

# Introducing the Engineering Education-to-Employment Programme

Engineers are critical to New Zealand's future success, yet we are facing a shortage of them. The field of engineering and technology offers some of the most rewarding, challenging and exciting careers there are, yet we struggle to attract students to engineering degrees.

Pretty much anything exciting that happens in society involves engineering and technology. Engineers do more than study the environment we live within; they work to improve it – finding solutions to real world problems in ways that move society and technology forward.

This might be anything from improvements in aviation, to designing mechanical sets for films and theatre, to addressing air pollution, fire safety, traffic planning, to advancements in computer technology and everything in between.

The trouble is it continues to be one of the least understood fields – in short, it doesn't get the credit it deserves. We want to change that.

## The Engineering Education-to-Employment (E2E) Programme

With all of this in mind, a team of representatives from across both the engineering profession and the education sector began working together some time ago to consider how best to tackle these issues together.

This has led to the Engineering Education-to-Employment Programme, or the E2E Programme, which focuses on four key elements:

- A nationwide marketing campaign to promote a more accurate and exciting view of careers for engineering technicians and technologists

- Greater support for students who are interested in engineering - through scholarships, bridging courses and other initiatives
- Creating incentives for greater collaboration between ITPs and industry to grow the engineering pipeline together
- A national plan to increase connectedness between the tertiary and secondary education sector

It would seem that the biggest barrier we face in growing the number of engineers in New Zealand is that the field itself is poorly understood and it's myriad contributions to society so often go unrecognised. As a result it is poorly promoted and those who do take an interest in pursuing it are sometimes poorly prepared for the journey they are about to begin.

We are working to address this but we need your help.

In particular, we are seeing too few students enrolling in engineering qualifications – particularly in Level 6 and Level 7 courses. The E2E Programme is about working together to address the shortfall and give engineering the support and profile it deserves. We are looking for your support across each of the four key areas of the programme.

## The National Campaign

We want to promote a better understanding of engineering and its opportunities. This isn't about false advertising or insincere PR. We don't need to make engineering sexy or exciting - it already is. We need to help people understand it better.

*»By working together to improve the understanding and perception of engineering, we make it easier for people to find a career path that can offer them every opportunity in the world.«*

Neville Jordan CNZM BE DEng(hc) DistFIPENZ  
Chair, E2E Steering Group



We intend to develop a national campaign that presents a more accurate, more engaging perception of engineering and the opportunities it offers.

We are looking for stories, examples, and case studies of engineering companies and staff that highlight the range of engineering opportunities and career choices out there.

An individual's career and study choices are influenced by parents, friends, family members, teachers and careers advisors who base their advice on what they believe about engineering and the future prospects it is likely to offer.

We need to influence these influencers – and the most influential voices for doing that will always belong to those who are likely to employ them. We need your help to enlist the support of industry representatives and organisations that employ engineers, so that potential students can hear directly from them.

### **Greater support for students who enrol in Engineering**

The vast range of potential applications for engineering and the different levels of qualification available means that we can offer opportunities for students at all ends of the education and academic continuum.

However, we are finding that not all students who enrol in an engineering qualification have taken the desired STEM subjects (science, technology, engineering and maths) at school. We are beginning to work much more closely with the secondary system to improve this, as well as looking to increase the availability of bridging courses and other support structures for those interested in engineering but who are not as prepared as we would like.

### **Closer collaboration between education providers and industry**

We are looking for employers and others in the engineering industry to help undergraduate students to gain more industry experience through cadetships, work placements, and other initiatives that give them greater exposure to different avenues and applications for engineering as a profession.

Alongside support for general promotional initiatives such as launch events and site visits, we are also looking for industry members to join an employer reference group. It's an opportunity to contribute your thoughts, experiences and advice as we consider how best to grow the education pipeline in order to meet the expected needs of the

industry in the coming years.

We would also like to be able to offer more scholarships to potential students to make engineering a more accessible and attractive option.

### **Closer connection between the tertiary and secondary education sectors**

Finally, we are looking to create much closer interactions with secondary schools to support their understanding and encouragement of engineering as an educational pathway.

Teachers have significant influence over the career and study choices their pupils make. It's crucial that they have an accurate understanding and a positive perception of engineering and the potential opportunities and development it could offer their students.

We are keen to hear from businesses, employers, and engineers themselves who are interested in supporting these initiatives through school visits, site visits and other ideas.

### **Getting Involved**

As you can see there is a lot underway and plenty of opportunity to get involved.

Engineers enable New Zealand to innovate competitively on the world stage. The shortfall we face can't be left unchecked. If you would like to get involved, or contribute in any of the above ways, we'd love to hear from you.

We often talk about the importance of engineering for our economy and society, but it also has a whole lot to offer each individual. Those who choose careers in engineering and technology have access to some of the most exciting and fulfilling work there is available – they help shape the world we live in.

By working together to improve the understanding and perception of engineering, we make it easier for people to find a career path that can offer them every opportunity in the world.

We know what the barriers are and we know where we need to start.

Now we need your help to make it happen.

We look forward to talking with you.

**Neville Jordan**  
*Chair, E2E Steering Group*