

## **ICSU Committee on Freedom and Responsibility in the conduct of Science (CFRS)**

### **Advisory Note “Academia-Industry Partnerships”<sup>i</sup>**

#### **Introduction**

In November 2011, more than 50 academic and business leaders came together for 4 days at the Sigtuna Foundation, near Stockholm, Sweden. They represented a broad range of disciplines, industries and countries with the common aim of promoting effective partnerships between academia and industry for the greater benefit of society. Participants were encouraged to think creatively and openly exchange ideas that would not be individually attributed. It was recognised at the outset that there are areas in which academia industry partnerships are already working well – and from which lessons can be learnt – but there are many other areas in which relations need to be improved. The focus was on the latter, within the broader context of grand challenges for global sustainability. The discussion was diverse and rich and, coming as it did in the midst of a global economic crisis, there was a strong sense that the status quo is unacceptable and that the need to develop a stronger and more productive relationship between academia and industry increasingly urgent.

The Sigtuna meeting was organised by the Committee on Freedom and Responsibility in the conduct of Science (CFRS), which is a policy committee of the International Council for Science, in partnership with the Royal Swedish Academy of Sciences and the Royal Swedish Academy of Engineering. A report of the meeting is available on the ICSU website<sup>ii</sup>. The short statement that follows is a summary of some of the more important contributions and conclusions. Although the issues highlighted in this Advisory Note reflect a consensus among the individuals who attended the meeting, CFRS is solely responsible for its contents.

#### **Academia-industry relations in a societal context**

Both academia and industry are embedded in, and reliant upon, the broader context of society. The aims, incentives and challenges for partnerships between academia and industry can be properly considered only in light of the needs and desires of society as a whole. At the same time, it is important to recognise that the conditions for realising such partnerships can be very different from country to country, and the various fields of science are dependent on a variety of factors including economic, cultural, historical and educational.

The traditional roles of academia and industry in education, training, knowledge generation, innovation and production for the marketplace are at least as important in the 21<sup>st</sup> century as they were previously. Strengthening these roles through effective partnerships is a worthy and important goal. At the same time, there is an urgent need to address the Global Grand Challenges that threaten the future of societies and the planet as a whole. There is a need for academia and industry, working with other sectors of society, to develop solutions for the provision of food, water and energy security, as well as poverty relief and health equity. New strategic partnerships between public sector science and private sector business are needed to meet these challenges, within the newly developing paradigm of Green Growth.

At the same time, the efforts required to produce effective academia-industry partnerships, which address the most pressing societal needs, should not be underestimated. Many different schemes to promote interaction between academia and industry have been tried with varying success. In some cases they have worked well, in others they have been less successful. There is no single simple model that can be applied to all situations in all countries. Nevertheless, there are a number of common factors that, if properly considered and addressed, can help avoid misunderstandings and pitfalls.

## Building mutual understanding

Any effective partnership is built on an understanding of, and respect for, common and divergent interests. What are the motivations and incentives of academic and business actors, respectively? What are their expectations and where is there likely to be mutual benefit?

Viewed from the perspective of academia, partnerships with industry have a number of obvious attractions, including:

- Ensuring that knowledge is translated into products and benefits for society at large;
- Identifying problems and ideas to develop interesting – and fundable – research agendas;
- Providing access to resources, both financial and technological;
- Lending legitimacy to academic research and associated support from policy-makers and society.

And viewed from the other side, academia is valued by industry for:

- Training knowledgeable and skilled people;
- Conducting long-term, independent research and openly accessible public goods;
- Producing novel and interesting ideas that can be exploited;
- Developing cutting-edge knowledge to address specific problems;
- Having an integrated global perspective;
- Being a trusted actor in the service of society as a whole.

It follows logically that partnerships, which are designed to exploit and/or strengthen these characteristics, have a far greater chance of succeeding than those that ignore or threaten them.

## Key principles and steps for effective partnerships

Recognising that there are differing common values and practices between academia and industry, the Principle of Universality (freedom and responsibility) of Science provides a broad normative framework in which partnerships between academia and industry can be considered:

*The Principle of Universality (freedom and responsibility) of Science: the free and responsible practice of science is fundamental to scientific advancement and human and environmental well-being. Such practice, in all its aspects, requires freedom of movement, association, expression and communication for scientists, as well as equitable access to data, information, and other resources for research. It requires responsibility at all levels to carry out and communicate scientific work with integrity, respect, fairness, trustworthiness, and transparency, recognising its benefits and possible harms.*

By combining consideration of the Principle of Universality, with the different perspectives and experiences of academia and industry, one can extrapolate five key principles or issues that need to be considered in establishing effective partnerships to address global societal challenges:

1. Both partners have the obligation to promote relationships that are based on mutual understanding and trust and operated under the over-riding principles of transparency and accountability;
2. Academic partners should respect the commercial rights and role of industry, while industrial partners should respect the obligation of academia to openly communicate and publish in a timely manner. In this regard, legal arrangements concerning intellectual property, copyright and authorship should be addressed early on;

3. Beyond any commercial or academic interests, both partners have a responsibility to ensure that issues of importance to society, be they beneficial or harmful, are openly and honestly communicated in a timely manner;
4. Both academia and industry should assume their social responsibilities and integrate relevant social, environmental, ethical, human rights and consumer concerns into their joint operations;
5. Opportunities should be sought within collaborations to develop an active dialogue with other social actors, including those who might have genuine concerns about the science being undertaken. Such dialogue can add vitality and value at all stages of the innovation chain.

Embracing these issues is essential to achieve meaningful and productive partnerships that address global sustainability challenges. They provide a good starting point for establishing new relationships between academia and industry.

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<sup>i</sup> This Advisory Note is the responsibility of the CFRS, and does not necessarily reflect the views of individual ICSU Member organisations.

<sup>ii</sup> [http://www.icsu.org/publications/@@category\\_search?path=/icsu/publications&Subject:list=General%20publications](http://www.icsu.org/publications/@@category_search?path=/icsu/publications&Subject:list=General%20publications)