

SMEs and Universities of Applied Sciences

Partners in innovation

English summary

Advisory council for science, technology and innovation (AWTI)
Javastraat 42
2585 AP The Hague
The Netherlands
www.awti.nl

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Summary

In this report, the Advisory council for science, technology and innovation (AWTI) addresses the question: *“How can small and medium-sized enterprises and universities of applied sciences improve their knowledge partnerships?”* The government requested this report as part of the new Strategic Agenda for Higher Education that it will publish in mid-2015.

Most small and medium-sized enterprises (SMEs) have limited capacity to develop new knowledge, some lack capacity altogether. Therefore, they are dependent on external knowledge partners, including public institutes of knowledge (research universities, universities of applied sciences and research organizations such as the TO2 institutes). Thus, universities of applied sciences are becoming increasingly important to SMEs as partners in the knowledge chain. Ever since the introduction of lectureships (professorships) in these universities of applied sciences almost fifteen years ago, research has been one of the key tasks of these educational institutions. The research that they conduct is well suited to the needs of SMEs: it is of limited duration, multidisciplinary and practical. Vice-versa, SMEs are also becoming more important for universities of applied sciences. These institutions train individuals for a world of professional practice that is changing ever more rapidly, partly as a result of new technological developments. Knowledge circulation between education and industry is necessary to keep the curriculum current and to ensure a viable and responsive link to the needs of the labour market. A solid relationship between SMEs and universities of applied sciences based on a robust exchange of knowledge can give a major boost to regional growth and employment.

The knowledge relationship between SMEs and universities of applied sciences can be improved in three areas:

- ▶ *Articulation of research need by SMEs:*
It is often difficult to reinterpret a practical problem in terms of a research question that is suitable for investigation by researchers at a university of applied sciences. These institutions cannot be expected to bear sole responsibility for interpreting and articulating industries' needs; SMEs share this responsibility. If SMEs take a proactive stance towards their partners in higher education, research questions will have a more practical orientation and curriculums will improve, resulting in better educated professionals in the future.
- ▶ *The internal organization of universities of applied sciences:*
Conducting research is now one of these institutions' core tasks, but they find it

difficult to organize their research activities effectively. Inflexible structures and time constraints make it difficult for them to connect adequately to the operating procedures of SMEs. In addition, SMEs want universities of applied sciences to be more active in assigning students to work placements (or multidisciplinary teams) in companies.

- ▶ *Cooperation between public institutes of knowledge:*
Universities of applied sciences are not the only knowledge partners SMEs can approach in the public domain. Sometimes, combinations of different public institutes of knowledge are a better option when it comes to addressing the research needs of an SME. However, these combinations are seldom utilized fully, partly because of unfamiliarity among research universities with the research being conducted by universities of applied sciences, and due to a lack of incentives for cooperation.

The Council recommends the following to improve the exchange of knowledge in the relationship between SMEs and universities of applied sciences:

1. Facilitate the articulation of research needs by SMEs

SMEs must take more responsibility, either individually or collectively, for articulating their research needs to public institutes of knowledge. This is a difficult and time-consuming undertaking. Also, companies need a solid basis of mutual trust if they are to make their research questions public. For these two reasons, SMEs need external support in this process. This recommendation can be implemented as follows:

- ▶ Introduce – or reintroduce – tools to support SME consortia in formulating their research questions;
- ▶ Ensure that sector associations can play a key role in this regard;
- ▶ Ensure that SMEs and universities of applied sciences are affiliated with the top sectors, and that they have a say when it comes to drafting new innovation contracts.

2. Encourage universities of applied sciences to modify their internal organizational structures

If universities of applied sciences are to realize their full potential as knowledge partners for SMEs, then their internal organizational structures will need to be adapted. It is crucial that they have sufficient funding for applied research in order to achieve this. This recommendation can be implemented as follows:

- ▶ Universities of applied sciences could select students from a variety of degree programmes and place them together in a company, thereby creating multidisciplinary teams;
- ▶ Investigate whether these institutions can be 'relieved' of the financial and legal burden of joint ventures at the regional level.

- ▶ Encourage lecturer placements or secondments of lecturers to organizations in the professional field.

3. Promote cooperation between public institutes of knowledge

SMEs need to be able to identify their most appropriate knowledge partner. To this end, public institutes of knowledge need to be aware of each other's strengths, and the appropriate collaborative structures must be in place. This can be done as follows:

- ▶ Introduce an incentive for institutes of higher education and research institutes to work together;
- ▶ Create a shared database to elucidate the participants' strengths and key themes;
- ▶ Emphasize the Centres of Expertise as a platform for promoting cooperation between universities of applied sciences, other public institutes of knowledge and SMEs;
- ▶ Encourage the development of more calls in which universities of applied sciences, research universities and/or research institutes can jointly participate in projects.