



# **University-Enterprise Cooperation:**

*Building on new challenges  
from past experience*

## **Project Report**



Education and Culture

**Socrates**

Socrates Accompanying Measures: project I30023-AM-06-EMC

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FROM PAST EXPERIENCE*

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**Socrates Project  
Accompanying Measure project N°130023-AM-06-EMC**

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University-Enterprise Cooperation: building new challenges on past experience  
Socrates Accompanying Measure project N° 130023-AM-06-EMC

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# 1

## *Executive Summary*

## 1. Executive Summary

The area of **University-Enterprise Cooperation** has attracted significant attention in the **last twenty years**. From the first IRDAC Opinion<sup>2</sup> (Industrial R&D Advisory Committee) published in 1988 on the COMETT<sup>3</sup> programme to the LEONARDO DA VINCI programme designed to build a skilled workforce in Europe, the reports<sup>4</sup> on University-Enterprise cooperation published in the framework of the TEMPUS<sup>5</sup> programme and the recent Communications<sup>6</sup> by the Commission aimed to identify key areas to stimulate Europe's competitiveness, the principal preoccupations have not changed<sup>1</sup>.

Building on the experience of the past, the current **EU context** (Lisbon Agenda, Bologna Process, Hampton Court Council) gives **new impetus** to promote University-Enterprise cooperation as a key area to support the progress of the European Union towards becoming a dynamic knowledge-based economy. The new Lifelong Learning Programme 2007-2013 (ERASMUS strand) has a specific line for projects on University-Enterprise cooperation to support these policy developments.

As the national agency for SOCRATES/ERASMUS (2000-2006) and for the Erasmus strand within the new Lifelong Learning Programme [LLP] (2007-2013), the DAAD (German Academic Exchange Service) carried out a project "**University-Enterprise cooperation: building on new challenges from past experience**" from October 2006 to July 2007 in the framework of a SOCRATES Accompanying Measures Project. The project was undertaken in partnership with ESMU (European Centre for the Strategic Management of Universities), EDUCONSULT, Europe & Projects, Sanon Développement International, and the Austrian, Dutch, Finnish, French, Hungarian, Lithuanian, Norwegian, Polish, and Portuguese national agencies.

The **aim of the project** was to analyze the place of University<sup>7</sup>-Enterprise<sup>8</sup> cooperation in EU education and training policies, to assess how universities have integrated this dimension in their strategic developments and activities, and to formulate recommendations on how the University-Enterprise dimension could be further stimulated.

The project started with an **online survey** carried out from the end of January to early April 2007. The **aim of the online survey**<sup>9</sup> was to present a snapshot of the state-of-the-art of University-Enterprise cooperation in Europe, with a view to identifying key areas which deserve particular attention and future actions. Various

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<sup>1</sup> By Nadine Burquel, ESMU on behalf of the entire project team

<sup>2</sup> Other IRDAC reports were published on Skills Shortages in Europe (1991), Schools and Industry (1991), Quality and Relevance (1994)

<sup>3</sup> European Community Action Programme for Education and Training for Technology

<sup>4</sup> TEMPUS TOP report and handbook on University-Enterprise cooperation 1996 & 1997 ([www.esmu.be](http://www.esmu.be));

[http://ec.europa.eu/education/programmes/tempus/doc/univ97\\_en.pdf](http://ec.europa.eu/education/programmes/tempus/doc/univ97_en.pdf); TEMPUS study on University-Enterprise cooperation 2005

<http://ec.europa.eu/education/programmes/tempus/doc/studyexo6.pdf>

<sup>5</sup> Trans-European mobility scheme for university studies

<sup>6</sup> "The role of universities in the Europe of Knowledge" (2004); "Mobilizing the brainpower of Europe: enabling universities to make their full contribution to the Lisbon Strategy" (2005); "Follow up to the informal meetings of Heads of State and Government at Hampton Court" (2005); "The European Institute of Technology: further steps towards its creation" (2006); "On efficiency and equity in European education and training systems" (2006); "Delivering on the modernization agenda for universities: education, research and innovation (2006); "Improving knowledge transfer between research institutions and industry across Europe: embracing open innovation – Implementing the Lisbon Agenda" (2007) and "Follow up to the informal meetings of Heads of State and Government at Hampton Court" (2005)

<sup>7</sup> The term "University" is used to refer to all types of HEIs

<sup>8</sup> The term "Enterprise" is taken in the broad sense to refer to any entity engaged in an economic activity, irrespective of its legal form, and includes third sector organizations (NGOs)

<sup>9</sup> The results of this online survey can be downloaded in U-E Section under the following link: <http://eu.daad.de>

types of University-Enterprise cooperation activities were investigated and an assessment made of progress in the last few years.

**Three types of actors** were contacted for the online survey, i.e. Socrates and Leonardo projects, universities active in University-Enterprise cooperation (including through networks<sup>10</sup>) and former COMETT UETPs<sup>11</sup>. **The online survey revealed that** University-Enterprise cooperation is perceived as a key area, which must be further developed. There is a **perceived increase of activities** in the field of University-Enterprise cooperation, i.e. European student placements, European placements of graduates, training needs' analysis, analysis of skills deficit, training activities, transfer of innovation, R&D, curriculum design, student guidance and their integration in the labour market.

University-Enterprise cooperation is recognized as having a **positive impact** on universities in so far as it improves university management, entrepreneurial behaviours and international attractiveness. University-Enterprise cooperation takes place at all levels, i.e. regional, national, European and international levels. There is a **need for structures** and adequate platforms to promote an on-going dialogue and better understanding between Universities and Enterprises with clear strategies involving all stakeholders.

**Strategies** for University-Enterprise cooperation do not always exist and are not translated into strategic plans, objectives, financial and human resources made available to promote cooperation. There is a need for **further professionalisation** of higher education management including the University-Enterprise cooperation dimension (i.e. how to manage intellectual property, pricing and costing policies, overheads, staff management, customizing services – research/continuing education, etc...); this is also linked to the EU modernization agenda for universities. Universities and Enterprises have different cultures and mentalities. They operate with different objectives, different timetables (universities focus on the long term; enterprises on short term results, looking for quick solutions which universities are not always in a position to provide); they have different cultures and expectations.

The online survey was supported by further desk research, looking at the approach of innovative universities as outlined in Burton Clark's book "Creating entrepreneurial universities: Organizational Pathways of Transformation" (1998). Clark's book offers many successful examples of universities having adapted their governance and management to provide effective interaction mechanisms with their environment. Key features of entrepreneurial universities are a strong academic and administrative leadership at all levels in their organisations, mechanisms for collaboration with external partners and customers around core academic areas, a priority given to high academic quality in **all** activities and a diversified funding base.

The project team also looked at the major work carried out by OECD-IMHE "Supporting the contribution of Higher Education Institutions to regional development" in 2006-2007 ([www.oecd.org/edu/higher/regionaldevelopment](http://www.oecd.org/edu/higher/regionaldevelopment)). This project provides valuable lessons to support regional capacity building and strategic approaches, stimulate dialogue between stakeholders and strengthen regional innovation and economic growth. Finally the team looked at the ESMU-UNESCO-IIEP<sup>12</sup> <http://www.unesco.org/iiep/> distance courses, publications and good practices on University-Enterprise cooperation (East Mediterranean region, Central and Eastern Europe, Asia and English speaking Africa) which focused on strategic management of University-Enterprise relations, the management of interfaces, finances and staff.

**The results of the online survey are available** as a downloadable document on <http://eu.daad.de>.

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<sup>10</sup> HUMANE (Heads of University Management Administration Network in Europe; DEAN (Deans and European Academics' Network); ECIU (European Consortium of Innovative Universities); LERU (League of Research Universities); EUCEN (European Universities Continuing Education Network)

<sup>11</sup> University-Enterprise Training Partnerships as set up under the COMETT programme (1987-1995)

Based on the findings of the survey, eleven institutions were selected for further analysis and in-depth interviews. These were compiled in eleven **case studies** which produced examples of good practices and models of University-Enterprise cooperation. These range from large institution-wide plans for (transnational) **student placements**, to **mission statements** for University-Enterprise cooperation translated into strategic plans and the creation of **support structures** and services. The benefits of making placements compulsory in initial education programmes, of developing **entrepreneurship** in education and training, integrating continuing education into **lifelong learning strategies** supported through joint efforts between universities and enterprises all feature extensively in the case studies. The need to **upgrade the curriculum**, to develop **joint research** and support the development of **spin-off companies** was highlighted by a large number of respondents.

**Section 3** of this final dissemination report has the 11 case studies; it describes the methodology used to select the cases and provides a matrix highlighting good practices and where to find them.

The findings of the online survey and the case studies were presented in a **European Conference** of all stakeholders in **Bonn on 18-19 June 2007**. The conference was well attended by around 160 participants from 25 countries. Although the majority represented Higher Education Institutions, delegates also came from enterprises, national and regional governments, NGOs and student unions. National agencies for the new EU Lifelong Learning Programme (2007-2013) who had been acting formerly also as Socrates and Leonardo agencies in their respective countries were particularly prominent.

The project findings and key issues raised at the conference have been compiled in the **“Bonn Declaration on University-Enterprise cooperation in the context of lifelong learning”** (see **Section 1**) and this **final dissemination report**. The **conference report** is available in **Section 2**.

Europe's competitiveness depends on its capacity to innovate and to produce qualified workers for the knowledge society. This can be achieved by implementing **joint strategies** in **structured networks**, which can mobilize resources and knowledge to respond to new **market needs**. This implies **permanent yet flexible partnerships** and a **structured dialogue** between universities, enterprises and policy-makers.

Partnerships must be built on **shared interests to solve relevant problems** such as student placements, knowledge transfer or skills' analysis. They must be based on existing links, trust and common identity as the basis for the added value which they can provide. They rely on **sharing responsibility** (to design joint strategies and implement these), **joint risk management** and **ownership of results**. All partners benefit from increased quality in the **supply of adequate training programmes** for HEIs and enterprises, the supply of **graduates well prepared** to meet the needs of the labour market, a better return on investment in R&D and cost savings in training programmes.

**University-Enterprise cooperation** should be **explicit in mission statements** and supported by adequate structures and professional staff; it should be well **integrated at all levels** (including in faculties and departments), **monitored** on a regular basis by all stakeholders (to ensure objectives are met) and **linked to European and international strategies**. The more these features are at the basis of University-Enterprise cooperation, the more successful its development for Universities and Enterprises.

The **Bonn Declaration** constitutes the main project outcome which sets out challenges to be addressed, critical success factors and recommendations for the development of **sustainable University-Enterprise partnerships** to support long term knowledge transfer and economic growth. It is addressed to all stakeholders in Universities, Enterprises, the European Commission, other political decision-makers and social partners.

# 2

## ***The Bonn Declaration on University-Enterprise cooperation in the context of lifelong learning***

## 2. **The Bonn Declaration**

### 2.1. FOREWORD

- 1 The Bonn Declaration<sup>12</sup> derives in the first instance from discussions held within the ERASMUS 2 stakeholder consultation group, convened by DG Education and Culture in 2006-7 to consider the scope of the University-Enterprise cooperation strand of the new Lifelong Learning Programme [LLP].
- 2 A subsequent SOCRATES Accompanying Measures Project culminated in the Bonn conference of June 2007 – ‘University and Enterprise Cooperation: building on new challenges from past experience’.
- 3 The principles and recommendations set out in the Declaration are the fruits of the pooling of experience by universities, employers, national agencies and public authorities. They draw on experience of previous generations of EU-funded programmes, notably Socrates, Leonardo and previously also COMETT as well as on a wider range of knowledge transfer activities.
- 4 Broadly speaking, the term ‘University-Enterprise cooperation’ is to be read in its conventional usage. ‘University’ means a higher education institution [HEI], whatever its position in a given national or regional binary system. ‘Enterprise’ covers the range of employers and self-employers, whether large, medium or small, whether private, public or voluntary sector.
- 5 However, the University-Enterprise distinction is not as clear-cut as before. The for-profit higher education [HE] sector is growing. Public-private partnerships will become more numerous. HEIs must become more entrepreneurial if they are to make good the decline in public funding.
- 6 At the same time, fee-paying students with a significant burden of debt, and who are not risk-averse, will opt for more entrepreneurial modes of behaviour while on course. A rising number of student micro-enterprises will create challenges for curriculum designers and project managers.
- 7 These are trends that, if consolidated, will change the landscape of University-Enterprise cooperation. Their implications drive deep into the preoccupations current in HE: mobility, recognition, pedagogy, quality enhancement, student support systems, funding and governance.
- 8 It is important that HE stakeholders monitor the trends closely and that the consequences are open to public scrutiny and debate.

### 2.2. PREAMBLE

- 1 European higher education is a public good. Personal fulfillment, citizenship and economic growth are its triple top-line objectives. Within this framework, it has a major role in realising the Lisbon Agenda. Effective knowledge transfer, innovation, and deployment of human capital, all these imply much higher levels of inter-sectoral and transnational cooperation.

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<sup>12</sup> The Bonn Declaration is the principal outcome of the conference on ‘University-Enterprise cooperation: building on new challenges from past experience’, hosted by the DAAD in Bonn on 18-19 June 2007. The positions taken in the Declaration are those of the project partners and conference participants and do not necessarily reflect those of the European Commission itself.

- 2 A converging HE sector is better placed to address the needs of the European labour market. The Bologna Process therefore sets a high priority on employability and self-employability. To this end it seeks to achieve a major cultural shift: from a traditional teacher-based model to one focused on student-centred learning and on competence-building.
- 3 Recognition, mobility, quality assurance and qualification frameworks are now firmly based in a consensus that is regularly re-affirmed. As the European Higher Education Area [EHEA] nears completion, and as curriculum, governance and funding patterns evolve, a new context for university-enterprise cooperation emerges.
- 4 The contribution of HEIs to the knowledge society is necessary but insufficient. Other stakeholders must match it. Together, they must create a favourable climate based on an alignment of interests, an appropriate regulatory framework and tangible added value for all parties.
- 5 Who are the other stakeholders In LLP, they are the HEIs, the enterprises, and the public authorities including the European Commission. However, in terms of the European policy and programme framework, the scope for university-enterprise cooperation goes much wider than LLP. This Declaration also addresses the broader context.

### 2.3. UNIVERSITY-ENTERPRISE COOPERATION: MUCH HAS BEEN ACHIEVED, BUT THERE REMAINS MUCH MORE TO DO

- 1 University-Enterprise cooperation has been on the European agenda at least since the early days of the COMETT programme in the late 1980s. What began then was continued in LEONARDO DA VINCI and now features in LLP. The principal preoccupations have not changed. They can be followed through a long series of reports and policy papers, from ...

- 1988 – IRDAC opinion on COMETT
- 1991 – ERT report – Reshaping Europe
- 1991 – IRDAC Working Party 11 – Skills shortages in Europe
- 1991 – IRDAC Working Party 11 – Schools and Industry
- 1992 – Commission Communication on the cooperation of HE and industry in Europe: advanced training to the benefit of competitiveness
- 1994 – IRDAC Working Party 17 – Quality and Relevance – The challenge to European education: unlocking Europe’s human potential
- 1994 – ERT report – Education for Europeans: towards the learning society

... to recent Commission Communications ...

- On “the role of universities in a Europe of knowledge” (2004)
- On ‘mobilising the brainpower of Europe: enabling universities to make their full contribution to the Lisbon Strategy’ (2005)
- On the follow up to the informal meetings of Heads of State and Government at Hampton Court (2005)
- On ‘the European Institute of Technology: further steps towards its creation’ (2006)
- On ‘delivering on the modernisation agenda for universities: education, research and innovation’ (2006)
- On ‘efficiency and equity in European education and training systems’ (2006)

- 2 What has been achieved a great deal, if one looks at the sum of individual mobilities, University-enterprise partnerships of short duration, transnational networks which remain viable during one or two

contract periods. Too little, if one looks for potential that has been fully exploited and valorised; or if one looks for enduring University-Enterprise collaboration within a stable matrix of HEI-business-governmental relations, appropriate university strategies and infrastructures, a Europe-wide network of professional knowledge transfer practitioners, high levels of SME involvement, a pan-European placement network engaging all relevant agencies.

- 3 What has changed there are three new elements. First, there is the greater sense of urgency brought by the Lisbon Agenda. Secondly, there is the Bologna Process, which seeks to make HE systems more transparent and more inter-operable. And thirdly, the new challenges which confront society at large: the demographics of ageing; globalisation; climate change and sustainable development; the irreversible rise of information and communication technologies; the elimination of regional disparities in Europe.
- 4 LLP represents a new opportunity to seek durable solutions to frequently addressed problems. This opportunity must be taken.

## 2.4. CHALLENGES AND SUCCESS FACTORS

- 1 The competitiveness of Europe depends on the capacity of education and training systems to produce and adapt the quantity and the profiles of qualified workers. The nature of technological qualifications required by the knowledge economy and the rapidity with which they evolve make it impossible for enterprises – individually or collectively – to take up the challenge on their own.
- 2 Moreover, competitiveness requires innovation. This means that access to knowledge and qualifications must anticipate the emergence of new markets. Networks capable of mobilising resources in the framework of strategies elaborated by enterprises cannot be implemented overnight. They develop organically over time, with collaboration between the knowledge-producers and knowledge-users. These networks are now integral to the innovation process; they imply permanent yet flexible links between HE and enterprises.
- 3 A partnership between different actors is built on a shared interest in solving a particular problem, whether it is student placement, transfer and assimilation of research, innovation or spin-off. It is a forum in which knowledge is shared for mutual benefit, and thrives only if the partners cannot obtain the same results on their own. It is characterised by the sharing of responsibilities, risks and results.
- 4 Closer collaboration can be achieved if a 'dividend of quality' results from shared effort in such fields as:
  - the pedagogical component of the process of knowledge transfer and the real contribution which training makes to this transfer;
  - the quality of diplomates, measured in terms of their preparation for current and future markets;
  - the existence of high quality training materials and courses, available to enterprises as well as to HEIs themselves;
  - the capacity of HEIs to adapt to changing needs;
  - better return on investment in R&D through joint training programmes;
  - the realisation of cost savings in training.
- 5 HEIs and enterprises – but mainly HEIs – must build a University-Enterprise cooperation strategy into their mission and institutional plan, both from a general point of view and in relation to specific target sectors where this cooperation can determine success or failure.

## 2.5. THE STAKEHOLDERS

The productive interaction of the major stakeholder groups depends on full awareness of each other's culture and circumstances.

### 2.5.a Higher Education Institutions

- 1 All HEIs have internal stakeholders – students, academics and administrators – but the legitimacy of external stakeholders is less well recognised. Yet without them, there can be no coherent institutional strategy regarding University-Enterprise cooperation.
- 2 Aligning the skills base with current and future needs is critical to the growth of the knowledge economy. It implies an outcomes-based model of HE provision, conceived in a lifelong learning frame. Indeed, lifelong learning must become the core business of HEIs.
- 3 Making the switch to student-centred learning, in terms of pedagogy, curriculum, quality assurance, funding and infrastructure, is an urgent task. The Bologna Process and its associated actions (e.g. the Dublin Descriptors, the Standards and Guidelines for Quality Assurance, the Tuning Programme) are showing the way. HEIs must follow.
- 4 The embedding of skills and placements in Bachelor and Master curricula and the building of links with employers is context-dependent. Disciplines, regional labour markets, national frameworks are all diverse. The exchange of good practice renders this diversity intelligible and facilitates mobility.
- 5 Course delivery, career guidance for students, the organisation of transnational student and teacher mobility, and the management of knowledge transfer cannot function independently of each other. They require integration at the level of strategic planning, as well as operational structures that favour synergy. HEIs are well placed to host and facilitate the activities of professional intermediary bodies that bring together industrial liaison officers, career guidance counselors, knowledge transfer experts and other relevant actors.
- 6 Entrepreneurship education, which includes social enterprise and which does not depend exclusively on models exported from business schools, is an important element of curricular reform. It too must be set within the lifelong learning frame. The Oslo Agenda for Entrepreneurship Education in Europe is a good starting point, although it has yet to gain a strong lifelong focus.
- 7 Consumer education and corporate social responsibility [CSR] are also bodies of knowledge and practice that should inform curriculum design on a transversal basis and at all levels. Along with entrepreneurship education, they are drivers of the interdisciplinary inquiry on which innovation thrives.
- 8 At doctoral level, the challenge is to incorporate transferable skills into structured programmes. This means adequate funding and support systems that maximise employability. The career structure of early-stage researchers must be made more secure.
- 9 At all Bologna levels work placements must be fully integrated – backed up by appropriate cultural, linguistic and professional preparation, and supported by training agreements, supervision, mentoring, recognition of achievement and evaluation in an effective quality assurance framework.

- 10 Mobility instruments – the European Credit Transfer System [ECTS] and those included in the EUROPASS bundle (Diploma Supplement, Europass CV, Europass Language Portfolio and Europass Mobility) – are indispensable. They expedite inter-sectoral and transnational mobility and guarantee its recognition.
- 11 Lifelong learning means a sustained attempt to diversify HE constituencies. It draws in new target groups – e.g. young entrepreneurs, women entrepreneurs, and black and minority ethnic businesses – and requires innovative modes of attendance (executive release, part-time, short course, virtual, etc). It means shedding the ideology of ‘full-time-ism’.
- 12 HEIs produce knowledge, but they also absorb it, legitimise it, de-legitimise it, redirect it, transform it. These processes are necessarily self-critical, transparent and democratic. They must be backed by open access to learning and reference resources and by the nurturing of open innovation.
- 13 University-enterprise cooperation has little chance of success if relevant stakeholders do not have a voice in formulating mission and strategy. It is important, within the movement towards institutional autonomy, to change governance structures accordingly.
- 14 HEIs require adequately resourced and professional university-enterprise units, with access to senior management and to the strategic planning function. They must be central rather than peripheral; their deliverables must be defined in relation to the other core practices – teaching, research, curriculum design, staff development, and quality assurance.
- 15 Professional knowledge transfer staff deals on a day-to-day basis with their counterparts in enterprises, handling placements, intellectual property rights [IPR], collaborative and contractual research contracts. They must be familiar with the Responsible Partnering guidelines.

## 2.5.b Enterprises

- 1 There now exist compacts and instruments – such as the Responsible Partnering initiative and the Lambert Agreements – which indicate how business and industry can best work with HEIs and public research organisations [PROs]. They favour fair dealing in contract and IPR negotiations and are the basis for relationships of trust.
- 2 Sustaining cooperation across different institutional cultures requires a long-term commitment of time, labour, skills and finance. The return on investment can be significant, in terms of human resource development, high value-added innovation, new market creation, but this is not necessarily the case.
- 3 Commitment to the values of corporate social responsibility will help minimise risk, by introducing into day-to-day business practice the long-term holistic considerations that favour University-Enterprise cooperation.
- 4 The emerging qualifications frameworks will be the reference points for labour market needs analyses, skills shortage analyses, career guidance, continuing professional development, cross-border hiring and posting of workers. It is important that employers familiarise themselves with the new frameworks, as well as with EUROPASS mobility instruments such as the Diploma Supplement.
- 5 Employers’ organisations and chambers of commerce are instrumental in helping enterprise regard HEIs as privileged partners, rather than paid service providers in the knowledge supply chain.

### 2.5.c Governmental organisations

- 1 The responsibility for publicising and explaining the Bologna reforms lies principally with the signatory governments. They therefore have a responsibility to adapt their public employment structures accordingly.
- 2 If the Bachelor qualification is to afford effective access to the labour market, it must do so in both private and public sectors, and from both sides of national binary lines.
- 3 It is up to governments to remove all impediments to progression from Bachelor to Master, including across binary lines. Nationally imposed quota systems favour social inequality, low social mobility, low economic growth, and high professional protectionism.
- 4 National and regional governments are principally responsible for constructing viable lifelong learning frameworks. These hitherto have been, in the words of the Trends V report, a 'rhetorical priority'.
- 5 Governments are also responsible for creating the conditions in which new businesses can emerge from University-Enterprise cooperation activities. These include: technical support, access to finance, a favourable regulatory framework and law enforcement.
- 6 By contributing to the development of effective quality assurance systems, governments can sustain the professionalism of HEI-based knowledge transfer agencies. At the political level, there should exist a body tasked with assisting HEIs to adapt their governance and internal structures, so that the conditions for successful University-Enterprise cooperation are optimised.
- 7 Finally, governments are responsible for extending and explaining the social benefits that accrue from the strengthening of the knowledge triangle.

### 2.5.d The European Commission

- 1 The Commission's commitment to lifelong learning, innovation and University-Enterprise cooperation is not in doubt. LLP, the priorities of the structural funds and of FP7, the Competitiveness and Innovation Programme [CIP], and the initiatives on entrepreneurship and consumer education all bear witness to it.
- 2 Complementarity and coherence in policy need to be replicated at programme level. HEIs, students and above all employers, have to be persuaded that participation is worth their while. The necessary interoperability of programmes and the streamlining of procedures depend on a higher level of inter-service collaboration by Directorates General.
- 3 Inter-service collaboration will help reawaken the synergies achieved in previous programmes. Unfortunately, diachronic knowledge has not been systematically accumulated; valuable experience has been lost. It is important to create a multi-level framework that allows this experience to be retained.
- 4 Significant opportunities exist within LLP to
  - produce a compendium of good practice along the lines of the PAXIS Manual for Innovation Policy Makers and Practitioners, but centred on HEIs; it should contain clear guidelines on relation building and effectively extend the Responsible Partnership initiative to cover mobility and placements;
  - mandate LLP National Agencies to valorise and capitalise all enterprise placements;

- refine the ERASMUS Quality Commitment for student placements, with the assistance of all stakeholders, to the point at which it has currency and authority beyond LLP;
  - launch a European quality label for enterprise placements and for light-touch management procedures;
  - promote training and mainstreaming activities that professionalise knowledge transfer in an inter-sectoral and transnational context;
  - construct a European platform for the sharing of good practice in University-Enterprise cooperation;
  - provide support, in future LLP calls, for HEIs willing to formulate a genuine strategy and to establish adequately resourced structures and platforms for University-Enterprise cooperation;
  - open a portal at EU-level to act as a space for placement transactions – partner search, observatory of national, regional and sectoral trends and policy frameworks, links to other EU programmes, and so on.
- 5 There is scope for a more extensive networking of knowledge transfer units via the LLP National Agencies – and of the national agencies themselves with the EU-funded centres such as the Business Innovation Centres [BICs], the Euro Info Centres [EICs], and the Innovation Relay Centres [IRCs].
  - 6 It is urgent that the Commission achieves a consensus among users of ECTS as to the system's status, principles and procedures. Transnational inter-sectoral student mobility, particularly when incorporating study and work placements, cannot function effectively without it.
  - 7 It is urgent, too, that the Commission secure acceptance of the IP Charter, while continuing to seek agreement among Member States regarding the European patent.

## 2.6. CONCLUSION

- 1 The EU Research Advisory Board [EURAB] considers that successful innovation depends on University-Enterprise cooperation, but also on the close engagement of both parties with civil society. The knowledge society cannot afford to stifle creativity or to reject accountability.
- 2 The design of curricula, the setting of the research agenda, the assessment of impact – these and many other tasks require societal validation as well as specialist professional input.
- 3 How to involve NGOs, consumer groups, the media, the social partners and others in effective programme and project management is therefore a question that HEIs and enterprises must address.
- 4 The Aho Report on Creating an Innovative Europe (2006) supplies the economic argument for this inclusiveness. The linear innovation chain, with its sequential division of labour and the randomness of its outcomes, has become an anachronism. Public authorities must therefore – through public procurement, fiscal incentives and benign regulation – pump-prime demand-side innovation and help create lead markets. This is not possible without the collaboration of HE, enterprise and civil society.
- 5 The Bonn Declaration appeals therefore for the empowerment of all stakeholders. It sees an urgent need for structured dialogue and decision, greater cooperation within and between relevant agencies and bodies, and a better understanding of the dynamics of the knowledge society. On the basis of these, effective and sustainable University-Enterprise cooperation can be built.

# 3

## ***Report of the Bonn Conference***

### 3. Report of the Bonn Conference

#### 3.1. BACKGROUND<sup>4</sup>

As the national agency for SOCRATES/ERASMUS (2000-2006) and now for the **Erasmus** strand within the new **Lifelong Learning Programme [LLP] (2007-2013)**, the DAAD (German Academic Exchange Service) carried out a survey on University-Enterprise cooperation in the framework of a SOCRATES Accompanying Measures Project.

University-Enterprise cooperation: building on new challenges **from past experiences** was undertaken in partnership with ESMU (European Centre for the Strategic Management of Universities), EDUCONSULT, Europe & Projects, Sanon Développement International, and the Austrian, Dutch, Finnish, French, Hungarian, Lithuanian, Norwegian and Portuguese national agencies.

The team canvassed some 200 previously EU-funded project participants – principally in SOCRATES/-ERASMUS and LEONARDO as well as their predecessor programme COMETT – with a view to exploring the barriers to transnational University-Enterprise cooperation and to identifying the critical success factors. This was to be achieved by citing examples of good practice and by developing recommendations for future models and strategies.

In addition, the survey pinpointed the challenges and the expectations generated by the Lisbon Agenda and the Bologna Process. The results of the study, together with examples of good practice from across Europe, were discussed at a conference hosted by the DAAD on June 18-19 2007 in Bonn, at the end of German presidency.

The conference was well attended by around 160 participants from 25 countries. The majority represented higher education institutions [HEIs], but delegates also came from enterprises, national and regional governments, NGOs and student unions. National LLP and TEMPUS agencies were particularly prominent.

The conference recommendations constitute the **Bonn Declaration**, which is attached in annex. It will be communicated to the European Commission, to the Portuguese presidency and to the European Parliament, as well as to other political decision makers and the social partners.

The Declaration is intended to inform future EU policy and action across the spectrum of University-Enterprise cooperation, with particular reference to the design, rationale, priorities and calls of LLP.

The 2-day conference consisted of an opening session, a roundtable discussion held in plenary session, three workshops and a closing plenary. The first day addressed issues raised by the Lisbon Agenda and the Bologna Process, while the second consisted of workshops focusing on good practice and the working experience of delegates. On the evening of day one – at the conference dinner – participants enjoyed a stimulating speech by Dr Christoph Kutter, whose company Infineon Technologies AG has developed expertise in exchanging senior professionals with academic researchers.

This report follows the conference schedule.

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<sup>4</sup> by Howard Davies, as conference rapporteur on behalf of the project team. University-Enterprise cooperation: building on new challenges from past experience was the conference organised and hosted by the DAAD in Bonn on 18 and 19 June. The views reported herein are those of the conference participants and not those of the European Commission.

## 3.2. THE OPENING PLENARY



The participants were

**Siegbert Wuttig**, German Academic Exchange Service (DAAD), Germany

**Stylianos Katsoulakis**, European Commission, Belgium

**Nadine Burquel**, ESMU, Belgium

**Bernd Wächter**, Academic Cooperation Association, Belgium

**Jim Herbolich**, European Foundation for Management Development, Belgium

**Howard Davies**, conference rapporteur, London Metropolitan University, UK

Opening the conference, **Siegbert Wuttig** reported on recent initiatives taken by the German government to stimulate innovation and to bring investment in research and development to the 3% level stipulated in the Lisbon Agenda.

In the coming three years, government will put € 15b into a High-Tech strategy designed to accelerate knowledge transfer and to support new career researchers. Within this framework, DAAD will pursue its core mission of funding academic exchange, but will also extend its activities to include international student placements in enterprise – outwards to China and Japan, and inwards from the Commonwealth of Independent States [CIS] countries.

In addition, a new scholarship programme jointly run with Siemens AG will target young engineers from China, India and Russia. German industrial concerns are also committing significant sums to the setting up of bi-national universities in China, Egypt and Jordan.

Dr Wuttig called for a greater number of transnational student/work placements for students, as well as for an increased volume of transnational university-enterprise staff exchange. The world of business and industry, he said, must participate more extensively in course development at Master and Doctorate levels. (Such initiatives will be supported under the new ERASMUS programme by mobility actions, as well as by centralised multilateral projects.) Industry's assistance in the marketing of higher education [HE] worldwide and in the endowment of professorial chairs will raise the profile of university-enterprise cooperation. Universities promising their students a higher level of employability, meanwhile, must track their alumni much more efficiently than they do at present.

**Stylios Katsoulakis** agreed that new initiatives are urgently required. Japanese and US comparators showed that, not only is European HE under-funded, it is also fragmented and under-performing.

He stressed the synergy of the Lisbon Agenda, the Bologna Process and the efforts made by EU member states in the open method of coordination to build the capacity of European HE. If it is to meet the challenges of the knowledge economy, it will be necessary to effect significant change in university governance, allowing greater autonomy, accountability and stakeholder participation. This will give HEIs the scope they need, both for fostering enterprise and for entrepreneurial initiatives of their own. Joint university-enterprise course developments, which address labour market needs in a lifelong perspective and from an interdisciplinary point of view, are a high priority.

In this context, the ERASMUS strand of the new LLP will prove to be a powerful instrument. Multilateral and multi-actor projects, for which a budget of € 10.8m was allocated for the 2007 call, will help create better conditions for successful innovation. They will focus on guidance and counselling, on enterprise education, on HEI interaction with small and medium-sized enterprises [SMEs], on transferring innovations between HE and the vocational education and training [VET] sector, and on effective regional interventions. Project outcomes will enhance employability, disseminate good practice and raise the level of recognition and quality assurance of (transnational) student/ work placements.

Against this background, **Nadine Burquel**, on behalf of the project team, presented the main findings of an online survey, which the project team had undertaken and which approached around 400 stakeholders in the area of University-Enterprise cooperation<sup>4</sup>.

- **University-Enterprise cooperation is of paramount importance.** Transnational student placements are an essential instrument, but so too are training needs analyses, curriculum development, innovation transfer, counselling and guidance.
- Respondents consider that the **level of University-Enterprise cooperation has risen**, with positive results. Knowledge transfer has become more efficient and a culture of innovation has begun to thrive; more specialised programmes are being developed at transnational level; HEIs are exhibiting more entrepreneurial behaviour and greater professionalism.
- However, **the upward trend faces a number of obstacles**: a shortfall in funding; the fact that the culture shared by HEIs and enterprises is shallow – and that there is a lack of platforms on which this culture can be strengthened; inadequate inter-sectoral staff exchange.
- The **intensity of HEI activity is not a reliable indicator of strategic thinking**. Evidence suggests that the proliferating initiatives lack integration at institutional level, in terms of stakeholder involvement, staff development, quality assurance and the infrastructural capacity to accommodate bottom-up innovations in top-down strategic management.
- It is **crucial to identify the success factors critical to knowledge transfer**. They must be used to inform strategic planning, human resource management, career guidance, curriculum development, project management, intellectual property policy, and commercialisation. It is only on the basis of the critical success factors that enduring university-enterprise partnerships can be built.

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<sup>4</sup> More details of this survey as well as the results and a snap short analysis were made available to the 160 conference participants as conference reader and can be found on the following website: [www.eu.daad.de](http://www.eu.daad.de)

The summary of the project findings elicited two responses from the platform. **Bernd Wächter** felt that the survey had been too modest. Had it covered more enterprises, it might have achieved the balanced view necessary to yield useful information about University-Enterprise relations. Taking up the findings of the project, he commented that the results do not indicate that the university-enterprise relationship is characterised by a lack of trust – merely that a sound basis for mutual understanding has still to be constructed and that it is rather the difference in culture and thinking which constitutes the challenge. It is clear that HEIs do not record relevant core data, as evidenced by the predominantly impressionistic nature of the responses. On the whole, the findings prompt a sense of déjà vu, suggesting that while the years of LEO-NARDO DA VINCI and before it COMETT had undoubtedly achieved much, there is still more to be done to take University-Enterprise cooperation to new levels of integration and productivity.

**Jim Herbolich** thought it likely that the cultural discontinuity is to be found within HEIs – between administrators and academics – rather than between universities and enterprises. Many HEIs are conscious of the need to raise the level of reciprocal mobility and to professionalise their staff. They nevertheless lack a strategic perspective, a fact confirmed by the self-classified ‘decision-makers’ who made up 29% of the respondents. HEIs need urgently to put in place corporate advisory boards backed up by appropriate regional structures. He recommended that they consider bench-marking themselves against, for example, the EQUIS (European Quality Improvement System) criteria, which cover institutional mission, staff recruitment, alumni management, research, and other aspects of the University-Enterprise interface.

Closing the first session, conference rapporteur **Howard Davies** congratulated the project team for its sense of the timeliness of the survey and the conference. He noted that:

- There is indeed an element of déjà vu. The IRDAC (Industrial R&D Advisory Committee) Opinion on the COMETT programme, published in June 1988, had remarked on the link between skills shortages and market failure, the regional disparities, and the difficulty of engaging SMEs. It had asked whether COMETT should be inter-operable with the Framework Research Programme and whether HE-originated student work placements should be moved into ERASMUS. (This has now been instituted in LLP (2007-2013), with the integration of the student placement strand as well as the incorporation of a university-enterprise dimension.) Today these remain pressing concerns, but in a quite different context – that of enlargement, globalisation, the ageing population and climate change.
- In April 2007 the European Commission had published a Communication ‘Improving knowledge transfer between research institutions and industry across Europe: embracing open innovation’. It listed the principal instruments for achieving this end – the Framework Research Programme [FP7], the Competitiveness and Innovation Programme [CIP] and the structural funds – but did not mention LLP.
- The response to the first LLP call for university-enterprise cooperation initiatives, in March 2007, had been particularly disappointing. Funding had been set aside for 45 projects, but applications amounted to only half this number.
- Meanwhile, the Commission is to announce the setting up of an Innovation Cluster Observatory in June 2007 and to publish an Innovation Cluster Memorandum in December, under the Portuguese presidency. This will be followed by a conference in Sweden in early 2008.

This is the time to make focused and targeted recommendations – to HEIs, enterprises, public authorities and the full range of stakeholders. He asked the conference working groups to apply themselves to the task.

### 3.3. THE ROUNDTABLE DISCUSSION



#### The participants were

**Eberhard Becker**, University of Dortmund, Germany

**Lauri Tuomi**, Haaga-Helia University, Finland

**Frank Stefan Becker**, Siemens AG, Germany

**Gabriella Kemeny**, TEMPUS Public Foundation  
(the Hungarian national LLP agency), Hungary

**Margarete Rudzki**, Eurochambres, Belgium

**Anthony Camilleri**, European Students' Union (ESU), Malta

All agreed that University-Enterprise cooperation is key to meeting contemporary challenges and that action is urgent. But do the Bologna Process and the Lisbon Agenda provide a fertile context? **Eberhard Becker** expressed some doubts: in his view, the Bachelor-Master structure introduced by Bologna is less flexible than the previous system, making employability and the generalisation of enterprise education more problematic than before. Transnational mobility periods - if not integrated systematically into the curriculum - will be more difficult to realise than in the past, he said. He ended with a plea for more structured Bachelor and Master courses with integrated mobility.

**Lauri Tuomi**, on the other hand, saw the Lisbon Agenda as an excellent opportunity to make the shift away from the traditional linear innovation model (university to enterprise) and to build a new paradigm: dynamic innovation networks (clusters), open to multi-stakeholder participation and responsive to end-user needs. But this requires HEIs to have sufficient strategic vision to integrate new practices in pedagogy and partnership and to change their governance and quality assurance systems accordingly.

Siemens AG has more than 6000 cooperation agreements with universities worldwide. It has 200 employees working as 'teaching delegates' in Austrian and German HEIs. As a major player, it has a clear view of the success factors. In the opinion of **Frank Stefan Becker**, universities and enterprises must develop a shared view of research needs, technical developments, intellectual property, market trends and customer requirements. Moreover, they must show they have the flexibility necessary to accommodate to each other's decision-making processes and timeframes – or, preferably, to meet each other halfway. Lisbon will facilitate this. As for Bologna, he was favourable to a reform of the engineering curriculum, but warned that corporates will always hire labour wherever their markets are located; it cannot be assumed that HE provision and the needs of the labour market correspond automatically.

Like Eberhard Becker, **Gabriella Kemeny** pointed to the lack of flexibility within HE – particularly when compared with vocational education and training [VET]. Strategic thinking on the part of HEIs will be to no avail unless it renders them much more versatile in their response to labour market needs and opportunities. They must dramatically drive up the volume of work placements and inter-sectoral mobility.

Taking up the theme of skills mismatches, **Margarete Rudzki** welcomed the advent of student-centred learning promised by Bologna. In the European market environment, she said, qualifications and professional titles can be misunderstood; what is important is clear indication of what competences a student has attained and to which level. Speaking for SMEs, she called for post-graduation employment rates to figure in university rankings and for curricular reform to take on board more extensive enterprise education.

For the students, **Anthony Camilleri** pointed to apparent inconsistencies in thinking at EU level. Why is the Commission's innovation scoreboard, compiled by one Directorate General, at variance with the Shanghai university rankings so often cited by another? Mixed messages serve only to unite in scepticism national students unions which, on the broad questions of university-enterprise cooperation, take widely differing positions. Even on these broad questions, however, students in all countries share a deep anxiety. They fear that short-term considerations of revenue generation, on the university side, and the profit motive, on the enterprise side, will undermine HE's historic mission, which is to dispense a value-based education. Suspicion can be allayed – first, by anchoring university-enterprise cooperation in an ethos of social responsibility, and secondly, by building multi-stakeholder platforms cemented by genuinely reciprocal dialogues, rather than by perfunctory consultation.

## 3.4. WORKSHOP 1

*University-Enterprise cooperation – from good practice to the development of strategy at university level*



Chaired by **Maija Airas**, CIMO  
(the Finnish national LLP agency),  
the workshop heard presentations from:

**Erkki Härkönen**, University of Turku, Finland

**Deborah Lock**, the University of Surrey, UK

**Caroline Rebensburg**, Technical University Berlin, Germany

Also on the platform as commenting expert was **Ina Grieb**, representing

EUCEN, the European Continuing Education Network, Germany

The rapporteur was **Ventura Mello-Sampayo** of the  
Instituto Superior Dom Afonso III in Loulé, Portugal

**Erkki Härkönen** reported on a recently concluded survey of ‘raising employers’ awareness of the Bologna Process’ (at [www.coimbra-group.eu/reabp](http://www.coimbra-group.eu/reabp)). Parallel studies in four countries had revealed little experience of cross-border hiring and even less familiarity with the Diploma Supplement. The employers consulted had difficulty referencing the competences they required against the Bologna qualifications system. Despite these gloomy findings, employers are willing to exchange information, upgrade work placement schemes and carry forward a range of initiatives in the context of University-Enterprise cooperation. But the requisite platforms are lacking – and the University of Turku has applied for LLP funding to further promote work placements and to develop a graduate employment destinations survey at pan-European level. In the view of the Turku careers guidance service, employability requires concerted action by curriculum designers, labour market analysts, career guidance specialists and employers – in a lifelong learning perspective. Hence the usefulness of the destinations survey. Graduate employment rates test HEIs’ capacity for forward strategic thinking, policy development and implementation, effective pedagogy and alumni management; they must therefore feature prominently in the quality assurance process.

The University of Surrey boasts a graduate employment rate of 95.7% and a large portfolio of collaborations with enterprises. This track record had been pump-primed by UK government funding, but had been maintained by an entrepreneurial senior management committed to a set of coherent policy initiatives. These are: generalising enterprise education and leadership skills throughout the curriculum; addressing labour market needs at regional, national, EU and international levels; synergising curriculum development and work placement provision; integrating R&D, innovation, knowledge transfer, incubation, intellectual property and

commercialisation within a professionally managed research park. **Deborah Lock** demonstrated, too, how the venture is sustained by planned access to EU support via FP7, LLP and the structural funds. Given appropriate costing models and a favourable external climate, the University's cooperation with enterprises will continue to gain in momentum, volume and quality. Many research students have gone on to set up their own spin-off companies and their number may be expected to rise.

Taking up many of the points of previous speakers, **Caroline Rebsburg** stressed the importance of working with students – learning from their experience in order to counsel them better. TU Berlin plans a new centre for entrepreneurship which will consolidate methodologies already tested by the careers service. These include role models, student-employer dialogue on career building and life-work balance, mentoring by successful alumni, intensive short courses with in-company placement, networking events, and developing extra-curricular soft skills which enhance employability.

**Ina Grieb** added that much remains to be achieved in the Bologna Process before it will be possible to construct viable transnational collaborative models; too many national differences still act as barriers.

Invited subsequently to identify points that the debate had not covered, one delegate confirmed that in the presentations of the wide experience of University-Enterprise cooperation, insufficient stress had been placed on its transnational dimension. In many regional and national environments successful knowledge transfer models are already in place; what matters is extending them to the European context.

## 3.5. WORKSHOP 2

*University-Enterprise cooperation – how to reconcile regional and sectoral approaches*



Chaired by **Volker Gehmlich**, University of Applied Sciences, Germany  
the workshop heard presentations from:

**Mariapia Viola Magni**, University of Perugia, Italy

**Andreea Beraru**, University of Brasov, Romania

**Frank March**, University of Applied Sciences Ilmenau, Germany

and **Edmund Zirra**, University of Applied Sciences Karlsruhe, Germany

Also on the platform as commenting expert was **Stylianos Katsoulakis**,  
representing the European Commission

The rapporteur was **Rachel Duigou**, of Agence Europe Education-Formation,  
the French national LLP agency

**Mariapia Viola Magni** presented a case study of the Tiber Umbria Community Education Programme [TUCEP]. The network has been in existence for 15 years and has established itself as a strong regional agency linking HEIs, enterprises and NGOs, and working in a range of fields across the disciplinary spectrum. It draws on a variety of funding sources – EU, national and private – to deliver training programmes in the area of applied research and knowledge transfer. Within the portfolio are training needs analyses, transnational exchanges, work placements, language training, scholarships from end-of-secondary to doctoral levels, and technical assistance to project managers. TUCEP is effectively steered by a general assembly, to which report an administrative council, a technical and scientific committee, and an accounting section. Synergies have become stronger over time, to the point at which TUCEP is now a key regional player.

In a second case study, **Andreea Beraru** outlined the mission and activities of EUE-Net. A thematic network of 82 HEIs, it focuses specifically on the needs of small and micro-enterprises. Its main premise is that targeted support must be given to graduates immediately following graduation, since this is the period in which momentum and knowledge can be lost. Three instruments are crucial.

First, the work placement: experience shows that quality control is essential; EUE-Net is therefore working to establish a network of regional reference centres which will monitor placement standards against a set of agreed criteria.

Secondly, there is a need for a networked career guidance system, operating on a pan-European basis, matching labour supply to demand and accessible by universities, employers and students. Thirdly, specific modes of enterprise education have to be developed for the intending self-employed. EUE-Net has pioneered the *entreprenout* system, in which entrepreneurs spend one week in a foreign university, presenting their experience, dialoguing with students and gaining informal learning credit.

In the view of EUE-Net, University-Enterprise cooperation requires a much more solid base at EU level. The network suggests that DG Enterprise and Industry and DG Education and Culture jointly put in place a framework programme, informed by a systemic perspective, equipped with powerful instruments and appropriate budget, and capable of nurturing bottom-up initiatives and bringing them to maturity.

From the perspective of a long-established UETP [university enterprise training partnership], **Frank March** detailed his experience of offering mobility opportunities to university and enterprise staff in the Thuringia region. Even with substantial support from regional government and a strong and innovative track record of raising the quality of initial and continuing professional development, there are still considerable obstacles to be overcome. University administration is inflexible. A dedicated infrastructure is essential; it is not appropriate to leave the management of transnational inter-sectoral work placements to the international relations office. He was concerned that much of the wisdom of the COMETT programme has not been accumulated and valorised; expertise has been lost, networks have not been sustained. He called for systematic analysis of the outcomes of EU-funded projects, joint curriculum design featuring integrated placements, the institution of reliable quality assurance procedures, conferences to disseminate good practice, and the mobilisation of mobility promoters in an effective lobby.

From a similar background – a regional consortium of HEIs in Baden-Württemberg – **Edmund Zirra** focused on the problem of quality assurance. The demand for engineering placements is rising; many are found by students themselves, sometimes at a long distance from the home institution and in different industrial cultures. Abuse of students as cheap or no-cost labour is not unknown. Quality assurance is thus a *sine qua non* of a productive mobility network. He called for a European Placement Quality Standard [EPQS], to be monitored and enforced by quality reference centres established in each host country and backed up by quality placement networks run by representatives of all stakeholder groups.

One delegate subsequently felt that this was an important opportunity to address national agencies as a group. Do they intend to develop ways of working together? Or do they have a more laissez-faire attitude, relying on individual HEIs to take initiatives, which may be isolated or uncoordinated? Surely it must be the former, if existing good practice is to be valorised. Disseminating results, realising full potential and achieving significant and measurable impact, these require concerted action.

### 3.6. WORKSHOP 3

#### *Enterprise placements for students – sustainable partnership and strategies with companies*



Alexandra Angress of DAAD, Germany

**Chaired by José Ravenstein of NUFFIC**, the Dutch national LLP agency,  
**the workshop heard presentations from:**

**Maryse Dusselier**, University of Bordeaux, France

**Mattea Capelli**, La Sapienza University in Rome, Italy

**and Marjo van der Valk** (manager of the regional LEONARDO Bureau in the  
Technical University of Eindhoven); Netherlands

Also on the platform as commenting expert was **Ilona Kazlauskaitė**,  
representing SMPF, the Lithuanian national agency, Lithuania

The rapporteur was **Frank Cullen**, of Dublin Institute of Technology, Ireland

**Maryse Dusselier** explained the rationale of EUNEXT, a LEONARDO-funded network dedicated to improving placement coordination between 30 organisations in 11 countries. As she saw it, the principal difficulties encountered in planning transnational placements are the slender resources available at European level. Moreover, demand is outstripping both supply and the capacity of placement organisations to coordinate their work. Responding to this situation, EUNEXT is now committed to mapping the existing resources (websites, software, guides, etc) and to re-evaluating the adequacy of the relevant EU legislation now in force. It is also exploring the feasibility of a network of placement resource and expertise centres. On these, it believes, depends the emergence of strong quality-based professional placement networks.



In Italy, the law provides for placements during the 18 months that follow graduation. Thanks to the Bologna Process these have now been integrated into the HE curriculum, following consultation with stakeholders. Nevertheless, post-graduation placement schemes continue to function and some lead directly to employment. **Mattea Capelli** described the principles informing the transnational Unipharma (LEONARDO graduate mobility) project based in La Sapienza in Rome. Full support from adequately resourced professional staff is delivered before, during and after the student placement - both at departmental level on the content of the placement as well as by the international office for organisational matters. Stagiaires make use of the Europass Mobility transparency instrument. Performance and results are monitored and indicate that beneficiaries from under-represented categories – women, low-income groups – are particularly well served. Ways must be found to extend these benefits to larger numbers of students. La Sapienza considers that a higher level of EU support should be forthcoming.

**Marjo van der Valk** then presented a profile of LEO-NET, a European platform in which regional actors as well as mobility coordinators of HE collaborate on exchanging good placement practice, while serving the immediate needs of HEIs, students and enterprises in their own regions. The network constitutes a single access point for those requiring placement services; it acts as an observatory on EU legislation and programme development. The key is to gain critical mass through acknowledged good practice, to the point at which credibility and effectiveness are sufficient to overcome the ad hoc chaos into which the placement market can all too easily fall.

In a subsequent submission, delegates felt that they needed to learn more in detail and through transfer of know-how how to manage partner search and quality assurance in the field of mobility. They looked forward to the possibility that some sort of brokerage might be set up at European level, and that structures be developed to enhance the transfer of knowledge from the experience gained by actors in LEONARDO (and COMETT) to HEIs and national agencies concerned with implementing ERASMUS student placements.

### 3.7. THE CLOSING PLENARY



The speakers at the final session were:

**Stylianos Katsoulakis**, European Commission; Belgium

the three working group rapporteurs:

1. **Professor Dr Ventura Mello-Sampayo**, Instituto Superior Dom Afonso III, Loulé, Portugal
2. **Rachel Duigou**, Agence Europe Education-Formation, French national LLP agency, France
3. **Frank Cullen**, of Dublin Institute of Technology, Ireland

**Susanne Burger**, German Federal Ministry of Education and Research [BMBF], Germany

**Howard Davies**, conference rapporteur, London Metropolitan University, UK

**Stylianos Katsoulakis** gave delegates a detailed overview of the proposed European Institute of Technology [EIT]. He stressed that it had been conceived in acknowledgement that University-Enterprise cooperation in Europe is insufficiently structured and inadequately motivated. The EIT's eventual constitution, composition, location and budget are not yet known, because the legislative process has not been completed. Nevertheless, its rationale is clear: to make good the deficits in cutting edge research and in funding, and to secure the full participation of enterprise. When up and running, it will create the critical mass necessary to galvanise the knowledge triangle (research, education, innovation) at European level. It will staunch the outward flow of European researchers by giving them greater opportunity and more career security. And it will act as a reference model and a flagship. By 2015 it will have launched around 15 multi-partner cross-sectoral Knowledge and Innovation Communities [KICs], the first of which is likely to be in the field of climate change. Each KIC will mobilise a mix of some 2000 public and private sector researchers, PhD and Masters students, and administrators, from many countries and institutions. The legislative process will probably be completed in the autumn of 2007.

Summarising the conclusions reached by **workshop 1**, the rapporteur pointed to the emergence of a new paradigm. A major cultural shift is under way in HE, in which mission, core business and governance are undergoing rapid redefinition; but such is the existing diversity that the range of starting points is wide. This implies a closer alignment of the Bologna Process and the European Commission's modernisation agenda. Government assistance – financial, fiscal – is also essential if HE and the business world are to sustain ongoing dialogue and collaborative activity. Most importantly, both HE and business have to open up to fresh ideas. Both must be alert to the potential which the modest opportunities afforded by LLP can trigger.

The rapporteur for **workshop 2** summarised the salient points of the case presentations. She stressed the need for regional consortia to be multi-stakeholder in composition and constitution and to find the right fun-

ding mix. Keeping a partnership alive and thriving is always a challenge, particularly if projects are typically one-off and if placements are unregulated and students unsupported. Sectoral consortia are no different in this respect. She then went on to set out a list of recommendations.

To the **HEIs**: they must integrate placements into the curriculum, set them within a contractual framework and subject them to quality enhancement procedures. They must also redouble their efforts to secure the participation of SMEs.

To the **European Commission**: it must put in place an appropriately durable (from legal, financial and policy points of view) framework for University-Enterprise cooperation, one that speedily develops a reliable quality assurance methodology. In principle, this is an inter-service responsibility, which DG Education and Culture and DG Employment and Social Affairs should take on together.

To **enterprises**: they must participate in placement schemes in an educationally and socially responsible manner and play their full part in establishing viable European placement structures.

**Workshop 3** reinforced many of the points already made. There should be a common quality standard for European placements, as well as a database of company offers which can be used as a skills needs barometer. At European Commission level, serious thought should be given to the construction of an action programme designed and delivered by an inter-service team from DG Education and Culture and DG Enterprise and Industry; it would incorporate quality control and impact assessment. At regional level, greater care should be given to the monitoring of incoming mobility than has been the practice hitherto. Finally, following the dissolution of expertise accumulated in previous EU programmes in education and training, a sustained effort should be made to re-build capacity – in HEIs and in enterprises – by networking, more effective dissemination, training ventures and conferences.

Speaking on behalf of the German government and presidency, **Susanne Burger** congratulated DAAD on bringing together so many University-Enterprise activists from so many countries. Many of the issues raised are familiar to German policy-makers. Others are not so familiar. The achievement of the conference has been to set them all within the European context. Their urgency and relevance becomes all the more apparent. In recognition of this, the German presidency will be delighted to receive the conference recommendations and to forward them to the Portuguese presidency, as well as the Education Committee of the LLP, at the appropriate time.

Closing the conference, **Howard Davies** thanked the organisers and partners for their hard work and dedication, and the delegates for their contributions. Taking his cue from workshop 2, he announced that the conference recommendations would be formulated in a targeted manner, in order to encourage the various stakeholders to make specific commitments. These, if kept, will raise the profile of University-Enterprise cooperation within LLP, and of LLP itself. The recommendations will impinge on the implementation of the Bologna Process, as well as on the modernisation agenda proposed by the European Commission. Mobility, knowledge transfer, intellectual property and open innovation are all crucial to University-Enterprise cooperation. But once the full potential of this cooperation is recognised, a range of other key issues are immediately raised: the governance of HEIs, the role of private funding, quality assurance, qualifications frameworks, and industrial relations. The implications are clear. University-Enterprise cooperation cannot remain tucked away in a slim chapter of LLP. It becomes core business for HEIs, in whatever tradition they have operated until now. The conference recommendations will therefore be opportune and focused. In order to give them greater resonance, they will take the form of a **Bonn Declaration** (see **chapter 2** of this final report).

# 4

## ***Case studies on University-Enterprise cooperation***

## 4. **Case studies on University-Enterprise cooperation**

### 4.1. **METHODOLOGY**

The selection of the case studies from universities was based on the answers to the questionnaires<sup>15</sup>. Within the questionnaire, there was one open question that invited universities to focus on interesting initiatives and make interesting suggestions as to possible future activities in the field of University-Enterprise Cooperation. One of the key criteria for the selection was the information mentioned in those sections of the questionnaire (for the questionnaire of the case studies see <http://eu.daad.de> and <http://www.esmu.be>).

Another selection criterion was to ensure a good representation of either traditional academic universities and universities of applied sciences. The number of case studies for the latter group is rather limited but the examples prove to be very interesting and stimulating. Finally, a selection criterion was to have a good geographical spread of case studies across Europe.

After the selection by the project team, the selected universities were contacted and invited to participate in the analysis and upon their accord received guidelines for the interview. The expert studied in detail the questionnaire that had been filled in by the university and prepared the interview by doing some desktop research through the website of the university concerned. In some cases, the universities interviewed sent in complementary material after the interview. The text drafted subsequent to the interview was sent for approval to the interviewee.

### 4.2. **KEY ISSUES – ANALYSIS OF ELEVEN CASE STUDIES**

#### 4.2.1. **General remarks on University – Enterprise cooperation**

University-Enterprise cooperation in general is a major focus for all universities concerned. Several universities have a special focus on cooperation with SMEs. However, the focus on University-Enterprise Cooperation differs according to the university. This difference has to do with the fact that University-Enterprise cooperation is an explicit key element in the mission and the vision of the university. It also has to do with the seniority or tradition that universities may have in this cooperation or with their national background: Anglo-Saxon universities or universities of applied science seem to have in general a longer history in University-Enterprise cooperation than traditional universities in Europe.

For some of the universities that have less experience in University-Enterprise cooperation, the cooperation with enterprises confines in finding (transnational) placements for students in the framework of their initial training. Even in this case, one has to take into account the differences according to countries and disciplines since student placements or internships are compulsory in some and optional in others. All universities consider it very important that students are given the opportunity to have an international placement, hence, the importance attached to Leonardo da Vinci mobility projects, which also require cooperation with companies abroad.

There seems to be a general trend to stress increasingly placements as a compulsory/integral element of initial education; in this case, the placement is translated into study credits (mostly ECTS). The stronger focus on compulsory placements probably has to do with the fact that Higher Education Institutions in general – both academic universities and universities of applied sciences- are increasingly focusing on learning

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<sup>15</sup> by Yves Beernaert, Educonsult, on behalf of the project team

outcomes and on competencies and practical skills besides the acquisition of knowledge. This is closely linked to developments in the framework of the Bologna Process (a.o. Dublin descriptors, employability) on the one hand and the European Qualification Framework on the other hand.

#### **4.2.2. Features of University-Enterprise activities**

University-Enterprise cooperation can be split up into different groups according to different features. This characterization could be made according to the degree to which universities are involved in one or more of these clusters of actions and activities. The developments in the field of University-Enterprise cooperation are characterized by a gradual development of the concrete features mentioned below. Universities do not usually start by having a policy with a mission and vision statement, moving on to a strategic plan and then starting implementing activities. It can happen at random based on internal developments and European and international cooperation. The matrix in section 4.4. shows which university is primarily involved in which activity or activities.

##### **A clear policy, mission and vision as to University-Enterprise cooperation**

- Clear reference in the mission statement of the university concerning University–Enterprise cooperation
- Clear strategic plans to implement the policy as to University–Enterprise cooperation
- Involvement of enterprises in the management and decision-making structures and bodies of the universities
  - At central level
  - At departmental or faculty level
  - Involvement in ISO 9000 quality certificate
- Special policy elements
  - Sustainable Development: CSR (Corporate Social Responsibility), Sustainable Entrepreneurship
  - Diversity management: women/certain groups in certain jobs, careers

The creation and functioning of **structures, support services and persons** committed to and specialised in promoting and implementing the cooperation between the Universities and Enterprises;

- Career services centre
- Placement service
  - Database placements/ job offers accessible to enterprises and students
- Enterprise support service
- International office for international placements / careers
- Industrial liaison office
- Marketing unit

##### **Curricular involvement of enterprises to upgrade and update the curriculum**

- Curricular committees with representatives of universities and enterprises
- Universities organising training for companies/return on the curriculum
- Centre for professional training and education
- Needs analysis, skills deficit analysis

##### **Joint research realized by universities and enterprises**

- Joint research projects
- Technology centres (university & companies)
- PhD students in companies
- Involvement in EU framework project R&D

#### Support given to the creation of companies:

- Development of spin-offs, incubators,
- Courses on promotion of entrepreneurship
- Student entrepreneurs/student enterprise
- Mentoring or supporting (young) entrepreneurs/mentoring schemes
- Institute of applied research
- Entrepreneurship education and training initiatives
- Research support service for companies
- Small business projects and similar simulation activities

#### (Transnational) Mobility activities or schemes

- Placements for students (national, international)
- Enterprise people as lecturers in the university
- University lecturers involved in companies (as consultants/ as trainers)
- Involvement in European networks

#### Involvement in local and regional development

- Involvement in cooperation with regional boards of development, chambers of commerce
- Active involvement in regional development strategies
- Involvement in regional development projects at EU level: Interreg etc.

### 4.2.3. University-Enterprise cooperation activities – critical success factors and impact

#### Success factors for University–Enterprise Cooperation

Based on the exemplary case studies, the following success factors have been identified in supporting strategies for University–Enterprise cooperation:

- University–Enterprise cooperation should be shown as being **beneficial** to both parties: a win–win situation for both parties at all levels and in all activities (placements, research, training, skills analysis ...);
- All stakeholders (students, professors, companies etc.) are **involved** in the development and the implementation of University–Enterprise cooperation;
- University–Enterprise cooperation is best **embedded into the overall policy** and **mission statement** of the university and **into strategic plans**;
- University–Enterprise cooperation is supported **by clear agreements** or a **charter of cooperation** between parties concerned;
- University–Enterprise cooperation is **coordinated and implemented by official bodies or structures** which report on a **regular basis** to all the governing structures concerned;
- University–Enterprise cooperation bodies or offices are **run by people with experience from industry** to manage them;
- University–Enterprise cooperation is **integrated at all levels of the university**: at the political and strategic level (board of management) as well as at the operational level, at the curriculum level (advisory boards), at Research and Development level etc.;
- University–Enterprise cooperation is incorporated **in all faculties and all departments** of the universities;
- University–Enterprise cooperation policies and activities are regularly **reviewed and clearly assessed by all stakeholders** to see whether the objectives have been/are reached;
- Examples of good practice on University-Enterprise cooperation are **disseminated within and outside the university**;
- University–Enterprise cooperation is **closely linked** and intertwined with the **European and international cooperation** strategy and mobility of the university.

## Impact of University-Enterprise cooperation activities

Most of the universities interviewed state that directly or indirectly there is an impact of University-Enterprise cooperation on **improving management methods** in universities. There is also an impact on the improvement of the **entrepreneurial** spirit according to them.

(European) University–Enterprise cooperation contributes to **increasing international attractiveness of universities and enterprises**. This is of the utmost importance considering on the one hand the internationalisation efforts made by universities (in the framework of Erasmus and Erasmus Mundus etc.), globalization issues and considering on the other hand the strategies that most European countries develop in order to ‘market’ their (higher) education and training systems.

University-Enterprise Cooperation has an impact on the students’ employability. As does international mobility on the career progression of the graduates. However, more systematic research needs to be done in this area to see more clearly the interrelation between international placements of students and career progression.

It is clear that universities all make efforts to supply attractive, flexible and high quality education programmes assuring the transfer of (new) knowledge supporting industry and its staff in its competitiveness (initial education). The development of **joint degrees** (in several variations) is a good example of this. The cooperate universities in Germany can also be seen as an interesting development linked to this.

Much more than in the past universities make important efforts to **develop continuing education training programmes in cooperation with industry** that meet market needs. Universities definitely want to facilitate and accelerate the transfer of knowledge from university to industry and vice versa. Major efforts are made to encourage research within industry that also has an impact on generating/enhancing innovation culture in the university.

The development of **new companies** (spin-offs, incubators) to enhance the application of research is also high on the agenda of the universities.

Finally there is a general trend to promote in universities (European/international) (sustainable) **entrepreneurship education and training**. Recent actions and activities of the Commission of the EU (DG EAC and DG enterprise) give an important impetus to this.

As a conclusion one can state that University–Enterprise cooperation is **slowly and gradually** becoming a key element in university policy and strategy to contribute to the employability of the graduates and to the local and regional sustainable development.

In most universities, many actions and activities are set up in the field of University–Enterprise cooperation. **Very often**, however, these activities **are not integrated into an overall policy and strategy** and not set up to support the policy and the strategic plans. The decision-makers in universities are thus not necessarily aware of what is happening in the field of University–Enterprise cooperation.

Furthermore, it appears clearly that all the activities developed in the framework of University–Enterprise-cooperation are not or - if at all – only **very vaguely integrated into an overall lifelong learning strategy of the university**. The universities do not see University–Enterprise cooperation e.g. in terms of developing new training or post-graduate training etc. as an element of a life-long or life-wide learning strategy of the university (yet).

#### 4.2.4. *Some prospective views*

In several cases special structures exist at regional or national level that facilitate the dialogue between Universities and Enterprises through **special bodies** such as industry liaison offices and career services inside Universities or chambers of commerce or regional development boards, federations of certain sectors of industry.

Most universities interviewed would welcome the **creation of a European network focusing on University–Enterprise cooperation** strategies to **exchange good practice** and possibly set up **joint European projects** that will be beneficial to member universities. Linking up with bodies such as the European Round Table of Industrialists, BUSINESSEUROPE, the Confederation of European Business (formerly UNICE) and/or European sectoral federations may prove to be fruitful.

In addition to that, more research should be done into the effects and impact of University–Enterprise cooperation on the one hand on the students or graduates, and on the other hand on the universities and their faculties or departments.

Finally, both the explicit links between the University-Enterprise cooperation activities and the integration of University–Enterprise Cooperation activities into a **clear lifelong learning strategy** should be paid much more attention.

## 4.3. CASE STUDIES



### 4.3.1. *The University Sapienza Roma, Italy*



The university is divided into 21 faculties: first Faculty of Architecture, second Faculty of Architecture Valle Giulia, the Faculty of Communication Sciences, the Faculty of Economics, the Faculty of Engineering, the Faculty of Engineering, the Faculty of Humanities, the Faculty of Law, the Faculty of Literature and Philosophy, the Faculty of Mathematical, Physical and Natural Studies, first Faculty of Medicine and Surgery, the second Faculty of Medicine and Surgery, the Faculty of Oriental Studies, the Faculty of Pharmacy, the Faculty of Philosophy, the Faculty of Political Sciences, the first Faculty of Psychology, the second Faculty of Psychology, the Faculty of Sociology, the Faculty of Statistics, the School for Aerospace Engineering, the School for Library and Archive Studies.

Cooperation between the university, its several faculties and departments has always been and is very high on the agenda of the University of Rome. Due to the fact that it is such a huge university much of concrete work in this area is done in a decentralised way through a.o. consortia of the university operating at regional, local or national level. Within the university there is the desire to have a constant and regular open dialogue between the university and companies. This dialogue is not limited to **large companies** but also wants to include **SMEs** which play a major role in the Italian society in general and the regional situation around Rome in particular. The main reasons and rationale, which have lead, the University of Rome to consider E-U cooperation as a key component of the strategy of the university is that it enhances the employability of the students and graduates and that it contributes to increase the quality of university education in various ways. The constant interaction between companies and university is hoped to have an impact on the contents of the curriculum so that it is regularly updated to the requirements and needs of the companies and industry.

University-Enterprise cooperation is also believed to contribute to internationalisation and globalisation in higher education. The university is making constant efforts of opening up itself on a European and international level amongst others by the special study visits it offers to foreign guests or the study visits it organises for colleagues of the University La Sapienza to other countries, organisations and universities. Information about this is given below. Thus University-Enterprise cooperation can be said to have an **important place in the overall policy and strategy** of the University la Sapienza of Rome.

The university and its different faculties or departments are strongly involved for many years both in **Erasmus and in Leonardo da Vinci projects**. Within the Leonardo da Vinci mobility projects special focus is given to the training of students through cooperation with companies. This cooperation very often also includes research centres. A major development is that the training period of the students is officially recognised within their studies as **ECTS credits are given for the placements** or internships in companies. **Each of the faculties** is responsible for developing the links with companies that they need to set up the placements required for students. It is also at this level that the link between the curriculum and the placement is clearly discussed and agreed upon in close cooperation between the faculty or department and the companies concerned.

On a large scale, the university is involved into the **analysis of training needs of companies**. Simultaneously it is also involved in skills deficit analysis or forecasts. This has lead to the development **Laurea Specialista**

**(Masters)** of 60 ECTS, which can be followed by people working in companies with a university degree. The possibility exists to obtain this Laurea Specialista through APEL **Accreditation of Prior Experiential learning**. Transfer of innovation and **R&D activities** are at the core of the work of the University of Rome. Many consortia (on a national and European level) have been created for many years that focus on specific areas of R&D. They all involve representatives of the academic world, of the companies and of research centres from within or from outside the university. In all areas one can definitely stress that there is close cooperation between the university and companies.

Consorzio Sapienza Innovazione is an **example of a consortium** (out of the many consortia). It is composed of the University of Rome, a major Bank – Unicredit-, BiCLazio (Business Information Centre) and Filas – Finanziaria Laziale di sviluppo, all major regional economic players. The consortium has different activities. It works on the development of joint laboratories involving the universities and research centres and companies – public and private partners- in the most promising areas, especially with an interdisciplinary character.

It also helps to **develop spin-offs and incubators** so that results of research can be turned into economically viable products produced by viable companies. Finally the Consortium also promotes activities in the field of the seventh Framework programme for R&D of the EU. In this last area the Consorzio Sapienza Innovazione offers support to the development, the implementation and the management of projects. It helps in the drafting of the proposals, the coordination of the proposals and the coordination of the project and in the project management.

The objectives of the Consorzio Sapienza Innovazione are clearly to promote **scientific and technological development on a regional level involving the key players**. The focus is the creation of high-level links between the University of Rome and technological innovation offers with the objective to support the development of joint laboratory, spin-offs and incubators to promote innovation in close cooperation with industry. Thus interdisciplinary teams will be constituted of university researchers, scientists and researchers from companies to develop projects e.g. within the seventh framework programme R&D of the EU.

Other elements also contribute to the **transfer of innovation**. The university has as a policy to send abroad top level graduates to present their thesis and their experimental work to representatives of universities or companies, which contributes to transfer of innovation. Top-level graduates are offered posts in companies in Italy or abroad; in some cases students making their Ph.D. can be given the opportunity to do their Ph.D. work at a foreign university or a foreign company. Students can thus contribute actively to the development of a company and can show how innovative knowledge is transferred from the university to companies. This kind of cooperation contributes to enhancing the growth of trust between universities and companies and is the basis for more cooperation. It also enhances the trust of the foreign companies in the Italian education system.

Finally the university is also strongly involved in the creation of **spin-off companies** and incubators to facilitate the transfer from the phase of research into applied research and the production of the innovations resulting from research. The university also gives special assistance to people to help them acquire patents for innovations they have developed. Innovation is promoted already from an early stage and to this effect, the university is involved in the promotion of a competition inviting secondary school pupils to come forward with creative ideas. This is done in the framework of the project “Idee per fare” supported by the University, NOKIA and the International Youth Foundation.

The University of Rome is presently implementing **an office of industrial liaisons**. The objective of such an office is to inform the companies of the potential for cooperation which is in several areas such as R&D and applied research with different faculties and departments of the university. A key element for this liaison

office will be the creation of a database in which all current research is presented and in which information is given on what can be the practical application of the results of research. The development of this office of industrial liaison has become possible due to a grant of the **Italian Ministry of Research**. The university La Sapienza of Rome is creating a **technical steering committee on University-Enterprise cooperation, presided by the vice-rector in charge of innovation**. The objective of this technique is to see that companies are informed of all possibilities of cooperation with the university in a local, regional, national or European framework. Thus there is the hope that this could also result in more involvement of companies in European projects funded by the structural funds in general, the European social funds and by DG R&D of DG Information society.

There is probably no explicit joint U-E curriculum design and there are no consultative curriculum committees within which representatives of the university and of companies meet to update, upgrade, or design curricula. At the moment this happens more or less indirectly through the many contacts there exist between faculties, departments and companies. Curricula are adapted to the needs of the companies, but there are no official structures to support this.

**Guidance** and help is given to students to facilitate their integration into the labour market and into the professional world regularly throughout their studies. The University La Sapienza of Rome in close cooperation with the regional government of Lazio created together a consortium to implement the **creation of a database for graduates**. They can describe and present themselves and their skills and competences in it. The companies have open access to the database, can find the appropriate graduate, and contact them straight away.

**Foreign guests' visits** are an excellent way to build up meaningful and productive cultural exchanges. The University of Rome grants every year welcome to delegations from all over the world. Personalities from universities and academies, higher education institutions, higher research bodies and representatives from foreign governmental institutions are welcome to build up new cultural and scientific relationships and enhance remarkable international exchanges. Such visits focus also on the opportunity to create links with companies.

There is a **clear impact** of University-Enterprise cooperation on the whole university, on separate faculties or departments and on the separate special services mentioned in this case study but many people are not necessarily aware of it as a lot of cooperation is going on outside certain official structures. The management methods of the university are definitely influenced up to a certain extent as over many years representatives of companies have close links with faculties or departments. Companies share with academics their management competencies. This also has probably an impact on the entrepreneurial spirit at the university that has been very strong for many years. Cooperation University-Enterprise is indeed imbedded in the entire university policy, strategy and culture and has been for many years. Cooperation University-Enterprise definitely has an impact on increasing international attractiveness of the University La Sapienza of Rome. This is especially promoted through the **placements for Italian and foreign students in Italy and abroad** and through the many joint or double degree programmes in which the university is involved. There is also an impact on the supply of attractive, flexible and high quality education programmes assuring the transfer of (new) knowledge supporting industry and its staff in its competitiveness (initial education) but this will definitely be strengthened towards the future. It is clear that cooperation university-industry has helped to develop further continuing education training offers and programmes that meet the market needs. **Companies** are very interested **to send their employees back to university to acquire updated knowledge on the latest developments**. The development of continuing courses is based on a close interaction between the university and the companies, especially at local and regional level. The development of **APEL approaches, Accreditation of Prior Experiential Learning**, will favour and promote this.

Cooperation University-Enterprise definitely facilitates and accelerates the **transfer of knowledge** from university to industry and vice versa, especially also through the **many regional, national or European cooperation projects** in which both partners U-E are jointly involved and through the **consortia** created within the University of Rome. This also happens through the placements of students in companies and the assignments they carry out during those placements. University-Enterprise cooperation is also strengthened by the **mobility of professors going to companies**, by the **involvement of company representatives in various university matters**. The activities of cooperation between the university and the enterprises encourage research within and in cooperation with industry and it contributes to enhance and generate an innovation culture in the university. At the forefront of the region's innovation system, the University of Rome promotes the development of the surrounding community, and especially that of its own region. In collaboration with the region's other institutions of higher education and with the business world, the university wants to create a broad local, regional but also international community, which supports the region's creativity, making it more attractive and innovative and strengthening the region's international profile as a centre of high-quality know-how.

*Based on an interview with Antonella Cammisa, international relations office;  
University La Sapienza, Rome, Italy*





#### 4.3.2. *DANUBE European Programmes for Training, Research and Technology, Vienna, Austria*



DANUBE - European Programmes for Training, Research and Technology is the regional representative for **European training, research and technology programmes** in Vienna, Lower Austria and Burgenland. It is a partner in the Austrian Leonardo network and a founding member of Leo-Net - The Leonardo Network for Academic Mobility for training and further education programmes in Europe.



DANUBE was the driving force behind the creation of Leo-Net., Leveraging Education into Organisations - Network for Academic Mobility ; **Leo-Net** is a network of 140 dynamic partners from universities, colleges and intermediate organisations in 32 European countries, all of them involved in Academic Mobility within the European Vocational Training Programme LEONARDO DA VINCI. LEO-NET was founded in 1999 and was initiated at the EAIE conference in Maastricht, NL, the same year. In 2000 at EAIE in Leipzig, Germany, LEO-NET was set into operation by its members.

At the core of the activities the mission and the vision of DANUBE cooperation University-Enterprise (U-E). It started as a **UETP** (University Enterprise Training Partnership) with the clear objective to promote U-E cooperation. It has further developed U-E cooperation since the beginning of the nineties. Several UETPs that were created around 1990 have been active and are still playing a key role in promoting and enhancing cooperation between higher education institutions and enterprises. DANUBE has developed into a **major mediator** for cooperation in a variety of ways: promoting mobility of students, helping in skills needs analysis, developing training for companies **responding to new needs and developments**, organising fairs during which companies can meet other companies or universities specialising in a particular field etc. DANUBE has a database with around 6000 addresses of companies and it is in very close contact on a regular basis with some 250 to 300 companies.

DANUBE strongly promotes the **value of placements** as a means of transferring **innovation** from universities to companies and as a means to **recruit highly qualified staff**. It shows the value of a traineeship to companies by emphasising the win-win situation for both partners involved. Special focus is given to assure that the projects students work on during their placements **respond to an identified need** of the SMEs and turns out to be beneficial to them. If a placement has brought some concrete contribution to the company, it facilitates the cooperation with the company in the next year. DANUBE tries to provide placements that are **beneficial** both to the company and the student.

DANUBE is heavily involved in **promoting mobility of students and graduates across Europe**. One of these programmes is the Leo-Net network created under the Leonardo da Vinci programme. Within the Leo-Net the JOE has proved to be very useful. JOE stands for **Job Offer Exchange for Leonardo traineeships** within the Leo-Net network which consists of more than 120 European universities and partnerships participating in the Leonardo da Vinci programme of the European Union. Leo-net has not only proved to be useful to universities but is also very useful for Vocational Educational Training schools (VET-schools). DANUBE hopes to open up new markets and to create networks by organising placements across Europe and the world.

The issue of the **quality of (transnational student and graduate) placements** is very important and DANUBE is (in collaboration with Leo-Net) investing a lot in the quality of placements. The whole process of the placement is carefully monitored from the day of application. The trainee has to produce a clear work programme and schedule agreed on by the university and the company. Evaluation by both the company and

the university is also taken seriously. The monitoring of the students by the home organisation while the student is working in the company is done via e-mail, by phone and also by on-the-spot visits of university representatives.

Furthermore DANUBE and Leo-Net are participating in the General International Internship Conference (GIIC, held in April 2007 in Korea) where participants are able to find internships all over the world. Next to the organisation of placements in companies DANUBE is also involved in promoting Erasmus mobility across Europe by informing university departments of certain possibilities and, if needed, by helping to find contacts and partners. Networking is an important element in **promoting Erasmus mobility**.

Danube also has a **special initiative to invite companies to visit other companies**. The objective is to enhance **networking** between companies in special innovative fields and to facilitate a fruitful exchange and transfer of knowledge from universities to companies and among companies. Thus also new markets and new products are created.

DANUBE is also involved in **training needs analysis** and skills deficit analysis. Thus it is in regular contact with an important number of companies to discuss training issues, develop training materials and organise training events. Many of the training events focus on innovation management for companies.

DANUBE organises so-called **micro-audits**. This is a **workshop approach** in which specialists from universities and/or other specialised companies try to identify training needs or the **skills needs of the SME audited**. Subsequently to this up to three-hour micro-audit, proposals are made to help the SME concerned. Follow-up to this audit is also usually part of the strategy implemented. (DANUBE is particularly interested in qualifications learners obtain through different trainings and it follows very closely all development related to the **European Qualification Framework (EQF)**. It informs the members and keeps track of developments in that area as they are crucial to education and training in the European and global context). DANUBE is very clearly aware of the fact that **Small and Medium Enterprises (SMEs)** do not have the time to look to recent developments in R&D as they have to focus on their core business and survival elements of the company. This is why DANUBE helps to transfer the results of R&D and knowledge to SMEs. Another task of Danube is to make SMEs **aware of the results of innovation and of research and development initiatives**.

The **transfer of innovation** is in a variety of ways a key activity of DANUBE. DANUBE organises brokerage events for companies. A brokerage event is a meeting point for companies where they have the opportunity to meet university representatives or other companies working in a specific high technology area where innovation is of high importance. Thus DANUBE has **organised events referring to the latest technology bringing together academics and companies**. In this way the transfer of technology is definitely promoted. DANUBE will also invite companies to join European R&D projects and will make efforts to facilitate their involvement in those projects. Through discussions and meetings DANUBE also tries to stimulate interaction between the innovation culture in universities and in companies, especially SMEs.

To a certain extent the work of DANUBE has an impact on the contents of the curriculum. By organising placements universities are in close contact with companies and 'listen' to their concerns. Placements should link up with the needs of the curriculum but also with the needs of the companies. The university is aware of the developments that exists within companies and know about specific needs to which the university has to respond. This creates a win-win situation in placements. Both partners – the university and the company – benefit from it and the placement is also beneficial for the organisation and its development.

DANUBE is also involved in **informing companies about the Bologna process** and the new structure of higher education which is slowly developed by the Bachelor (BA) Master (MA) structure in Europe. Many companies have not heard of the latest developments in the framework of Bologna. They have to be informed

about it to avoid that they do not know the qualification structure put in place in the last years at European level. It is considered to be important that all companies, **especially SMEs** are informed about the potential of the Bologna developments and those related to the European Qualification Framework (EQF).

There is a clear impact of University-Enterprise cooperation on universities although it is not always easy to pinpoint this impact on separate faculties or departments. The management methods of the university are influenced up to a certain extent. Therefore representatives of companies are closer in touch with universities and might be involved in **boards of management of universities**. Thus they bring management skills to universities which prove to be useful and stimulating. To a certain extent this also has an impact on the entrepreneurial spirit at universities which should be further developed in the future. The cooperation of a university and enterprise certainly enhances **increasing international attractiveness both of universities and industry**. This is especially promoted through placements of Austrian and foreign students in Austria and abroad. This will also have a direct and indirect impact on the economic and trade relations with the countries concerned. In parts there is an impact on the supply of attractive, flexible and high quality education programmes which assure the transfer of (new) knowledge supporting industry and its staff in its competitiveness (initial education). Presumably this aspect will be strengthened in the future. It is clear that University-Enterprise cooperation has helped to develop **further continuing education training** offers and programmes that meet the market needs. The companies are very interested to send their employees back to university to acquire knowledge about the latest technological developments. The development of continuous courses is based on a close interaction between university and company especially at local and regional level. Development of continuous training is a key issue for university faculties and departments.

University–Enterprise cooperation **facilitates and accelerates the transfer of knowledge from university to industry and vice versa**. In this respect DANUBE plays a key role as a mediator. The transfer of knowledge also happens through the placements of students in companies and the project-oriented (concrete!) assignments they carry out during those placements. This is also strengthened by the mobility of professors going to companies, by the involvement of company representatives in the university board or in faculty boards. The activities of cooperation between the university and the enterprises definitely encourage research within and in cooperation with industry. It contributes to enhance and generate an innovative culture at the university. At the forefront of the **region's innovation system**, DANUBE promotes the development of the surrounding community. In collaboration with the region's institutions of higher education and with business, DANUBE (and through DANUBE the universities) wants to create a broad international community, which supports the region's creativity, making it more attractive and innovative and strengthening its international profile as a centre of high-quality know-how<sup>16</sup>. Through cooperation with enterprises and universities/universities of applied sciences DANUBE wants to offer **qualified employees, wide-ranging networks, high quality experts, multi-disciplinary research cooperation and versatile adult education opportunities** to its partners. It hopes that University-Enterprise cooperation will lead to broad research and education network as well as to different forms of cooperation and services. It might create strategic partnerships for businesses or other organisations so that they will get a genuine competitive edge on the market.

*Based on an interview with Bruno Woeran, European Programme for Training, Research and Technology, Danube Austria*

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<sup>16</sup> The team of colleagues working at DANUBE have developed special expertise and have become competent in most matters concerning University-Enterprise cooperation. The fact that they attend major European and international conferences such as the European Association for International Education (EAIE) or the GIIC (General International Internship Congress) at global level, it contributes to improving their professional skills.

### 4.3.3. The University of Paris X, France



Nanterre is the second largest campus in France after Nantes, with its own Olympic pool and a stadium. It welcomes 30 to 35,000 students every year in all fields of studies: social sciences, philosophy, literature, history, languages and linguistics, economics, law and political sciences as well as teacher training, acting, cinema, physiology and sports. The University Paris X has some 80 research laboratories, which give it an outstanding international reputation due to its high quality research activities. Every year the university delivers 10,000 degrees in 268 areas, which allocates it as one of France's most important universities. The University Paris 10 regroups: nine units (UFR, Unités de Formation et de Recherche) where education, research and training is organised and delivered. Within those 9 units education for the first, the second and third cycle are organised within the framework of academic and professional education and training.

University-Enterprise cooperation has been at the heart of the primary concerns of the University Paris X for many years and the university is working in these areas. It can be said to be both an implicit and explicit element of the mission and vision or the policy of the university. As the Université Paris X is such a large institution and as the interview focused on the one particular department, the UFR de sciences et techniques des activités physiques et sportives (STAPS), the comments in the present case study only refer to this specific department. It would take a long study to describe a full picture of all the forms of university industry within Paris X. It is particularly interesting to focus on the UFR department and its many links with the professional world as it gives a special and fruitful area of cooperation with industry in a less traditional field, the one of physical education and sports.

The focus on the cooperation university industry is only on the activities developed by the UFR de sciences et techniques des activités physiques et sportives (STAPS). It has to be stressed that this UFR has a strong focus in all its activities on handicapped or disabled people and their active involvement in physical education and sports. One should bear this clearly in mind while reading the present case study.

Different elements play a key role in university University-Enterprise and very special focus is given to European and international cooperation **with a strong participation of professionals and professional organisations**. Special focus is given to European student placements/ traineeships/ European placements for graduates, to European Erasmus Intensive Programmes (IP) and Curriculum Design (CD) projects, to networks such as an Erasmus thematic network, to R&D activities and to Leonardo activities, just to mention a few.

The UFR **promotes different forms of European cooperation and mobility**, which in most cases have links with the professional world. It is indeed considered to be important that students in physical education and sports are given many opportunities to practice during their placements or internships in a real professional environment.

First of all the UFR, Paris X is involved **in a very large IP, Intensive Programme of Erasmus, involving 35 universities and also three professional partners**. This leads to IPs with some 60 participants of which about 30 are students, 30 are teachers and some representatives of the professional world. This intensive programme lasts seven weeks and has a major impact on the professional training of the students and lecturers involved. That is very special about the IP is that it has developed gradually to an IP online as the students and lecturers involved are filmed during their activities. Those videos are accessible as learning and/or teaching materials to all those involved in the IP. This online IP is thought to have great potential for the training of professionals.

Furthermore students have the opportunity to do a **placement of three months abroad in the framework of Leonardo da Vinci mobility**. The demand for placements abroad is very high so that it is difficult to give the possibility to all the interested students. Strong cooperation with the international relations office of the university facilitates finding placements abroad. On the website of the international relations office students can find a lot of useful information that help them to find placements abroad or in France.

The cooperation in the framework of Erasmus has now also been widened at a global level through cooperation within the **framework of Erasmus Mundus**. Over the last years the UFR has also been involved in a joint action project of Socrates, from which the activities originated the **Erasmus thematic network: AEHISIS - Aligning a European Higher Education Structure in Sport Science**. In all those activities and networks professionals have played and are playing an important role. These activities have also lead to a **Joint Masters degree developed in the framework of an Erasmus Curriculum Development Project with the Czech Republic**. Also at this level professionals are involved.

On the one hand the URF de sciences et techniques des activités physiques et sportives (STAPS) of the Université Paris X has in fact been involved in all the **different actions of Erasmus and on the other hand in Leonardo mobility projects**. Moreover the URF has been and is involved in **R&D projects** within which again representatives of the professional world play an active role. It has to be stressed that next to professionals, regional and/or departmental authorities and even national authorities are and have been involved. It was stressed that all these European activities and networks mentioned above, in which there are strong and **close cooperation with professionals and the local/regional community**, have been helpful in achieving an important harmonisation of the education and training in the field of physical education and sports.

In cooperation with **professionals training needs analysis and skills deficit analysis (forecast)** are made. This results in the contents of the courses and degrees to be updated and upgraded regularly. These activities also result in the organisation of training activities, which enable professionals to come back to the university and be trained for the most recent techniques and informed about the most recent developments. This also enables the **transfer** of the latest innovative developments resulting from **R&D** at French, European and international level to professionals.

**Curriculum design** is also influenced by the cooperation between the URF of the Université Paris X, its partners and professionals or professional organisations involved in many European and international projects, networks and activities. Even if there is no explicit joint curriculum design with special committees or groups meeting at regular intervals, the interaction between the university and the professional world is so strong that there is a clear effect on the contents of the curriculum.

In this case the **strong cooperation** between the **university and actors of the region** and other stakeholders (especially at the level of the URF de STAPS) contributes greatly to the integration of graduated students into the labour market. The placements they do in France or abroad prove to facilitate the finding of a job. A team of some 10 people is involved in promoting the European and international activities within the URF de STAPS of Paris X university. The only specific competence they require from the participants is foreign language skills, which is said to be sometimes a problem.

It is difficult to say whether cooperation between the URF de sciences et techniques des activités physiques et sportives (STAPS) has contributed to the improvement of the management methods within the URF structure but the involvement in all those European and international projects is definitely an expression of a strong entrepreneurial spirit in this URF. **The development of European and international cooperation activities in close cooperation with professionals** has definitely given a major impetus to the departments and

its members of staff at all levels. This can be seen in the fact that many professors of the URF are interested in developing or in being involved in European or international projects.

Certainly there is a major impact on the international attractiveness of universities and industry which has greatly increased due to European and international projects and especially to the cooperation between university and professionals within those activities. Students do know that European cooperation involving universities and professionals improve of the quality of education and training.

The cooperation between the URF de STAPS and the professional world definitely contributes to the supply of attractive, flexible and high quality education programmes. It is assuring the transfer of (new) knowledge supporting the professional world and its staff in its competitiveness and in the quality of the services they render.

This strong cooperation definitely leads to the **development of continuous education** training in this specific field, which meets the market needs. It would be good if more such continuous training activities could be developed for they are limited at the moment. It would be especially interesting to develop continuous training activities for professionals abroad during their training. Unfortunately this proves to be rather difficult to be put into practice.

All those activities definitely facilitate and accelerate the **transfer of knowledge from university to industry and vice versa**. It also encourages research in cooperation with the professional world. It is not exaggerated to state that all those European and international activities in close cooperation with the professional world are generating and enhancing an innovative culture in the URF de sciences et techniques des activités physiques et sportives (STAPS) of the Paris X University.

As a final element it has to be stressed that the value of the European and international activities is definitely acknowledged by the university and it is seen as a major **contribution to innovation in higher education** by the fact that they have been officially integrated (and acknowledged) in the four year policy plan of the university.

*Based on an interview with Prof. Claire Boursier, Maître de conférence,  
UFR de sciences et techniques des activités physiques et sportives (STAPS), France*



#### 4.3.4. *The University of Surrey, United Kingdom*



A research intensive university consisting of four faculties – Faculty of Health & Medical Sciences, Faculty of Engineering & Physical Science, Faculty of Human Sciences and the Faculty of Management & Law. The University of Surrey with some 16000 students is noted for research into small satellites, with its Surrey Space Centre and spin-off commercial company, Surrey Satellite Technology Limited.

University-Enterprise cooperation has been driven **over the last 20 years** by interested academics that got involved in a **variety of activities** such as COMETT (European Community Program on cooperation between universities and industry regarding training in the field of technology that ended in 1994), TVIG (The Tennessee valley Infrastructure Group) and other initiatives. **The EU and its cooperation programmes are seen as a key element of the research agenda of the University of Surrey and as a route to enhance the student experience abroad.** The main reasons and rationale which lead the University of Surrey to consider U-E cooperation as a key component of the strategy of the organisation are on the hand the fact that this cooperation creates many opportunities for students (placements) and for the academic community (research, staff mobility) **U-E cooperation is referred to** either directly or indirectly in a number of **institutional strategy documents** such as the overarching university strategy, the Research strategy, the International strategy and the Enterprise/ KT transfer strategy. The overarching university strategy for the period 2004 – 2014 explicitly mentions as an objective: the development of “An Enterprise Strategy, calling for active commercial management of the University’s intellectual assets and the support of entrepreneurial activity among students and staff, complements the research and teaching strategies.” Cooperation with companies is also highlighted in several key policy documents. The Strategy emphasises further “the **importance of enhancing the student experience, academic and non-academic**”.

The University of Surrey has a **number of centres which are involved with EU funding** and which directly or indirectly have a focus on University-Enterprise cooperation.

- **Research & enterprise support** – enterprise related programmes; research
- **Registry** – student **mobility programmes**
- **Academic schools** – **skills development** and student mobility
- **Various skills centres** – providing student with the skills required for a EU placement

**The Research & Enterprise Support** (formerly UniSdirect), works to maximise the performance of the University of Surrey in research, enterprise and knowledge transfer and its activities reflect the university’s commitment to engagement with the needs of society and the economy. The R 1 E Support makes its contribution by delivering high quality, professional support in **four key areas: assisting academics** in applying for research grants and providing **consultancy contracts** from research funding organisations and industrial and commercial partners; providing **qualified bid and project management resources** for complex research programmes and other initiatives within the university and the region; providing **expertise in the management of intellectual property, patents, legal contracts, business start ups**, venture capital, and business incubation; helping to foster a **spirit of entrepreneurship** within **the university for staff, students and alumni**; and supporting and developing **entrepreneurial skills** within **the local and regional business community**.

Surrey Satellite Technology Limited (SSTL) is a world leader in the design, manufacture and operation of high performance small satellites. The company was formed in 1985 by the University of Surrey to commercialise the results of its innovative small satellite engineering research. SSTL was the first professional organisation to offer low-cost small satellites within rapid timescales employing advanced terrestrial technologies.

The University of Surrey is promoting actively **mobility and placements** in the framework of the **Erasmus programme and the Leonardo da Vinci programme**. All support is given to students to facilitate their stay abroad and/or in a company. Furthermore the university is strongly promoting the mobility of researchers at national and at European level. To this effect use is made of the **Marie Curie grants** of the EU.

Most students at the University will spend **the third year** of their degree programme on a **work placement**. Although placements in some fields such as health, social care, education and placements for students on the Dance Studies programme may be unpaid, in most cases a salary is paid. Although this varies greatly, salaries are often about two thirds of a graduate level salary. Where a placement is unpaid the placement period is shorter – 30 weeks – to alleviate the financial burden and allow the student time to undertake paid work. In the third year of their degree programme UniS students are full-time employees of the company, which offered them a job but are supervised by their tutor. Students on placement abroad are similarly visited and monitored by their tutors. The student returns to the Surrey campus for the fourth year of the degree programme. Written reports on the training period are taken into account, along with work from the year. In most schools, students are awarded the Associateship of the University of Surrey on graduation for successful completion of professional training. The experience of the year in a professional environment influences project work and study in the final year and students return with fresh interest in their subject, having seen its relevance in a working context. A **mentor system for placements** is available to students based in the EU.

The University of Surrey **invests** heavily in the **analysis of training** needs in cooperation with **companies to support local and regional development**. Similarly it works on **skills deficit analysis**. Both the training needs analysis and the skills deficit analysis may lead to the organisation of training activities. In the latter case new contents may be integrated in the curriculum. For many projects in the three areas above the University of Surrey makes use of the funds available in the framework of the ESF, the **European Social Fund** under **objective 3**.

**Transfer of innovation** is promoted in a variety of ways but especially through the involvement of several departments and faculties in the Framework programmes of the EU. The University is involved in several NoEs or Networks of Excellence and in several Specific Target Research Projects or STREPS. It has been involved in onehundredeleven Interreg projects contributing to regional development in various areas. The R&D activities are very wide ranging with e.g. some 35 FP 7 EOI, Expressions of Interest, submitted at the last call.

**Curriculum design** is indirectly achieved through more cooperation between the university and companies. There is constant and regular interaction between U-E on the one hand in a **formal and/or informal way**. The contacts between the university and the companies during the placements of the students are an excellent way of exchanging ideas about the curriculum contents of the courses at the university. More formal meetings may be organised to look into the development of new curricula to cope with certain needs of industry.

The **Careers Service (CS)** helps students, both undergraduates, graduates and postgraduates, with career related issues at any point in their time at the University of Surrey. General information may be given to students or one-to-one careers interviews may be provided, with a **Careers Adviser** who specialises in your subject. Feedback from students tells the careers service that they have valued these interviews because they offer the chance to share ideas, generate new possibilities and get advice from an independent professional. Whatever the situation of the student, how unsure or focused the student is, help can be provided. The CS also has programmes of events, talks, workshops, briefing sessions and presentations that run throughout the academic year. Students can also make use of a computer programme called Prospects Planner. **Employers** can also turn for help to the CS to find the appropriate student for a certain placement.

SPLASH – Student Personal Learning and Study Hub offers a range of facilities, help and **guidance in all areas of student learning development**. Significant enhancements to the SPLASH service will be made over the summer of 2007, resulting in a full service being offered for the 2007-8 academic session.

SPLASH is designed to be used by all students as a flexible, student-centred **learning space** and you are encouraged to use the area **to support your learning activities**. At SPLASH students can find: a range of flexible study space, incorporating individual and group study areas, wi-fi access in all areas, access to computers and other audio-visual equipment; print and copy facilities, bookable private study space equipped variously with PCs, whiteboard and interactive systems, a well-equipped training room housing workshops and other organised activity. The friendly, approachable staff within SPLASH can offer advice and guidance in a range of areas. **Specific advice and support** is currently available in Personal Development Planning, and **professional skills guidance** for **postgraduate research students** is also currently available. The range of available help and support will broaden considerably for the 2007-8 session.

The newly created centre SCEPTRe (Surrey Centre for Professional Training and Education) provides skills development to provide additional support for placement students (undergraduate). SCEPTRe provides a programme of activities and events to **support professional development and learning**, capacity and support for **networking** and a home for people involved in helping students in their work placement, information resources to inform and guide practice, a Fellowship scheme to promote and extend excellent education and training practices, a Curriculum Innovation scheme, a research enterprise to support the development of new knowledge for better practices, **Partnerships with employers** and other organisations to enhance students' experiences of and **opportunities for work placement**; **Partnerships** with other Centres for Excellence to support the wider higher education community through the Work Integrated Learning alliance. Specific skills required to work on an international platform such as languages, cultural awareness and relationship management, are made available through in-set for members of the staff. People helping students during their placements can get training from the SCEPTRe centre of the University of Surrey.

The SETsquared Partnership, the research and enterprise collaboration of the Universities of Bath, Bristol, Southampton and Surrey, maximises the universities' impact on the UK economy through enterprise.

Activities of the Partnership's universities: Generate quality **"spin-out" companies** from university-research discoveries, **support** early stage high-growth science and technology companies from the universities' local communities, by providing entrepreneurs with **business mentoring**, routes to **funding** and **industries**, as well as affordable office space, link established companies with university experts and facilities to further their businesses, prepare students and staff with **business skills**.

Student Entrepreneur is an initiative to **promote entrepreneurship**. Enterprise education is beneficial to a wide range of participants: from students thinking they might like to run a business one day, to those ready to start a business straight away. The key aim, in line with DTI policy and expectations, is to equip students with the skills and knowledge to start their own business later, possibly five or more years after graduating. A student may be looking for inspiration, wanting to know more about being an entrepreneur or to discover what drives entrepreneurs to start new ventures. Accredited and non-accredited **enterprise events** can increase employability, regardless of the career students enter in to when leaving university, and enable an 'intrapreneurial' attitude. Students participate as it has an impact on their professional skills, as it creates and seizes entrepreneurial opportunities and they want **'hands-on' business creation** experience developed by interacting with practicing entrepreneurs and enterprise advisors.

**Mentoring or supporter of entrepreneurs** is an initiative to develop in an accelerated way new technology-based businesses. As well as low-cost quality office space, essential guidance is also provided on how one can

commercially develop one's venture. The **guidance** tackles key areas such as strategy, products and services, marketing and sales, business plans, management and fundraising. As a SET squared venture student future entrepreneurs will meet like-minded entrepreneurs and a wide range of experienced business contacts that can help them get up and running. Low cost office space is offered plus business support through a qualified pool of seasoned technology entrepreneurs, potential investors, academics, researchers and a wide range of business.

The impact of University-Enterprise cooperation has been enormous with very successful placements, the creation of extensive networks and an increasing number of EU projects and initiatives within the framework of several EU programmes such as the **Socrates and Leonardo** programmes (now the Lifelong Learning Programme), the **European Social fund**, the Research and **Framework programmes** or **Interreg** etc.

There is definitely a clear impact of University-Enterprise cooperation on the whole university, on separate faculties or departments and on the separate special services mentioned in this case study. The management methods of the university are definitely influenced as over many years representatives of companies have close links to the management board of the university. In this way they bring to the university their management competencies, which proves to be very useful and definitely has a stimulating effect. This also has an impact on the entrepreneurial spirit at the university, which has been very strong for many years.

Cooperation University-Enterprise has an impact on increasing international attractiveness of universities and industry. This is especially promoted through the placements for English and foreign students in England and abroad. This will also have and has already had a direct and indirect impact on the economic and commercial/trade relations with the countries concerned. There is a clear impact on the supply of attractive, flexible and high quality education programs assuring the transfer of (new) knowledge supporting industry and its staff in its competitiveness (initial education) but this will definitely be strengthened towards the future. It is clear that U-E cooperation has **helped to develop further continuing education training offers and programmes that meet the market needs**. The companies are very interested to send their employees back to university to acquire the latest knowledge about the latest developments. The development of continuing courses is based on a **close interaction** between the university and the companies, especially at **local and regional level**.

Cooperation University-Enterprise facilitates and accelerates the transfer of knowledge from university to industry and vice versa, especially also through the many European cooperation projects in which both partners U-E are jointly involved. This amongst others is the case through the continuing education offer. This is also to be promoted through the programmes and activities to promote **entrepreneurship**. This also happens through the placements of students in companies and the assignments they carry out during those placements. This is also strengthened by the mobility of professors going to companies, by the involvement of company representatives in the university board or in faculty boards.

The activities of cooperation between the university and the enterprises definitely encourages research within and in cooperation with industry and it contributes to enhance and generate an innovation culture in the university. At the forefront of the region's innovation system, the University of Surrey promotes the development of the surrounding community, and especially that of its own region. In collaboration with the region's other institutions of higher education and with the business world, the University wants to create a broad local, regional but also international community, which supports the region's creativity, making it more attractive and innovative and strengthening the region's international profile as a centre of high-quality know-how.

*Based on the interview with Deborah Lock, Research and Enterprise Support, University of Surrey, UK*



### 4.3.5. The University of Applied Sciences Karlsruhe, Germany



With around 6,000 students, Karlsruhe University of Applied Sciences is the largest university of its kind in Germany's federal state Baden-Württemberg. Students are prepared for their future work life through degree programmes focusing on the application of knowledge, skills and attitudes acquired during their studies. The curriculum is characterized by: a specific focus on applied science and engineering, extensive laboratory work to supplement lectures, integrated traineeships in industry and application-oriented thesis topics. The learning experience is enhanced by the extensive experience of our faculty both in business and in research and development (R&D).

It has always been the policy of the University of Applied Sciences to put cooperation University and Enterprise very high on the agenda and this because of the nature of the university. **Close cooperation with companies is a key element in the mission and vision of the university and clearly integrated into the policy of the university in general and in all the departments in particular.** Cooperation between universities and companies is also integrated into the legislation of the federal state of Baden-Württemberg as all universities have to set up besides the regular university board with the president, the vice-president etc and the senate (representing the faculties and the students) a **special board (Beirat) composed of professors, social partners and representatives of industry.** In the Karlsruhe University of Applied Sciences the decision was taken that this board would be composed just and only of representatives of companies. The board (Special Board, or Subsidiary board) has a **consultative status** and has a major influence on the policy of the university. The main reasons and rationale which have lead to consider E-U cooperation as a key component of the strategy of the Karlsruhe University of Applied Sciences is that it is impossible **to train graduates** in the areas the university focuses upon if this is not done **in close cooperation with companies.** The quality of the education and training and the employability of the students require a very strong cooperation. U-E cooperation has a very important and central place in the **overall strategy of the organisation.** This is **reflected in the different structures** put in place and in the different activities set up within the Karlsruhe University of Applied Sciences and of some which are described below.

The **Trinational Civil Engineering** course is particularly 'European' as it is a study course involving 3 partner universities (in France, Switzerland, Germany) offering Bachelor and Master degrees in German and French. It is supported with funding through the EU's Interreg programme. The university is also home to one of Germany's most successful and top academic and research oriented International **Master of Science degree programme in Sensor Systems Technology** that was accredited by ASIIN (German Accreditation Agency for Study Programs in Engineering, Informatics, Natural Sciences and Mathematics) and awarded the **Quality Seals of the Akkreditierungsrat** (Foundation for the Accreditation of Study Programmes in Germany) and DAAD (German Academic Exchange Service).

The **Liaison Office** is promoting **integrated traineeships at national and international level.** It's objective is to see to it that **high quality placements** are made available to students, that possibilities of jobs are made available to graduates and that mobility of students and graduates is promoted at national and European level. To this effect, it works in **close cooperation with many other services** of the University of Applied Sciences. This service is not limited to the students of the Karlsruhe University of Applied Sciences but it is in fact given to all universities of applied sciences in Baden-Württemberg. The Liaison Office for Integrated Traineeships is an institution which provides sponsorship and support for integrated traineeships, both at home and abroad, **for the universities of applied sciences of Baden-Württemberg.** The Liaison Office works with student advisors to provide students assistance in the search for suitable positions for integrated

traineeships. It **informs** companies, universities, and other institutions and associations about the **status of integrated traineeships in progress in Baden-Württemberg**.

The **Career Centre** supports the **professional preparation**, the **transition** from studies to the profession and the **planning of the career** of the graduates up from the moment they enter the university. The university has decided that the role of this service is particularly important taking into account the fact that the European market is more and more merging together and that globalisation is also spreading rapidly. To be able to cope with the constant societal changes the university has to see to it that the curriculum is constantly updated, that the key qualifications are updated, the possibilities for internships in Germany and across Europe are offered to students so that they have the opportunity to get in touch with potential employers to develop a successful professional career as soon as possible. It **centralizes** all the offers in an information and seminar programme and adds to this, if necessary, special **offers and individual advice**. Next to this, the Career Centre strengthens the making of contacts and the networking between all the partners of the university by using new communication means. To this effect the Career Centre has developed a large **database** with information about job offers, offers of placements and information about graduates.

Students are trained on how to apply for a placement, how to find a placements and how to use the placement to the maximum for its educational and training purposes. The training sessions also focus on communication skills and social competences. Industry provides trainers and supports in this way some of the courses for future graduates. These courses are e.g. **summer courses** that focus on social competences. The **trainers of industry** involved in the courses are people from the internal training & education department of the company. The Careers Centre also organises **company fairs and presentations** to introduce students to the world of companies. Representatives of companies within the normal curriculum also give lectures. It works in conjunction with the CyberForum e. V. and KEIMforum e. V. in supporting graduates at the university in setting up their own businesses.

The university is a founder member of KEIM, the Karlsruher Existenzgründungsimpuls (Karlsruhe **New Business Initiative**). The KEIM e. V. (Karlsruhe Start-Up Impulse) network is one of 5 "EXIST university based start-up" programmes operated through the Federal Ministry of Education and Research. The **Exist programme** was started in 1998 with the aim of increasing the number of innovative start-up companies and of establishing a culture of entrepreneurship in higher education institutions. Within the context of Exist 5 regional networks have received funding to a value of approximately 25 million euro. The KEIMforum e. V. network, as the following project is active in the Karlsruhe technology region and includes higher education establishments and research institutions. The KEIMforum network operates through a series of initiatives linked together through a common process. To date KEIM and KEIMforum has supported 142 companies, on average 50% of these are in Information Technology and 20% in engineering. Building on the success of KEIMforum the programme managers are active participants in other networks (e.g. KREO Network & Gate2Growth Incubator Forum) to identify and spread best practice.

Through the **needs analysis** and the **skills deficit analyses** the University of Applied Science Karlsruhe finds out which are the needs in companies and organises, in close cooperation with the companies, in-service training courses for a variety of students.

**Transfer of innovation** is taking place both ways from the companies to the university and from the university to the companies through the very close cooperation that exists between the two of them. Students will do their master **thesis in close cooperation with companies** very often working on a key need or challenge within a company. In this case mainly the company pays the student a full salary. Many **research projects** are set up involving companies and the university.

The Institute of Applied Research (IAR) is an offshoot of the Institute of Innovation and Transfer (IIT) and is the central applied research and development institution at Karlsruhe University of Applied Sciences. The Institute provides professors from all university departments with a suitable environment in all research areas, based on a set of administrative and usage regulations. It **supports project initiators** in the acquisition of external funds, helps in the development and implementation of their innovative ideas and arranges **co-operative partnerships** with other universities and the business world. All research activities in progress at the University are coordinated and carried out at the IAR. The Institute of Applied Research also co-operates with its research partners from the Karlsruher Informatik Kooperation (Karlsruhe Information Technology Co-operative) - KIK - in promoting technology transfer.

There is no explicit joint curriculum design by academics and representatives of the companies but there is a lot of indirect impact on the curriculum through the cooperation at all levels between industry and the Karlsruhe University of Applied Sciences. Also the members of the board, all representatives of industry, have an influence or impact on the contents of the curriculum in one way or another. One should not forget that the peculiarity of the education and training of the universities of applied sciences is that out of the full duration of the studies of seven semesters, **one full semester is spent by the students in companies**. This brings about a strong interaction between the university and the companies at different levels also in the area of the curriculum. In fact one could say that there is a **permanent dialogue** between the companies and the university as to the contents of the curriculum so that it really contributes to the employability of the graduates and responds to the needs of the companies.

A very special feature of higher education in the state of Baden-Württemberg is the so-called **cooperative studies**. Within these studies students spend half of the study time at a higher education institute and the other half in companies. Companies select students and the studies are paid by companies (see for more information on cooperative education see here below).

Several activities have been developed in the area of **entrepreneurship education** - either within the curriculum or related to the curriculum. Sometimes there are **specific courses** and in other cases it is **integrated into the other courses** and subjects. Within certain faculties or departments use has been made for many years of Small Business projects. The Karlsruhe University of Applied Sciences organises twelve separate courses on entrepreneurship leading to a special certificate after five of them. There is also a special **handbook on entrepreneurship** with information on how to start up a company etc. Additional information is also given at some fairs for students.

The objective of the Department of PR and Marketing (GÖM) is to enhance communication between the university and the outside world such as the local community, companies and NGOs etc. Its objective is also to organise information days and contacts with companies to raise the awareness about the potential and expertise available within the institution of higher education and which can be used by the companies and public administration.

(The personnel in the Careers service and in the Liaison Office for Integrated Traineeships has gradually acquired the necessary skills and competences. Some of them have had close links with companies or even worked in companies so that they have a good idea of what companies are. No specific training is provided to them but their involvement in national and European activities enables them to acquire a lot of competences and skills by sharing their expertise and experience with others.)

The impact of University-Enterprise cooperation has been enormous with very **successful placements**, the creation of **extensive networks** and an **increasing number of EU projects and initiatives (Socrates, Leonardo, E3SDF, the FP R & D, Interreg** etc. There is definitely a **clear impact** of University-Enterprise cooperation on the whole university. The **management methods** of the university are definitely influenced. This also has an im-

pact on the entrepreneurial spirit at the university. Cooperation university enterprise has an impact on increasing international attractiveness of the University of Applied Sciences of Karlsruhe. There is a clear impact on the supply of attractive, flexible and high quality education programs assuring the transfer of (new) knowledge supporting industry and its staff in its competitiveness. Cooperation University–Enterprise facilitates and accelerates the transfer of knowledge from university to industry and vice versa, especially through the number of **European cooperation projects** in which both partners U-E are jointly involved and through the institutes such as the **Institute for Innovation transfer** and the **Institute for Applied Research** at the Karlsruhe University of Applied Sciences. This also happens through the placements of students in companies and the assignments they carry out during those placements. The activities of cooperation between the university and the enterprises encourage research within and in cooperation with industry and it contributes to enhance and generate an innovation culture in the university. The University of Applied Science of Karlsruhe **promotes the development** of the surrounding community, and especially that of its **own region**. In collaboration with other regional institutions of higher education and with the business world, the university wants to create a broad local, regional but also international community, which supports the region's creativity, making it more attractive and innovative and strengthening the region's international profile as a centre of high-quality know-how.

*Based on the interview with Edmund Zirra, director of the Career Center and of the Liaison Office for integrated traineeships, University for Applied Sciences Karlsruhe, Germany*

#### 4.3.6. The University of Turku, Finland



The University of Turku has a strong and internationally distinguished position as a **multidisciplinary scientific university**. Today the research and teaching provided by the University of Turku draws intensively on the wide-ranging multidisciplinary nature normally associated with this field of learning. This connection between the various areas of interest is particularly notable in the **research of interactive processes** between life sciences, mathematical methodology, culture and society, on the one hand, and the study of questions related to learning, education and problems of children on the other. The starting point of the operation is basic research – with an open-minded spirit as they are continuously on the look-out for something spectacular. This goes hand in hand with the **scholars** at the University of Turku being increasingly involved in the development of **practical applications** in response to the needs of **both society and business**. The University is determined to maintain this hands-on approach with the development of its territory.



University-Enterprise cooperation can be seen as a key component of the strategy of the University of Turku. University-Enterprise cooperation has become **more and more important** over the past years as the focus has also been laid more and more on several issues. First of all, there is the fact that the employability of the graduates has been given more and more attention; employability not only at the **Finnish level** but also at the **European, international, or global level**. This policy has been implemented across several activities, better **placements for students in Finland and abroad**, more placements for **foreign students**, **more cooperation with enterprises** as to the contents of the curriculum and **more promotion of the entrepreneurial skills** of students. A key issue here is the **promotion of better and high quality placements or internships** for

**students in Finland and abroad.** Next to this, more attention has been given to the way in which the university **responds to the labour market requirements** and is involved in **skills deficit analysis**. More attention has been given and is being given to the involvement of the universities in developing and offering **high quality training for companies** based on a thorough training needs analysis in cooperation with companies. **Career guidance** as to the **graduates** has also been given more attention so as to enhance their opportunities in the labour market. All these elements and even others have laid the university to develop **a real strategy as to university-enterprise cooperation and integrate this into its vision and mission and also in its policy**. The policy priority given to University-Enterprise cooperation is also reflected in the **activities** of services such as CACS.

**Student placements** have definitely received more and more attention over the past years. They used to be non compulsory or optional and were not possible to be realised in all departments or faculties. Nowadays placements are more and more being **integrated into the curriculum** and **becoming a compulsory element**. Furthermore, placements or internships or **not regionally or nationally limited** to Finland but tend to be more and more European or international. However, the length of the placements may still differ according to the faculty or the department. International internships are facilitated by the involvement in the **Leonardo da Vinci** programme (so far and now Erasmus under the **new LLP** as of 2007 onward) and the involvement in networks such as the **COIMBRA group** of which the University of Turku is a very active member. (Several mobility activities exist and would definitely involve students especially in a variety of placements. The mobility at the level of the professors or teachers from university to companies is not yet put into practice. Mobility of professors is, of course, largely implemented in the framework of Erasmus between universities. There are contacts between departments or faculties and companies but the interaction differs strongly according to the department or faculty.)

The **Common Academic Careers Service (CACS)** of the University of Turku, Åbo Akademi University, Turku School of Economics and the Turku Employment Office provides information about **job openings** and **job seeking** for students and new graduates. Through recruiting sessions and company presentations arranged by Career Services, students can get acquainted with **prospective employers**. All universities have career counsellors, with whom students can discuss anything related to working life and their own career. The services of the career psychologist of the **Employment Office** are at the students' disposal. Students can find many kind of materials related to job seeking at the Career Services, such as business registers and CD-ROMs, as well as job seeking guidebooks, model applications and information about the placement of graduates in various fields. Students can also look **online for job openings** and **prepare applications**. In addition, Career Services arrange information sessions and group training in job seeking and one-day seminars on the employment opportunities in various fields. The CACS also organises **careers' days** for future graduates so that **companies can present** themselves and students can get in touch with companies.

**Turku Academic Career Services can guide and advise students** in applying for domestic and international internships. They can receive information about the CACS activities by joining the mailing list on its website. The service also provides information about entrepreneurship. Turku CACS coordinates student internships together with the university faculties and departments. Internships are meant for students completing a basic degree, and each student is allowed to do an internship only once. Career counselling is available to students at various stages in their studies: before beginning and during their studies and after graduation. University graduates may also find it helpful to meet a professional and discuss their place in working life or the possible direction of further studies preparation for job seeking offers a deeper form of **counselling**, with the goal of improving the possibilities of job seekers finding work. In-group sessions about **career planning or job seeking** the possibilities, resources and strengths of the participants are analysed. Also the labour market situation is examined and further education opportunities explored, as well as providing guidance on the practical aspects of job seeking. The goal is to **improve the participants' job seeking skills** and through

this their status on the labour market. **Alumni** of the university play an important supporting role in several of the activities in this field.

**Curriculum design** is influenced by the fact that there is a constant interaction between the faculties or departments and the companies that employ the students. Companies will give on a regular basis information to the university as to developments within and as to the needs of the companies. A key focus is on **comparing** the skills the students have **when they finish** their studies at the university and the **skills they really need** when they **start** working. Thus there is a clear impact on curriculum design. The impact on curriculum does not yet go so far in that representatives of companies are involved as members of consultative boards that reshape or redraft regularly the curricula in specific fields. The **feedback** from former graduates and from students having done placements is however taken into account while redesigning the curriculum.

**Promoting entrepreneurship** is also high on the agenda. Special courses and counselling are given to graduates that want to **start up a company**. This kind of advice is also available to researchers and staff members within the university. A special initiative is being launched for the university staff and is mentioned below: the mentorship programme. Furthermore **entrepreneurial skills are integrated** more and more in the **curriculum** itself; this is done in cooperation with the Turku school of economics. A consortium has been created between the Turku university and the Turku school of economics and within this agreement there is a special focus on the joint development of initiatives in the field of entrepreneurship. **Corporate social responsibility (in entrepreneurship)** is also very high on the agenda due to the fact that sustainability has to be **integrated by law** into higher education policy in Finland. The **mentorship programme 2007–2008** to promote entrepreneurship is an initiative to promote entrepreneurial spirit and skills within the university. The implementation of this activity is straightforward: a distinguished, **respected expert gives mentorship, guidance and support to a person of the university staff** who is willing and able to develop themselves **to become an entrepreneur**. Mentoring is thus about exchanging experience, opinions, attitudes and skills from one person to another. It is goal-oriented and a key element is systematic **face-to-face discussion** that is characterised by openness and trust.

The goal of the mentorship is to **enhance and support actors' career management** and professional development, expand outlook concerning working life as well as encourage personal decision-making process. It also gives the possibility to get to know more about the ways of work and working cultures of other organisations. The Mentor programme, as to its contents, consists of face-to-face discussions, common kick-off meeting and final seminar and an intermediate seminar to support the process. The target group of this initiative are all personnel at the University of Turku and Turku School of Economics. The Mentor programme will offer a mentor within the academic environment a chance to transfer experience-based knowledge and skills to an actor who continues the career in the field after the mentor's retirement.

As mentioned earlier, **training needs analysis** is definitely taking place and is reflected in the large offer of training by the universities to companies and former graduates. Linked to this growing importance is given to skills deficit analysis so as to **respond faster to the needs of companies and enable companies to face more easily new societal challenges**. The university is quite convinced that all these cooperation activities between university and enterprise **facilitate the transfer of knowledge both ways**: from the university to the companies and from the companies to the universities. Special attention is given to promote with future graduates, staff and researchers entrepreneurial skills and this in a variety of ways through cooperation with companies. Counselling is given to future graduates or graduates, to staff and researchers on how to start up their own company. Entrepreneurship is also being integrated in the development of the study programmes and the curriculum. There is a special cooperation between the University of Turku and the Turku School of Economics in the form of a **consortium** with the specific objective to take activities so as to **promote entrepreneurship**.

The members of the staff of CACS are qualified and do in fact not need specific training for their job in relation with enhancing cooperation University-Enterprise. The information received from outside and the exchange of expertise among the staff members is sufficient to see to it that their competences are regularly updated. The mentor's programme mentioned above will give the opportunity to university staff to acquire entrepreneurial skills. It will also definitely strengthen ties and cooperation between the university and companies.

Cooperation with companies is also high on the agenda in the field of **R&D** activities, the development of **spin-off companies** and of **incubators**.

The management methods of the university are definitely influenced as over recent years for the first time representatives of companies are members of the management board of the university. Cooperation University-Enterprise definitely has an impact on increasing international attractiveness of universities and industry. This is especially promoted through the placements for Finnish and foreign students in Finland and abroad. Up to a certain extent there is already an impact on the supply of attractive, flexible and high quality education programmes assuring the transfer of (new) knowledge supporting industry and its staff in its competitiveness (initial education) but this will certainly be strengthened towards the future. It is clear that cooperation university-industry has helped to develop further continuing education training offers and programmes that meet the market needs. The companies are very interested to send their employees back to university to acquire the latest knowledge about the latest developments. The development of continuing courses is based on a close interaction between the university and the companies, especially at local and regional level. Development of continuing training is a key issue for all the university faculties and departments. Cooperation University-Enterprise facilitates and accelerates the transfer of knowledge from university to industry and vice versa. This amongst others is the case through the continuing education offer, through the placements of students in companies and the assignments they carry out during those placements. University-Enterprise cooperation is also strengthened by the mobility of professors going to companies by the involvement of company representatives in the university board or in faculty boards.

The activities of cooperation between the university and the enterprises definitely **encourage research within and in cooperation with industry** and it contributes to enhance and generate an innovation culture in the university.

At the forefront of the region's innovation system, the University promotes the development of the surrounding community, and especially that of its own region, **Southwest Finland**. In collaboration with the region's other institutions of higher education and with the business world, the University wants to create a broad international community, which supports the region's creativity, making it more attractive and innovative and strengthening the region's international profile as a centre of high-quality know-how. Through cooperation with enterprises the University wants to offer to its partners qualified employees and experts, wide-ranging networks, high quality, multi-disciplinary research cooperation and versatile adult education opportunities. It hopes that cooperation University-Enterprise will lead to broad research and education networks, to different forms of cooperation and services and that it will create strategic partnerships for businesses or other organisations so that they will get a genuine competitive edge on the market.

*Based on an interview with Erkki Härkönen, director Careers Service, University of Turku, Finland*

### 4.3.7. The University of Florence, Italy



The University of Florence incorporates several faculties and departments which are eagerly involved in European cooperation such as: Erasmus, Erasmus Mundus, Erasmus Tempus, the R&D framework programme, the structural funds–Interreg and ESF etc.. Also highly appreciated European Masters programmes have been developed which are attended by many foreign students.



**University-Enterprise cooperation is considered to be very important by the whole university** so as to enhance and strengthen the **employability of the students in a European and global context**. Over the past years, the awareness has grown in different faculties of the university that the links between the university and companies have to be strengthened and major efforts have been made to this effect.



Thus one can say that it is **an implicit and explicit element of the policy of the university to promote cooperation with enterprises**. The University-Enterprise cooperation (U-E) is crucial for the policy of the university and this certainly increases still towards the future. The fact that U-E cooperation is **an element of the mission, vision and the policy of the university** is reflected in several facilities such as: in central support of **drafting formal agreements between companies and the university; departmental and consultative committees for each Bachelor or Master course** within which academics and company representatives meet to update the curriculum on a regular basis. The importance of U-E cooperation is also highlighted by the **importance given to placements** for students during their initial education at university and the fact that **many company representatives hold lectures at the university**.

**Cooperation with enterprises is not limited to individual companies but strong cooperation has been developed involving professional associations of enterprises, of employers and/of crafts or cooperatives**. The further development and extension of this network is a priority for the future. Within the university **special services** are responsible to develop more and more cooperation between the university and enterprises.

At present for the majority of the students a **placement or internship in a company is compulsory**. In those **areas which do not compulsory** require a placement, it is facilitated and supported by the university to go for a placement. To be able to offer placements or internships to students, the university and its faculties have developed close ties and cooperation with many companies and public administration services across the region and country, or even abroad. The **guidance centre** of the university is helping students in finding and organising their placement in industry. The placements can be in Italy or in other European countries. In the latter case, the **Leonardo da Vinci funds for mobility** (now Erasmus under the new LLP) can be useful. Some professors are actually reluctant to be involved in this EU programme (now integrated into the LLP programme and especially in Erasmus) because of the long delays between the application and the selection of the projects. Often the university can find placements across Europe for several students because of several contacts with companies. Students are also informed of other possibilities such as placements or internships in **international or European organisations** such as the **World Bank**, the European Commission etc.

**The entrepreneurial spirit is also present in the university** as major efforts are made to get **the ISO 9000 quality certificate**. The ISO 9000 is a family of standards for quality management systems. ISO 9000 is maintained by ISO, the International Organisation for Standardisation and is administered by accreditation and certification bodies.

**Cooperation between universities and companies and public administration has strengthened** in such a way that it has become a natural relationship. Often companies are calling the university asking for **applicants for internships** who could get involved in certain projects or activities to support the company on the one hand and the learning of the student on the other hand. Thus this cooperation becomes a **win-win operation for both parties** involved.

**The university is involved in training needs analysis and in organising subsequently training activities for companies** to respond to their training needs. These training activities are very important as they facilitate knowledge transfer and the transfer of innovative developments to companies and public administration. Furthermore, these training activities have a positive impact on tightening the connection to companies and enhancing the entrepreneurial spirit within the university. It is also possible to train companies' employees by their **formal enrolment in individual courses** – up to five per year. In this way they can have **formal certificates of the grade and credits acquired**, which can be spent in a further university **post-graduate course**.

**Transfer of innovation** is promoted in a variety of ways such as: the analysis of the training needs and the subsequent **organisation of training courses**; the skills deficits analysis to find out about the **skills forecasts and needs in companies**; the **consultative committees** updating the curriculum; the company professionals teaching at university, and even the placements students do in companies or public administration. All those activities indirectly or directly contribute to facilitate the **transfer of innovation** on the one hand and they often start new activities that may lead to further innovation on the other hand.

**The different departments of the universities are very largely involved in R&D activities often in close cooperation with companies.** PhD students work in close cooperation with companies either within the university or sometimes within the company to do research. In several cases a financial agreement may be reached between the university and the company as e.g. sharing the cost for the PhD student. This enables the university to respond more rapidly and efficiently to the R&D needs of companies in general and Small and Medium Enterprises (SMEs) in particular. **Several facilities** exist in which companies cooperate with the universities to **promote R&D** e.g. in case of the development of **spin-off companies**, the creation of **incubators leading to companies in high technology fields and joint research activities** involving companies and universities.

**Representative's enterprises are involved in curriculum development** as for each Bachelor or Master course there is a consultative committee composed of academic and entrepreneurial representatives. They analyse and/or audit the curriculum and see which changes have to be done to be updated with the development of the business world. In this way, the contents of the curriculum are regularly updated and contents oriented to meet the most recent developments in society and companies. **The consultative committees are also indicative for strong relations** that are created with companies and/or public administration and that information on recent development in research and technological innovation can be transferred to companies.

Up to a certain extent one can speak of the **development of joint curricula through the collaboration of universities and companies or public administration**. This is e.g. the case for a course developed in close cooperation with the Order of **Journalists** in which working journalists are involved as **lecturers**, or for a course in **HRM** in which HRM are involved as lecturers. This is also the case in courses related to commerce and **trade** as well as **social services**. The fact that representatives of companies or public services are involved in the development of lectures contributes to strengthen cooperation and facilitate transfer of knowledge about innovation etc.

**Explicit guidance is given to students** for the integration into professional life and for the professional career they choose. Indirect guidance is given through the many ways in which the departments or the faculties cooperate with companies and public administration. Students are regularly able to reflect and work on their professional career. As in most countries placements constitute a major element of professional guidance as they often lead to students being employed by companies they have already worked for in a placement.

**It is considered to be important that representatives of companies are involved in teaching assignments** in most (if not all) the departments or faculties of the university. A large percentage of company people teaches in the university and brings their expertise. They introduce students to the concrete aspects of professional life and focus on the **specific competencies and skills** students should require when entering professional life. They will also often use **specific working forms** in their teaching that promote certain demanded competences such as research skills, **problem-solving attitudes and entrepreneurial skills**. Additionally to that, the contact with the university facilitates the organisation of the placements, the development or updating of new curricula and the transfer of innovation from the university to the enterprises (especially SMEs) and sometimes also vice versa. It also regularly occurs that lecturers teach specific courses in companies in response to the training needs of the companies.

**The integration of students into the labour market is promoted in several ways.** First of all there are many opportunities for students to take one of the seventeen different **courses focusing on elements of industrial relations and human resource management** in most faculties of the university. In this way students are better prepared to integrate themselves into their professional life. They acquire key skills and competences that will prove to be useful once working in a company or public administration.

One may say that the university colleagues that promote U-E cooperation have acquired gradually the necessary skills to promote this kind of cooperation. No special training is organised for people within the university involved in enhancing U-E cooperation. However, it could prove to be useful to study such training courses if they are organised by other universities across Europe. This could be part of the work a common **European platform on U-E cooperation** could focus on.

**Certainly there is an impact of U-E Cooperation** on the university but it is not easy to describe. Furthermore no specific tool is used to assess or measure this impact. There is not necessarily a direct or explicit impact on the management methods of the university through U-E cooperation because there are very strict legal regulations underlie the management of universities in Italy. Cooperation leads to an exchange of views and expertise which can result in new understanding and approaches without changing the legal framework of university management.

Although Italy highly values the contribution of companies to society in general and SMEs in particular, the development of the entrepreneurial spirits at university is not yet high on the agenda. However, towards the immediate future one may expect more attention for entrepreneurial spirit with university students. One should not forget that entrepreneurial spirit of students can be promoted in a variety of ways and that students are very active in associations of different kinds within which they can practice the entrepreneurial competences and skills.

Cooperation with enterprises has also an impact on increasing international attractiveness of universities and industry. This is especially promoted through placements for Italian and foreign students in Italy and abroad. This may also have a direct and indirect impact on the economic and commercial/trade relations

with the countries concerned. Up to a certain extent there is already an impact on the supply of attractive, flexible and high quality education programmes. They assure the transfer of knowledge supporting competitiveness of the industry (initial education). This will certainly be strengthened in the future. It is clear that U-E cooperation has helped to develop further education training offers and programmes that meet the market needs. The companies are very interested in sending their employees back to university to acquire knowledge about the latest technological developments.

U-E cooperation definitely facilitates and accelerates the transfer of knowledge from university to industry and vice versa. The university is a good gateway in this respect. The transfer of knowledge takes also place through the **placements in the companies** and via **project-oriented (concrete!) assignments** students carry out during those placements. This is also strengthened by the mobility of professors going to companies, by the involvement of company representatives in the university board or in faculty boards. The activities of cooperation between the university and the enterprises definitely encourage research within and in cooperation with industry and it contributes to enhance and generate an innovation culture in the university.

The University of Florence also wants to play a key role in regional development through close cooperation with companies in the local and regional community. In collaboration with the region's companies the university wants to create a broad internationally open-minded community that supports the region's creativity, making it more attractive and innovative and strengthening the region's international profile as a centre of high-quality know-how.

*Based on an interview with Prof. Franca Alacevich, Dean of the Faculty of political (and social - ELIMINATE) sciences; University of Florence, Italy*



### 4.3.8. The Technical University of Ilmenau, Germany



**Ilmenau Technical University is not only involved** in cooperative contracts with industrial partners within and beyond Germany's borders but also in close support of new enterprises in the region. There are many examples: the TGZ, Technology and Enterprise Centre, which is situated in the immediate vicinity of the campus; the 3 technology transfer units (Steinbeis centres) whose purpose is the commercialisation of innovative high-tech research outcomes – "Mechatronik", "Qualitätssicherung und Bildverarbeitung" and "Diagnosesysteme in Technik und Umwelt"; the An-Institut für Mikroelektronik und Mechatronik-Systeme; and numerous firms in the neighbourhood of the University founded by the former University staff.

**There is research contact with other 30 or more firms across Thuringia**, a federal state of Germany. Frequent and regular dialogue between academics and industry representatives is conducted in a variety of meetings and events referring in the field of science such as the traditional IWK, International Science Colloquium. **Ilmenau TU is forging to cultivate international connections.** It especially nurtures its traditional links with countries of Eastern Europe and apart from its ever-increasing relations with Western Europe, the USA and Asia it also tries to build connections with developing countries.

**In 2005 the central unit for marketing and student affairs** (“Referat Marketing und Studentische Angelegenheiten” = MSA) was created by amalgamating several other services. This unit consists of the following services: the central student and study counselling services, the student secretariat, and further training service, and the international student secretariat. **The following activities are part of the responsibility of the MSA:** contacts with media and various PR activities, the organisation of conventions, the support of graduates, marketing and the organisation of fairs, international affairs and the international academic service, the university archives, and the Leonardo office for Thuringia, organising student and graduate placements within the Leonardo programme for the region (universities, enterprises, research centres etc) of Thuringia as well as transnational staff exchange between universities and enterprises within Leonardo project).

For the development of the placement activities there is no central office at the TU Ilmenau but it is organised in the five faculties that constitute the university. However, there is regular discussions and exchange of information and expertise across the five faculties that also result in upgrading the qualifications and skills of the colleagues in charge of U-E cooperation.

**It is also important to stress again that the “Referat Marketing und Studentische Angelegenheiten (MSA)”** that works for the nine regional universities is really a key tool in promoting University-Enterprise in general and better placements in particular.

**University Enterprise cooperation has always been important in the policy of the university** because of the nature of the university. As a technical university it is supposed to guarantee close contacts and cooperation with industry so as to give opportunities for future graduates to get in contact with professional life. As much as possible University-Enterprise has tried to develop a win-win situation so both parties gain from their cooperation.

Up from the end of the eighties and the beginning of the nineties the university was involved in several university enterprise activities at a national but also a European level. Thus the university had created a **UETP** (University Enterprise Training partnership) under the Comett programme in the 90s of which one explicit objective was to create placement opportunities for undergraduates.

**It is an element of the policy, vision, and the mission of the university** to promote placements in industry. Thus it enhances the link to professional life and facilitates the transfer of knowledge from the academic life to business and vice versa. The policy of the university has been **supported strongly by the regional Ministry of the Federal State of Thuringia**. The fact that the policy and mission of the university have been backed up by the official policy of the Federal State of Thuringia has been stimulating University-Enterprise cooperation. The political statement of the university has been reflecting the concerns of the regional ministries of education and economy which stress that education and economics have to go hand in hand.

European **student placements/traineeships for German and foreign students** have always been high on the agenda. Additionally is also elementary for the policy to promote placements in companies from Central and Eastern European countries as well as of the rest of Europe. Thus special care has always been taken for incoming students. To support placements a platform was created where all information was published concerning placements. On this platform interested students (and lecturers) can also find information about experiences and results related to internships. Again the regional government of Thuringia very strongly supports these initiatives as to placements. **Monitoring and assuring the quality of placements** is a major concern. So the university is making major efforts to see that mentors within the company and within university support the learning activities during the placement so that the student takes the maximum of advantage out of the placement. The students are offered two information sessions during which clear

information is given about placements. There they have the opportunity to meet students that were formerly involved in placements. Excerpts from the students' placements reports are also made available to other students. The whole report cannot be published for the duty of secrecy. Although major efforts have been made to promote placements and the quality of placements, so far no database has been developed where all the placements are integrated and can be accessed by the students. The TU Ilmenau has been second best in the 2006 **quality and mobility award** competition in the framework of the Leonardo da Vinci programme. The university already had won the award for quality and mobility of the Federal State of Thuringia in 2002.

**The university also goes to great lengths to find positions for students in other European countries.** To do this it makes use of many European networks it is involved in. The cooperation with several universities across Europe has had a major impact on the development of placements for foreign students in Germany. These placements give unique opportunities to foreign and German students to get in touch with internationalisation and globalisation issues.

Students going to companies for internships do not limit mobility activities to a national level. **There is also important mobility of staff from companies** and the university. Thus staff exchange is developed between the university and companies which has an impact on the quality of the teaching and learning in the university on the one hand and on the transfer of innovation from the universities to the companies on the other hand.

**The university has been and is regularly involved in training needs analysis** to find out which training needs companies have. So the university can adapt its offer of training to concrete needs of companies. Every year the university has a large offer of training opportunities reflecting the needs of companies. The university also uses the alumni to be in touch with companies and to know what they needs are so as to be able to react quickly to specific and urgent needs. Close cooperation with companies leads to high quality continuous training activities. Therefore financial issues are less important than quality. Companies want the university to deliver high quality as this strengthens their innovative potential.

**Similarly the university is involved in skills deficit analysis with companies** so that the university is aware of the future skills needed by the companies. This is a key area of activities to stand for innovation across Europe. It is the key for skills deficit analysis leading to new curricula responding to the needs of companies. Although there is much cooperation between universities and companies, **there is no strong joint curriculum development.** This kind of cooperation is still at an early stage and the university hopes to develop it gradually for the future. Efforts are made to have more joint curriculum design in the light of the outcome based and the skills, based on learning approaches, which are more and more integrated into the curriculum. More joint curriculum design with clear involvement and input of companies can, however, still has to be enhanced in the future. The reason why this is not yet fully happening is the fact that joint curriculum design is considered to be a sensitive area by both sides.

There is no doubt and there is clear proof that the cooperation between companies and **the university facilitates the transfer of innovation.** It has to be said, however, that there is no hard evidence as no real research has been done into this matter. It is also clear that there is substantial cooperation between the university and companies when it comes to R&D activities. It is the nature of a technical university to promote R&D in cooperation with companies in all the specialised areas in which it trains graduates. Companies hire academics for specific research activities and involve also Ph.D. students to this effect in cooperation with the university.

Transfer of innovation and R&D activities are very often integrated in the development of spin-offs or the

**development of incubators in close cooperation between the university and companies.** The development of a regional technology park is a good example of close cooperation.

**Staff members have acquired competences** over the years by being involved in different activities concerning university enterprise cooperation. Some members of the staff have specific experience as they have been working in companies for some years and know the work of companies from the inside well.

All those European activities, especially concerning the organisation of placements for foreign students, have had **an important impact on the European and international work of the university.** Thus it has been invited by other universities to join key networks and projects to further promote U-E cooperation in general and the quality of placements in particular. The active role of the TU Ilmenau has really created a cumulative effect as to the involvement in activities related to university enterprise cooperation. Thus one can easily state that all the activities as to offering placements to foreign students have enhanced the European and international attractiveness of the TU Ilmenau.

Up to a certain extent **the management methods** at the university have improved due to cooperation between university and enterprise. But it is hard to clearly evaluate it. One can also state that U-E cooperation has improved the **entrepreneurial** spirit at university. Possibly this is not in general but certainly in some services such as the MSA. It is definitely increasing international attractiveness of the university and industry it cooperates with. It has also led and leads to the supply of attractive, flexible and high quality education programmes assuring the transfer of knowledge supporting industry and its staff in its competitiveness (initial education). As mentioned earlier it leads to the development of high quality continuing education training in cooperation with industry that meets the market needs. It also facilitates and accelerates the **transfer of knowledge from university to industry and vice versa.** One can, without any doubt say, that it encourages research within industry and that it generates THE innovation culture in the university and in companies.

*Based on an interview with Dr. Frank March, Leonardo Office Thuringia, TU Ilmenau, Germany*



### 4.3.9. *The University of Pécs, Hungary*



The modern University of Pécs, founded on 1 January 2000 through the merger of Janus Pannonius University, the Medical University of Pécs and the Illyés Gyula Teacher Training College of Szekszárd, is committed to endorsing and popularising the idea of lifelong education. Its primary goal is to ensure high-level teaching and research but ample emphasis is also given to programmes unique in Hungarian higher education (such as The Dancing University or The Open University). That provide an opportunity to its teachers, staff, present and former students to develop their knowledge and education extensively as well as strengthen their ties to the university.

There are about 30.000 students at the university with a large group of exchange students.

**For the University of Pécs has a young tradition in University-Enterprise cooperation** it is steadily working on it. The cooperation with companies is perceived as an important policy element integrated into the mission and the vision of the university. U-E cooperation is regularly on the agenda of the rector and separate faculties and departments.

**Structures are being developed to support and form this policy.** To this effect a Marketing and PR department has been created in the Rector's office to get and keep in contact with companies and to convince them of the benefits of cooperating with university. Thus major efforts are done to find sponsoring and involve companies in (applied) research. Towards the future more and more focus will be given to U-E cooperation at central level of the university as well as in each faculty and department.

**The main reasons and rationale** which have lead the university to strengthen U-E cooperation as a key component of the strategy of the organisation are the fact that this cooperation contributes to the employability of the students on the one hand and that it leads to better quality in higher education on the other hand. Cooperation also contributes to regional development as the university is involved in continuing education courses in different areas for representatives of companies. This is also promoted in the perspective of lifelong learning.

The university has heavily been investing **in the active involvement** in European networks such as the Compostela group, the Danube Rectors' Conference, and the Adriatic Rectors' Conference. These are networks which make exchange of experience and expertise possible. To have influence in those networks is considered as important by the board members of the university.

Since 2000 the university has developed an important International Relations Office plus an International Studies Centre **to promote international cooperation and mobility** across universities on the one hand and to promote mobility through internships in companies on the other hand. International relations are managed and coordinated primarily by the International Relations Office, supplemented by the experience and professional relations of the various faculties of the University. All faculties that offer training in foreign languages have their own departments of international relations. The primary goal is to make the University appealing to foreign students by providing high-quality training and research opportunities. The development of language courses in English is an important element in this development.

**The International Studies Centre's** main task – besides managing contacts with foreign universities and organising faculty mobility – is to manage the foreign language courses and programmes offered to foreign

students. Additionally to this, the Foreign Language Centre (INYT) is a unit of the University operating independently of the faculties. The Centre offers various services to students interested in learning foreign languages, taking a foreign language exam or courses in translation and interpretation.

In addition to more traditional foreign language courses **some targeted language training programmes are offered** to those wishing to take one of the accredited international language exams (ECL, Goethe) or to those who want to prepare for different levels of the Origo language exam with the help of efficient methods. International students can take Hungarian language courses, while companies and institutions can request special foreign language courses that meet their own specific needs.

**More and more importance is given to traineeships** even if it is not compulsory in all education and training programmes. If internships are part of the curriculum it usually lasts three months. More and more efforts are put into finding placements for students abroad through the Leonardo da Vinci mobility projects (now to be integrated in Erasmus in the LLP programme). To facilitate mobility of students and to find placements for students in foreign companies use is made of the networks to which the university belongs; in particular the Compostela group, the Danube Rectors' Conference and the Adriatic Rectors' Conference.

**Gradually the university is involved in cooperation with companies in the analysis of the training needs** of the companies or other groups within the local and regional community. More and more attention will also be paid to skills deficit analysis. A first step has been done through language courses that are organised for unemployed people. In the future the organisation of training activities will get more and more important so that the university can make a major contribution to the local and regional development. In accordance with the European programme of lifelong learning the regional centre of our university offers a wide range of programmes in further training or retraining. The students can earn or even renew their degree both in traditional academic areas and in new fields of inquiry required by modern society. The courses are developed in close cooperation with industry.

The **career centre** also organises **special courses for graduates** so that they have more easily access to jobs in industry. During those courses specific focus is given on key competences graduates need when applying for a job or starting to work in a company. Such competences are communication skills, negotiation and social management skills. Focus is also given to **entrepreneurial skills** for those who possibly would think of becoming an independent entrepreneur and found their own business.

**Active research is pursued** at all the nine faculties of the University of Pécs in a creative environment. Major efforts are made to make the link between research and transfer of results of innovative research to society. To this effect efforts are made to have students do research in companies that can be beneficial to the companies. Basic and applied research is conducted in the following main disciplines: organic and inorganic sciences, social sciences, engineering sciences, and the humanities. Research pursued in the area of arts also deserves attention. The university is making efforts to **cooperate with industry in the field of R&D**.

The five oldest faculties of the university primarily pursue outstanding research. These are the faculty of engineering in the areas of medical sciences, natural sciences, legal sciences, economics, engineering sciences and the humanities. Of growing importance is the assignment of financial resources for research from **EU Structural Funds**. In the framework of teamwork, several scientists and scholars of our university pursue research in environmental laser technology, biotechnology and pharmaceuticals. International cooperation is mostly characteristic in the area of **experimental sciences**. Therefore the cooperation with companies is gradually intensified.

One of the most important strategic goals of the University of Pécs is to make sure that its leading role in the region and its national and international reputation is characterised by high-quality research and creative work contributes to regional and national development. Providing the necessary conditions for research is largely dependent on how variable and adaptable the University of Pécs is going to be in the future. The central role of the university can only show effectiveness if it presents itself as a centre of knowledge and a dynamic, creative, intellectual medium in modern European society, involving a wide range of players of the society.

**There is no explicit curriculum design** in cooperation with companies but there is an impact of companies on the curriculum through the informal contacts that exist. Exchange of information between the companies and the universities or feedback from the students who have carried out placements may lead to an update of the content of a lecture. In several faculties and departments representatives of companies act as lectures that are fully integrated into the curriculum. In this way there is a direct link between the curriculum and everyday practice in companies. This also brings about a creative and stimulating exchange between the university and the companies.

The university is also putting more **focus on guidance and integration** into the labour market through the activities of the Careers Office that has been created and is also located in the Rector's Office Services. A full time position has been created. The task is to help graduates find an employment and facilitate contacts with companies. The careers liaison officer is supposed to contribute to improve the cooperation between the university and the companies.

No doubt all the activities mentioned above **require specific skills and competences** but no specific training is given yet to those in charge of the different offices or bodies dealing with them. However, the involvement of the university in several networks enables to share expertise with colleagues from other European countries. The exchange is practice-based professional development which should be preferred.

**There is a clear impact of U-E cooperation on the whole university**, on separate faculties or departments and on the separate special services mentioned in this case studies. But many people are not necessarily aware that cooperation may continue outside official structures. Having more cooperation U-E will certainly enlarge the impact. Up to a certain extent the **management methods** of the university are influenced and this will also become more important with increasing U-E cooperation. Mostly indirectly companies share their management skills with academics which has proved to be very useful and stimulating. This also has probably an impact on the entrepreneurial spirit at the university which might be further developed at the University of Pécs. Action in the field of promoting entrepreneurial spirit with the students at the University of Pécs is supposed to be developed strongly in the future and contacts with companies is supposed to be enhanced. U-E cooperation is already imbedded in the university policy, strategy and culture. This becomes obvious from the **development of certain structures within the Rector's office**. Major efforts will be made to strengthen U-E cooperation in the near future. Cooperation University-Enterprise definitely has an impact on increasing international attractiveness of the University of Pécs. This is especially promoted through the **placements for Hungarian and foreign students in Hungary and abroad** and through the courses offered in other languages at the University of Pécs. This will also have and has already had a direct and indirect impact on the economic and commercial/trade relations with the countries concerned and on the local and regional development.

There is a clear impact on the supply of attractive, flexible and high quality education programs assuring the transfer of (new) knowledge supporting industry and its staff in its competitiveness (initial education) also this will be strengthened for the future. It is clear that U-E cooperation has helped to develop further continuous education training offers and programmes which meet the market needs. The companies are very interested to send their employees back to university to acquire knowledge about the latest developments. The development

of **continuing courses** is based on a close interaction between the university and the companies especially at local and regional level. U-E cooperation certainly facilitates and accelerates the transfer of knowledge from university to industry and vice versa, especially also through the many regional, national or European cooperation projects (especially in the areas of R&D) in which both partners U-E are involved. This also happens through the placements of students in companies and the **assignments they carry out during those placements**.

The activities of cooperation between the university and the enterprises encourage research within and in cooperation with industry and it contributes to enhance and generate a **stronger innovation culture in the university**. At the forefront of the region's innovation system the University of Pécs promotes the development of the surrounding community, and especially that of its own region. In collaboration with the region's other institutions of higher education and with the business world, the University of Pécs wants to create a broad local, regional but also European/international community, which supports the region, making it more attractive and innovative and strengthening the region's international profile as a centre of high-quality know-how.

*Based on the interview with Judit Nemeth, Socrates/Erasmus officer, international office, University of Pécs, Hungary*

#### 4.3.10. *The University of Minho, Portugal*



The University is located in the Minho region of Northern Portugal, a region with a strong tradition of vibrant enterprise essentially of small and medium-sized businesses (SMEs). The university has thus developed **strong networks with industry both large companies and SMEs**. Cooperation with enterprise is strongly embedded in the vision of the university and translated into concrete activities. The University of Minho (Uminho) is a young university (35 years) and up from its beginning it has paid attention to University-Enterprise cooperation and to embedding the activities of the university in the local and regional development. University-Enterprise cooperation thus can be named as to be part of the mission, the vision and the strategic policy of the university. The fact that **U-E is so high on the agenda** of the Uminho is reflected in the different activities outlined below. It is also reflected in the fact that **representatives of companies** are part of the **board of governors** and that the topic of U-E cooperation is regularly on the agenda of the board. The main reasons for developing U-E cooperation are the fact that students have to be prepared for the future labour market and that the **employability** of the students has to be enhanced as much as possible through contacts with companies during their studies. Another main reason is that students have to be prepared to work in a European and global context which is the present-day reality.



**Traineeships/internships are a key to strengthen the employability of the students**. Thus all students are involved in a six-month placement in their final year at university on a compulsory basis either within Portugal, in European countries or even abroad as some 590 students a year do a placement in Brazil. **Traineeships are strongly embedded in and linked to the curriculum**. For the placements in European companies, the university as much as possible uses the fund opportunities from the Leonardo da Vinci programme. Placements or internships receive strong pedagogical attention so that they have become intensive learning opportunities that are of great value for the students. A **mentor** of the university is sup-

porting the student and a supervisor within the company is giving support in the company during the placement. Weekly meetings between the mentor, the supervisor, and the students is a key element of the placement to reflect on the work done and what has been learned or put in practice; there is also focus on new competencies and skills which have been acquired. This interaction guarantees the quality of the placement and turns it into a win-win situation both for the students and companies. At the end of the placement a report has to be written by the student which is jointly evaluated by the mentor and the supervisor. The pedagogical director of the department concerned also follows up the whole process. The placements are focusing on **problem-based learning**. This means that the university is in contact with a large number of companies (approximately 3000) to see which problems the students can work at during their placements. The objective is that the student contributes in an active and useful way to the work and life in the company by solving a problem possibly in cooperation with others in the company so as to be involved in real teamwork with a clear objective.

**Special efforts are made to promote placements with SMEs.** Many of the 2000 students that graduate every year end up working in SMEs. However, it is difficult for SMEs to accept a trainee student every year and thus special arrangements are made with SME to accept students every second or third year. Special efforts are made to convince SME of the use of a placement for the SME itself. Making SMEs aware that a placement can be a win-win situation mainly by focusing on the transfer of innovation knowledge is a key work to be done by people of the university. Placements for students in national or international companies prove to be very useful in helping the students finding a job. In many cases students are offered a job even before they finish their studies at the university.

Next to the placements or internships in companies, the Uminho pays a lot of attention to **Erasmus mobility**. On a yearly basis there would be some 350 outgoing students and some 500 incoming students. Not all of them are from Erasmus as approximately 100 foreign students come from former Portuguese colonies.

The university is involved in the **analysis of the training needs** and **skills deficits** of the companies. This is favoured by the fact that many professors act as consultants to companies and thus help companies to define their training needs. This analysis is the basis for a training offer by the university.

In terms of skills deficit, the University of Minho has launched several **new curricula or even degrees** to respond to the needs in the **region**. This is the case in certain technological areas such as polymer engineering but also in the area of oriental studies as there was a need to have the possibility to study oriental languages to promote economic cooperation with Asian countries.

Special efforts are made by the university **to promote entrepreneurship**. Some of the courses on entrepreneurship are organised on an informal and non-compulsory bases and can be taken by those students who are really interested. Special attention is given to those students and staff members of the university that are involved in setting up incubators as they need specific entrepreneurial skills. Within the university there is also a service to help inform students and staff about Intellectual Property regulations and legislation.

Over the last years regular short courses in the field of **entrepreneurship** have also been developed that are **specifically integrated into masters and Ph.D. courses**. Such courses are also more and more integrated into the normal curriculum which means they are compulsory for all students.

The university **organises** an important number of **training activities to respond to the needs at local and regional level**. Regional development bodies have been set up with representatives from the universities, the municipalities and other stakeholders to define the actions to be taken to promote regional develop-

ment. The result of this work is the development and implementation of **joined development programmes** such as the use of the development of the optical fibre backbone as a means of fast communication for the region.

**Transfer of innovation** is happening in a variety of ways. There are the **technology centres** in which companies cooperate with university to promote the use of the latest technology. Transfer of innovation is also happening through placements during which students help to solve problems making use of the latest developments they have learned at university.

There is strong cooperation between the university and companies in the field of R&D. There are mainly two sorts of cooperation. On the one hand there are the joint programmes placing people from the university in joint programmes in industry that are funded either by national funds to stimulate innovation or by European funds through the framework programmes on R&D. **Ph.D. students** will thus work in labs from companies for most of the time and will only come to the university for special activities or analysis for which they need equipment which may not be available in the company. The other possibility is the special programmes which are funded on an equal basis by the university and by the company; half of the cost of the researcher is thus paid by each of the two key partners. In most cases half of the salary comes from the company and the other half comes from the national Portuguese innovation agency.

**Companies are involved in curriculum design.** As a consequence of the fact that U-E cooperation is a key element in the university's policy, several consultative boards have been set up within the faculties or departments in which representatives of the companies and academics cooperate to define new contents for the curriculum in specific areas. **The consultative boards** are in average composed of five to seven people from the university and from enterprises. They would meet twice a year to discuss curricular matters and they would propose updates for curricula, new modules or new curricula. Just for engineering education there are five consultative boards.

**Special attention** is given to the **integration into the labour market of the students who graduate.** This is done in close cooperation with the students' association UNIVA. The students developed an observatory of which the objective is to see how quickly and swiftly students move from their university studies into a job. This observatory gathers data as to the employment of graduates but also as to the training needs of former graduates or **alumni**. Over the past years the students' association has run several surveys (with the support of the university) to ask former students which refreshers' courses are needed. The data gathered can thus be used to develop specific training courses responding to specific needs of certain companies or local/regional areas.

The university is **strongly stimulating the creation and development of incubators** and of **spin-offs**. Students and researchers are invited to start up or be involved in incubators. The university hopes to launch every year some fifteen to twenty spin-off companies.

Cooperation with companies definitely has an **impact on the management methods** of the university. The companies, the board of governors, the faculties, or the department's work have an impact on the way how things are managed at different levels in the university. Furthermore the fact that there is so much interaction between the university and companies promotes the entrepreneurial spirit at the different levels of the university.

All the activities the university develops in the field of U-E cooperation **enhance the attractiveness of the university both at a national and European level.** On the one hand foreign and national students are attracted and choose the university because of its strong focus on cooperation U-E. On the other hand companies try

to be in close contact with the university either to recruit students for placements or to have students apply for a job with them as they know that students have been prepared in close cooperation with companies.

Strong U-E cooperation facilitates the **supply of attractive, flexible and high quality education programmes** assuring the transfer of (new) knowledge supporting industry and its staff in its competitiveness (initial education). It also helps to develop high quality continuing education training in cooperation with industry which meets the market needs. The intense cooperation facilitates and accelerates transfer of knowledge from university to industry and vice versa. It encourages research within industry and joint research in cooperation with industry. No doubt University-Enterprise cooperation generates an innovation culture in the university.

*Based on an interview with Prof. Dr. Magelhaes Manuel Mota, vice president University Minho (Uminho), Portugal*



#### 4.3.11. The University of Groningen, Netherlands



The Rijks Universiteit Groningen has a clear **focus** in its **mission** and **vision** on **University-Enterprise cooperation and internationalisation**. It has received for many years a lot of attention and is seen as a key element towards the future to enhance the employability of students and the quality of education and training provided by the university. The **policy documents** of the **board of governors**, the mission and vision statements of the RUG refer explicitly to University-Enterprise cooperation in general and to **promoting entrepreneurship** in particular. University policy papers also refer regularly to the promotion of European and international cooperation in the academic studies and in the Research & Development activities of the university. This clear focus and attention is **translated into support structures** such as the student **placement bureaux** in each faculty, the **university careers guidance office** and the **international relations office**.

Major efforts are made to promote **national and European student placements** or traineeships as it is a **compulsory element** in each university education and training. 40% of all students do a placement abroad. The responsibility for the organisation of the placement is devolved to each of the faculties and to the students. To this effect every faculty has a students' placement bureau and a liaison officer with the objective to help the students find the appropriate placement which in most cases is compulsory within the training. It organises **company days** during which the students can meet companies. In several cases, the faculty also has **contact persons** in other countries to facilitate finding high quality placements. As placements are very important much effort is also invested in guaranteeing the quality of the placement and the mentoring of the student. As in all other European countries it is most difficult to find placements for students in SMEs as it is difficult to **make those companies aware of the potential** that a placement offers to them many advantages in terms of transfer of innovation and getting in touch with the latest technological developments. To facilitate placement each of the student placement bureau has a **database** with descriptions of the placements available. The databases also contain information by the students who were involved in placements so that those looking for a placement know what to expect when doing an internship in a specific company.

Different **departments** and **faculties** of the RUG are, in cooperation with companies, organising **training**

**needs analyses** and **skills deficit analysis** which very often result either in the organisation of specific and specialised training activities or the upgrading or updating of parts and contents of the curriculum. This is **closely linked to the R&D activities** of the university implemented very often in close cooperation with companies. All of those activities facilitate the transfer of innovation from the university to the companies and the outside world.

The University of Groningen is a research university in the **top segment of European academic research**. **Innovative research** is being conducted in many academic fields. Research and education are closely knit in this inspiring and quality-focused work environment. As future academics, students are involved in their lecturers' research on a daily basis. Cooperation with companies is also an important element of R&D work to **support regional development**. Links with **Interreg** projects exist.

The RUG **financially rewards innovative research** and proven quality, as well as in other ways. Researchers with excellent evaluations are stimulated by means of awards which they can invest in equipment or use to hire talented new researchers. Young, gifted researchers are also given the financial means to develop further. New developments in the academic world often occur at the interface of different disciplines. Many research groups at the RUG are therefore multidisciplinary. The RUG takes a prominent place in national and international research programmes. Many Groningen-based researchers cooperate with colleagues from all over the world on a daily basis in the academic world and **in companies**. Researchers contribute to solving social issues through contract **research commissioned by the business world or social organisations**. Society thus benefits directly from the RUG's innovative knowledge. At the same time, science also benefits from this interaction. Questions from the business world often inspire researchers to change their approach. This also gives the RUG's own research a **new impulse**. Companies contribute to financing research developed at their request.

As mentioned above **curricula are adapted**, updated or upgraded as a consequence of cooperation between companies and the university. There are no explicit structures such as joint advisory curriculum committees but there is informal cooperation through a diversity of contacts and forms of cooperation.

The activities in the field of **career guidance** are coordinated by the Career Advisory Service (Loopbaanadviescentrum) The RUG is an active member of the Career guidance working group within the **Coimbra network of universities**. Nearly or freshly-graduated students at the University of Groningen who want to find out what the situation is on the labour market can turn to the university's Career Advice Centre. The centre offers **extensive documentation on companies**, vacancies in the Netherlands and other countries, and extra training (refresher courses etc.) and postgraduate courses. The advice centre also organises training courses and workshops to facilitate the application process. Graduate business administrators looking for another job can make use of the BRUG (**Alumni Association**) vacancy service (members only). Organisations looking for a business administrator/manager can also register vacancies with the alumni association for a charge. Academic Programmes Groningen **offers managers numerous study programmes, courses and seminars** on behalf of the University of Groningen. A number of top lecturers of the faculty participate in Academic Programmes Groningen.

The BRUG alumni association also offers plenty of opportunities for extending oneself professionally and for reflection. Among other things, BRUG organises master classes and **practical training (essential skills)**. In addition, students can brush up on your business administration skills and knowledge at the annual Homecoming day organised by the faculty and the BRUG alumni association.

**StudEnterprise** is a **foundation** by and for students at the RUG with the objective to promote, facilitate and **support entrepreneurship education** with students. The foundation opened its own premises on 21 September 2006 on the Zernikecampus of the RUG. StudEnterprise is a link between all of those who are active and

involved in promoting cooperation between companies and students. In the premises mentioned above student can rent at very cheap rates, meeting rooms, and working space. Next to this StudEnterprise organises meetings and training sessions during which students can meet young entrepreneurs, exchange ideas and get advice to implement some of their entrepreneurial ideas. The organisation can also see to it that student entrepreneurs or **young entrepreneurs receive coaching from managers** in successful companies. Student entrepreneurs or young entrepreneurs can use all the help they can get when starting a business, especially if a student is still studying. StudEnterprise offers everything from hints about where to get the information and legal advice needed to provide the physical space to set up a company. The partners who have helped to make this possible include: the University of Groningen, Chamber of Commerce Groningen and Groningen Municipality.

**UniPartners** Groningen is a **non-profit academic advisory bureau completely run by students**. UniPartners Groningen works in a multidisciplinary way, from the fixed price-fixed service principle and devotes a lot of attention to quality control. All of this makes it a unique organisation. UniPartners contributes to promoting entrepreneurial skills through concrete projects. Entrepreneurs and managers are confronted by all sorts of questions. They need to be able to react optimally. But often they do not have enough time, people, or resources. UniPartners is there to help them. UniPartners Groningen can be **commissioned by companies, governmental bodies, and institutions to conduct work on a project basis**. Kennispartner Personeelsdiensten/ Knowledge partners for personnel are an employment agency set up by two students of the University of Groningen. Companies are increasingly in need of flexible temporary staff with initiative, knowledge and a sense of responsibility. The growing demand for highly qualified staff means that it is in the companies' interest to **contact potential staff** at an early stage. It is specialised in students at both HBO (institutions of higher professional education/ Universities of applied sciences) and university level working as temporary staff, currently only in the Groningen area.

The Foundation International Studies Projects (SIS) organises **study projects**. It carries out research entirely depending on the nature and needs of the organisations of our clients. For instance, time can be dedicated to identifying and contacting potential trading partners, suppliers, or consumers. In this way the foundation offers Dutch companies the opportunity to discover the benefits of investing in, or trading with, the promising Indian market. Examples are: Market Research India (Mumbai) Spring 2007, **Market research** Brazil and The HaMoNet project.

It is clear that all the activities mentioned above require specific competencies and as mentioned in the introduction the university focuses on the training of all its staff members to constantly increase the quality of the services offered by the university to students as well as to external beneficiaries such as companies outside the university. Hence time and money is involved in training people in the international office, in the student placements bureaus and in the career advisory service. This proves that the policy (the mission and the vision) of the board of governors of the RUG is also **translated** into the **Human Resource strategy and practices** of the university.

All those activities have had an important impact on the regional, national, European and international work of the university. Thus it has been invited by other universities so **join key networks and projects** to further promote U-E cooperation in general and the **quality of placements or internships** in particular. The active role of the RUG has really created a cumulative effect as to the involvement in activities related to university enterprise cooperation. One can thus easily state that all the activities as the **R&D activities and the managing of placements** to national and foreign students has enhanced the European and **international attractiveness** of the RUG.

Up to a certain extent, the management methods at the university have improved due to cooperation

between university and enterprise. But this is hard to clearly point out. One can also state that University-Enterprise cooperation has improved the entrepreneurial spirit at university. In general also major efforts have been done to **promote the entrepreneurial spirit with students**. It definitely is increasing international attractiveness of the university and industry it cooperates with. It has also led and leads to the supply of attractive, flexible and high quality education programmes assuring the transfer of (new) knowledge supporting industry and its staff in its competitiveness (initial education). It leads to the development of **high quality continuous education training in cooperation with industry** that meets the market needs. It also facilitates and accelerates the transfer of knowledge from university to industry and vice versa. One can, without any doubt say, that it encourages research within industry and that it generates an innovation culture in the university and in companies.

*Based on the interview with Ester Haag, Internship Bureau Faculty of Arts,  
University Groningen, Netherlands*

#### 4.4. MATRIX ON THE INVOLVEMENT OF UNIVERSITIES STUDIED IN THE KEY FEATURES OF UNIVERSITY-ENTERPRISE COOPERATION

| Institution                            | U Danube | U Florence | U Ilmenau | U Groningen | U Karlsruhe | U Minho | U Paris X | U Pécs | U Roma Sapienza | U Surrey | U Turku |
|--|----------|------------|-----------|-------------|-------------|---------|-----------|--------|-----------------|----------|---------|
| <b>1. Policy, mission statement</b>    | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Strategic plans                        |          |            |           | ●           | ●           | ●       |           |        | ●               | ●        | ●       |
| Involvement decision-making structures |          |            |           | ●           | ●           | ●       |           |        | ●               | ●        | ●       |
| <b>2. Structures</b>                   | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Career Service                         | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Placement service                      | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Entreprise support                     | ●        |            | ●         | ●           | ●           | ●       |           |        | ●               | ●        | ●       |
| Internat. Liaison Office               | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Industrial Liaison Office              | ●        |            |           |             |             |         |           |        |                 | ●        |         |
| Marketing Unit                         |          |            | ●         |             |             |         |           |        |                 |          |         |
| <b>3. Curricular involvement</b>       | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Joint U-E curricular Ctees             |          |            |           |             |             | ●       |           |        |                 |          |         |
| Training                               | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Needs or skills deficit analysis       | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| <b>4. Research</b>                     | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Joint research projects                |          | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Technology Centres                     |          | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Ph D in Cies                           |          | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |
| Eur. R & D projects                    | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●               | ●        | ●       |

| Institution                                    | U Danube | U Florence | U Ilmenau | U Groningen | U Karlsruhe | U Minho | U Paris X | U Pécs | U Roma Sapientza | U Surrey | U Turku |
|--|----------|------------|-----------|-------------|-------------|---------|-----------|--------|------------------|----------|---------|
| <b>5. Creation Cies</b>                        | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| Spin-offs incubators                           |          | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| Entrepreneurship courses                       | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| Student entrepreneurs                          |          |            |           | ●           | ●           | ●       |           |        | ●                | ●        | ●       |
| Mentoring schemes Cies                         |          |            |           |             | ●           |         |           |        |                  | ●        | ●       |
| Institute Applied Research                     |          |            |           |             |             |         |           |        |                  | ●        |         |
| Entrepreneurship Ed & Tractivities             | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| Research Support 4 Cies                        | ●        | ●          | ●         | ●           | ●           | ●       | ●         |        | ●                | ●        | ●       |
| <b>6. Mobility</b>                             | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| Placements                                     | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| External Enterprise lecturers in UNI           | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| Uni lecturers in Cies                          | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| Eur. networks                                  | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| <b>7. Involvement Regional Devlpt</b>          | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |
| Coop Reg board of devlpt, chambers of commerce |          |            |           | ●           |             | ●       |           |        |                  | ●        |         |
| Reg develop strategies                         | ●        | ●          | ●         | ●           | ●           | ●       | ●         |        | ●                | ●        | ●       |
| EU regional devlpt projects                    | ●        | ●          | ●         | ●           | ●           | ●       | ●         | ●      | ●                | ●        | ●       |

Notes



**DAAD**

Deutscher Akademischer Austausch Dienst  
German Academic Exchange Service



Agencia Nacional do Programma  
"Aprendizagem ao Longo da Vida"



TKA  
Tempus Public foundation



ÖAD  
Österreichischer Austauschdienst



SIU

Norwegian Center for International Cooperation in Higher Education

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