Ara
Institute of Canterbury
Ara rau, taumata rau

International Profile

Contents

A message from Ara Chief Executive, Kay Giles

Hello , Kia Ora

Every year, students from 90 countries around the world come to Ara to take advantage of the exciting educational programmes and the unique learning opportunities we offer.

Ara is the largest technical institute in the South Island of New Zealand and a leading provider of applied tertiary education, research and knowledge exchange. We are a multi-cultural organisation, inclusive of Maori language and culture, and open to students from all over the world who seek support and inspiration to achieve their study and vocational goals.

We work closely with our industry and business partners to align our programmes and our graduates' skills to industry needs and employment. Our practical, hands-on learning is provided in a supportive, welcoming environment. When you graduate from Ara you'll be work ready for your chosen industry or profession, with the skills employers need.

It's an exciting time to study at Ara. The revitalisation of Christchurch presents unique opportunities to be involved in projects and to fast track careers as the city rebuilds.

Alongside this, Ara has undertaken a programme of construction and refurbishment of buildings across both campuses. This has already delivered the first of many new state-of-the-art facilities to support innovative teaching and learning. Students can now enjoy a new gym, sports courts and health centre at the recently opened Whareora (Well-being and Sports Science). Underway now is the new Kahukura (Engineering and Architectural Studies facility).

We're in the business of shaping lives and creating leaders; we look forward to sharing our wealth of knowledge and experience with you.

We also hope you'll enjoy reading about some of our academic staff, industry partners and successful students and graduates within this publication.

Kay Giles
Ara Chief Executive

Search and you shall find

Christchurch is at the cutting edge of innovation in IT, attracting IT specialists from around the world and providing global opportunities for our graduates.

SLI Systems co-founder and chief innovation officer Shaun Ryan searches the world for employees who want to enjoy the Kiwi lifestyle while working on cutting-edge technology.

Technology and nature. They seem like opposites but to internet site-search company SLI Systems they go hand in hand.

Co-founder and chief innovation officer Shaun Ryan explains: "We search the world for intelligent people who want to work on cutting edge solutions for our global clients while enjoying everything Christchurch has to offer. Our Kiwi lifestyle, our city's creative vibe and its buoyant economy are strong drawcards."

Shaun says SLI Systems' employees are talented people who are passionate about what they do and enjoy a healthy work-life balance. At SLI – which is based in Christchurch's Enterprise Precinct Innovation Centre (EPIC) - they find a 'home' with like-minded people.

One of those people is Ara Bachelor of Information and Communication Technologies graduate, Andrew Grieve, who joined the company after he graduated in 2005.

As a senior software engineer for SLI, his role involves customising the navigation of clients' websites to make searching more user-friendly and to enhance the customer experience. "To me, it's pretty cool that you can type in the first letter of 'red dress' and auto-complete options will come up."

Having established a career that he loves, Andrew is keen to encourage others into his field. "The reality is, as a result of this technology, e-commerce is only going to get bigger so the industry is going to need more software engineering skills."

He says a strong base in maths and the ability to think creatively are essential attributes for a career in IT. And, he adds, it's the opportunity to be creative that makes his work so enjoyable.
Andrew works alongside software engineers and developers from all over the world. Since it was established in 2001, SLI Systems has built up an impressive international client base comprising more than 1000 e-commerce sites serving in excess of a billion search queries every month. In addition to its New Zealand headquarters, SLI has offices in San Jose, Tokyo, Melbourne and London.

"Our staff contribute to a culture of transparency, innovation and fun with high performance expectations," Shaun says. "With a flat structure, our values create a platform for positive engagement and creative results."

EPIC opportunity for innovation

A high-tech innovation precinct in central Christchurch is inspiring our students and hiring our graduates.

EPIC's founders Wil McLellan and Colin Andersen are pleased that the innovation hub they created four years ago has proven so popular with both the IT sector and the wider community.

As a hub of innovation and a model start-up business, Christchurch's Enterprise Precinct Innovation Centre (EPIC) provides inspiration for hundreds of visitors – including many of our students.

Opened in 2012, EPIC is a sustainable, purpose-built hub connecting 20 or so web and game designers, software and network developers, technology service providers, IT trainers and consultants. Internationally-renowned companies such as e-commerce specialists SLI Systems, crime-busting software developers Wynyard Group and game developers Cerebral Fix are tenants.

Between 200 and 300 people – including many Ara graduates – work within EPIC's flexible office and studio spaces. As a centre of innovation and collaboration, it's also a popular place for our IT students to visit, explore and undertake research or internships. EPIC was established by Wil McLellan, owner of several game-development companies, and Colin Andersen, executive director of IT consultancy Effectus. Proving that 'necessity is the mother of invention', the entrepreneurial pair came up with the idea for EPIC following a severe earthquake 2011 which damaged much of Christchurch's CBD.

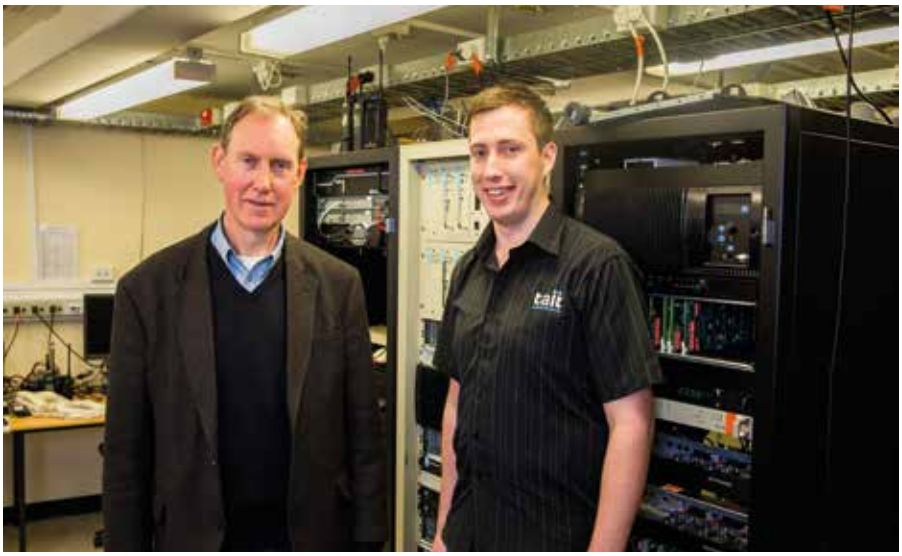
"This wasn't a project that came out of nowhere," Wil says. "It was out of necessity because we lost our offices. Moving multiple times wasn't going to be good for business, nor was it sustainable. So we had two options; we could leave the region or we could stay and try something new, and EPIC is the result."

Initially created as a temporary solution to address the urgent need for commercial space, EPIC's success at bringing together like-minded technology businesses could result in it having a longer lifespan than originally intended.

"People want us to stick around, and the council is working on helping us remain part of Christchurch for a bit longer," Colin says. "We're delighted with how it's been received and the support from the community and from people who have visited from overseas. It's nice that people want EPIC to keep going."

World-class ideas are generated right here

A tradition of invention at Tait Communications is both a magnet and outlet for our graduates.



Paul Daigneault (left) and Mike Down (right) are both Ara graduates who've found a home at global communications innovator, Tait Communications.

For 45 years, Tait Communications has been an incubator of innovation in electrical engineering and mobile communications.

Founded by electronics pioneer, the late Sir Angus Tait, the iconic Christchurch-based company has established an international reputation as a leading provider of solutions for transportation companies, emergency services and government authorities. It has earned recognition for designing and manufacturing ground-breaking equipment which protects communities, powers cities, transports people and saves lives.

Tait employs more than 650 people and has regional offices in the United States, Australia, Austria, Singapore and Brazil. Christchurch is the hub of global operations where the principal design, engineering and manufacturing facilities are based.

Tait has grown and evolved with technology over the decades, along the way attracting employees with a passion for invention and technology. Its chief operating officer Paul Daigneault was the first Ara engineering graduate Tait Communications employed.

Paul has been at the forefront of many projects that have taken the company's products to more than 150 countries around the world. At home in Canterbury, he's involved in a pioneering project called GridLink, a system where voice and data communications share the same Digital Mobile Radio (DMR) network.

"Strong winds and snow are frequently to blame for power outages, affecting thousands of people across the region, including farmers," Paul says. "GridLink is proving to be an excellent solution to ensuring outages are dealt with quickly, with power being restored within hours rather than days or weeks. We're seeing interest internationally as a result."

One of Tait's more recent Ara recruits is New Zealand Diploma in Engineering graduate Mike Down. Mike is also having a hand in the development of GridLink, testing its radio coverage. He's been a trainee on Tait's Global Technical Development Programme since 2012, while also studying for his Bachelor of Engineering degree at Ara.

The 25-year-old, who's now part of the sales engineering team, says it's an exciting time to be working for the company. "It's great to be involved in a project that is on our doorstep. It really brings home the importance of what we do and the value we bring to our clients and the public."

From immigrant to ambassador

Mia Yatiswara has found a new home, a world-class education and a satisfying career all in one city.

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New Zealand is proving to be a land of opportunity for Indonesian-born Ara graduate, Mia Yatiswara, who immigrated to New Zealand with her family as a teenager, settling in Christchurch.

For her tertiary education, Mia chose to study information technology project management at Ara, majoring in multimedia and e-commerce. Having graduated with a Bachelor of Information and Communication Technologies she's now enjoying a stimulating career as a graphic designer in the digital design field, employed by Christchurch-based company Jade Software.

Mia has been applying her highly-developed technical and creative skills to various digital web and mobile projects at Jade for the last five years. Her key responsibility is to deliver brilliant visual experience (VX) and design specifications for businesses. So far, her career has involved working with big name clients in Australia, New Zealand and the United States.

"I love having a range of clients to work with, it helps to add diversity in my portfolio," Mia says.

Her career has taught her big picture stuff, such as the importance of team work. "In the IT industry, it is guaranteed you that you will end up working as a team as opposed to working alone. Knowing where you stand in the supply chain, and how to manage your time and resources to help the project to succeed, is very important."

Mia takes pride in her role as a FutureInTech ambassador, an initiative that encourages young people to pursue IT careers. "It's a great joy to be a FutureInTech ambassador. To see the sparks in student's eyes when they've been inspired, and to know that I've assisted in their growth and development, is a rewarding experience."

Her advice to international students is to immerse themselves in New Zealand culture. "Don't be afraid to network and knock on the door of local companies for advice or work experience."

Creating robots to go where humans can't

There's nothing like applying your studies to a niche business, as Luke Prattley has discovered.

Engineering student Luke Prattley has combined education and ingenuity to create a robot which can capture images beneath buildings.

Luke Prattley's love of mechanical moving parts is behind an enterprising partnership with a local building contractor. Seeing a niche for a mobile device that could go under buildings to carry out inspections, the Bachelor of Engineering Technology student teamed up with with builder Gideon Couper to establish new Zealand's first underfloor robotics enterprise.

The "Cavity Critter", which Luke – an electronics specialist – built from scratch, is a remotely-operated robotic camera unit on wheels. It's designed to capture images of ground conditions and sub-floor structures such as piles and foundations in difficult to access spaces.

"You can't buy these sorts of robots off the shelf," Luke says. "Most of the parts are generic but I've had to research and experiment with how the bits go together into one working piece." Gideon says the robot is in demand as a vital diagnostic tool for examining, carrying out and inspecting repairs to damaged buildings.

"We're not the first to think of underfloor robots, but we are the first New Zealand company to do it as a business."

The Prattley–Couper partnership was the first to register as a company, which offers a service to insurance companies, home owners, engineers and assessors.

"Luke is technically brilliant, and he's learned a lot from his engineering course," Gideon says. "He's also learned about radio waves, which can prove difficult in operating a robot under the floor and he's succeeded where everyone has failed. So he's been able to combine his ability with remote-controlled vehicles and technical know-how, into a business."

With demand for the Cavity Critter increasing, Luke has built a second robot and is looking to expand the business while continuing his studies at Ara.

Striking career gold

Shannon Diack is living proof that an engineering degree can take you anywhere.

New Zealand-trained engineers are well known for being intrepid. Ara engineering graduate Shannon Diack is one of them, choosing to live and work in the vast and adventure-filled Mongolia.

Shannon studied engineering at Ara because he wanted a practical qualification and a career that would allow him to travel and experience the world. After graduating with a Bachelor of Engineering Technology, he started his career at Airways New Zealand in Christchurch where, as part of the company's trainee programme, he helped keep the country's airways safe and operational.

Recently the talented electrical engineer decided to gain international experience and took a job as a technical specialist in a gold mine about four hours from the Mongolian capital Ulaanbaatar. He has joined the growing number of visitors – 450,000 a year – who travel to this wildly beautiful land.

"Without the degree to back me, I wouldn't have been able to get this job and I wouldn't be able to live out my dream of world travel," Shannon says.

His job involves keeping all the technical aspects of the mine operating - no easy task in Mongolia's forever-changing, harsh climate.

Shannon utilises the electrical specialty of his degree to solve computer-networking problems and maintain communications with the capital through 3G and satellite connections. He also maintains the mine's camera feeds and local radio communications and operates an unmanned aerial craft (UAC) – more commonly known as a drone – for aerial land surveying.

He says his electrical skills come in handy for recommending how to fix any sort of power problem in a remote environment, where mains power is notoriously unreliable and parts and supplies are scarce.

Shannon also manages projects and troubleshoots day-to-day issues that happen in mining operations, attributing his abilities in this area to good grounding at Ara. His advice to other students is simple.

"The degree has opened more doors than I ever thought possible. There's a huge world out here and the only thing stopping you is yourself. Do this one thing for yourself, you won't regret it!"

Science and sport team up

Tina George is using her sports science expertise to assess the performance of elite athletes.

Many people dream of turning their passion into a career; Tina George has done it. Having graduated from Ara with a Bachelor of Applied Science, Tina is now working in the rapidly expanding field of sports science as a sports performance assistant for University of Canterbury Sports.

Tina's been able to embark on her dream career thanks to the opportunities provided by her Ara degree. One of those opportunities was a research project in her third year, in which she studied the effect of altitude and travel on the performance of international Super Rugby players.

Tina worked with members of the Crusaders rugby union team, who wear global positioning system (GPS) vests to record specific data such as kicks, passes, gain lines and ball handling errors – all determining factors in winning or losing a game.

"Every player is different, they're built differently and they play in different positions," Tina says. "They each respond differently to the impact of flights and playing at altitude. These are factors in performance."

Tina's analysis showed that when playing at altitude, the team made substantially fewer gain lines on the attack than they did at sea level, which indicated fatigue.

"There are so many platforms to collect data for sport that athletes are now doing their training based on science. I'm looking forward to finding out more about what we can do to help teams prepare in the future and I can only see the sports science field advancing even further with the introduction of new technology."

Tina is undertaking a masters degree while working, and hopes to learn more about the physiological impacts of altitude and travel on the heart, lungs and muscles, and other factors such as sleep, appetite and fluid levels.

Taking the lead in sustainability

One man's quest to tread gently on our planet is inspiring others to do the same.

Ara manager of sustainability and outdoor education programmes, Dr David Irwin, is helping students make a difference in the world.

In 2010, Ara's manager of sustainability and outdoor education programmes, Dr David Irwin, concluded his PhD thesis with Ghandi's famous quote: "We must be the change we wish to see in the world". He also added the words of another of the world's great philosophers, Kermit the frog: "It's not easy being green."

The philosophy behind both these statements forms the cornerstone of Dave's life and work at Ara, where his passion for the outdoors and sustainable living have led to the creation of an education programme that's unique in Australasia.

"What we're trying to do is to think about how we can do things differently and how we can expose students to the outdoors and ultimately the future," he says of the programmes he helped establish and now leads.

The programmes – which include the Bachelor of Sustainability and Outdoor Education – move beyond traditional models of learning and embed an awareness of the need to care for the planet. Students graduate with the skills and knowledge to influence and inspire others towards sustainability, in careers as outdoor instructors, conservationists and environmental guides and educators.

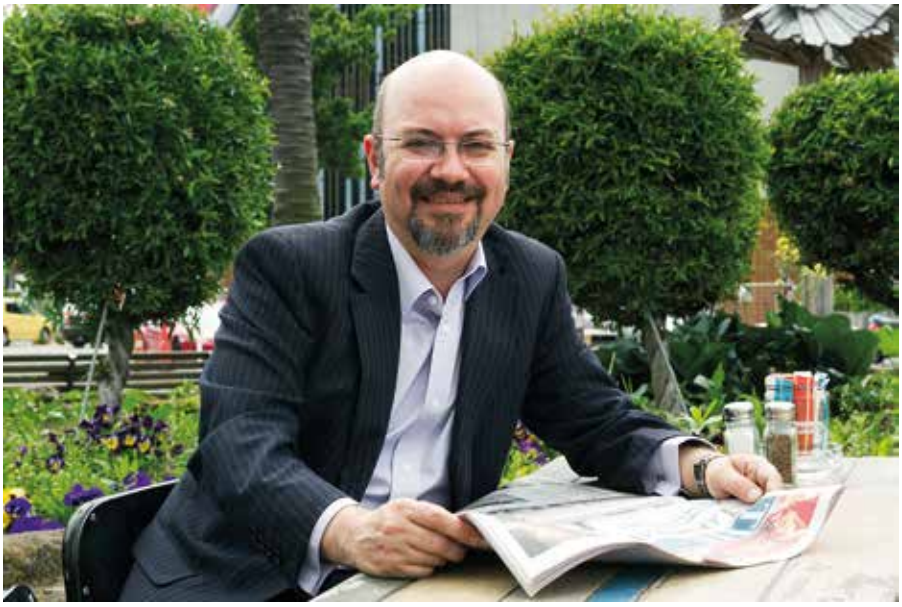
"It's the unique blend of outdoor education and sustainability on a global scale that attracts students from all over the world, from all walks of life and careers who want to expose themselves to our uniquely New Zealand biodiversity and biculturalism," he says.

Dave is particularly proud of his students' achievements in giving people opportunities to see the world differently, with projects ranging from education about the health of our oceans, to creating public forums exploring climate change issues and banning plastic water bottles from campus.

"That's why I teach. It's incredibly rewarding to take students as far as you can take them, and then to see them go out into the world and make a difference."

Fostering a sense of opportunity

Demand for IT professionals is increasing and Ara is working hard to help meet that demand.



Dr Nathan Rountree is a keen advocate of the practical focus of IT programmes at Ara.

IT jobs in Canterbury are forecast to increase by 4000 in the next ten years. However, at current rates of graduation, local tertiary IT trainers - including Ara - will only produce enough skilled graduates to fill half of these new jobs.

Head of Computing at Ara, Dr Nathan Rountree, has enthusiastically embraced the challenge of addressing this shortfall.

"We're actively working to increase student numbers – not just in software development, but also in networking and systems administration, because that's where a lot of the jobs will be."

Nathan - who was previously a senior lecturer at Otago University's computer science faculty and worked for several years at TracPlus - joined Ara in October 2014. He's responsible for 35 academic staff and around 600 students, of which 12% are international students.

Nathan's vision for computing at Ara is simple: to be the best option for industry-relevant computing education in the South Island.

Ara already has a great reputation for the quality of its computing graduates. Employers regularly tell Nathan that the Ara graduates they hire hit the ground running and can interact effectively with clients from day one. "It's a ringing endorsement to hear that employers are utterly confident to leave our graduates alone in a room with their clients," he says.

Nathan believes this reputation goes to show that Ara is the best choice from an international student's perspective. "International students do well at Ara. Our pastoral care is good - we work hard to make sure that they have what they need, and that a strategy is in place to tailor their study to their needs."

Nathan is a keen advocate of the strong practical focus at Ara. "We're proud of the fact we're a teaching and learning institution that gives skills for the industry, and in the case of Ara, very specific skills."

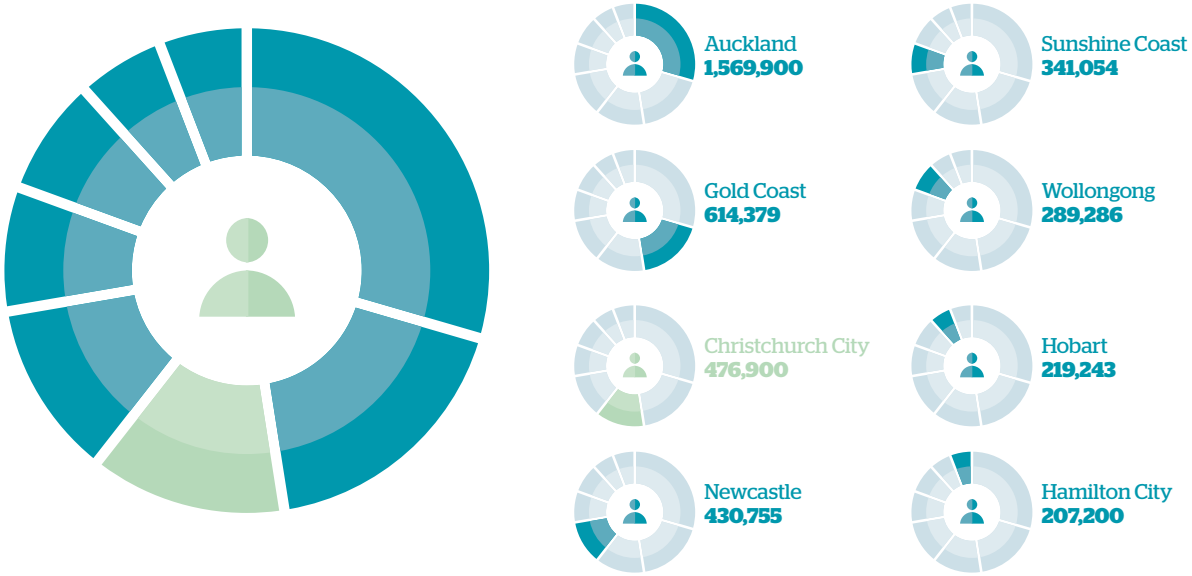
Recently, an Ara IT student won a project development award for a Windows 10 deployment solution that saves hundreds of hours of manual work and eliminates the possibility of errors occurring during individual set-ups.

Nathan says the project enabled the student to highlight his skills in networking and system administration, which impressed IT industry representatives. "That's what I love about Ara - that sense of opportunity."

CHRISTCHURCH COMPARED

WITH AUSTRALASIAN CITIES

POPULATION



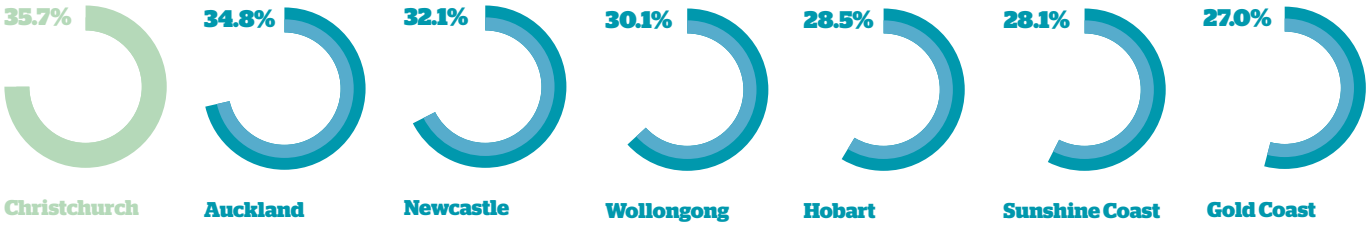
UNEMPLOYMENT RATE

CHRISTCHURCH WAS THE #2 PLACE TO GO IN THE WORLD IN 2014

Source: New York Times, January 2014

EMPLOYEES IN HIGH-VALUE SECTORS

Across Australasia Christchurch has the highest proportion of employees working in high-value *(enabler)* sectors *(Manufacturing, Telecommunications, Professional Services, Production Agriculture, Health).*

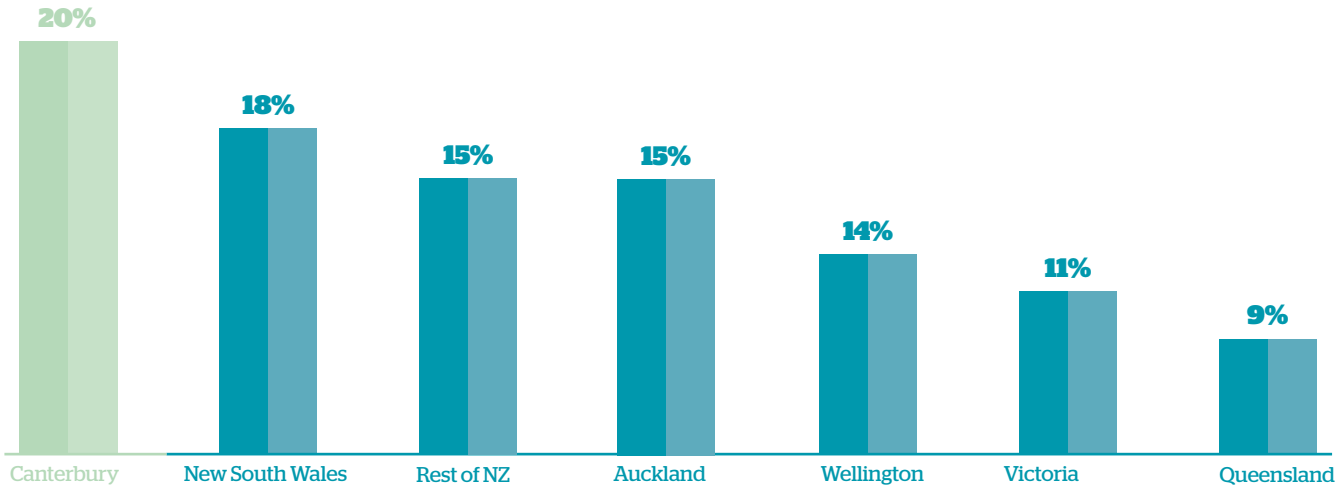


COST OF LIVING

In New Zealand dollars
Source: Numbeo

CHANGES IN WEEKLY EARNINGS FROM END-2010 TO END-2015

Average weekly earnings in Canterbury have grown 20% (15% NZ) since 2010 and were $931 per week in Q4 2015.



WHY CHRISTCHURCH

A DATA SNAPSHOT OF CANTERBURY

ECONOMIC GROWTH

With the lowest unemployment rate in Australasia, high levels of economic activity, and solid employment opportunities, the Christchurch economy is strong.

7.3% India

7.3% China

5.5% Christchurch

3.8% New Zealand

2.5% Australia

2.9% UK

2.4% USA

12,000 PEOPLE

attended Diwali festival in 2014

3RD LARGEST

employer in Christchurch is manufacturing

1 in 5

people in Christchurch were born overseas

VERY LOW UNEMPLOYMENT

And positive net migration means Christchurch needs qualified people to rebuild and develop the city

34% GROWTH
Education & Training

177% GROWTH
Construction & Engineering

36% GROWTH
Sales, retail, marketing and advertising

31% GROWTH
Information Technology

58% GROWTH
Accounting, HR, legal & admin

CANTERBURY GROWS

50%
of world requirements for radish seeds

35%
of world requirements for white clover seeds

33%
of world requirements for carrot seeds

30%
of world requirements for Bok Choi seeds

OVER 740

City parks, of which 3/4 are in suburban neighbourhoods.

LIVING IN CHRISTCHURCH

A GREAT PLACE TO LIVE, WORK AND PLAY

2ND BEST CITY
Ranked second place in the world to go to by New York Times in 2014

NZ'S SECOND LARGEST CITY
Population of 367,800

HIGHER EDUCATION
Two universities and two institutes of technology

14 SKI AREAS
Nine ski and snowboard areas within two hours drive; 14 within three

WALKING
80 kilometres of city walking tracks

RENTAL RATES
Christchurch rents are 19% lower than Auckland

INTERNATIONAL AIRPORT
15 minute drive to CBD

GREEN SPACES
740 city parks covering 3,000ha

LET IT SHINE
2,143 annual sunshine hours

ACTIVITIES FOR EVERYONE
Ski and snowboard, bungy jump, rock climb, mountain bike, river raft, kayak, surf, swim at safe beaches, golf, whale watch, swim with dolphins, visit wineries and gardens and enjoy the vibrant arts and culture scene.

WE NOW OFFER A RANGE OF PROGRAMMES THROUGHOUT THE CANTERBURY REGION

Ara
Institute of Canterbury

Ara is proud to be a smokefree institute

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