Review of the Bio21 Project

The Bio21 Project is a broad and inclusive concept, designed to bring together Victoria's strengths in biomedical research, particularly those in and related to the Parkville area, to create the largest and most sophisticated network of biomedical and biotechnology related research in Australia.

Bio21 is aimed at ensuring that Victorian tertiary institutions and biomedical organisations, working collaboratively, are able to undertake globally competitive research, share facilities, resources and research projects and capture the economic, social and health benefits for the State. Bio21 seeks to become a centre of excellence around biotechnology research and technology commercialisation capabilities which has a well recognised global brand.

The Office of Science and Technology (OST) has engaged Howard Partners to review the economic, social and health impacts delivered by the Bio21 partners and the role of Bio21 in supporting Victoria's biotechnology sector.

Review Terms of Reference

The review is to cover the Bio21 project funded under the STI Initiative for the period 1999-2000 to 2005-2006. The review also aims to demonstrate the direct and indirect economic impacts of the project. This review is to comprise the following four components:

1. Assessment of Performance against Bio21 Project Objectives

- Review the achievements against the project objectives, as set out in the funding agreement for Bio21, between the period 2000-01 to 2005-06.
- The review is to also assess performance against STI Initiative outcome measures that are applied by OST to funded agencies: science and technology skills, commercial activities, scientific research, collaboration and science awareness outcomes.

2. A literature review of Biotechnology Clusters

Undertake a literature review focusing on the performance, operations and characteristics of selected biotechnology clusters operating elsewhere in Australia and overseas. The review will examine the following characteristics of other biotechnology cluster models:

- Choice of governance arrangements by which the parties within a cluster agree to work collaboratively;
- Mechanisms for generating revenue (e.g. through subscription, fee for service, contract services etc.);
- Mechanisms for leveraging income (e.g. via public and private grants, investment or philanthropic funding);
- How coordination and integration of multidisciplinary research can be achieved most effectively;
- Mechanisms that optimise access by industry, academic and research stakeholders to infrastructure and research capabilities within the cluster (for both members and non-members);
- Strategies that encourage sharing of knowledge leading to enhanced science capability;
- Cluster size and scope of activities as they relate to achieving scale, namely, in people, resources and facilities;
- Mechanisms to achieve research excellence within the cluster (e.g. through retention and attraction of key staff, partnership arrangements, research collaborations, networks, etc.)

The information collected during the review will be compared with Bio21 and used to provide a best practice framework for the establishment and effective operation of a biotechnology cluster.

3. Assess the Role of Bio21 in Supporting Victoria's Biotechnology Sector

Examine the contribution of Bio21 (currently and forecast) to achieving the objectives set out in Victoria's Biotechnology Strategic Development Plan, including Victoria's aim to become one of the top five biotechnology locations in the world by 2010. Key elements to be addressed, demonstrating the extent to which Bio21 has built research and business excellence around biotechnology capabilities, include:

- How Bio21 has contributed to growth of the Victorian biotechnology sector through:
  - strengthening the science and technology base e.g. the acquisition of and access to research infrastructure; and the retention/attraction of specialist staff (administrative, research, technical support, business development);
  - fostering an entrepreneurial environment e.g. through attracting increased venture capital; commercialisation of intellectual property; and expansion of local and global networks;
- The benefits/constraints in attracting additional members to Bio21 and how this may impact on its operations and outcomes; and
- Benchmarking Bio21 against other biotechnology clusters (refer Part 2).

4. Develop Options for Bio21 Strategic Future Directions and Operations

Taking into account the ex post evaluation of Bio21, as set out above, it is expected that Howard Partners will work with an international peer to review the outcomes and provide recommendations on:

- Future options around governance and operations, including costs and benefits of each, as well as the need for and level of future Government funding;
- Membership, scope of activity and geographical coverage;
- Other sources of income and revenue for Bio21; and
- Development of success measures to demonstrate and promote the benefits of Bio21 within Victoria, nationally and internationally.

Reference Working Group

A reference working group will be established comprising membership from the Department of Innovation, Industry and Regional Development, Bio21, the Bio21 Institute and the biotechnology industry. This reference group will provide comment and direction as required.

Stakeholder Analysis

The review requires that Howard Partners engage with the following stakeholders to provide a comprehensive analysis of impacts to date of Bio21 and what views/ideas are held for a future statewide biotechnology cluster:

- Members of Bio21;
- Government representatives;
- Industry representatives;
- International experts in biotechnology cluster development; and
- Research Institutes, Teaching Hospitals and Universities involved in biomedical/biotechnology research that are not part of Bio21.

Final Reporting Requirements

- A report is to be prepared on Bio21 performance as measured against:
  - the project objectives; and
  - the *STI Initiative* evaluation framework

  whilst also making an assessment of Bio21's contribution to the Victorian Biotechnology Strategic Development Plan.
- A 'Best Practice' framework for the establishment and effective operation of a Biotechnology cluster.
- Options for Bio21 future directions including governance, operations and funding models.

Background to the Bio21 Project

STI Initiative

The Victorian Government recognises that it has a strong leadership role to play in developing a common understanding of the outcomes innovation brings to Victoria. The development of world class STI infrastructure and a skilled labour force will in turn encourage leading researchers and innovators to Victoria. The Government is supporting the development of both physical research infrastructure and "intellectual" infrastructure, such as legal, financial and cultural support for science, technology and innovation.

OST within DIIRD, is responsible for administering the STI Initiative which aims to support the ongoing development of a scientifically and technologically advanced Victoria. STI policy and programs are designed to address Victoria's developing innovation needs and priorities.

The *STI Initiative – First Generation* was launched in 1999/2000 and was allocated a budget of $310 million over five years. The Victorian Government high-level objectives for the STI Initiative are:

- Building world class STI infrastructure. Encouraging the development of private/ public sector infrastructure and equipment supporting priority industry sectors and strategic technologies and demonstrating new models for collaboration and access.
- Attracting and retaining the best people. The establishment of leading edge physical R&D facilities and an environment that supports the commercialisation of research.
- Developing the skills base. To engage with young people and the broader community to become excited about science and engineering studies and careers.
- Fostering a culture of innovation. Helping Victorian innovators to transform their intellectual capital into cutting-edge products and services.
- Improving community awareness and understanding. To promote key messages regarding the role of science, technology and innovation and why it is important.

The STI Initiative – First Generation provides grant funding to priority industry sectors working on new activities aimed at building Victoria's science, technology and innovation base, encouraging collaboration and attracting investment funding from other sources. The STI Initiative is made up of:

- Competitive Infrastructure Grants Program; and
- Strategic projects;
- Federal Fellowships;
- Major National Research Facilities (MNRF) Awards; and
- Funding for the Bio21 Project.

Bio21 Project

The aim of the Bio21 Project was:

- to establish a bio-molecular science and technology cluster comprising the University, affiliated institutions and associated industry incubators, for the purposes of research, including collaborative research, and access on a commercial basis to state-of-the art bio-molecular

science and platform technology for the benefit of industry, new biotechnology start-up companies and external research groups and to provide teaching facilities;

- to enhance and further develop a medical research cluster comprising WEHI and other medical research institutions;
- to form a clinical informatics cluster comprising the University and affiliated institutions with participation by other Victorian bio-medical research institutes, the Victorian Department of Human Services, RMH and other healthcare providers and research institutions, for activities which will include bio-informatics for a broad range of scientific disciplines, population health, clinical trials and research into health care delivery;
- to facilitate the development and commercialisation of the Intellectual Property resulting from the research activities of the bio-molecular science and technology cluster, the medical research cluster and the clinical informatics cluster, wholly or partially through Bio21 Commercial;
- to design, construct and commission the Institute Building in the Parkville medical precinct in Victoria;
- to design, construct and commission, and the securing of tenure from RMH for, a proteomics facility at RMH by WEHI jointly with the Ludwig Institute of Cancer Research;
- to provide access to and collaborate with RMH for the purposes of clinical research and clinical trials;
- to procure funding for the sustained viability of the Bio21 Project, and its activities, including the commercialisation of its research, through Commonwealth government grants, from private and institutional investors and where appropriate from profits of the commercialisation activities of the Bio21 Project; and
- expand the foregoing activities, through new memberships, beyond the Parkville medical precinct to embrace other major research nodes in Victoria, in and beyond Melbourne.

Bio21 Budget breakdown:

Total Budget $50 million (2000/01 – 2005/06)

Activity	Funding $ million
Establishment of a joint Proteomics Facility at the Royal Melbourne Hospital with the Walther and Eliza Hall Institute (WEHI) and Ludwig	4.0
Planning and construction of the Bio21 Molecular Science and Biotechnology Institute	15.0
Land secured by the Government for erection of the Bio21 Molecular Science and Biotechnology Institute	15.0
Collaborative research projects funded in accordance with STI Initiative guidelines	16.0
Total	50.0

Monitoring and Evaluation Resources

OST has developed a number of monitoring and evaluation resources to inform the evaluation of the STI Initiative funded projects including:

- STI Monitoring Tool – data collected annually – 40 key performance indicators.
- Annual Reports – Completed by all STI funded department projects and those in receipt of an STI grant.

Contact

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