



ThinkNew

# Regional Growth Plan Briefing Document

Growth Forum  
28th February 2019

Programme to define key focus areas based on regional strengths and global demand.

ChristchurchNZ™

# Introduction

**Critical to maintaining the momentum of the regeneration of the city we've initiated a process of alignment between education, enterprise and government that stimulates future innovation within key focus areas.**

As we enter the Fourth Industrial Revolution, and with it a rapid rate of technological change, our objective is to define primary focus areas that Christchurch can genuinely own in the global economy.

We must include our traditional industries, who will thrive on their own momentum and potentially be needing the same education and skills as some of the other future industries (ie Hamilton Jet, GIB, Skellerup).

We need to consider all of the current and future people of Christchurch, and our cultural heritage and diversity.



# Why do we need to do anything?

**With an ageing workforce, we have a projected skills shortage of 73,500 workers to maintain a reasonable level of growth in a region with a birth rate of 0.**

For the business community, we need to unpack what that is to fuel them to both try and form focus areas and their education needs. We do this for domestic students to aspire to, and to try and steer those coming in from overseas given the majority of our future workers will come from either international education or direct migration.

To fuel our future industries with the right International Education clientele with a global market in long term decline, we need to form focus points in order for students to choose to come to Christchurch. The IE audience demands evidence of tertiary, industry and government working together to form pathways to industry post study.

A survey of 43,000 prospective international students echoes findings from other recent student surveys that employability and career goals are a key motivation for study abroad (ENZ, 2018)



# The Challenge

To bridge the gap between industry and education by increasing knowledge flows within strategic growth areas.

## Current State

## Future State

Comparatively highly diversified economy without a clear point of difference

A city with clear differentiation in the global marketplace

Industry, government and education providers working in silos

Transdisciplinary sector working groups creating economies of scope

The Christchurch skill base is under-equipped to migrate towards an Industry 4.0 economy

An innovation ecosystem unlocking opportunities in Industry 4.0

# Activating Supernodes for concentrated growth

[Globalisation 4.0](#) is a digitally connected economy where cities across the world compete to attract, and more importantly retain, a high-value workforce.

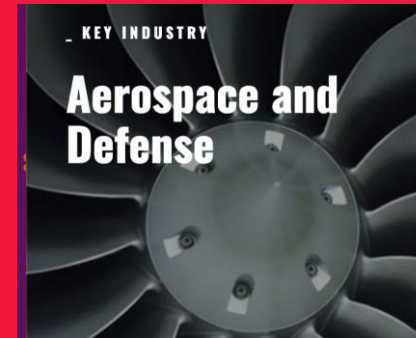
A Supernode is a highly connected and active zone within a network. Our goal is to establish a range of globally connected, yet locally relevant Supernodes to grow the Christchurch Economy.

Many cities and countries around the world are investing in specialised, future focused niches to differentiate themselves in the global marketplace.



## Canada: [Superclusters](#)

A five year investment to support business-led innovation superclusters with the greatest potential to build world-leading innovation ecosystems.



## Utah: [Industry Clusters](#)

Utah works to create sustainable advantages around emerging (and mature) sectors by combining and aligning a wide variety of business interests.



## Eindhoven: [Brainport](#)

Brainport works towards solutions for some of the big issues that societies face today in the areas of health, mobility, energy, food and safety.

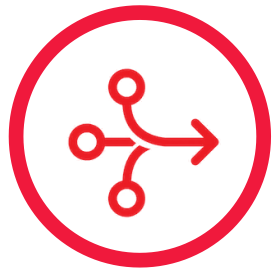
# Establishing a road map

## Phase 1



### 1 Opportunity Mapping

Forum with key stakeholders to review existing efforts, specify stakeholder needs and identify best fit areas for growth.



### 2 Framework Development

Engage transdisciplinary working groups to identify the actions that will maximise value for each of the selected Supernodes.



### 3 Proof-of-concept

Invite submissions for partnership projects that test knowledge flows, regulations, capability and global commercial viability.



### 4 Iterate & Scale

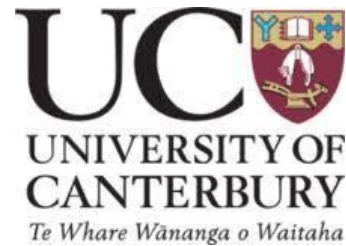
Review outcomes of projects based on their potential to scale up local activity, reach global markets and attract direct foreign investment.

# Your Role

**Critical to the success of the Regional Growth Plan is the development of highly networked Supernodes around the focus areas that represent the greatest opportunity for Christchurch.**

This will require a highly co-ordinated and focused effort across the value chain, including the alignment of STEM education, the development of specialists skills and talent, support for start-ups, transitioning existing businesses and the attraction of foreign direct investment within a thriving, dynamic and innovative community of practice.

## Education



## Industry and LG



## Government and Regional



# Growth Criteria

## 1 Ultimate Opportunity

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Overarching importance and relevance to the region

## 2 Global Growth Potential

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Access and linkages to international markets, talent and VC.

## 3 Current Local Capability

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Innovation Ecosystem, Institutions, leaders, Active Organisations

## 4 Natural Local Advantage

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Does Chch have a local advantage at a National level? How are we placed globally?

## 5 Regulatory Support

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Are there regulatory opportunities that give us a global edge?

## 6 Pragmatic Future

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Within a highly networked and supported Supernode, what would the future look like in 10 years?



# Potential Supernodes: Global Economy

## 1

### Aerospace

Leverage local strength in manufacturing by using advanced space technology.

**\$360 Billion**

## 2

### Food & Agritech

Build on international reputation for advanced agritech and grow global food offering.

**\$5 Trillion**

## 3

### HealthTech

Develop niche products that use biotech, IoT and smart technologies customise health care services.

**\$8 Trillion**

## 4

### Hi-Tech Services

Identify opportunities to scale and clarify Chch hi-tech services offerings to the world.

**\$11.5 Trillion**

## 5

### Extreme Enviro.

Establish a strong offering that leverages our relationship with antarctica and natural disaster recover expertise.

**All of it**

## 6

### Apparel & Textile

Amplify strength in outdoor apparel by applying smart tech, wearables and extreme environment testing.

**\$1.7 Trillion**

## 7

### Future Transport

Align local air transport service industries towards the next wave of future airborne transport opportunities.

**\$2.7 Trillion**

# Links to existing Canterbury Industries

## 1 Aerospace

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Pratt and Whitney / ANZ servicing engines from all over the world. What is their growth? Will we be servicing joint strike fighter engines?

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Clusters of contract robotics /mechatronics/mechanical businesses currently servicing other industries including Scott, Shamrock, Fabrum, Enztec and others

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TE Connectivity producing Aerospace parts, Orbica providing Drone AI and Data Science tech

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Hamilton Jet. Will they be 3D printing jet engines by the end of next decade needing similar talent to Aerospace?

## 2 Food & Agritech

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Lincoln Agritech and Agresearch manufacturing tech, sensor devices and robotics and selling all over the world

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Cookie Time, Hellers, Original Foods, Barkers and others exporting all around the world

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Farmlands, Synlait large presence and Fonterra produce China market products (cream cheese, mozzarella)

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Farming startups including Frizzels, Skybase, Onside, Pastoral Improvements and more

## 3 HealthTech

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Callaghan R&D and selling healthcare devices to Australia and the world

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Clusters of contract robotics/mechatronics/mechanical businesses currently servicing this industry (Shamrock etc)

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Streamliners contracting for Australian and UK Health Boards

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Innovative businesses such as HT systems, Swift Med, Enztech, Ossid, Aranz Medical and others

## 4 Hi-Tech Services

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Datacom and CCL doubling in size over the next 12 months due to cheap land and water aquifer system to cool data centres

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Home to Jade, Tait, Dynamic Controls, Orion, Seequent and SLI Systems making us the second biggest tech sector in NZ.

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Multinationals operating dev teams including Trimble, Interger, TE MYOB and others

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Strong startup community with thriving startup and accelerator hubs.

# Mapping Supernodes against our Growth Criteria

Based on growth indicators and current economic activity, we have mapped four dynamic areas that have potential to become Global Supernodes.

# 1 Aerospace

## Ultimate Opportunity:

With a our open airspace, proximity to Antarctica, innovative tech community, Christchurch becomes an international centre for space launch and supporting niche industries.

## Global Growth Potential:

Growing Global value of \$360 Billion GDP  
New technologies lowering barriers to entry significantly. Demand for space and satellite services growing rapidly - driven by digital transformation and IOT.  
Now more private sector driven than public.

## Current Local Capability:

Strength in bespoke manufacturing, engineering & technical services suggests cohort with transferable skill (e.g. ex- Martin Jetpack)

## Natural Local Advantage:

Clear skies - very little air & sea traffic  
Southern skies & Antarctic gateway

## Regulatory Support:

1 of 11 launch capable nations

## Pragmatic Future

# A strong space-related manufacturing, engineering and testing industry supporting global space launch activity.

## Current Education Potential

- Engineering
  - Aerospace
  - Mechanical
  - Chemical
  - Software
  - Electrical
- Physics
- Human and Plant Biology
- Future Food
- Business
  - Supply Chain and Operations
  - Strategic Accounting / B2B Marketing
- Architecture

## Current Activity

- Design A Electronics
- New Zealand Space Challenge
- Aerospace Community
- UC Space Research Cluster
- NASA SOPHIA

Estimate  
Economic Impact:  
**\$100M-  
\$Billion**

## 2 Food and Agritech

### Ultimate Opportunity:

With a growing global population and the constraints of climate change, Canterbury can leverage its current global reputation as a leader in smart agritech solutions.

### Global Growth Potential:

Big Data / AI; Digitisation of Agri; Automation of Labour; Sensors and Analytics; Breakthrough Genomic; Vertical Farming; Plant Based Proteins; Food Bi-products; Geo-spatial

### Current Local Capability:

A combination of world class research centre with a well established industry network,

### Natural Local Advantage:

A strong local agricultural industry that can be incentivised for adoption of new techniques.

### Regulatory Support:

Low - tougher safety and compliance rules

## Pragmatic Future

**Central government investment into Food and Farm research is rapidly commercialised for global capital markets.**

### Current Education Potential

- Agriculture
- Engineering
  - Mechanical
  - Chemical
  - Software
  - Electrical
- Business
  - Agritech
  - Agribusiness
- Supply Chain / Operations

### Current Activity

- Ravensdown
- Lincoln Agritech
- BLinc
- AgResearch

Estimate  
Economic Impact:  
**\$100M-  
\$3 Billion**

# 3 Health Tech

**Ultimate Opportunity:** With the establishment of a centralised health precinct creating a much closer connection between research, testing and commercialisation, Christchurch accelerates the R&D process.

**Global Growth Potential:** Analytics and Machine Learning; Virtual Healthcare; Bio-metrics & Wearables; InsuranceTech;

**Current Local Capability:** Callaghan internal R&D, UC R&D (Computer Science), Otago Uni R&D, Shamrock Industries, HT Systems

**Natural Local Advantage:** Hub for the Southern part of NZ for health

**Regulatory Support:** NZ wellbeing policy, highly regulated

## Pragmatic Future

**Commercialisation and export of the considerable R&D undertaken within business, tertiary and government.**

### Current Education Potential

- Biology
- Engineering
  - Electronics
  - Mechanical
  - Software
- Data Analytics
- Health Systems
  - Business Grads
  - English language practitioners

### Current Activity

- Dynamic Controls
- Orion Health
- McKessons
- Enztec
- ARANZ
- Health IT Cluster

Estimate  
Economic Impact:  
**\$50M -  
\$200M**

# 4 Hi-Tech Services

## Ultimate Opportunity:

Christchurch's high end outsource market is accelerating without stimulus. Businesses like MYOB, CCL, Datacom are all choosing Christchurch as an expansion point due to our local advantages.

## Global Growth Potential:

No one knows how the disruption of the service industry will change going into the 4th industrial revolution with decentralisation. What is likely is that the same reasons businesses choose to do business here are the same reason entrepreneurs will if the tech and outsource landscapes change

## Current Local Capability:

Second biggest tech sector in NZ. Startup and incubator hubs and activity all over the city.

## Natural Local Advantage:

Lower cost skilled labour due to quality of life  
Low cost land. Water Aquifer system to cool data centres. Good Graduate flows in technical business  
Poor flow but high quality graduates in tech

## Regulatory Support:

Flexible and progressive (eg FinTech)

## Pragmatic Future

With an international reputation for producing the smartest service tech, Christchurch provides the best value brains to the largest companies.

### Current Education Potential

- Computer Science
- Data Science
- Mathematics
- Business

### Current Activity

- SLI Systems
- Tait Communications
- Verizon Connect
- Trimble

Estimate  
Economic Impact:  
**\$100M-  
\$Billions**

## 5 Extreme Environments

### Ultimate Opportunity:

Unknown, and from meetings with people within tertiary, the Head of the Antarctic and elsewhere no one is really sure where the high value jobs are in the future.

### Global Growth Potential:

Unlimited given the effects of a potential 3m sea level rise

### Current Local Capability:

UC Civil Engineering R&D post quake  
 Capability of Engineering firms  
 US Antarctic base

### Natural Local Advantage:

Seismic city  
 Jump off point to Antarctica  
 Vulnerable to climate change



## 6 Future Transport (Air)

### Ultimate Opportunity:

Disused runways around the region and clear skies offering testing opportunities. Potential regulatory shifts towards testing zones for UAVs.

### Global Growth Potential:

Significant, from future supply chain to transportation. Also being trialled in Dubai, the US and elsewhere

### Current Local Capability:

Skybase  
 Zephyr  
 Orbica

### Natural Local Advantage:

Disused runways  
 Clear air from traffic  
 Disadvantage - NW winds



## 7 Apparel & Textile

### Ultimate Opportunity:

Limited potential in Christchurch, despite being the R&D homes of Kathmandu and Macpac

### Global Growth Potential:

Very high with smart tech, wearables and extreme environment testing. The question is whether we have an advantage over any other place in the world.

### Current Local Capability:

Kathmandu  
 Macpac  
 Seventh Wave

### Natural Local Advantage:

Poor- No textile graduates  
 No textiles produced in NZ  
 Opportunities thru UC Product Design





## 8 High Value Tourism

### Ultimate Opportunity:

If we can address the structural problems within tourism to gain better control over our industry in the way Tasmania and others have, then it could be a high value industry for the region.

### Global Growth Potential:

High with rising middle classes throughout the developing world. The industry is growing, we just need greater control of our product.

### Current Local Capability:

UC Tourism and LU Tourism. Ara Tourism and Hospitality.

Ngai Tahu Tourism and Geo Park

### Natural Local Advantage:

Gateway to South Island  
Fabulous Banks Peninsula  
Rise of city activities



## 9 Future Transport (Land)

### Ultimate Opportunity:

Disused red zone could turn Christchurch from a red zone testbed into a city leading the future land transport testing at a city scale.

### Global Growth Potential:

Significant, from future supply chain to transportation. Also being trialled everywhere

### Current Local Capability:

Red Zone testing with Council and NZTE at present

### Natural Local Advantage:

Disused red zone  
City that is open to exploring ideas at a city scale  
Strong Manufacturing capability in ChCh



## 10 Film Industry

### Ultimate Opportunity:

We have form off the back of Lord of the Rings and the Hobbit. If we can use the Red Zone for film studios, then we may be able to attract the Hobbit TV series and set us off into the future.

### Global Growth Potential:

Growing with subscription TV becoming the new high value media. Amazon are currently investigating NZ for the LOTR TV show at present.

### Current Local Capability:

Makeup and fashion design at Ara  
Product Design at UC

### Natural Local Advantage:

Red Zone  
Banks Peninsula  
International Airport



## Background Research

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We have collated some relevant research and made it available to all workshop participants to peruse prior to the workshop (available through the link below).

The research is sorted into the information that has led us to this point (1), other background material (2), and other more general information which may be of interest (3).

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**CAVEAT:** The CDC analyses were the best estimates in 2015 using the data (2013 census) and understanding and expectations of the Christchurch economy and market dynamics at the time. The analyses will be updated once 2018 census results are released.

[Click to view folder](#)

## Send us your Thoughts

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We are being given a significant amount of valuable time including your own and want to ensure the workshop is effective.

It can wait for the workshop, but if you have any thoughts as to the process or the areas nominated, then please get in touch.

We are particularly interested in your thoughts around extreme environments which is listed, but may not have a lot of depth for future high value jobs in the region. We would love it to be given it is a cornerstone of ChristchurchNZ "Explore"

We would also like your thoughts on whether high value Tourism - or the film industry who may use the red zone for studio space for the Hobbit - could be future industries of strength.

We would also like your thoughts on whether anything has been missed out altogether.

## Send us your Research

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Anything relevant that can add to this process is appreciated.

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A number of tertiary stakeholders have already submitted some of the research in the folder - thank you.



**ChristchurchNZ™**

# Key Dates

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## 1 Opportunity Mapping

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28 February  
1pm – 4.30pm  
ChristchurchNZ



## 2 Framework Development

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March - April  
Dates to be confirmed

# Key Contacts

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