Australian Government

ansto

Nuclear-based science benefiting all Australians

# Revisiting research management for innovation

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# Outline of talk

- **Australian situation**
- **ANSTO**
- **Strategic plan**
- **Knowledge management**
- **Benchmarking**
- **Collaborations**
- **Perspective**

# Australian Government

- **Powering Ideas – an innovation agenda for the 21st century;**
- **7 priorities:**
  - funding for *high-quality research* addressing national challenges and opens up new opportunities.
  - strong base of *skilled researchers* to support the national research effort in both the public and private sectors.
  - foster industries of the future, securing value from the *commercialisation* of Australian research and development.
  - effective *dissemination of new technologies, processes, and ideas* increases innovation across the economy, with a particular focus on small and medium-sized enterprises.
  - encourage a culture of *collaboration* within the research sector and between *researchers and industry*.
  - researchers and businesses are involved in *more international collaborations* on research and development.
  - public and community sectors work with others in the innovation system to *improve policy development and service delivery* “.

# Australian science budget

| Fiscal year | 2005/6 | 2006/7 | 2007/8 | 2008/9 | 2009/10 |
|---|---|---|---|---|---|
| % total government expenditure | 2.42% | 2.46% | 2.34% | 2.26% | 2.75% |
| Total government support in Mill. AUD | 5,876.6 | 6,377.5 | 6,567.0 | 6,875.2 | 8,587.1 |

*Major Australian government support for science and innovation - Department of Innovation, Industry, Science and Research (DIISR). This includes funding for major government research agencies (e.g. CSIRO, ANSTO), business enterprise sector, higher-education sector (e.g. Australian Research Council), multisector (e.g. cooperative research centres, health).*

"without investment, organisations will not grow"
Frank Heemskerk

# Australian Nuclear Science and Technology Organisation - ANSTO

AUD62 million:
- additional neutron-beam instruments for the OPAL research reactor
- upgrade of the Centre for Accelerator Science.

- **Major facilities**
  - Research reactor: multipurpose
  - Neutron-beam instruments
  - Accelerators
  - National medical cyclotrons
- **Research units**
  - Bragg Institute (neutron scattering)
  - Institute of Environment Research
  - Institute of Materials Engineering
  - ANSTO Life Sciences

# Strategic planning

- **5 year government planning**
- **yearly budget allocation**
- **15-20 year planning:**
  - Population and Health
  - Geo-politics, society and culture
  - Climate, environment and water
  - Energy and resources
  - Knowledge, skills and communication
  - Economics
  - Nuclear waste
- **scenario planning (Erasmus)**
- **effective endeavour: face-to-face meetings contribute positively to all types of productivity (Vasileiadou)**

# Knowledge management and metrics

- **Bibliometrics**
- **Contextualisation**
- **Peer review**
- **Benchmarking**
- **Paul Scherrer Institute**

| PSI (Switzerland) | ANSTO (Australia) |
|---|---|
| Energy and Environment | Environmental research |
| Structure of Matter | Neutron scattering |
| Health | Materials engineering |
| | Radiopharmaceutical research |

| | ANSTO | PSI |
|---|---|---|
| Funding body | DIISR - federal | ETH Board - federal |
| Foundation | established by the ANSTO Act in 1987 | established in 1988 - merger of the Swiss Institute for Nuclear Research and the Federal Institute for Reactor Research |
| Budget | 216 Mill. AUD (76% federal) | 300 Mill. CHF (80% federal) (1 CHF is about 1.1 AUD) |
| Total staff | 985 | 1,300 |
| Facilities | Neutron source (research reactor), accelerators, cyclotron | Neutron source (steady-state spallation source, synchrotron, accelerator for proton therapy |

| | ANSTO | PSI |
|---|---|---|
| Total staff | 985 | 1,300 |
| *Research* | *23.2%* | *33%* |
| *Technical & engineering* | *52.1%* | *53.3%* |
| *Employment programme* | *4.7%* | |
| *Administration* | *20%* | *6.7%* |
| *Information technology* | | *7%* |
| Postgraduate students | 29 | 300 |
| Scientists lecturing at universities | 15 | 80 |
| Publications | 229 | 950 |

| | ANSTO (Australia) | PSI (Switzerland) |
|---|---|---|
| Users (overall) | 370 (in over 1,300 visits) | Over 2,000 |
| Neutron scattering community | 330 in Australia | 200 in Switzerland |
| Country population in 2008 | 21.4 Mill. Australians | 7.6 Mill Swiss |
| Government appropriations R&D of Gross Domestic Product (GDP) – OECD figures 2008 | 0.46% | 0.72% |

European neutron users 4000;

25 countries



Asia Oceania Neutron Scattering Association – AONSA, set up 2007;

5 members

# Access Model

**Tasks**

Applications (incl. regular, ‘hot topics’) – review (on-line, in committee meetings)

- Application form
- Process
- Expert list (on-line), committee(s)

Allocation process

- Type of facility
- Person(s) in charge of apparatus, lab(s), workspace
- Scheduling process of experiments

Experiment outcome

- Publications
- Experimental reports
- Feedback
- Patents
- Others

Diverse Partners providing different (financial) support

Juste retour to be integrated over 3 years

Clarify how to count involvement of partners:

On formal application or at real experiment

Define units: days used or number of application

Affiliation attribution when belonging to several units

# ANSTO Life Sciences

- **radioisotopes & cyclotrons**
- **research & innovation**
- **molecular imaging**
- **integrative biology**

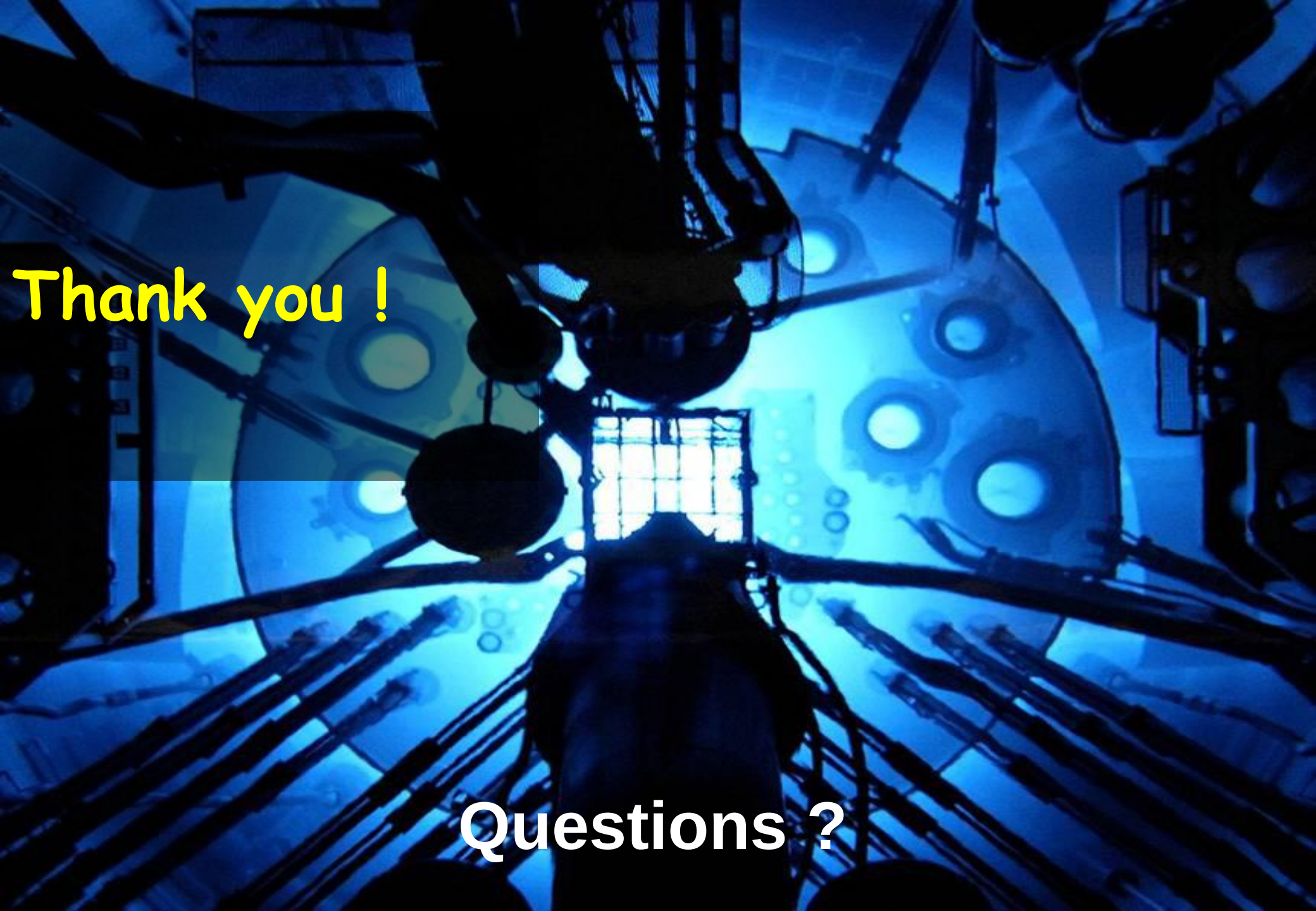
replacing the Radiopharmaceutical Research Institute

# smaller research groups

- **scientific diversity**
- **spatial arrangements**
- **simultaneous recruitments (if possible)**
- **leadership**
- **daily social gatherings**
- **shared success**
- **open doors**

# holistic approach to

- **stimulate creativity and innovation**
- **young researcher club: postdocs, PhD students and young researcher newcomers that meet once a month**
- **ANSTO Distinguished Lecture series**
- **Cultures consist of the shared cognitive and material items that forge a group's identity and ensure its survival (Nixon and Dawson)**


Thank you !
Questions ?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