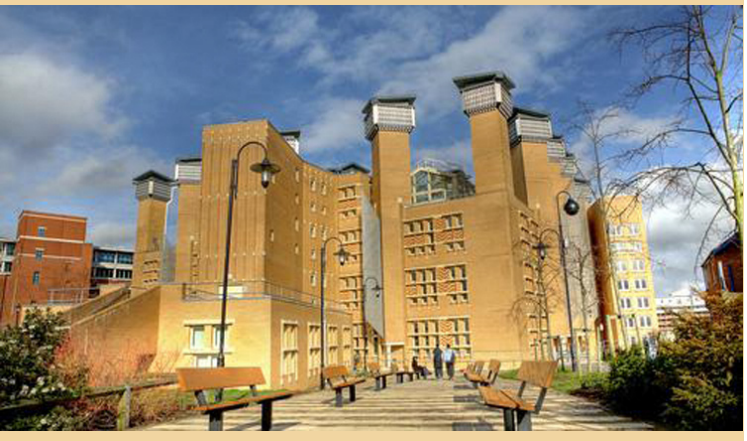
Connecting cities
Building successes

How Cities Can Harness the Capabilities of Universities in a Period of Economic Uncertainty

by **Clive Winters**
Lead Expert of the RUN-UP Thematic Network

In times of economic downturn demand for higher education usually grows. This is usually seen through an increase in applications for educational courses and programmes to drive an individual's employment potential. URBACT II, through a focus on innovation and creativity, is investigating the way in which cities can harness the wider potential of universities and knowledge based institutions in order to drive competitiveness and innovation at a local level.



The Lisbon European Union Spring Council of 2000 set a strategic goal for the European Union to become the most dynamic and competitive knowledge based economy in the world by 2010. This was driven through significant research, policies, and projects on how to stimulate the knowledge economy and importantly the role of universities within the triple helix structures [1], which define the concept of the transformation process in university-industry-government relations.

However in a period of economic uncertainty the real questions and debate are now:

- What is the specific role of universities in a period of downturn? and,
- How can universities aid longer term recovery?

Universities and city authorities will play a vital role during this period of economic uncertainty. As highlighted by European Commissioner Jàn Figel [2] "Education, innovation and research play a crucial role for Europe, in particular in these difficult times. In fact, this is the time to invest more, not less, in education, research and innovation. If we invest more, we can come more quickly out of the crisis."

But the challenge is not limited to investment. As former European Commissioner Lord Mandelson, UK Secretary of State for Business, Innovation and Skills has expressed [3] "To compete in this fast-moving world our companies must be built by workers with the right skills, they must be able to rely on world class digital and material infrastructure, and benefit from a regulatory environment that is designed to facilitate the creation and development of strong and flexible businesses. This is where the role of government becomes critical, because training, ground-breaking science,

innovation, finance, infrastructure – these are not things that markets will necessarily provide to the right degree on their own."

To address these challenges we need to review the wider role of universities, their engagement with local communities, their support for skills development training and education; their support for stimulating spin-out and graduate start-up businesses alongside their role in innovation, knowledge transfer and business.

Establishing a Wider Perspective on the Role of Universities

The URBACT II programme recognises the urban contribution to growth and jobs and that cities are home to innovation, entrepreneurial spirit and economic growth. Priority axis 1 of the operational programme in particular recognises the important themes of promoting entrepreneurship and improving innovation and the knowledge economy and the development of a triple helix structures as catalysts to promote innovation structures and entrepreneurial spirit. However, until now nearly all the attention has gone to the role of larger cities with world class universities – the so called Premier League [4].

"Universities are increasingly working with Small and Medium-Sized Enterprises in their own communities to help them become more productive and profitable. They can provide vital support to businesses but sometimes businesses do not make use of the skills and expertise that exists."

Yet small and medium sized cities as "Urban Poles" are critical to driving forward EU economic performance and innovation competence. The strategic development and exploitation of endogenous potentials is crucial, and universities are critical to this innovation process. A specific issue facing Urban Poles is they cannot make sufficient use of existing knowledge and competencies of their universities to support economic development and encourage entrepreneurship. Within its baseline study the work of the URBACT II funded RUnUP network [5] has recognised that:

1. Universities are positioned as mechanisms for research and development and subsequently licensing, patenting and spin-outs (and this is reinforced in European and National policies); *although this may not be where their potential for supporting local economic development truly exists.*

2. Local Government organisations see Universities primarily as vehicles for Education and Research & Development (see point 1) and expect them to support the development of their local economy by default; *although universities operate in regional, national and international markets and are not entirely (if at all) aligned to local priorities.*

3. An economic development perspective examining the needs of the local economy, its modernisation, transformation, transplantation and new sector creation establishes common ground where local priorities can be articulated and the role of the university in this context can be openly explored and suitable knowledge transfer approaches defined in support of triple-helix development. This is the key challenge addressed by RUnUP.

Solna, Sweden

From Economic Crisis to Knowledge Economy, Solna, one of RUnUP's partner cities, with a population of 65,000 people is located in east central Sweden, part of the capital Stockholm Metropolitan Area. During the early 1990s Sweden suffered an economic crisis, during which Solna was impacted with high levels of unemployment. In 1997, politicians from all political parties in the City agreed to a strategy to enable it to become the most business friendly municipality in Sweden.

Solna has now been transformed into a service and knowledge intensive economy. The number of companies located in the City has almost doubled to approximately 8,500 and there are slightly more jobs (67000),than inhabitants. Expansion has intensified and will continue until the year 2025, when the population is expected to reach more than 90,000 with employment opportunities for all.

Feedback from the survey of companies in which Solna was recognised as the most business friendly municipality in 2008 highlighted that the quick processing of planning permission and food permits and the establishment of strong communication mechanisms between the city politicians and civil servants and business representatives were the key features of the city's good track record in economic development. This success has its basis in the service-minded organisation, a positive attitude towards alternative solutions along with a profile to become and maintain the position as a business friendly city.

Central to the transformation of Solna has been the success of Karolinska Institute (KI), one of the largest medical universities in Europe. It is the largest centre for medical training and research in Sweden, yearly awarding the Nobel Prize in Physiology or Medicine. It's mission is to improve people's health through research, education and global collaboration. Another goal is to become Scandinavia's foremost innovation centre in Life Sciences, and leading in Europe in exploiting new scientific data. KI places great value on close cooperation between the commercial and the academic sector. The Institute operates a Corporate Alliance unit that supports and stimulates cooperation with companies focusing on strategic alliances.

For further information, visit the Solna City Profile on www.urbact.eu (check the RUN-UP mini-site)

The Role of Universities in the Economic Downturn

In a period of economic transformation and downturn, taking a wider view on the role and capabilities of universities is particularly important. It has never been so timely for economic development organisations and business to look at what capabilities exist within their local university and for universities to promote what they can do to help.

In essence this includes assistance to address some of the problems engendered by the economic downturn in a variety of ways that address direct support in the downturn and aid long term recovery, including:

a. Skills, Training and Employee Development
b. Innovation Knowledge Transfer and Supporting Business
c. University Spin-Outs and Graduate Entrepreneurship
d. Access to funding support

a. Skills, Training and Employee Development

As European Commissioner Ferrero-Waldner has highlighted [6] "investment in education and training is the key to creating a better future. In the current financial and economic crisis, well-targeted investment can build and strengthen skills in the workforce. It equips people for the opportunities of the post-crisis world, and lays the basis for long-term sustainable economic and social development."

During the economic downturn the need to develop skills is more crucial than ever. Whilst difficult circumstances may make it necessary to rationalise and reduce the workforce to remain competitive, it is also important to retain and develop people within an organisation who are skilled and have a real potential for the future.

As has been highlighted by many businesses and business associations during the RUnUP development phase, engaging Universities in workforce development is seen as a key mechanism for improving leadership and management skills but Universities can also help improve business practices and efficiency. Higher Education

is increasingly introducing new ways of working, such as expanding work-based programmes so that training fits better with business needs and company practices. Tailored and flexible programmes save money and time for business and ensure higher productivity returns. As part of all this, universities can talk to employers and give professional advice on what kinds of training support could help particular businesses.

In addition universities also provide good access to recruiting graduates and establishing student placements. History shows that recruiting talented, enthusiastic graduates is an excellent way of combating economic difficulties and ensuring that businesses are ready for recovery. Importantly, student placements provide students with a head start in their career but additionally and importantly provide organisations with access to fresh young talent who can make an immediate impact, and develop a potential future loyal employee.

Related to education and skills development (linked to the RUnUP theme's of modernisation of the economy and business transplantation) the Swedish region of Västra Götaland has introduced the Better Concept [7] to promote the training of employees within SMEs through the provision of distance learning courses delivered by University Colleges. The programme is demand driven with students applying the knowledge learnt in the courses to the real life problems faced in their SMEs enabling knowledge to be applied to real life scenarios faced in regional companies. The courses utilise an internet based learning platform with lectures delivered through video streaming alongside weekly planning and tutor support sessions. The impact of the concept has been significant with 830 participants supported over 4 years with business impact a key driver. In this context companies are seeing Universities as accessible and providing knowledge and know-how that can be applied for immediate impact on bottom-line profitability through increased turnover and improvements in business process efficiency.

b. Innovation, Knowledge Transfer and Supporting Business

Innovation is defined within the European Commission and OECD Oslo Manual as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations.

In this context universities have a significantly important role to play supporting the design, development and prototyping of new products and the development and improvement of manufacturing processes. University Research and Business Development expertise makes a significant impact on individuals, organisations and society in general and can be frequently applied to "real-life" situations. University-led and inspired innovation has helped European economic competitiveness in major sectors such as pharmaceuticals and aerospace. But universities are also increasingly working with Small and Medium-Sized Enterprises in their own communities to help them become more productive and profitable. They also help large and small companies come together to innovate.

In the area of economic diversification and modernisation it is recognised [8] that public research organisations are to some extent less important sources for supporting innovation in SMEs. However the role of universities in technical change in this context should not be seen as limited to pursuing research "at the frontier" but, instead to make accumulated knowledge available as and when there is a need for it [9]. In support of this the Innovating Regions of Europe, Knowledge Transfer Working Group [10] identified that "voucher systems, training courses, mentoring, selection of brokers and signposting SME entry points to the knowledge transfer network (higher and further education as opposed to universities) can help meet the challenge of helping increase the take up by SMEs of knowledge transfer services." Best practice innovation cases are well publicised in Europe and can be adapted to meet specific local economic development requirements.

Gateshead, United Kingdom

Gateshead is the largest in the area of 5 Tyneside local authorities that cover Gateshead, Newcastle, North Tyneside, South Tyneside and Sunderland and occupies a central position in the Tyneside conurbation alongside the City of Newcastle on the South bank of the River Tyne. In recent decades Gateshead's economy has undergone significant structural changes – from traditional manufacturing industries towards more service sector businesses. Despite these shifts and the fact that the industrial composition of Gateshead is still progressively changing, the borough is still home to a high number of manufacturing and engineering businesses that in response to global competition, have invested in process, plant, machinery and people to now supply high value products to high growth markets both in the UK and overseas.

Gateshead itself is developing an Innovation Connector that could underpin the development of Gateshead's new economy – the Design Centre for the North. The Design Centre is based on the principles of Innovation Connectors, that are partnerships to concentrate facilities and encourage innovation between government, universities and industry, creating hubs based in deprived areas to create deep local impact; linked to regeneration based on traditional industrial strengths such as energy and chemicals, new industrial specialisations such as bioscience and software and softer enabling skills such as design to add value; and a strategy and implementation policy to produce dramatic change in the region within a generation.

The Design Centre concept will focus on product development, innovation and design in the North East. It aims to foster integration and interdisciplinary working between business and the knowledge base in design and science, engineering and technology – a tangible example of the triple helix working promoted by the URBACT II network RUnUP.

For further information visit the Gateshead City Profile on the URBACT website.

c. University Spin-Outs and Graduate Entrepreneurship

Experiences in universities have shown that they can be a source of spin-off firms [11], and this is especially important in new science based industries. Regions with low levels of entrepreneurship and low high tech industry are especially keen to encourage HEI spin offs. However, rates of formation are likely to be affected by the nature and research base of the HEI and the level of support in the surrounding region.

The Small and Medium Sized City of Enschede, located in the east of the Netherlands with a population of 155,000 highlights a particular best practice in the creation of new industries through the dynamic role of the University of Twente which is committed to making an economic and social contribution to the region of the Netherlands where it is based. The University was founded in 1961 within a local economy that needed a boost to compensate for the dwindling textile industry and actively supports local economic development through its patents, lifelong learning and spin-out companies developed through its TOP programme [12]. It has as its objectives the development of knowledge based companies from graduates, staff and local industry linked to the faculties of the university and including financial support, incubation space, advice and connections to university research.

"Universities are positioned as mechanisms for research and development and subsequently licensing, patenting and spin-outs although this may not be where their potential for supporting local economic development truly exists."

The University actively promotes entrepreneurship among its students and staff through various programmes. As a result the University has the highest spin-off ratio in the Netherlands. In 20 years over 700 companies have originated from the University. These companies have had a 5-year survival rate of over 70%, creating almost

10,000 jobs to date. In addition the University has about 130 student-run companies. The impact on the city is clear with strong industry relationships and over 600 spin-off companies that thrive on and around the University campus.

d. Access to Funding Support

Supporting knowledge transfer to businesses through research and consultancy, universities can provide access to funding schemes designed to maximise business competitiveness. Particular schemes operating through universities or accessible by European Universities may include:

- Innovation Vouchers: designed to assist small and medium-sized enterprises to benefit from research & development and consultancy expertise.
- Knowledge transfer projects: forming a partnership between a local company, a university and a qualified associate (normally a graduate of the university)
- Business Collaboration Grants: SMEs with other businesses to bring new products and services to market.
- International Trade: Offering support to businesses to access growing global markets

In support of problem solving for industry (linked to the upgrading of mature sectors in the economy) an example includes the Research Voucher Scheme [13] launched in Limburg aimed at increasing the level of knowledge and improving the competitiveness of small and medium-sized enterprises by creating and developing a "knowledge market" in the region, which would allow SMEs to call on external sources to supply the know-how required to develop their business. The scheme helps provide R&D funding to SMEs and support for new product development. In relation to the work of the RUnUP thematic network the scheme directly addresses the fear that some SMEs often have of universities and research centres that often inhibits them from accessing external expertise.

Similarly, the Innovation Networks scheme highlighted by the Innovating Regions of Europe as a best practice exemplar offers small groups of companies in the West Midlands region of the UK grants to collaborate on product, process and service innovation projects. A low level of bureaucracy and cooperation between various regional support programmes make it easy for companies to start innovation activities. The programme was designed to address two major barriers preventing SMEs from innovating: lack of adequate skills in-house and a shortage of funds. By offering grants, the scheme encourages small groups of regional SMEs to collaborate on product, process and service innovation. The Innovation Networks initiative offers grants to groups of at least three SMEs collaborating on the development of an innovative product, process or service. In relation to the work of the RUnUP thematic network the cooperation allows SMEs to share good practice, widen their skills base, reduce overhead and benefit from knowledge and technology transfer.

Maximising the Role of Universities in the Local Economy

Many cities in the RUnUP URBACT network need to enhance their individual and organisational knowledge of their local and regional knowledge based institutions. Only by understanding the structures, key contacts, key research and educational themes and existing approaches of universities to working with their local economy can they support the development of triple helix structures and the alignment of university activity to local economic development priorities. As a prerequisite to the design of new schemes and approaches for university–business interaction, cities need to consider defining their sector priorities and the state of economic transformation.

A 3-step framework for cities can be used for addressing this challenge. The entry point is the bringing together of representatives of key triple helix organisations to develop a joint response to economic challenges. By pooling existing data and intelligence, an up-to-date and comprehensive "economic picture" can be developed in cities to inform policy development and identify successful arrangements for the governance of innovation and economic transformation. Subsequently city partners need to work together to re-define the role of universities and local authorities to align to the focus of local transformation and the knowledge economy, producing an economic development strategy based on triple helix partnerships. And finally city partners need to formalise a core triple helix partnership for the delivery of new and upgraded activities and actions outlined in a local action plan. Universities across Europe operate differing structures to support knowledge and technology transfer type activities and community engagement but they do have dedicated teams who work with business.

In support of this framework approach the URBACT II network RUnUP will be delivering a series of 3 thematic workshops and 3 study visits within the strategic themes agreed for the network. Overall the RUnUP network seeks to bring stakeholders from academic, business and public sectors together to boost economic development in small and medium sized cities. Recognising the all-encompassing nature of economic development, RUnUP is inclusive in nature, reaching out to all sectors of the economy to inspire and support entrepreneurship and innovation.

For further information on RUnUP, its network events and partner cities visit www.urbact.eu ●

[1] The term triple helix defines the concept of the transformation process in University-Industry-Government relations.

[2] European Commissioner Jàn Figel, Speech to the 2nd European University Business Forum in February 2009.

[3] Lord Mandelson, UK Secretary of State for Business, Innovation and Skills, 11th June 2009.

[4] Visit http://www.topuniversities.com/ for further information.

[5] Visit http://www.urbact.eu for further information.

[6] European Commissioner Ferrero-Waldner, "Investing in Higher Education - an EU perspective", 5th July 2009.

[7] "Knowledge Transfer Strategies for Regional Development and Competitiveness", IRE Knowledge Transfer Working Group, Final Report, June 2008.

[8] "Firm Size and Openness: The Driving Forces of University-Industry Collaboration", in Y. Caloghirou, A. Constantelou and N.S. Vonortas (eds.), "Knowledge Flows in European Industry: Mechanisms and Policy Implications", London: Routledge, 2004.

[9] "Universities and industrial transformation: An interpretative and selective literature study with special emphasis on Sweden", Staffan Jacobsson, June 2002.

[10] "Knowledge Transfer Strategies for Regional Development and Competitiveness", IRE Knowledge Transfer Working Group, Final Report, June 2008.

[11] Spin out refers to a type of company that "splits off" sections of itself as a separate business. The common definition of spin out is when a division of a company or organisation becomes an independent business. The "spin out" company takes assets, intellectual property, technology, and/or existing products from the parent organisation.

[12] The TOP Programme, University of Twente.[13] Research Voucher Scheme, Limburg.