue to be research and education, as a high level of research is critical for their role and significance as regional locomotives for development and innovation.

- 3. How can the University of Southern Denmark promote a higher commercial profile?
 - The importance of appearing as a business- and client-oriented university will be emphasised internally and externally.

The University of Southern Denmark faces an internal challenge in simultaneously protecting individualised research, which is considered to be very important, and also setting up general frameworks and goals which can give the university a higher degree of corporate identity.

It is thus an internal task to find a suitable structure of incentives which can support and help to promote the corporate culture in the direction of a more business-oriented profile.

The present highly individualistic system of gaining research merit can inhibit the university's regional development, and a new structure should better support a more business-oriented profile for the university.

The University of Southern Denmark's goals and means for the regional transfer of technology and commercialisation should support researchers' interest in and incentive 18 to work together with the region's companies, and be based on open and cross-disciplinary knowledge environments and non-traditional forms of partnership which "invite" the small and medium-size companies to work in partnership with the university.

¹⁸ A potential threat to research's regional contribution to innovation is cut-backs in research grants and biased ranking of

projects.

¹⁷ Players in the bridge-building project, knowledge-based networks, commercial group partnerships etc.

A more business-oriented outlook is wanted, where "sales and action parameters" for regional partnerships are made explicit.

- The outward-looking dialogue is based on personal relationships and "ambassadors" who make a major attempt to highlight the University of Southern Denmark at the regional level. With respect to partnerships with small companies in particular, which have no tradition of working with the University of Southern Denmark, access to and contact with the university is based to a high degree on "chance" personal acquaintances.
- The university's website does not give external users/potential partners enough information and overview of concrete partnership possibilities, and where and to whom inquiries should be made, and a more business-oriented and simplified access to the university is wanted.
- Both internal and external interviews have emphasised that an open knowledge environment is considered a prerequisite for a mutually fruitful partnership between researchers and business. It is also considered very important that the University of Southern Denmark does not lose research excellence in its attempts to achieve a more regional and business-oriented profile.
- 4. Implications of decentralised campuses: what criteria are critical in order for a decentralised campus structure to be able to support regional development and innovation?
 - There is a prevailing perception that the decentralised structure is an advantage/strength because the University of Southern Denmark's geographic location on four campuses can be a "lever" in various respects.
 - The region's strategic option is to utilise its infrastructure, culture of innovation and the tradition of an application- and result-oriented partnership between private and public business, where the University of Southern Denmark contributes to ensuring the development of new knowledge-intensive jobs in the region.

There are, however, several challenges which are primarily associated with internal university circumstances:

- The internal spread of knowledge at the University of Southern Denmark will be critical for the campuses' possibilities of acting in a regional and cross-disciplinary context, i.e., the university must be aware of its internal integration (between Odense and the campus cities).
- The inclusion of local knowledge environments is an important factor in an efficient regional partnership which can support development and innovation in the groups of companies which contribute to local/regional development and growth.
- The University of Southern Denmark must achieve a higher profile (as one organisation to the external world). The need for coordination and communication is growing with the university's radius of action.

This point of view is supported internally, where (particularly younger) researchers are increasingly asking for an interdisciplinary approach which can also generate new incomegiving local partnerships with external parties/business.

- Interdisciplinary cooperation will be emphasised as a way of highlighting the possibilities for internal synergy at the University of Southern Denmark.
- It is emphasised that there must be a central coordination and control so that the
 decentralised structure does not become a source of local patriotism and lowered
 optimisation. Internal disputes on the locating of research centres, areas of jurisdiction etc.
 must be prevented centrally.

6. Education strategy

The University of Southern Denmark has set concrete goals in its development contract for the following areas:

- Intake
- Dropping out and period of study
- Quality assurance and development
- Vocational and career guidance
- Knowledge to Growth
- E-learning
- Supplementary language instruction for all students
- In-service and further education

Goals associated with the above areas are described below.

To some extent there is a coherent vision for the education system at regional level. There is a regional interest in anchoring a number of educational initiatives around the university. This will find expression in the research affiliation agreements entered into with the centres of further education and in the close partnership which the University of Southern Denmark has on bridge-building and the establishment of credits which connect central regional short further education institutions to the university.

The University of Southern Denmark prepares annual analyses of the regional education and demand patterns which *inter alia* form the basis for the development of new courses.

The university expects the coming five years to show stable increases in the intakes to its ordinary courses and is aiming for an annual increase of 3%. This increase will be maintained by working to increase the progression rate from secondary school to university in the southern region (e.g. via bridge-building with the secondary schools) and by continuing to develop and target the university's course portfolio to social developments, including new courses which match social developments and meet the need for new areas of expertise.

The goal in increasing the progression rate has resulted among other things in offers of oral and written language instruction in English, where the course can carry credit as an option. Further initiatives will also be undertaken to improve students' communication skills.

The University of Southern Denmark is working harder to ensure the equality of its courses as a natural consequence of its goal to increase the progression rate and limit attrition. The university audited all courses in 2005 with assistance form the Danish Evaluation Institute. This general concentration on quality development will also affect the current initiatives being taken to increase the completion rate,

counselling, feedback from clients etc. The audit will thus help to identify new areas of initiative in relation to further quality assurance and development in University of Southern Denmark courses. These areas of initiative and the goals for them will be expanded in the next development contract between the University of Southern Denmark and the Ministry of Science. The contract will be drawn up during 2005, and initiatives in this area will be further specified in the development contracts with the faculties.

6.1 The special regional conditions

The southern region is characterised by a lower level of education than the national average.

- More people have a basic/commercial education
- Fewer people have an extended further education
- Over 30% of the workforce has no vocational training at all
- Over 20% of the young people in any year do not receive any vocational training.

The region's business structure is characterised by an under-representation of knowledge-intensive companies, and there is no tradition of extensive further education in the region.

Various summaries and statements, including the southern Jutland expertise catalogue, show that the region has a deficit of educational places, research and development grants and jobs for people with an advanced education.

A positive factor is, however, that the region has a broad range of courses so that the prerequisite for raising the level of education is present. This is the case both for young people about to commence an education and employees in business who need additional qualifications and further education.

A major regional challenge is to secure a targeted quality development of educational options to match business's needs for expertise.

The university in Flensburg is also contributing to a southern regional "balance" of further education options, which is important from a southern Danish viewpoint.

There is an increasing understanding that a regional partnership should be far-reaching, and the establishment of regions can support this.

The University of Southern Denmark is complying with the regional aspect via a close partnership on bridge-building, participation in regional forums and cooperative organs, and via the establishment of a credit system which supports the possibility of regional students being able to continue in the education system from short to long further education level.

6.2 The regional dimension in teaching and learning

It is intended that in future, there will be a higher degree of profiling of the Jutland campuses in particular with respect to teaching and research, and that they will thus become more distinctive. Regular courses, conference activities etc. will be offered, where an attempt is made to cover regional needs, but as a general rule there is a national aim in this kind of activity.

The Faculty of Social Sciences is developing research environments and courses with consideration for regional characteristics and needs.

For example, the last part of the business economics course in Esbjerg was organised in close collaboration with regional companies.

The Faculty of Humanities has established Maritime and Regional Studies and Tourism Studies in Esbjerg. The faculty works together with the Fisheries and Maritime Museum in Esbjerg and others.

There is a regional dimension in the teaching in Sønderborg/Flensburg via cross-border studies.

The professional health science courses have generally been established on the basis of and with consideration for the region's health services. The medical courses – about 25% of Danish doctors are trained at the University of Southern Denmark – are critical to ensure that the health services in the southern region are adequately staffed at a high level.

There are also professional health sciences and master's courses in rehabilitation and academic courses which ensure professional staff with a bachelor's degree at the highest level.

The bachelor's course in public health includes a project on analysis of the local community.

With its mechatronics course in Sønderborg, the Faculty of Science and Engineering has many projects with mechatronics companies in the region. The Department of Biology is working in close collaboration with the Fjord and Baelt Centre on research into whales. Funen County is a leader in the area of pure water, and both the Department of Biology and the computer group environment are working together with the county in the area of biological oceanography. The Department of Chemistry is working together with the south Funen company IRD Fuel Cells on the development of fuel cells and hydrogen technology.

The robot area has close connections with a number of companies in the region, and the Maersk Institute was established in partnership with the shipyard Odense Stålskibsværft.

There are several engineering courses in aquatic environment technology which satisfy regional needs. The course Innovation and Business is in demand in the region.

Entry-level courses are also provided for engineers, and there are supplementary courses in chemistry and mathematics, and an intellectual property rights course in cooperation with Science Parks of Southern Denmark.

6.3 Student recruitment and the regional labour market

The University of Southern Denmark established a Career Centre on 1 September 2004 as an active and outward-looking attempt to achieve a better interplay between business in the region and the university on the transition from studies to business for bachelor's and master's graduates. The Career Centre, which also includes the former Business Counselling, ensures a broader and better interface between students and future employers. The Career Centre functions both as a service for students at the University of Southern Denmark and as business's point of entry to the university, e.g. for a company which wishes to appoint a business PhD.

The Career Centre's tasks include:

- carrying out surveys of graduates and thus keeping itself informed of developments in the labour market
- establishing networks with potential employers, both public and private
- establishing a central alumni programme which can help to organise targeted in-service and further educational activities.

One thousand and forty-five graduates left the University of Southern Denmark in 2004, and the following goals were set for 2005:

- hold 15-20 functions annually in the form of job search courses, fairs etc. with expected participation of about 1800 students
- establish an electronic job and CV bank with 1000 registered users
- pay consultancy visits to companies with the aim of creating new jobs, trainee places and business projects.

The university will continue its commitment to "Knowledge for Growth", a project which was started as a partnership between the University of Southern Denmark and Odense Chamber of Commerce.

The goal of "Knowledge for Growth" is to give students access to companies via study assignments.

The assignments are primarily credit-giving projects such as theses and bachelor's assignments, but jobs relevant to the course and unpaid trainee service are also a part of the learning process. The university will work actively to extend the project programme throughout the southern region, i.e., companies and students at the University of Southern Denmark in Esbjerg, Kolding, Odense and Sønderborg will be able to make use of "Knowledge for Growth".

This project is also important for the mutual knowledge of requirements and qualifications between companies and students. There has been a marked increase in the number of student projects via Knowledge for Growth to about 80 projects in 2004 and the university's goal is to increase this number to about 200 projects a year in five years' time, about 25% of which will be between students and companies at the University of Southern Denmark's Jutland campuses.

6.4 Life-long learning and continuous development and education of the professions

The University of Southern Denmark will continue to develop its range of offers under open/part-time education. Within the last few years, the university has developed three master's courses which are very much in demand. These are the courses in Gerontology, Rehabilitation, and Language Acquisition. The three courses contribute to an upgrading of medium length qualifications. Most recently, a flexible modular MBA course was developed which is intended to meet an increased need and wish for flexibility among both potential students and their employers. In association with the IT-West partnership, the University of Southern Denmark has also co-developed a flexible internet-based Master's in IT which meets the increasing needs for information and communication technology skills in business.

The university wishes to establish further successful master's courses in order to increase the number of master's students by 25% over the next five years.

Since 2002, the University of Southern Denmark has had a separate expertise unit, the University of Southern Denmark's In-service Training. In cooperation with Denmark's other institutions of higher education, the university is working to develop professional expertise, and has a goal of supplying a range of research-based in-service offers in the form of high quality short courses for clients in both the public and private sectors. The university will ensure breadth and variety in courses and forms, and in the first instance the university's activities will cover all subject areas covered by the university.

In the period up to 2007, the University of Southern Denmark's In-Service Training activities will be gradually extended. The university's In-Service Training offers will thus be spread across several different types of client and to a greater range of the university's areas of expertise, and will cover a broad range of concepts with respect to form, content and forms of partnership. The principal emphasis in the first years will be on the development of offers which are in demand in the public sector as it is also intended to create and maintain contacts with private clients via the university's already established network-based activities.

The University of Southern Denmark's In-Service Training held courses and conferences in 2004 equivalent to 3067 course participant days, and the goal for 2005 is 4000 course participant days.

6.5 Modified forms of educational offers/forms

The university is concentrating on e-learning as a tool in relation to both ordinary and further/inservice courses. Significant investments have been made in a necessary and future-oriented infrastructure, and in the next few years the university will work intensively to secure the special pedagogical qualifications which e-learning requires of its teachers. With increased concentration on e-learning, the university also wishes to be able to utilise the accumulated expertise within its research-based teaching to a much higher degree for the benefit of students throughout the campus structure. This will ensure that:

- Each faculty chooses at least one pilot project in 2005 in which exemplary methods of holding courses based on mixed learning, distance education and similar can be developed. The projects must be able to provide examples of different didactic and pedagogical approaches to e-learning. The experiences from the projects will be communicated via Blackboard.
- All courses offered at the University of Southern Denmark (currently about 1,500) must be available as of 1.9.2005 to teachers and students in Blackboard. In addition to the course start, the student must be able to find materials on the course and the teaching in Blackboard.
- An internal study of selected courses which are representative of the university's activities will be carried out in autumn 2005. This will be done to gain a better knowledge of students' expectations and experiences with e-learning.

The University of Southern Denmark has also set the following goals for the next five years:

- All teachers will have unhindered internet access via laptop computers to materials in all teaching rooms.
- Students will be introduced to use of the university's e-learning platform as a mandatory part of their course commencement, and other IT tools will be made available.
- Access to internet-based distribution of materials, communication and cooperation will be made easier for students by extending internet access via wireless networks.

6.6 The regional education system

The Faculty of Social Sciences is working together with Aarhus School of Business on the range of master's courses offered. It has been agreed that this type of course will not be offered without advising each other, and several courses are offered jointly. This also applies to a master's course in IT and organisation. The faculty is also working with Aalborg University in Esbjerg on a course within environmental planning. No actual procedures have been prepared, but the faculty's policy is that it is necessary to enter into a partnership with other research and development institutions in the area of master's courses and other minor areas in particular.

An agreement on credits has been entered into among the social sciences faculties in Denmark. The result is that students are ensured a high level of mobility among the same and related courses offered by the various institutions. The basic principle is that the student will be granted credit for points already gained. A number of agreements on credits have also been entered into with non-university higher education courses. Students with an education in marketing or finance are thus awarded 90 credit points for the bachelor's course in business economics. Students with a background in production engineering are also able to gain a significant number of credit points for the business economics course if they have the right optional subjects in their courses.

The reasoning in the Faculty of Humanities on the locating of courses and research environments in the university's campuses is based on considerations of relations with local and regional points of strength and potential partners.

The university is working with the region's centres of further education, secondary schools and companies via client panels and education councils. Some teaching and research environments have permanent partnerships with business in the region.

The Faculty of Health Sciences has established a formalised and binding partnership between a number of centres of further education and other educational institutions, mainly within the region, which offer professional bachelor's courses within the area of health. The object of this partnership is that common attitudes, knowledge and skills which are characteristic of the health sciences area in a broad sense will be developed. The partnership on research involves a range of activities such as theme days, seminars and project guidance etc.

The Faculty of Science and Engineering is working on independent profiles for each campus which support the regional affiliation. The faculty's initiatives within engineering courses, including plans for a merger with IOT, are largely concerned with fulfilling regional obligations in cooperation with business.

Needs and demand for new educational initiatives are covered primarily via statements from clients and sectorial analyses.

Cooperation contracts with Risø National Laboratory and DIAS largely concern (engineering) courses for the region. (See also annex 6 on cooperative relationships between DIAS and the University of Southern Denmark.)

6.7 The University of Southern Denmark's regional challenges concerning education, the labour market and qualifications

This section contains a summary of the replies received from questionnaires and interviews and the workshop.

The workshop was based on a number of theme questions which were derived from replies to interviews and assessments, including strengths, weaknesses, possibilities and threats.

The object of the workshop was to enable the University of Southern Denmark's external interested parties to express an opinion on and refine the provisional statements/results of the project, including contributing new viewpoints, initiatives and recommendations.

The following theme questions were the basis for group and plenum discussion at the workshop:

- 1. How can good regional insight be used to strengthen dialogue with partners on development of the regional labour market?
- 2. The challenge posed by small intakes, recruitment of students, retention and moving away on completion of studies. Proposals/initiatives which can counter this trend?
- 3. How to ensure association with business (courses), cooperative relations and long-term partnerships/alliances?
- 4. How to utilise the knowledge on and insight into small and medium-size companies to strengthen regional cooperation and entrepreneurship and regional business development?

The following conclusions were reached in relation to the four themes on the basis of interviews and debate at the workshop:

- 1. How can good regional insight be used to strengthen dialogue with partners on development of the regional labour market?
 - The good dialogue with counties and municipalities should be better utilised in relation to partnership activities with the region's business, where focus to date has been quite sporadic and not strategically based.
 - There could be potential in establishing an actual strategy for partnership/outreach activities so that these become a part of the university's everyday life to a much higher degree.

 (The Education Forum is an example of a good platform which gives a positive and coherent dialogue.)
 - Education and the Labour Market will be a separate theme for the Growth Forum, and it is important that the University of Southern Denmark and its interested parties are in dialogue on a common strategy in this area.
- 2. The challenge posed by small intakes, recruitment of students, retention and moving away on completion of studies. Initiatives in progress which can counter this trend and proposals for changes?

- The decentralised structure should be regularly adjusted in existing courses which suit the subject mix and the chosen profile at the individual campuses.
- Good cooperation with Aarhus School of Business and Aalborg University, Esbjerg, especially
 with respect to master's courses (cooperation because of considerations of "critical mass").
- Flexibility with respect to credits and mobility.
- Proximity to the university, a critical use of the teachers, research-based in-service training, small flexible organisation (the University of Southern Denmark).
- The University of Southern Denmark's e-learning strategy promotes:
- Access to learning resources, cooperation and communication, development of competences combined with work, offers of in-service training at bachelor's and master's levels.
- Flexible offers combined with geographic distance can help promote a knock-on effect in areas of the region.

Concrete regional studies, including the University of Southern Denmark's course in regional development, will help to develop and retain students in the region. The establishment of the legal course at the University of Southern Denmark is an example of an active initiative which can increase the region's attractiveness to business and students.

Concrete proposals:

An open and unbiased dialogue is required to prepare a common strategy for education and the labour market under the auspices of the regional Growth Forum.

- 3. How to ensure association with business (courses), cooperative relations and long-term partnerships/alliances?
 - The good partnership with counties and municipalities, bridge-building activities, local strengths in cities and towns in Jutland etc. should be better utilised in the form of long-term binding partnerships which often have the character of individual projects which do not enter into long-term planning.
 - The University of Southern Denmark must become better at "selling" the transfer of knowledge via education, e.g. targeted "packages".
 - Partnerships with counties, municipalities, educational institutions and business are a good basis for finding "new routes" to develop courses which can support a higher degree of knowledge content in the region's small and medium-size companies¹⁹. For example, business economics

¹⁹ Robocluster is working with a project portfolio (DECIDÈ) which contains many different types of project, many of which often become student projects. To focus and service the initiatives with respect to business, there is also a separation between product- and process-innovative projects.

and law are attractive courses for business. This is a trend which is expected to strengthen with the establishment of the law course at the University of Southern Denmark.

- Help to abolish myths and prejudices and create constructive forms of partnership between researchers and business.
- Potential in strategy for outreach activities. The outreach activities with the region and business have hitherto been sporadic and not strategically based. They have been based to date on individual enthusiast' initiatives. They clearly require a centrally organised unit to implement strategy.
- 4. How to utilise the knowledge on and insight into small and medium-size companies to strengthen regional cooperation and entrepreneurship and regional business development?
 - There is a general need for more cooperation with business, and the teaching should be made more applied and entrepreneur-oriented.
 - Only a few research projects find their way to actual application.
 - The general view of the University of Southern Denmark held by business leaders is that the courses and often the outreach activities are often too theoretical, which means that initiatives are often taken circumventing the university, e.g. the concept-maker course.
 - The university should utilise its knowledge and experiences with regional companies in the direction of a more market- and development-oriented partnership with business in the region.
 - Inter-faculty initiatives/new course directions will presumably be able to support regional business development the business/law courses are a commercial success and new combinations may be able to give regional business a needed lift (e.g. biotechnology-law, IT-communication, medicine-management etc.).
 - It is important that the premises for partnership are defined from the start, and the University of Southern Denmark should sit at the head of the table if the partnership concerns research and development-related problems. Brand Base can be cited as an example of an organisation which functions on research premises. The prerequisites and premises were harmonised from the start, and both researchers and participating companies have concrete expectations of the partnership. When the expectations are known, individual deviations can be followed up.
 - There are clear premises and no significant barriers to partnerships with business in the Faculty of Science and Engineering and parts of the Faculty of Social Sciences, e.g. business economics.

In the Faculty of Humanities and large parts of the Faculty of Social Sciences the paradigm is not solution-oriented, but questions, concepts/visionary abilities are generated which can be challenging for development in established companies and not least in connection with entrepreneurship and start-up companies.

Concrete initiatives:

- IDEA house a house for entrepreneurs, where young people receive an intensive course after their educations. Current courses are in Kolding and Horsens.
- Business projects: entrepreneurship in cooperation with Danfoss; creation of a business network, projects in which private consultants are advised by the elite (in contrast to the business service centres).

7. Social, cultural and environmental development

This section discusses the University of Southern Denmark's contribution to the region's environmental, social and cultural development on the basis of the replies received, with special emphasis on activities, relationships and dialogue of significance for the region's development.

7.1 Environmental development

The University of Southern Denmark's contribution to the region's environmental development was interpreted very broadly in the project, as the responses range from what the university as a workplace is doing for the environment to the work and study environments at the university.

7.2 The environment and sustainable development

The University of Southern Denmark's impact on the environment is considerable because of its size. The university continually focuses on reducing the consumption of water, electricity and heat. The readings are also used to optimise the university's operating economy.

A joint forum for the educational institutions has been established to discuss environmental initiatives. The University of Southern Denmark is a member of this forum.

7.3 Planning of the environment

The University of Southern Denmark is in regular and fruitful dialogue with counties and municipalities on local planning. The university also participates in the public debate on municipal planning.

The university's aesthetic profile has been largely left to the university itself to manage. It is very important for the university to be able to offer a good and efficient framework for employees, students and guests. This is considered critical to be able to attract new students and also to retain a creative and efficient study and work environment.

With its interest in the environment, the University of Southern Denmark is well placed to be a strong player in the region's development. The university's ability to attract students and recruit employees also depends on the surrounding urban community being able, for example, to offer an active cultural life.

7.4 Cultural development

Since the university's start, management has been aware of the importance of works of art in the buildings. An artistic line began to be visible as early as the 1970s, with the acquisition of major works by the leading artists Richard Mortensen and Jørn Larsen. The University of Southern Denmark has received significant contributions to its beautification, particularly in new buildings and extensions,

among other sources from the New Carlsberg Fund, the Danish Arts Fund, the Velux Fund, and public authorities. The result is that the university possesses an important collection of modern art.

The University of Southern Denmark has not entered into partnerships on announcing its works of art to the broader public. There have been periodic conducted tours. A partnership was entered into in 2005 with Odense-Mid-Funen tourist bureau on inviting people to regular conducted tours of both the architecture and the works of art.

In 2005, the university opened the Centre for Art and Science, the purpose of which is to develop new communication formats which integrate all artistic disciplines for the communication of scientific knowledge and research results. Various partnerships with a number of regional artists, regional interested parties and regional educational institutions have been established via the Centre for Art and Science.

The Centre for Art and Science will present a number of public science theatre performances in the southern region for the benefit of the region's residents. The university wishes to contribute to the region's culture while presenting its most outstanding research.

The Centre for Art and Science has also developed a course for the oldest classes in the primary/lower secondary school in order to interest children and young people in the natural sciences and the university.

Finally, the University of Southern Denmark promotes the development of sporting activities for students by supporting sports organisations which offer exercise activities to students.

7.5 Social development

The University of Southern Denmark offers counselling to students with special needs, i.e. students with physical disabilities. The university also participates in networks which support and motivate students with social and psychiatric disabilities during their studies.

As the University of Southern Denmark is a research and teaching institution, it is not directly involved in activities for the benefit of e.g. ethnic groups. The university has, however, entered into a partnership with KVINFO on the establishment of a mentor network in Odense. The University of Southern Denmark participates in the partnership to offer study and vocational guidance and by holding a course for mentors and mentees at the Centre for Cultural Studies at the university.

The University of Southern Denmark is an important regional employer, contributing to the local economy, while its employees require services as residents in the region. The university's role in and impact on the region as an employer is not considered further in this report. The above comments are included to illustrate that the university contributes to the region's development on several "fronts".

The University of Southern Denmark's presence means a social lift in the form of more highly educated people who seek special offers with respect to goods, culture, urban development and leisure. Some people regard the University of Southern Denmark as a generator of lifestyle. The many students, including international students, make a significant contribution to city life.

A number of people feel the multi-campus structure to be one of the university's clear advantages, as it gives a strong regional association, including good local partnerships in both formal and informal

forums. Personal contacts are critically important in the southern region when projects and research partnerships etc. are to be launched. A number of people have indicated that they see the University of Southern Denmark as "their" university, and there is a clear loyalty to the university. The multi-campus structure does, however, also have the inbuilt weakness that all cities want everything, with too many consequent compromises. It is a matter of concern that if all cities offer the same courses, there will be a watering down of the courses and the research level.

The campus cities do not make adequate use of the fact that they have a university in the city. The University of Southern Denmark cannot attract students and retain them in the region after graduation without assistance. The public players also have an obligation here to provide accommodation, leisure and cultural offers, and not least, jobs. In the cultural area, a number of people have indicated that the cities can include the university's expertise with advantage in cultural arrangements.

The southern region is a net exporter of young people, who move to other regions for their educations. The region also finds it difficult to attract young people from other regions to courses and jobs. The region also has one of the lowest levels of education, including relatively few highly educated people.

A high level of education generates development in the region. But it is a problem for the universities that it is difficult for them to sell their graduates to local companies in the region. The University of Southern Denmark has therefore initiated a number of projects, such as Knowledge for Growth and the establishment of the Carrier Centre at the university, to support business's awareness of students' skills and to increase the wish to employ them after graduation. The partnership between the University of Southern Denmark, its researchers and business suffers the weakness that many people see the university as an ivory tower with which it is difficult to come into contact. There is a clear wish for the university to become client-oriented and outward-looking, while also encouraging its own researchers to understand the significance of opening up to the surrounding community.

It is also important to remember that the interplay with business in not directed only to the scientific and technical disciplines, but also to the social sciences and humanities areas. The latter two areas are also perceived as more "client-friendly", as researchers from these areas often speak an understandable and usable language to small and medium-size companies. This fact could be better utilised when establishing partnerships.

7.6 Building up capacity

The university ranks cooperation and dialogue with the surrounding community very highly, and external partnerships are of major significance for the university.

A sound basis has been created for extending interaction and dialogue with the university's interested parties, including regional business.

The university needs to define a regional strategy which can ensure a constructive and targeted dialogue on the university's role in development and innovation in the southern region.

The dialogue with external parties is critical for meeting regional "client needs" as a component in defining the university's regional role. The interplay between research, teaching and business should be tested in new and non-traditional constructions so that the university can contribute to a higher degree to the generation of dynamism in new and existing companies in the region.

In future the regional partnership will gain a bigger geographic "marketplace", which will require dialogue, coordination and cooperation.

There are major expectations with respect to the University of Southern Denmark's role within the southern region, as a number of central interests expect that the university will act as a catalyst for the region's future development and innovation.

The University of Southern Denmark is currently having an internal debate on the attitudes and values which can support an open and client-oriented organisational culture to match regional challenges.

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15.8.2005	Funen County									Funen County	,															
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9.8.2005					Odense	City Hall																				
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10. August 2005

Dean	Flemming G. Andersen	Faculty of Humanities
Dean	Nis Jul Clausen	Faculty of Social Sciences
Dean	Henrik Pedersen	Faculty of Science and Engineering
Dean	Mogens Hørder	Faculty of Health Sciences
Professor	Mogens N. Pedersen	Political Science
Professor	Peter Munk Christiansen	SDUE – Kolding
Head of centre	Bent Nørgaard	Sport and Biomechanics
Consultant	Michael Larsen	Knowledge for Growth
Associate professor	Per Østergaard	Brand Base
Student representative	Jens Høyer-Kruse	
Student representative	Stine Baun Mathiesen	
Registrar	Per Overgaard Nielsen	
Building manager	Søren Hesseldahl	
Finance manager	Vagn Holmegaard	
Staff officer	Herluf Petersen	
Head of studies	Per Christian Andersen	
Public relations manager	Bo Kristiansen	
Office head	Anne-Grete Gad	
Office head	Jørgen Schou	
E-learning coordinator	Ambrosia Hansen	
IT manager	Hans Kruse	
Head consultant	Connie Bang Jensen	
Special consultant	Jens Kr. Damsgaard	
Managing clerk	Birgitte Wraae	
Project manager	Morten Andersen	
Chief librarian	Aase Lindahl	

Clerk to the county council	Niels Højberg	Funen County
Clerk to the county council	Niels Johannesen	Sønderjylland County
Clerk to the county council	Palle Lund	Vejle County
Deputy clerk to the county council	Max Kruse	Ribe County
General manager	Otto Jespersen	City of Esbjerg
City manager	Jørgen Clausen	City of Odense
Chief executive	Ingemann Olsen	City of Kolding
Office head	Rune S. Mortensen	Funen County
Director	Hans Martens	Centre for Business Development, Sønderborg
General manager	Sv. A. Koch-Christensen	Southern Denmark Innovation
Director	Ole Vorm	Proxeon
Director	Helge Munk	Munk-IT
Director	Torben Bager	IDEA
Head of department	Ane F. Bendix	Odense University Hospital
Head of centre	John Henriksen	Development Centre Aarslev
Head of centre	Rune Larsen	RoboCluster
Head of centre	Birgir Norddahl	TUFCO
Head of studies	Per C. Andersen	

	PARALLEL SESSION	NS				
	Group I – U 96 Chairman: Prof. Tage Koed Madsen, head of department Dept. of Marketing & Management	Group II - 98 Chairman: Assoc. Prof. Johs. Nørregaard Frandsen, head of department Dept. of Literature, Culture and Media				
10.10 – 10.35	The importance of the university's research activities for regional innovation	The university's contribution to social, cultural and environmental development:				
10.35 – 11.00	The university's contribution to teaching and learning in relation to labour market needs and demand.	Building up capacity for regional partnerships				
11.00 – 11.10	BR	EAK				
	Group I – U98 Chairman: Assoc. Prof. Johs. Nørregaard Frandsen, head of department Dept. of Literature, Culture and Media	Group II – U96 Chairman: Prof. Tage Koed Madsen, head of department Dept. of Marketing and Management				
11.10 – 11.35	The university's contribution to social, cultural and environmental development:	The importance of the university's research activities for regional innovation				
11.35 – 12.00	Building up capacity for regional partnerships	The university's contribution to teaching and learning in relation to labour market needs and demand.				
12.00 – 13.00	LUNCH					
13.00 – 14.00	EVALUATION AND CONCLUSION					

City manager	Jørgen Clausen	City of Odense
Office head	Rune S. Mortensen	Funen County
Office head	Dorte Kusk	Vejle County
General manager	Sv. A. Koch-Christensen	Syddansk Innovation
Director	Hans Martens	Centre for Business Development, Sønderborg
Director	Ole Vorm	Proxeon
Director	Helge Munk	Munk-IT
Director	Torben Bager	IDEA
Head of centre	John Henriksen	Development Centre Aarslev
Head of centre	Rune Larsen	RoboCluster
Head of centre	Birgir Norddahl	TUFCO
Head of studies	Per C. Andersen	University of Southern Denmark
Registrar	Per Overgaard Nielsen	University of Southern Denmark
Special consultant	Jens Kr. Damsgaard	University of Southern Denmark
Managing clerk	Birgitte Wraae	University of Southern Denmark
Project manager	Morten Andersen	University of Southern Denmark

Enclosure 6 – Research and Partnership Projects between the University of Southern Denmark, Faculty of Science and Engineering and the Danish Institute of Agricultural Science (DIAS)

Assoc. Prof. Ole Næsbye Larsen

Head, Department of Biology, SDU

Project title: "A porcine model for stress injurious to health"

Total funding: research grant (2½ years) for one PhD student, Bodil Margrethe Harvard. DIAS is providing 100% funding for this, so I don't have the total figures.

Project period: 1 April 2004 to 1 October 2006

Contact person at SDU: Assoc. Prof. Ole Næsbye Larsen

Contact person at DIAS: Karin Hjelholt Jensen, senior research scientist (<u>KarinH.Jensen@agrsci.dk</u>; phone: (+45) 8999 1313)

I have e-mailed a circular to the other VIPs, but many are on holiday at the moment so the replies will be dribbling in over the next month or so.

I also have a post-graduate student working at Foulum, but I don't suppose I need to report on that. Some of the students in subject BB42B Behaviour B will also be doing practical projects at Foulum during the autumn semester.

John Erland Østergaard, Ph.D., MBA

Professor, Department of Physics

This is a list of the four projects in which I am involved in partnership with DIAS:

0. Network on the greenhouse of the future under the Science and Enterprise Network, granted June 2005. Title: Green House of the Future.

Participants: DIAS, SDU, DEG, IOT, OTS, Development Centre Aarslev.

Period: 1.9.2005 to 1.10.2007.

Contact person, SDU: Birgir Norddahl, TUFCO.

Contact person, DIAS: John Henriksen.

Amount: funding of SDU expenditure, including hourly payment for participation in the knowledge network.

1. Application submitted as innovation consortium, June 2005.

Title: Plant-derived bioactive food ingredients for the prevention of life-style related diseases: Optimisation of plant production and novel analytical methods for identification and documentation of plant-based bioactive food ingredients.

Participants: John Henriksen, DIAS, Karsten Kristiansen, BMB, Henrik Gordon and Kasper Dørring, Mærsk, Jens Rystedt, DEG, John Erland Østergaard, Physics, Søren Hassing, IOT, Birgir Norddahl, TUFCO. Period: 3 years.

Contact person, SDU: Birgir Norddahl, TUFCO.

Contact person, DIAS: John Henriksen.

Amount: total amount applied for DKK 8,651,155.00.

2. Application being prepared for submission on 9 August 2005 for the Danish Act on Innovation under the Ministry of Food, Agriculture and Fisheries:

Title: Pot plants – Perforated flexible hose for CO₂ dosing and monitoring in greenhouse for uniform distribution and reduction of CO₂ loss

Participants: Niels Erik Andersson, DIAS, Søren Hassing, IOT, John Erland Østergaard, SDU.

Period: 1 year.

Contact person, SDU: John Erland Østergaard Contact person, DIAS: Niels Erik Anderson.

Amount: SDU DKK 700.000.

Enclosure 6 – Research and Partnership Projects between the University of Southern Denmark, Faculty of Science and Engineering and the Danish Institute of Agricultural Science (DIAS)

3. Application in preparation for submission on 1 September 2005 to the Research Council for Technology and Production:

Title: Analysis and optimisation of contents of stress substances in plants for activation of plant protection and bioactive substances using Raman imaging techniques.

Participants: Carl-Otto Ottesen, DIAS, Eva Rosenquist, DIAS, Lars Porskær, DIAS, Søren Hassing, IOT, John Erland Østergaard, SDU.

Period: 3 years.

Contact person, SDU: John Erland Østergaard Contact person, DIAS: Carl-Otto Otteson, DIAS

Amount: SDU DKK 2,500,000.

Anne Kathrine Overgaard, office head:

Joint projects SDU – DIAS:

Researcher for one day - Communication Centre for Science and Agriculture:

Project title: Researcher for one day

Total funding: 1,600,000. The University of Southern Denmark provides annual funding of DKK 50,000.00.

Contact person at SDU: Anne Kathrine Overgaard, office head

Contact person at DIAS: Finn Bendixen, Head of Centre

Project title: Experimental science as extra-mural learning. Pilot project in basic science course. Total funding: DKK 560,000.00; share of funding by University of Southern Denmark 46,000.00 over three years in 2005, 2006 and 2007. Application submitted to and granted by the Ministry of Education.

Contact person at SDU: Anne Kathrine Overgaard, office head Contact person at DIAS: Finn Bendixen, Head of Centre

Rune Larsen, Robocluster:

AgroBots, budget: DKK 6,660,000, outside funding 3,330,000, 1 February 2005 – 1 July 2006, contact person at SDU: Rune Larsen, contact person at DIAS: Thomas Bak, Bygholm

Bo Nørregaard Jørgensen, the Maersk McKinney Møller Institute for Production Technology:

The Directorate for Food, Fisheries and Agribusiness has also made a commitment to funding a four-year project: "The road to better durability – the ornamental plants kit", in which SDU is taking part together with KVL, DIAS and PfP.

SDU has signed the agreement and is expecting the project to be commenced and carried out as agreed among the partners.

The Directorate is providing funding for 50% of the budget, DKK 5,899,880 in total, i.e.: DKK 2,949,940. The funding is distributed as follows:

- KVL DKK 924,136
- DIAS DKK 1,157,545
- SDU DKK 868,259

Henning S. Jensen, Department of Biology

Project: **Development of reliable and optimal biogas plant operation** has just commenced with Sven Sommer, Henrik B. Møller (DIAS, Bygholm) and myself as project participants. This is a three-year project financed by the Danish Energy Authority and SDU in the form of a one third PhD scholarship. I don't have the total project sum at hand just now.

Enclosure 6 – Research and Partnership Projects between the University of Southern Denmark, Faculty of Science and Engineering and the Danish Institute of Agricultural Science (DIAS)

Another project has been applied for under the Aquatic Environment Plan 3, research funding: **Best Management of Stream Banks, Buffer Zones and Floodplains for reducing Agricultural Phosphorus Losses.** The project partners are DMU, KVL, DIAS and SDU and the framework funding applied for is DKK 7.435 million, of which DKK 1.800 million will go to SDU and 2.150 million will go to DIAS. The contact person at DIAS is Goswin Heckrath (DIAS, Foulum) and myself at SDU. Brian Kronvang, DMU has general responsibility for the project.

Birgir Norddahl, TUFCO

FELFO: New strategies in production of fruit Juice 2003-6 2 million DFFE: The juice project 2003-6 4 million

Partnership projects with DTU, DIAS, Vallø Saft A/S, Rynkeby and IOT/SDU

DFFE: Develop a method of extracting essential oils from herbs tDKK 300

IOT/SDU/DIAS for vegetable grower at Skarø.

Participation in the Science and Enterprise Network projects on network generation in naturopathic medicines from plants (see UCAA), the Green House of the Future (SDU/IOT tDKK 78). On the generation of networks in connection with the establishment of biofuel technologies.

Participation in development project at University of Illinois on the use of membrane bioreactors for purification of highly polluted water. DIAS is a consultancy partner.

Member of Development Centre Aarslev consortium board.

Submitted application for DKK 8.6 million to the Danish Research Agency on the development of micro-arrays for analysis of the effect of food components on digestion, and in particular on the development of obesity. Partnership with BMB (SDU), Department of Physics SDU, MIP, PharmaNord, DIAS Årslev, OUH and IOT.

Development of technique for extraction of bioethanol from biomass in partnership with Bioscan A/S. IOT/SDU

TUFCO mediates contact with research institutions for civil engineering students wishing to do their theses in environments other than SDU. Thus, for example, two students are currently working at DIAS Bygholm on methods for improving biogas yields from slurry by adding enzymes, a work which is being carried out in partnership with Novozymes, and two other students are working at DIAS Aarslev on methods of extracting and identifying natural substances from medicinal herbs.

In 2005-06, two students will be involved in developing alternative methods of producing bioethanol from biomass for Bioscan A/S on equipment jointly developed by TUFCO and Bioscan. The equipment is installed at IOT in the Membrane Technology Knowledge Centre. The project will report to Foulum Biomass Centre.

Faculty of Science and Engineering and the Danish Institute of Agricultural Science (DIAS) Enclosure 6 – Research and Partnership Projects between the University of Southern Denmark,

Research/partnership projects between the Department of Biochemistry and Molecular Biology at the University of Southern Denmark under Prof. Karsten Kristiansen and DIAS (Development Centre Aarslev):

Total project amount		1.200.000	3.900.000	2.815.000	13.456.770 *	379.000
8.	DIAS					
2008	SDU				249,994	
7	DIAS SDU					
2007	SDU				333,333	
2006	DIAS					
20	NGS		75,000	255,000	333,333	
)5	DIAS					
2005	SDU	230,040	100,000	272,500	83,339	39,325
4	DIAS					
2004	SDU		200,000			k: ts
		1. Ginseng project	2. Plants for health, Funen County project	3. Project Southern Funen, National Agency for Enterprise and Construction project.	4. Interreg 3A joint project with the University of Kiel	5. The Science and Enterprise Network: Plant-based products

Including departmental joint funding.

J.J. Lønsmann Iversen [jjli@bmb.sdu.dk], Assoc. Prof.

Project title: Absorption in water droplets of odour, ammonia and dust from livestock buildings (http://www.luftvasker.dk/)

Total amount: DKK 7,551,020. (SD \vec{U} = DKK 2,380,080)

Project period: 01.10.2002 - 31.12.2006

SDU Contact person: J. J. Lønsmann Iversen (http://www.sdu.dk/Nat/bmb/faculty/jili.html)

DIAS contact person: Hisamitsum Takai (http://www.agrsci.dk/afdelinger/forskningsafdelinger/jbt/medarbejdere/hta)

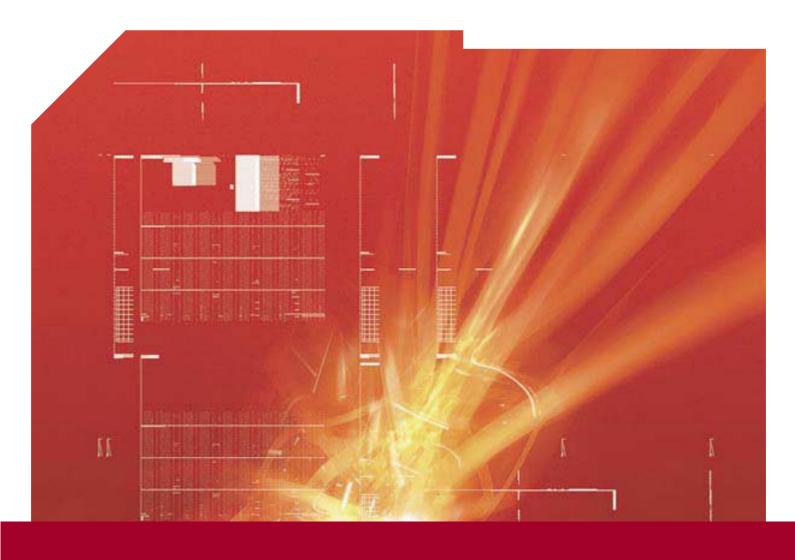
Project title: Reduction of Odour Source in and Emission from Swine buildings (ROSES) (Application pending)

Total amount: DKK 10,607,000. (SDU = DKK 1,798,000)

(Anticipated) project period: 01.07.2005 - 31.12.2008

SDU contact person: J. J. Lønsmann Iversen (http://www.sdu.dk/Nat/bmb/faculty/jjii.html)

DIAS contact person: Svend Morsing (http://www.agrsci.dk/afdelinger/forskningsafdelinger/jbt/medarbejdere/svm



NETVÆRK & SAMARBEJDE GUIDE









AKTIVE PARTNERSKABER

Forskning i bioteknologi betyder et sundere liv

- 10 bioTEAMsouth
- 11 Fjord & Bælt
- 12 Foodture
- 14 NanoBioCentrum
- 16 ScanBalt
- 17 UdviklingsCenter Aarslev

Øget fokus på kommunikation og it skaber vækst

- 20 BizzKIT
- 22 Brand Base
- 23 IS FYN
- 24 IT-Forum Fyn
- 25 It-vest
- 26 Knowledge Lab
- 27 KommitFyn

Teknologi skærper global konkurrenceevne

- 30 AluCluster
- 32 Center for Product Development
- 33 Center for Software Innovation
- 34 RoboCluster
- 35 Teknisk Udviklings- og ForskningsCenter Odense

Formidling af viden medfører fremdrift

- 38 Center for Anvendt Logistik og Transportforskning
- 39 Center for Småvirksomhedsforskning
- 40 International Danish Entrepreneurship Academy
- 41 Foreningen for Dansk Projektledelse

Dialog baner vej for mere udvikling

- 44 Brobyggerprojektet
- 45 Connect Denmark
- 46 ForskerKontakten
- 47 Syddanske Forskerparker
- 48 Syddansk Innovation
- 49 Syddansk Venture
- 50 Venture Cup Danmark
- 51 Viden til Vækst

SYDDANSK UNIVERSITET INVITERER TIL SAMARBEJDE

På Syddansk Universitet har vi i de senere år gjort en stor indsats for at engagere os og spille en aktiv rolle i det omkringliggende samfund. Vi vil sikre os, at de videnskompetencer, vi har inden for forskning og uddannelse, stilles til rådighed for omverdenen. For kun viden, der får lov at flyde frit mellem engagerede partnere, kan udvikles og udnyttes til fulde.

Vi har etableret og involveret os i en lang række samarbejder – det, som vi kalder erhvervsfremmende aktiviteter – og der kommer stadig flere til. Disse samarbejder er alt fra uformel vidensudveksling i netværk, tæt samspil med virksomheder, engagement i bestyrelser og projekter til formelle licens- og forskningsaftaler. Netværks- og samarbejdsaftaler varetages af universitetets Kontrakt- og patentkontor, der skal sikre, at afstanden fra idé til anvendelse formindskes. Kontoret skal blandt sine mange opgaver gøre det lettere for den enkelte forsker og erhvervslivet at finde hinanden.

Med dette hæfte ønsker vi at fastslå, at Syddansk Universitet er erhvervslivets aktive medspiller. Samtidig – og mindst lige så vigtigt – skal den betragtes som en invitation til alle, som på den ene eller anden måde ønsker at deltage i et fremtidigt samarbejde med universitetet – hvad enten det drejer sig om investeringer, samarbejdsaftaler eller netværkssamarbejde.







Per Overgaard Nielsen

Hensigten er at lade et udsnit af vores brede vifte af erhvervsfremmende aktiviteter vise mangfoldigheden i den vidensudveksling, som Syddansk Universitet hver dag tager aktiv del i. Efter en præsentation af den enkelte aktivitet, har vi anført hjemmesider og kontaktdata på relevante personer. Det betyder, at det er nemt at søge flere oplysninger om emnet og at etablere en kontakt.

Derudover står universitetets kontrakt- og patentkontor naturligvis til rådighed for at levere oplysninger og formidle kontakter til aktiviteter, der af den ene eller anden årsag ikke er nævnt i denne guide. Vi håber, at guiden er nøglen til frodigt samarbejde og givtig vidensudveksling i fremtiden.

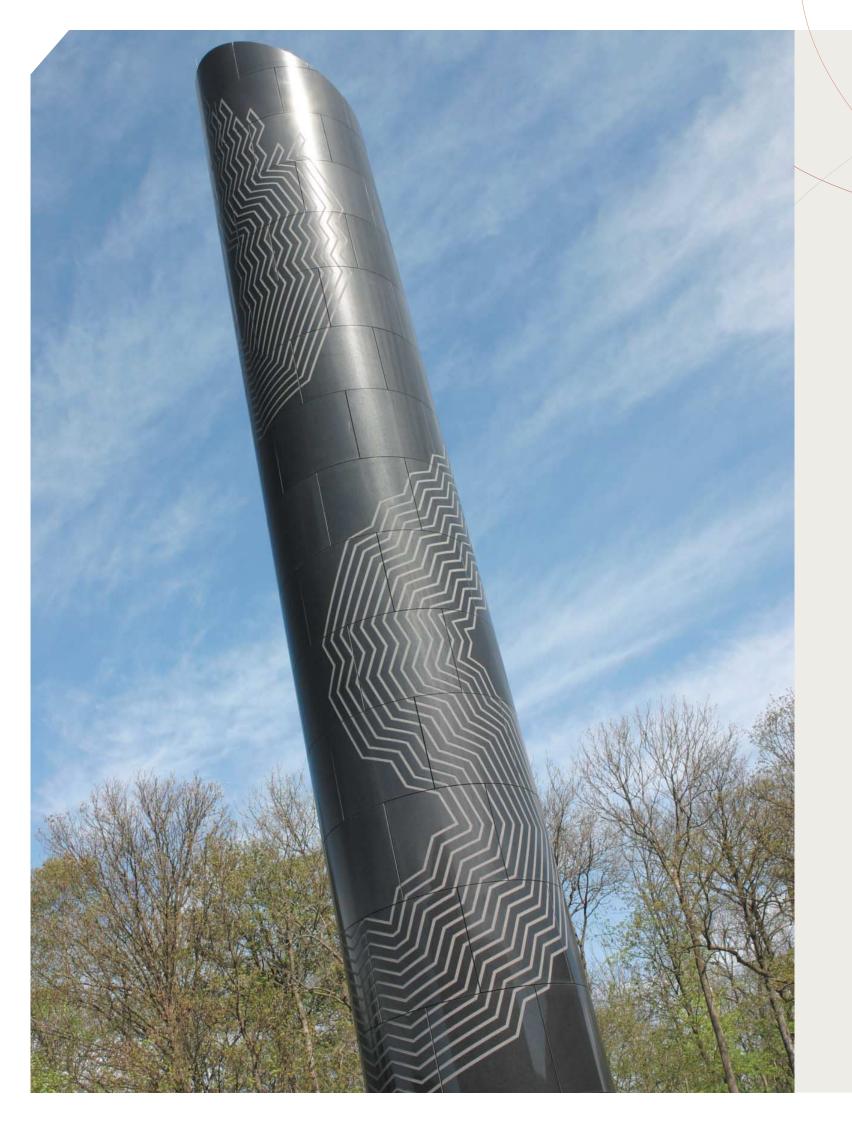
Med venlig hilsen

Jens Oddershede Per Overgaard Nielsen
Rektor Universitetsdirektør
Tlf. 6550 1030 Tlf. 6550 1020
jod@adm.sdu.dk pon@adm.sdu.dk

Kontrakt- og patentkontoret Tlf. 6550 1047 / 6550 1083 kontrakt@adm.sdu.dk Informationskontoret
Tlf. 6550 2070 / 6550 2083

info@adm.sdu.dk









FAKTA OM SYDDANSK UNIVERSITET

Professorer: 114

Videnskabeligt Personale: 628

Ph.D.-forskerstuderende: 230

Studerende: 16.489

Omsætning (mia. dkk): 1,4

Fakulteter

Sundhedsvidenskab

Naturvidenskab og Teknik

Samfundsvidenskab

Humaniora

Indbetalinger til forskningsprojekter i 2004, af ikke-statslige givere (de 10 største)

Bevillingsgivere	Bevillinger
[Mio. kr. med 3 decimaler]	
EU	32,288
Fyns Amt	12,769
Vejle Amt	7,904
Carlsberg fondet	6,459
Danfoss	4,345
Syddansk Sundhedsvidenskabeligt Forskningsforum	4,018
Sønderjyllands Amt	3,389
Kræftens Bekæmpelse	3,362
National Institute of Health	3,329
Lundbeck	3,200
Øvrige 242 givere tegner sig for	68,791



bioTEAMsouth Fjord & Bælt Foodture NanoBioCentrum ScanBalt UdviklingsCenter Aarslev





Kontakt:

Karin E. Nielsen, MSc, Marketing manager \cdot bioTEAMsouth, tlf. 6315 7338 \cdot info@bioteamsouth.com Mogens Hørder, Professor, Dekan, Sundhedsvidenskab \cdot tlf. 6550 3015 \cdot mhorder@health.sdu.dk Henrik Pedersen, Professor, Dekan, Naturvidenskab og teknik \cdot tlf. 6550 2787 \cdot henrik@imada.sdu.dk

bioTEAMsouth

bioTEAMsouth er en netværks- og forretningsudviklingsorganisation, der integrerer private, offentlige og akademiske organisationer for en fælles synliggørelse af bioteknologi og sundhedsforskning, udvikling og produktion i den syddanske region.

Vision

bioTEAMsouth vil bidrage til vækst og innovation indenfor bioteknologi og sundhed ved at gøre regionen kendt for strategisk udvalgte kompetenceområder:

 Bioteknologi til forebyggelse og terapi indenfor stofskifte og immunforsvarssygdomme.
 Indenfor ovennævnte områder repræsenterer vi forskningskompetencer i verdensklasse.

Målgruppe

bioTEAMsouth er medlemsbaseret og de primære målgrupper indenfor bioteknologi og sundhedsområdet er virksomheder, sundhedsinstitutioner, forskningsinstitutioner samt andre offentlige instanser med interesse for udvikling og vækst indenfor Life Science virksomhed. Eksisterende medlemmer er regionale virksomheder, Syddansk Universitet, Odense Universitetshospital, Odense Kommune samt Fyns Amt.

Tilbud

bioTEAMsouth tilbyder en række marketing og forretningsudviklings services. Et medlemskab af bioTEAMsouth koster fra 1000 kroner.

www.bioteamsouth.com

Kontakt:

Ole Næsbye Larsen, lektor, institutleder, Biologisk Institut · tlf. 6550 2444 · onl@biology.sdu.dk

Fjord & Bælt

Fjord & Bælt i Kerteminde er en kombineret turistattraktion og forskningsinstitution. Virksomhedens formål er gennem forskning, udstillinger og aktiviteter at formidle Bælthavets natur, miljø og historie. Fjord & Bælt arbejder sammen med Syddansk Universitet om en række forskningsprojekter, hvor Fjord & Bælts faciliteter og dyrebestand benyttes af forskere fra Biologisk Institut.



Foodture

Foodture, der står for Danish Food Innovation Network, er et landsdækkende netværk skabt for fødevarebranchen. Foodture er et samlingspunkt på tværs af hele værdikæden. Foodture hjælper fødevaresektoren med at nytænke deres produkter og processer ved at omsætte viden til værdi. Samarbejdet foregår på tværs af virksomheder, myndigheder, vidensmiljøer og eksisterende netværk. Foodture hjælper med at styrke fødevarevirksomhedernes:

- Udnyttelse af nye vækstmarkeder.
- Nyttiggørelse af ny viden.
- Samarbejde med videns- og uddannelsesmiljøerne.
- Forskningsopbygning og vidensdeling.

I netværket får industrien og vidensmiljøerne mulighed for at skabe nye samarbejdsrelationer. Det nye samarbejde har afsæt i fødevarebranchens behov. Foodture har således startet netværk op inden for blandt andet fødevaresundhed og ernæring samt inden for robotteknologi.

I samarbejde med Syddansk Universitet, Levnedsmiddelcentret og Vejle Sygehus er der etableret et netværk med fokus på fødevaresundhed og ernæring. Målet er, at eksisterende viden fra forskningsinstitutionerne kanaliseres til virksomhederne og skaber nye innovative tiltag ud fra virksomhedernes behov i form af nye samarbejdsprojekter, hvor sunde og ernæringsrigtige fødevarer udvikles, produceres og markedsføres.

Foodture (fortsat)

Et netværk omkring robotteknologi er startet op i samarbejde med RoboCluster og Egion (it-partnerskab). Netværket skal sikre et videns- og udviklingssamarbejde om fleksible robot- og automationsløsninger i et samspil mellem fødevarevirksomheder, robot- og teknologileverandører og vidensinstitutioner.

Syddansk Universitet er med i Foodtures bestyrelse og deltager aktivt i netværkene: Fødevaresundhed og ernæring samt Robotteknologi. Syddansk Universitet bidrager desuden med vidensoverførsel i netværket i form af Ph.D.-studier. Foodture og Syddansk Universitet har sammen med Dansk Industri, Industriens Realkreditfond og Karl Petersen & Hustrus Industrifond sat et Ph.D.-projekt i gang med fokus på innovation og vidensdeling i fødevareindustrien. Desuden samarbejder Foodture og Syddansk Universitet om et Ph.D.-projekt om det regionale innovationssystem i Vejle Amt med fokus på ændringer fra industritil vidensbaseret økonomi.

Fodture er stiftet af Fødevareindustrien/Dansk Industri, Fødevareklubben, Syddansk Erhvervsakademi, Vejle Amt, Carlsberg og Gumlink.





Kontakt

Jesper Wengel, Professor, centerkoordinator, Nanobiocentrum · tlf. 6550 2552 · jwe@chem.sdu.dk

NanoBioCentrum

NanoBioCentrum (NanoBiC) er et interdisciplinært forskningscenter med fokus på nanobioscience. Målsætningen for NanoBiC er at gennemføre forskning på højeste internationale niveau og derved at danne grundlaget til innovation og industrielt relevant udvikling inden for nanobioteknologi, bioteknologi og biomedicin.

Forskergrupper fra forskellige institutter deltager i NanoBiC. Disse forskergrupper inkluderer:

- MEMPHYS Center for Membrane Biophysics
- NAC Nucleic Acid Center
- CEBI Center for Experimental Bioinformatics
- CPA Center for Proteom Analyse
- MBC Medical Biotechnology Center

De forskellige forskergrupper i NanoBiC har samarbejdsprojekter med og kontakt til større og mindre virksomheder inden for de bioteknologiske og farmaceutiske industrier. Nedenfor er listet eksempler på igangværende forskningsprojekter ved NanoBiC:

- Eksperimentelle og teoretiske studier af biologiske membransystemer, specielt lipidmembraner og virkelige cellemembraner.
- Brugen af membransystemer eller polymere materialer som overflader til immobilisering eller som medium til in vivo-transport af nukleinsyrer, proteiner, lægemidler eller andre biomolekyler.
- Design og syntese af nye DNA- og LNA-baserede molekylære arkitekturer som nye klasser af selvansamlende biomolekylære lægemidler.

NanoBioCentrum (fortsat)

- Udnyttelse af nanoskala phage display selektion til dannelse af humane monoklonale antistoffer mod brystcancer og anvendelse af disse til imaging og cancerterapi.
- Studier af nukleinsyrer til ladningstransport, dvs. forskning rettet mod realisering af nanoelektronik og nanodiagnostik.
- Udvikling af nye biokompatible overflader og selvansamlede arrays til studier af biomolekylære interaktioner.
- Molekylær og cellebiologiske metoder til biosyntese af nye designer makromolekyler og komplekser.
- Supramolekylær kemi til dannelse af funktionelle materialer, for eksempel molekylære kontakter og organiske ledere.
- Aktiverede overflader for nanoskalaseparation, detektion og identifikation af nukleinsyrer, lipider, kulhydrater og proteiner.

- Overgangsmetalkomplekser og biometisk katalyse.
- Udvikling af biosensoriske molekyler og teknikker for eksempel til måling af biologiske tilstande eller interaktioner i blodet.
- Mikrofluide metoder i kombination med massespektrometri og proteinkemi til karakterisering af biomolekyler og biomolekylære interaktioner.
- Enkeltmolekylemanipulation og kraftmåling til studier af ligand-receptor-interaktioner, for eksempel i undersøgelser af den nanoskopiske basis for immunrespons.
- Brugen af lipolytiske enzymer til studier af den nanoskopiske struktur af lipidsubstrater.
- Design af kunstige programmerbare celler baseret på nanoskopiske liposomer til indkapsling af selvreplicerende biomimetiske molekyler.





Mogens Hørder, professor, dekan, Sundhedsvidenskab · tlf. 6550 3015 · mhorder@health.sdu.dk

ScanBalt

ScanBalt er et banebrydende samarbejde inden for Life Sciences og bioteknologi i Østersøområdet, der skal styrke og fremme udviklingen. Det overordnede formål er at skabe en globalt konkurrencedygtig metaregion, ScanBalt BioRegion, bestående af de 11 lande omkring Østersøen, inklusiv Norge og Island. Syddansk Universitet er i kraft af sit virke som deltagende forskningsinstitution repræsenteret i ScanBalts Executive Committee gennem BioTEAMSouth.

ScanBalt blev officielt stiftet i starten af 2002 ved et pilotprojekt finansieret af Nordic Innovation Centre. ScanBalt er et netværk, som sigter på at etablere og udvikle regionale klynger og netværk samt skabe et fælles uddannelses-, forsknings- og innovationsforum, hvor deltagerne kan drage nytte af hinandens kompetencer på tværs af de nordiske og baltiske lande og regioner. Endvidere fungerer ScanBalt som et onestop-entry til ScanBalt BioRegion. ScanBalt arbejder på at synliggøre regionens kompetencer samt fjerne barrierer for mobilitet af menneskelige, finansielle og industrielle ressourcer.

ScanBalt blev i august 2004 under det årlige ScanBalt Forum etableret som selvstændig medlemsfinansieret organisation. Medlemmerne er regionale netværk, universiteter, hospitaler, tech transfer organisationer

og private virksomheder inden for Life Sciences og bioteknologi. ScanBalts ledes af en Executive Committee og et formandskab samt generalforsamlingen. Sekretariatet er beliggende i København samlokaliseret med Baltic Development Forum.

ScanBalt initierer og faciliterer tematiske projekter inden for eksempelvis stamcelleforskning, marin bioteknologi, klinisk forskning, agro biotek og intellectual property rights. Endvidere skaber ScanBalt metaregional infrastruktur inden for forskning, uddannelse og innovation. ScanBalt har således med støtte fra Interreg IIIB startet ScanBalt Campus op, et projekt, som skaber samarbejde mellem universiteter i ScanBalt BioRegion, etablerer trans-nationale videncentre (eksempelvis er ScanBalt European Faculty of Regenerative Medicine under udvikling) og fremmer brugen af fælles curricula. ScanBalt fungerer enten som platform og/eller paraply for projekter.

Endvidere skal ScanBalt søge at oplyse befolkningen om udviklingen inden for det biomedicinske område samt medvirke til, at forskeres, virksomheders og politikeres veje krydses med det formål at etablere en konstruktiv og givende dialog inden for området. ScanBalt har en vigtig rolle som talerør for ScanBalt BioRegion i EU.

Birgir Norddahl, lektor, centerleder, Teknisk Udviklings- og ForskningsCenter Odense · tlf. 6550 3651 · bino@adm.sdu.dk

Karsten Kristiansen, lektor, Biokemi og Molekylær Biologi · tlf. 6550 2408 · kak@bmb.sdu.dk

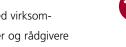
UdviklingsCenter Aarslev

Organisationen består af et konsortium, hvor Syddansk Universitet er repræsenteret. Deltagerne i konsortiet indgår i et forpligtende samarbejde, der indebærer deltagelse i relevante aktiviteter og projekter på basis af de kompetencer, hver af konsortiedeltagerne har. UdviklingsCenter Aarslev skal medvirke til en samlet udvikling af jordbrugserhvervet, følgeindustrier og forarbejdningsindustrier både inden for gartnerierhvervet men også inden for de øvrige fødevareproducerende erhverv.

Også produktudvikling og produktion af planter til øget sundhed indgår i centrets arbejdsområde. Virkemidlerne er samarbejde om konkrete projekter med deltagelse af virksomheder samt forsknings- og undervisningssektoren på Fyn. På den måde skabes der en konstant produktudvikling, der bl.a. kan fastholde og styrke indtjeningen og beskæftigelsen

Aktuelt virker UdviklingsCenter Aarslev som netværksudvikler og projektudvikler sammen med virksomheder, forsknings- og uddannelsessteder og rådgivere med særlige tiltag og projekter inden for to hovedområder:

- Planter til Sundhed
- Gartneriteknologi



www.scanbalt.org

www.ucaa.dk

ØGET FOKUS PÅ KOMMUNIKATION OG IT SKABER VÆKST

BizzKIT
Brand Base
IS FYN
IT-Forum Fyn
It-vest
Knowledge Lab
KommitFyn





Helge Munk, bestyrelsesformand, tovholder, Munk IT \cdot tlf. 6314 0700 \cdot hm@mink-it.dk Anette Pihl Nielsen, sekretariatsleder, BizzKIT \cdot tlf.: 63 15 70 52 \cdot apn@bizzKIT.dk

BizzKIT

BizzKIT blev d. 1. april 2004 etableret på baggrund af det fynske Brobyggerprojekt og fungerer primært som sekretariat for Brobyggerprojektets it- og kommunikationsklynge. It og kommunikation er et af de fire væsentlige styrkeområder på Fyn. Syddansk Universitet råder over omfattende forskningskompetencer blandt andet i cluster computing og udbyder en lang række uddannelser og kurser inden for medievidenskab, marketing, kommunikation og informationsteknologi. Erhvervsmæssigt dækker sektoren alt fra højteknologiske, grafiske virksomheder til reklamebureauer, kommunikationsrådgivere, medieproduktionsvirksomheder og specialiserede it-virksomheder.

Visionen bag oprettelsen af BizzKIT er at skabe, fastholde og videreudvikle videnstunge it- og kommunikationsarbejdspladser i Syddanmark. Opfyldelse af visionen skal nås gennem en øget relationsdreven vidensudvikling og vidensspredning mellem erhvervsliv og forskningsinstitutioner med fokus på netværks-, idé- og projektudvikling ved at:

BizzKIT (fortsat)

- Skabe et miljø for brancherne, hvor man finder inspiration og sparring.
- Formidle viden om og samarbejde med relevante forskningsområder.
- Medvirke til at skabe udvikling og vækst i fynske virksomheder gennem fremme af udvikling og anvendelse af nye teknologier og værktøjer.
- Være katalysator for udviklingen gennem formidling af viden mellem forskning og anvendelse, målgruppe-engagerende aktiviteter og netværk

 her udvikler og synliggør netværkene KommitFyn og IT-Forum Fyn de syddanske kompetencer.

BizzKIT skal gribe ideer, som opstår i netværk, koble dem til spidskompetencer i forskningsmiljøet og etablere brobygningsprojekter, som skaber og formidler viden mellem forskning og anvendelse.

Indsatsen er primært koncentreret inden for de to følgende kompetencefelter:

- Mediekonvergens
- Sundheds it/social it

BizzKITs styregruppe består af repræsentanter fra Syddansk Universitet, erhvervslivet og den offentlige sektor. Per Østergaard, leder af Brand Base, lektor på Institut For Marketing · tlf. 6550 3235 · poe@sam.sdu.dk Lone Granzow Andersen, daglig leder af Brand Base, Institut For Marketing · tlf. 6550 3122 · lga@brandbase.dk

Brand Base

Brand Base

Værksted for studier i symboløkonomi

Brand Base er en forening af praktikere og teoretikere, der i fællesskab ønsker at udvikle deres kompetencer inden for brands og branding. Syddansk Universitet stiller med en gruppe forskere med stor og anerkendt viden inden for områder som forbrugeradfærd, kommunikation og strategi. Fra praktikersiden deltager en lang række virksomheder med passion for branding. Brand Base opbygger unikke kompetencer inden for studiet af brands og branding blandt andet ved at:

- Udveksle viden mellem forskere og udøvere af branding gennem gå-hjem-møder, seminarer og konferencer samt deltagelse i konkrete projekter og værkstedsfora.
- Udvikle konkrete kompetencer og værktøjer, der kan være med til at profilere og udvikle de deltagende virksomheder.

Brand Base rummer en lang række aktiviteter, ydelser og projekter:

- Grundforskning, hvor aktiviteterne bidrager til at udvikle forskerverdenens syn på branding.
- Anvendt forskning, hvor praksis og teori indgår i et frugtbart samliv, så begge finder nye veje og tegner nye kort inden for branding.
- Formidling af den nyeste forskning inden for symboløkonomien.
- Sparring om konkrete problemstillinger i et samarbejde mellem Brand Base og medlemsvirksomheder.
- Udvikling af konkrete kompetencer og værktøjer gennem projektarbejde og erfagruppeforløb.

Brand Base er etableret af det fynske kompetencenetværk Kommitfyn i slutningen af 2002. Kontakt:

Per Overgaard Nielsen, universitetsdirektør · tlf. 6550 1020 · pon@adm.sdu.dk

IS FYN

IS FYN fremmer udviklingen af "det fynske informationssamfund"; det vil sige anvendelsen af informations- og kommunikationsteknologi i det fynske samfund med henblik på udvikling af samfundets velstand og velfærd. Det gælder såvel anvendelsen af IKT i offentlige og andre nonprofit-sammenhænge som i forbindelse med erhvervsfremme. Med henblik på at fremme dette formål skal foreningen blandt andet arbejde for at:

- Der tages initiativ til nye projekter inden for IKTområdet på Fyn.
- Der udveksles erfaringer mellem igangværende projekter og aktiviteter.

- Der gives støtte til forskellige interessegrupper, som skal afdække behovet for nye initiativer og definere nye projekter.
- Regionale, nationale og internationale samarbejdsmuligheder udvikles.
- Der sker en spredning af viden og information gennem for eksempel seminarer, konferencer, hjemmesider og udstillinger.

IS FYN kan også selv etablere og drive projekter med videre, især inden for områder af bred betydning for det fynske informationssamfunds udvikling. IS Fyn medvirker til at styrke forskning i særlige it-anvendelser blandt andet eForvaltning, eHandel og eDeltagelse.



www.brandbase.dk www.is-fyn.dk

Heidi Maglekær, konsulent, IT-Forum Fyn \cdot tlf. 63 15 70 56 \cdot hema@bizzkit.dk Per Overgaard Nielsen, universitetsdirektør \cdot tlf. 6550 1020 \cdot pon@adm.sdu.dk

IT-Forum Fyn

IT-Forum Fyn er et netværk bestående af it-virksomheder, uddannelsesinstitutioner og virksomheder samt organisationer med interesse for anvendelse af it. På nuværende tidspunkt har IT-Forum Fyn lige under 100 medlemmer. Syddansk Universitet er medlem af netværket og deltager aktivt i en række aktiviteter.

Overordnet arbejder IT-Forum Fyn med at øge synligheden af fynske it-kompetencer. Desuden ønsker foreningen at styrke it-kompetencerne og anvendelsen på Fyn. Dette gøres gennem at skabe grundlag for erfaringsudveksling og samarbejde mellem it-virksomheder, uddannelsesinstitutioner og it-brugere.

IT-Forum Fyn har en række undergrupper, som arbejder ud fra forskellige temaer, f.eks. er en række virksomheder gået sammen for at stå stærkere over for de offentlige kunder. Desuden er der en gruppe, der arbejder på at skabe øget dialog mellem it-uddannelser og erhvervslivet.

IT-Forum Fyn afholder også en lang række arrangementer hvert år, der har netværksdannelse eller inspiration som overordnet tema. Foreningen arrangerer desuden virksomhedsbesøg og opretter erfagrupper, hvor fynske virksomheder kan udveksle erfaringer. IT-Forum Fyn har god kontakt til en lang række samarbejdsparter og interessenter inden for itområdet.

Kontakt:

Anne Rasmussen, leder, it-vest \cdot tlf. 6550 2578 \cdot anra@adm.sdu.dk Henrik Pedersen, professor, dekan, Naturvidenskab og Teknik \cdot tlf. 6550 2787 \cdot henrik@imada.sdu.dk

It-vest

It-vest er et uddannelses- og forskningssamarbejde mellem Handelshøjskolen i Århus, Syddansk Universitet, Aalborg Universitet og Aarhus Universitet. Samarbejdet har til formål at styrke udbuddet af it-uddannelser i Vestdanmark samt at fremme det flerfaglige samarbejde inden for it-området.

It-vest udbyder uddannelser inden for et bredt spektrum af it-faglige områder – fra analyse, design og konstruktion af it-systemer til it-integrerede områder som organisation, webkommunikation, undervisning og ledelse. Uddannelserne henvender sig både til fuldtidsstuderende og erhvervsaktive, der vil studere på deltid.

It-vest udbyder i øjeblikket:

- ni kandidatuddannelser.
- otte masteruddannelser.
- to diplomuddannelser.

Alle uddannelser i it-vest-samarbejdet er erhvervsrettede og har et anvendelsesorienteret fokus. Det
betyder, at samarbejdet med erhvervslivet og det
omkringliggende samfund har meget høj prioritet.
Samarbejdet med erhvervslivet foregår på mange
områder i form af gæsteforelæsninger og projektsamarbejde lokalt på institutionerne samt praktikophold og forskningssamarbejde.

Desuden er erhvervslivet involveret som sparringspartner i it-vests udvikling af en fleksibel masteruddannelse samt i udbud af korte kurser, der skal formidle universiteternes nyeste viden og forskning.



www.itforumfyn.dk www.it-vest.dk

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Niels Henrik Helms, lektor, leder af Enheden for Digital Kompetenceudvikling · tlf. 6550 1483 · nhh@knowledgelab.sdu.dk

Bo Eriksen, professor, leder af Enheden for Knowledge Management · tlf. 6550 3269 · bo@knowledgelab.sdu.dk

Stine Helles, sekretariatsleder for Knowledge Lab · Tlf. 6550 2295 · she@knowledgelab.sdu.dk

Knowledge Lab

Det er blevet almindeligt at tale om vor tids samfund som et videnssamfund. Men hvor meget ved vi egentlig om, hvad viden er, og hvordan den udvikler sig? Har vi forstået informations- og kommunikationsteknologiens fulde potentiale for at dele og udveksle viden?

Ved vi, hvordan viden omsættes til praktiske løsninger, der skaber vækst og fornyelse i virksomheder og i samfundslivet? Disse spørgsmål er udgangspunkt for det forskningsog udviklingsarbejde, som foregår i Knowledge Lab.
Kerneområderne i Knowledge Labs aktiviteter er knowledge management (vidensledelse) og digital kompetenceudvikling (e-læring) eller med andre ord sammenhængen mellem organisatoriske og individuelle læreprocesser.

Knowledge Lab er en forsknings- og udviklingsenhed ved Syddansk Universitet i Odense og har formelt status af et selvstændigt center direkte under rektoratet.

Kontakt:

Lars Mols, kommunikationskonsulent, KommitFyn \cdot tlf. 6315 7055 \cdot lmo@bizzkit.dk Bo Kristiansen, informationschef, Syddansk Universitet \cdot tlf. 6550 2690 \cdot bok@adm.sdu.dk Søren Askegaard, professor, Institut for Marketing \cdot tlf. 6550 3225 \cdot aske@sam.sdu.dk

KommitFyn

KommitFyn er et kompetencenetværk for alle med interesse for kommunikation og tilhørende it. Foreningen blev stiftet d. 15. august 2002 af en række lokale kommunikationsfirmaer, it- og medievirksomheder samt uddannelsesinstitutioner og har i dag 40 medlemsvirksomheder. Syddansk Universitet var en af medstifterne af KommitFyn og har aktuelt repræsentanter i bestyrelsen, uddannelsesgruppen og New Mediagruppen.

Målet for KommitFyn er at samle, synliggøre og styrke kompetencerne inden for kommunikation og relateret it på Fyn. Dette sker gennem aktiviteter, som netværkets medlemmer finder interessante og perspektivrige. Aktiviteterne er forankret i en række temagrupper, som alle arbejder for at nå delmål inden for rammerne af foreningens overordnede vision: at gøre Fyn til et fyrtårn inden for kommunikation og relateret it i Danmark og - på sigt - i Nordeuropa.

Omdrejningspunktet for KommitFyns aktiviteter er mediekonvergens. KommitFyn søger gennem denne indsats at udbygge Fyns kompetencer på området, så de fynske virksomheder kan være frontløbere i konvergensens tidsalder. KommitFyn ønsker at tiltrække såvel kunder som de bedste kandidater til uddannelser og job. Et delmål er at fordoble beskæftigelsen og kundeopgaverne på Fyn.

KommitFyn er en del af IKT-klyngen i brobyggerprojektet - et initiativ, som amtet og kommunerne står bag. Her er kommunikation - understøttet af it - udpeget som et af de fire styrkeområder, der er omdrejningspunkt for en ambitiøs vækstplan for Odense og Fyn.



www.knowledgelab.dk www.kommitfyn.dk



AluCluster
Center for Product Development
Center for Software Innovation
RoboCluster
Teknisk Udviklings- og
ForskningsCenter Odense





Kontakt:

Morten Stærdahl Andersen, projektleder, Kontrakt- og patentkontoret · tlf. 6550 1083 · msan@adm.sdu.dk Jens Sandahl Sørensen, direktør, Alucluster · tlf. 7374 3040 · jss@alucluster.com Leif Guldborg Høyerby, projektleder, Aluvækst · tlf. 7374 3040 · lgh@alucluster.com Morten Simonsen, netværkskoordinator, Alucluster · tlf. 7374 3040 · ms@alucluster.com

AluCluster

AluCluster er et videns- og kompetencecenter for anvendelse af aluminium. Centret blev grundlagt i 1999 af de førende danske aluminiumvirksomheder med henblik på styrkelse af kompetenceudvikling og innovation indenfor aluminiumområdet i danske virksomheder. AluClusters hovedmål er at fokusere på den praktiske anvendelse af aluminium.

Det er AluClusters vision at udvikle den regionale og nationale aluminiumkompetenceklynge med henblik på at øge den globale konkurrenceevne i aluminiumvirksomhederne for derved at bevare og skabe arbejdspladser regionalt og i hele Danmark. Midlet er, med AluCluster som omdrejningspunkt, at koble virksomheder, universiteter, erhvervsskoler, designskoler og GTS-institutter sammen i nationale og internationale netværk.

AluCluster består i sin driftsform at to enheder. En konsulent- og rådgivningsdel samt en innovationsdel.

Konsulent- og rådgivningsdelen tilbyder en bred vifte af rådgivning inden for aluminiumområdet. Igennem rådgivningsdelen har AluCluster en meget tæt kontakt til virksomhederne og bliver herved inddraget i de praktiske problemstillinger, virksomhederne står over for i dagligdagen. Derudover holder AluCluster løbende kurser for virksomhederne inden for grundlæggende aluminiumforståelse.

AluCluster (fortsat)

Gennem innovationsdelen er det målet at sætte fokus på netværksopbygning, innovation og uddannelse. Dette sker blandt andet gennem projektet AluVækst, som er et regionalt vækstmiljø under AluCluster. Det er for eksempel lykkedes at samle en stor del af den danske aluminiumindustri i én database, der indeholder mere en 200 virksomheder med informationer om kompetencer, virksomhedsoplysninger osv. Databasen gør det lettere for danske virksomheder at finde danske samarbejdspartnere. Databasen findes på www.alubase.dk.

Inden for uddannelsesområdet er der bl.a. gennemført et koordineret uddannelsesprogram, der har involveret mere end 600 medarbejdere inden for aluminiumområdet.

Derudover gennemføres der en række projekter, der involverer virksomheder, universiteter, erhvervsskoler og institutioner i såvel Danmark som i udlandet.



Center for Software Innovation

Center for Software Innovation (CSI) er kompetencecentret i Sønderjylland, som opererer i spændingsfeltet mellem forskningsmiljøer og virksomheder.

Sønderborg-området er kendt for sin koncentration af mekatronikindustri. Og netop den stærke klynge af mekatronikvirksomheder skaber et felt, hvor muligheder for synergi og innovation er til stede.

CSI er stedet, hvor virksomheder kan henvende sig med en konkret problemstilling, og fungerer som katalysator mellem den viden, forskningen frembringer, og den praksis, der arbejdes med i virksomhederne. Der er ofte lang vej fra forskningsresultater til afsætning af produkter og systemer, og CSI kan bidrage til et tæt samspil mellem parterne. CSI er stedet, hvor nye teknologier gøres anvendelige og kendte teknologier videreudvikles - med stærk fokus på parternes behov.

Rammerne for samarbejdet mellem forskning og erhvervsliv er fleksible. Virksomhederne har mulighed for at gennemføre udviklingsopgaver gennem CSI eller vælge at indstationere medarbejdere for at drage nytte af den sparring, der opnås ved at arbejde i et stærkt fagligt miljø. Hertil kommer, at virksomhederne kan indgå i læringsforløb og få adgang til centrets toollab, hvor man har mulighed for at få hands-on i mangeartede udviklingsværktøjer.

CSI skal medvirke til at definere og videreudvikle regionale spidskompetencer inden for industrielle softwareløsninger. Desuden er det et klart sigte, at det innovative miljø skaber grundlaget for nye virksomheder.

CSI har siden april 2003 haft tilknyttet to akademiske Ph.D.-studerende. I september 2004 blev der tilknyttet en erhvervs-Ph.D.-studerende, og der arbejdes på at oprette endnu et erhvervs-Ph.D.-forløb.

Det meste af 2004 har CSI haft en seniorspecialist fra en stor dansk virksomhed indstationeret. Og allerede primo 2005 forventes der at blive indstationeret yderligere to specialister fra lokale virksomheder. Netværket omfatter leverandører og teknologiudviklere fra robot- og automationsbranchen samt forsknings- og uddannelsesinstitutioner med speciale i og Odense Tekniske Skole aktivt engageret i RoboClusters arbeide.

Omdrejningspunktet for RoboClusters aktiviteter er netværksdannelse og gennemførelse af konkrete udviklingsprojekter. Herigennem koordinerer og formidler RoboCluster viden og samarbejde mellem industri, forskning og undervisning inden for robot- og automationsbranchen. Aktiviteterne sikrer, at forskningsresultater finder praktisk anvendelse i erhvervslivet, og omvendt at fremadrettede behov i erhvervslivet bliver præsenteret for vidensinstitutionerne.

RoboCluster Projektbørs er erhvervslivets indgang til RoboCluster. Her kan virksomheder med udviklingsorienterede problemstillinger søge hjælp og få adgang til forsknings- og udviklingsorienterede kompetencer på vidensinstitutionerne. Indkomne projekter bliver behandlet af et RoboCluster-panel, der består af tilknyttede kompetencepersoner fra vidensinstitutionerne. Panelet er ansvarlig for, at de rette kompetencer bliver tilknyttet udviklingsprojekterne, hvilket sikrer en optimal udnyttelse af viden og teknologi i netværket.

RoboCluster SupplyNet er et leverandørnetværk for avanceret produktionsudstyr. Netværket er forankret i RoboCluster og har til formål at styrke det projektbaserede samarbejde mellem virksomhederne, herunder at samle og formidle ny viden og inspiration

RoboCluster Luna er et visionært uddannelsesinitiativ, der som det første af sin art inviterer virksomheder, studerende og forskere til at arbejde sammen på og automationsområdet. Initiativet er forankret i RoboCluster som et samarbejde mellem Ingeniørhøjskolen Odense Teknikum, Odense Tekniske Skole og Syddansk Universitet.

Birgir Norddahl, lektor, centerleder, Teknisk Udviklings- og Forskningscenter Odense · tlf. 6550 3651 · bino@adm.sdu.dk

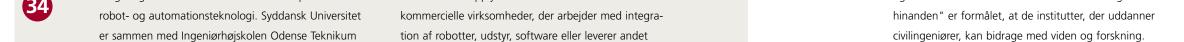
Teknisk Udviklings- og ForskningsCenter Odense

Teknisk Udviklings- og ForskningsCenter Odense (TUFCO) er et center, der skal sikre, at der i tilknytning til civilingeniøruddannelserne foregår et intensivt forsknings- og udviklingsarbejde. Centret, der yderligere markerer samarbejdet mellem Syddansk Universitet og Ingeniørhøjskolen Odense Teknikum, skal skabe kontakter mellem erhvervslivet og civilingeniørmiljøet og fremme gensidig udnyttelse og udveksling af kompetencer og ekspertise erhvervsliv og universitet imellem. Ud fra devisen "vi har gavn af civilingeniører, kan bidrage med viden og forskning. Erhvervslivets medvirken i et øget forsknings- og udviklingsarbejde vil desuden være med til at styrke civilingeniøruddannelserne.

TUFCO har siden sin oprettelse taget kontakt til en lang række virksomheder over hele Danmark. I første række for at løse projekter i virksomhederne blandt andet med hjælp fra udenlandske studerende, der indgår i ordningen om stats- og virksomhedsfinansierede stipendier. I forbindelse med stipendieordningen er der gennem TUFCO oprettet udviklingsprojekter med de virksomheder, der indgår som sponsorer i ordningen:

- Projekt med virksomheden Meneta A/S i Odense om udvikling af specielle limkomponenter til automobilbremser.
- Projekt om forbedring af frugtsaftkoncentrater ved en nyudviklet membrandestillationsproces i et samarbejde med Vallø Saft A/S.
- Projekt om udvikling af brændselsceller i samarbejde med IRD A/S.

Endvidere er der to projekter under forberedelse. Et i samarbejde med Arla om opkoncentrering af proteinblandinger fra mælkeprodukter og et projekt om modifikation af membranoverflader til ultra- og mikrofiltre. Endelig har TUFCO fået plads i et miljøprojekt i USA ved University of Illinois Urbana-Champaign, hvor TUFCO med hjælp fra Ingeniørhøjskolen Odense Teknikum i første omgang bygger membran-fermentorer, der anvendes i et større forskningsprojekt vedrørende rensning og videreforarbejdning af næringssalte i spildevand.



erhvervsrelaterede udviklingsprojekter inden for robot-

www.robocluster.dk

www.tufco.sdu.dk



FORMIDLING AF VIDEN SIKRER FREMDRIFT

Center for Anvendt Logistik og Transportforskning Center for Småvirksomhedsforskning International Danish Entrepreneurship Academy Foreningen for Dansk Projektledelse





Kontakt

Svend Ole Madsen, lektor, Institut for Miljø- og Erhvervsøkonomi \cdot tlf. 6550 1512 \cdot som@sam.sdu.dk

Center for Anvendt Logistik og Transportforskning

Center for Anvendt Logistik og Transportforskning (CALT) udfører anvendelsesorienteret forskning og formidling inden for logistik, distribution og transport. Visionen er etablering af et forsknings- og udviklingsmiljø på grænsefladen mellem Syddansk Universitet og erhvervslivet. Centret vil kunne styrke erhvervslivets konkurrenceevne gennem innovation og udvikling af fleksible omstillingsprocesser hos virksomheder i regionen og i det øvrige Danmark.

Formidlingen sker gennem publicering og foredrag samt gennem uddannelsestilbud ved Syddansk Universitet, men også gennem efteruddannelsestilbud etableret af en af parterne alene, parterne i samarbejde eller sammen med andre kursusudbydere. Centret er centralt placeret i udviklingen af undervisning og forskning inden for logistik og transport på landsplan og i Sydvestdanmark.

Den regionale satsning på logistik og transporterhverv har flere formål:

• Bidrage til øget konkurrenceevne for dansk transport- og logistikerhverv.

- Sikre, at flere unge tager en uddannelse på regionens uddannelsesinstitutioner.
- Fremme, at unge efterfølgende ansættes i regionens virksomheder.

Centrets aktiviteter:

Anvendelsesorienteret forskning, udredningsopgaver, etablering af vidensbank (data om transport og logistik) og formidling.

Centret er baseret på og understøtter de kompetencer, som er udviklet hos Syddansk Universitet og Institut for Transportstudier. Centrets fokusområder er følgende fagområder:

- Distribution og transportlogistik.
- · Logistik og it.

www.calt.dk

- Kompetencer og koncepter i transportsektoren.
- Infrastruktur (gods).
- Transportstrategier (gods).
- Data om godstransport og transportsektoren.

Kontakt

Andreas Cornett, lektor, Centerleder, Center for Småvirksomhedsforskning · tlf. 6550 1211 · cornett@sam.sdu.dk

Center for Småvirksomhedsforskning

Center for Småvirksomhedsforsknings (CESFO) arbejde er koncentreret omkring de særlige organisatoriske problemstillinger og ledelsesformer, der gør sig gældende i den betydelige del af dansk erhvervsliv, der består af små og mellemstore virksomheder.

Forskningsarbejdet i CESFO bygger på et tæt samspil mellem forskere ved Syddansk Universitet og regionale erhvervs- og konsulentvirksomheder på den ene side og et internationalt forskningsnetværk på den anden side. Pejlemærkerne for CESFOs aktiviteter er således både at bidrage til en fortsat teoriudvikling og samtidig at spille en aktiv rolle som vidensressource i forhold til de små og mellemstore virksomheder i Danmark. Forskningen er hovedsageligt empirisk baseret, og den inddrager ofte virksomheder og konsulenter i udviklingen af forskningsrelevante problemstillinger.

Centrets arbejde styrker forskningen i små og mellemstore virksomheder regionalt, nationalt og internationalt, ligesom CESFO også engagerer sig i samarbejde med andre uddannelsesinstitutioner samt branche- og interesseorganisationer. I forskningscentret arbejdes desuden med studier af den rolle, små virksomheder har for samfundsudviklingen, herunder studier af nye virksomheders dannelse og iværksætteraktiviteten i Danmark.

Det er CESFOs vision at:

- Centret er et dansk knudepunkt for den danske og internationale forskning i entrepreneurship og ledelse i mindre virksomheder.
- Centret bidrager til udviklingen af en dansk forskningstradition i tæt samarbejde med relevante brugergrupper.
- Centret medvirker i formidlingen af denne tradition til et dansk og internationalt fagpublikum.
- Centret formidler internationale forskningsresultater til det danske samfund, til styrkelse af dansk forskning og praksis.

CESFO har eksisteret siden 1995 og har gennem den tætte interaktion med erhvervslivet igangsat mange initiativer både erhvervs- og uddannelsesmæssigt.





IDEA er et forpligtende samarbejde mellem foreløbigt 50 institutioner, organisationer og virksomheder, der sikrer IDEA en unik faglig, aktivitetsmæssig og geografisk bredde inden for områderne innovation og iværksætteri.

Det er IDEAs mål at bane vejen for flere og mere kompetente iværksættere - ikke mindst fra de videregående uddannelser.

IDEAs mission er at skabe en internationalt forankret netværksorganisation, der på en ny, forpligtende og engageret måde bringer rådgivere, investorer, erhvervsledere, forskere og undervisere i samspil for at skabe flere og mere kompetente iværksættere med en viden, der har rødder i det videregående uddannelsessystem.

Det sker ved at:

- Forøge andelen af studerende, der udvikler de særlige faglige og personlige kompetencer, som skal til for at etablere egen virksomhed eller udfylde rollen som innovativ og entreprenant medarbejder i eksisterende virksomheder.
- Støtte uddannelses- og rådgivningssystemet i virksomhedernes indlejring af nye uddannelses-, rådgivnings- og ledelseskompetencer gennem udvikling af nye efteruddannelsestilbud til undervisere, rådgivere, investorer og erhvervs- og organisationsledere.
- Fremme karrierevejen som iværksætter ved at understøtte skabelsen af en stærk iværksætterfremmende infrastruktur og kultur i Danmark og i særdeleshed blandt de deltagende parter.
- Hente viden og skabe inspiration gennem forankring i førende internationale uddannelses- og forskningsnetværk og et netværk af relevante danske aktører.

Kontakt:

Pernille Eskerod, lektor, Institut for Miljø- og Erhvervsøkonomi · tlf. 6550 4154 · pernille@sam.sdu.dk

Foreningen for Dansk Projektledelse

Foreningen for Dansk Projektledelse er en interesseorganisation, som arbejder på at fremme brugen af projektformen med tilhørende kompetent ledelse af det enkelte projekt og af projektvirksomheden. Foreningens vision er at fremme, at ledelsen af projekter tages mere alvorligt.

Foreningen virker ved at:

- Udbrede kendskabet til og forståelsen for kompetent projektledelse.
- Fremme udveksling af viden og erfaringer om ledelse af projekter.
- Støtte professionalisering på området, herunder uddannelse i ledelse af projekter.
- Formidle international viden og erfaring på området.
- Fremme tiltag til forskning og udvikling på området
 og medvirke til nyttiggørelsen i praksis.

Foreningen henvender sig især til ledere og projektledere i virksomheder og organisationer. Desuden henvender foreningen sig til konsulenter, undervisere og forskere inden for området samt til studerende med særlig interesse i ledelse af projekter.

Foreningen er et netværk bestående af omkring 1500 projektfolk fra mere end 140 virksomheder og organisationer. Medlemsfremgangen er mere end 10% pr. år.

Syddansk Universitet varetager ankerfunktionen for uddannelses- og forskningsgruppen i foreningen og er herigennem blandt andet med til at arrangere tre årlige seminarer. Desuden medvirker universitetet gennem deltagelse i foreningens metodegruppe til vedvarende udvikling af et kompetencevurderingsgrundlag til brug for certificering af projektledere.

40

www.ivaerksaetterakademiet.dk www.projektforeningen.dk



Brobyggerprojektet Connect Denmark ForskerKontakten Syddanske Forskerparker Syddansk Innovation Syddansk Venture Venture Cup Danmark Viden til Vækst





Kontakt

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Brobyggerprojektet

Initiativet Brobyggerprojektet (4Frontregion) er et samarbejde mellem Odense Kommune, Fyns Amt, det fynske erhvervsliv samt uddannelses- og forskningsinstitutionerne og fokuserer på fire vækstområder, som kan tilføre den fynske region økonomisk vækst, viden og kompetencer. Det drejer sig om:

- bioTEAMsouth Bioteknologi og sundhedsområdet.
- RoboCluster Robot- og automationsteknologi.
- BizzKIT Kommunikation og it.
- Gartneriområdet.

Initiativet fungerer som brobygger ved at udnytte eksisterende styrkepositioner til at skabe nye produkter/ydelser og ved at øge samspillet mellem erhverv og vidensmiljøer - og dermed skabe vækst i regionen. Strategien i initiativet er at lade samarbejdet i den syddanske region danne grundlag for internationale netværk og samarbejder.

Som en af de væsentligste forskningsinstitutioner i regionen er Syddansk Universitet i besiddelse af et stort antal forskningsidéer med kommercielt potentiale, den bredeste forskningskompetence og de mest omfattende netværk til beslægtede kompetenceklynger nationalt og internationalt. Syddansk Universitet er derfor, sammen med Odense Universitetshospital, i vidt omfang vækstpunktet for brobyggerprojektet i samspil med regionens virksomheder.

De overordnede mål med Brobyggerprojektet er dels at skabe nye arbejdspladser og virksomheder baseret på vores fynske spidskompetencer, dels overførsel af ny viden og teknologi. På den måde skal projektet samtidig skabe basis for flere videnstunge job, der kan fastholde de færdiguddannede kandidater fra øens uddannelsesinstitutioner.

Det nære samarbejde mellem erhvervsliv, vidensinstitutioner og offentlige aktører betyder, at der er skabt et unikt miljø for videnstunge virksomheder med tætte relationer til internationalt førende forskningsog udviklingsmiljøer og en samlet markedsføring af kernekompetencer.

Kontakt:

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Connect Denmark

Connect Denmark er en nonprofit-forening, der har skabt et koncept, der giver vækst-iværksættere lejlighed til at få sparring og adgang til forretningslivets kompetencer. Assistancen dækker alt fra hjælp til udarbejdelse af forretningsplan, hjælp til at finde det rigtige team og hjælp til at få etableret den nødvendige finansiering. Connect Denmarks primære aktiviteter er:

• Springboard: 2 timers seance, hvor iværksætteren får mulighed for at præsentere sin forretningsplan/ idé for et panel af finansielle, tekniske og rådgivende ressourcer. Dette giver iværksætteren en unik mulighed for at få en professionel vurdering af forretningsplanen/idéen inden mødet med en eventuel investor. Springboardet giver samtidig mulighed for at etablere kontakt til erfarne personer i panelet og deres netværk. Springboardene er især lærerige og udviklende for iværksætterne og deres forretningsidé men også for det deltagende panel af Connect Denmarks medlemmer.

Bestyrelsesnetværket består af en række udvalgte
Connect Denmark-medlemmer, sponsorer og
samarbejdspartnere, som giver iværksættere en
unik mulighed for at komme i kontakt med erfarne
og kompetente erhvervsfolk, når der skal sammensættes en professionel bestyrelse. Dette er samtidig
en mulighed for, at medlemsvirksomhederne kan
tilbyde deres egne ansatte en unik mulighed for
personlig og faglig udvikling.

Connect Denmark er repræsenteret i København, Aalborg, Århus, Odense og Vestsjælland.

Odense Erhvervsråd er Connect Denmarks repræsentant i Syddanmark, som omfatter Fyn, Syd- og Sønderjylland.





ForskerKontakten søger at bringe virksomheder og forskere sammen ved at etablere aktive faglige netværk, som giver mulighed for dialog og udveksling af faglige erfaringer til gavn for erhvervsudviklingen i den jysk-fynske region.

Vidensudvekslingen og den faglige dialog er med til at skabe det første grundlag for produktudvikling og etablering af kommercielt bæredygtige projekter. ForskerKontakten støtter faglige netværk med fokus på udvikling, formidling og nyttiggørelse af ny viden samt teknologi gennem et tæt samarbejde mellem virksomheder og forskningsinstitutioner.

Netværk under ForskerKontakten skal bidrage til at:

- Styrke samspillet mellem forskningsinstitutionerne og erhvervslivet og stimulere virksomhedernes vækst, blandt andet ved at gøre det muligt at skabe nye virksomheder.
- Sikre, at ny viden er tilgængelig og anvendes bredt i erhvervslivet i Jylland og på Fyn.

- Forstærke og stimulere de allerede eksisterende netværk
- Informere om og markedsføre mulighederne for samspil mellem forskningsmiljøerne og erhvervslivet.
- Sikre, at de primære erhvervsserviceaktører har relevant og aktuel viden om de aktiviteter samt tilbud, der findes til virksomheder i samspil med forskningen.

ForskerKontakten er etableret med lokale kontaktenheder på Aalborg Universitet, Aarhus Universitet, Handelshøjskolen i Århus, Danmarks Jordbrugsforskning og på Syddansk Universitet. De lokale kontaktenheder er til rådighed for alle, der er, eller overvejer at være, involveret i jysk-fynsk erhvervslivsog forskningssamarbejde. Kontaktenhederne kan ligeledes hjælpe med at finde samarbejdspartnere blandt forsknings-institutioner og virksomheder i lokalområdet. Desuden kan kontaktenhederne vejlede ansøgere om projektudvikling og formulering af ansøgninger til ForskerKontakten.

ForskerKontakten ledes af en styregruppe med repræsentanter for forskningsinstitutioner, amter og erhvervsliv i den jysk-fynske region. Sekretariatet for ForskerKontakten er placeret på Syddansk Universitet.

Kontakt:

Kirsten Lehm, direktør, Syddanske Forskerparker \cdot tlf. 6315 7100 \cdot kl@syddanskeforskerparker.dk Jens Oddershede, professor, rektor \cdot tlf. 6550 1030 \cdot jod@adm.sdu.dk

Syddanske Forskerparker

Syddanske Forskerparker er nytænkning, når det gælder maksimal udnyttelse og udvikling af de syddanske ressourcer. I Syddanske Forskerparker omsættes udfordringer til udvikling, som igen åbner for helt nye kommercialiseringsmuligheder. Her kan forskere afprøve deres teorier i praksis, og virksomheder kan hente hjælp til forsknings- og udviklingsopgaver. De to grupper, der hver især besidder en stor viden, kan altså her forenes i et miljø, der fremmer gensidig udveksling af indsigt og erfaring. Syddanske Forskerparker er med deres nære kontakt til Syddansk Universitet i dag en integreret del af et fælles udviklingsmiljø med tæt kontakt til universiteter og højere læreanstalter, plus forskerparker og forskere over hele verden. Her opstår synergieffekt med andre fagområder samt nye internationale kontakter, og her findes den nye viden, som mange virksomheder efterspørger for at komme videre.

Syddanske Forskerparker henvender sig til:

• Små, mellemstore og store virksomheder med en omfattende og længerevarende forsknings- og

udviklingsopgave. En mulighed er, at opgaven løses af en allerede eksisterende virksomhed i Forskerparkerne. En anden, at virksomheden for en begrænset periode lejer sig ind i Forskerparkerne i samarbejde med forskere fra de nærliggende videnscentre.

- Virksomheder, der udelukkende lever af at forske og udvikle, vil naturligt have deres permanente liv i Forskerparkerne.
- Små, mellemstore og store virksomheder, der ønsker at få løst et konkret, mindre problem. Måske skal opgaven ikke løses i Forskerparkerne men derimod på Syddansk Universitet. I den situation vil Forskerparkerne være indgangen og kontakten til videnscentret.
- Forskere, der i deres grundforskning støder på resultater, som måske er velegnede til kommercialisering. Inden forskeren etablerer en egentlig virksomhed på baggrund af opfindelsen, kan vedkommende leje sig ind i Forskerparkerne, benytte fællesfaciliteterne og få afprøvet ideens bæredygtighed.

46

www.forskerkontakten.dk www.syddanskeforskerparker.dk

Arbejdet i forprojektfasen skal typisk foregå ved hel eller delvis etablering i Syddanske Forskerparkers regi. Udviklingsarbejdet kan foregå ved, at iværksætteren etablerer en virksomhed eller færdigudvikler idéen og sælger den til en anden virksomhed. De efterlyste idéer er af udviklingsmæssig eller forskningsbaseret karakter med et stort kommercielt potentiale. Opgaven for Syddansk Innovation er at identificere idéerne og støtte dem frem til kommercialisering.

Dette gøres bandt andet ved at:

- Støtte iværksætteren økonomisk.
- Tilbyde undervisning i entrepreneurship sammen med Syddansk Universitet.
- Udleje kontor- og laboratoriefaciliteter i Syddanske Forskerparker.
- Tilbyde administrativ hjælp, dvs. regnskabsassistance og managementbistand.
- Tilbyde konsultative tjenester i forbindelse med udarbejdelse af forretningsplaner, markeds- og feasibility-undersøgelser, muligheder for kapitaltilførsel.

Kort sagt Syddansk Innovation hjælper med at få idéen fra forprojektstadiet til driftsfasen.

Syddansk Innovation holder til i Syddanske Forskerparker i Odense. Her findes et miljø, hvor forskning og udvikling mødes med erhvervslivet, og hvor innovationskonsulenter står klar med råd og vejledning. Kontakt:

Jens Oddershede, professor, rektor \cdot tlf. 6550 1030 \cdot jod@adm.sdu.dk

Syddansk Venture

Syddansk Venture består af administrationsselskabet Syddansk Venture A/S, der varetager investeringer og investeringsovervågning i Syddansk Kapital K/S. Kapitalen i Syddansk Kapital K/S er 200 millioner kroner. Herudover forestår Syddansk Venture A/S investeringsovervågning og -opfølgning i Sønderjyllands Investeringsfond. Syddansk Venture A/S er et datterselskab af Syddansk Innovation A/S, som med udgangspunkt i forskerparkerne tilknyttet Syddansk Universitet investerer i højteknologiske udviklingsprojekter.

En række førende syddanske industrielle investorer er initiativtagere til etablering af denne ventureaktivitet med et stærkt kapital- og kompetencefundament i Syddanmark. Den syddanske ventureaktivitet skal medvirke til at skabe flere forretningssucceser blandt innovative virksomheder i det syddanske område og samtidig skabe forudsætningerne for, at investorerne kan opnå et merafkast i forhold til den generelle kursudvikling på aktier noteret på Københavns Fondsbørs.

Investeringerne er rettet mod innovative, små og mellemstore selskaber, og i vurderingen lægges vægt på, at:

- Det fremtidige forretningspotentiale retter sig mod et internationalt marked.
- Der er mulighed for at afhænde aktierne inden for fire-otte år med et betydeligt afkast.
- Aktiviteterne afspejler en positiv etisk og miljømæssig profil.

Udviklingen af forretningskoncepterne i porteføljeselskaberne vil være i de tidlige faser. De vil have et højt vidensindhold og henvende sig til et internationalt marked. Det er målsætningen at afhænde alle investeringerne og afvikle Syddansk Kapital K/S inden for en periode på 10 år. Syddansk Kapital K/S er ikke branchemæssigt afgrænset, men fokus er rettet imod brancher som:

- Miljø og energi.
- Produktionsteknologi og elektronik.
- Informations- og kommunikationsteknologi.
- Robotteknologi og automatisering.



www.syddanskinnovation.dk www.syddanskventure.dk

Morten Stærdahl Andersen, projektleder, Kontrakt- og patentkontoret · tlf. 6550 1083 · msan@adm.sdu.dk Jacob Pedersen, projektleder, Odense Erhvervsråd · tlf. 6551 1063 · jacp@odense.dk Brian Christensen, projektassistent, Odense Erhvervsråd · tlf. 6551 1063 · brc@odense.dk

Venture Cup Danmark

Venture Cup Danmark er en forretningsplankonkurrence for alle med tilknytning til en videregående uddannelsesinstitution i Danmark.

Formålet med konkurrencen er at understøtte potentielle iværksættere inden for målgruppen og trinvist at lære dem at formulere en professionel forretningsplan på basis af en egen og gerne innovativ og vækstorienteret idé.

Konkurrencen forløber over tre faser fra september til juni. Igennem denne periode tilbydes deltagerne deltagelse i en række foredragsarrangementer og workshops, der hver især fokuserer på udvalgte dele af en færdig forretningsplan. Sideløbende vil deltagende teams kunne modtage personlig rådgivning og vejledning fra undervisere, erhvervsfolk og iværksætterkonsulenter, der er tilknyttet Venture Cup Danmark som coaches.

Samtlige bidrag får en skriftlig og gennemarbejdet respons fra Venture Cup Danmarks jury. Den samlede præmiesum for konkurrencen er 500.000 kr. med 250.000 kr. alene til vinderen.

Den regionale, syddanske del af Venture Cup Danmark omfatter Fyn, Syd- og Sønderjylland og er drevet i et samarbejde mellem nedenstående sponsorer.

Syddansk Universitet
Ingeniørhøjskolen Odense Teknikum
Fyns Amt
Odense Erhvervsråd
Odense Kommune
Danfoss A/S
Elsam A/S
Sønderjyllands Amt
Vejle Amt

Fionia Bank

Syddansk Innovation A/S

PriceWaterhouseCoopers

Fyens Stiftstidende

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Viden til Vækst

Formålet med Viden til Vækst er at formidle kontakt mellem erhvervslivet og de studerende. Projektet består i at give det omgivende samfund adgang til den viden, der er på Syddansk Universitet, i form af projektsamarbejde eller praktikophold med studerende. De studerende får således mulighed for at arbejde med konkrete, praktiske problemstillinger.

Projektet er et fælles projekt mellem Syddansk Universitet og Odense Erhvervsråd. For Odense Erhvervsråd er formålet at bringe små og mellemstore virksomheder i kontakt med studerende, dels for at skabe resultater gennem de konkrete projekter, dels for på længere sigt at øge andelen af højtuddannede i virksomhederne gennem et øget kendskab til deres kompetencer.

Viden til Vækst formidler samarbejde mellem studerende og virksomheder gennem direkte kontakt til begge parter. I første omgang ved at identificere relevante problemstillinger i virksomhederne, siden hen ved at skabe kontakt med studerende og assistere i opstarten af samarbejdet. Virksomheder har også mulighed for at opslå relevante studentermedhjælpsstillinger i Jobbanken samt for at søge studerende til et givent praktikophold. Viden til Vækst er et gratis tilbud til brugerne.

Viden til Vækst gennemfører et omfattende informationsarbejde over for både studerende og virksomheder. Over for studerende via individuelle møder, informationsmøder, artikler i studieblade, opslagstavler, hjemmeside m.m. Over for virksomheder via direct mails, besøg, PR og lignende. Viden til Vækst samarbejder allerede i dag og ønsker også fremover at udbygge samarbejdet med studenterorganisationer, erhvervsfremmeorganisationer, andre aktører i grænsefladen mellem uddannelse og erhverv m.fl.

Viden til Vækst arbejder fortsat for at integrere flere erhvervsfremmeaktører i det syddanske område, således at flere virksomheder i hele det syddanske område kan få gavn af tilbuddet. Studerende og virksomheder kan komme i kontakt med Viden til Vækst via telefon, ved at besøge projektets kontor på Syddansk Universitet eller via projektets hjemmeside, hvor ledige projekter annonceres. Viden til Vækst sørger for, at annoncerede projekter er godkendt af repræsentanter for de enkelte studieretninger.











ALFABETISK INDEKS

AluCluster	30
bioTEAMsouth	10
BizzKIT	20
Brand Base	22
Brobyggerprojektet	44
Center for Anvendt Logistik og Transportforskning	38
Center for Product Development	32
Center for Småvirksomhedsforskning	39
Center for Software Innovation	33
Connect Denmark	45
Fakta om Syddansk Universitet	07
Fjord & Bælt	11
Foodture	12
Foreningen for Dansk Projektledelse	41
ForskerKontakten	46
International Danish Entrepreneurship Academy	40
IS FYN	23
IT-Forum Fyn	24
It-vest	25
Knowledge Lab	26
KommitFyn	27
NanoBioCentrum	14
RoboCluster	34
ScanBalt	16
Syddansk Innovation	48
Syddansk Universitet inviterer til samarbejde	04
Syddansk Venture	49
Syddanske Forskerparker	47
Teknisk Udviklings- og ForskningsCenter Odense	35
UdviklingsCenter Aarslev	17
Venture Cup Danmark	50
Viden til Vækst	51



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