National ICT Australia Ltd

NICTA is proudly supported by:

Australian Government
Department of Communications, Information Technology and the Arts
Australian Research Council

Agenda

- Background to NICTA
- NICTA's evolution
- Research
- Education
- Commercialisation
- Collaboration

Background

- National Research Laboratory
- Established in 2002
- Funded until 2011

NICTA Members

- NICTA Members
  – Department of Communications, Information Technology and the Arts
  – Australian Research Council
  – Australian Capital Territory Government
  – New South Wales Government
  – The University of NSW
  – Australian National University

BusinessACT
ACT GOVERNMENT

UNSW

ANU

NICTA Partners

- NICTA Partners
  – Victorian Government
  – University of Melbourne
  – The University of Sydney
  – Queensland Government
  – The University of Queensland
  – Queensland University of Technology
  – Griffith University

Victoria
The Place To Be

The University of Sydney
Queensland Government
THE UNIVERSITY OF QUEENSLAND
QUT
Griffith

NICTA People

- Support NICTA's mission
  – Purposeful
- Use exceptional talents
  – Imaginative (idea generation)
- Collaborate internally and externally
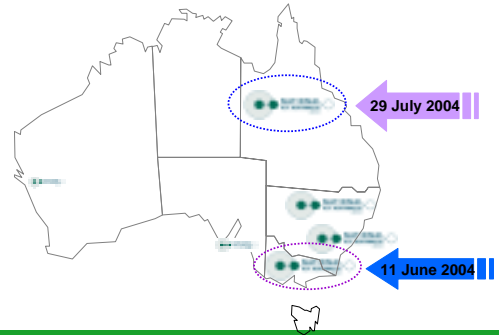 – Open
  – Teamwork
- Carry our message
  – Proud

Mission

- *To be an enduring world class research institute in Information and Communications Technology that generates national wealth*

Locations

29 July 2004

11 June 2004

NICTA's Evolution

NICTA 2001

- Company registered

NICTA 2002

- Constitution established

NICTA 2003

Company
- Member contribution agreements (MCA) signed
- First IBAG & ISAG Meetings

Research
- Initial programs populated

Education
- Initial scholarships offered

Slide: NICTA 2004

NICTA 2004

Company
– Establish VIC and QLD Labs

Research
– Priority Challenges established
– Research output begins

Commercialisation
– Commercialisation infrastructure specified

Education
– Alignment of NICTA graduate students to NICTA researchers

Linkages
– Industry forums created

Slide: NICTA 2005

NICTA 2005

Company
– Emergence of NICTA acceptance internationally
– Results transfer begins

Research
– Critical mass of researchers established
– Use inspired research culture

Commercialisation
– Outcome pipeline begins
– Australian seed bed cultivated for business support

Linkages
– Industry forums result in collaboration

Education
– Number of students in the pipeline approaches steady state

Slide: NICTA 2006

NICTA 2006

Research
– Awareness of the benefits of use inspired research approach

Commercialisation
– Harvesting commercial results

Education
– First graduates

Linkages
– External collaboration becomes embedded in culture

Slide: NICTA 2007

NICTA 2007

Research
– Phase two research begun
– Recalibrate research strength with Australia's needs

Commercialisation
– Flow of graduates leads to first real wave of economic impact

Education
– Capacity of graduates reached (75 people)

Linkages
– NICTA becoming commercial partner of choice

Slide: Operating Pillars

Operating Pillars

- Established on:
    - Research – Built on exceptional research talent
    - Education – Built on enhancing ICT education
    - Commercialisation – Built on consideration of use
    - Collaboration – Built on exceptional partnerships

Slide: RESEARCH

RESEARCH

NICTA is focusing its ICT research talent toward advances in technology which will produce significant social, environmental, and economic benefits for Australia

Research

- Central drivers of NICTA's research effort are our two Priority Challenges - inspired by uses for society, the market, and the environment.

  – *From Data to Knowledge*

  – *Trusted Wireless Networks*

Priority Challenges

- Trusted Wireless Networks
  – *Enabling greater confidence, freedom and capability through the improved efficiency, reliability and security of wireless environments*

- From Data to Knowledge
  – *Producing social, environmental and economic value from the gathering and use of information*

Research Programs

- Autonomous Systems and Sensing Technologies
- Embedded, Real-Time, and Operating Systems
- Empirical Software Engineering
- Formal Methods
- Interfaces, Machines, and Graphic Environments
- Knowledge Representation and Reasoning
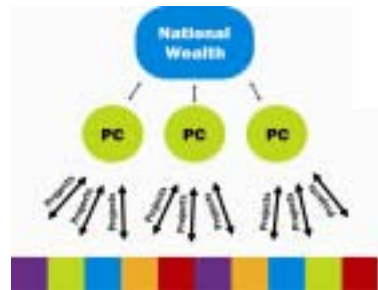- Logic and Computation

Research Programs cont.

- Network Information Processing
- Network Technologies
- Networks and Pervasive Computing
- Sensor Networks
- Statistical Machine Learning
- Symbolic Machine Learning and Knowledge Acquisition
- Systems Engineering and Complex Systems
- Wireless Signal Processing

Research Structure

- Programs
  – Research/research training/developing commercialisation/linkages (between research & industry)
- Projects: the vehicle
  – Interacting with external corporations & government
- Priority Challenges/aims
  – Pursue long-term theoretical research
  – Contribute to research projects & the centres end-under activities
  – Develop coursework & supervise PhD candidates

Research Structure cont.

EDUCATION

A nation's future is built on each generation's ability to improve social, environmental, and economic conditions

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NICTA PhD Program

- Building on traditional education programs
- Generating human capital for ICT research and development, of the highest international standards
- Value-added degree programs within universities
- Enriching the education experience to enhance Australia's economy

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NICTA PhD Program

- Focus on four key fundamentals:
  - Research Excellence
  - Technical Broadening through extensive coursework
  - Networking – interaction with people in their area of research
  - Commercialisation – potential for commercialisation of each student's project

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University Partners

- Agreements with:
  - University of NSW
  - University of Sydney
  - Australian National University
  - University of Melbourne
  - University of Queensland
  - Queensland University of Technology
  - Griffith University

COMMERCIALISATION

An intellectual property portfolio that is not used has no economic value

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Commercialisation

- Aim: to generate national wealth through the commercialisation of intellectual property through
  - Flexibility in approach
  - Licensing of research and technology
  - Creation of spin-offs and joint ventures

Commercialisation

- Focusing on:
  - The creation of open access to NICTA for small and large businesses committed to research
  - An internal research funding program that encourages collaboration
  - Training & capability development with attention to the creation of opportunities for frequent contact between NICTA & business.
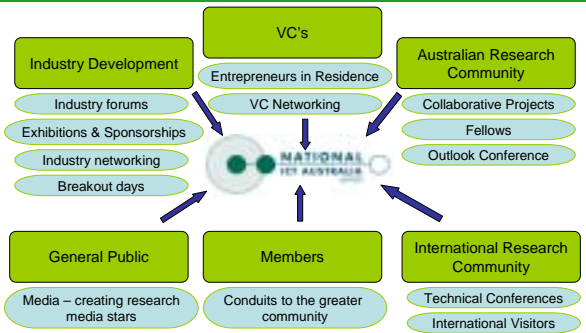
COLLABORATION

Some of the best ideas are born through the meeting of imaginations

Collaboration

- NICTA fosters research & commercialisation through an open & accessible culture that welcomes collaboration with business & technology organisations
- NICTA collaborates with:
  - Small to Medium enterprises
  - Multinational ICT companies
  - Users of ICT
  - Researchers (national and international)

NICTA's Network

Industry Development
- Industry forums
- Exhibitions & Sponsorships
- Industry networking
- Breakout days

VC's
- Entrepreneurs in Residence
- VC Networking

Australian Research Community
- Collaborative Projects
- Fellows
- Outlook Conference

General Public
- Media – creating research media stars

Members
- Conduits to the greater community

International Research Community
- Technical Conferences
- International Visitors

The imagination driving Australia's ICT future