

# Work Plan May 2017 (page 1/2)

EDUCATIONAL DELIVERY

EMPLOYER ENGAGEMENT

2017

2018

CURRENT INITIATIVES	LEAD	PROGRESS TO DATE	2017												INDICATORS OF SUCCESS
			MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	
<b>SECONDARY-TERTIARY PATHWAYS PROJECT</b> Engineering e2e is funding projects from secondary schools and tertiary education organisations (TEOs) to work collaboratively to deliver programmes that successfully prepare and pathway students – particularly women, Māori, and Pasifika – into tertiary engineering study. Successful projects will also increase awareness of engineering as a career in the community, and increase enrolments in Level 6–7 engineering qualifications.	ITPs Secondary Schools	<ul style="list-style-type: none"> <li>Pilot completed (2015)</li> <li>Application process for funding set up (Mar 2016)</li> <li>Project promoted to ITPs and schools (Apr 2016)</li> <li>Application/selection process set up and implemented (Jul 2016)</li> <li>Six projects selected and funded (Sep 2016)</li> <li>Project planning meetings held for the funded projects (Nov 2016)</li> <li>First project reports received (Apr 2017)</li> </ul>	<b>SECONDARY-TERTIARY PATHWAYS PROJECT IMPLEMENTATION</b> <i>Government grant funding until June 2019</i> Project support throughout 2017: <ul style="list-style-type: none"> <li>Ongoing evaluation</li> <li>Support implementation</li> <li>Promote project outcomes</li> </ul>												<ul style="list-style-type: none"> <li>Transparent and demonstrably successful secondary-tertiary pathways are in place.</li> <li>A quantifiable marked increase in collaboration between ITPs and secondary schools.</li> <li>Effective bridging programmes are in place.</li> </ul>
<b>SPONSORED DEGREES</b> Exploration/development of models of delivery (particularly relevant for rapidly changing, high-tech industries) which allow both on-the-job training and completion of a Level 7 qualification in engineering.	ITPs Employers	<ul style="list-style-type: none"> <li>Scoping report commissioned (Jane Goodyer) and delivered (Jun 2015)</li> <li>Minister agrees on funding for a pilot 'degree apprenticeship' programme (2015)</li> <li>ITPs and Employers consulted (2015)</li> <li>Research report published – <i>Stepping into One Another's World</i> (Jul 2015)</li> <li>Initial discussions with potential pilot partners held (Nov 2015)</li> <li>Research report published: <i>UK Degree Apprenticeships: A Year in Review</i> (Nov 2016)</li> </ul>	<b>SET UP PILOTS BASED ON RESEARCH OUTCOMES AND EMPLOYER CONSULTATION</b> <i>Workforce Challenge Grant funding until June 2020</i> <ul style="list-style-type: none"> <li>Research to determine employer needs</li> <li>Set up pilot</li> </ul>												<ul style="list-style-type: none"> <li>There is a substantial increase in numbers of employers participating in apprenticeships.</li> </ul>
<b>ENGINEERING EDUCATION HUBS</b> Engineering e2e is consulting employers and educators to develop a vision and direction for engineering education hubs. Engineering hubs would be regionally-based centres for engineering education which involve employers, high schools, universities, ITPs and ITOs.	Massey University	<ul style="list-style-type: none"> <li>A literature review of education hub models, including those currently running in Ireland and Austria (May 2017)</li> </ul>	<b>IMPLEMENTATION</b> <ul style="list-style-type: none"> <li>Investigate a process of engagement with stakeholders to develop a vision and direction for engineering education hubs</li> <li>An outcome of this work will be a set of factors that should be considered when establishing a hub. We want tertiary institutions to be able to operationalise a hub as they see fit but with a clear understanding of what they should achieve</li> </ul>												<ul style="list-style-type: none"> <li>Regionally-based centres for engineering education are in place, involving employers, high schools, universities, ITPs and ITOs.</li> <li>Secondary-tertiary pathways projects, cadetships, scholarships and work experience are run through the hub.</li> <li>New initiatives, including co-created and taught curriculum and degree apprenticeships, are implemented – and initiatives that raise awareness of engineering are supported.</li> <li>Surveys of students and employers report satisfaction with the quality of education.</li> <li>Popular and effective pathways into engineering are established and a single entry point for engineering qualifications is available. Students make good decisions about their courses of study and are able to staircase between qualifications.</li> <li>Learning environments meet the needs of a diverse (and growing) student body, reflected in an increase in tertiary enrolments in engineering subjects</li> <li>Models of work-integrated learning, new teaching modalities and research-led good teaching practice in engineering education is in place, with widespread collaboration and sharing of information and best practice between all providers.</li> </ul>
<b>MICRO-CREDENTIALS</b> Micro-credentials are emerging as an important part of the mix of alternative credentials. These are packages of learning designed to meet specific learner needs that are smaller than a conventional qualification. Implemented well, micro-credentials would provide students and employers with better information, support the mixing and matching of courses, give TEOs more flexibility, and encourage innovation.	Mischewski Consulting	<ul style="list-style-type: none"> <li><i>Micro-credentialing: A model for engineering education?</i> – a report from Mischewski Consulting that explores how micro-credentials might be used to improve the uptake of engineering education, particularly of the New Zealand Diploma in Engineering (NZDE) (May 2017)</li> </ul>	<b>IMPLEMENTATION</b> <ul style="list-style-type: none"> <li>Provide support to sector consortia to develop and deliver micro-credentials pilot(s) based on that outlined in the final report</li> <li>Engage with Government agencies to ensure that investment and regulatory settings support the delivery of the pilot(s)</li> <li>Develop a service specification to guide the selection of consortia and the foci of pilot delivery</li> <li>Direct source procurement for pilot(s), including advice to consortia and validation of their proposed approaches against the model</li> </ul>												<ul style="list-style-type: none"> <li>The pilot will be delivered by a sector consortium or consortia comprising an ITP and ITO involved in engineering education and an engineering professional organisation.</li> </ul>
<b>GROWING THE PIPELINE OF WORK-READY ENGINEERS</b> In 2014, Engineering e2e ran a workshop that 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 and, lately, a proposal to facilitate collaboration between industry and educators to improve the relevance of engineering education.	ITPs	<ul style="list-style-type: none"> <li>Alternative Engineering Pathways Professional Forum held (Nov 2014)</li> <li>Research: <i>Improving Pathways to Engineering Technology Education</i> (Dec 2014);</li> <li>Regional workshop undertaken</li> <li>Case study outcomes published on Engineering e2e website</li> <li>NEEP Reference Group reconvened and skills needs confirmed (Nov 2014)</li> <li>Employer-engagement workshop held (Jun 2015)</li> <li>A pilot workshop on Geoff Scott's Graduate Capability Framework, exploring its use in determining graduate profiles and future skill needs/Workshop participants consulted on ideas for a public awareness campaign (Jun/Jul 2015)</li> <li>Otago Polytechnic contracted to do an engineering graduate study based on the framework in the New Zealand context (Jul 2015)</li> <li>A reference group formed to act as a conduit for ongoing advice and guidance from workshop participants (Jul 2015)</li> <li><i>Talking with Employers Workshop Report</i> published (Aug 2015)</li> <li>Research published: <i>Supporting Excellent Teaching &amp; Learning in Engineering Education; Creating Engineers – Climbing the Educational Staircase</i>, a report into the benefits of staircasing (both Mar 2016)</li> </ul>	<b>IMPLEMENTATION</b>												<ul style="list-style-type: none"> <li>Surveys of employers indicate good engagement.</li> <li>Sustainable collaboration between industry and institutions providing NZDE and BEngTech programmes to ensure best practice for graduate engineers.</li> <li>ITP employment outcome surveys indicate students are being employed before or soon after graduation.</li> </ul>
<b>COMMUNICATIONS TO EMPLOYERS</b> The development and implementation of a communications plan that raises awareness of the value of NZ Diploma in Engineering (NZDE), NZ Diploma in Engineering Practice (NZDEP) and BEngTech graduates amongst small to medium engineering firms – particularly those in regional locations.	Scotts Communications, Engineering e2e	<ul style="list-style-type: none"> <li>Work commissioned and consultation on definitions begun (May 2017)</li> </ul>	<b>IMPLEMENTATION</b> <ul style="list-style-type: none"> <li>Agreed on plain English definitions of the roles able to be carried out by NZDE, NZDEP and BEngTech graduates</li> <li>Case studies of graduates and employers</li> <li>Research on employers' attitudes and needs</li> <li>Prepare a draft communications and engagement plan</li> </ul>												<ul style="list-style-type: none"> <li>Small to medium engineering firms recruit more NZDE and BEngTech graduates.</li> </ul>
<b>RESOURCE PORTAL</b> A resource portal for engineering employers, giving them a single access point for the latest tools to recruit, retain and grow employees, with an emphasis on supporting the development of a diverse engineering workforce. The portal would also link employers to examples of good practice and may also provide a form of 'how to' guide and examples of what others have done.	Ocular, Scotts Communications, Engineering e2e	<ul style="list-style-type: none"> <li>Working group formed, including key industry partners and representation from the Engineering e2e Steering Group to assist in developing set of stories about how people could use the portal developed, written from the perspective of different users (May 2017)</li> <li>Portals from around the world that demonstrate good practice identified and used to visualise the types of portals that can be achieved (May 2017)</li> <li>Design brief and timeline created for the development of portal (May 2017)</li> </ul>	<b>IMPLEMENTATION</b> <ul style="list-style-type: none"> <li>Build and promote a resource portal</li> </ul>												<ul style="list-style-type: none"> <li>A user-friendly portal with good visitor numbers. Feedback indicates that employers find the content valuable.</li> </ul>
<b>GROWTH THROUGH DIVERSITY</b> Proposed preliminary research on how to boost the numbers of women, Māori, Pasifika and other groups in the engineering workforce, with input from other stakeholders, including MoE, NZQA, TPK, MBIE, MPIA and industry	TEC	<ul style="list-style-type: none"> <li>A survey of enrolment demographics completed</li> <li>A stocktake of STEM engagement initiatives completed</li> </ul>	<b>IMPLEMENTATION</b> <ul style="list-style-type: none"> <li>Undertake research and consider recommendations</li> <li>Consider the potential of a resource for engineering employers</li> </ul>												<ul style="list-style-type: none"> <li>Increased numbers of Māori, Pasifika and other groups in engineering workforce.</li> </ul>

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PROMOTION	<b>PUBLIC AWARENESS CAMPAIGN</b> Raise interest in engineering and the broad range of study options available; key messages are around individual achievements of a diverse range of people	IPENZ Employers ITPs OPEN Communi- cations	<ul style="list-style-type: none"> <li>• <i>Engineering Barriers and Responses</i>, a research report on barriers to the uptake of engineering study published (Oct 2014)</li> <li>• <i>Make the World</i>, Engineering e2e's major public awareness campaign, launched (May 2016, ongoing)</li> <li>• Wave One evaluation complete and available</li> <li>• Wave Two evaluation complete and available</li> </ul>	PROGRAMME OF ONGOING INITIATIVES <i>Government grant funding until June 2017</i> <ul style="list-style-type: none"> <li>• Make the World public awareness campaign continues:               <ul style="list-style-type: none"> <li>• Continued rollout of media schedule (OPEN Communications)</li> <li>• Next wave of evaluation (OPEN Communications)</li> <li>• Communications Plan to inform key stakeholders about the campaign and engage employers and ITPs to support implementation and provide leverage (IPENZ)</li> </ul> </li> <li>• Survey of enrolling students on what influenced their decision to study engineering (by 2018)</li> </ul>																<ul style="list-style-type: none"> <li>• Improved public awareness of engineering and the education pathways to the engineering profession.</li> </ul>
	<b>ENGINEERING e2e WEBSITE AND COMMUNICATIONS</b>	Engineering e2e	<ul style="list-style-type: none"> <li>• Regional launches held (Jul-Aug 2014)</li> <li>• Two infographics published: <i>Make the World</i> and <i>Leaky Pipeline</i> (Jan 2015)</li> <li>• Participation in the Metro BEngTech and NZDE Forum (Feb 2015)</li> <li>• Two strategic reports published: <i>Engineering Change</i> (Mar 2015); and <i>Engineering Our Future</i> (Nov 2015)</li> <li>• <i>Good Practice Case Studies</i> published (ongoing)</li> <li>• <i>Engineering e2e Work Plan</i> (this document) published (2014 and ongoing regular updates)</li> <li>• Discoveries section added to the website</li> <li>• Monthly newsletter and other regular communications</li> <li>• Current publications reviewed and updated</li> <li>• Series of infosheets published (Apr 2017)</li> </ul>	ONGOING PROMOTIONAL ACTIVITY <ul style="list-style-type: none"> <li>• Continue to publish case studies, newsletter and regular communications</li> <li>• Develop a communications plan for 2017</li> </ul>																<ul style="list-style-type: none"> <li>• Stakeholders are kept up to date with Engineering e2e activity.</li> </ul>
GUIDANCE	<b>ENGINEERING e2e PROGRAMME MANAGEMENT</b> Consult with stakeholders and oversee the development and implementation of Engineering e2e initiatives	TEC	SUCCESSFUL COMPLETION OF AGREED INITIATIVES	ONGOING OVERSIGHT OF ENGINEERING e2e INITIATIVES <ul style="list-style-type: none"> <li>• Ongoing consultation with stakeholders throughout the development and implementation process</li> </ul>																<ul style="list-style-type: none"> <li>• Stakeholder satisfaction with the nature, development and implementation of Engineering e2e initiatives.</li> </ul>
	<b>ENGINEERING e2e STEERING GROUP</b>	TEC	SUCCESSFUL COMPLETION OF AGREED INITIATIVES <ul style="list-style-type: none"> <li>• TOR &amp; MO reconsidered and updated</li> </ul>	ONGOING GOVERNANCE <ul style="list-style-type: none"> <li>• Providing advice/guidance</li> </ul>																<ul style="list-style-type: none"> <li>• Engineering e2e goals achieved and an increasing number and diversity of students are graduating with engineering qualifications, particularly at Levels 6 &amp; 7.</li> </ul>