

## Who we are and what we're doing

### THE ENGINEERING E2E PROGRAMME

Set up by the Government in 2014 and managed by the Tertiary Education Commission (TEC), Engineering e2e's task is to find ways to attract more students into tertiary study in engineering to help address New Zealand's critical shortage of engineers.



**OUR STEERING GROUP** comprises representatives of key stakeholder groups from the engineering education and employment sectors in a wide range of disciplines. The 17 members of the Group oversee and guide all of our initiatives and are a crucial link to the wider sector, playing an important role in gathering and disseminating information.



## Our goal

**500**



more New Zealand-educated engineering graduates every year

Because of drop-out rates, this equates to:

**3,800**

more students studying STEM subjects at secondary school

**625**

more students choosing tertiary study in engineering

## How we are working

Our work involves:



**Extensive consultation** to find out the views and needs of our many stakeholders in education and industry



**Wide-ranging research** – the key to ensuring our decisions and actions are the right ones



**Collaborative, informed decision-making** for effective initiatives that are fit for purpose



**Funding and support** to make sure initiatives we put in place have the best chance of success

## Our projects and initiatives

### SECONDARY-TERTIARY PATHWAYS PROJECTS

Six tertiary providers – Otago Polytechnic, Ara, WITT, Wintec, Unitec, NorthTec – are collaborating with secondary schools on projects which aim to smooth transitions between secondary school and tertiary education in engineering prerequisite subjects. Projects are off to a good start with positive feedback from all participants. Engineering e2e is providing funding and support over the next two years and will promote project outcomes.



### SPONSORED DEGREES

This major long-term project is exploring how sponsored degrees could be added into our tertiary system and will develop models of delivery. Such degrees will enable both on-the-job training and the completion of a Level 7 qualification in engineering, and are particularly relevant for rapidly changing, high-tech industries.



In 2017, we are funding further research to determine employer needs. We will then set up a pilot based on their responses and our research outcomes.

Our previous research:



*Stepping into One Another's World* (July 2015)  
*UK Degree Apprenticeships: A Year in Review* (November 2016)

### MICRO-CREDENTIALS

We're preparing for the procurement of a number of micro-credential course pilots in engineering education.

This model is in line with the Productivity Commission's recommendation that capable providers are encouraged to experiment with new delivery models.



# Our projects and initiatives

## GROWING THE PIPELINE

We ran a workshop which introduced industry leaders to the Graduate Capability Framework developed by Australian academic Emeritus Professor Geoff Scott. Participants explored how the framework could help determine perspectives on graduate profiles and future skill needs. This workshop led to further New Zealand-based research by Otago Polytechnic and, lately, a proposal to facilitate collaboration between industry and educators to improve the relevance of engineering education.

The *Talking with Employers Workshop Report* was published in August 2015.



*Creating Engineers – Climbing the Educational Staircase* (November 2015) – research examining the application of the Framework in the New Zealand context through interviews with engineering graduates.

## ENGINEERING EDUCATION HUBS

Engineering employers and educators are being consulted to develop a vision and direction for engineering education hubs. Engineering hubs would be regionally-based centres for engineering education and involve employers, high schools, universities, ITOs and ITPs.



## EMPLOYER RESOURCE PORTAL

We are exploring the development of a resource portal that gives employers a single access point for the latest tools to recruit, retain and grow employees in engineering. The portal would include a range of research, examples of good practice and other materials from a large number of sources. A scoping project has surveyed employers on what tools they want and how they wish access to them.



## MAKE THE WORLD

Our major nationwide public awareness campaign Make the World was launched in May 2016. This 12-month campaign has been highly successful in raising awareness and interest in engineering. Key messages are around individual achievements of a diverse range of people, and a project evaluation shows a strong connection with Māori, Pasifika and women.



**We still have work to do to address the balance of graduates across NZDE, NZDEP, BEngTech and BE(Hons).**

**40,823**

[maketheworld.nz](http://maketheworld.nz) has been visited 40,823 times, with an average stay of 46 seconds

**3<sup>RD</sup>** Since the campaign began, engineering has risen from **tenth** to **third** in students' rankings of careers they are considering.

**1,005,339**

Civil engineer Sapoa Rimoni's video profile has been viewed a remarkable 1,005,339 times. Profiles of young engineers on YouTube and other social media are very popular and play an important role in the Make the World campaign.

## COMMUNICATIONS TO EMPLOYERS

We've written plain English definitions of the NZDE, NZDEP, BEngTech and BE(Hons), to raise awareness of roles that graduates with these qualifications could fulfil in employment.

## OUR WEBSITE & NEWSLETTER

Key stakeholders are kept informed through our website and monthly newsletters. The site includes case studies and other examples of innovative and best practice, pdfs of all our publications, and an 'Our Progress' page.

[engineeringe2e.org.nz](http://engineeringe2e.org.nz)

# Our milestones

## 2014

- Project begins in July
- First Engineering e2e Steering Group meeting – extensive consultation begins with all stakeholders
- [engineeringe2e.org.nz](http://engineeringe2e.org.nz) is launched
- *Monthly newsletters* begin
- *Engineering Barriers and Responses*
- NEEP Reference Group meeting
- Alternative Engineering Pathways Professional Forum

## 2015

- *Improving Pathways to Engineering Technology Education*
- Strategic update #1 for Minister: *Engineering Change*
- Pathways Pilot begins
- Talking with Employers Workshop and *Report*
- First of our regularly updated *Work Plans*
- *Stepping into One Another's World*
- *Creating Engineers – Climbing the Educational Staircase*
- Strategic update #2 for Minister: *Engineering Our Future*

## 2016

- *Make the World* public awareness campaign launches in May
- Government announces extra funding
- Secondary-Tertiary Pathways Projects begin
- *Making Tertiary Study in Engineering More Relevant*
- *UK Degree Apprenticeships: A Year in Review*

## 2017

- Resource Portal scoping complete
- Research on Sponsored Degrees continues
- Engineering Education Hubs investigation begins
- Project to raise employer awareness of NZDE, NZDEP and BEngTech begins
- Engineering Micro-credentials Pilot procurement underway



May 2017