

**INPUT PAPER FOR THE HEINNOVATE WORKSHOP IN DUNDALK, IRELAND ON 29-30  
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**PREPARED BY  
BEN JONGBLOED, CHEPS, UNIVERSITY OF TWENTE,  
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**PURPOSE OF THIS DOCUMENT**

This document is meant to serve as an input paper for the HEInnovate workshop in Dundalk, Ireland on 29-30 June 2017. It is based on the HEInnovate country reviews that recently have been undertaken in Bulgaria, Ireland, Poland, Hungary and the Netherlands. It collects some of the main findings and recommendations that have come out of these five country reviews and identifies key areas/issues for peer learning that are relevant for national policy makers and the leadership of higher education institutions.

## INTRODUCTION

Higher education institutions (HEIs) play a central role in the country's innovation system. HEIs are a substantial element of the national innovation system, and every HEI also plays an important role in its surrounding economy. There is a growing expectation from governments and society that higher education institutions (HEIs) should evolve into a new type of economic and social actor. These “entrepreneurial” HEIs are expected to prepare students to be more entrepreneurial and leverage their knowledge generation capabilities to make strong contributions to local development in partnership with industry and government.

While HEIs in Europe are beginning to introduce strategies and practices in this area, the progress is uneven, both across and within countries. Efforts are needed to inspire higher education institutions and policy makers, and to disseminate the most promising initiatives. This is the aim of HEInnovate.

### **HEInnovate: dimensions, definitions and data**

The main objective of HEInnovate is to support higher education institutions (HEIs) who are looking for advice, ideas and inspiration in order to become more innovative and entrepreneurial. HEInnovate has the purpose of helping HEIs identify their current situation in light of what other HEIs have been doing. It helps them identify potential areas of action, taking into account their local and national environments.

HEInnovate was developed as an online self-assessment tool for HEIs to help them navigate the complex landscape of issues they are facing. How entrepreneurial and innovative HEIs are in their daily practice can be described on the basis of the institution's reaction to 37 statements, each touching on a particular aspect of entrepreneurialism. Representatives of the HEI are invited to react to the statements and their assessments will then be processed and visualised. HEInnovate was complemented from the outset with case studies, to give “good practice” and inspiration, rather than just an identification of the problems faced. It has a strong emphasis on both internal dialogue and external peer learning to create a momentum for change.

HEInnovate can also be used for policy and system reviews at country level or regional level. The aim of these OECD country reviews is to provide a roadmap for strengthening the innovative and entrepreneurial character of higher education institutions.

HEInnovate explores seven dimensions of the ways in which HEIs contribute to innovation. The dimensions serve as a guiding conceptual framework in self-assessment and review exercises. The seven dimensions are:

1. **Leadership and Governance:** to develop an entrepreneurial culture in an institution, strong leadership and good governance are crucial.
2. **Organisational Capacity: Funding, People and Incentives:** key areas a higher education institution might wish to consider to minimise the organisational constraints to fulfilling its entrepreneurial agenda.
3. **Entrepreneurial Teaching and Learning:** areas in which entrepreneurial development can take place and tools to deliver education and training opportunities.

4. **Preparing and Supporting Entrepreneurs:** ways in which HEIs can provide internal and external opportunities and expertise to support staff and/or students in their career development and/or enterprising individuals on their journey to becoming an entrepreneur.
5. **Knowledge Exchange and Collaboration:** building and sustaining relationships with key partners and collaborators to create value for the higher education institution and society.
6. **The Internationalised Institution:** the influence of the international environment on the entrepreneurial aspects of teaching, research, talent development, new opportunities and culture.
7. **Measuring Impact:** those areas a higher education institution might want to measure to see the impact of its activities to become more entrepreneurial / innovative.

As such the application of the HEInnovate framework can help produce findings and recommendations both for national level policy makers and managers and academics working in the HEIs. Recommendations are presented for policy measures and actions, that can be implemented by national and sub-national governments, as well as the leadership of HEIs. The national reviews identify key areas of strength and areas for improvement. The actions in particular address opportunities and initiatives worth taking as well as ways to overcome barriers. They are partly inspired by examples of good practice from other countries – a lot of which were collected as part of previous HEInnovate exercises.

The national system reviews obviously do not necessarily cover each of the seven dimensions in equal degrees of detail. And as time progresses and experiences with HEInnovate grow, the actions and policies worth taking will be affected as well. The landscape of innovative and entrepreneurial university obviously is a dynamic one.

Any review exercise devoted to innovative and entrepreneurial HEIs requires a definition of the phenomenon under study. In the HEInnovate reviews and assessments, the innovative and entrepreneurial HEI is described as:

*an institution designed to empower students and staff to demonstrate enterprise, innovation and creativity in teaching, research, and engagement with business and society. Its activities are directed to enhance learning, knowledge production and exchange in a highly complex and changing societal environment; and are dedicated to create public value via processes of open engagement.*

Entrepreneurship and innovation in higher education are no longer only associated with business start-ups and technology transfer but are increasingly understood as core elements driving much of the education and research carried out in HEIs. For example, in how they create and nurture links between teaching and research, how they organise engagement and knowledge exchange, how they manage effective partnerships with a range of stakeholders, and how they support nascent entrepreneurs.

It is widely accepted that to act as dynamic and sustainable organisations that are both innovative and entrepreneurial, HEIs will need to continuously augment their organisational capacity. Key to this is the presence of an all-encompassing leadership, strategic planning and professional management. Adequate funding, a high level of institutional autonomy, accountability mechanisms that enhance flexibility and agility, as well as close links with strategic partners at local, national and international levels are indispensable building blocks. It is exactly this list of characteristics and requirements that is reflected in the seven HEInnovate dimensions.

To collect the input on these characteristics for the OECD HEInnovate country reviews, an approach was followed that involves a wide range of stakeholders from within the reviewed country (policy makers, HEI leaders, academic and administrative staff members, researchers etc.) and experts and peers from other countries. Information was gathered through site study visits by international review teams to a number of HEIs in the country, as well as through an online survey of HEI leaders. There were plenty of opportunities for stakeholders from each country to discuss preliminary findings and to comment on the final recommendations in the workshops organised as part of the review.

## **LESSONS FROM THE HEINNOVATE COUNTRY REVIEWS**

In the remainder of this paper, the key recommendations that have come out of the five HEInnovate country reviews are collected for each of the countries and assigned to one of the HEInnovate dimensions. The recommendations are presented for each of the seven HEInnovate dimensions. Obviously, some of the recommendations might have been categorised under multiple dimensions because they address more than one area but that does not affect the message or lessons that follow from the exercise.

The recommendations are presented in the middle column of the seven tables shown below. On the right-hand side of each table we have included the areas, issues and questions that might be addressed in future peer learning activities organised by the HEInnovate countries that so far have participated in the reviews. Readers will note that some of the recommendations given for one country may reappear in the lists for other countries. This is the reason why in the right-hand column one will sometimes read a sentence like “see entry above”.

One of the goals of the Dundalk workshop is to identify the most important issues that might be taken up in future peer learning events to be organised as a follow-up to the country reviews.

## Dimension 1: Leadership and Governance

Country	Recommendations	Areas/issues/questions for peer learning
<b>Netherlands</b>	There needs to be more coordination between the different ministries with respect to how valorisation and entrepreneurship policies are designed and implemented. This should be done in order to avoid competition and duplication of effort which may result from priority setting of different ministries being responsible for the different functions of higher education.	<ul style="list-style-type: none"> <li>• How to achieve coordination at the national level?</li> <li>• (in light of the dispersion of responsibilities across various ministries/agencies)</li> </ul>
	Adjust funding models and performance contracts to ensure sustainability in funding valorisation processes and activities, and entrepreneurship support in HEIs.	<ul style="list-style-type: none"> <li>• Are performance contracts/agreements a useful instrument?</li> </ul>
<b>Ireland</b>	In the absence of one responsible authority that has policy and funding responsibility for higher education, science, research and innovation, a high level of communication leading to shared decision-making processes is therefore recommended. It will be important to consider approaches which may result in a consolidation of funding into a small number of agencies if appropriate and a high-level coordination committee to prevent gaps or duplication. Simplified and common processes should be put in place. Initiating such an approach under the HEA should be considered.	<ul style="list-style-type: none"> <li>• How to consolidate the (often fragmented) funding streams and achieve more coordination between various agencies?</li> </ul>
	There are opportunities to enhance co-ordination between different initiatives in network and partnership development (e.g., Regional Action Plans for Jobs, Regional Skills Fora, Regional Clusters, etc.). Furthermore, the introduction of a more-regionally and locally tailored approach of Enterprise Ireland initiatives could help HEIs to establish their role in the entrepreneurship ecosystem.	<ul style="list-style-type: none"> <li>• How to translate national policies &amp; initiatives into regional actions?</li> </ul>
	To achieve the overall aim of the Regional Clusters to strengthen research capacity and capability, promote enterprise and innovation, and to attract and retain talent from home and abroad, a next phase in the Regional Cluster Initiative development will be needed. Sharing good practices between the Regional Clusters is recommended and the HEA could take responsibility for the development and launch of a “learning from each other” initiative.	<ul style="list-style-type: none"> <li>• Can the Irish Regional Clusters initiative serve as an example for other countries that wish to achieve more collaboration and HEI-led partnerships in regions?</li> </ul>
	It is important to broaden the scope for Arts, Humanities and Social Sciences (AHSS) in the fourteen identified research priorities, for example through special calls for research initiatives that promote collaborations between AHSS and STEM disciplines. This will cultivate interdisciplinary research.	<ul style="list-style-type: none"> <li>• How to encourage interdisciplinary research without neglecting the AHSS?</li> <li>• Can research council calls help achieve this?</li> </ul>
	Embed knowledge transfer within HEIs’ activities and reward it accordingly (e.g., national protocol for the commercialisation of intellectual property developed in HEIs).	<ul style="list-style-type: none"> <li>• Recognise and reward entrepreneurship and knowledge transfer by incorporating it in the HEI mission and reward researchers that are successful at</li> </ul>

		commercialising IP.
<b>Bulgaria</b>	The new strategy on higher education, which was recently adopted, is expected to increase coordination efforts and bring together the different roles of HEIs, ranging from skills development and lifelong learning, research, development, to start-ups, innovation and smart specialisation. A common policy framework is needed.	<ul style="list-style-type: none"> <li>• How to achieve coordination at the national level?</li> <li>• (in light of the various missions of HEIS and expectations placed on them)</li> </ul>
	Innovativeness and entrepreneurship is focused primarily on the promotion of start-up activities, primarily targeted at students. Organisational capacity, stakeholder links, internationalisation, and leadership are not yet associated with the concept.	<ul style="list-style-type: none"> <li>• How define (and broaden our understanding of) innovativeness and entrepreneurship? Can HEInnovate help here?</li> </ul>
	More collaboration between HEIs and more joint utilisation of infrastructure and resources is required. A well-functioning system that allows and caters for diversity is needed, so that institutional-level priorities and goals can be realistically set and achieved within wider system-level strategic objectives.	<ul style="list-style-type: none"> <li>• How to achieve more collaboration between (regional) HEIs – in particular in using infrastructure?</li> <li>• (to avoid duplication and encourage role differentiation across HEIs)</li> </ul>
	The Ministry of Education and Science is recommended to establish a national-level HEInnovate committee, including senior representatives from Ministries, the Rectors Conference, and main economic actors e.g. Chambers of Commerce, etc. Its job would be to (i) promote the concept of the innovative and entrepreneurial higher education institution, (ii) identify key national challenges and opportunities in the higher education system with regard to the seven dimensions of HEInnovate, and (iii) to monitor and evaluate pilot projects to identify those initiatives which are suitable for mainstreaming.	<ul style="list-style-type: none"> <li>• How to achieve coordination at the national level? (Is the setting up of a strategic board that includes representatives from various agencies and stakeholder bodies a good idea?)</li> </ul>
<b>Hungary</b>	A comprehensive definition of third mission activities and allocation of resources in terms of staff time and funding is needed.	<ul style="list-style-type: none"> <li>• How to define (and broaden our understanding of) innovativeness and entrepreneurship?</li> <li>• Can HEInnovate help?</li> </ul>
	Developing a specific strategy on third-mission, which builds on the evidence of existing and planned activities reported in the HEI strategies, should be considered.	<ul style="list-style-type: none"> <li>• Examples of HEIs' third mission strategies.</li> <li>• Can HEInnovate help?</li> </ul>
	It could be considered to agree performance compacts with each HEI that include third mission activities.	<ul style="list-style-type: none"> <li>• (see NL – above)</li> <li>• Are performance contracts/agreements a useful instrument?</li> </ul>
	Stakeholder fora need to be established as consultative and collaborative fora within HEIs but also nationally and regionally to drive the third-mission agenda.	<ul style="list-style-type: none"> <li>• How to engage stakeholders (national, regional) in formulating the HEI third mission strategy?</li> </ul>
<b>Poland</b>	Encourage the newly established Innovation Council to work with HEIs to define an entrepreneurial vision for the Polish higher education system and to oversee its implementation.	<ul style="list-style-type: none"> <li>• (see above – BG, NL)</li> <li>• How to achieve coordination at the national level?</li> </ul>
	The Ministry of Science and Higher Education should	<ul style="list-style-type: none"> <li>• (see above – NL)</li> </ul>

	co-operate with the Ministry of Economic Development (and the Polish Agency for Enterprise Development) to strengthen the start-up support infrastructure using European Union Structural Funds.	<ul style="list-style-type: none"> <li>• How to achieve coordination at the national level?</li> <li>• (in light of the dispersion of responsibilities across various ministries/agencies)</li> </ul>
	Appoint a senior manager in each HEI with responsibility for the “third mission”, including innovation, entrepreneurship and building relationships with government and the business community.	<ul style="list-style-type: none"> <li>• Should a vice-president for third mission / valorisation be introduced in each HEI?</li> </ul>
	Incorporate a strong entrepreneurial element in advisory boards at the HEI and faculty levels.	<ul style="list-style-type: none"> <li>• (see above – HU)</li> <li>• How to engage stakeholders (national, regional) in formulating the HEI third mission strategy?</li> </ul>

## Dimension 2: Organisational Capacity: Funding, People and Incentives

Country	Recommendations	Areas/issues/questions for peer learning
<b>Netherlands</b>	Job descriptions, tasks and promotion procedures should take into consideration participation and performance in engagement and valorisation activities as such, and valorisation activities. This will enhance the participation of motivated staff in valorisation activities.	<ul style="list-style-type: none"> <li>• What human resources policies (rewards &amp; staff promotions) may be introduced to encourage entrepreneurship and innovative behaviour in HEIs?</li> </ul>
	Recruitment criteria for staff would need to include engagement and valorisation experience and skills as well as teaching and research capabilities.	<ul style="list-style-type: none"> <li>• (see above item)</li> </ul>
	National funding models for interdisciplinary education programmes and research initiatives within and between HEIs should be introduced and/expanded. Involve local and regional stakeholders in these interdisciplinary programmes. Existing initiatives should be evaluated.	<ul style="list-style-type: none"> <li>• How can funding schemes encourage interdisciplinary and inter-institutional research activities? What examples are there from other countries?</li> </ul>
<b>Ireland</b>	Address the principle of “one salary, one job”, which results in the benefits and the impacts of academic consultancy work not being captured by or feeding back into the impact of the HEI and the higher education sector as a whole.	<ul style="list-style-type: none"> <li>• (see above – NL)</li> <li>• How can human resources policies (e.g. rewards) take into account academic consultancy work as part of entrepreneurial behaviour?</li> </ul>
	In the National Reform Programme / Europe 2020 strategy a new target of gross domestic expenditure (GERD) of 2% of the GDP is to be achieved by 2020 (1.52 in 2014). It is desirable that investment in R&D be increased to 3% of the GDP as in other European countries.	<ul style="list-style-type: none"> <li>• How to use outcomes of HEIs’ innovative and entrepreneurial activity in convincing national authorities to invest more in R&amp;D?</li> </ul>
	Consider approaches which will result in a consolidation of funding into a smaller number of agencies coupled with a high-level coordination committee. This is not going against the position of the dual research system, but to prevent gaps or duplication.	<ul style="list-style-type: none"> <li>• (see above – IE)</li> <li>• How to consolidate the (often fragmented) funding streams and achieve more coordination between various agencies?</li> </ul>

	<p>The recruitment of experienced personnel from industry in full time or adjunct lecture positions should be considered to strengthen the capacity of HEIs to innovate and to generate entrepreneurs. A framework for bi-directional movement of personnel from industry/academia may warrant consideration, including the provision of industry sabbaticals/exchange and recognition of academic/industry consultancy activities.</p>	<ul style="list-style-type: none"> <li>• How to recruit more (part-time; temporary) academics with a background in industry?</li> </ul>
	<p>Current employment control restrictions should be reviewed with a view to allowing the replenishment of key staff vacancies within the higher education system by recruiting new staff with significant external experience who can deliver real world and innovative approaches in teaching, research and societal engagement.</p>	<ul style="list-style-type: none"> <li>• (same as above)</li> </ul>
	<p>A national evaluation exercise is recommended to ensure a continued performance of the Irish research system and the provision of essential investment by the State in human capital and physical infrastructure.</p>	<ul style="list-style-type: none"> <li>• What mechanisms to introduce (and criteria to use) for assessing the quality and impact of research across all HEIs?</li> <li>• (What frameworks are other countries using?)</li> </ul>
<b>Bulgaria</b>	<p>Increase collaboration between HEIs and joint utilisation of infrastructure and resources.</p>	<ul style="list-style-type: none"> <li>• How to encourage inter-institutional collaboration in research, research facility use and knowledge transfer?</li> </ul>
	<p>The creation of a HEInnovate Fund, co-financed with ESIF funding is proposed. This would trigger innovation in the higher education system and sustain already existing promising initiatives. The fund should provide co-financing for pilot projects, proposed and implemented by HEIs in Bulgaria.</p>	<ul style="list-style-type: none"> <li>• How can funding schemes encourage HEIs in undertaking research aimed at innovation and entrepreneurship?</li> <li>• What examples are there from other countries (e.g. centres of Entrepreneurship; Research Council funding; matching funds, ...)?</li> </ul>
	<p>HEIs should establish a senior management post or vice-rector who will be responsible for entrepreneurship, organisational change and interaction with the local community. Additionally, a "Strategy Council" should be established, which includes members from local/regional governments, key business and industry partners, and the local community. Incentivise the strategic involvement of key external stakeholders.</p>	<ul style="list-style-type: none"> <li>• (see above – PL)</li> <li>• Should a vice-president for third mission / valorisation be introduced in each HEI?</li> <li>•</li> <li>• (see above – HU)</li> <li>• How to engage stakeholders (national, regional) in formulating the HEI third mission strategy?</li> </ul>
<b>Hungary</b>	<p>It is essential that the third-mission is referenced in existing financial models both at the national and institutional levels. Financial investment in third mission as part of core funding is important.</p>	<ul style="list-style-type: none"> <li>• How to incorporate a dedicated funding stream for Third Mission activities in the funding mechanisms for HEIs – both at the national and institutional level?</li> <li>• What can we learn from other</li> </ul>



		countries' experiences?
	A greater anchoring of entrepreneurship and third-mission within the HEI's strategies is needed to create, grow and sustain synergies between education, research and knowledge exchange. Define an HEI-specific meaning of the entrepreneurial agenda and develop an implementation plan. The HEInnovate tool provides a useful framework for this. Appoint a senior manager with responsibility for the entrepreneurial agenda.	<ul style="list-style-type: none"> <li>• (see above)</li> </ul>
	A good starting point to overcome barriers to inter-faculty collaboration is to share facilities across faculties (e.g. innovation centres). Also, the recent change in the allocation of competitive research funding towards transdisciplinary research projects is potentially an important lever for communication and cross-disciplinary synergies.	<ul style="list-style-type: none"> <li>• How to encourage inter-faculty collaboration in research, research facility use and knowledge transfer?</li> <li>• What is the role of funding mechanisms?</li> </ul>
	Introduce an "innovation fund" to promote transdisciplinary initiatives in education and research with seed funding.	<ul style="list-style-type: none"> <li>• (see above - NL)</li> <li>• How can funding schemes encourage interdisciplinary and inter-institutional research activities? What examples are there from other countries?</li> </ul>
<b>Poland</b>	(no specific recommendations were given for this dimension)	

### Dimension 3: Entrepreneurial Teaching and Learning

Country	Recommendations	Areas/issues/questions for peer learning
<b>Netherlands</b>	Offer all staff possibilities to participate in development and training programmes which focus on raising awareness for valorisation and skills development for designing and delivering valorisation activities, including impact measuring and communication skills. Provide training opportunities for entrepreneurship educators.	<ul style="list-style-type: none"> <li>The introduction of staff development programmes aimed at entrepreneurship.</li> </ul>
	A national programme to train entrepreneurship educators would be useful, as many Dutch HEIs have leading European entrepreneurship researchers among their staff.	<ul style="list-style-type: none"> <li>Introducing a wider, national programme to train the trainers (in entrepreneurship education).</li> </ul>
<b>Ireland</b>	Remove administrative barriers that students face to engage in knowledge exchange activities. For example, they may have to suspend their studies or extend the enrolment period when seeking an additional work placement or starting up a business. A option is to give ECTS credits for extra-curricular activities. Promoting the opportunities around work placements and cooperative education arrangements and building a good understanding of the implications and benefits will help to enhance links with local SMEs.	<ul style="list-style-type: none"> <li>How to enable students to combine their academic work (e.g. thesis work) with starting their own business?</li> </ul>
	In entrepreneurial education a greater focus is needed on soft skills such as relational, conceptual, organising and commitment competencies in order to shift the approach towards developing (future) entrepreneurs, who are capable of thinking, acting and making decisions in a wide range of situations and contexts. Here, the National Forum for the Enhancement of Teaching and Learning in Higher Education can play an important role.	<ul style="list-style-type: none"> <li>Introducing innovations in pedagogies – aimed at 21st Century Skills.</li> </ul>
	Consider the provision of interdisciplinary courses as part of the regular review of modules, and introduce a specific award for interdisciplinary achievements.	<ul style="list-style-type: none"> <li>Adjusting accreditation criteria in order to acknowledge pedagogical innovations and achievements.</li> </ul>
	All (new) academic staff employed by HEIs should engage in staff development programmes focused on entrepreneurial approaches to teaching and learning as part of their employment contract.	<ul style="list-style-type: none"> <li>The introduction of mandatory staff professionalisation programmes for newly recruited lecturers.</li> <li>What can we learn from other countries' experiences?</li> </ul>
<b>Bulgaria</b>	Include foreign academics and key local and national stakeholders e.g. employers and research partners, in accreditation panels and promote entrepreneurship as a key competence.	<ul style="list-style-type: none"> <li>Adjusting the composition of accreditation panels in order to reflect new demands placed on graduates.</li> </ul>
	Increase inter-institutional collaboration in co-designing curricula.	<ul style="list-style-type: none"> <li>Encouraging inter-institutional collaboration in the design of curricula.</li> </ul>
	Training opportunities should be offered to HEI staff to enhance the quality of teaching, organisation of internships, research and knowledge exchange, and	<ul style="list-style-type: none"> <li>(see above – NL)</li> </ul>

	internationalisation.	
	Excellent performance, in teaching, research and third mission activities should be actively identified and rewarded.	<ul style="list-style-type: none"> <li>• Introducing awards for teaching excellence, outstanding research and 3rd mission activities.</li> </ul>
	Build strategic bonds / networks with alumni.	<ul style="list-style-type: none"> <li>• Working on the development of alumni networks.</li> </ul>
<b>Hungary</b>	Introduce new approaches to teaching in higher education and make use of experiential forms of learning, such as problem solving and work-based learning.	<ul style="list-style-type: none"> <li>• (see above – IE)</li> <li>• Introducing innovations in pedagogies – aimed at 21st Century Skills.</li> </ul>
<b>Poland</b>	The use of practice-based learning (e.g. living labs, the use of case studies, games and simulation) is increasing, but not generalised yet. These changes are in need of more support and training in creating new curricula related to entrepreneurship.	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
	Use more active methods of teaching and learning in entrepreneurship education and training.	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
	Increase the interdisciplinarity of entrepreneurship education.	<ul style="list-style-type: none"> <li>• (see above - NL)</li> <li>• The introduction of staff development programmes aimed at entrepreneurship</li> </ul>
	Build a resource base for entrepreneurship education and training, including platforms for good practice exchange and networks of entrepreneurship professors and entrepreneurs who can contribute to entrepreneurial learning.	<ul style="list-style-type: none"> <li>• Encouraging good practice exchange between HEIs on the area of entrepreneurship training.</li> </ul>

#### Dimension 4: Preparing and Supporting Entrepreneurs:

Country	Recommendations	Areas/issues/questions for peer learning
<b>Netherlands</b>	Strengthen the role and institutional positioning of the entrepreneurship centres within the HEIs.	<ul style="list-style-type: none"> <li>Studying the role and organisation of entrepreneurship centres in HEIs – what are examples from other countries/HEIs?</li> </ul>
	Students should be supported to combine studies with their start-up activity.	<ul style="list-style-type: none"> <li>(see earlier entry)</li> <li>How to enable students to combine their academic work (e.g. thesis work) with starting their own business?</li> </ul>
	Links with entrepreneurial alumni should be strengthened. A first step could be allowing alumni to use the entrepreneurial support system after graduation.	<ul style="list-style-type: none"> <li>Expanding the clientele and resources of entrepreneurship support centres (e.g. including alumni).</li> </ul>
<b>Ireland</b>	A clear definition of what the responsibilities and resources of HEIs are in each pillar of the National Policy on Entrepreneurship will enhance the effectiveness of the entrepreneurship ecosystem. Enterprise Ireland, the government agency responsible for the development and promotion of the indigenous business sector, had until recently only set national targets. The introduction of a more regionally and locally tailored approach could help HEIs to establish their role in the entrepreneurship ecosystem.	<ul style="list-style-type: none"> <li>(see above)</li> <li>How to translate national policies &amp; initiatives into regional actions?</li> </ul>
	The expansion of the number of places available on business start-up programmes is highly recommended given the success of existing programmes and current demand for places. This expansion should also include increased investment in the physical infrastructure used to house new ventures.	<ul style="list-style-type: none"> <li>(see above: )</li> <li>Expanding the clientele and resources of entrepreneurship support centres (e.g. including alumni).</li> </ul>
<b>Bulgaria</b>	Rectors should become "entrepreneurship champions".	<ul style="list-style-type: none"> <li>(see earlier entry)</li> </ul>
	Internships should be an entitlement for all students. Internships need to be supported by HEIs providing information prior to the internship, guidance and support during, and reflection after the internship.	<ul style="list-style-type: none"> <li>Enabling internships as part of the HEIs' Third Mission strategy and the training package of students.</li> </ul>
<b>Hungary</b>	Strengthen the support infrastructure for venture creation in HEIs. Collaboration with other HEIs should be supported to close eventual gaps, for example, through a shared-service organisation for start-up support and technology transfer.	<ul style="list-style-type: none"> <li>(see above)</li> <li>How to encourage inter-faculty collaboration in research, research facility use and knowledge transfer?</li> </ul>
	Current regulations for creating spin-offs should be simplified and HEIs should not take equities from student start-ups.	<ul style="list-style-type: none"> <li>Rethinking the rules, regulations and incentives for creating spin-offs from academia.</li> </ul>
	Create and negotiate different contracts of employment to enhance participation of staff in the entrepreneurial agenda and third-mission activities. Create and open job vacancies with third-mission objectives also to researchers from within the HEI.	<ul style="list-style-type: none"> <li>(see above)</li> <li>What human resources policies (rewards &amp; staff promotions) may be introduced to encourage entrepreneurship and innovative</li> </ul>

		behaviour in HEIs?
	Provide timely information about upcoming grants and collaboration possibilities, and assist researchers in grant applications and administrative procedures.	<ul style="list-style-type: none"> <li>• How to organise support for generating external grants and donations? And how to communicate this?</li> </ul>
	Introduce professional development programmes (incl. staff mobility programmes) available to all staff related to the entrepreneurial agenda and third-mission activities.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>•</li> </ul>
	The support offer for new venture creation – e.g., courses, start-up support services, contacts to peers and external organisations – should be widely communicated inside and outside the HEI.	<ul style="list-style-type: none"> <li>• (see above)</li> </ul>
<b>Poland</b>	Increase the legitimacy of entrepreneurship as an academic field by funding research and organising Polish entrepreneurship conferences and exchange platforms to encourage academic staff to engage in the entrepreneurial agenda.	<ul style="list-style-type: none"> <li>• Organising academic entrepreneurship events and platforms for exchange of good practices.</li> </ul>
	Develop more intensive business start-up support for students with high-potential ideas.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• How to enable students to combine their academic work (e.g. thesis work) with starting their own business?</li> </ul>

## Dimension 5: Knowledge Exchange and Collaboration

Country	Recommendations	Areas/issues/questions for peer learning
<b>Netherlands</b>	HEIs should be encouraged to collaborate in their start-up support, building on existing initiatives, networks and infrastructure.	<ul style="list-style-type: none"> <li>• (see above – BG)</li> <li>• How to encourage inter-institutional collaboration in research, research facility use and knowledge transfer?</li> </ul>
	Support measures for valorisation activities should continue to be provided, for example in terms of relationship building, managing intellectual property rights, and communication and dissemination support.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• Further professionalisation of support for knowledge transfer</li> </ul>
	To enhance the understanding of the absorptive capacity of businesses, industry, civil society and public organisations as valorisation partners, temporary staff mobility programmes should be promoted.	<ul style="list-style-type: none"> <li>• (see HR policies – above)</li> <li>• How to recruit more (part-time; temporary) academics with a background in industry?</li> <li>• How to encourage staff mobility between academia and industry?</li> </ul>
	Improve mechanisms, which allow researchers and students working together in valorisation activities, and particularly in venture creation. In particular the participation of students in valorisation activities should be enhanced.	<ul style="list-style-type: none"> <li>• Innovation Labs and similar facilities to encourage students and academics to collaborate in (practice-oriented) research and third mission activities.</li> </ul>
	To enhance collaboration between HEIs, more emphasis should be placed on shared research facilities, rather than on department or HEI-centric facilities.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• How to encourage inter-faculty and inter-institutional collaboration in research, research facility use and knowledge transfer?</li> <li>• What is the role of funding mechanisms?</li> </ul>
<b>Ireland</b>	Incentivise and support staff engagement in knowledge exchange and collaboration. Adjustment of staff contracts and terms of conditions of employment to promote and facilitate such programmes should be considered and incentives and rewards provided to enhance enterprise engagement activities, e.g., as part of the assessment process for promotion.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• What human resources policies (rewards &amp; staff promotions) may be introduced to encourage entrepreneurship and innovative behaviour in HEIs?</li> </ul>
	Consideration should be given to supporting the inclusion of outward staff mobility activities within staff contracts and terms and conditions of employment. To support, encourage and implement even short two to three week staff mobility initiatives on a sector wide scale would greatly enhance the entrepreneurial culture across the higher education system.	<ul style="list-style-type: none"> <li>• (see above - NL)</li> <li>• How to encourage inter-faculty and inter-institutional collaboration in research, research facility use and knowledge transfer?</li> <li>• What is the role of funding mechanisms?</li> </ul>
	Work placements and cooperative learning can be a good starting point to build a broad relationship portfolio with SMEs.	<ul style="list-style-type: none"> <li>• (see above - BG)</li> <li>• Enabling internships as part of the HEIs' Third Mission strategy and the training package of</li> </ul>

		students.
<b>Bulgaria</b>	Information about the role of HEIs in local development should be made available for the wider HEI community, e.g. through the Rector's Conference website.	<ul style="list-style-type: none"> <li>• "Show and Tell" about the HEIs' third mission activities – through platforms, websites, and other (social, traditional) media.</li> </ul>
	An easy-access system of fundamental business start-up support for academic entrepreneurs needs to be developed. Would-be entrepreneurs need to know what types of support are available and who offers them. Entrepreneurship centres and co-working spaces can act as first-stop shops.	<ul style="list-style-type: none"> <li>• Expanding the clientele and resources of entrepreneurship support centres – and how to communicate the availability of the support infrastructure?</li> </ul>
	Existing coordination mechanisms for entrepreneurship promotion, such as entrepreneurship centres and technology transfer centres, should be continued and improved in order to reach out across campus.	<ul style="list-style-type: none"> <li>• (see above entry)</li> </ul>
<b>Hungary</b>	Raise the involvement of students and young researchers in third-mission activities. This includes a greater offer of education activities which develop entrepreneurship as a key competence.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• Innovation Labs and similar facilities to encourage students and academics to collaborate in (practice-oriented) research and third mission activities.</li> </ul>
	Raise collaboration with student associations, also in terms of developing the support infrastructure for third-mission activities in general and venture creation in particular, and engage in active scouting in research groups for transferable research.	<ul style="list-style-type: none"> <li>• Working with student associations to promote third mission activities.</li> <li>• And: (see above):</li> <li>• How to enable students to combine their academic work (e.g. thesis work) with starting their own business?</li> </ul>
	Raise interest in entrepreneurship by promoting role models among students and faculty members, and celebrate their successes for example in a public "Start-up Day" organised at the HEI. Student organisations can play an important role in this.	<ul style="list-style-type: none"> <li>• Organising awareness raising events through (e.g.) introducing awards for outstanding performance by students and staff and hosting start-up events.</li> </ul>
	Alumni relationships are underdeveloped at the institutional level. This is a missed opportunity for third-mission activities and the entrepreneurial agenda.	<ul style="list-style-type: none"> <li>• (see above - BG)</li> <li>• The development of alumni networks.</li> </ul>
	Encourage lifelong learning activities, temporary mobility of staff, and industrial doctorates. Also encourage the application for external funding for joint research activities with local partners as this appears to be considerably time intensive for researchers.	<ul style="list-style-type: none"> <li>• Initiating and maintaining HEI-industry collaborations (public-private partnerships) in education, research and PhD training.</li> <li>• What is the role of (national / EU) funding mechanisms in this?</li> </ul>
<b>Poland</b>	There is a need to make linkages with the business community, as well as with local government and regional development agencies deeper and more systemic. The new joint research and innovation funding approach (i.e. Regional Research and Innovation Strategies for Smart Specialisation) that requires HEIs to partner with industry, public administration and society holds promise for strengthening the role of HEIs in regional economic development.	<ul style="list-style-type: none"> <li>• (see above entry)</li> </ul>

## Dimension 6: The Internationalised Institution

Country	Recommendations	Areas/issues/questions for peer learning
<b>Netherlands</b>	HEIs should be encouraged to collaborate more internationally in international venture programmes and some of the large entrepreneurship and tech events. This will improve their offer for supporting entrepreneurs and enrich their networks.	<ul style="list-style-type: none"> <li>• Exchange of good practice in venture programmes – through strategic partnerships, international networks and special networking events.</li> </ul>
<b>Ireland</b>	It will be important to increase the number of opportunities and to build international links and relevant competencies for those students who will not go abroad during their studies.	<ul style="list-style-type: none"> <li>• Expand the opportunities for “Internationalisation at home” by students (e.g. through international classrooms; project work).</li> </ul>
	Information events which include the involvement of international students in collaborative research (with businesses/SMEs) and other measures could help to raise awareness of opportunities which international students in Ireland could gain and bring to (traditional) SMEs.	<ul style="list-style-type: none"> <li>• Promoting the benefits of internationalisation and potential of international students to the business community.</li> </ul>
	The Irish higher education system would benefit greatly from increased and targeted State investment in internationalisation initiatives in HEIs rather than remaining largely dependent on external funding sources to cover the costs of international programmes. The working visa system for international graduates needs to be reviewed with a view to increasing the time allowed to international students to stay and work in Ireland after completing their studies.	<ul style="list-style-type: none"> <li>• Taking initiatives to remove barriers to student and staff exchange across borders and/or to increase available public resources for international mobility.</li> </ul>
	HEIs in Ireland should be supported in creating collaborative and mentor links with entrepreneurial HEIs abroad. There is a role for public policy in facilitating peer learning in a systemic approach rather than single HEIs building their own links.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• Exchange of good practice on entrepreneurship/3rd mission activity through strategic partnerships, international networks, peer learning and special events.</li> </ul>
	Particular attention should be paid on maintaining links with international students after they return to their home institutions (e.g., student ambassador programme, scholarship initiative), and to identify areas for possible R&D activities and local company links that could spin off from student and staff mobility.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• The development of alumni networks – also with international students.</li> </ul>
<b>Bulgaria</b>	(no specific recommendations)	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>Hungary</b>	Particular attention should be on students and staff returning from international mobility, as well as international students.	<ul style="list-style-type: none"> <li>• Promoting the benefits of internationalisation.</li> </ul>
	Outside of Budapest visiting professorships do not appear to be widely used and very few academic staff members are from outside of Hungary or the neighbouring Hungarian speaking regions.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• Promoting the benefits of internationalisation.</li> </ul>
<b>Poland</b>	The Polish higher education system is generally not very international. The number of international students is increasing but remains very low and most international students come from neighbouring	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• Promoting the benefits of internationalisation and potential of international experiences to</li> </ul>



	countries. Similarly, there are few international academic staff and very few international visiting professors. However, there is a small, but growing, number of international research projects with HEIs outside of Poland and multinational companies.	students, staff and the business community.
	Develop a new international exchange programme for academic staff to build on the experiences of the Top 500 Innovators Programme, and strengthen animation of the existing network for past programme participants.	<ul style="list-style-type: none"> <li>• See entry above</li> </ul>
	Encourage and support the participation of academic staff in international entrepreneurship networks and conferences.	<ul style="list-style-type: none"> <li>• (see above)</li> <li>• Promoting the benefits of internationalisation and potential of international experiences to students, staff and the business community.</li> </ul>

## Dimension 7: Measuring Impact

Country	Recommendations	Areas/issues/questions for peer learning
<b>Netherlands</b>	More attention should be paid to research into the valorisation phenomenon itself, including processes, activities, results and impact. This would provide valuable lessons for future policy making in the Netherlands and beyond.	<ul style="list-style-type: none"> <li>Initiating research on HEI entrepreneurship and third mission activity (e.g. its mapping, the benefits, the indicators) and sharing the lessons from this with others (nationally and abroad).</li> </ul>
<b>Ireland</b>	The higher education sector needs to speak with one voice in describing and aggregating the impact of its research activities in order to win the support of politicians, policy makers and the public for continued and additional investment. There are already examples of good practice present in the Irish HEIs. Information about these needs to be made widely available and such good practice should be replicated and promoted.	<ul style="list-style-type: none"> <li>(see above)</li> <li>“Show and Tell” about the HEIs’ third mission activities – through platforms, websites, and other (social, traditional) media.</li> </ul>
	Information about the HEIs’ impact of education, research and societal engagement needs to be made widely available and good practice should be replicated and promoted. It is recommended to introduce training and support for staff and students to develop the impact awareness and impact measurement agenda.	<ul style="list-style-type: none"> <li>See previous two entries</li> <li>And:</li> <li>Organising awareness raising events through (e.g.) introducing awards for outstanding performance by students and staff.</li> </ul>
	Alumni links should be utilised and deployed as effectively as they could be for the HEI’s entrepreneurial and innovative agenda.	<ul style="list-style-type: none"> <li>(see above - BG)</li> <li>The development of alumni networks.</li> </ul>
<b>Bulgaria</b>	It should be considered to include HEInnovate in the key performance indicators, applied by the NEEA, the national evaluation and accreditation agency, and the University Ranking.	<ul style="list-style-type: none"> <li>(see above)</li> <li>The mechanisms to introduce (and criteria + indicators to use) for assessing the quality and impact of research across all HEIs.</li> </ul>
<b>Hungary</b>	Build a common information and data framework for identifying, monitoring and analysing data and information on the impact of third-mission activities and higher education in general.	<ul style="list-style-type: none"> <li>(see above)</li> <li>Initiating research on HEI entrepreneurship and third mission activity (e.g. its mapping, the benefits, the indicators) and sharing the lessons from this with others (nationally and abroad).</li> </ul>
	It is recommended to introduce training and support for staff and students to develop impact awareness as well as their capacity to contribute to the HEI efforts to capture and measure impact.	<ul style="list-style-type: none"> <li>(see entry above)</li> <li>Organising awareness raising events through (e.g.) introducing awards for outstanding performance by students and staff.</li> </ul>
<b>Poland</b>	More sophisticated monitoring and evaluation techniques to measure and understand the impact of entrepreneurship and innovation activities are needed for understanding the strengths of these activities and building on them.	<ul style="list-style-type: none"> <li>(see above)</li> <li>Initiating research on HEI entrepreneurship and third mission activity (e.g. its mapping, the benefits, the indicators) and sharing the lessons from this with others (nationally and abroad).</li> </ul>