

## Executive Summary

**I**n order to be competitive in the globalising knowledge economy, the OECD countries need to invest in their innovation systems at the national and regional levels. As countries are turning their production towards value-added segments and knowledge-intensive products and services, there is greater dependency on access to new technologies, knowledge and skills. And, with the parallel processes of globalisation and localisation, the local availability of knowledge and skills is becoming increasingly important. OECD countries are thus putting considerable emphasis on meeting regional development goals, by nurturing the unique assets and circumstances of each region, particularly in developing knowledge-based industries. As key sources of knowledge and innovation, higher education institutions (HEIs) can be central to this process.

In the past, neither public policy nor the higher education institutions themselves have tended to focus strategically on the contribution that they can make to the development of the regions where they are located. Particularly for older, traditional HEIs, the emphasis has often been on serving national goals or on the pursuit of knowledge with little regard for the surrounding environment. This is now changing. To be able to play their regional role, HEIs must do more than simply educate and research – they must engage with others in their regions, provide opportunities for lifelong learning and contribute to the development of knowledge-intensive jobs which will enable graduates to find local employment and remain in their communities. This has implications for all aspects of these institutions' activities – teaching, research and service to the community and for the policy and regulatory framework in which they operate.

How can higher education institutions live up to this challenge? This publication explores the policy measures and institutional reforms that can help them to do so. It considers regional engagement of higher education in several dimensions, notably: *knowledge creation* through research and technology transfer; *knowledge transfer* through education and human resources development and *cultural and community development*, which can, among other things, create the conditions in which innovation thrives. This study draws from a review of 14 regions across 12 countries as well as OECD territorial reviews, which broaden the scope of the study to a wider OECD area.

The review project was launched as a response to the initiatives seeking to mobilise higher education in support of regional economic, social and cultural development. The aim was to synthesise this experience in order to guide HEIs and regional and national governments. The project was designed to assist with building capacity for conjoint working between HEIs and regional stakeholders.

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### *Stronger focus on regions*

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Examples of higher education helping to serve the needs of local economies can be found in various countries in the past 150 years. However, these links have been sporadic rather than systematic. This has changed dramatically with recent expansion of higher education, particularly in the non-university sector, which in some cases has consciously aimed to address regional disparities and to widen access. Another important factor changing the context of regional development has been a switch towards more indigenous development, which emphasises the building of skills, entrepreneurialism and innovation within regions. Growing efforts have been made to remove barriers to the application of research, which obliges HEIs to become involved in innovation. Policy responses which initially focused on enhancing the capacity for technological innovation through technology transfer and interactions between HEIs and private industry have now widened to include public services, social and organisational innovation, and to engage HEIs in the wider social fabric of which they are part.

Regions and HEIs are building partnerships based on shared interest which is principally economic. From the perspective of agencies promoting city and regional development, HEIs have become a key resource. They can help serve regional development most obviously by contributing to a region's comparative advantage in knowledge-based industries and to its human capital base, but also for example by helping to generate new businesses, by contributing to tax revenues and by providing content and audience for local cultural programmes. From the perspective of HEIs, regional involvement has a range of benefits. The local area brings business to institutions in a variety of forms, including student enrolments and payments for research, consultancy and training. At the same time, a thriving region creates an environment in which higher education can also thrive, helping institutions to attract and retain staff and students.

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### *Barriers*

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In the regions involved in the OECD study, partnerships are being developed between HEIs and the public and private sector to mobilise higher education in

support of regional development. While the case for engagement is patchy, it is becoming acknowledged across a wide range of HEIs in most regions. The partnerships, which are in most cases at early stages, are often bottom-up initiatives with limited support from central governments. The early stages are characterised by numerous small scale and short term projects championed by key individuals. The environment for higher education to engage in regional development across OECD countries remains highly variable.

More active engagement is constrained by the orientation of public policy, inadequate funding and incentives, limits to leadership within HEIs, and the limited capacity of local and regional agents to get involved with higher education. Regional engagement strategies of HEIs depend on the role the HEI chooses for itself and the leadership role it adopts. The governance, leadership and management of HEIs can constrain active engagement. Also, traditional academic values give little weight to engaging with local communities. Institutional structures within HEIs offer limited incentives or resources to pursue activity that serves the region.

National higher education systems may impose regulations that reduce the capacity of HEIs to engage regionally. Administrative-based higher education systems leave little room for institutional autonomy and flexibility. In many unitary countries, higher education policy does not include an explicit regional dimension. Ministries of Education need to balance between conflicting policy priorities and may show limited interest in HEIs' regional engagement. Applied research and development and meeting skill needs in the local labour market are left to institutions which often lack a well-established tradition in research or infrastructure to support it. Even when engagement with business and the community has been recognised and laid upon HEIs as a "duty" by national governments, it has remained a "third task", not explicitly linked to the core functions of research and teaching.

Funding and incentive structures often provide limited support for regional engagement. HEIs are faced with competition, new tasks and pressures to reduce cost notably by the central authorities. This context does not necessarily favour an enhanced regional role for HEIs. Research is generally funded on a geographically neutral basis or aims to create critical mass. HEIs can seek to diversify their funding sources and turn to private external funds but are faced with legal constraints in doing this. A strong focus on excellence when allocating research budgets may result in concentration in advanced regions which is often considered necessary in the face of increasing global competition within the HE sector. Funding for teaching is weakly oriented towards building human capital in deprived regions and higher education's role in aiding community development is not systematically funded. Regional engagement is generally not supported by major incentives or monitoring of outcomes. The related metrics are underdeveloped, retrospective or do not

take account of developmental work that may lead to future income or services in the public interest.

Regional structures and governance are in many instances ill-suited to furthering the regional agenda of HEIs. The territorial coverage of local and regional government is constrained to serving fixed constituencies, whereas higher education needs to define its sphere of influence in a flexible way. Local governments do not always have responsibilities that allow them to engage freely in economic development. HEIs and firms often experience significant gaps in their collaborative relations: academics may be uninterested in tackling seemingly mundane problems and/or failing to deliver solutions on time or to budget while firms may lack sufficient information to track down the appropriate expertise within the HEIs. Restrictions on publishing research results also set constraints.

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### *Overcoming barriers*

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## **Overcoming barriers to promoting innovation with a regional focus**

Despite the existing constraints, the new tasks of HEIs have increased as countries have reinforced the HEI apparatus in relation to firms and regional economies. The policies have had a common goal: to transform each HEI into an engine for growth. The efforts have often been indirect *i.e.* granting enhanced autonomy to HEIs and improving framework conditions and incentives to co-operate with the private sector. Two prominent ways have been: enhancing the role of tertiary education within regional innovation systems and enhancing the participation of HEIs in cluster type initiatives. Temporary incentives have been developed in the form of grants, calls for projects or joint programmes. Policies have often prioritised the uptake and development of high technologies, while mechanisms to support social entrepreneurship and innovation for wider needs of excluded groups in rural areas and inner cities have been limited. There has also been less emphasis on services, which account for 70% of the workforce in the OECD countries.

Case studies from different countries show how a regional dimension can be integrated into public investment in the science base in HEIs. For example in France, Finland, Japan, Mexico and the United Kingdom national governments have taken steps to identify and support regional centres of innovation. Examples from Öresund cross-border region and from Atlantic Canada illustrate how HEIs can work together to improve and diversify their supply of services for local and regional firms. Small and medium-sized enterprises (SMEs) do not always find it easy to work with large HEIs or to engage in the wider research issues raised in universities. Creating access

points can help smooth this process. Case studies illustrate how this is done in the North East of England with a “Knowledge House” which provides a common entry point to five universities and in Georgia Tech which has 13 regional offices throughout the state. HEIs can also potentially play a key role in bringing global players into a local context in order to attract inward investment. Whether it is the University Jaume I in Valencia in Spain helping to transform the traditional SME-based ceramic tile industry to a global leader or the University of Sunderland in the UK participating in an alliance that helps to make Nissan’s new car plant the most productive in Europe, higher education is starting to realise the pivotal part it can play.

### **Overcoming barriers to developing human capital within regions**

Higher education can contribute to human capital development in the region through educating a wider range of individuals in the local area, ensuring that they are employable when they leave education, helping local employers by responding to new skills requirements, ensuring that employees go on learning by supporting continuous professional development, and helping attract talent from outside. Widening access to higher education is a national as well as a regional task, but the regional dimension is particularly significant in countries with wide disparities. Some countries, for example Australia, have introduced a specific regional dimension to the higher education equity initiatives. Given that one-third of working age adults in the OECD countries have low skills, up-skilling and lifelong learning are particular challenges. In Finland, the Provincial University of Lapland has pooled the expertise of four HEIs to reach out to remote communities in co-operation with regional stakeholders.

HEIs can also improve the balance between labour market supply and demand. This requires labour market intelligence and sustained links with local businesses, communities and authorities. Work-based learning programmes, such as the Family Firm system in the Dongseo University in Busan, represent person-embodied knowledge transfer which often culminates in job creation and promote links between SMEs and HEIs. Aalborg University in Denmark and many new HEIs have built their education provision around Problem Based Learning which guarantees a high degree of co-operation with the society and the private sector. HEIs are also increasingly creating entrepreneurship programmes. The emergence of a well functioning human capital system in the region as distinct for a number of disconnected components requires some degree of co-ordination and steering, not least between different stages of education. Co-operation among HEIs can bring numerous advantages including critical mass in competing with other regions, improvement of pathways that involve enrolment at multiple institutions and the sharing of learning through the dissemination of best practice.

## **Overcoming barriers to promoting the social, cultural and environmental development of regions**

Regional development is not only about helping business thrive: wider forms of development both serve economic goals and are ends in themselves. HEIs have long seen service to the community as part of their role, yet this function is often underdeveloped. Few OECD countries have encouraged this type of activity through legislation and incentives. The mandatory social service for higher education students in Mexico provides an interesting model for countries seeking to mobilise higher education towards social goals.

Many HEIs have a strong involvement with health, and this can be turned to community use – for example the universities in Northeast England work with the Strategic Health Authority to address public health issues in the region. Higher education can be well placed to analyse and address social needs in deprived areas. For example in Central Finland the Jyväskylä University of Applied Sciences is working with a wide range of stakeholders to develop social innovation to help long-term unemployed people back into work. In the cultural domain, the contribution made by culture to quality of life, the attraction of creative talent and the growth of creative industries are all part of regional development. Higher education can be a major player in internationalising their regions and making them more diverse and multicultural, but often not enough is made of international links in this regard. High profile initiatives can help to coalesce efforts in this area, for example, in the European context, the bids to become European Capitals of Culture have worked to this direction. Higher education institutions can also play a significant role in environmental development, for example by mustering expertise and by demonstrating good practice.

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### *Building capacity for engagement*

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In regional engagement much depends on the institutional leadership and entrepreneurialism of HEIs. Mainstreaming the regional agenda and scaling up the institutional capacity from individual good practice cases to a well-developed system requires senior management teams able to deliver the corporate response expected by regional stakeholders, modern management and administration systems (human resources management system and financial management system underpinned by modern ICT systems), transversal mechanisms that link teaching, research and third task activities and cut across disciplinary boundaries, permanent structures that enhance regional engagement (e.g. regional development offices and single entry

points to HE expertise, such as Knowledge House in the North East England) and sufficient incentives, for example by making regional engagement a consideration in hiring and reward systems as has been done in the University of Sunshine Coast in Australia. There is also a need to ensure that units established to link the HEIs to the region, such as science parks, centres of continuing education and knowledge transfer centres do not act as barriers to the academic heartland or provide an excuse for detachment. Finally, there is a need to acknowledge that regional engagement can enhance the core missions of teaching and research and that the region can be seen as a laboratory for research projects, a provider of work experience for students and a source of financial resources to enhance the global competitiveness of the institution.

HEIs play an important role in partnering with regional stakeholders. Many OECD countries have strengthened this role through requiring higher education governance to include regional representation and encouraging the participation of HEIs in regional governance structures. Some countries, *e.g.* the UK and Finland, have also encouraged closer co-operation between HEIs in the region (joint degrees, programmes, research programmes, strategies, higher education regional associations, one stop shops for industry collaboration). Partnership structures linking HEIs have been developed for example in Öresund region, where a loose consortium of 14 universities not only pools research and teaching efforts but also helps to provide necessary co-ordination across two countries with different education, labour and administrative systems. Stronger commitment can be achieved when HEIs are mobilised not only in the preparation but also in the implementation of regional strategies backed up with necessary financial resources. A crucial step is to create well-functioning co-ordinating bodies at the regional level that comprise the key regional actors including private sector and that take a long-term wider view of regional development, not just focusing on economic but also social, cultural and environmental development.

HEIs can play a key role in joining up a wide range of national policies at the regional level. These policies include science and technology, industry, education and skills, health, culture and sport, environmental sustainability and social inclusion. OECD countries which wish to mobilise their higher education system or part of it in support of regional development, need to ensure that the higher education policy which embraces teaching, research and third task activities include an explicit regional dimension. Countries also need to create beneficial framework conditions such as strengthened institutional autonomy that support more entrepreneurial HEIs and their co-operation with enterprises, and supportive incentive structures including long term core funding as well as additional strategic funding schemes. The search

for indicators and benchmarking mechanisms has remained a weakness in many countries. Even if measuring is difficult and controversial, engagement policies will not improve without sound evaluation processes.

The concluding chapter contains pointers for the future directed at national and regional governments and higher education institutions.