ANSTO
Innovation Precinct
DRAFT MASTER PLAN
An exciting opportunity for Australian Industry, research and education.

The ANSTO Innovation Precinct will connect industry with our nation’s best and brightest researchers, engineers and emerging talent and provide unparalleled access to Australia’s landmark and national research infrastructure. To deliver an unprecedented environment for innovation in Australia.
State Of The Art...

ANSTO began in 1949 examining industrial applications for nuclear technology and a national program for atomic research. Today it’s a leading global research and innovation centre in Health; Advanced Manufacturing & Industry 4.0; and Agriculture, Food & Nutrition.

Construction of the Lucas Heights campus began in 1949. Australia’s first nuclear reactor, HIFAR (High Flux Australian Reactor), began operation in 1958. The reactor had a broad range of applications including the production of important medical radioisotopes and operated as the national research reactor for nearly 50 years.

The Open Pool Australian Lightwater (OPAL) reactor came online in 2007 and is one of the world’s most efficient multi-purpose reactors. With nuclear medicine, research, scientific, industrial, and production applications, it attracts scientists from local and international organisations and universities.

G-10 in Grenoble, FRANCE, was born out of a similar base of co-located national and landmark research infrastructure and expertise’s from a phase 1 investment of 1.8B€ to develop G-10 innovation campus 2008-2015. It now contributes a 4.1B€ per year to the local Grenoble economy, equal to 1/3 of GDP and has delivered 10,000 industry jobs.

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Prime Minister Robert Menzies officially opened HIFAR on 18th April 1958.

Opening of the state-of-the-art Environmental Radioactivity Measurement Centre.

Expansion of the Australian Centre for Accelerator Sciences, the biggest centre of its kind in the Southern Hemisphere and the Electron Microscopy Facility.

Further investment in the ANSTO Innovation Precinct.

Opening of the ANSTO Nuclear Medicine Facility.

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Prime Minister John Howard officially opened OPAL on 26th April 1997.

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ANSTO is home to much of Australia’s landmark and national infrastructure for science including the OPAL multi-purpose reactor, the Australian Synchrotron, the Australian Centre for Neutron Scattering and the Centre for Accelerator science, with most co-located in Southern Sydney.

The combination of ANSTO’s unique infrastructure, distinctive competencies and business model positions ANSTO as an important driver in Australia’s innovation agenda. ANSTO is committed to using its resources to drive innovation, support economic growth and improve the international competitiveness of Australian enterprises.

ANSTO Innovation Precinct is strategically located in between Sydney’s CBD and Wollongong. It is surrounded by natural woodland with easy immediate access to recreational amenities. It is well connected to the M5, within 30 minutes of Airport infrastructure, University campuses and National Parks.
ANSTO’s operations at Lucas Heights have global significance. The Innovation Precinct leverages world-class research infrastructure and expertise to drive leading companies and entrepreneurship to unlock the NSW and Australian economy. It builds on ANSTO’s established global connections, partnerships, and collaborations with initiatives including ITER (International Thermonuclear Experimental Reactor), CERN and the GIANT Innovation campus in Grenoble.

The ANSTO Innovation Precinct will focus on three sectors: Health; Advanced Manufacturing & Industry 4.0; and Agriculture, Food & Nutrition. All three will be underpinned by critical and emergent digital technologies.

These strategic sectors have been identified as areas of special focus because: (a) ANSTO’s specialist capabilities can make a real difference; (b) the considerable benefits that ANSTO can bring to these industries; and (c) they reflect the current demands from industry.

ANSTO has established global connections, partnerships & collaborations with many initiatives.

Three areas of focus including:

Health:
Advanced Manufacturing & Industry 4.0:
Agriculture, Food and Nutrition.
Rich Cultural Heritage

ANSTO acknowledges the traditional custodians of the land, the Dharawal people, on which the Lucas Heights campus is located. Their presence is evident in the form of rock engravings, stone grinding groves and rock shelter art found in the bushland around the site.

This adds a different dimension to the process of establishing a new sense of place for the Innovation Precinct, one where placemaking is enriched by the overlay and celebration of local Indigenous culture.

ANSTO is committed to recognising the past custodians of the land and conserving Indigenous artefacts found in the 1.6km bushland perimeter that surrounds the ANSTO site. Where the planning of the Innovation Precinct extends onto currently undeveloped land, setting clear boundaries to the development extents such that they establish a sensitive distance and interface with areas of Indigenous significance within the campus setting is a key principle of the planning approach.

Scenic walking trails around the Lucas Heights campus display a diversity of native plants such as waratahs, Gymea Lily (Doryanthes) and bush orchids. Imprints of Indigenous activities are present in and around these trails and watercourses.

The Dharawal people may have traditionally used the area, which is on high ground, as a meeting place.

Located Within Uniquely Australian Bushland

ANSTO’s Lucas Heights campus is embraced by bushland and enjoys panoramic views of the local landscape. Beyond the campus perimeter, the terrain drops steeply down to the Woronora River, while walking trails extend out into bush from the campus.

These evocative qualities of the campus setting provide an opportunity to establish an Innovation Precinct with a unique sense of place derived from the layering of landscape and recreation with new collaborative, research and work spaces.
A New Innovation Precinct Model

Evolving Models

Anchor Plus Model

- Anchored by major institutions
- Cluster of related firms / startups
- Located in urban cores
- Well-connected

Re-Imagined Urban Areas Model

- Repurposing of industrial areas
- Within or on the edge of CBD areas
- Transformation into high density CBD areas
- Well-connected and unique sense of place

Urbanised Science Park Model

- Transformation of suburban / exurban areas
- Divestiture through divestiture of new activities
- Transformation of traditionally isolated areas
- Catalyst for new connectivity opportunities

Anchor Plus Model

- Moving from a innovation ecosystem to innovation community

Unique Features

- Anchor Plus: Globally significant nuclear science institution
- Contemporaes/urban-renewal-based reflecting strong cultural and a strong sense of place
- Areas of contiguous, developable land
- Recreation opportunities
- Local communities on the doorstep

Components

The anchor for the Innovation Precinct is ANSTO’s suite of unique landmark and national infrastructure, expertise and enterprise.

Three new components – the Graduate Institute, Innovation Hub including the Nandin Deep Technology Incubator, and Technology Park – are proposed to leverage ANSTO’s unique advantage.

These new components work in concert with existing opportunities on carriageways of shared hubs, echoing, for example, a revitalised Village Hub.

The emphasis is on establishing a critical mass and diversity of domestic and international ‘players’ in related fields and industries who are attracted by co-location and knowledge exchange in concert with high quality, sustainable infrastructure.
Ten Design Features underpin the proposed Concept Master Plan. These translate ANSTO’s Vision and site-specific conditions into the guiding features for the development of an Innovation Precinct.

**Design Features**

**ONE CAMPUS**
- Integrating the two sites by overcoming the barrier of Illawara Road.

**INTEGRATED BUILT FORM**
- Organising the built form along the site’s important connections and open spaces creating active interfaces.

**BRING NATURE INTO CAMPUS**
- Blending the site with its surrounding landscape through green connections and open spaces.

**CELEBRATING HERITAGE**
- Reinstate the Illawara Road alignment and enhancing the site’s rich history through adaptive re-use and high quality public spaces.

**CENTRES OF ACTIVITY**
- Clustering of businesses, commercial and mixed-use spaces and creating synergies and opportunities for collaboration.

**CULTURAL INTERPRETATION**
- Celebrating and understanding the Indigenous symbolism on site.

**CONNECTED CAMPUS**
- Creating distinct links between the various emerging enclaves, compact and easily walkable campus.

**SAFE & SECURE MOVEMENT**
- Differentiation of secure and public areas. Prioritising pedestrian and cyclists in the campus by locating car parking on the periphery.

**OPEN SPACE NETWORK**
- Connecting nodes and activating the site’s rich history through a network of community amenities, pocket parks, plazas and green streets.

**INTEGRATED BUILT FORM**
- Designing the site’s form to create a compact and easily walkable campus.

**REACHING THE COMMUNITY**
- Connecting with local communities to maximise sharing of resources, complementary activities, and local jobs.

**Technology Park**

**Village Hub**

**Three New Components**

- Technology Park
- Village Hub
- Innovation Hub (includes Nandin Deep Technology Incubator)
Concept Plan

This plan illustrates the conceptual vision for the Innovation Precinct. It identifies the key features of the precinct and proposed development areas. The plan is the spatial and physical manifestation of the Ten Design Features.

1. Business School, Co-Working Space
2. Short Term Rental Accommodation
3. Graduate Institute, Lab Space, Cafe, Retail
4. Village Hub
5. Industry Innovation Centre, includes nandin deep technology incubator, fabrication labs and co-working spaces
6. Education Hub: Discovery Centre, Library, Vertical School, Space-BC, Maker School and supporting offices
7. Technology Park, healthy, Advanced Manufacturing and Industry 4.0 and Agriculture, Food demonstration
8. Central Green
9. Rutherford Greenway
10. Heathcote Rd
11. New Illawarra Rd
12. Complete
13. Illawarra Innovation Boulevard
14. Green Link, Pedestrian and Cycle Way
15. Additional Development Land

Frameworks

The Concept Plan for the ANSTO Innovation Precinct is made up of a series of key frameworks: Spatial, Activity, Public Domain & Landscape, Movement and Phasing.
Spatial

Activity hubs form the focal space of individual development areas. These bring together a critical mass of people to activate the focal spaces and encourage knowledge exchange and collaboration.

The co-location of knowledge intensive activities in close proximity to complementary facilities organically promote synergies and collaboration.

The Village Hub is consolidated as the primary activity centre in the hierarchy of Precinct hubs. The location of the most active uses adjacent to the Village Hub creates a welcoming place with an attractive sense of arrival for workers and visitors.

The concentration of complementary activities provides the catalyst and distinct character for each part of the development.

The adoption of an adaptable network and structure for the Precinct allows for flexible accommodation of future expansion.

Activity

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A balance of urban public spaces and natural open space create various focal points for precincts and a network of links between the Precinct areas.

The introduction of water and wetland elements as part of a Water Sensitive Urban Design strategy. Creation of urban space as the focal point of the activity hubs, each with their own distinctive character. Securing and preserving of the natural environment around the perimeter of the precinct.

Respecting and complementing cultural heritage with walking and cycling heritage interpretative trails as part of a wider recreational network. The use of landscape features and wetlands to define the character of the activity hubs and the links between to enrich the experience of being in the Precinct.

Movement

Celebrating the history of Old Illawarra Road and reinstating the street as the Illawarra Innovation Boulevard.

Improving the connections within ANSTO and to the wider networks of places and existing communities. Establishing pedestrian and cycle friendly streets to connect public places and key infrastructure.
Phase One focuses on the development of the Village Hub as a gateway to the Innovation Precinct and defining its key activities.

The initial phase includes the most public buildings such as the graduate institute and the Innovation Hub (including the nandin deep technology incubator) and the creation of new links to the north of New Illawarra Road.

Phase Two represents the Technology Park component and its potential expansion to north of New Illawarra Road.

Part of ‘Additional Development Lands’ north of New Illawarra Road is subjected to third party long term lease and contained significant infrastructure, the cost of re-alignment and timing future re-alignment of the security fence line hence the opening up new opportunities for further development of the centre of existing compact footprint.
For a discussion to learn more about the ANSTO Innovation Precinct, contact

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Non GroupGSA Project
Image Descriptions

1. PARKROYAL on Pickering, Singapore
2. Dr Chau Chak Wing Building, UTS, Sydney
3. Barangaroo Promenade, Sydney
4. Marina One, Singapore
5. The Goods Line, Sydney
6. Central Park Plaza, Sydney
7. Henderson Wave Bridge, Singapore
8. School of Art, Design & Media at Nanyang Technological University campus, Singapore
9. Henderson Wave Bridge, Singapore