



**AusBiotech submission in response to the  
*NSW Innovation Blueprint – Discussion Paper***

To: Investment NSW

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## Introduction

Investment NSW is seeking feedback from all parts of the innovation ecosystem on developing a NSW Innovation Blueprint that delivers for NSW.

AusBiotech welcomes the opportunity to submit a response to the Innovation Blueprint - Discussion Paper. AusBiotech is the Australian representative body for one of Australia's most innovative industries with a well-connected network of over 3,000 members in the life sciences industry, which includes biotherapeutics, medical technology (devices and diagnostics), food technology and agricultural biotechnology sectors.

AusBiotech represents a significant and growing NSW life sciences sector. This response has been developed in consultation with AusBiotech's NSW members and the life sciences sector more broadly. The submission is a direct response to Investment NSW Survey questions, as set out in the Discussion paper.

## Response to Discussion Paper

### **Ideas: how can we increase the rate at which new ideas and insights emerge and create new products and businesses?**

*What are the biggest opportunities and barriers in this area?*

NSW has a significant and growing life sciences sector. Over one-third of the Australian life sciences sector calls NSW home. The number of NSW organisations grew 51% from 2019 – 2022 [1]. The NSW sector employs ~ 90,000 people [1].

It's estimated ~ 80% of companies developing therapeutics, diagnostics, devices, vaccines and other technologies in NSW are small-medium enterprises and are pre-revenue and pre-market [2]. The key challenge facing the life sciences sector is the translation of ideas into successful, revenue generating businesses. NSW has a significant opportunity with a healthy early-stage pipeline, however funding and breadth of capabilities required to progress early-stage opportunities to market are significant barriers, short term.

There is need for a bold Innovation Blueprint for NSW that:

- drives long term investment in life sciences
- builds a thriving and high performing innovation ecosystem between business universities/research institutes and government
- supports building on-shore capability to maximise value creation and retention within NSW and Australia

There is an opportunity to:

- Support maturation of the NSW Life Sciences sector in order to expedite realisation of commercial potential of early-stage ideas/IP. I.e. drive existing companies towards revenue and market. Small companies need support to become medium companies and medium to become large.
- Leverage managerial and executive capabilities within existing mid-size companies to incubate new ideas/companies and pull/push new ideas and products to market.

- Address existing gaps in funding to support growth of product pipelines and scaling.
- Leverage current focus on sovereign capability, especially in medical devices/diagnostics, to drive investment in life sciences capabilities. Perform sector capability gap mapping and plan to address these gaps.
- Incentivise stakeholder collaborations, esp. industry-industry collaborations that drive commercialisation of research.
- Support a healthy “funnel” of early-stage ideas through appropriate funding.
- Work with industry bodies to develop targets for innovation for life sciences that drive product commercialisation. Adopt indicators developed by AusBiotech (with sector consultation) and published in the Biotechnology Blueprint [2]. Incorporate these metrics into grant schemes to drive outcomes.

[\[1\] Australian Biotechnology Sector Snapshot 2022](#)

[\[2\] Biotechnology Blueprint. 2022-2032](#)

*What should the NSW Government focus its efforts on?*

### 1. Invest in sector maturation

- **Maximise funding to drive ideas maturation:** Review funding programs to maximise eligibility of life sciences sector. Expand Medical Devices Fund to support innovations such as therapeutics. Provide rolling availability of funding so industry can access as needed.
- **Diversify funding to drive commercialisation outputs:** Support product scaling, capital investment and operational costs. Incentivise partnerships between industry (including international), not just academia/industry.
- **Invest in performing mid-range companies as sector catalysts.** These companies frequently have facilities, partnerships and expertise allowing them to serve as mentors, sophisticated incubators of ideas, commercial partners and service providers. Enable investment via grants that reward performance to agreed milestones. Growth in mid-range companies provides a career path for STEM students, and a pool of experienced, strategic leaders for future companies.
- **Elevate precincts** - Recommended to strengthen precincts by increasing attractiveness for industry to co-locate and invest. Incentives for local and international industry include Tax Free Zones, payroll tax discounts, access to Government procurement, and other options that minimise out-of-pocket costs. Develop a State-wide precinct strategy to identify gaps/opportunities for future investment.
- **Access to federal funding:** In supporting maturation of local companies, Government is enhancing the eligibility of NSW entities for the federally funded National Reconstruction Fund - which provides later stage funding for commercialisation.
- **Procurement:** NSW Government procurement processes support local products, thereby creating a market opportunity for businesses.

### 2. Foster a culture of entrepreneurship

- **Support in-industry mentorship programs** that develop capabilities specific for life-sciences. Australian managers/executives in multinationals could mentor on-shore biotechnology start-ups.

- **Facilitate migration of researchers** between academia and industry to develop ideas.
- **Address expertise shortages** in technology transfer in academia via support for commercialisation training programs. See [3].
- **Support early-stage pipeline** Small, low-barrier, matched funding assists in early-stage ideas assessment (cf [NSW SBIR Program](#)). Provide small-scale funding to address key market potential and commercialisation questions early to support a “fast fail” approach to de-risk later investments.

[3] [University of Sydney and AusBiotech: A project to improve Industry-University Partnerships](#)

*Who should the NSW Government partner with?*

**Local:** For a successful innovation ecosystem, NSW Government needs to collaborate with universities/medical research institutes and industry. The latter should be facilitated through strengthened relationships with AusBiotech, the peak body for Biotechnology and Medical technology in Australia. NSW Government should set a bold vision for biotechnology innovation and growth in NSW and leverage the key performance indicators developed by AusBiotech in consultation with industry [See [2] for indicators].

**National:**

- Partnerships with Federal Government should ensure alignment and adoption of a national approach when it comes to addressing capability and skills gaps.
- Strengthened partnerships with Austrade and Department of Foreign Affairs and Trade would be an enabler for entry into international markets.
- Facilitate industry internships for masters / PhD level scientists to gain experience in and contribute to industry both in NSW and Australia but also internationally. Take the “long view”, that most people will want to return to NSW even if they spend time developing their skills base and careers interstate or overseas, if there are jobs and opportunities to come back to. Partner with organisations like AusBiotech and Advance, who have access and contacts into global organisations that could host candidates.

**International:** Strategic partnerships with international precincts (e.g. Boston, San Francisco, Minneapolis, South Korea) that create landing pads for international business within NSW and vice versa.

[2] [Biotechnology Blueprint. 2022-2032](#)

*Which initiative should the NSW Government do first?*

- Review funding options available and maximise opportunities to align with overall strategy, with a particular focus on supporting mid-size companies with potential as key influencers and enablers in the sector.
- Create long term certainty around investment/funding opportunities

**Investment: how can we increase the amount and diversity of finance available to startups and scaleups?**

*What are the biggest opportunities and barriers in this area?*

The greatest barrier to commercialisation of medical research via Australia's biotechnology sector is attraction of dilutive and non-dilutive investment – predominantly to enable pre-clinical work, clinical trials, access to subject matter experts in regulatory and reimbursement strategy, and local manufacturing capability.

Australia's investment in research and development (R&D) falls well below other OECD countries. Business Expenditure on R&D (BERD) in Australia has been largely stagnant, or declining, for a decade. R&D expenditure as a proportion of GDP is declining as the world average is increasing. There is a need to increase and incentivise R&D investment by Government and sector in order to be competitive on a global stage.

Uncertainty around NSW Government investment in innovation in NSW life sciences sector is a barrier to industry investment. Reducing policy uncertainty is a key enabler for business investment and represents a significant opportunity.

To be eligible for venture capitalist (VC) funding, a key criterium is readiness of the idea. There is an opportunity to strengthen VC eligibility by providing supports for early-stage ideas that address key market/commercialisation questions and, in doing so, de-risk future investment.

Not all companies are suitable for VC funding in terms of meeting the required risk/return ratio. However, some of these companies can provide significant opportunities through revenue generated, personnel employed and sovereign capabilities supported, such as manufacturing. Opportunity lies in recognising the value in a diverse sector and providing investment mechanisms to drive performance of these companies.

AusBiotech is currently finalising a Policy Paper focussed on investment in industry-driven medical research. It has been developed in partnership with AusBiotech membership, following dialogue with Federal Minister for Industry and Science, the Hon Ed Husic MP. The Paper provides a recommended position for joint Government and industry initiatives, with the primary objective to increase commercialisation of medical technologies to reach and benefit patients and enhance Australia's economic and health environment. Recommendations aim to build, diversify and address gaps in access to capital across the industry, significantly increasing flow of capital to the biotechnology sector by \$1 billion annually. AusBiotech can provide a copy of this paper once published (expected H1, 2024). To request a copy, contact Karen Parr (kparr@ausbiotech.org).

*What should the NSW Government focus its efforts on?*

**Support funding that de-risks future investment:** Key criteria for venture capital (VC) funding is readiness of the opportunity. We recommend strengthening funding opportunities specifically

bringing ideas to a proof-of-concept stage that address key commercialisation questions. E.g. see [Innovate UK program Knowledge Asset Grant Fund](#).

#### **Increase amount and diversity of sector funding:**

- **Maximise impact of existing funding programs:** Review programs to maximise opportunities  
E.g.
  - Review SBIR Challenge statements to increase opportunities for Medtech/biotech driven solutions.
  - Review MVP Venture, and Tech Vouchers to improve opportunities for Life Sciences Sector
  - Engage with Federal Government to Cooperative Research Centre Projects amend program guidelines to allow industry-industry only collaborations
  - Medical Devices Fund – expand criteria to include therapeutics
- **Establish new funding programs:** Learn from other investment approaches. E.g.
  - [Innovate UK](#) – Offers a range of funding opportunities for businesses.
  - [Breakthrough Victoria](#) Independent company managing \$2 billion investment fund established by Victorian Government.
  - [Queensland Biomedical Business Attraction Program](#) Designed to attract interstate and international biomedical industry to access Queensland’s biomedical capabilities.

#### **Support sector maturation through investment in mid-tier companies:**

Invest in immediate to short-term growth of companies that have capacity to pull the sector along with through expertise, mentoring, in-house capability and assets. In addition to driving commercial returns, Government should also value investment that delivers on public policy, in particular where it supports scaling, capability and capacity building.

#### **Incentivise local and international industry investment:**

Support efficiency, effectiveness, growth and maturation of precincts. Make hubs attractive to international investment e.g. payroll tax relief, free/discounted rent. Accentuate advantages in undertaking R&D in NSW. Many companies will move certain operations into international markets in order to grow. However, it’s important to make it attractive to retain a footprint in NSW e.g. for R&D, training, intellectual property protection and manufacturing.

#### **Transparency to build sector confidence:**

- Grant processes are clear, timely, transparent.
- Investments include payment for milestones and pre-agreed outcomes, returns, co-investment and equity arrangements.
- Investments reward mission-oriented success and economic benefit for taxpayers.

#### *Who should the NSW Government partner with?*

Federal Government, other state Governments (in particular Investment agencies), Industry and Industry peak-bodies (in particular AusBiotech).

Partner with AusBiotech regarding annual AusBioInvest and AusMedInvest investment conferences.

Work with AusBiotech to provide reports on value of investment regarding funding and growth of NSW life sciences sector over time (c.f. [Australian Biotechnology Sector Snapshot](#) – published biennially by AusBiotech).

*Which initiative should the NSW Government do first?*

- Review existing Government funding programs to ensure opportunities for Life Sciences sector are maximised. Government grants need to be more sympathetic to commercial imperatives of speed, adaptability and utility. This includes:
  - Timing. Often the timing of company needs and grant funding rounds do not align. Examine opportunities to retain rolling grant funding opportunities to increase accessibility and relevance for industry.
  - Providing capital more quickly. Timelines between application and receipt of funds can be 9 months or more.
  - Avoiding putting programs on hold where announcement / application deadlines have already closed for a particular granting scheme, but results are pending.
- Undertake a coordinated national approach to attract foreign investment (versus states competing with one another). Consider geo-political alliances in life-sciences.
- Leverage the AusBiotech Policy Paper on Capital Attraction in order to engage with Federal Government regarding investment opportunities.
- Consider a program that establishes Sydney as the VC hub for both NSW and Australia, leveraging the fact that Sydney is already a significant financial hub. See [LIFTS](#) program in the UK which aims to mobilise institutional investment into the UK's science and technology companies.

**Industrialisation: how can we increase the volume and impact of highly-novel innovation outputs being generated by NSW businesses?**

*What are the biggest opportunities and barriers in this area?*

- Barriers to industrialisation include shortage of access to facilities and capital to invest in necessary infrastructure. There has been limited support for developing biotechnology scaling capability to date.
- Majority of available grants do not support capital expenditure.
- Limited incentives exist to scale within Australia, making it more attractive to move offshore risking intellectual property and the opportunity to grow economic benefits within NSW. Investment in relevant capability and capacity is an economic opportunity for NSW.
- Skills shortages due to limited on-shore executive, managerial and technical capability limit the capacity in biotechnology to scale-up.
- Opportunities lie in the high quality of research and development activity in NSW and the proximity of access to the Asia-Pacific market.
- Opportunity to mature the growing clinical trials segment.

*What should the NSW Government focus its efforts on?*

- **Invest in scaling:** Provide support for product scaling, including necessary capital investment and operational costs. Provide support for developing a Biotechnology industry and manufacturing capability in Australia. Consider incentives that support access to rentable GMP space and grants dedicated for small scale/ pilot production in order to bridge the gap between laboratory and commercial production. Incentivise partnerships between industry (including international), not just academia/industry partnerships.
- **Invest in the performing mid-range companies as sector catalysts.** Building and supporting mid-tier companies builds capability and capacity. These companies have facilities, partnerships and capabilities that would allow them to serve as mentors, sophisticated incubators of new ideas, commercial partners and service providers. This could be enabled through grant schemes that drive relevant partnerships and outcomes.
- **Elevate precincts.** Strengthen precincts through increasing their attractiveness for industry and consultants, service providers and investors to co-locate. Incentives for local and international organisations to base themselves within NSW precincts could include Tax Free Zones, payroll tax incentives, access to Government procurement, and other options that minimise out-of-pocket costs.
- **Investment certainty** - Uncertainty around NSW Government vision, strategy and investment in innovation in the NSW life sciences sector is a barrier to industry investment in the sector. Reducing policy uncertainty is a key enabler for business investment in scaling and industrialisation. The commitment of NSW Government to long term investment and incentives is critical.
- **Workforce:** Play a leadership role in identifying and pre-empting skills gaps and adopting a collaborative and coordinated national approach to deliver solutions. Attract and retain a highly qualified work force through recognised high quality-training, including clinical trials workforce.

*Who should the NSW Government partner with?*

**Local:** NSW Government needs to collaborate with industry and the support services sector. The latter should be facilitated through strengthened relationships with AusBiotech, the peak body for Biotechnology and Medical technology in Australia.

**National:** Partnerships with Federal Government should ensure alignment and adoption of a national approach that supports investment in scaling of the sector. Strengthened partnerships with Austrade and Department of Foreign Affairs and Trade would be an enabler for entry into international markets and international collaborations that support strategic objectives.

**International:** Strategic partnerships with international precincts (e.g. Boston, San Francisco, Minneapolis, South Korea) that create landing pads for international business within NSW and vice versa.

*Which initiative should the NSW Government do first?*

NSW Government should prioritise investment in scaling of the life sciences sector and provide investment certainty through a clearly articulated and resourced strategy.

**Internationalism: how can we increase the number of innovating businesses selling locally developed products into global markets?**

*What are the biggest opportunities and barriers in this area?*

- The opportunity exists to unify the Australian life sciences sector to present a united and compelling value proposition to international investors.
- Lack of coordinated supports for engaging with international investors is a barrier to success.

*What should the NSW Government focus its efforts on?*

- Develop a **clear value proposition** for doing business in NSW and work with organisations such as AusBiotech to develop supporting sector-specific collateral.
- **Recognise and promote opportunities** to do business in NSW that extend beyond clinical trials.
- To expand investment opportunities, the NSW government **should foster strong trade relationships** for the benefit of local business to receive investment and find export partners, diversify markets and enhance economic resilience. This work should be backed up by coordination at a Federal Government level and proactive partnership-building with international governments and companies.
- Provide **greater coordination of government supports** for companies attending international trade shows. This includes ensuring timeliness of information on available opportunities to allow adequate planning and preparation. Expand supports to include JP Morgan and other jurisdictions e.g. Europe and Japan.
- Provide **incentives for international collaborations** with Australian companies. Create incentives for innovative companies to locate and grow in NSW. These may include access to infrastructure, commitments to departmental procurement, through to tax incentives.

*Who should the NSW Government partner with?*

- **Strengthen collaborations** with Austrade to provide guidance and assistance on building sales channels in major markets: e.g. importation process, identifying and connecting with reputable distributors, sourcing specific legal advice.
- Consider **international partnerships** that inform and support innovation and commercialisation. There is an opportunity for the NSW Government to drive Australia's leadership in the Asia-Pacific region, engaging with Governments and key stakeholders (e.g. ASEAN) to identify areas for projected leadership in healthcare that can inform NSW strategy.

*Which initiative should the NSW Government do first?*

Provide greater coordination of Government supports in concert with other state and federal Governments.

**NSW Government also welcomes your thoughts on the following questions:**

*What are the key indicators of NSW innovation performance to include in the Innovation Blueprint?*

The [Biotechnology Blueprint: A decadal strategy for the Australian Biotechnology Industry](#) was published in 2022. It was developed with extensive life sciences sector consultation. It includes key metrics that support innovation and a thriving Biotechnology sector. Specifically, metrics to measure:

- Growth of maturity and vibrancy in the ecosystem
- Biotechnology sectors global and local standing
- Industry's positive contribution to Australian prosperity.

AusBiotech is working to measure a number of these metrics and there is an opportunity to partner with AusBiotech to monitor and report on key metrics. We recommend enabling delivery against indicator targets by integration of indicators into funding schemes.

*What overall role should the NSW Government play in connecting the innovation ecosystem?*

For a successful innovation ecosystem, NSW Government needs to collaborate with universities/medical research institutes and industry. The latter should be facilitated through strengthened relationships with AusBiotech, the peak body for Biotechnology and Medical technology in Australia. NSW Government's role should lie in setting a bold vision for biotechnology innovation and growth in NSW and leverages the key performance indicators developed by AusBiotech in consultation with industry [See [Biotechnology Blueprint](#)]:

*Where are the opportunities for the NSW Government to work with the Australian Government on innovation initiatives?*

- Align with Australian Government on capital attraction initiatives as set out in AusBiotech's Policy paper.
- Adopt a cohesive national approach to secure relevant jobs and skills – develop and implement a national STEM skills strategy (c.f. National Academy of Science STEMS Skills strategy).
- Adopt a coordinated *Team Australia* approach to attracting international investment.

*Is there anything else you would like to tell us?*

It is important that appropriate Life Sciences representation (in particular industry representation) exists on decision-making Government committees that inform policy as relates to innovation. This includes grant review panels.

This response has been developed in consultation with AusBiotech's NSW members and the life sciences sector more broadly. There exists also an opportunity for NSW Government to leverage the voice of the life sciences sector in developing this Innovation Blueprint. The *Biotechnology Blueprint: A decadal strategy for the Australian Biotechnology Industry* was published in 2022. It was developed with extensive life sciences sector consultation. It includes key metrics that support innovation and a thriving Biotechnology sector as well as recommendations on role of Government. The Biotechnology Blueprint can be accessed [here](#). Hard copies are available on request.

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