

IN THIS ISSUE ...

... we outline Ako Aotearoa's project and subsequent report, 'Improving Pathways to Engineering Education' and encourage all to check out the 15 new case studies published on the E2E website.

A NEW YEAR BRINGS US NEW OPPORTUNITIES

As highlighted in our feature article, recent research has given us an excellent steer for Engineering E2E project activity in 2015.

As well as Ako Aotearoa's project, last year's Research First report and marketing plan, the outcomes of the Techlink Pathways Project and the case studies of current good practice all highlight the need for continued extensive communication and collaboration between industry and education groups.

Crucial to our work in 2015, is to help ensure there is active and effective promotion of engineering as a career and that the pathways that will enable students to achieve their aspirations are appropriate and clear.

I am encouraged by the level of support we have for our work by all Engineering E2E stakeholders. The Steering Group will be prioritising activity over the coming weeks and we will have details of planned activity in our next newsletter.

SIR NEVILLE JORDAN

Chair, Engineering E2E Steering Group

The Engineering E2E project team would like to congratulate Neville Jordan, who has been awarded a knighthood for services to business, engineering/science and the community.

New research provides clear directions for Engineering E2E activity in 2015

In late 2014, the Tertiary Education Commission (TEC), via the Engineering E2E project, commissioned Ako Aotearoa to identify creative solutions to enable more students to enter and successfully complete engineering courses.

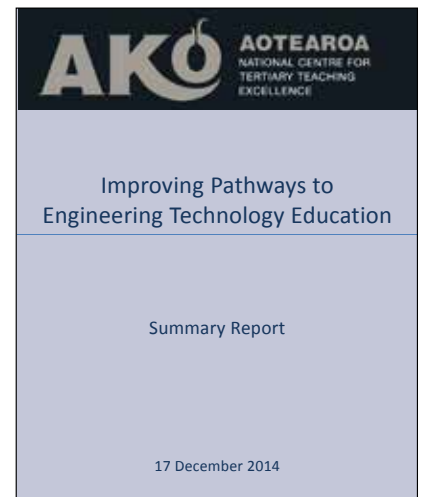
The project was based on a number of key themes, outlined in the background paper (Ako Aotearoa, 2014) and was informed by work done by TEC's Engineering E2E project and other initiatives such as the Futureintech work sponsored by IPENZ and Callaghan Innovation.

Ako Aotearoa interviewed 36 students to examine their experiences of pathways into engineering study and then hosted an Engineering Pathways Professional Forum November 2014.

Engineering educators from ITPs across the country discussed enhancing pathways into engineering to enable more students to participate successfully in the New Zealand Diploma in Engineering (NZDE) and the Bachelor of Engineering Technology (BEngTech).

The forum looked at a range of issues including:

- why there is a need to increase the numbers of students in engineering programmes;
- barriers and enablers both at the institutional and at the government policy level;
- a stocktake on what programmes providers were currently delivering to assist students into engineering study;
- some key themes that were outlined in background papers for the forum;



- emerging issues from student interviews; and
- some concrete proposals and recommendations to TEC for action to address the issues raised.

Ako Aotearoa's project report *Improving Pathways to Engineering Education* concludes that there are excellent opportunities for greater collaboration and leadership between the various participants in the engineering pipeline: secondary schools, tertiary providers, industry and government agencies to work together to provide strategic leadership to market, promote and facilitate engineering study.

From a learner perspective, effective alternative pathways will allow students with potential who lack specific entry requirements to bridge into these programmes successfully. The experiences of the students who

were interviewed as part of the project indicates that those who had undertaken a foundation or bridging course found this a positive pathway to engineering study and would recommend the bridging study to others.

Ako Aotearoa identifies a number of positive initiatives that engineering providers, in collaboration with industry and government agencies, can take to increase demand for engineering programmes, particularly in the under-represented priority groups of women, Māori and Pasifika learners. Such initiatives include the value of promoting engineering as a career choice and profiling successful engineers from these priority learner groups through a nation-wide marketing campaign.

The recommendations also include ways to encourage participation through the development of a common and more flexible bridging curriculum that may be delivered at both secondary and tertiary levels to ensure optimal

transitions to engineering study for both secondary school students and mature students.

Improving Pathways to Engineering Education makes a number of specific recommendations to TEC including that the Commission considers offering free pathway courses to engineering study and, possibly, the development of increased scholarship or cadetship opportunities for engineering study in diploma and degree programmes that incentivise success in these qualifications.

The report strongly recommends that the TEC funds the development of a common set of flexible engineering bridging courses designed to enable greater participation into engineering study.

[Read the full *Improving Pathways to Engineering Education* report.](#)

New case studies to provide inspiration

While most have been enjoying their summer break, Engineering E2E website staff have been busy uploading 15 new case studies on Engineering pathways, both from an education and an industry perspective. There's some fascinating and important stories told here, of vital interest to educators, employers and students. Here are a few of the latest...

EDUCATION CASE STUDIES

Industry/provider collaboration:

The new NZDE in Clinical

Engineering: In collaboration with industry, MIT has developed a exciting new engineering qualification. **Read more...**



Who better to teach engineering students than industry experts?

Mike Mullany, Head Tutor of NorthTec's NZDE (Civil), talks about his collaborative tutoring programme where 80% of tutors are specialists employed in the engineering industry. **Read more...**



EMPLOYER CASE STUDIES

Why offer a scholarship?

Here's some good reasons:

How providing scholarships works for consulting firm Fraser Thomas. **Read more...**



Internships: A win-win for students and your organisation:

Internships are versatile – you can make them work for you and done well, it's a win-win. The main point is to provide the recipient with experience, along with training and mentoring. **Read more...**



Supporting cadets towards successful engineering pathways:

Having run a successful cadetship programme for some years, in 2013 Downer decided to extend its support for cadets and align the scheme with the degree graduate programme. **Read more...**



Raising awareness of

Temporary Works Engineering:

The scaffolding industry has an urgent need for temporary works engineers and careers in this field, one in which many students, graduates and even engineers aren't aware of the opportunities. **Read more...**



Initiative encourages Māori

career progression:

Fulton Hogan's commitment to encouraging career development and leadership amongst its Māori workforce has led to the establishment of a role specifically designed to implement change. **Read more...**



Defining engineering roles by qualification:

Having a sense of the skills your employees with different qualifications bring to your organisation means employers you can offer workers the best experience and get the best out of them. **Read more..**



IF YOU HAVE ANY ENQUIRIES, PLEASE CONTACT US: ENGINEERING E2E PROGRAMME TEAM

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