

Recognise potential,
utilise results



Netherlands Genomics Initiative



The NGI Valorisation Advisory Board Report | Spring meeting 2009



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In 2008 the Netherlands Genomics Initiative (NGI) has installed the NGI Valorisation Advisory Board (VAB) consisting of internationally renowned experts on valorisation. The NGI Valorisation Advisory Board has a dual task: Firstly, it serves as the jury for the annual NGI Valorisation award and secondly the valorisation board provides both the Supervisory Board and the Director of NGI with strategic advice regarding valorisation.

The composition of the valorisation board is as follows:

- Rudy Dekeyser (Chairman), Managing Director TTO Flemish Institute of Biotechnology, Belgium
- Clemens van Blitterswijk, Director of the Biomedical Technology Institute (BMTI), University of Twente, The Netherlands
- Réne Kuijten, General partner, Life Sciences Partners, The Netherlands
- Angus Livingstone, Managing Director University-Industry Liaison Office, University of British Columbia, Canada
- David Owen, Former CEO Medical Research Council Technology, UK
- Erica Terpstra, Chair NOC*NSF and former Member of Parliament, The Netherlands

In April a two-day meeting was organised in which NGI requested the valorisation board to put forward a set of recommendations for Life Sciences sector in general, for NGI and for the individual NGI Genomics Centres.

The recommendations for the Life Sciences sector in general provided in this document describe specifics for valorisation in the life sciences sector as compared to other sectors. In this section the valorisation board makes suggestions for instruments and boundary conditions for a successful valorisation in the Life Sciences. These recommendations go beyond the scope of NGI and are addressed to the relevant stakeholders in The Netherlands.

Recommendations for the life sciences sector

In general and first of all the Board congratulates NGI for taking several initiatives, which can serve as role models, and/or which have a very positive impact, both tangible and intangible, on valorisation of the research results in the Netherlands. Examples are:

- The decision to dedicate part of the NGI budget to valorisation activities,
- The establishment of a network of TTO representatives, which goes beyond the NGI valorisation managers and which allows the exchange of good practices in valorisation,
- The establishment of the NGI Venture Challenge which encourages entrepreneurship in the academic community,

- The establishment of a Pre-Seed Grant which creates opportunities to take some of the research results closer to a development stage,
- The establishment of BioGeneration Ventures which allows the spin-out of appropriate research results into novel ventures.

During a two day meeting session (April 16 & 17, 2009), the valorisation board received information from multiple sources on the life sciences (LS) activities in The Netherlands. Based on this information the VAB formulates the following advice:

The VAB wants to emphasise that innovation in the life sciences sector is in many ways different from other sectors.

Firstly, LS products are highly regulated. For instance, the development of novel therapies requires long and expensive clinical trials. Similarly, the development of new crop cultivars requires lengthy and costly field trials. This necessary demonstration of both safety and efficacy is a risky and capital-intensive process, which easily takes 5 to 12 years before a product can be introduced on the market and generates its first revenues. We recognise these regulatory matters are not unique to LS products, but they play an especially large role for companies in this sector.

Secondly, since early and mid stage LS companies (the large majority of all European biotech companies) do not make money from selling products, they are in the business of developing the value of their intellectual property (IP) and then monetising that IP through licensure or sale to other (larger) companies.

These two factors shape the financing environment for LS (product) companies: (i) the development of products is financed via multiple rounds of capital increases, (ii) capital is most often provided by specialised venture capital funds and (iii) from the foundation day of a new LS company, the exit strategy (trade sale, merger, IPO) is part of the plan. The time between the conception of a company and the break-even point is often called the “valley of death”.¹

The VAB suggests one or more of the following instruments to facilitate crossing the “valley of death”:

At the level of the public research organisations:

Install instruments which take the research results closer to the market/ development, such as:

- Increased investment in translational research
- Establishment of effective proof-of-concept funds
- Establishment of technology development centre
- Establishment of specific units such as screening laboratories.

¹ For the sake of completeness, the VAB remarks that there are exceptions to the above general rules. Service companies are a typical exception.

Each of these requires the recruitment of a different type of researcher (who acts more 'industry-like' than the traditional academic researcher).

At the level of financing start-ups and early stage companies:

The Netherlands have a good number of seed money funds, but many of them are almost fully invested. In the absence of a sufficient number of business angels, the VAB recommends action to maintain the level of available seed money and to make use of the renewals to further improve the quality of the seed money funds.

At the level of venture capital funding:

The availability of venture money is pivotal in the development of a LS cluster [in The Netherlands].

The VAB recommends to further improve the climate for venture financing via the introduction of fiscal stimuli for both LP's and private individuals to invest in venture capital funds. Several countries in Europe have schemes or structures to help funding for ventures. The UK and France have programmes for private individuals to invest in VC funds in a fiscally friendly manner. Germany has KfW, a government-owned bank that invests in VC funds on behalf of the government; and Finland has an institute called Finnish Industry Investment, also investing with public money into VC funds. The VAB advises that these structures are investigated in detail and a programme is prepared for The Netherlands.

At the level of government subsidies:

Many countries have schemes to subsidise R&D in LS companies. According to information provided by several independent sources, the current SenterNovem schemes do not seem to be appropriate for LS companies. The VAB recommends subsidy schemes such as those available in the US (SBIR grants), Belgium (IWT) or Germany (e.g. the current GoBIO and Spitzencluster grants) be given serious consideration.

The VAB would further like to make the following general recommendations:

1. Design a strategy on the structured communication of the LS opportunities and LS results to the public, with a focus on young people (primary and secondary school) and politicians.
2. Due to the nature of the LS sector, impulse programmes with a term of 4 or even fewer years often fall short in their impact. Consider the implementation of long-term, sustainable support mechanisms. It is preferable to make such investments in existing entities with a proven track record.
3. Novel instruments geared toward the industry should maintain a balance between supporting the creation of novel companies and endorsing the further development and growth of existing companies (both large companies and SMEs).
4. Valorisation of knowledge and technology needs specific expertise in the academic and the industry community. The VAB recommends:

The implementation of mechanisms to improve the knowledge capturing capability in companies. One example is the recruitment of 'gatekeepers', i.e., industry people trained specifically to explore opportunities to enhance the competitiveness of a

company via partnering with knowledge/technology providers such as public research organisations (PROs).

Evaluation of the structure, functioning and performance of the technology transfer offices (TTOs) operating at the public research organisations. The VAB is convinced that efficient and effective TTOs make a distinctive difference in the valorisation of academic research.

The VAB strongly recommends:

- To provide sustainable (> 5 year) financial and moral support to the PROs to implement the valorisation objective in parallel with the education and research objective.
- To require a long-term strategic plan on valorisation from each PRO.
- Providing sufficient budget to TTOs to build a professional team of experts;
- The development of guidelines on the establishment of a professional TTOs and guidelines for the performance of valorisation activities; the AUTM (The Association of University Technology Managers) manuals can be of source of inspiration;
- To evaluate the current TTOs to identify points of improvement; a first step could be to organise the visit of a valorisation SWAT team.
- To provide sustainable (> 5 year) financial and moral support to the TTOs via:
 - Ensuring physical representation of the valorisation objective in the decision making bodies of each PRO;
 - Delegating sufficient authority to TTOs, once they are staffed with high quality people.
- Sustainable support should be implemented hand-in-hand with a set of objectives, with monitoring of the evolution of the output and impact and with intermediate evaluations which allow correction of flaws in the system.

5. Regarding the structuring of the TTOs, the VAB advises:

- To avoid the establishment of one central TTO for the Netherlands,
- To provide the expertise at regional levels. This could be done by having a 'central' back office where the generic expertise (e.g. IPR) is bundled and 'decentralised' front offices where field specific expertise is made available to the scientists.

6. As a final point, the VAB wants to surface the 'Last Chapter' concept explored in Canada, a charming idea to diffuse the concept of valorisation in the academic community. To encourage the valorisation thinking, a competition is run whereby PhD students compete for funding to write in their thesis a last chapter on how they see the valorisation of their research results. The winner of the competition is provided with salary funding and sponsored in a global competition.