



# Auckland

Growing Auckland's economy  
through participation in SKA

**Auckland**  
Tourism, Events and  
Economic Development   
An Auckland Council Organisation





Mayor's vision for Auckland:

“To be the innovation  
hub of the Asia  
Pacific region”

# How are we looking to do this?



Targetting and pursuing new offshore companies for business attraction



Build deep capability by partnering with New Zealand's universities



Assisting companies looking to establish here in Auckland to attract global talent

# ATEED's role

- As a member of the commercial leverage project team with MBIE and AUT, to bring a new MNC commercial partner to Auckland to set up business here in Auckland
- Telling the Auckland tech ecosystem story internationally to give new multinationals comfort that the decision to come to Auckland and participate in SKA will lead to technology milestones being met for their business
- Connecting the incoming new multinationals with local partners
- Lobbying central government to support New Zealand's continued participation in SKA

# What opportunity does getting involved in the SKA project represent to multinationals?

Data Set	Size
Sloan Sky Survey (Largest astronomy dataset)	0.14PB
Walmart	2.5PB
eBay	90PB
SKA Phase 1	500PB

SKA is at vanguard of Big Data challenges facing all sectors  
acquisition, transport, processing, storage, retrieval, security





# Deep Capability

- To build world-class companies (with enduring value) you need to build *deep capability* \*
- Deep capability is being better at what you do than any of your competitors, over the long term
- Deep capability allows for the creation of enduring value (staying power) which translates into a world class business.

\* Professor Michael Cusumano, MIT



# Research & Development

- A key component of deep capability is Research & Development
- Universities are innovation explorers that create game-changing knowledge. They normally conduct *primary research*\* for someone else to develop. Primary research discovers the truly new.
- A great way for companies to help build deep capability is to create strong linkages/partnerships with institutions that undertake long-term primary research, like universities.

\* Forbes, How to Manage Innovation, 07/03/2013

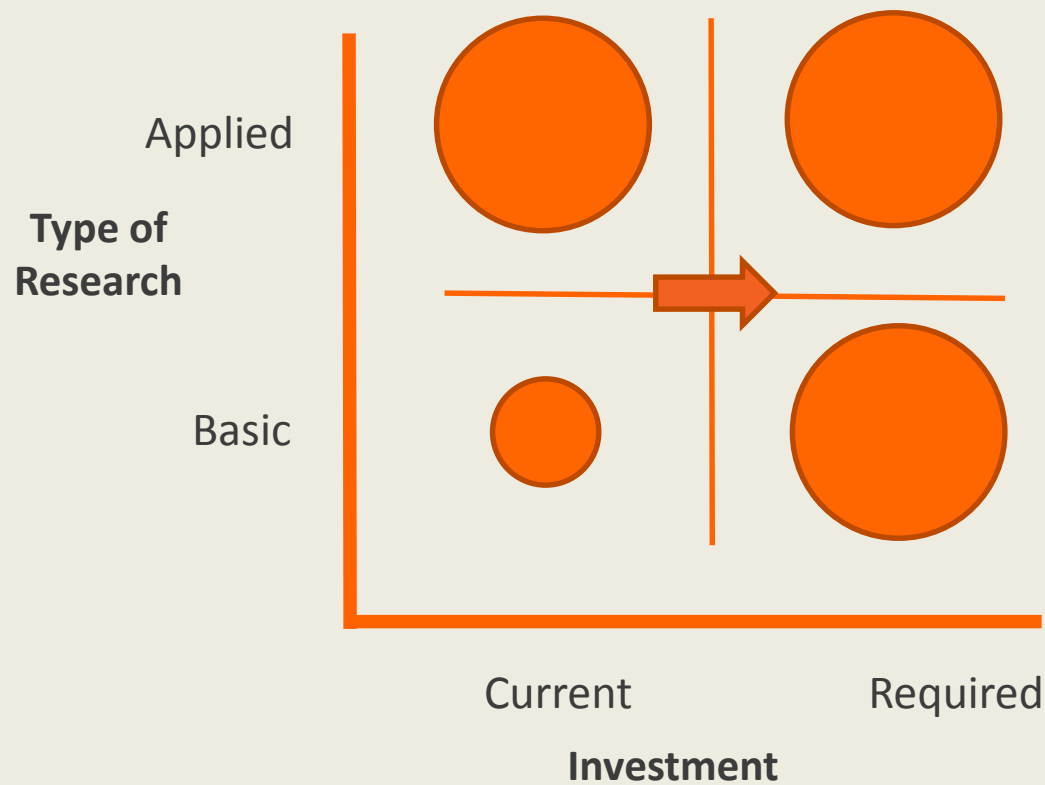


# Partnering with Global Universities

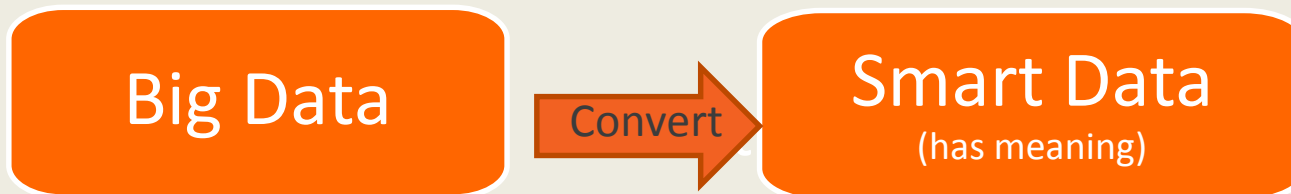
- University research labs enable companies to explore new technologies and methods without investing in new employees or physical infrastructure
- University faculties represent a wide range of expertise in a number of different fields
- A company can tap into a number of different university research areas, enabling greater agility in company product research efforts
- Students hired for projects are a great source of future employees
- University research labs are unlikely to attempt to develop a directly competing product.



# NZ Investment in ICT Basic Research



# Big Data vs Smart Data



- Issue: Worldwide data volumes increasing dramatically each year
- Opportunity: Converting into usable “smart” information is a significant opportunity for companies
- Challenge: How to harness huge volumes of data and turn into “smart data” to improve productivity and competitiveness
- Next step: NZ funds basic research with strong linkages with companies to grow NZ economy.

# Big Data COTE concept

## Collaboration around Infrastructure

## Collaboration around Projects of Global Significance

### Investment in Basic Research

Universities  
Global Research Labs  
AsiaPac Network Providers

### Infrastructure Investment

NZ Investors  
International Investors  
NZ Government Co-funding

**Asia Pacific  
Big Data  
Centre of Technical  
Excellence**

### Investment in Key Sectors

Multinational Corporation Co-funding  
Multinational Finance  
NZ Industry Co-funding

### Data Manipulation

Creation of BD Toolsets  
Real-time Decision Support  
Commercialisation via  
Application Hubs

### Application Hubs (Platforms)

Industry Clusters  
Hi-growth Sectors

### Global Hi-tech Testbed

Emerging Technologies

Global Challenges

Simulation

Prototyping

Integration

Testing

Pilots

Business Model Validation

Market Validation

AGRITECH

AEROSPACE

TRANSPORT

SMART CITIES

SMART HOMES

HEALTH

AUTOMATION

MANUFACTURING



# Auckland is Growing

**53,500**

**Between 2015 and 2018, Auckland's workforce is projected to grow by 53,500 jobs**

**We want these to be highly skilled and highly paid jobs.**

**USA Big Data Managers (10+ staff) average salary USD\$232,500 \***

**USA Big Data Scientists, 46% have PhDs, 42% have Master's degrees \***

\* Burtch Works study, Q1 2013

# Critical mass of ICT skilled entrepreneurs, companies and talent in Auckland

- Auckland is 34% of the New Zealand economy
- 55% of all NZ ICT companies are based in Auckland
- 24.5% growth over last 10 years
- 184 cultures with multilingual capability in Auckland
- 30,667 employees currently working in Auckland in the tech sector
- Competitive salaries with no payroll tax
- Five tertiary institutions within Auckland to draw talent from



# The capacity problems we can solve for global high tech firms are:

- How can the phenomenal growth rate of global data storage companies best be sustained and made more profitable without continuing the current model of adding further costly infrastructure?
- How do we gain competitive advantage over other data storage, big data analytics and high performance computing companies?
- How do we remain the technology leader in a global big data storage and analysis market?
- How do we ensure faster processing and analytics speed than our competitors?
- Provision of technologies that can correlate, process, analyse and store the largest data sets ever generated and do so for the next 50 years

# The problems we can solve for global high tech firms are:

One of the other main challenges in this industry is the rising cost of computing resources:

- the typical cost of supercomputers is typically \$500,000 or (much) more
  - So it is difficult for small and medium-sized enterprises (SMEs) to adopt this technology.

One key opportunity to mitigate this issue is to enable easy, efficient, effective use of Cloud-based computing

- Provide “on-ramps” to enable usage of Cloud-based compute resources...an activity under way with AUT and the Hartree Centre
- Deploy applications onto substantial cloud-based resources, avoiding the “Capex” associated with large, fast computers.
- Multiple sensors and detectors can be implemented with a shared compute node for data fusion and mining, and information extraction (e.g. security scanning)



# Why is HPC and Big Data such an economic game changer for Auckland?

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- Steve Conway VP research IDC stated in a report for US council on Competitiveness:
- 97% of corporates that had adopted HPC said they could no longer survive or compete without it
- Each dollar invested in HPC returned on average \$356 in revenue and \$38 in profit or cost savings
- The average number of years before returns started was 1.9 years – a shorter period than expected
- According to the ETP4HPC Vision paper prepared by IDC for the European Commission widespread uptake of modern e-infrastructure assets across the economy will generate an additional 3% growth in GDP in less than 10 years
- HPC and Big Data is sector agnostic – it is a powerful engine for tech solutions across all industries

# ATEED can connect new entrant companies into the tech ecosystem

- Auckland's innovation ecosystem
- GRID AKL
- Active incubators and accelerators for potential “acqui-hires”
- Key sector for growth
- R&D funding programmes
- Supportive immigration policy

Come to the edge and be part of  
Auckland's exciting development as  
the Innovation hub for the Asia  
Pacific region

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