IPENZ
ENGINEERS NEW ZEALAND

# 2014 Annual Review

Celebrating 100 years of New Zealand engineering

1914 – 2014
Prosperity through Ingenuity
IPENZ – ENGINEERS NEW ZEALAND

In this, IPENZ's centenary year, a wide range of celebrations and events marked the engineering profession's progress in New Zealand during the past 100 years. Formal dinners, exhibitions, lectures, forums and a number of publications were included in the line-up of activities planned by National Office and the Branches.

# Contents



## OUR JOURNEY

**The engineering profession we know today has been shaped by an eventful century. Follow IPENZ's journey through its first 100 years and look at the prospects for the Institution's future.**

### Early 1900's

Engineers in the early 20th century achieved some extraordinary results, but in general were frustrated by a lack of status and public understanding of what they did as a profession.

Engineers sought an organisation that would represent their specific needs. The profession fell into three categories - central goverment, local government and those working in industry or independently.

**1912**

Local government engineers formed their own institute, but others argued for a wider body.

**1914**

**Beginnings**

The New Zealand Society of Civil Engineers (NZSCE) was formed as a single national body on 19 March – the genesis of IPENZ.

# About Us

IPENZ has come a long way from its modest beginnings. As at 30 September 2014, our Membership stood at 15,950 – a vast difference to the foundation of fewer than 200. Today IPENZ Members are to be found all around the globe.



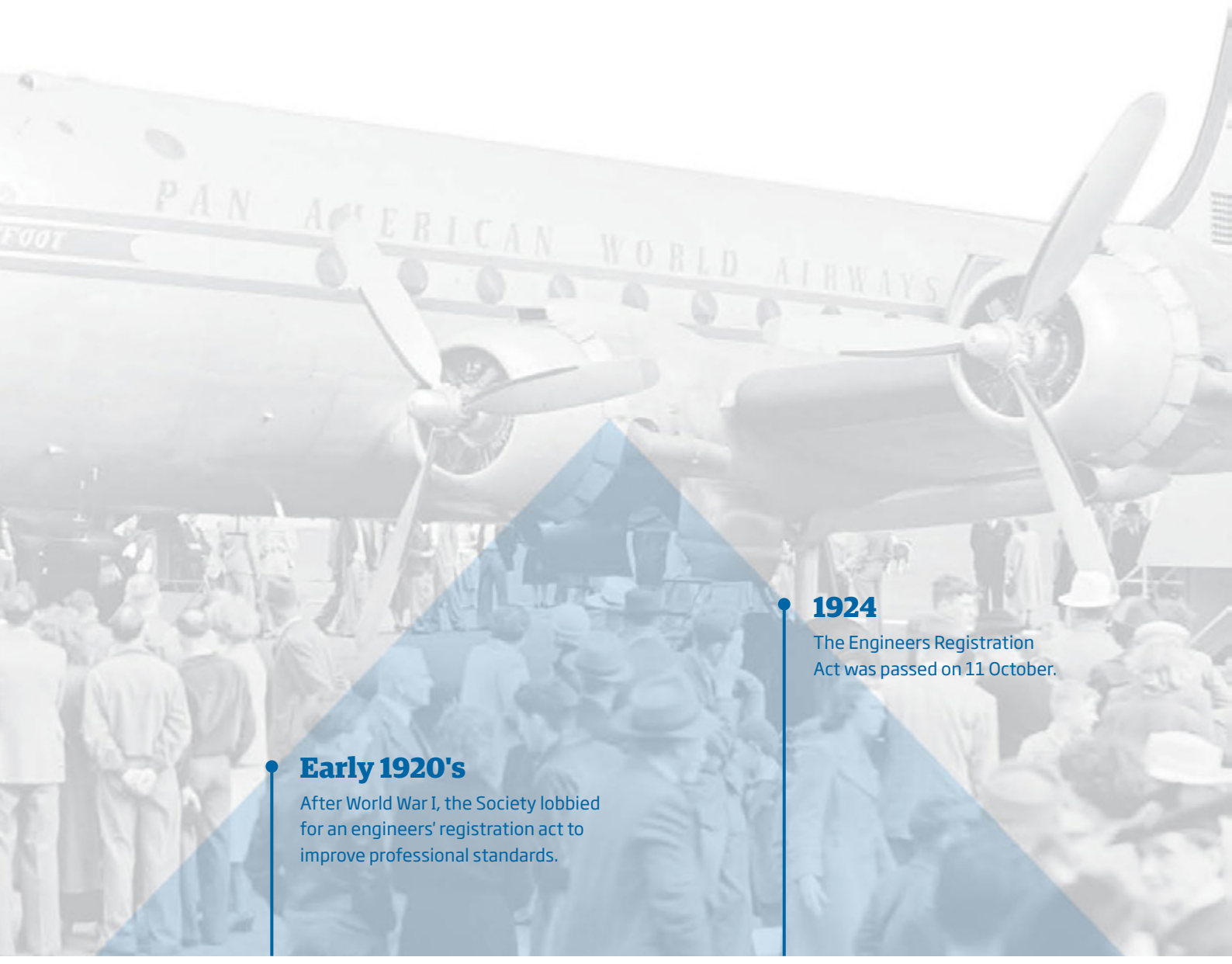
**June 1914**
**First President**

Robert West Holmes stepped in as the Society's first elected President, leading a group of 170 members.

**1914**
**World War I**

The NZSCE's development was hindered by this historic event.

Although World War I took many of the Society's members away from their usual occupations, sappers on the battlefield were able to prove the engineering profession's huge value and skills.




## 1924

The Engineers Registration Act was passed on 11 October.

## Early 1920's

After World War I, the Society lobbied for an engineers' registration act to improve professional standards.

# The Organisation

The Institution of Professional Engineers New Zealand Incorporated (IPENZ) represents engineers in 17 fields of engineering across New Zealand.

During the past century, the Institution has significantly improved public awareness of the work undertaken by professional engineers in New Zealand.

IPENZ is the professional body for engineers, engineering technologists and engineering technicians from all engineering disciplines in New Zealand.

It is also the Registration Authority under the Chartered Professional Engineers of New Zealand Act 2002.

In its role as a professional body, IPENZ provides a range of services and support for its Members and works to enhance the engineering profession. As the Registration Authority, it is responsible for maintaining the register of Chartered Professional Engineers. This includes assessing candidates and disciplining those registrants who have failed to meet their obligations under the Act.



## IPENZ activities and services include:

### ENFORCING STANDARDS

Enforcing the standards of professional competence for the engineering profession, and ethical behaviour for its Members and ensuring the level is met.

### INTERNATIONAL ALIGNMENT

Working to align New Zealand engineering with international best practice.

### ACCREDITATION

Acting as the accreditation body for engineering degrees and diplomas in New Zealand.

### PROFESSIONAL COMPETENCE

Recognising professional standing via competence-based IPENZ Membership classes and registration.

### THE VOICE

Providing an engineering perspective to inform public policy development and explain engineering to the public.

### PROFESSIONAL DEVELOPMENT

Providing a continuing professional development programme and support to employers.

### PRACTICE SUPPORT

Supporting practising engineers through the development of guidance information.

### PROMOTING THE PROFESSION

Working to attract young people to the engineering profession.

**More information about how we undertake these activities and services is provided in the following sections ››**

## 2014 AT A GLANCE

**1,183**
applications for competence assessment received

11,646
subscription-paying Members

**43,606**
students engaged by Futureintech Ambassadors

17
submissions made to the Government on public policy issues

**11.5%**
increase in Graduate Membership in the last year

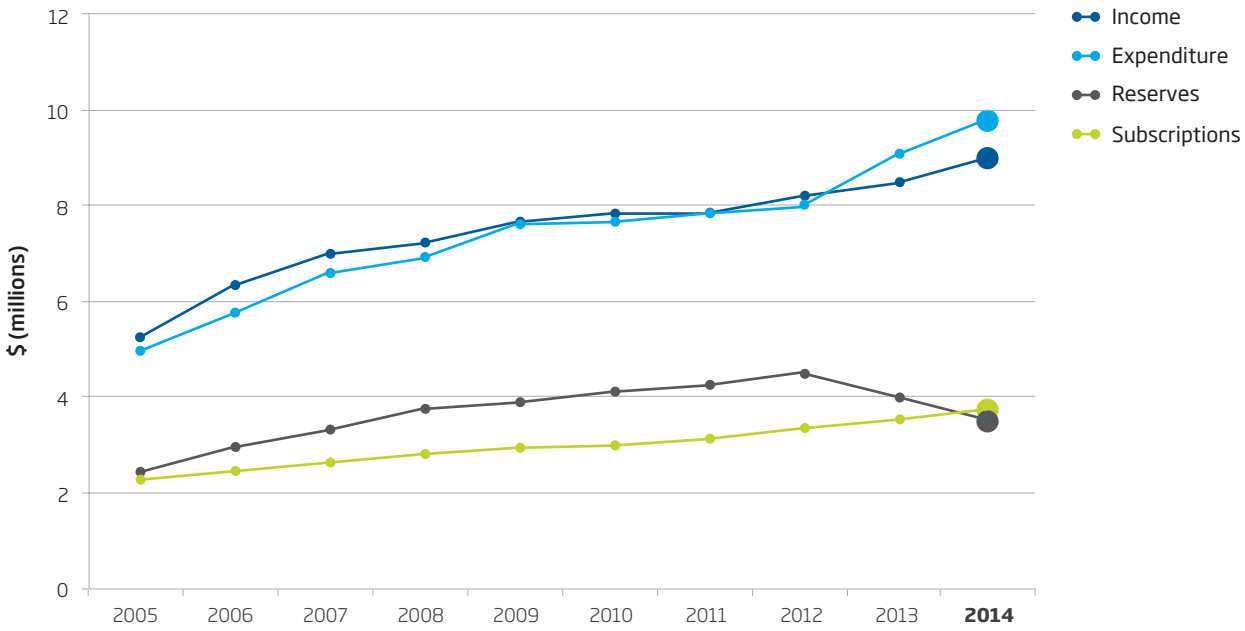
117
face-to-face professional development courses delivered

**108**
complaints received or in progress

2,700
attendees nationwide at Pickering Lecture

**25**
years as a Washington Accord signatory

## Financial Performance 2005-2014



# Our Membership

IPENZ Membership provides several advantages. Membership demonstrates each individual's commitment to professional values and support for the engineering profession.

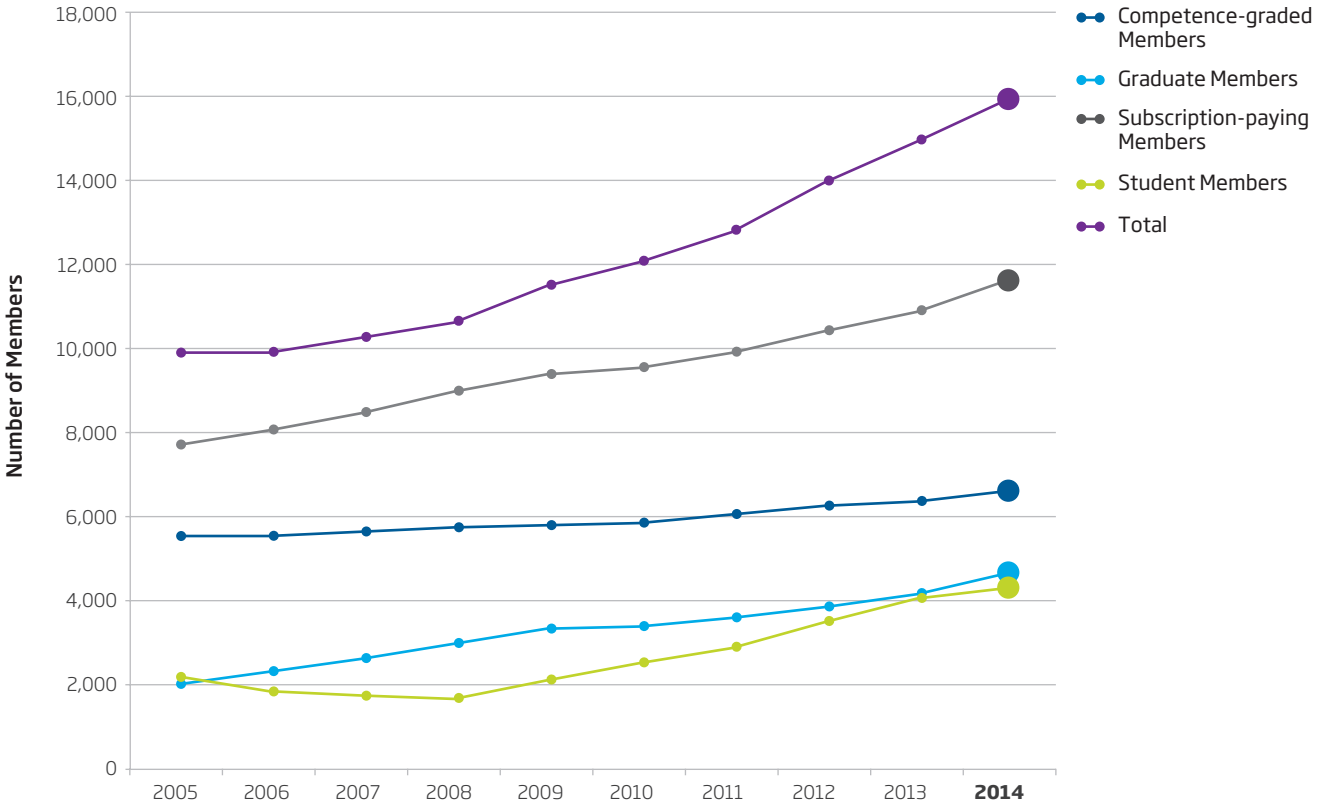


Members include engineering students, practising engineers and people with an association or involvement with the profession. IPENZ offers a variety of Membership classes that provide enhanced professional standing for engineers at different career stages. There are also Membership classes for non-engineers who engage with or contribute to the engineering profession in different ways.

The advantages of joining IPENZ include international recognition of qualifications, assistance with gaining and developing competence, and independent verification of competence to practise as engineering professionals. IPENZ Members also have access to a selection of carefully selected professional development opportunities, including courses, webinars, presentations and site visits, as well as access to engineering knowledge. In addition, Members are encouraged to contribute to the profession and society in general through personal involvement in setting professional standards, public policy, engineering practice, Branch and technical group programmes.

Further opportunities are provided for Members to connect and network with other engineering professionals, and to undertake personal development through positions on committees and boards.

## Membership Trends 2005 - 2014

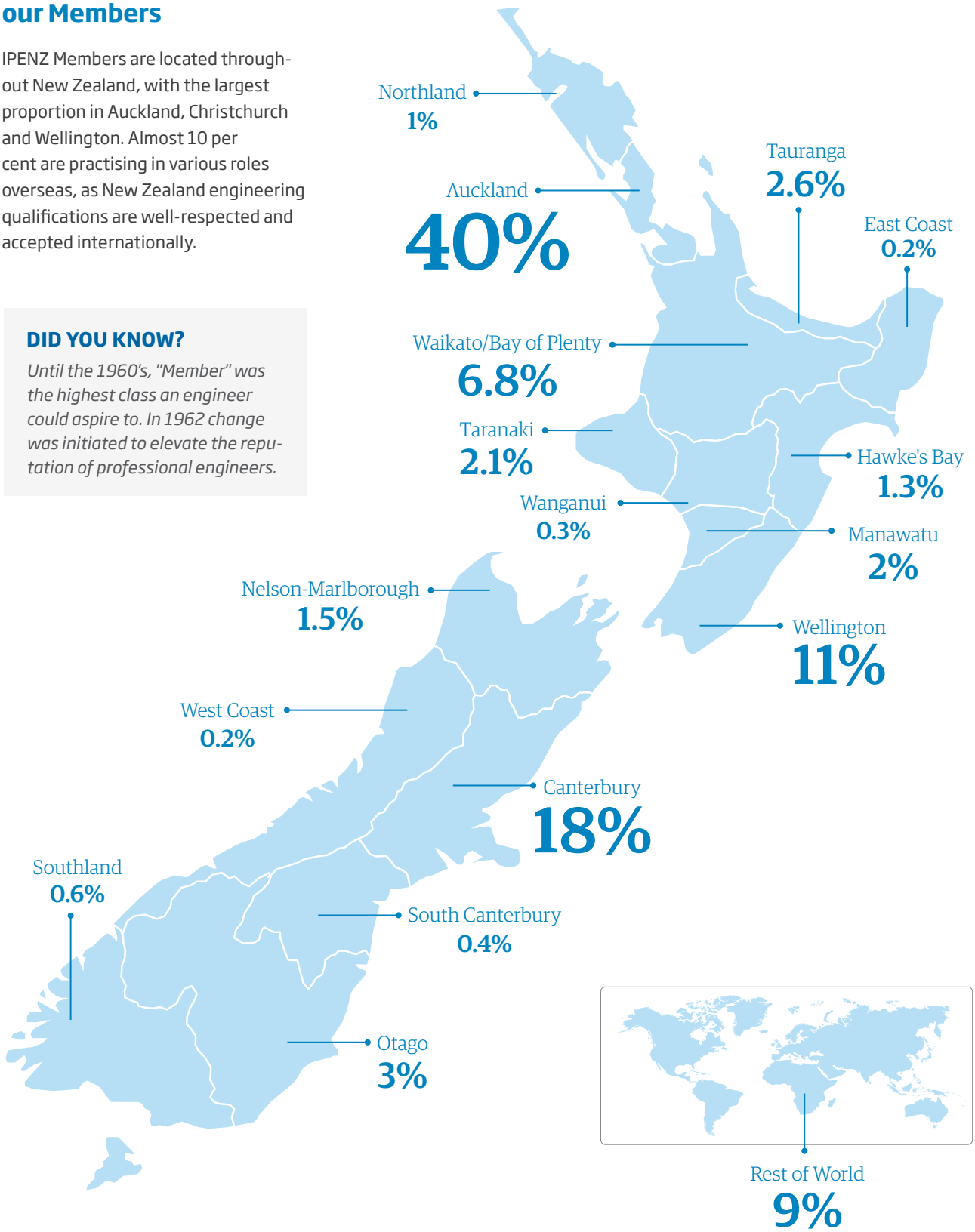


## Distribution of our Members

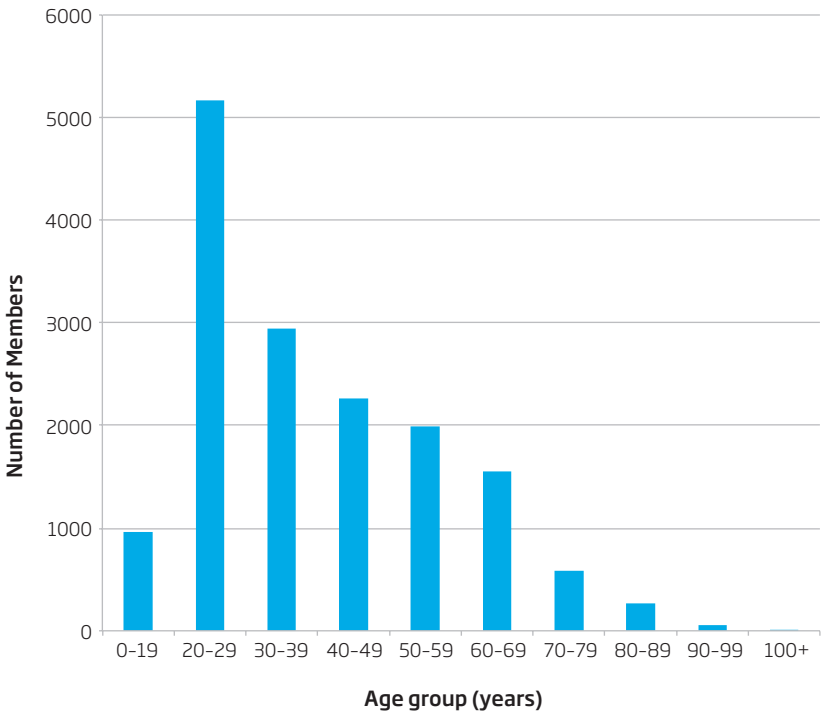
IPENZ Members are located throughout New Zealand, with the largest proportion in Auckland, Christchurch and Wellington. Almost 10 per cent are practising in various roles overseas, as New Zealand engineering qualifications are well-respected and accepted internationally.

**DID YOU KNOW?**

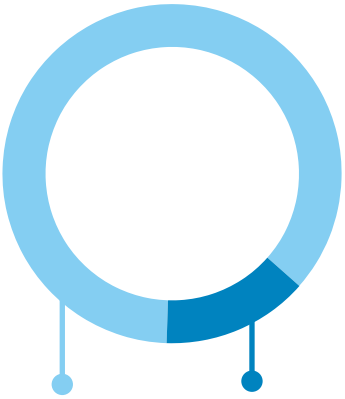
*Until the 1960's, "Member" was the highest class an engineer could aspire to. In 1962 change was initiated to elevate the reputation of professional engineers.*



## Age Distribution of Membership




## Gender Breakdown of Membership



**86%** male

**14%** female

### DID YOU KNOW?

*There were no female Members of the Institution during its first half century. Even Pat McCook, the first New Zealand woman known to qualify as a professional engineer in 1955, did not join the Institution, but was listed as a "friend" of the Electro-Technical Group.*

## Membership Trends 2005-2014

| MEMBERSHIP CLASS | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|
| Distinguished Fellows | 33 | 36 | 41 | 42 | 44 | 46 | 48 | 50 | 54 | **57** |
| Fellows | 667 | 675 | 670 | 674 | 683 | 702 | 708 | 730 | 735 | **758** |
| Professional Members | 4,473 | 4,503 | 4,595 | 4,659 | 4,696 | 4,729 | 4,856 | 5,023 | 5,109 | **5,303** |
| Technical Members | 117 | 122 | 130 | 141 | 158 | 171 | 186 | 190 | 194 | **202** |
| Associate Members | 233 | 230 | 228 | 222 | 221 | 217 | 237 | 255 | 287 | **308** |
| Competence-graded Members | 5,523 | 5,566 | 5,664 | 5,738 | 5,802 | 5,865 | 6,035 | 6,248 | 6,379 | **6,628** |
| Graduate Members | 2,015 | 2,301 | 2,613 | 2,995 | 3,328 | 3,418 | 3,592 | 3,874 | 4,173 | **4,654** |
| Companions | 21 | 24 | 25 | 29 | 33 | 38 | 38 | 41 | 41 | **44** |
| Affiliate Members | 131 | 148 | 171 | 181 | 185 | 201 | 232 | 250 | 251 | **300** |
| Honorary Fellows | 14 | 15 | 17 | 17 | 18 | 21 | 21 | 19 | 20 | **200** |
| Subscription-paying Members | 7,704 | 8,054 | 8,490 | 8,960 | 9,366 | 9,543 | 9,918 | 10,432 | 10,864 | **11,646** |
| Student Members | 2,204 | 1,860 | 1,756 | 1,674 | 2,117 | 2,519 | 2,877 | 3,507 | 4,072 | **4,304** |
| **Total** | **9,908** | **9,914** | **10,246** | **10,634** | **11,483** | **12,062** | **12,795** | **13,939** | **14,936** | **15,950** |

# President's Report

IPENZ's complaints process was a major focus of our work programme this year. We again received a large volume of complaints, and this involved considerable effort and legal advice into seeing these through the disciplinary process. Of particular note were the ongoing, high-profile cases relating to the CTV Building collapse during the February 2011 Canterbury earthquake. Several high-profile disciplinary investigations attracted media attention.

We provided a policy submission in response to impending occupational regulation of engineering, having canvassed the views of the wider profession. We support the thrust of the reform but want to address several key areas. We particularly want to widen the scope of the proposed regulation to ensure safer standards for all engineered systems and structures used by the public. Stronger regulation of the engineering profession is likely in some form, and our input into what shape this takes is expected to be a major work item in 2015.

New workplace health and safety reform, scheduled to come into effect in 2015, is also expected to have a significant impact on engineering practice.

Our response to the recommendations of the Canterbury Earthquakes Royal Commission continues. One of the Commission's key recommendations was to review the codes of ethics governing IPENZ Members and Chartered Professional Engineers. We're still finalising the review and hope to have a new code in 2015. Our aim is to develop a single code that's logical, easy to understand and addresses the Commission's reporting and whistleblowing requirements.

Members' voluntary efforts into helping with IPENZ programmes of work were again exemplary. Not surprisingly, our centenary year generated a great deal of work for our hundreds of volunteers. Thanks to their efforts, we held a number of successful events, both high-profile and locally focused, to mark our centenary. Members also distinguished themselves in other ways: providing input into Technical Interest Groups, Collaborating Technical Societies and a Special Interest Group; sitting on disciplinary committees; helping set accreditation standards and assess competence; serving on the IPENZ governing Board, heritage, student and graduate committees; judging engineering awards; acting as mentors to younger engineers; and undertaking a variety of roles with schools.

> *"Centenary events and activities reflected on our **100-year heritage**, and also focused on the future."*

Our centenary year was a great success. Events included high-profile presentations, panel discussions, dinners, awards, site visits and exhibitions. These events and activities reflected on our 100-year heritage, and also focused on the future. Many attracted media attention, helping us spread the word about engineering's influence in shaping society, and raising the profile of engineering as a career choice for young New Zealanders.

IPENZ National Office moved into new premises in Customhouse Quay in Wellington. This move provides staff with modern offices in a heritage building, along with better meeting room facilities.

It has been a privilege to serve as President in IPENZ's centenary year. I'd like to thank our Members, volunteers, staff and my fellow Board members for their input into the Institution.

I'd like to offer particular thanks to Andrew Cleland for his contribution to the Institution in his 14 years as Chief Executive. Andrew left IPENZ in September for the Royal Society of New Zealand.

**Kevin Thompson**
President

# Our Governing Board

The democratically elected IPENZ governing Board is responsible for the Institution's governance and strategic direction.



**Kevin Thompson**
President

**Andrew Read**
Deputy President

**Elena Trout**
Vice President

**Carol Boyle**

**Jan Evans-Freeman**

**Geoffrey Farquhar**

**Matt Harris**

**Ben Holland**

**Glen Mitchell**

**Derrick Adams**
Immediate Past President

# Chief Executive's Comment

We've been especially active in our centenary year, celebrating 100 years as New Zealand's professional engineering body with a number of exciting events and activities. These celebrations have allowed us to capitalise on the opportunity to profile the engineering profession to the wider public.

This year we were fortunate to host the International Engineering Alliance (IEA), which coincided with our centenary celebrations. In June, the IEA met in Wellington at which representatives from 26 nations attended. A number of positive outcomes were reached at the meetings, with further signatories being added to the Accords and decisions made on the Alliance's governance structure.

We were successful in having our term on the Dublin Accord (the agreement for the international recognition of Engineering Technician qualifications) extended from two to six years. To celebrate both IPENZ's centenary and the 25th anniversary of the Washington Accord, we held a formal dinner.

Our Membership came tantalisingly close to the 16,000-mark, continuing the impressive upward trend of the last several years. As at 30 September, we had 15,950 Members. This includes 4,304 Student Members and 11,646 Members in the higher Membership classes. In large part, the numbers are being driven by the success of our programme to attract engineering students into progressing from Student to Graduate Membership and into the competence-assessed classes.

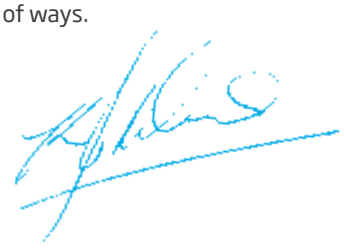
We continued to work on enhancing much of what we do at IPENZ, chiefly in response to last year's Membership survey. This work is aimed at ensuring IPENZ remains the professional body of choice for engineers into the future by effectively meeting the changing needs of a diverse Membership. To achieve this, we're reviewing many of our internal processes, our suite of services to Members and our Membership structure. We're also reinvesting in our IT systems to develop a much more modern, streamlined database to improve how we interact with Members.

> *"The celebrations have allowed us to capitalise on the opportunity to **profile the engineering profession** to the wider public."*

Our efforts to encourage school leavers into engineering study at tertiary level are ongoing. One programme of work to promote the route from senior secondary school to engineering study is the Techlink Pathways Project, a partnership between IPENZ, the Metro Group of Institutes of Technology and Polytechnics, and the New Zealand Board of Engineering Diplomas. The project's leader has been consulting with the education sector, and an essential next step is continuing working with industry representatives.

The Futureintech programme's support of the Government's goal to increase the numbers of school-children who take science, technology, engineering and maths subjects is important, encouraging a greater number of tertiary-qualified graduates from New Zealand universities. I am pleased to report that Callaghan Innovation has confirmed its contract to provide funding for the Futureintech programme to December 2015.

This has been an eventful year but an exciting and largely successful one. I thank all those who've made a contribution to IPENZ this year – we couldn't do without the hundreds of volunteers who help us deliver our services and activities in a variety of ways.



**Kieran Devine**
Interim Chief Executive

# Our Staff

IPENZ staff roles are divided into six primary functions, with each section headed by a Director who is part of the IPENZ leadership team.

## Leadership Team



**Andrew Cleland**
Chief Executive

**Kieran Devine**
Interim Chief Executive

**Nicki Crauford**
Deputy Chief Executive

**Wayne Boreham**
Director - Operations

**Will Chaney**
Director - Change

**Angela Christie**
Director - Schools

**Tim Davin**
Director - External Relations

**Graham Dilks**
Engineering
Practice Manager

**Tina Norris**
Director - Member Services

**Brett Williams**
Director - Learning
and Assessment

# The Teams
As at 30 September 2014

## CHIEF EXECUTIVE'S OFFICE

**Kieran Devine**
Interim Chief Executive

**Will Chaney**
Director – Change

**Karen Cooper**
Executive Assistant
to Chief Executive

**Jackie Treweek**
Boards' Secretary

## ENGINEERING

**Graham Dilks**
Engineering Practice Manager

**Rebecca Barrow**
Complaints Administrator/
Personal Assistant

**Angeli Hudson**
Graphic Designer

**Leanne Molloy**
Design Manager

**Juliet Palmer**
Managing Editor

**Cameron Smart**
Engineering Projects Manager

**Charles Willmot**
Manager – Investigation
and Discipline

**Matt Winthrop**
Editor – Member Communications

**Brian Worboys**
Technical Secretary

## OPERATIONS

**Wayne Boreham**
Director – Operations

**Michele Boniface**
Membership Manager

**Brittany Brack**
Membership Administrator/
Receptionist

**Beau Broadhead**
Web Programmer/Analyst

**Renee de Boer**
Technical Groups Officer

**Sharlene Grooby**
General Administrator

**Alexandra Jackson**
Accounts Receivable/Membership
Administrator

**Rohin Joyce**
IT Support Administrator

**Walter King**
Sales and Sponsorship Manager

**Fiona McLean**
Service Centre Manager

**Marian Phillips**
Financial Accountant

**Lynn Pole**
General Accounts Administrator

**Celeste Ryan**
General Administrator

**Debby Toala**
Meeting Room/Membership
Assistant

**Curtis Vertongen**
Database and Systems
Administrator

**Kim Willcox Lee**
HR Advisor

**Linden Williams**
Branch Facilitator

## EXTERNAL RELATIONS

**Tim Davin**
Director – External Relations

**Karen Astwood**
Heritage Advisor

**Tracey Ayre**
Policy Advisor and Project
Manager, Women in Engineering

**Joanne Caine**
Events Communications and
Marketing Co-ordinator

**Tonya Jones**
Conference and Events Manager

**Kavita Kansara**
Marketing Manager

**Turei Mackey**
Communications Manager

**Dionne Needham**
Awards and Projects Co-ordinator

**Cheryll Wagener**
Events Co-ordinator

## LEARNING AND ASSESSMENT

**Brett Williams**
Director – Learning and
Assessment

**Shannon Davidson**
Continuing Professional
Development Advisor

**Margaret Dawson**
Professional Development
Manager

**Andrew Drummond**
Administrative Assistant

**Ezra Fermanis**
Learning and Assessment
Team Administrator

**Mike Fermanis**
NZBED Executive Officer
IEA Secretariat

**Chris Johns**
Competence Assessment
Administrator

**Bub Konia**
Senior Competence
Assessment Administrator

**Rachel McKeag**
IEA Administrator
NZBED Secretariat

**Catherine Novak**
Learning and Development Advisor

**Almaz Rabb**
Administration Assistant

**Charlie Strivens**
Competence Assessment
Quality Co-ordinator

**Jeff Wastney**
Registrar

## SCHOOLS

**Angela Christie**
Director – Schools

**Rod Hare**
Futureintech Facilitator

**Kristal Kitto**
Administrator/Hub Co-ordinator

**Alison Lawrie**
Futureintech Facilitator

**Glynn McGregor**
Futureintech Manager

**Lynne Newell**
Futureintech Facilitator

**Madeleine Rashbrooke**
Futureintech Writer/Researcher

**Megan Rodden**
Futureintech Writer/Researcher

**Catherine Smith**
Futureintech Facilitator

**Laura Stockton**
Futureintech Facilitator

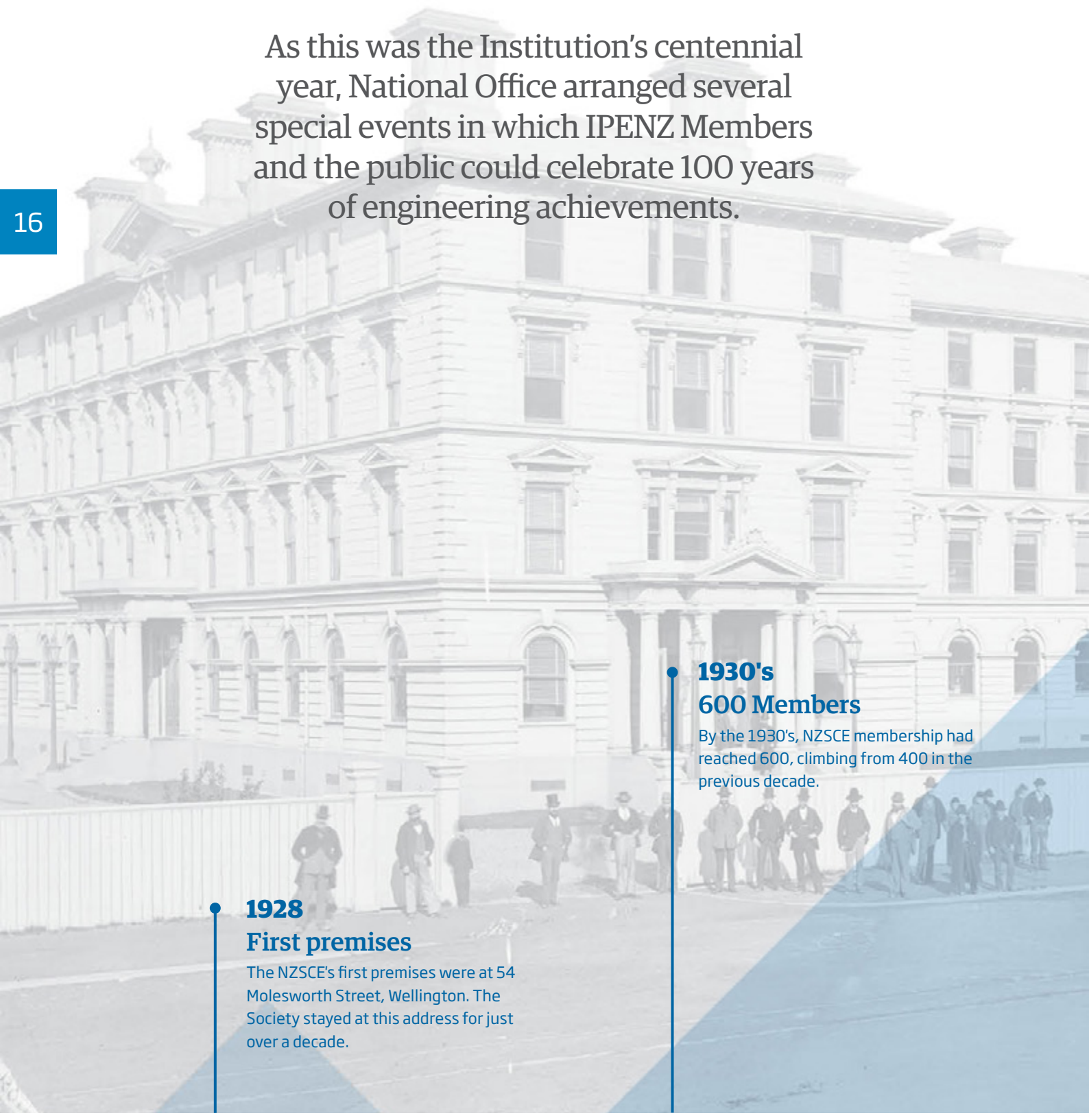
**Gay Watson**
Futureintech Facilitator

**Susan Weekes**
Futureintech Facilitator

# Our Centenary Year

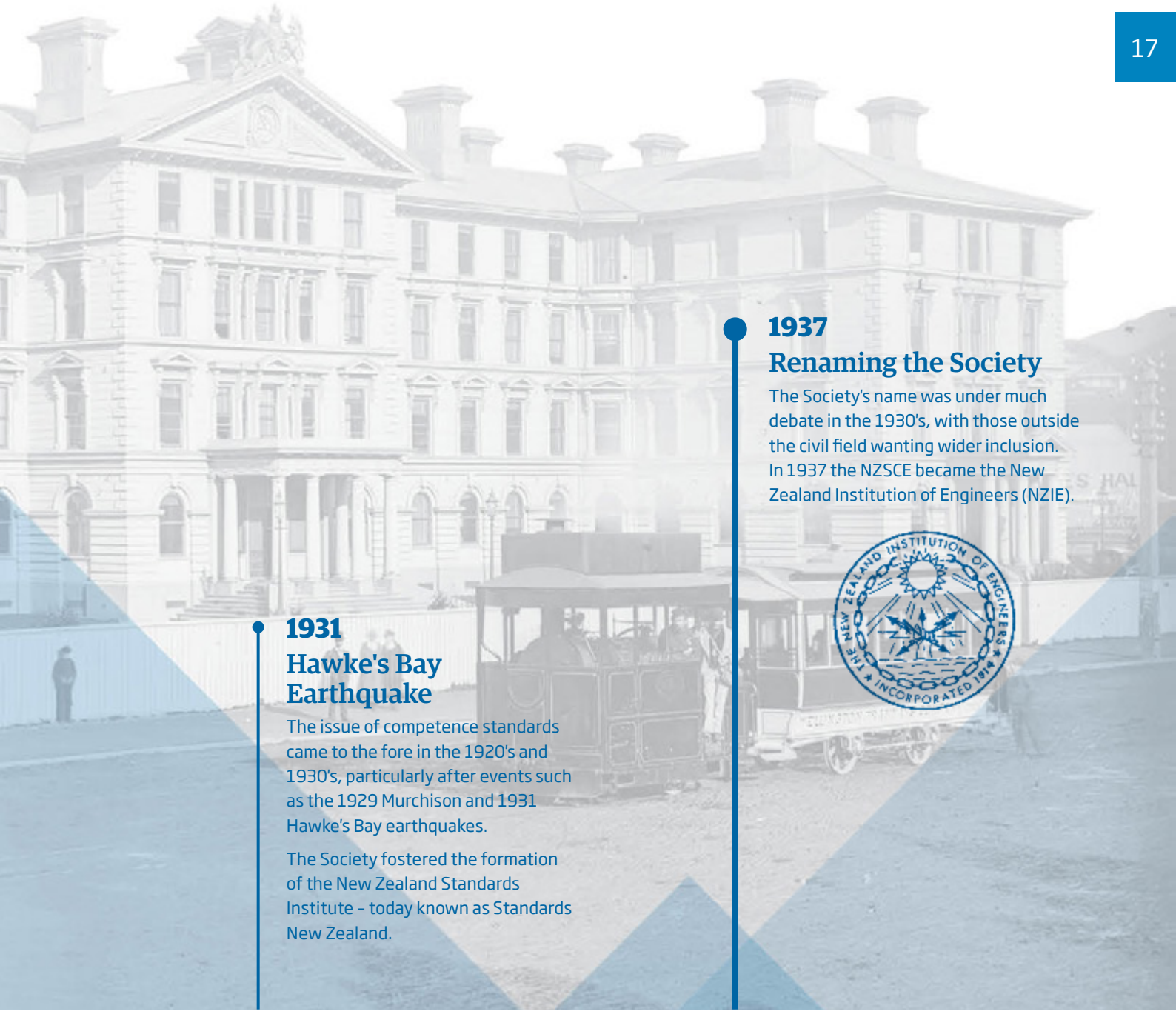
As this was the Institution's centennial year, National Office arranged several special events in which IPENZ Members and the public could celebrate 100 years of engineering achievements.





**1928**
**First premises**
The NZSCE's first premises were at 54 Molesworth Street, Wellington. The Society stayed at this address for just over a decade.

**1930's**
**600 Members**
By the 1930's, NZSCE membership had reached 600, climbing from 400 in the previous decade.



## 1931
## Hawke's Bay Earthquake

The issue of competence standards came to the fore in the 1920's and 1930's, particularly after events such as the 1929 Murchison and 1931 Hawke's Bay earthquakes.

The Society fostered the formation of the New Zealand Standards Institute – today known as Standards New Zealand.

## 1937
## Renaming the Society

The Society's name was under much debate in the 1930's, with those outside the civil field wanting wider inclusion. In 1937 the NZSCE became the New Zealand Institution of Engineers (NZIE).

# Events and Celebrations

The engineering community and the general public joined in the centennial celebrations in several venues around the country, with full houses being reported in some locations.



## Fellows' and Achievers' Dinner

### Past, Present and Future

**21 MARCH, CHRISTCHURCH**


*Besides recognising a remarkable group of engineers, the Fellows' and Achievers' Dinner officially launched the IPENZ centenary.*

> *"The collective contribution of the recipients is outstanding, and **a great first century is ending**. Can the second century be even better?"*
>
> *– Derrick Adams FIPENZ*
> *Immediate Past President*

The Centenary celebrations officially opened with the Fellows' and Achievers' Dinner in Christchurch on 21 March, marking 100 years since the first meeting of the New Zealand Society of Civil Engineers. Held in Christchurch at the Air Force Museum of New Zealand, the evening saw three Members become Distinguished Fellows and 36 Members, including two women, become Fellows of IPENZ. One of our oldest Members, George Fraser Bridges FIPENZ (born on 13 March 1914 – so almost exactly the same age as IPENZ) cut the centennial cake at the Dinner.

## An Evolving Order

### The Institution of Professional Engineers New Zealand 1914-2014

**RELEASED 21 MARCH**

*An Evolving Order: The Institution of Professional Engineers New Zealand 1914–2014* was launched at the Fellows' and Achievers' Dinner. Written by Wellington-based historian Peter Cooke, who specialises in industrial heritage and military history, the book (available in both digital and hardcopy) charts the Institution's development and the engineering profession that grew with it – from the creation of the New Zealand Society of Civil Engineers to present day IPENZ.

## Transpower Neighbourhood Engineers Awards

### 50+50: Celebrating 100 Years of New Zealand Engineering

**OCTOBER 2013 - OCTOBER 2014, NATIONWIDE**

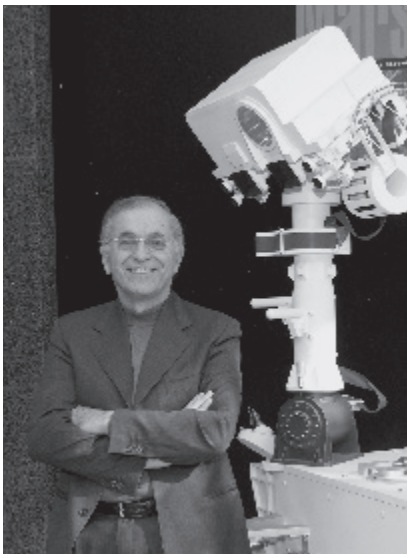
Fifty-two teams submitted projects for judging in the 2014 Awards. Thanks to the engineers who mentored the students – their contribution was invaluable. To mark the centenary, a new component was introduced to the Awards' brief, where entrants had to research and describe their project in an historical context. Students developing a storage system for a class set of iPads, for instance, focused on the development of research techniques in the school setting, leading up to present day use of the iPad.

*Students at Fairhall School and Ben Snalam GIPENZ of Marlborough Lines look at site plans as part of their solar power lighting installation project.*

## Pickering Lecture

### Exploring the Unknown: To Mars and Beyond

**24-27 MARCH, WELLINGTON, CHRISTCHURCH, HAMILTON, AUCKLAND**



Charles Elachi, Director of NASA's Jet Propulsion Laboratory, presented to capacity audiences in Auckland, Hamilton, Wellington and Christchurch, explaining the quest to unlock the mysteries of a world that for many, seems more sci-fi than reality. "As the *Curiosity* scours the Red Planet's surface for signs of life, we're also learning more about ourselves," he said. Elachi believes humans could be on Mars by 2030.

*Charles Elachi with a Mars Science Laboratory rover model. Photo: Thomas Wynne, NASA/ JPL-Caltech.*

> *"I'm very **honoured to have been invited to be the speaker** at this anniversary... here in Wellington, the home of Sir William Pickering."*
>
> *– Charles Elachi*
> *Director, Jet Propulsion Laboratory*

## Centenary Lecture

### Battle of the Boats: How technology won the America's Cup

**6-22 MAY, WHANGAREI, TAURANGA, DUNEDIN, NEW PLYMOUTH, NAPIER, AUCKLAND**

Two New Zealand design engineers, Andy Kensington from Emirates Team New Zealand and Neil Wilkinson from Oracle Team USA, detailed what took place off the water and out of sight during the toughly-fought 2013 America's Cup campaign. Describing strategy and design, they explained how technology was pushed to the limits to develop two revolutionary boats. The lectures, which were hosted by IPENZ, were presented to enthusiastic audiences around the country.




## International Engineering Alliance Dinner

### Celebrating the 25th Anniversary of the Washington Accord

**11 JUNE, WELLINGTON**


*Left: Dinner guests participate in a* haka. *Above: Professor Ray Meyer DistFIPENZ cuts the 25th anniversary cake.*

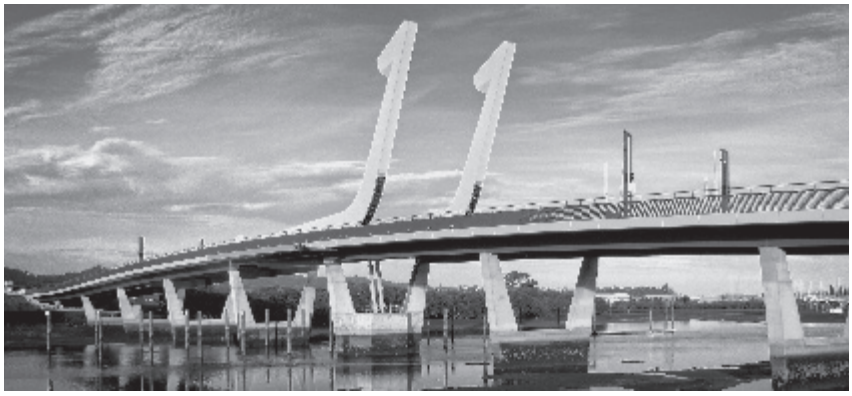
Over 130 International Engineering Alliance (IEA) representatives were in Wellington for four days in June. They took time out from meetings to attend a formal dinner, which celebrated both IPENZ's centenary and the 25th anniversary of the Washington Accord (one of the IEA's six multi-lateral agreements setting globally benchmarked standards of engineering education). In his address, the Hon. Nick Smith FIPENZ said the profession's knowledge, skills and values are vital to the progress of all nations, noting "We best honour that proud heritage by looking to how engineers can contribute to our respective societies into the future."

> *"As we grapple with the **challenges of the century ahead**, it's entirely appropriate that we engage with our engineering alliance partners."*
>
> *– the Hon. Nick Smith*
> *Minister of Building and Construction*

## Members' Photo Competition

### Engineering: Looking Back, Looking Forward

**AUGUST, NATIONWIDE**



This year's Members' Photo Competition had the theme, "Engineering – Looking Back, Looking Forward". Members were asked for images that demonstrate and engender pride in engineering's impact as a major influence in New Zealand's development, or surprise and intrigue with the future possibilities in engineering. Winners in each category received travel vouchers and cash prizes. A People's Choice Award was open to public voting through the IPENZ's Facebook page to promote the Institution's social media presence.

*Above left: "Intriguing Past" by Pavan Kaushik GIPENZ of Auckland. Above right: "Bascule Bridge" by Curt Martin MIPENZ of Whangarei. Both photos were highly commended in the Looking Back category.*



## Technology Challenging Society

### Digital Dangers – exposing cyber crime in New Zealand

**18 JUNE, WELLINGTON**

The dangers lurking in cyber space are more insidious than ever, placing new threats on an unsuspecting public in unfathomable ways. That's the picture painted by four Internet security experts who took part in a panel discussion in June looking at technology's impact on society.

### Better, Stronger, Faster – engineering the perfect athlete

**24 SEPTEMBER, AUCKLAND**

In November, four sports experts discussed technology's increasing use in sport to assist athletes in their quest for success and bring fans closer to the game.

"It's about fine-tuning and giving feedback on what we've already done" explained John Cronin, co-director of the Sports Performance Research Institute New Zealand.

> *"As a profession, **we've turned around**, made a paradigm shift."*
>
> *– Alan Bickers DistFIPENZ on sustainable management*

## Commemorative Church Service

**18 SEPTEMBER, WELLINGTON**

IPENZ's century-long contribution to New Zealand's growth and development was commemorated at the Wellington Cathedral of St Paul in September. Former IPENZ President, Alan Bickers DistFIPENZ, delivered a sermon giving thanks for 100 years of learning, service and achievement, and for the contribution made by thousands of Members.

# Making our Vision a Reality

Times may have changed considerably from a century ago, but a strong Strategic Plan ensures our activities remain consistent with our founding principles. The following section outlines our progress against our five strategic objectives, as we strive to achieve a vision that has been shaped by the last 100 years.



**1943**

## The Institution splits

Young engineers felt dissatisfied with their representation and broke away to form the Professional Engineers Association of New Zealand (PEANZ).

**1955**

Gender diversity within the Institution was extremely limited. It wasn't until 1955 that Pat McCook was recognised as being the first woman to qualify as a professional engineer in New Zealand.

## 1959
### Together again

PEANZ rejoined the Institution; the two merged under the New Zealand Institute of Engineering (NZIE) umbrella.

## 1960's

The model of a learned society was strengthened during the 1960's with increased regional Branch activity and organised technical groups.

OBJECTIVE 1

# Professional Standards

Set and enforce internationally benchmarked educational, competence and ethical standards.



## Activities

- Accredit or recognise engineering qualifications to Washington, Sydney and Dublin Accord standards
- Undertake competence assessments benchmarked to the professional competence exemplars of the International Engineering Alliance
- Ensure all relevant regulators use the IPENZ-managed national engineering registers
- Educate engineers on their professional responsibilities and deal with poor performance through a disciplinary process
- Support the development and enforcement of professional standards across the South Pacific.

## Indicators of Success

- Continued signatory status of the Washington and Sydney Accords and after acceptance, as a signatory of the Dublin Accord
- Continued authorised membership of the Engineers Mobility Forum, APEC Engineer and Engineering Technology Mobility Forum Agreements
- Positive affirmation of IPENZ's statutory role by the Chartered Professional Engineers Council
- Consistent uptake and use of competence registers by regulators.

> *"**1,183 applications** for competence assessment were received **from engineers or engineering geologists** seeking admission to a current competence register and/or competence based IPENZ Membership class."*

## Outcomes

IPENZ hosted the International Engineering Alliance (IEA) meetings in Wellington in June. A highlight was a dinner to celebrate the 25th anniversary of the Washington Accord, which was held as a joint celebration with IPENZ's centenary.

Mentoring engineering education providers in the South Pacific region continued in association with Engineers Australia. South Pacific Engineers Association (SPEA) representatives from Papua New Guinea and Fiji attended the IEA meetings in Wellington in June. IPENZ continued to support the operation of SPEA.

IPENZ's status as a signatory to the Dublin Accord was normalised onto a standard six-year review cycle.

Reviews of the IPENZ accreditation manual and accreditation criteria were completed and revised versions of both documents were published in March; a key change was the formal adoption of the exemplar graduate profiles developed by the education agreements within the IEA (Washington, Sydney and Dublin Accords) rather than seeking to maintain substantially equivalent IPENZ versions.

Operational relationships with Engineers Australia were strengthened through a two-day visit by senior staff in March; 1,183 applications for competence assessment were received from engineers or engineering geologists seeking admission to a current competence register and/or competence based IPENZ Membership class.

The University of Canterbury was successful in having accreditation for its Bachelor of Engineering (Honours) programmes accredited for a further five-year period.

IPENZ received or had in progress 108 complaints, either against Chartered Professional Engineers, where it is the Registration Authority, or against IPENZ Members, for whom IPENZ is the incorporated society. Over the past year, 54 complaints have been closed (either dismissed or resolved). At the end of the year, there were 54 active complaints at varying stages in the disciplinary process.

## STANDARDS AND ACCREDITATION BOARD

The Standards and Accreditation Board is responsible for setting and maintaining minimum standards for entry to the profession. These are applied through the accreditation of qualifications. The Standards and Accreditation Board is also responsible for developing professional competence standards. These are applied through assessing individuals for competence based Membership and registration, and are central to a self-regulating profession's operation.

### Standards and Accreditation Board Members

**Simon Lovatt - Chair**

Carol Boyle
Kieran Devine
Tiina Hall-Turner
Debbie Hogan
Gordon Mallinson
Roger Nokes
Dirk Pons
Basil Wakelin

## DISCIPLINARY AND INVESTIGATION COMMITTEE CHAIRS

### Investigating Committee Chairs

Cliff Boyt
David Bunting
Colin Hickling
Jeff Jones
Andrew McMenamin
Joanna Saywell

### Disciplinary Committee Chairs

Alan Bickers
Jennifer Culliford
Brian Hasell
Peter McCombs

### Disciplinary Committee Laypersons

Paul Blackler
Murray Lints JP QSM
Penny Mudford
Justice Rodney Hansen CNZM QC
Bill Whitley (Consumer NZ)
Hamish Wilson (Consumer NZ)

### The following Members served on Investigating or Disciplinary Committees

Adam Thornton
Alan Collier
Alan Moule
Alexei Murashev
Alistair Cattanach
Andrew Brickell
Bob McGuigan
Carol Caldwell
Barry Brown
Barry Davidson
Bill Cassidy
Bob Nelligan
Carron Blom
Craig Cooper
Craig McIlroy
Dale Turkington
David Jennings
Deane McNulty
Desmond Bull
Kelvin Walls
Fraser Campbell
Fraser Henderson
Gary Clode
Graham Chapman
Grant Murray
Graham Voysey
Helen Ferner
Ian Brewer
Ian McCahon
John Hare
Lou Robinson
Mark Apeldoorn
Martin Leak
Michael Newby
Mike Cathie
Noel Hanham
Peter Boardman
Peter Geddes
Peter Smith
Pierre Quenneville
Rod Hutchison
Rodney Melville-Smith
Russell Poole
Peter Geddes
Peter Mathers
Peter Steel
Richard Brand
Rob Jury
Simon Aimer
Stephen Sawrey
Stewart Hobbs
Tim Sinclair

*Left: International delegates on day one of the International Engineering Alliance meetings in Wellington. Right: Jan Evans-Freeman FIPENZ (left) accepts a certificate on behalf of the University of Canterbury from immediate Past President Derrick Adams FIPENZ.*

OBJECTIVE 2

# Engineering Leadership

Lead the development and promote the application of good engineering practices.



## Activities

- Identify and manage emerging engineering practice issues
- Provide a portfolio of practice documentation
- Enhance Member access to the up-to-date codes of practice and standards
- Promote learned society activities for Members to gain new engineering knowledge
- Advocate for New Zealand to have a regulatory environment supporting effective, efficient, ethical and innovative engineering practice
- Facilitate and co-ordinate the views of the engineering profession on practice issues.

## Indicators of Success

- IPENZ is recognised as a leader in resolving engineering practice issues
- IPENZ is recognised within the engineering community as the co-ordinator of technical leadership
- IPENZ services are used to access new or codified engineering knowledge
- Increased coverage of different engineering disciplines.

## Outcomes

IPENZ is continuing to implement the recommendations of the Canterbury Earthquakes Royal Commission. This includes:

- IPENZ's participation with a number of the Ministry of Business, Innovation and Employment stakeholder groups, in particular the Engineering Design Reference Group and the National Building Consenting System sector reference group
- Progressing the review of the IPENZ and Chartered Professional Engineers codes of ethics; the review specifically considers the obligation on engineers to report engineering matters which present safety concerns
- The working group formed by IPENZ, with representatives from the New Zealand Institute of Architects, MBIE, the New Zealand Registered Architects Board, the New Zealand Society for Earthquake Engineering and the New Zealand Structural Engineering Society, considering initiatives to improve collaboration between engineers and architects; the practice guidance document "Improving Collaboration Between Architects and Engineers" has been developed
- Consulting on options to publish information on the Chartered Professional Engineers register, and making practice field information available to the public.

> *"IPENZ is continuing to **implement the recommendations** of the Canterbury Earthquakes Royal Commission."*

IPENZ is represented on the Work-Safe New Zealand General Risk and Workplace Management Guidance Group to develop the regulation and guidance material to support the new Health and Safety at Work Act. This work stream is expected to expand into wider support for the review of relevant approved codes of practice and related standards.

Other important outcomes included forming a new Technical Interest Group, the New Zealand Society for Safety Engineering; informing engineers of important national and international developments and issues within the field of safety engineering through the development of practice guidance will be an important function of this group.

A number of new Practice Notes are being developed, and existing ones reviewed and updated. The 2014 Engineering Professions Forum raised the profile of professionalism in engineering and provided a platform for debate around its relevance and application.

## ENGINEERING PRACTICE ADVISORY COMMITTEE

The Engineering Practice Advisory Committee's purpose is to advise the IPENZ governing Board on matters arising in or affecting engineering practice that could have a major impact on the engineering profession, its reputation with stakeholders or IPENZ.

### Committee Members

**Andrew Read - Chair**
Steve Abley
Geoffrey Farquhar
Matt Harris
Ron McDowall
Hamish McKenzie
Glen Mitchell
Arthur Park



## DID YOU KNOW?

*In November 1891, Robert West Holmes (President 1914–1917) was given responsibility for the partially constructed North Island main trunk railway. Although partly built, the most difficult section, from north of Hunterville to south of Te Kuiti, had to be constructed. This section required three major viaducts, across the Makohine and Mangateweka streams and the Makatote River.*

*Mr Holmes also identified and surveyed alternative routes for the line through Tongariro National Park and northward. The line could have no gradient greater than one in 50 while making the steep descent from the Waimarino plateau. In response to this challenge, Holmes designed the Raurimu spiral, which uses a series of tight left- and right-hand curves and one complete loop incorporating two tunnels.*

*Below: The foot of the Raurimu Spiral with the township in the background, 1909. Photo: Muir & Moodie, Te Papa collection.*

OBJECTIVE 3

# Informed Engagement

Provide a respected voice to inform and influence leaders and decision-makers on national and community issues.



## Activities

- Provide an engineering perspective that helps reframe the public debate on important national and community issues
- Submit to Parliament and government agencies on behalf of the engineering profession to influence policy decisions
- Engage leading engineering organisations to provide a collective voice for the profession on critical public policy issues.

## Indicators of Success

- Changes of public policy over a period of time increase alignment of government policy with IPENZ think pieces
- Submissions on specific issues lead to pertinent changes in policy, legislation or regulation
- Business and government leaders and senior government officials value think pieces and policy submissions from the profession.

## Outcomes

IPENZ made 17 submissions on public policy issues, and in two cases made presentations to the relevant Select Committee; the Institution also contributed two chapters to a Ministry of Business, Innovation and Employment report on engineering skill shortages.

Informal feedback from senior government officials indicated that IPENZ's views are well-respected. Although it is not generally feasible to identify whether IPENZ has solely and directly influenced change, the Institution believes it was able to influence changes to draft legislation on earthquake-prone buildings and to amendments to the Local Government Act 2002 relating to resilience.

*Top: IPENZ Chief Executive Andrew Cleland FIPENZ with Jo Cribb from the Ministry of Women's Affairs. Middle: David Prentice FIPENZ, Chief Executive of Opus, engages with IPENZ Student Members. Bottom: the Hon. Nick Smith FIPENZ at the 2013 New Zealand Engineering Excellence Awards.*

> *"The Institution believes it was able to **influence changes to draft legislation** on earthquake-prone buildings and to amendments to the Local Government Act 2002 relating to resilience."*

OBJECTIVE 4

# Enhanced Understanding

Enhance public understanding of the critical role engineering plays in modern society.

## Activities

- Record and present stories of historic engineering achievement to the public of New Zealand
- Recognise and explain contemporary engineering achievement to stake-holders in business, government and the community
- Inform the public of advances in engineering innovation likely to impact on the way of life for New Zealanders
- Provide the public of New Zealand with an informed engineering perspective on issues impacting their communities.

## Indicators of Success

- Public, business and government perceptions of the role of engineers in developing society are improved
- 2014 centenary and the ongoing engineering heritage programme bringing the role of engineering into the public view.

## Outcomes

The role of engineers in society was highlighted through the Pickering Lecture. Presented by NASA's Director of the Jet Propulsion Laboratory and sponsored by Meridian Energy, the lecture attracted 2,700 attendees throughout the country. Engineers' role in society was further showcased via the Beca-sponsored Centenary Lecture, "Battle of the Boats": the lecture, featuring the designers of the America's Cup yachts, was held in six venues and attracted 2,000 attendees in total.

*"Battle of the Boats" had great success on YouTube, with nearly **9,500 views of the full lecture**.*

Eight media releases received coverage after the New Zealand Engineering Excellence Awards.

Two public discussion panels were held and broadcast by Radio New Zealand on the impact of technology in the cyber-crime and sporting sectors.

Engineering heritage outcomes included the publication of *An Evolving Order* by Peter Cooke, which chronicles IPENZ's history over the past century. In addition, four items were added to the Engineering Heritage Register, two plaques were unveiled, and IPENZ participated in a television documentary about New Zealand's rail network development.

There have been 194 entry upgrades on the Engineering Heritage Record (available on the Heritage website), including five new items and one new biography. Two items were added to the New Zealand Engineering Heritage Register. A plaque was unveiled recognising the heritage significance of the Clifden Suspension Bridge, Southland, and one oral history project has been completed.

Media interest in the Institution and the profession has increased greatly due to centenary events, three high-profile disciplinary hearings and changes to registration and disciplinary powers proposed by the Minister. July was the month with the highest media coverage, with 109 original media articles recorded by Meltwater media monitoring, most of which focused on disciplinary hearings. The next highest was September, with 92 original media articles recorded.

IPENZ's Facebook page doubled its followers from 250 in March to 570 in September. This was due mainly to a successful IPENZ Members' Photo Competition which received 13,272 individual views. Twitter also increased from 295 followers in December 2013 to 464 followers in September 2014 due to consistent engagement and updates about IPENZ and engineering-related news. "Battle of the Boats" had great success on YouTube, with nearly 9,500 views of the full lecture.

OBJECTIVE 5

# Enduring Capability

Foster the development of a capable and diverse engineering community sufficient to meet future needs.



## Activities

- Increase and support the participation of young people in secondary and tertiary study pathways towards careers in engineering and technology
- Provide Members with access to a range of support services and continuing professional development opportunities
- Facilitate collegiality and networking through Branch and other events
- Support and recognise engineering employers providing good quality professional development and support environments
- Provide programmes tailored to the needs of groups of Members such as young engineers, student engineers, women, Māori and Pasifika.

## Indictors of Success

- Tertiary involvement in engineering, information and communications technology (ICT) and science shows positive trends
- Participation in a range of support services and continuing professional development opportunities increases year by year
- The majority of major engineering employers participate in the Professional Development Partner (PDP) scheme
- The programmes tailored to groups such as young engineers, student engineers, women, Māori and Pasifika meet their objectives
- The programmes enhance the engagement of "new economy" innovative businesses.

FUTUREINTECH

**5,228**
hours donated by Ambassadors

**2,614**
visits to schools

**43,606**
students engaged

CONTINUING PROFESSIONAL DEVELOPMENT

**117**
face-to-face courses delivered

**1,744**
attendees

**15**
course locations

## Outcomes

The Futureintech project met all its contractual obligations. Ambassadors made 2,614 visits to primary, intermediate and secondary schools; this gives a conservative estimate of 5,228 donated hours with an approximate value of $784,200. Ambassadors presented to over 43,606 students at least once. Callaghan Innovation has extended funding for the Futureintech project until (at least) December 2015.

Forty-two projects, involving students from Years 1 to 13, were submitted for the Transpower Neighbourhood Engineers Awards; of these, 19 schools received awards valued at $16,000.

Tertiary enrolments in engineering, ICT and science continued to show positive trends.

One-hundred-and-seventeen face-to-face continuing professional development courses were delivered to 1,744 attendees; four online courses were also delivered to 56 registrants.

The Continuing Professional Development team managed registrations for seminars on behalf of several of IPENZ's Collaborating Technical Societies.

Over 3,373 Members responded to the annual IPENZ Remuneration Survey. Both detailed and summary reports and results were circulated to Members.

> ***Student Membership now equates to 27%*** *of IPENZ Membership;* ***Graduate Membership increased by 11.5%*** *over the year.*



## WOMEN IN ENGINEERING

*Women in Engineering: An Update on Progress in 2013* was published to set out the programme's achievements since its launch in 2011, and its future plans.

A survey of engineering employers was undertaken to understand the status of women in engineering and the policies and practices in place; 19 organisations voluntarily participated and the findings were published in *Women in Engineering: Snapshot 2014*.

IPENZ continued to use its networks and influence to encourage engineering employers to take action to support diversity in their organisations. The Institution attempted to establish groups of engineering contracting companies and consulting companies to take action to improve the culture in the profession. This ceased, however, due to a lack of interest from companies. The programme changed its focus to concentrate on encouraging organisations to participate in the DiverseNZ Inc. programme.

IPENZ, with the National Association of Women in Construction and the Institution of Civil Engineers (New Zealand branch), continued to deliver Connect networking events to support female engineers; cross-profession events were also held to enable engineers to engage with female accountants and lawyers.

The IPENZ Women in Engineering programme's progress was promoted through presentations to the Asia Pacific Nation Network, the World Federation of Engineering Organisations' Women in Engineering Committee, input into an article on Westpac's REDNews website and through IPENZ publications to the New Zealand Petroleum Summit.

## STUDENT ENGINEERS NEW ZEALAND

Student Membership now equates to 27 per cent of IPENZ Membership. Each student engineer who joins IPENZ as a Student Member automatically becomes a member of Student Engineers New Zealand (SENZ). The SENZ Council met in December and March to discuss procedures, policies and share best practice for running events .

Throughout the year, the SENZ Council has used its funding to hold events which enable student engineers at universities and tertiary institutions to engage with industry. Events have included engineering challenges, speed interviewing nights, panel discussions, quiz nights and barbecues.

## ENGENERATE

Graduate Membership increased by 11.5 per cent over the year to 4,654: all Graduate Members with fewer than eight years' work experience automatically become members of Engenerate.

Throughout the year, the Emerging Professionals Council ran events on behalf of graduate engineers using Engenerate funding. The funds were used to encourage graduates to work towards gaining their professional recognition and to help graduates make the transition from student engineer to working engineer.

Professional recognition events included site visits, speaker presentations, homework nights (so prospective candidates could work on their submissions for competence assessment) and panel discussions so graduates could hear "words of wisdom" from senior engineers. Nearly all regions have run an event focused on the IPENZ Code of Ethics.

Social events included quiz nights, networking evenings and a mid-winter dinner.

The Emerging Professionals Council met in in October and March to discuss processes, polices and best practice and to meet National Office staff.

## PROFESSIONAL DEVELOPMENT PARTNERS

Strong partnerships with engineering employers, through the Professional Development Partner (PDP) scheme, are a key mechanism for providing support to Members' professional development. Four new employers were recognised as PDPs during the year and 11 existing PDPs were successful in having their status confirmed for a further period following reviews against IPENZ's PDP recognition criteria. IPENZ now recognises 45 PDPs.

### New Professional Development Partners

- ITL Engineering
- Envivo
- Babbage Consulting
- Norman, Disney & Young

SUPPORTING ACTIVITIES

# Behind the Scenes

IPENZ National Office undertakes a number of activities which support the five strategic objectives.



These activities involve providing support to Branches, Special and Technical Interest Groups and Collaborating Technical Societies, publications and web services. The Institution also undertakes Membership recruitment and offers event management and secretariat services.

## Outcomes

Active facilitation to help all Branches run worthwhile programmes, including liaising with other engineering bodies to promote joint activities.

Six issues of *Engineering Insight*, 11 issues of *Engineering Dimension* and 46 issues of *Engineering Direct* were published, as well as four issues each of *Electryon* and *Alchemy* for people interested in electrical and chemical engineering. Twelve learned papers were added to the Institution's peer reviewed, online journal, *IPENZ Transactions*.

A variety of administrative activities were undertaken to support the functioning of Technical Interest Groups. The Event Management team provided services for 15 events, and for several customers and Technical Interest Groups. This work included managing registrations and full event management and support services. Other work included improving website content and usability.

Secretariat services were contracted to the International Engineering Alliance, the Council for Engineering Technician and Technologist Education, the New Zealand Board for Engineering Diplomas, the Cadastral Surveyors Licensing Board and the Construction Industry Council.

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|
| $CO_2e$ (tonnes) | 192.4 | 184.3 | 185.1 | 204.5 | 215.7 | 210.3 |
| Paper used (tonnes) | 19.6 | 18.4 | 16.6 | 13.6 | 18.5 | 16.7 |

*Above: Greenhouse gas emissions and paper usage.*

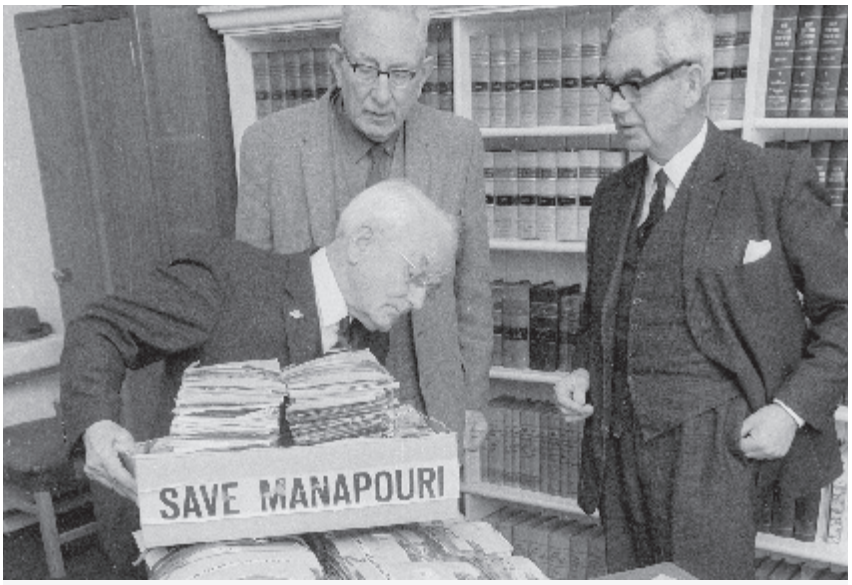
## Resource Intensity Statement

Over the period 2007 to 2012, IPENZ has been following the Ministry for the Environment's guidance to estimate and report on IPENZ National Office's greenhouse gas (GHG) emissions.

The results over these years have generally varied only within a range close to the margin of error and the benchmark has now been well established. Once the new financial and information systems are fully operational and more reliable carbon related data is able to be captured, National Office will be in a better position to ensure best practice reporting of its resource usage.

IPENZ National Office continues to pursue and promote sustainability within its day-to-day operations through initiatives such as a commitment to recycling of waste products; a reduction in printing facilities and paper use; reduced building operating costs through intelligent lighting and improved heating/cooling and where practical, promoting alternatives to face-to-face information sessions and meetings involving travel such as teleconferences and video conferences.

> *"**Twelve learned papers** were added to the Institution's peer reviewed, online journal, IPENZ Transactions."*




## DID YOU KNOW?

*In the 1960's, environmental and social concerns were at the forefront of much public debate. The Institution's response was to take a leading role. Later that decade, it became a foundation member of the World Federation of Engineering Organisations. In 1995 the Institution's business-based code of ethics was widened to include social and environmental responsibility.*



*Clockwise from top left: The Minister of Justice with representatives from the Royal Forest and Bird Society sort through Save Manapouri petitions, 26 May 1970 (Photo: Alexander Turnbull Library, Wellington. Ref: EP/1970/2278/9-F); The Air Force Museum in Christchurch provided a stunning venue for the Fellows' and Achievers' Dinner; Vijay Patel MIPENZ battled it out for the title of Young Engineer of the Year;* Engineering Insight *magazine covered a wide range of themes including health and safety, medical engineering and environmental issues; IPENZ's new National Office on Customhouse Quay.*

# Associated Reports

Branches and technical groups have long been the heart of the Institution, enabling Members with a common interest or locality to share knowledge and expertise. Today a number of subsidiary and collaborating groups undertake an array of activities to support the profession.



**1982**

## IPENZ emerges

The Institution's name was the subject of a continuing debate. PEANZ had raised the issue of including the word "Professional" to change the public's awareness of engineering.

On 11 February the NZIE became The Institution of Professional Engineers New Zealand Incorporated – IPENZ for short.

**1980's**

## Accreditation

IPENZ began peer reviewing all engineering degrees offered in New Zealand, with various courses gaining accreditation.

It was also noted that accredited courses held the same criteria as those in countries closely tied to New Zealand.

## 1989
### Washington Accord

On 28 September, the Washington Accord was formed by six founding signatories – Australia, Canada, Ireland, New Zealand, the United Kingdom and the United States.

## 1998
### Breaking barriers

In 1998 Gretchen Kivell DistFIPENZ was elected as IPENZ's first female President.

# Practice College

The College is for Members who have proven current competence by holding registration as Chartered Professional Engineers, Engineering Technology Practitioners or Certified Engineering Technicians.



**As at 30 September 2014, there were**

**3,769**

Members of the Practice College

**INCLUDING**

**71**
Technical Members

**3,572**
Professional Members

**126**
Associate Members

## Members passing competence assessment for registration at Engineering Technician level

### Auckland
SJ Newbury

### Waikato-Bay of Plenty
BK Smith

### Tauranga
GW Lock

### Hawke's Bay
A Campion

### Manawatu
NE Borst

### Northland
NJ Marshall

### Taranaki
ZJ Fang

### Rest of World
BC Hodge

## Members passing competence assessment for registration at Engineering Technologist level

### Northland
N de la Guerre

### Canterbury
A Hunger

# Branches

Branches provide locally-based services to Members, with presentations on topical and technical issues, site visits and opportunities for networking.



These services included developing and promoting programmes to celebrate IPENZ's centenary.

Branches also offer career development and mentoring support where possible, and create opportunities for engineers to provide input on local and community matters.

## AUCKLAND

**Chair:** David Fehl
**Membership**: 6,247

| Budget | Actual |
|---|---|
| $54,000 | $25,701 |

Branch activities included: the Presidential Address and the presentation of the Arthur Mead Award; the annual Chair's Reception networking evening; a CPEng Recognition event with Greg Lowe as the guest speaker; a presentation on the Square Kilometre Array; and a Retired Engineers luncheon.

Site visits were arranged to look at the Waterview project and to tour the Auckland Harbour Bridge.

The Branch also supported: the GT Murray Award for the best student presentation on engineering research and design; the New Zealand Engineering Excellence Young Engineer of the Year presentations; various Technical Interest Groups, including Engineers Without Borders (an Open Design Challenge); the IPENZ Auckland Engineering Heritage Chapter; the Energy Management Association; and the Engineers for Social Responsibility Water Sensitive Design Competition. It also supported the SENZ Quiz Night and Dodgeball, and the Pickering Lecture.

### Centenary activities

Site visits to: Driving Creek, Coromandel; the Auckland Art Gallery, Civic Theatre and Town Hall to look at the seismic strengthening work. The Branch also supported a "Future Auckland Art Competition" for school-aged children, hosted the Centenary Lecture and has been developing a new annual Luminary Award for a member who has made a significant contribution to advancing engineering in the Auckland region.

## CANTERBURY

**Chair:** Matt Cameron
**Membership:** 2,817

| Budget | Actual |
|---|---|
| $21,000 | $19,635 |

Activities included presentations by industry experts on health and safety, and ethics in relation to the regulatory reviews. Other presentations included a Transition Engineering Seminar in conjunction with the University of Canterbury, and a Building Information Modelling presentation by AECOM. Others focused on vertical and horizontal infrastructure projects, a session by Deloitte on financing the rebuild, and four presentations by the Stronger Christchurch Infrastructure Rebuild Team. Other events included the Pickering Lecture with Charles Elachi; the annual Hopkins Lecture; the American Society of Civil Engineers governing Board's visit; and the IPENZ Fellows' and Achievers' Dinner at the Air Force Museum, Wigram.

The Branch continues to provide support to: student industry groups; Women in Engineering and Engineers Without Borders by co-promoting their events; the 2014 Canterbury-Westland Science and Technology Fair by providing a prize and judges; and a scholarship recipient's studies towards a Bachelor of Engineering (Honours) at the University of Canterbury by co-funding the scholarship with the IPENZ Foundation.

Site visits included the Synlait Milk plant in Dunsandel, the Gap Filler's Pallet Pavilion and a Piletech demonstration at Rangi Ruru School.

### Centenary activities

Helping the NZ Transport Agency with the Lyttelton Tunnel 50th anniversary open day. This aligned with IPENZ's centenary and was attended by 25,000 people; Andrew Read (IPENZ Deputy President) spoke at the official ceremony.

## EAST COAST

**Chair:** Willem van den Worm
**Membership:** 32

| Budget | Actual |
|---|---|
| $3,000 | $2,423 |

Activities included: celebrating the Presidential Address with a dinner; supporting Te Tairawhiti Science & Technology Fair 2014 for schools. An IPENZ booth promoting the Institution and engineering was set up on the Fair's public open days and assistance was provided to meet the catering costs for 34 science fair judges (which included four Branch members). In addition, the Branch provided $150 for the best engineering-related project and $50 for the runner-up, and made a donation towards the general prize pool. The prizes were presented by the Branch Chair.

Site visits included a trip to Eastland Network Ltd, where members were provided with an overview of the electricity network system; the visit to the heart of the control room gave a very good insight of the "24/7 operation".

### Centenary activities

These included providing engineering promotional material at the Te Tairawhiti Science and Technology Fair, including a centenary display board with information about the top award winners. The Branch Chair bought a new trophy specifically to celebrate the centenary and to create an ongoing opportunity for a strong engineering focus as part of the annual fair: the IPENZ 2014 Centenary Trophy – Engineering Challenge – Best Project will be offered from 2015 onwards.

IPENZ's centenary celebrations, the role of Futureintech, and support given by the Branch to the Fair received local media coverage.

## HAWKE'S BAY

**Chair:** Guy Lethbridge
**Membership:** 200

| Budget | Actual |
|---|---|
| $4,500 | $3,301 |

Activities included: presentations by Clark Hyland on the Southland Stadium, and by Opus International Consultants on Remediation of Contaminated Land; a meeting co-ordinated with GNS and Hawke's Bay Regional Council about the Hawke's Bay Geotechnical Database; a pub quiz and networking event with engineers and contractors.

The Branch supported a regional science fair by providing judges and prizes; members attended Territorial Industry Forum meetings and a Hawke's Bay Civil Defence and Emergency Management Riskscape Workshop. The Branch also supported the IPENZ Foundation scholarship programme for a local recipient, and school students through a Chairman's Presentation to Years 6 and 7 students on engineering careers. Regrettably, the President was unable to make it to his scheduled Branch Visit event this year due to poor flying conditions.

Behind the scenes activities included championing an initiative to co-ordinate local professional groups so a wider group can attend meetings, presentations and events. A number of shared events have been held. The Branch's role (via the local emergency response database) in communications and engineer resource allocation during major disasters was decided.

Site visits included trips to the Napier wastewater treatment plant and Axis Printing 3D Printing facility.

### Centenary activities

Hosting the Centenary Lecture (which successfully raised IPENZ's profile in the region).

*Hawke's Bay Branch members enjoyed a presentation on 3D printing from Axia Design Group. Branch committe member Neil Absalom is shown holding a 3D printed model of a dog skull generated from an MRI scan.*

## MANAWATU

**Chair:** Annette Sweeney
**Membership:** 314

| Budget | Actual |
|---|---|
| $4,500 | $2,668 |

Activities included a strong focus on engaging with, and networking between, professional engineers, Engenerate and student members. This saw continued growth in students and young engineers at Branch meetings. Specific activities included a barbecue with a presentation by Bill Dwyer of Dwyertech Services Limited on the New Zealand Wildlife Centre's Oiled Wildlife Recovery Facility and the *Rena* grounding response; a presentation by Paul Lewis, General Manager at Proliant on his career path from Massey University to setting up a greenfields biological processing plant in Feilding; a speed interviewing night and networking evening with students and Engenerate. In addition, joint meetings with technical groups, IChemE and the Rivers Group on topics ranging from the delivery of the D2 Dryer at Darfield, the Classifynder Automatic Intelligent Digital Microscope, and the Government's freshwater policy.

### Centenary activities

The inaugural, biennial Earle Lecture in conjunction with the Royal Society of New Zealand celebrating engineering and technology, with keynote speaker Sir Peter Gluckman, who presented a challenging, inspiring, forward-thinking lecture, attended by over 200 people; and the Achievers and Achievements Exhibition highlighting significant regional engineering achievements and the engineers instrumental in delivering these. In addition, the Branch sponsored a prize in the Regional Science Fair for a science or technology project illustrating how engineering is considered from concept through to detailed design and construction.

## NELSON/MARLBOROUGH

**Chair:** Mark Jones
**Membership:** 239

| Budget | Actual |
|---|---|
| $5,000 | $3,338 |

Activities included: jointly hosting events with the New Zealand Institute of Architects, with the Nelson Mayor as a guest speaker, and the Project Management Institute of New Zealand with a speaker on legal matters; a speaker from Toastmasters, who provided tips for members wanting to improve their public speaking skills.

Support was provided to: the annual Young Engineers Presenters Awards to help younger members refine their presentation/public speaking skills; the combined High Schools Careers Roadshow, at which members volunteered their time and promoted IPENZ and engineering as a career to students; the development of the Engineering Diploma Course at the Nelson-Marlborough Institute of Technology, with input from the Branch Chair; a former student from Nelson College for Girls who commenced engineering study in 2014 towards a Bachelor of Engineering (Honours) at The University of Auckland, by co-funding a scholarship with the IPENZ Foundation.

Site visits included trips to: the Cable Bay Road Remediation Project and the Reservoir Creek Remediation Project; and the two-storey Gibbons Tilt Panel Building Construction Project.

### Centenary activities

A celebratory dinner in conjunction with the Presidential Address, with guest speakers President Kevin Thompson and Past President Gretchen Kivell; an audio visual and static display in the Richmond Library highlighting major engineering achievements in the region over the past 100 years, and potential developments over the next 100 years.

## NORTHLAND

**Chair:** Derek Bon
**Membership:** 217

| Budget | Actual |
|---|---|
| $4,000 | $3,238 |

Activities included: a Christmas social get-together; the Presidential Address and a Stakeholders Evening with the Civil Engineering Department of Northtec in Whangarei; providing support to the Far North Science Fair and the Central Northland Science Fair by assisting in judging and providing prize money; helping to support Northtec's goal to deliver the New Zealand Diploma in Engineering; and forming closer ties with the local chapter of the New Zealand Institute of Surveyors.

Site visits included trips to: Northland Regional Council flood management sites around Whangarei; the Waiarohia Footbridge and presentation from the Design and Construction Team; the Alexander Charging Station and Rust Ave Bridge and Road Rehabilitation Project.

### Centenary activities

Hosting the Centenary Lecture, and planning several events for later in 2014 (after the end of this year's reporting date).

## OTAGO

**Chair:** Jon Visser
**Membership:** 528

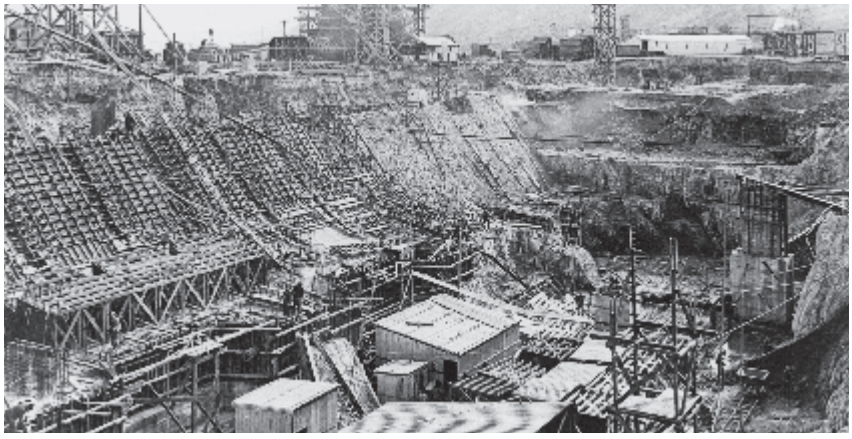
| Budget | Actual |
|---|---|
| $7,000 | $4,201 |

Activities included: the Presidential Address and Annual General Meeting; a combined Otago and Southland Branch lunch and site visit to Highlands Motorsport Park in Cromwell; providing support for discussions with the University of the Third Age regarding a proposed seminar series on engineering topics; participation in engineering heritage and Student Engineers New Zealand activities which recognise professional achievements; providing support for local continuing professional development activities; and offering feedback to National Office on the Membership structure and proposed organisational changes.

Site visits included trips to: Port Otago; Zeal Steal (renovation of historical building at 33 Jetty Street, Dunedin); Waipori Hydro Electric Power Station and Dam; Tahuna Wastewater Treatment Plant; and the Kawarau River Bridge, SH6, structural strengthening works.

### Centenary activities

Hosting the Centenary Lecture, and presenting an award at the Engineering Heritage Awards. The Branch also helped judge, and provided and presented $500 to the winner of the Premier Award at the Aurora Otago Science and Technology Fair.



*The Waitaki Dam, constructed in the early 1930s, featured in the exhibition "Shaping South Canterbury – Man, Nature and South Canterbury". Photo: South Canterbury Museum #2002/165.23.*

## SOUTH CANTERBURY

**Chair:** Andrew Dixon
**Membership:** 61

| Budget | Actual |
|---|---|
| $3,000 | $2,526 |

Activities included: presentations on the State Highway 83 Waitaki bridge replacement construction project; the Rangitata South irrigation scheme design and construction; the annual dinner and pizza social networking evening.

Site visits to: the Timaru wastewater treatment plant upgrade while under construction; and a tour and presentation of the Fonterra Clandeboye Dairy Factory milk dryer air heater upgrade project.

### Centenary activities

Hosting the Presidential Address; and a special public exhibition "Shaping South Canterbury – Man, Nature and Engineering" at South Canterbury Museum. This was organised by the Branch in partnership with the Museum Curator, and included displays on how engineering and engineers have changed the shape of South Canterbury. The exhibition, which attracted nearly 4,000 people, was opened by the IPENZ President at a public event.

## SOUTHLAND

**Chair:** Malcolm Loan
**Membership:** 101

| Budget | Actual |
|---|---|
| $3,000 | $2,030 |

Activities included: hosting a professional recognition seminar presented by video conference from National Office; jointly hosting a meeting with the Transportation Group, at which Keith Mason of Fonterra spoke about the logistics of transporting milk from farm to factory; and inviting a guest to discuss improvements to signalised intersections for pedestrians.

Site visits to: Awarua Satellite Tracking Station, which has assisted with tracking of rocket launches servicing the staffed space station; the Materials Recycling Centre; and Open Country Dairy's new milk drying plant.

### Centenary activities

Hosting the Presidential Address, which highlighted issues such as the Government review of occupational regulation for engineers.

## TARANAKI

**Chair:** George Arulanantham
**Membership:** 338

| Budget | Actual |
|---|---|
| $5,500 | $4,441 |

Activities included: hosting a joint event with the Institution of Mechanical Engineers (United Kingdom), "Ten Design Tips from Forensic Engineering", with a presentation by Crispin Hales, a forensic engineer specialising in investigating incidents involving engineering design; a presentation by David Caldwell and Ian Alexander on the learnings from the Tamahere Coolstore fire in 2008; a quiz night; the Presidential Address; and a graduate presentations evening.

Support was provided to: Kinetika 2014, a competition aimed at showcasing art, design and engineering; the Institution of Engineering and Technology Prestige Lecture – "3D Printing: the Good, Bad and the Ugly"; a technical seminar, "Corrosion in the Oil and Gas Industries" held by the Australasian Corrosion Association; and the Building Industry Group, which was set up in May 2014 to assist with communication amongst the various producers of buildings.

Branch site visits included a trip to the Len Lye Centre Construction, a major project underway in Taranaki.

### Centenary activities

Hosting the Centenary Lecture; a presentation by the Hon. Simon Bridges, Minister for Energy, on New Zealand's long-term energy strategy; and a presentation by Roger Hanson on "Engineering a Mission to Mars".

## TAURANGA

**Chair:** Peter Clark
**Membership:** 414

| Budget | Actual |
|---|---|
| $7,000 | $4,441 |

Activities included: an address by Jock Fremantle about engineering the Hulme Supercar; an in-depth discussion on resolving contractual disputes the easy way; a graduates' presentations evening; and hosting the Presidential Address.

The Branch supported: an IPENZ Foundation/Tauranga Branch scholarship awarded to a local student now studying engineering at The University of Auckland; Tauranga Intermediate School in its school science fair, by providing a judge and presenting a prize to the winner; the Pickering Lecture in Hamilton; and the local Engenerate group, which has grown in a few years from nothing to a lively and engaged group of younger engineers.

Site visits included trips to: the Velodrome in Cambridge; the Port of Tauranga; Comvita at Paengaroa; and the Trustpower Kaimai Hydro Electric Scheme, which highlighted the role engineers have played in bringing electricity to Tauranga for nearly 100 years.

### Centenary activities

Hosting the Centenary Lecture; a continuous rolling display on a large screen television in the city library front window showing engineering feats from past years; and a panel discussion, "We have a Dream", on Tauranga in the year 2114.

## WAIKATO/BAY OF PLENTY

**Chair:** Judith Makinson
**Membership:** 912

| Budget | Actual |
|---|---|
| $12,500 | $9,131 |

Activities included: technical presentations by: Robyn Denton of Hamilton City Council on 40 kilometre/hour speed zones; Mike Duke from the University of Waikato on mechanical engineering research at the University; Zhou Wei Hao of WEL Energy on WEL Energy network planning and upgrades; Sarah Davenport and others at Fonterra on the Fonterra UHT Plant; and Will Park of Beca on the Ngaruawahia Bypass bridge construction.

Support was provided to: the IPENZ Foundation/Waikato/Bay of Plenty Branch scholarship, awarded to a local student to study engineering; the SENZ/YES networking and speed interviewing events at the University of Waikato; the NIWA Science Fair in Rotorua by providing a judge and prize; Waikato Engenerate speaker presentation competition; and the University of Waikato and Wintec final-year design competitions.

Site visits included trips to: the Cambridge Bypass roading project; and the AvantiDrome national cycling facility at Cambridge.

### Centenary activities

Hosting the Pickering Lecture; an annual dinner; and a quiz night with centenary- and engineering-themed questions.

## WANGANUI

**Chair:** Hamish Peters
**Membership:** 44

| Budget | Actual |
|---|---|
| $3,000 | $3,078 |

Activities included: two graduate presentation nights; a CEAS board member giving a presentation on liability issues affecting consulting engineers; presentations by Graeme Blick about working in Antarctica; a talk on constructing an electric car by Chris Northover and a display of his work; and a dinner and social evening in conjunction with the AGM.

Site visits included trips to: the Waters and Farr factory to see its polyethylene pipe products; the Tramway Trust to see a demonstration of its newly restored historic tram; and Q-west boat building yard. Branch members also enjoyed an open invitation from the Manawatu Branch to attend its events.

## WELLINGTON

**Chair:** Sam Kilkenny-Brown
**Membership:** 1,803

| Budget | Actual |
|---|---|
| $23,000 | $20,736 |

Activities included guest presentations on: "Lessons from the Pike River Disaster" by Nicholas Davidson QC; New Zealand GeoNet – Integrating Science, Engineering and Information Technology; IPENZ Code of Ethics Review; "Building our Future – How Structure can enrich Architecture"; a combined breakfast meeting with IEEE and the Institution of Engineering Technology on the future possibilities of health data; and "ISO 55-000 – A Game Changer for Asset Management? "

Support was provided to the 2014 NIWA Science Fair, with five prizes of $200 each being provided to the best student projects with an engineering focus.

Site visits included a trip to Stonehenge Aotearoa in the Wairarapa with lunch at the Gladstone Vineyard.

### Centenary activities

A public poster exhibition with invited engineering organisations (Downer, KiwiRail, AECOM, Beca, Opus International and Leighton Contracting) displaying their contributions to 100 Years of Engineering in New Zealand; a centenary film evening combined with the 2014 AGM; the Presidential Address and Centenary Dinner; and the 2014 Pickering Lecture.

## WEST COAST

**Chair:** Stuart Challenger
**Membership:** 29

| Budget | Actual |
|---|---|
| $3,000 | $1,683 |

Activities included: the Presidential Address, followed by a dinner; and the 2013 AGM. Regular meetings were held in which members could get together at a local establishment to discuss current issues and future Branch activities.

Site visits included: a trip to Hokitika Beach to look at erosion protection measures with a representative from the regional council and Westland Contractors, preceded by a visit to the local museum to look at photographs of historical erosion; a visit to Grey District Council Wastewater Treatment Plant with staff from Grey District Council and MWH on-site to explain the process and answer questions; a tour of Monteith's brewery; and a trip to ElectroNet's Alpine Mobile Substation.

> *"The council believed the **success of the NZIE** was connected to the strength of its **geographically-based branches**."*
>
> *- from* An Evolving Order, *page 74*

## UNITED KINGDOM

**Chair:** Andrew Delugar
**Membership:** 184

| Budget |
|---|
| $5,000 |

Activities included: technical talks about the London Walkie Talkie Building's structural engineering and other design challenges; a talk about biomedical engineering; the Christmas Soirée at New Zealand House; an ANZAC Day tenpin bowling challenge between IPENZ and Engineers Australia; a Thames Boat Cruise organised by Engineers Australia; a barbecue at Henley Rowing Club; a professional development evening, which was run for graduates looking ahead to the process of competence assessments.

### Centenary activities

An event with guest speakers on the theme, "Famous Pioneers of New Zealand Engineering" – Ernest Rutherford and Bruce McLaren.

### DID YOU KNOW?

*In the 1960's and 1970's, one in four of the NZIE Membership lived overseas. The London Association formed as a branch in the mid-1960's.*

# Special and Technical Interest Groups

IPENZ supports a number of Technical and Special Interest Groups representing a wide range of engineering fields.



## Special Interest Groups

Special Interest Groups operate at a national level, providing services of interest to targeted cross-sections of the Membership.

### SPECIAL INTEREST GROUP FOR IMMIGRANT ENGINEERS

**Chair:** Remi Cruz
**Membership:** 89

The Special Interest Group for Immigrant Engineers (SIGIE) aims to facilitate immigrant engineers' settlement into meaningful professional employment in New Zealand. Its activities include training, professional development, employment and career counselling, and providing opportunities for social and professional networking. SIGIE has continuing collaborative agreements with the Auckland Chamber of Commerce and the Auckland Regional Migrant Services to provide newly arrived migrant engineers with a wide range of settlement and employment services.

SIGIE conducted a number of one-on-one sessions with members to discuss and evaluate their individual development requirements and organised a seminar on IPENZ competence assessment and a workshop on CV preparation and interview preparation skills for immigrant engineers.

## Technical Interest Groups

Technical Interest Groups provide programmes of activities and services associated with a particular engineering speciality or discipline on a national basis.

### AUSTRALASIAN ASSOCIATION FOR ENGINEERING EDUCATION (JOINT WITH ENGINEERS AUSTRALIA)

**Chair:** Colin Kestell, Adelaide
**Membership:** about 900 in Australasia

The Australasian Association for Engineering Education (AAEE) aims are to improve the quality, relevance and performance of engineering education in Australasia.

Initiatives and events included the: 24th AAEE Annual conference, organised by Griffith University, Gold Coast, Queensland; 2014 Winter School in Queensland to assist doctoral students researching topics on engineering education research; ongoing discussions with Engineers Australia on developing a college for engineering academics; and the AAEE programme for the Associate Deans of Teaching and Learning continued. This forum allows free exchange of ideas, discussion of changes in curriculum and delivery, and the challenges facing engineering academics, and holds a meeting associated with the annual AAEE conference. The AAEE continued to hold workshops across Australia for accreditation so academics can understand the changes to the Washington Accord criteria.

#### Centenary activities

Events to co-celebrate IPENZ's centenary have been planned for late 2014.

### AUSTRALASIAN TUNNELLING SOCIETY

**New Zealand Representative:** Evan Giles

The Australasian Tunnelling Society is jointly sponsored by IPENZ, Engineers Australia and the Australasian Institute of Mining and Metallurgy. It is a non-profit organisation uniting members of the engineering and scientific professions, along with tunnellers, miners and suppliers in its membership. It aims to provide programmes of activities, technical conferences, symposia and meetings designed to stimulate, educate and inform those with an interest in the field.

## ELECTROTECHNICAL GROUP

The Electrotechnical Group provides a co-operative forum for electrical and electronic engineering activities. It draws membership from New Zealand-based electrical and electronic engineers. By affiliation, members of the Institution of Engineering and Technology in the United Kingdom and the Institute of Electrical and Electronic Engineers in the United States are also connected to the Group.

The Electrotechnical Group is in recess at present.

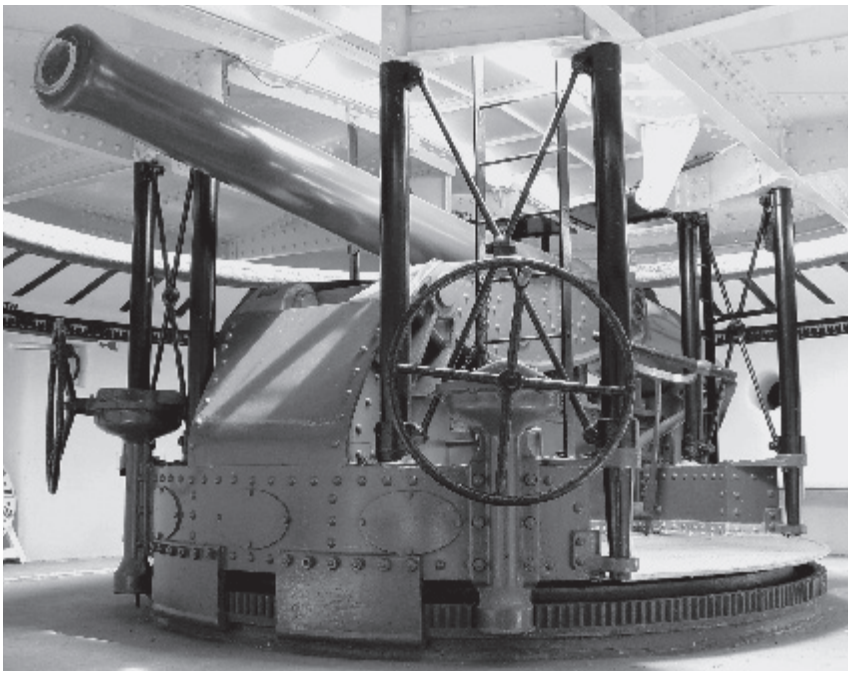
## MAINTENANCE ENGINEERING SOCIETY OF NEW ZEALAND

**Chair:** Karl Hayward
**Membership:** 400

The Maintenance Engineering Society of New Zealand's (MESNZ) purpose is to increase New Zealand's engineering knowledge and skill base by advising, upskilling, mentoring and connecting with maintenance engineers. MESNZ informs members of national and international developments, contributes to the development of knowledge and identifies good engineering practice, and provides informed public policy on issues and a national network for members with similar interests. The Society aims to improve productivity and efficiency in New Zealand industry.

Major initiatives included: continued involvement with Targeted Reviews of Qualifications in the mechanical field; assistance to WorkSafe NZ; formation of the Health and Safety Association of New Zealand; and exhibitions at the Engineering, Machinery and Electronics Exhibition and the Manufacturers' Expo in Hawke's Bay.

Events included: MESNZ's annual conference at Rotorua; networking evenings at ABB Hamilton, Page Macrae, McRaes Global, Dominion Breweries, Fisher & Paykel, SuperGas and Buckley Systems Ltd.



*The restored Armstrong gun on Taiaroa Head in Dunedin was presented with an Engineering Heritage Award from IMechE and MEG. Photo: David Jaquiery.*

## MECHANICAL ENGINEERING GROUP

**Chair:** Tim Lynch
**Membership:** 504

The Mechanical Engineering Group (MEG) has strong links and support from the Institution of Mechanical Engineers, London. MEG's aims are to encourage social and technical liaison between engineers of all levels who have an interest in mechanical technology. MEG, which is currently active in Auckland and Wellington, holds regular meetings of technical interest, and arranges visiting speakers to talk to members, as well as visits to works and projects of specific mechanical engineering interest.

Major initiatives included: sponsoring the Formula SAE Teams from the Universities of Auckland, Waikato and Canterbury engineering schools; joining with the President of IMechE Australia in presenting a heritage award to the Fort Taiaroa Education and Resource Group for the fully restored Armstrong disappearing gun on Taiaroa Head; judging and presenting prizes for the Final Year Student Projects Display Day at The University of Auckland's Department of Mechanical Engineering; and providing a joint presentation with the Composites Association of New Zealand about the composite structure lifting bridge in Wales.

Events included: a Rocket Lab technical presentation; a presentation by Crispen Hales, forensic engineer in Wellington and Taranaki entitled "Ten Tips for Better Design"; and a presentation of a tree traversing robot by a post-graduate and team members from the University of Canterbury College of Engineering.

Site visits included trips to: Buckley Systems Ltd; and Core Builders Composites.

## NEW ZEALAND COASTAL SOCIETY

**Chair:** Rick Liefting
**Membership:** 417

The New Zealand Coastal Society was formed in 1992 to promote and advance knowledge and understanding of the coastal zone. It provides a forum for those with an interest in the coastal zone to communicate amongst themselves and the public.

Initiatives included: developing and publishing lessons learnt from the *Rena*; a special edition of the *Coastal News* featuring many stakeholder viewpoints and reports looking back on the *Rena* disaster; a financial coding review and financial planning, resulting in the first increase in membership fees in the Society's recorded history; and awarding annual student research scholarships to Masters of Science and PhD students.

Events included: the annual conference at Hokitika with Paul Komar from the United States as the keynote speaker; several regional events for both members and non-member; and sponsorship of Seaweek, with Rick Liefting awarding the inaugural Ocean Champion Award to an entry entitled, "Our Seas, Our Future".

## THE SUSTAINABILITY SOCIETY

**Co-Chairs:** Carol Boyle and Caleb Clarke
**Membership:** 226

The Society aims to foster the development of sustainability engineering and science in New Zealand. It takes a complex systems approach to sustainability, recognising the interconnection between human and natural systems. It supports new sustainability thinking and practice through providing workshops, seminars, forums and international conferences, and actively contributes to processes to integrate public strategy and activity.

Major initiatives included: Infrastructure Sustainability workshops in Auckland, Bay of Plenty and Christchurch to explore the integration of sustainability into infrastructure planning, procurement, design, development and management in New Zealand; supporting the initiation of multiple pilot projects using a framework to embed sustainability into infrastructure processes; and establishing organisational membership to work more proactively with key organisations that have sustainability practitioners from within different disciplines.

Activities included: making a submission to the Auckland Unitary Plan; contributing to Auckland Council's Low Carbon Action Plan; participation on the Steering Committee for the IPWEA Sustainability Conference in Coolangata, presenting a paper on sustainability initiatives in New Zealand cities and participating on the closing panel; and contributing to Auckland Council's "Deconstruction" seminar.

Events included: hosting Water Sensitive Cities Forums in Auckland, Hamilton and Wellington; a Forum exploring resourcing and sustainability for Auckland's planned high density housing; co-hosting, with the IPENZ Canterbury Branch, an event featuring Antony Sprigg, Chief Executive of the Infrastructure Sustainability Council of Australia. In addition, the Society held several forums and seminars exploring: different facets of sustainability in transport; new inductive power transfer technology in electric vehicles; and transport's contribution to Auckland's liveability.

To celebrate IPENZ's centenary, the Society invited contributors across its forums to present their vision for a sustainable New Zealand over the next century.

## HEAVY VEHICLE ENGINEERS

**Chair:** Nick Watson
**Membership:** 70

Members of the Heavy Vehicle Engineers (HVE) Group are involved in the design, specification, modification, repair and certification of heavy motor vehicles. It provides a learned forum for its members to support and mentor each other, share and discuss information, and to work with the NZ Transport Agency (NZTA), advocating for relevant changes in legislation and keeping it informed of trends and issues within the industry.

HVE disseminates information from a wide range of specialised and qualified sources to keep members professionally informed, encourage consistency and provide opportunity for proactive involvement in issues of relevance.

Major initiatives included the continued development of the Heavy Vehicle Engineering Council. This group represents the interests of the heavy vehicle industry and embraces NZTA, the Road Transport Forum, the Motor Industry Association and IPENZ. Its purpose is to represent the interests of the industry and to develop codes and best practice to bring consistency and innovation in the industry.

Events included: a mini-conference; and an AGM/conference.

### DID YOU KNOW?

*The Soil Mechanics Group (formed in 1965) was the NZIE's first technical group. By the end of the 1970's, seven or eight other technical groups had come under the NZIE umbrella.*

> *"The technical groups were felt to be the **true driving force** behind a learned society."*
>
> *- from* An Evolving Order, *page 110*

## NEW ZEALAND SOCIETY ON LARGE DAMS

**Chair:** Peter Lilley
**Membership:** 190

The Society (NZSOLD) brings together the owners, users, designers and builders of dams and represents their interests on the national scene. It is the New Zealand national committee on the International Commission on Large Dams (ICOLD) and actively sets industry standards.

Major initiatives included completing a detailed review of the industry guideline, "Dam Safety Guidelines". This is closely linked to the Dam Safety provisions prescribed in the Building Amendment Act 2013, particularly the regulations contained in the Dam Safety Scheme coming into force in 2015. NZSOLD also continued to maintain an active involvement in providing responses to Select Committee and departmental questions.

Events included: a successful joint NZSOLD/ANCOLD conference, "Multiple use of Dams and Reservoirs – Needs, Benefits and Risks", preceded by the one-day workshop, "Advances in Dam Engineering" and followed by a two-day post-conference tour in Rotorua. The Conference included delegates from Australia, New Zealand, the United States, France, Italy, South Korea, Singapore, South Africa and Vietnam. In addition, an industry training seminar, "A Short Course on Internal Erosion and Piping of Dams and their Foundations", attracted more than 60 attendees, and NZSOLD delegates attended the 82nd ICOLD Annual Meeting 2014 in Bali.

The Society is represented on four technical ICOLD Committees: Public Affairs, Environment, Public Safety around Dams and the Multi-Purpose Water Storage Committee.

### Centenary activities

Supporting the publication of *A History of the Clyde Dam Project*, by Davis Ellis.

## RAILWAY TECHNICAL SOCIETY OF AUSTRALASIA

**Chair:** Muriel Seeley
**Membership:** 79 (1,146 in Australasia)

The Railway Technical Society of Australasia (RTSA) is a joint technical society of IPENZ and Engineers Australia. It promotes the practice and advancement of railway technology and management.

Major initiatives included: presenting awards at special industry award nights in Australia to help promote the RTSA and the awards available; planning for the Auckland Rail Conference to celebrate electrification, resignalling and other recent rail investment in Auckland; running "Insight into Track Engineering" and "Insight into Rolling Stock" courses; and publishing the RTSA newsletter inside the *Track and Signal* periodical and providing it to members on a quarterly basis. Members also attended the biennial CORE conference in Adelaide with over 70 presentations and three eminent speakers.

Events included: presentations on: a New Zealand freight study; rail vehicle dynamics, requirements and modelling; Wellington metro network signalling and electrification; and network capacity through modelling.

## RECREATION SAFETY GROUP

**Chair:** Stewart Gutsell
**Membership:** 33

The Recreation Safety Engineering (RSE) Group facilitates the work of Chartered Professional Engineers who routinely certify amusement devices and rides. The RSE aims are to continuously improve the safety of public recreational activities by providing independent professional advice and inspection services, and to advocate for engineering safety across a broad range of recreational activities.

Major initiatives included: advocating for regulation of land and waterborne inflatable devices; contributing to activity-specific guidelines for the safe operation of adventure activities; lobbying for changes to Amusement Devices Regulations 1978 in respect of devices powered by gravity and other energy sources; facilitating dialogue between the NZ Transport Agency, Local Government New Zealand, Maritime New Zealand and WorkSafe NZ on matters relating to recreation safety; and interacting with Engineers Australia and Standards Australia in relation to the Committee ME51 (on amusement rides and devices).

Events included: an annual meeting/conference in Palmerston North, and visits to relevant sites in the Manawatu.

### Centenary activities

Theming the RSE conference on the heritage of the Amusement Devices Regulations and their genesis.

## RIVERS GROUP

**Chair:** Mark Pennington
**Membership:** 236

The Rivers Group aims to bring policy-makers, practitioners, and community interests together to promote a multi-disciplinary approach for river management that reflects cultural and societal diversity in an integrated and holistic manner.

## SOCIETY OF FIRE PROTECTION ENGINEERS - NEW ZEALAND CHAPTER

**President:** Debbie Scott
**Membership:** 215

The New Zealand Chapter of the Society of Fire Protection Engineers was established in 1994 in response to the introduction of performance-based legislation. The Society aims to lift the level of professionalism and knowledge of all parties involved in fire safety engineering.

## TECHNOLOGY EDUCATION NEW ZEALAND

**Chair:** Wendy Fox-Turnbull
**Membership:** 625

Technology Education New Zealand (TENZ) is a professional network with individual and institutional membership spanning the early childhood, primary, secondary and tertiary sectors.

Initiatives included: continuing to provide professional leadership in the promotion and support of the technology learning area in the New Zealand curriculum, and seamless transitions in technology education supporting a national culture of innovation; restructuring the TENZ National Council, and upgrading the website with the new logo; and refocusing on regional cluster development and furthering the Technology Education Subject Associations Coalition comprising TENZ and the Home Economics and Technology Teachers' Association of New Zealand, New Zealand Graphics and Technology Teachers Association and the New Zealand Association for Computing, Digital and Information Technology Teachers.

Events included: regional cluster meetings throughout the country; and mini-conferences with reports from teachers expressing how valuable these conferences were. This initiative allows for members who may not be able to attend national workshops to participate in professional development locally. TENZ is also looking at addressing professional development for members and is undertaking due diligence to develop a new national professional development role in technology to advise and mentor technology teachers.

TENZ was represented at the IPENZ Engineering Professions Forum and the IPENZ Fellows' and Achievers' Dinner.

## IPENZ TRANSPORTATION GROUP

**Chair:** David Wanty
**Membership:** 1,141

The IPENZ Transportation Group objective is to advance the art and science of road traffic and transportation engineering practice and to provide a focal point for those working in the profession.

Major initiatives included: introducing new financial reporting procedures to more clearly link Transportation Group branch funding with business plans/events; improving annual conference financial reporting and linkage with IPENZ financial codes; and providing more transparent and regular reporting of finances to the national committee. In addition, the Group agreed to: support a student-orientated study grant (in addition to the Group's annual $10,000 study award) and to sponsor (in conjunction with the Group's branches and other institutions and transport organisations) an annual nationwide tour by an overseas expert; and formally establish a research sub-committee with appointed convenor. The convenor is active in achieving the many goals in the terms of reference, with significant progress on identifying areas of concern where research would make a valuable contribution.

The Group is continuing to: establish closer links with the Ministry of Transport by co-ordinating a series of presentations for the 2014/2015 year; establishing regular partnership meetings with the NZ Transport Agency (NZTA) and agreeing in principle to be included on NZTA's key relevant working groups/committees; involving the Signals New Zealand User Group (SNUG) sub-group with the NZTA to jointly revise the national traffic signals specification; and involving the New Zealand Modelling User Group (NZMUGS) sub-group with the NZTA to jointly develop a transport model calibration and validation guideline principally for incorporation into the Economic Evaluation Manual.

Events included: the SNUG Annual Workshop; the NZMUGS Annual Conference; the Trips Database Bureau (TDB) Seminar; the Annual Conference, which included special addresses on the Google driverless car and on the Student Volunteer Army; and a variety of presentations and events hosted by our five branches.

### Centenary activities

Special annual conference with the SNUG, NZMUGS, and TDB sub-groups, the Railway Technical Society of Australasia, the Chartered Institute of Logistics and Transport and the New Zealand Local Authority Traffic Institute.

## URBAN DESIGN FORUM

**Chair:** Graeme Scott

The Urban Design Forum (UDF) is a joint Technical Interest Group with the New Zealand Planning Institute, New Zealand Institute of Architects, New Zealand Institute of Landscape Architects and the New Zealand Institute of Surveyors.

Its purpose is to promote cross-disciplinary understanding of urban design amongst urban professionals to raise awareness of the benefits of urban design at both national and local levels. UDF provides a forum for discussion of design-based approaches relevant to the development and management of New Zealand towns and cities.

Major initiatives included: formally registering the UDF as an incorporated society to facilitate independence from any profession and to aid the recognition of urban design as a cross-disciplinary activity; taking an active advocacy role and participating in the Proposed Auckland Unitary Plan Hearings process; submitting on the Draft Unitary Plan addressing the regional policy statements relating to intensification of Auckland City and the development controls relating to the residential and business zones; submitting on the proposed Auckland Unitary Plan, focusing attention on deficiencies in the planning maps; providing active representation in Christchurch and submitting on "A Liveable City", the draft residential chapter for the Christchurch rebuild; writing to the Minister for the Environment with respect to "Quality in Urban Environments"; and issuing a press release, "A timely reminder we can all be city changers" for World Habitat Day.

Events included: the Auckland branch holding Unitary Plan seminars to aid and educate members on the process of the Auckland Unitary Plan and presentation at the subsequent Hearings; and several presentations, including "Quality Compact City or Urban Sprawl?", "How Best can Practitioners engage with the Unitary Plan Hearings Panel?", and "Creating Homes and Neighbourhoods that work well into the Future and don't cost the Earth."

*Founding members at the inaugural general meeting of the New Zealand Society for Safety Engineering, held at the University of Canterbury. Photo: D Pons.*

## NEW ZEALAND SOCIETY FOR SAFETY ENGINEERING

**Chair:** John Bain
**Membership:** 810

The New Zealand Society for Safety Engineering (NZSSE) was formed in response to the changes being made to the regulation of workplace health and safety. NZSSE aims to promote and advance the knowledge and understanding of safety engineering practice throughout the profession, to inform members of the profession of changes in the health and safety laws and regulations, and to foster robust safety engineering practice across all engineering disciplines. The group is also intended to act as a voice for the engineering profession and to provide technical input into the development of health and safety regulations, best practice guidelines and approved codes of practice.

Major initiatives included: identifying the need for a safety engineering society; and reviewing common safety engineering practice in other jurisdictions. Its inaugural AGM was held on 30 September, at which a committee was elected and an initial programme of work was agreed on. The founding membership of the society includes mechanical, civil, electrical, chemical and geotechnical engineers, operating in all market niches from sole practitioners to large firms and academia, making the Society fully representative of the engineering profession.

In addition, NZSSE members have begun work on a course on health and safety for engineers, which will be delivered through IPENZ during 2015.

# Collaborating Technical Societies

These societies are self-supporting and self-governing. They operate as separate legal entities, working alongside IPENZ.



## AIRCRAFT ENGINEERING ASSOCIATION OF NEW ZEALAND

**Chair:** Don McCracken

The Aircraft Engineering Association of New Zealand (AEANZ) formed out of the engineering division of the Aviation Industry Association. The main purpose for the restructure was to allow individual membership (membership was formerly restricted to companies). Other intended benefits are for the greater sharing of knowledge, education and work experience and the professional development of aircraft engineers.

## CIVIL ENGINEERING TESTING ASSOCIATION OF NEW ZEALAND

**Chair:** Jayden Ellis
**Membership:** 122

The objectives of the Civil Engineering Testing Association of New Zealand (CETANZ) are to create continuous improvements to the standard of testing in New Zealand, through training and other means, and to advance the status of testing to the construction industry. CETANZ communicates changes in standards of technology to the testing industry, provides a code of ethics for its members and represents the views of the New Zealand Testing Services regulatory authorities. It promotes the benefits of high quality testing services to the construction industry, helps members develop suitable proficiency and inter-laboratory testing programmes and conducts activities such as meetings, conferences, and technical events. It promotes civil engineering testing as a career, and supports and promotes the Laboratory Technician qualification for its industry.

Major initiatives included: a review of NZS 4407: Test Methods of Sampling and Testing of Roading Aggregates; a review of TNZ T/1: Benkelman Beam Deflection Measurements; numerous proficiency tests between laboratories; and producing guidelines including the "Nuclear Density Meter Guide", "Test Pit Guide", and "Significant Number versus Decimal Places for Laboratory Management Systems", and accreditation and reporting of derived, assumed and subsequent data. CETANZ also interacted with and provided representation on other committees and businesses including the International Accreditation New Zealand, Roading New Zealand, the Cement and Concrete Association New Zealand, Aggregates and Quarry Association, National Pavement Technical Group, NZ Transport Agency, Auckland Transport, New Zealand Geotechnical Society and the New Zealand Ready Mixed Concrete Association. CETANZ also produced four newsletters.

Events included a three-day conference featuring many industry speakers.

## CONCRETE SOCIETY OF NEW ZEALAND

**Chair:** Carl Ashby

The Concrete Society of New Zealand (NZCS) encourages and supports the development of greater knowledge and understanding of all aspects of structural and architectural concrete.

Major activities during the year included: developing a new logo and website; and celebrating the Society's 50th anniversary. This included: remembering the people who have contributed to the Society and the concrete industry during the past five decades; reviewing some of the exceptional and sometimes ground-breaking construction projects that have shaped our built environment; and focusing on the future. The most important activity was the revision of NZS 3101: "Concrete structures standard – The Design of Concrete Structures", based on the lessons learned from the Canterbury Earthquakes Royal Commission.

Major events included: the Concrete Industry Conference in Queenstown; a number of successful seminars for members on base isolation, strut and tie analysis and shear design; and hosting the American Concrete Institute President, Anne Ellis, and Vice President, Ron Burg.

## ENERGY MANAGEMENT ASSOCIATION

**Chair:** Scott Moyes

The Energy Management Association (EMANZ) promotes the highest standards of energy management skills and competence to foster and facilitate the integration of sound energy management practices into all sectors of the New Zealand economy. EMANZ provides a forum for discussing energy management issues, skills and techniques to develop practical energy management policy proposals and represent these where appropriate.

Major initiatives included providing a new international measurement and verification training and accreditation programme (involving energy savings from efficiency improvements); developing a new training course for building services engineers and those in related technical areas in continuous commissioning; developing a one-day training course for procurement and sustainability professionals in the fundamentals of energy management; and completing a review of the Australian New Zealand Energy Audit Standard (3598:2000).

Events included the 2014 EMANZ conference, with presentations from two international financial institutions (the European Bank for Reconstruction and Development, and Westpac) about new financial arrangements for funding energy efficiency upgrade projects. Other conference presentations were from: the Chief Executive of the City of Sydney about what is being done to make Sydney more liveable; a panel of energy spokespeople from political parties outlining their respective policies; and a set of technical presentations. The Conference finished with the presentation of the annual Energy Efficiency and Conservation Authority Awards.

## INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA, NEW ZEALAND DIVISION

**President:** Braden Austin
**Membership:** 950

The purpose of the Institute of Public Works Engineering Australasia, New Zealand Division (IPWEA NZ) is to be a leader in engineering and asset management for sustainable communities.

Events during the year included: the IPWEA NZ Annual Conference; the Local Government Asset Management and Engineering Directors Forum; 16 branch meetings; facilitating the New Zealand Asset Management Advanced Asset Management Forum; and supporting the 2014 New Zealand Engineering Excellence Awards as an Awards' Partner.

## NEW ZEALAND GEOTECHNICAL SOCIETY

**Chair:** Gavin Alexander
**Membership:** 999

The New Zealand Geotechnical Society (NZGS) aims to promote study and research within the fields of soil mechanics, rock mechanics and engineering geology. This promotes advancing the practice and application of these disciplines in engineering, and implementing the statutes of the respective international societies that are applicable to New Zealand.

Major activities included developing formal guidance in earthquake geotechnical engineering in collaboration with various other societies, research and government agencies, which the Ministry of Business, Innovation and Employment will publish for the Society's website. *NZ Geomechanics News* is now online and can be downloaded on various electronic devices. All back issues have been digitised and are on the Society's website as flipbooks or PDFs, and have Google search functionality.

Geoff Farquhar was awarded Life Membership in 2014 for his outstanding contribution to the Society over many years.

The 2014 Young Geotechnical Professionals Conference Award was awarded to 10 members to assist them with attending the Young Geotechnical Professionals Conference in Australia. The 2014 New Zealand Geotechnical Society Scholarship was awarded to two recipients.

Events included the 19th NZGS Symposium, "Hanging by a Thread – Lifelines, Infrastructure and Natural Disasters" with 100 presentations over two days of technical sessions; keynote lectures were given by Lelio Mejia and Harry Poulos. The Symposium was preceded by a series of workshops and followed by a selection of field trips. The Society also held a joint presentation with the Institution of Civil Engineers on the 52nd BGA Rankine Lecture, "Performance-based Design in Geotechnical Engineering", by Malcolm Bolton of Cambridge University.

## NEW ZEALAND INSTITUTION OF GAS ENGINEERS

**Chair:** Nick Foster
**Membership:** 115

The New Zealand Institute of Gas Engineers (NZIGE) is a communication and education forum for professional engineers and technicians in New Zealand's gas industry.

A highlight included sponsoring and helping organise the third Gas New Zealand Forum at the Stamford Plaza, Auckland, with 125 delegates, a trade exhibition, technical workshops, plenary sessions and the choice of technical or commercial streams. Other events included holding the AGM in conjoint locations via teleconference using Polycom technology, with a consequent 10 per cent increase in attendance.

The Institution has achieved its goal of being represented on every gas Standard relevant to New Zealand operations, and has improved communications with the Gas Association of New Zealand and the Liquefied Petroleum Gas Association. The Institution's current focus is on attracting young members and becoming well-known for providing a technical hub for all things gas.

## NEW ZEALAND SOCIETY FOR EARTHQUAKE ENGINEERING

**Chair:** Quincy Ma
**Membership:** 1,585

The New Zealand Society for Earthquake Engineering (NZSEE) aims to foster the advancement of the science and practice of earthquake engineering. NZSEE promotes international co-operation among scientists, engineers and other professionals in the broad field of earthquake engineering through interchanging knowledge, ideas, research results and practical experience. This endeavour aims to mitigate the worst effects of earthquakes on our society.

Major initiatives included: providing input into various Ministry of Business, Innovation and Employment (MBIE) Technical Groups to assist with developing improved practice for building design and construction; and continuing to lead a major review of the NZSEE document "Assessment and Improvement of the Structural Performance of Buildings in Earthquakes", which was first published in 2006. NZSEE is undertaking this work in collaboration with the Structural Engineering Society New Zealand and the New Zealand Geotechnical Society, funded by MBIE and the Earthquake Commission.

Four issues of the *Bulletin for the Society of Earthquake Engineering* were published and contained a wide range of technical papers, including insights from the July/August 2013 Cook Strait Earthquake sequence. The June 2014 issue published six papers on the latest research into the earthquake-resistant characteristics and performance of unreinforced masonry buildings. NZSEE provided a written and oral submission to the Parliamentary Select Committee on the Building (Earthquake-prone Buildings) Draft Amendment Act and submitted a proposal for a risk framework to prioritise the assessment and seismic improvement of New Zealand's building stock. In addition, NZSEE funded two engineers to visit the site of the 24 August 2014 Napa Earthquake in California.

Events included the annual conference, which was themed "Towards Integrated Seismic Design". The keynote speakers also gave presentations in Wellington and Christchurch. The Society facilitated a nationwide seminar series to outline the developments of the updated NZSEE Guidelines, "Assessment and Improvement of the Structural Performance of Buildings in Earthquakes". Building assessment "train-the-trainer" workshops were held in early 2014 in conjunction with the University of Canterbury Quake Centre, followed by training workshops for practising senior engineers in the main and provincial centres.

### Centenary activities

Sponsoring the IPENZ Auckland Branch centennial events.

*NZGS Management Committee. From left: Kevin Anderson, Tony Fairclough, Charlie Price (Vice-Chair), Ross Roberts, Kelly Walker, Ken Read, Frances Neeson, David Burns, Amanda Blakey, Gavin Alexander (Chair) and Guy Cassidy.*

## SOCIETY OF CHEMICAL ENGINEERS NEW ZEALAND

**Chair:** Brett Young
**Membership:** 500

The purpose of the Society of Chemical Engineers New Zealand (SCENZ-IChemE in New Zealand) is to advance chemical engineering.

Major initiatives included: a focus on process safety (and specifically food process safety); and the introduction of Layer of Protection Analysis training with courses held in New Plymouth with good attendance.

Events included: a plant visit and tour to Scion; a joint conference with the Society of Materials New Zealand Incorporated with approximately 100 participants, including presentations by Auckland post-graduates and of the Kennedy Wunsch lecture by Merv Jones; and a "Chemical Engineering Matters" workshop focusing on food process safety held at the University of Canterbury. A panel of speakers from the food processing industry presented, and the new safety case legislation before Parliament was outlined.

## SOCIETY OF MATERIALS NEW ZEALAND

**Chair:** Mark Jones
**Membership:** 28

The Society's purpose is to advance the knowledge and practice of the science and engineering of materials.

Major initiatives included: co-sponsoring the New Zealand Conference on Chemical and Materials Engineering with the Institution of Chemical Engineers; providing support for the 11th Asia-Pacific Conference on Materials Processing; presenting the Richard Henry Cooper award for Outstanding Contributions to Metallurgical and Materials Engineering to Wei Gao; and presenting monetary awards to the two top materials engineering students from the Universities of Auckland and Waikato. Awards were also available for AUT and Canterbury Universities but no applications were received.

Events included presentations by: Mark Taylor on "Demand and Engagement Model for Materials and Manufacturing Research"; Steven Matthew on "Thermal Spraying: Industry Overview and New Zealand Research Summary"; Mike Loretto on titanium power metallurgy, "Microstructural Control and Mechanical Properties of Aerospace Components produced to Net Shape".

Site visits included a trip to Zenith Technica to see the Electron Beam Melting Machine for printing titanium castings.

## STRUCTURAL ENGINEERING SOCIETY NEW ZEALAND

**Chair:** Paul Campbell
**Membership:** circa 1,600

The Structural Engineering Society New Zealand (SESOC) vision is for, "An enhanced built environment through structural engineering excellence". SESOC's mission is to promote and advance the science, art and practice of structural engineering for the benefit of society, to uphold the profession of structural engineering, to provide leadership and structural engineering advice to society on key issues, and to meet members' professional and development needs.

Major initiatives included: the SESOC Higher Qualifications and Improved Practice working group's six-centre consultation roadshow; representing SESOC's interests with the Ministry of Business, Innovation and Employment under the Engineering Design Reference Group and Engineering Advisory Group to provide industry governance representation; continuing to support the Canterbury Earthquakes Royal Commission recommendations through initiatives such as providing submissions on occupational regulation, earthquake-prone buildings, engineering/architecture collaboration and the Code of Ethics.

The Society published two SESOC journals and four newsletters, and continued to actively liaise, collaborate and communicate with like-minded societies and institutions such as IPENZ, the New Zealand Geotechnical Society and the New Zealand Society for Earthquake Engineering.

Events included: hosting the Australasian Structural Engineering 2014 Conference, which involved structural engineers from Australia, Asia Pacific, New Zealand and further afield convening in Auckland; and the Otago Structural Group, which had its inaugural meeting, making a total of six regional structural groups throughout New Zealand. Regional structural groups hosted a variety of local meetings for members.

### Centenary activities

Providing funding for the Auckland Structural Group to host evening functions for the seismic strengthening of the following historic buildings: the Auckland Art Gallery, the Auckland Town Hall and the Civic Theatre.

## TIMBER DESIGN SOCIETY

**Chair:** Daniel Scheibmair
**Membership:** 420

The Society's purpose is to foster the advancement and dissemination of knowledge relating to the design of timber structures and elements.

Major initiatives included continued timber industry-wide focus on promoting the use of timber; helping progress the review of NZS:3603 Timber Structures; publishing the *New Zealand Timber Design Society Journal*; revamping the Society's website; and Society attendance at the World Conference on Timber Engineering in Quebec City, Canada.

Events included: technical seminars on connections in timber structures, held in Auckland, Wellington, Nelson, Christchurch and Dunedin; and supporting NZ Wood in hosting the Timber Design Awards in Wellington and providing technical input on the judging panel.

Site visits included a trip to the Trimble building during construction in Christchurch.

# Roll of Honour

IPENZ recognises outstanding individual engineering achievements or contributions.

## Recognition of Service

### Distinguished Fellows

Distinguished Fellows are Fellows who have made eminent contributions to leadership in engineering in a technical or wider context.

Graham Darlow
Patrick Strange
Allan Williamson

### Fellows

Fellowships acknowledge a Member's significant contribution to leadership or to the advancement of the profession or IPENZ.

Kelvin Barclay
Graeme Beattie
Geoffrey Brown
Raymond Brown
John Burden
Grady Cameron
Rodney Cameron
Antony Carter
Alistair Cattanach
Philip Chalk
XiaoQui Chen
Rex Corlett
Grant Covic
David Cruickshanks-Boyd
John Dragicevich
Helen Ferner
Duncan Fraser
Duncan Gibb
Peter Gostomski
Wayne Gyde
Mark Harris
Philip Heatley
Roger Hudson
Jason Ingham
Milo Kral
Stuart Lush
Ian McCahon
David McConnell
Craig McIlroy
Rick Millane
Pierre Quenneville
Keith Robinson
Louis Robinson
Sulo Shanmuganathan
Neil Simmonds
David Warburton
Harvey Weake
Brent Young

### Honorary Fellows

Honorary Fellowships are awarded to those who have made an eminent contribution to the advancement of engineering over an extended period.

No Honorary Fellowships were awarded during this period.

### Life Members

Life Members have been Members of the Institution for no less than 45 years.

IW Anderson FIPENZ
GJ Beever MIPENZ
CJ Boyt FIPENZ
TJ Brown FIPENZ
PF Butler MIPENZ
HL Cheesman MIPENZ
JN Clapperton MIPENZ
JA Clark MIPENZ
LA Clements MIPENZ
MJ Clentworth GIPENZ
TO Cockfield MIPENZ
AJ Cranston MIPENZ
PA Crisp MIPENZ
DCusiel MIPENZ
DG Elms DistFIPENZ
EB Farrant FIPENZ
WG Ferguson FIPENZ
JC Fitzpatrick FIPENZ
BL Gestro MIPENZ
JL Gilbert MIPENZ
BR Gollop MIPENZ
JB Gregory MIPENZ
GG Grice MIPENZ
AE Hammond MIPENZ
GE Hardie FIPENZ
DB Hoyle MIPENZ
DS Hunt FIPENZ
DI Jackson MIPENZ
JM Kennedy MIPENZ
JD Linton MIPENZ
GW Main FIPENZ
NK Mander FIPENZ
WR McDonald FIPENZ
HT Middleton MIPENZ
RJ Morten MIPENZ
JSF Nicholls FIPENZ
RD Odams FIPENZ
RA Peacocke MIPENZ
MJ Pedersen FIPENZ
LB Petherick MIPENZ
AG Ramsbottom MIPENZ
M Ranchhod MIPENZ
CJ Reid MIPENZ
RL Richardson MIPENZ
T Rix-Trott MIPENZ
CM Romer MIPENZ
ID Rowden FIPENZ
PA Sampson FIPENZ
WS Service MIPENZ
CR Stuart FIPENZ
RW Thomson FIPENZ
RJ Thorburn MIPENZ
GW Ward MIPENZ
PJ Wilcox FIPENZ
DR Wilkie FIPENZ
RL Williams FIPENZ
JG Wilson MIPENZ

*"As a not-for-profit membership organisation, IPENZ's continuing work **relies on its volunteers**."*

*Clockwise from top left: Futureintech Ambassador Ivan Nyo GIPENZ from Aurecon explains the components of an electronic Christmas tree at Wainuiomata Intermediate School; Emerging Professional Council members Rebecca Ryder, Fritha Bevin-McCrimmon, Samantha Boone and Rachel Blewden; the Student Engineers' Council; Geotechnical engineer Stuart McCready GIPENZ from Beca helps students at Leamington School measure their garden for a Transpower Neighbourhood Engineers Awards project.*

## Awards

### Fulton-Downer Gold Medal - The President's Award

Craig Price

### Fulton-Downer Silver Medal - The President's Award

Derek Bon

### Turner Award for Professional Commitment

William Gray

### Supreme Technical Awards for Engineering Achievers

This award category is presented in eight engineering fields. The awards alternate annually, with four presented each year.

**Dobson Award for Transportation Infrastructure**
Gary Chalmers

**Rabone Award for Information Communications, Electrical and Electronic Technology**
David Percy

**John Cranko Award for Mechanical and Manufacturing**
Andrew Campbell

**Furkert Award - Sustainability and Clean Technology**
Elizabeth Yeaman

### Ray Meyer Medal for Excellence in Student Design (joint winners)

**Biped Felling Machine**
George Wareing, Sean Bayley, Scott Paulin and Thomas Gilbert, supervised by Stefanie Gutschmidt (Academic Supervisor) and Richard Parker (Industrial Supervisor, Scion)

**Peak Flow Attenuation System**
Anthony Muir, supervised by Bob McGrath

## Recognising our Volunteers

As a not-for-profit membership organisation, IPENZ's continuing work relies on its volunteers. National Office would like to thank all of those who have given their time and energy to support both IPENZ and the engineering profession. This includes (but is not limited to):

- Chairs and Committee members of Branches, Technical Interest Groups, Engenerate chapters and Heritage chapters
- Investigating Committees
- Engineering Practice Committee members
- Practice Area Assessors
- Futureintech Ambassadors
- Mentors
- Emerging Professional Council members
- Student Engineers' Council members
- Contributors to publications
- Standards Accreditation Board and Competency Assessment Board policy paper reviewers and contributors
- Transpower Neighbourhood Engineers
- Those who assist in preparing and reviewing practice notes
- IPENZ representatives on Standards Committees
- Those who support Branch activities.

## Obituaries

RG Grant GIPENZ
BW Brock MIPENZ
RJ Vivian MIPENZ
SMJ Smith FIPENZ
DC Stevenson FIPENZ
JW Bull FIPENZ
AT Proffitt MIPENZ
DB Sumner FIPENZ
CB Coleman FIPENZ
RJ Lund FIPENZ
GS Bell MIPENZ
LG Hassan MIPENZ
RK Green MIPENZ
SJ Hunt MIPENZ
KJ Moulder MIPENZ
CF Candy MIPENZ
EJ Snook GIPENZ
J Kettlewell MIPENZ
RS Gordon FIPENZ
MH White MIPENZ
RI Skinner FIPENZ
JS Spence MIPENZ
JW Blyth MIPENZ
WN Poole FIPENZ
AHD Lewis AIPENZ
JM Taylor MIPENZ

## Recognition of Sponsors

### Fellows' and Achievers' Dinner
SCIRT Tight 5, Opus, MAS, Pacific Steel and GHD

### Centenary Lecture
Beca

### Pickering Lecture
Meridian

### International Engineering Alliance Dinner
AECOM

### Photo Competition
Downer and Air New Zealand Holidays

### Remuneration Survey
RobLawMax Recruitment

### National Branch Sponsors
Abley Transportation Consultants, Fonterra, Markplan Consulting, MWH, Fulton Hogan, Aurecon, Harrison Grierson, Electrix, Fraser Thomas, MB Century and Pattle Delamore Partners

### Individual Branch Sponsors

**Christchurch**
Davis Ogilvy

**Auckland**
Dominion Constructors, Downer Group, New Zealand Society for Earthquake Engineering, Sika New Zealand and Knauf New Zealand

**Timaru**
Downer Group, Fulton Hogan, Rooney Earthmoving, Opus International, Alpine, Primeport, Ward Consulting, Milward Finley Lobb and GHD

**Waikato**
Traffic Design Group, Opus International, Hawkins Construction, Beca, Gray Matter and Higgins Contractors

**Taranaki**
Powerco and Worley Parsons

**Manawatu**
Powerco and Bloxam, Burnett & Olliver Ltd

# IPENZ Foundation

## The Foundation helps Members and their families who have suffered misfortune. It also undertakes a public good role on the profession's behalf.

The IPENZ Foundation's objectives are to: encourage New Zealand school leavers into tertiary education in engineering and technology and educate New Zealanders on the role of technology and engineering in sustainable economic, environmental and social development, and on significant engineering and technological achievements that form part of New Zealand's national heritage. It aims to further, in New Zealand, the development and practical application of scientific knowledge in engineering or technology for the wider public good, and to assist New Zealand Members suffering hardship due to physical or mental sickness, disability or incapacity to participate in education or rehabilitation programmes that enable them to resume a career.

The focus in 2014 has been on the first objective, and to this end six scholarships were awarded to students commencing tertiary engineering study at New Zealand universities. These have been co-funded with IPENZ Branches in Auckland, Waikato-Bay of Plenty, Tauranga, Hawke's Bay, Nelson-Marlborough and Canterbury.

The other priority is assisting Members in temporary financial difficulties or who are unable to work due to medical reasons. The Foundation encourages the IPENZ Branches to identify those who might be in such situations and to help find practical ways they or their families could be assisted.

The Foundation was also pleased and proud to again sponsor the William Pickering Award for Engineering Leadership at the 2013 New Zealand Engineering Excellence Awards. This went to Ron Carter and Richard Fenwick for their contributions as members of the Canterbury Earthquakes Royal Commission.

Other activities included: providing funding for the Skills Organisation (formerly ETITO) Schools-Industry visits programme; and supporting the IPENZ Heritage Board in recognising sites of significant engineering achievement within New Zealand.

Craig's Investment Partners continues to advise and manage the Foundation's portfolio, to provide the best possible return through a moderately conservative investment approach.

### Foundation Trustees

**Roly Frost – Chair**
John Boshier
Carol Caldwell
Neville Jordan
Tiina Hall-Turner
Peter Jackson

*Richard Fenwick and Ron Carter, winners of the 2013 William Pickering Award for Engineering Leadership with the Hon. Nick Smith (left) and IPENZ Foundation Chair Roly Frost (right). The award was presented at the New Zealand Engineering Excellence Awards evening in November 2013.*

# Registration Authority



Historically, engineers desired a governing body to define and uphold standards, and for those who met this standard to be registered.

**2000**

The Hon. Nick Smith FIPENZ, one of only two engineers in Parliament, drafted a private members bill for chartered professional engineers.

**2002**

**Legislation change**

The Chartered Professional Engineers Act became law in 2002, with IPENZ appointed as the Registration Authority. The Quality Mark replaced the outdated Engineers Registration Act.

## 2008
### Engineering Heritage
The Engineering Heritage Board was created on 1 April to strengthen the recognition of heritage sites in New Zealand.

## 2010-2011
### Canterbury Earthquakes
Devastating earthquakes resulted in building collapses, wrecked infrastructure and killed 185 people. Engineers were called upon to assess and rectify the damage. A Royal Commission of Inquiry subsequently produced numerous recommendations, especially in relation to building and engineering standards.

# Registration Authority

The Chartered Professional Engineers Act establishes IPENZ as the Registration Authority.



## Chartered Professional Engineer

Chartered Professional Engineer (CPEng) is the most important quality mark attesting to the current competence of a professional engineer in New Zealand. It is a statutory title under the Chartered Professional Engineers of New Zealand Act 2002. Registration is gained by demonstrating competence to the standard required by the CPEng Rules and is reassessed for currency at intervals not exceeding six years. The CPEng Register is an electronic register available at all times to the public. It includes the date each registrant's next competence assessment is due.

A total of 284 assessments for admission and 832 submissions for continued registration for CPEng were received.

There were 263 new registrants added to the CPEng Register during the year, bringing the total number on the Register to 3,375. They included 45 Category A Recognised Engineers and 19 Design Verifiers. Twelve applications for assessment for admission to CPEng were declined; six registrants died and 92 were removed (either for non-payment of fees or for not meeting the standards for continued registration). Sixteen registrants resigned and none remain suspended (after failing either to pay fees or submit a portfolio of evidence for continued registration). There were no requests for procedural review and no appeals lodged in relation to any assessment decisions.

In response to a recommendation from the Canterbury Earthquakes Royal Commission, the Registration Authority moved to publish practice field information on the CPEng Register. The publication of this additional information is intended to provide indicative guidance on each Chartered Professional Engineer's area of engineering practice and assist members of the public to select a suitable engineer. IPENZ, in its role as the Registration Authority, submitted an annual review on its Registration Authority activities for the 2013 year to the Chartered Professional Engineers Council in March 2014. After accepting the review, the Council reported to the Minister of the Crown responsible that IPENZ had met its Registration Authority obligations for 2013. A levy of $70,000 was paid to the Council to fund its activities under the Act.

## Competency Assessment Board

The Competency Assessment Board moderates assessments to ensure standards of competence are consistently applied. It is the final decision-making body for all competence assessments for entry into one of the competence graded Membership classes or admission to, or continuation on, one of the registers of current competence.

### Competency Assessment Board Members

**Stephen Jenkins - Chair**

Hamish Denize
Michael Fulton
Ben Holland
Gijs Hovens
Gordon Hughes
Peter Millar
Sulo Shanmuganathan
Jeffrey Wilson

## Members passing competence assessments at CPEng level

### Northland

AM Bax
GR Harding
CG Summers
AC Venmore
SR Viskovic

### Auckland

DA Alexander
R Amigh
A Bahho
PL Beazley
DK Bell
DJ Bentham
GL Blakeley
SL Boone
IG Booth
CP Brownlow
BA Burrowes
JH Bydder
DJ Carr
PK Carter
WW Chan
ES Claridge
AM Congalton
DP Datta
AP De Bruyn
OR De Lautour
BR Deets
JE Donald
KG Drinkrow
Y Du
J Edwards
JA Elliott
S Everett
CP Every
ME Foster
H Franz
AR Gardiner
LD Gordon
AJM Grace

K Hancock
BG Harkness
OJ Hawes
MA Heather
JOF Hodkinson
NS Hohaia
BJ Holliss
A Hoogerbrug
RH Huang
DW Hughes
RN Jhala
AD Johnson
NE Jolly
WY Kam
MG Kang
P Kaushik
JC Knight
DL Kubik
B Kumar
WM Kurera
JLN Lavoie
S Lawrence
Y Li
BF Lindsay
QP Li
A Lua
FM Lyttle
IC Manley
DR Manning
RJ McKelvey
CS McLaren
SP Milnes
DR Mockett
AP Nicholson
NC Nitsche
HCJ Ok
M Paget
M Paramesh-waran
SK Paruchuri
Y Peng
EA Peters
V Ragunathan
LR Ranasinghe
KJ Roberts
N Rooseboom
S Sam
G Sankar
M Schofield
KJ Shi
NL Smalberger (Brown)
GDB Smith
FF Tan
HI Tan
RA Tan
LJ Taylor
CKK Teh
A van Rossen
JT Vaotogo
HYC Wan
IL Watson
AC Wilding
M Williams
WR Wu

## Waikato-Bay of Plenty

RD Cathcart
JL Caufield
GJ Cottrell
E De Peralta
RA Ehlert
G Govender
NA Hayes
JRC Hunter
JW Kronast
DS Pearl
RA Slight
NJ Toumia

## Tauranga

J Briffa
CM Dullnig
R Grobler
AB Holden
AR Khanal
MJ Packard
SD Pasley
D Singh

## Taranaki

DJ Caldwell
RD Harrison
SR Hodges
JR Hortillosa
KJ King
SS Mathew
AH Percival
AM Service
MO Siddiqui
PE Stanley

## Hawke's Bay

MD Kemsley
TJ Mason

## Manawatu

JP Adams
DJ Mulholland

## Wellington

CT Aguas
DNA Barnard
PR Bishop
IJ Black
SR Butler
EM Byrne
GA Cassidy
N Caughey
HE Cherrill
I Davison
KA Donlan
DJ Forste
FJ Glenie
DR Hall
K Helm
AR Hope
LM Jayamohan
PM Johnson
MA Le Quesne
L Li
RLA Murray
MJ Newton
PM Owen
RJ Parker
SRN Preston
JH Pretorius
RJ Ramilo
PN Robins
CR Speed
MCH Ting
JPJM Verano
CJ Washington
HR Young

## Nelson-Marlborough

AM Farreyre
RD Greatrex
SM Large
KR Suleiman
MM Younghusband

## Canterbury

FA Ambury
S Anand
CA Armstrong
JC Arts
JC Bain
JD Brouard
LR Buhagiar
TA Buxton
DAD Carshalton
MCS Cherry
JA Collie
PMNA da Silva
GD Ellis
JA Falconer
MJ Gnad
BR Haines
KA Hartel
MF Haryono
LP Kendal Riches
FM Lanning
DA Latham
MF Lazzaro
GT Livingstone
DS Mallett
DJ Marriott
BR McIllwrick
JG Mitchell
TJ Morten
RJ Noble
CCE Oldfield
AE Page
GD Prien
R Ray Biswas
CA Rhodes
PF Rivett
PJ Roberts
CJ Roxburgh
KM Shine
T Simoes Pinot Santos
SM South
ZKP Teh
CR Thomson
H Turnbull
M Uno
JT Walker
ER Wasilowski
MJ Wenborn
THC Wong
TJ Wright
ZP Wu
NB Yannakis

## Otago

ASJ Allan
R Bond
JJ Booth
GM Dent
DI Hand
TF Lusk
TA Moore
CN Rathbone

## Australia

AP Bekker
TW Irwin
N Kenyon
FCS Mellish

## Canada

AP Robbins
D Ross

## South East Asia

MP Dowling

## United Kingdom

MP Bell
BHF Drake
S Harkess
AR Laird
RJG Watson

## United States

AA Avalos Recinos
CJR Guertin

# Financial Statements



At the end of each financial year, the governing Board prepares an Annual Statement of Accounts, which after being certified by the Auditor, is circulated to Members and laid before the Annual General Meeting for Members' approval.

**2014**

## A diverse profession

Today IPENZ supports **17 Branches**, and **over 25 Technical and Special Interest Groups and Collaborating Technical Societies**, representing a wide geographical scope and several technical fields.

**2014**

## Feeding the pipeline

Student and Graduate Members make up **almost 50 per cent** of today's Membership.

**September 2014**

IPENZ Membership almost reached the **16,000** mark.

## OUR FUTURE

**IPENZ's first female Chief Executive, Susan Freeman-Greene starts in February 2015. Changes are tabled in relation to the registration of professional engineers, health and safety and the code of ethics.**

# Financial Summary



## Report of the Independent Auditor on the Summary Financial Statements

### TO THE MEMBERS OF THE INSTITUTION OF PROFESSIONAL ENGINEERS NEW ZEALAND

The accompanying summary financial statements, which comprise a summary statement of financial position as at 30 September 2014, a summary statement of comprehensive income, summary statement of changes in equity and summary cash flow statement for the year then ended, and related notes, are derived from the audited financial statements of The Institution of Professional Engineers New Zealand. We expressed an unmodified audit opinion on those financial statements in our report dated 2 December 2014.

The summary financial statements do not contain all the disclosures required for full financial statements under generally accepted accounting practice in New Zealand. Reading the summary financial statements, therefore, is not a substitute for reading the audited financial statements of The Institution of Professional Engineers New Zealand.

### Board's Members Responsibility for the Summary Financial Statements

The Board Members are responsible for the preparation of a summary of the audited financial statements in accordance with FRS-43: Summary Financial Statements.

### Auditor's Responsibility

Our responsibility is to express an opinion on the summary financial statements based on our procedures which were conducted in accordance with International Standards on Auditing (New Zealand) (ISA (NZ)) 810, Engagements to Report on Summary Financial Statements.

Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the summary financial statements are free from material misstatement.

Other than in our capacity as auditor we have no relationship with, or interests in, The Institution of Professional Engineers New Zealand.

### Opinion

In our opinion, the summary financial statements derived from the audited financial statements of The Institution of Professional Engineers New Zealand for the year ended 30 September 2014 are consistent, in all material respects, with those financial statements in accordance with FRS-43.

**Grant Thornton New Zealand Audit Partnership**
**Wellington**
**2 December 2014**

# Institution of Professional Engineers New Zealand (Inc)
# Summary Statement of Comprehensive Income
For the Year Ended 30 September 2014

| | 2014 | 2013 |
|---|---|---|
| **Income** | **$** | **$** |
| Member Subscriptions and Related Fees | 3,761,213 | 3,543,709 |
| Competency Assessment Fees | 998,420 | 692,614 |
| Contract Income | 1,276,790 | 1,435,656 |
| Interest | 352,218 | 345,228 |
| Other Income | 2,598,714 | 2,451,342 |
| Technical and Special Interest Groups | 1,272,820 | 764,810 |
| **Total Revenue** | **10,260,175** | **9,233,359** |
| **Expenditure** | | |
| Consultancy Competency Assessments | 543,164 | 322,259 |
| Depreciation and Amortisation | 207,942 | 180,289 |
| Direct Contract Expenses | 291,147 | 305,658 |
| Publishing, Production and Distribution Costs | 298,322 | 350,233 |
| Employee Remuneration | 4,587,551 | 4,335,133 |
| Travel and Meeting Expenses | 274,088 | 513,765 |
| Other Expenses | 3,581,696 | 3,031,711 |
| Technical and Special Interest Group | 1,296,920 | 782,427 |
| **Total Expenditure** | **11,080,830** | **9,821,475** |
| **Surplus/(Deficit before Tax** | **(820,655)** | **(588,114)** |
| **Income Tax Expenses** | **-** | **-** |
| **Net Surplus/(Deficit) for the period** | **(820,655)** | **(588,114)** |
| **Other Comprehensive Income** | **-** | **-** |
| **Total Comprehensive Income for the Period** | **(820,655)** | **(588,114)** |

# Summary Statement of Financial Position
## As at 30 September 2014

| | 2014 | 2013 |
|---|---|---|
| **Current Assets** | **$** | **$** |
| Cash and Equivalents | 231,911 | 1,099,638 |
| Bank Term Deposits - Current | 5,650,313 | 5,585,000 |
| Trade Debtors and Other Receivables | 417,604 | 546,295 |
| Prepayments | 139,012 | 146,736 |
| **Total Current Assets** | **6,438,840** | **7,377,669** |
| **Non Current Assets** | | |
| Bank Term Deposits - Non-current | 1,000,000 | 1,000,000 |
| Property, Plant and Equipment | 365,064 | 311,962 |
| Intangible Assets | 151,607 | 28,314 |
| **Total Non Current Assets** | **1,516,671** | **1,340,276** |
| **TOTAL ASSETS** | **7,955,511** | **8,717,945** |
| **Current Liabilities** | | |
| Trade Creditors and Other Payables | 1,148,107 | 942,852 |
| Income Received in Advance | 1,621,532 | 1,799,705 |
| Employee Entitlements | 443,091 | 411,952 |
| **Total Current Liabilities** | **3,212,730** | **3,154,509** |
| **Net Assets** | **4,742,781** | **5,563,436** |
| **Represented By: Members Funds** | **4,742,781** | **5,563,436** |

## Summary Statement of Changes in Equity
For the Year Ended 30 September 2014

| | 2014 | 2013 |
|---|---|---|
| **IPENZ National Office** | **$** | **$** |
| Opening Balance | 3,825,968 | 4,295,235 |
| Net Surplus for the year | (820,655) | (588,114) |
| Transfer from (to) Futureintech Continuation Reserve | 300,700 | 84,630 |
| Transfer from (to) IPENZ Centenary Reserve | 211,750 | 16,600 |
| Transfer from (to) Technical and Special Interest Group Reserve | 24,098 | 17,617 |
| | 3,541,861 | 3,825,968 |
| **IPENZ Centenary Reserve** | | |
| Opening Balance | 211,750 | 228,350 |
| Transfer from/(to) IPENZ National Office | (211,750) | (16,600) |
| | - | 211,750 |
| **Futureintech Continuation Reserve** | | |
| Opening Balance | 300,700 | 385,330 |
| Transfer from/(to) IPENZ National Office | (300,700) | (84,630) |
| | - | 300,700 |
| **Technical and Special Interest Group Reserve** | | |
| Opening Balance | 1,225,018 | 1,242,635 |
| Transfer from/(to) IPENZ National Office | (24,098) | (17,617) |
| | 1,200,920 | 1,225,018 |
| **Total Equity** | **4,742,781** | **5,563,436** |

## Summary Statement of Cash Flows
For the Year Ended 30 September 2014

| | 2014 | 2013 |
|---|---|---|
| **Cash Flow from Operating Activities** | **$** | **$** |
| Cash was provided from: | 10,223,126 | 9,586,333 |
| Cash was disbursed to: | 10,641,203 | 9,688,220 |
| **Net Cash Flow from Operating Activities** | **(418,077)** | **(101,887)** |
| **Cash Flow Applied to Investing Activities** | **(384,337)** | **(95,404)** |
| Net Increase in Cash Held | (802,414) | (197,291) |
| Add Cash and Short Term Deposits at the start of the Year | 6,684,638 | 6,881,929 |
| **Cash and Short Term Deposits at year end, represented by Westpac Bank** | **5,882,224** | **6,684,638** |

# Notes to the Summary Financial Statements
## For the Year Ended 30 September 2013



The summary financial statements have been extracted from the full financial statements for the reporting entity, The Institution of Professional Engineers New Zealand Incorporated (the 'Institution'). The Institution is incorporated under Incorporated Societies Act 1908. The full financial statements have been prepared in accordance with generally accepted accounting principles (New Zealand GAAP). They comply with New Zealand equivalents to International Financial Reporting Standards (New Zealand IFRS), applying differential reporting exemptions as the Institution has no public accountability and are not large and other applicable Financial Reporting Standards as appropriate to public benefit entities. The financial statements are presented in New Zealand dollars which is the functional currency of the Institution.

The summary financial statements can not be expected to provide as complete an understanding as provided in the full financial statements. The Institution has prepared these summary financial standards in line with FRS-43. The full financial statements, including the summary financial statements, were authorised by the IPENZ Board on the 2 December 2014 and signed by the President and the Chief Executive and have been subject to audit and an unqualified audit report was issued on 2 December 2014.

The full financial statements are available for viewing or downloading at **www.ipenz.org.nz/members**

The accounting policies adopted are consistent with those of the previous financial year. There were no contingent liabilities at balance date and there are no post balance date events that need to be disclosed.

### TECHNICAL AND SPECIAL INTEREST GROUPS (TIGS AND SIG)

The activities of the (non incorporated) TIGs and SIG and the related revenue and expenditure are recorded in the Statement of Comprehensive Income with any surplus or deficit being transferred to the TIGs and SIG funds in the Statement of Financial Position.

### RELATED PARTY

IPENZ Foundation was registered as a Charitable entity under the Charities Act 2005 on 30 June 2008. The Institution provides accounting and administration services to the Foundation. All transactions between the Institution and the Foundation are accounted for through the Foundation Current Account. There are no other related party transactions.

| | 2014 | 2013 |
|---|---|---|
| **Property, Plant & Equipment** | **$** | **$** |
| Computer Equipment and Software | 134,804 | 155,891 |
| Office Equipment | 13,711 | 15,307 |
| Furniture and Fittings | 61,406 | 58,097 |
| Leasehold Improvements – 158 The Terrace | 155,143 | 82,668 |
| **Total Book Value** | **365,064** | **311,963** |
| **Intangible Assets** | **151,607** | **28,314** |
| **Technical and Special Interest Groups** | | |
| Restricted Funds – Westpac Short Term Investments | 1,065,000 | 1,065,000 |
| Current Accounts with IPENZ | 135,920 | 160,017 |
| **Total Technical and Special Interest Groups** | **1,200,920** | **1,225,017** |

### SUBSEQUENT EVENTS

There were no events after balance date requiring reporting or adjustment in the financial statements (2013: Nil)

# IPENZ Foundation
# Financial Summary



## Independent Auditor's Report on the Summary Financial Statements

### TO THE TRUSTEES OF THE IPENZ FOUNDATION

The accompanying summary financial statements, which comprise a summary statement of financial position as at 30 September 2014, a summary statement of financial performance, summary statement of movements in equity and related notes, are derived from the audited financial statements of IPENZ Foundation. We expressed an unmodified audit opinion on those financial statements in our report dated 12 December 2014.

The summary financial statements do not contain all the disclosures required for full financial statements under generally accepted accounting practice in New Zealand. Reading the summary financial statements, therefore, is not a substitute for reading the audited financial statements of IPENZ Foundation.

### Trustees responsibility for the Summary Financial Statements

The Trustees are responsible for the preparation of a summary of the audited financial statements in accordance with FRS-39: Summary Financial Reports

### Auditor's responsibilities

Our responsibility is to express an opinion on the summary financial statements based on our procedures which were conducted in accordance with International Standards on Auditing (New Zealand) 810: Engagements to Report on Summary Financial Statements.

Other than in our capacity as auditor we have no relationship with, or interests in, IPENZ Foundation.

### Opinion

In our opinion, the summary financial statements derived from the audited financial statements of IPENZ Foundation for the year ended 30 September 2014 are consistent, in all material respects, with those financial statements in accordance with FRS-39.

**Grant Thornton New Zealand Audit Partnership**
**Wellington, New Zealand**
**12 December 2014**

## Summary Statement of Financial Performance
For the Year Ended 30 September 2014

| | 2014 | 2013 |
|---|---|---|
| | $ | $ |
| **Income** | | |
| Dividends and Interest Received | 52,691 | 46,662 |
| Realised and Unrealised Investment Gains (Losses) | 851 | 4,099 |
| Donations and Sundry | 15,151 | 34,056 |
| **Total Operating Income** | **68,693** | **84,817** |
| **Expenditure** | | |
| Scholarships and Branch Scholarships | 31,000 | 31,500 |
| Sponsorship | 9,200 | 11,700 |
| Sundry Expenses | 21,457 | 25,159 |
| **Total Expenditure** | **61,657** | **68,359** |
| **Net Income before Unrealised Gains (Losses)** | **7,036** | **16,458** |
| **Unrealised Gains (Losses)** | **33,008** | **49,228** |
| **Net Surplus/Deficit** | **40,044** | **65,686** |

## Summary Statement of Movements in Equity
For the Year Ended 30 September 2014

| | 2014 | 2013 |
|---|---|---|
| | $ | $ |
| Opening Balance | 869,709 | 804,023 |
| Plus Net Income | 40,044 | 65,686 |
| **Total Equity** | **909,753** | **869,709** |

# Summary Statement of Financial Position
As at 30 September 2014

| | 2014 | 2013 |
|---|---|---|
| | $ | $ |
| **Current Assets** | | |
| Cash and Bank | 104,980 | 135,663 |
| Investments | 37,807 | 66,253 |
| Other Receivables and Prepaid Expenses | 10,958 | 21,376 |
| Total Current Assets | 153,745 | 223,292 |
| Non Current Assets | 760,133 | 650,552 |
| **Total Assets** | **913,878** | **873,844** |
| Less Current Liabilities | 4,125 | 4,135 |
| **Net Assets** | **909,753** | **869,709** |
| **Represented By:** | | |
| Accumulated Funds | 800,833 | 751,634 |
| Branch Funds Reserve | 108,920 | 118,075 |
| **Total Equity** | **909,753** | **869,709** |



## Disclosures

The summary financial statements have been extracted from the full financial statements for the reporting entity, IPENZ Foundation. The Foundation's full financial statements have been prepared in accordance with generally accepted accounting principles, in accordance with New Zealand Financial Reporting Standards, applying differential reporting exemptions as the Foundation has no public accountability and is not large. The financial statements are presented in New Zealand dollars which is the functional currency.

The IPENZ Foundation financial statements were authorised by the Foundation Trustees on 12 December 2014 and have been subject to audit and an unmodified audit report was issued on 12 December 2014.

IPENZ Foundation was registered as a charitable entity under the Charities Act 2005 on 30 June 2008.

### RELATED PARTY

The Institution of Professional Engineers New Zealand Inc (the Institution) provides accounting and administration services to the Foundation. There were no other related party transactions during the year ended 30 September 2014.

There were no contingent liabilities at balance date and there are no post balance date events that need to be disclosed. There has been no change to the accounting policies.

The summary financial statements can not be expected to provide as complete an understanding as provided in the full financial statements. The Institution has prepared these summary financial standards in line with FRS-39. The full financial statements for the IPENZ Foundation are available for viewing or downloading at **www.ipenz.org.nz/members**

## Photo acknowledgements

**Contents page:** *Lyttelton Wharf circa 1910. Smith, Sydney Charles. Alexander Turnbull Library, Ref: 1/2-046007-G.*

**Pages 4-5:** *Crowd gathered around the Pan American World Airways Clipper Lightfoot at Whenuapai Airport, 18 September 1949. Whites Aviation Ltd. Alexander Turnbull Library, Ref: WA-21946-G.*

**Pages 16-17:** *Exterior view of the Government buildings in Wellington, 1879. The tram Zealandia (Number 4) can be seen in the foreground. Photo: James Bragge, Te Papa collection.*

**Pages 34-35:** *Looking out over Lake Wakatipu in Queenstown. Photo: © Watcharee Suphaluxana/Shutterstock.*

**Pages 58-59:** *Transpower's new High Voltage Direct Current (HVDC), Pole 3 at Benmore in South Canterbury. Photo: Rroy Sison GIPENZ.*

**Pages 62-63:** *Christchurch Art Gallery. Photo: © Natalia Khalaman/Shutterstock.*

**The Institution of Professional Engineers New Zealand Inc.**
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