



Conclusions of the joint analysis

COUNTRY COMPARISON: SUPPLY VS DEMAND

GADGET: Workpackage 1 report (deliverable)

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The results of the three country reports were compared and contrasted. There were interesting parallels as well as deviations in practices between the three participating regions. One of the principal aims of the three-pronged approach to the analysis was to highlight where similarities exist and show important cultural and ideological contrasts.

Each of the country reports shows the perceptions of companies, Higher Education Institutions and intermediary actors in the knowledge triangle, in the field of university-enterprise relationships and, in particular, focused on the experiences in the energy and environment fields. Companies surveyed were to come from this field or be directly related to it (e.g. construction).

It is fair to say, like in most survey exercises, the analysis has had its difficulties and limitations. Not least of these, is the achievement of significant numbers of respondents. GADGET aimed for a modest number of respondents, but even so some were lacking in the final analysis. The partners also agreed that in future and similar actions, in particular for SMEs incentivisation would be important to obtaining a better response rate. There is a great deal of survey fatigue amongst HEIs, companies and intermediaries. In addition, surveys must be kept concise whilst still managing to gather sufficient data. GADGET tried to keep the collection process as simple as possible by using online for-

mats, etc. Even so, this aforementioned survey fatigue was definitely a factor. However, it has been possible to draw succinct, interesting and, above all, useful conclusions.

Company Analysis Comparison

All three countries had a similar level of interaction between companies and HEIs. Likewise, the satisfaction levels on the part of the companies were generally encouraging. In all three cases, the companies and HEIs approached each other in equal measure. However, Austrian companies stated there is a higher prevalence of answer to Tender, something which was not so common in either Spain or the United Kingdom. In both the UK and Spain, companies also approached HEIs with regard to product design and development (commercial applications), whereas no company in the Austrian survey chose this as a reason to approach HEIs. In terms of types of activity, in Spain there was a high preference regarding internships and work placements, with R&D cooperation coming behind. This was not the case in Austria or the UK. One of the most important indicators drawn from the analysis, and common to all three, was the fact that *HEIs are not marketing themselves properly*. Companies in all three regions clearly underlined that 1) they do not know who to contact within HEIs, and 2) they do not know what the HEI has to offer them, both in terms of services and scientific excellence. This is a very telling statistic for the HEI. In all cases, although structures for the management of intellectual property rights and technology transfer exist, they are poorly exploited by companies. This is undoubtedly linked to the previous issue of a lack of awareness. When companies did cooperate with HEIs, the most common reason across the board was access to infrastructure and resources, such as labs and equipment. The quality of staff at HEIs was also favorably valued. Also of significance for HEIs is that companies underlined the bureaucracy and slow process within HEIs as a factor of concern and deterrent to cooperation.

In all three countries, by far the main interest of companies was in Renewable Energy. This should be a growth area for HEIs interested in expanding into the environment and energy fields in conjunction with companies.

Lastly, the survey with companies focused on the skills of graduates. The hypothesis was that current teaching practices do not completely fit in line

with industry needs, and the GADGET survey confirmed this. Companies were impressed with graduates technical and scientific knowledge. However, as was expected, students are missing complementary or “soft” skills. This was very much emphasized in the UK and Austrian surveys. However, in the Spanish SMEs they still placed more importance on technical and scientific competence when asked to rank skills in order. Even so, they stated that they would like future potential employees to have more complementary skills. Leadership was one of the most important lacking skills across the board, with languages being mentioned specifically in UK and Spain, and Austrian companies opting for Project Management knowledge. It is clear that HEIs must turn their attention to including such skills as a focal and integral part of all curricula or, at the very least, as complementary options.

Higher Education Comparison

HEIs in the survey echoed many of the conclusions and points raised by the companies. In all three cases, there was a desire to increase cooperation, particularly with regard to tech transfer, and other RTD-related aspects. Therefore, it is possible to say that HEIs must make a change in strategic direction, if they wish to push and promote more research-related activity with local, national and even international contacts and companies. HEIs in all countries also stated that they approach SMEs for cooperation, proposing them specific activity. However, in both the UK and Spain the level of satisfaction of HEIs when working with companies was less than that recorded by the company counterpart. In terms of the topic areas, HEIs in the UK, Austria and Spain are in line with the desires of the company sector. They are interested in developing work on Renewable Energy. HEIs also underlined the importance of the intermediaries (more so in Spain) as a point of contact between HEI and industry actors. As is common in the higher education and public sector in general, a lack of financing was a large concern of the HEIs in creating opportunities for cooperation.

With regard to HE training, for industry and adult learners, none of the countries surveyed had a decent offer in complementary skills’ training. HEIs tended to offer training on technical and competence-based skills, but did not focus on the ‘soft’ skills and complementary items. One of the aspects

particularly lacking was training in leadership and management skills, project management, and other complementary items. This would be particularly important to address if the concerns of companies regarding graduate skills are to be alleviated. Not only this, but such training courses could be a source of finance. HEIs clearly recognised in the survey a gap in their teaching and training offer. What remains to be seen is if they can provide such an offer with the resources available.

Intermediary Comparison

The intermediaries surveyed had differing roles but the majority served as a contact point, promoting joint activities and assisting to set up such activities. Few had contractual roles, and none in any of the countries offered direct assistance with resources (financing projects, for example). Intermediaries in all three countries underlined the importance of complementary skills for their company contacts, focusing their attention away from technical competence and emphasizing skills such as project management, or languages. Their assistance should be taken advantage of further by HEIs and companies alike, and they could have a fundamental role in assisting companies to understand services offered by HEIs.

Supply Vs. Demand: Final conclusions

From the data obtained, anecdotal information and known statistics, it is clear that the GADGET hypothetical mismatch is a reality in all areas. There is a clear gap in the supply and demand stakes:

SKILLS AND TRAINING

- ◆ Universities and companies are seeking similar outcomes with different approaches. However, there is a lack of clarity on what issues are really important, and the level of importance placed on technical skills still overshadows complementary skills.
- ◆ Graduates are valued as far as their scientific and technical capabilities. However, there are not enough 'leaders' being raised during the undergraduate stages, leaving the onus on future training to companies. At the same

time, universities are not making use of the niche in the market for further training / lifelong learning. Private companies and consultancy firms are doing good business on the slow reaction of HEIs to an obvious gap.

- ◆ Interaction at learning level with 'real-life' and business is minimal. Graduates learn theory, but rarely see it in practice or have the opportunity to see first hand where their knowledge will be useful. More interaction, be it through initiated professor schemes or business fairs could be ideal.
- ◆ At planning and development level of curricula, companies or specific industry sectors are rarely considered. Specialization within specific programmes for certain industrial sectors would allow for a greater coherence with skills needed vs. skills obtained.

RESEARCH AND UNIVERSITY-INDUSTRY INTERACTION

- ◆ There is still a lack of tailor-made or targeted research for an identified need within industry. Basic research is fundamental, but applied research can be a provider of industrial solutions, provide income for the HEI and build relationships for future activities. Companies can benefit from access to better and more varied infrastructure.
- ◆ Intermediaries have a key role which is not exploited enough in some cases. It is even the case their role may be unclear or limited. Intermediaries are well placed to match contacts, through a thorough understanding of the HEIs' strengths and skills, and the needs of certain industries. A three-way dialogue could prevent many misunderstandings or lack of communication.
- ◆ Specific cooperation schemes with industry or sectors are few and far between. This includes research and teaching, as well as other actions like joint events / fairs, or training.

In general, one of the major gaps highlighted by the reports and analysis was a lack of knowledge regarding the needs and capabilities of the other party. Communication and interaction are a key element to combatting this.

