

Dear Mr Lambert

We have been asked to contribute our views on your checklist of questions for consultation. Before we do that, I felt it worthwhile to explain who we are in the next couple of paragraphs, to enable you to put context onto our views and remarks.

Leatherhead Food International (LFI) is a technology transfer organisation, and member of AIRTO. Brian Blunden at AIRTO is sending you a comprehensive commentary on behalf of the AIRTO community, but we wish to accent/reinforce some of the points he makes, and also add some additional views of our own.

LFI was originally set up in 1920 and became the British Food Manufacturers Industry Research Association in 1947. At inception, it was intended to facilitate the exchange of information from research providers through to industry. Some issues don't change nearly 85 years later! The initial Council included four appointees from the Department of Science and Industrial Research, direct industry members, and trade association members. The first Director of Research was a Mr Thomas Macara, who outlined his view of 'applied research' as follows:

"The scientific research of today becomes the basis of industrial research of tomorrow."

The linkages that can create this flow are key, simply to call something 'applied research' and expect it to naturally happen is not enough. It is essential to identify stakeholders and the benefits each of those will derive from the research being carried out. To this end, the then Department of Scientific and Industrial Research specifically made provision for individual industrial members to have research directly carried out on their behalf by the BFMIRA. This is the direct precursor of the current project system undertaken on behalf of members by LFI and related organisations.

The model that was found particularly impressive in the early 1920s was the German chemical industry. A report by the Association of British Chemical Manufacturers described it as "the German chemical industry has been one stupendous organisation for promoting the application of science to industry". The writer went on to strongly suggest that this conclusion "should be displayed not only in every office, but in every educational institution in the kingdom as well as in all Government departments". While the language may be a little dated, we believe the sentiment is still absolutely valid.

LFI has evolved today into an organisation that has 1,000 members ('of which 550 are in the UK'), receives no guaranteed Government funding (we bid for DEFRA, FSA, EC projects on a competitive tender basis), and is a combination of applied research and market intelligence/business information. We have evolved this way because our industrial food manufacturer and retail clients require a combination of market understanding and the technical expertise to deliver new products that meet consumer needs.

Before responding to the particular questions mentioned in your review, we would like to make some general observations based on our experience in working with both universities and the food industry. The two major contributions that universities could make to industry are the provision of IPR that can be turned into value-added products; and the provision of well-trained graduates, with appropriate current skill-bases, who can physically move into industry and develop their businesses thereafter. The disconnect is that universities, with their twin role of IPR development and education, do not understand the industrial imperatives, and that the majority of funding received by universities is orientated towards 'blue-sky' science, without much account of whether this science can be applied, or indeed is relevant for industry/consumer current requirements. Although much publicity is given to spin-outs, examples which have grown into viable large businesses are regrettably few. The major beneficiaries of all the funding aimed at these tend to be individual academics, rather than a wider value-added contribution to British industry.

The research councils (BBSRC, EPSRC, ESRC, etc) attempt to develop applied research portfolios in universities, but the projects funded tend to be orientated towards research rather than application. In addition, the vast majority of the funding is restricted to universities and research institutes and does not try to engage other stakeholders.

Therefore, our premise is that to increase the utilisation of university IPR by industry and create viable, ongoing, new market sectors, requires an intermediate organisation that understands the practical realities of industry priorities, and the capabilities of university outputs. Each industrial sector has its own particular nuances, but the food industry uptake of IPR from the very competent universities who specialise in food (such as Surrey, Reading, Leeds, Bristol, Birmingham, Strathclyde, Heriot Watt) is very low. Other organisations such as the Institute of Food Research (funded by the BBSRC) and the Central Science Laboratory (a DEFRA agency) struggle to create ongoing industry dialogue with clearly defined business output.

One of Leatherhead's main roles is the interpretation of scientific and regulatory information for our members. We run a helpline facility that is widely used by industrial members because they do not have the time or understanding of the technical advances being made both in the UK and internationally. There is a crucial need for an effective 'translator' to work between the business and university stakeholders.

1. Best Practice and Examples of Excellence in Business-University Collaboration

Joint ventures between universities and businesses have been sponsored by such schemes as LINK, Faraday, etc. These have problems of project approval being too slow, and often too 'academic-satisfaction' biased rather than practical; the need for universities to gain financially from collaborative research to meet Government funding criteria without due concern to the practicality of output; and the need for a process of translation that understands the industry sector involved. Interestingly, universities are normally quite competitive compared to private company operators, because of the Government subsidy (HEFCE) that universities receive to their overheads compared to organisations that have to be fully commercially viable.

2. How Can Business/University Relationships Be Strengthened, What Are the Major Barriers/Required Changes?

We believe the main barriers for better establishment of relationships are clear communication between the partners, as their experience base is very different. There is often a lack of shared goals, and the short-term requirements needed by industry rarely can be met by university processes. Businesses need profitable new products or services, whereas university research is designed to push back the frontiers of knowledge. There is a supply push-demand pull mismatch here, and this is where universities and industry should together define probable future areas of interest. Interestingly, other countries use different models effectively, such as Germany, Finland, Holland, and the U.S. In the U.S, the National Center for Food Safety and Technology in Chicago is Government funded, but its brief is to engage with Government, industry and researchers, and establish shared goals and close links between all three groups. As a result, it has close relationships with all and in addition with the FDA, which ensures regulatory clearance of innovative new concepts thereupon arising.

In Holland, the Wageningen Centre is sponsored one third by industry, 50% by Government and 17% by public funded institutions such as TNO. It is highly regarded as an effective conduit for practical food-based research.

We believe a publicly funded scheme which clearly encourages a pragmatic partnership between a university, technology transfer business, and recipient companies aimed at creating new value-added products is an absolute requirement. All partners should be incentivised to collaborate in this process.

3. Attraction Of Best Graduates With Required Technological Skills

Industry needs bright graduates with a pragmatic, practical approach. Many of the most able wish to continue in academic institutions and see a hands-on job in industry as less stimulating. This is encouraged by the bias of publicly-funded research initiatives towards IPR creation as an elegant academic solution, rather than being judged on pragmatic performance criteria. If joint objectives between academia, knowledge transfer businesses and industry can be forged, more senior university academics will understand industry better and be in a position to motivate their brighter people to consider secondments/permanent jobs in industry.

4. Financial Considerations Currently Help or Hinder the Relationship Between Businesses and Universities?

Although tax credits are a very useful encouragement of R&D, all the transfer challenges outlined above remain. Serious consideration should be given to expanding the credits available to technology transfer organisations, on the basis of delivered and demonstrably successful projects. Targets for application licensing of university IPR should also be considered as a requirement for ongoing university funding. Further funding should be made available for the Faraday partnerships, with clear guidelines for practical delivery, driven by technology transfer organisations who understand how to make it happen. Consideration should also be given to remove restrictions on use of funding for 'excellence in science' only, but rather widen it to application groups who apply science and whose success can be assessed on the basis of improved industrial take-up and commercial success. Currently there are simply too many obstacles in the way of such initiatives.

Should you have any queries on any of the above, either Bryan Hanley (our Research Director) or myself will be happy to have further discussions. We wish you luck and success with your project, look forward to receiving your 'emerging findings' paper.

Best regards
John

P.S Before joining LFI nearly 2 years ago, I worked for Unilever globally for 24 years in marketing, R&D, and general management (both corporate centre and company Chairman). I therefore well understand the practical requirements of industry, as well as the imperatives of an RTO.

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