



## Aide-Memoire: ICT Graduate Schools 2017 Annual Reports

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<b>To:</b>	Hon Chris Hipkins, Minister of Education
<b>From:</b>	Section 9(2)(a)
<b>Date:</b>	10 April 2018
<b>Reference:</b>	AM/18/00167

### Purpose

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1. This briefing provides you with information about the progress the ICT Graduate Schools (the Schools) have made to deliver ICT graduates to meet industry skills needs.
2. We recommend that you release this aide-memoire in full once it has been considered by you.

### Background

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3. Budget 2014 allocated \$28.6m over four years for an ICT Graduate School programme. These Schools have the objective of bringing employers into the design and delivery of education, and research and development. The ultimate aim is the delivery of more graduates with the high-level, industry focused ICT skills and knowledge sought by businesses.
4. Three ICT Graduate Schools have been established in Auckland (delivery sites in Auckland and Hamilton), Wellington and the South Island (delivery sites in Christchurch and Dunedin). Each is linked to local industries' innovation precincts or technology hubs. More information about the Schools can be found in Appendix 1.
5. The Schools differ in the type of provision each offers, which reflects regionally located skills needs. Examples include:
  - Auckland's programmes are targeted to the skills needs of local business;
  - Wellington's Masters programmes in Design, which complements the regional film and animation industries; and
  - The South Island's courses targeting those in on-going ICT employment in ICT and short courses for primary and secondary school ICT teachers.

### Engaging with industry to develop relevant educational provision

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**Industry is actively involved in shaping the curriculum at the Schools in order to ensure they deliver the skills industry needs**

6. Industry representatives are involved in the Governance and Advisory Boards for each School, where they are able to influence the strategic direction and outcomes that each School delivers. Additionally, all three ICT Graduate Schools have established other relationships with industry representatives, who provide direct feedback to ensure the School's offering has industry relevance.

7. Strong relationships with industry has strengthened the Schools' provision through industry-led lectures, bespoke skills courses and networking events. Links with industry also allow academic staff delivering Graduate School programmes to engage with industry and further facilitates co-operation between industry and academia. Networking events and industry-presentations also provide opportunities for staff and students to gain insight into current and future trends and skills needs.
8. The Auckland and Wellington Schools both indicate that, now they are fully established, there are opportunities to develop research projects with industry. This indicates that industry is now willing to commit resources to the Schools on a longer-term basis and strengthen its connections to academic staff as well as students.

**There are growing opportunities for students to gain skills and abilities required for their future careers**

9. All three Schools are working with industry to provide students with real-world learning opportunities through internships, placements, projects and practicums. This high degree of industry contact enables Schools to provide a learning experience for students that is a realistic preparation for working in the ICT sector.
10. Masters students undertook internships as part of their academic programme and the Schools reported that several students were later employed by their host company. Feedback from industry indicates that students who completed internships were highly regarded and there are indications that the 'try before you buy' nature of the internship was particularly appealing for would-be employers. Examples of firms that contributed internships include Genesis Energy, Deloitte, BNZ, Sentient Software, CloudM, Stantec, AbacusBio and TradeMe.
11. In addition to internships, the Schools provide students with opportunities to develop and expand on their soft skills including entrepreneurial programmes and workshops to develop CV writing and interview skills.

**The financial contribution from industry is growing, indicating industry is more confident to invest in growing talent**

12. Anecdotal evidence indicated that initially industry was reluctant to invest in the Schools without evidence of the benefits investment would bring. However, there are now signs that industry wants to strengthen its engagement and commit to establishing relationships with the Schools.
13. There has been a significant increase in industry funding at both the Wellington and Auckland ICT Graduate Schools (Appendix 1). It is noted that the South Island does not report on the amount of industry funding it receives as this is not a focus for its operating model.
14. To-date most of the funding received has been for student stipends or event sponsorship but the Schools are working on strategies to increase the amount of industry funding they receive and attract funding for other activities such as research. In addition, industry is donating 'in-kind' funding to the Schools in the form of software, industry speakers/lecturers, and mentors.

## **EFTS delivery at the ICT Graduate Schools**

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**EFTS delivery in 2017 was greater than 2016, but is still below cumulative targets**

15. When fully established (end of 2018), the ICT Graduate Schools are collectively intended to deliver 300 new ICT EFTS. Over-delivery at the Auckland School means that collectively the Schools are on-track to meet this target (223 EFTS delivered to the end of 2017).

16. However, only the Auckland School met 2017 enrolment EFTS targets. This suggests that the Auckland School will continue to over-deliver, but despite buoyant enrolments this is unlikely for the other two Schools. A more in-depth analysis of EFTS enrolments and trends at each School can be found in Appendix 2.
17. The TEC anticipated EFTS delivery would be slow in the establishment phase of the initiative and ensured that this was mitigated with flexible SAC funding arrangements. SAC funding will be assessed and recovered at the end of the funding period for each School rather than on a yearly basis.

### **The Schools are working to improve diversity by attracting more Māori and Pasifika into the Schools**

18. All three Schools have exceeded targets set for female students and are actively encouraging more women into the ICT profession. In 2017, females accounted for 27% of Auckland students, 37% of Wellington students and 56% of South Island students. However this success has not been replicated for Māori and Pasifika.
19. The South Island School was the only one to exceed targets for Māori and Pasifika participation in 2017, achieving 7.7% Māori and 2.5% Pasifika students against targets of 3.0% and 0.5% respectively. The other Schools did not meet their 2017 Māori and Pasifika participation targets.
20. In 2017 the Wellington School achieved 6.9% Māori and 1.7% Pasifika against participation targets of 9% and 5% respectively. In 2016 it exceeded its target (8%) for Māori participation with 18.9%, but did not enrol any Pasifika students.
21. To improve participation, the Wellington School has been working on various strategies to encourage Māori and Pasifika students to enrol in their programmes. This has included presenting to religious leaders and respected community elders, specific targeting of potential students, working with Māori and Pasifika groups at the partner institutions (VUW, Weltec and Whitireia) and working with other Government agencies with an interest in promoting diversity in ICT.
22. The Auckland School enrolled no Māori students in 2016 or 2017. With regard to Pasifika it achieved 3% Pasifika in 2017 (target 5%) and 2.5% (target 6.3%) in 2016. As with the Wellington School, there are several initiatives in place to improve diversity and the University of Auckland has hired a Careers Advisor to specifically focus on attracting more Māori and Pasifika students.

### **Conclusions and next steps**

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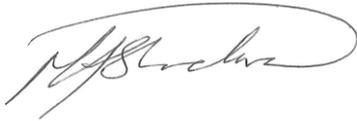
23. Although the ICT Graduate Schools have not reached their EFTS targets, industry feedback has been positive and the Schools are delivering graduates with skills sought by industry.
24. The Schools have made good progress in attracting female students. However, the Schools need to work more deliberately to increase the number of Māori and Pasifika students undertaking ICT Graduate School programmes of study. The TEC will engage with the Schools to ensure that they are directing resources into this.

### **An update on delivery is due later in 2018**

25. The Schools will provide a progress update on 2018 delivery in August/September 2018. Once we have received this information, we will provide you with an update illustrating how the Schools are tracking against 2018 targets.

**An evaluation of the implementation and short term outcomes of the initiative is underway**

- 26. The TEC has engaged MartinJenkins to evaluate the implementation and short-term outcomes of the ICT Graduate Schools initiative.
- 27. The first 'big picture' phase of the evaluation has recently been completed and indicates that the Schools are travelling in the right direction. The final report is expected in July 2018 and we will update you on the findings after the report has been received.



**Mike Blanchard**

Deputy Chief Executive, Operations  
Tertiary Education Commission

10 April 2018

**Hon Chris Hipkins**

Minister of Education

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**Appendix 1 – Background Information about the ICT Graduate Schools**

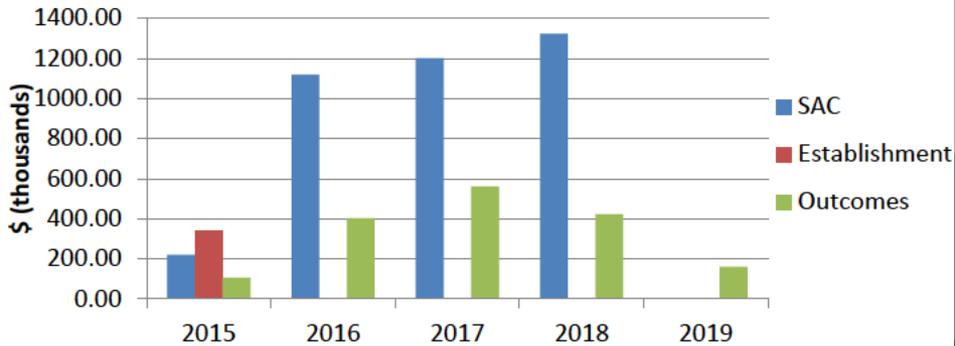
# The Auckland ICT Graduate School

The Auckland School is a partnership between the Universities of Auckland and Waikato. It offers two qualifications – the Master of IT and the Postgraduate Certificate in IT. Delivery of programmes occurs in Auckland CBD, Hamilton and Tauranga.

## Funding:

The School is funded from 1 July 2015 to 31 December 2018 and will receive about \$5.8 million in total.

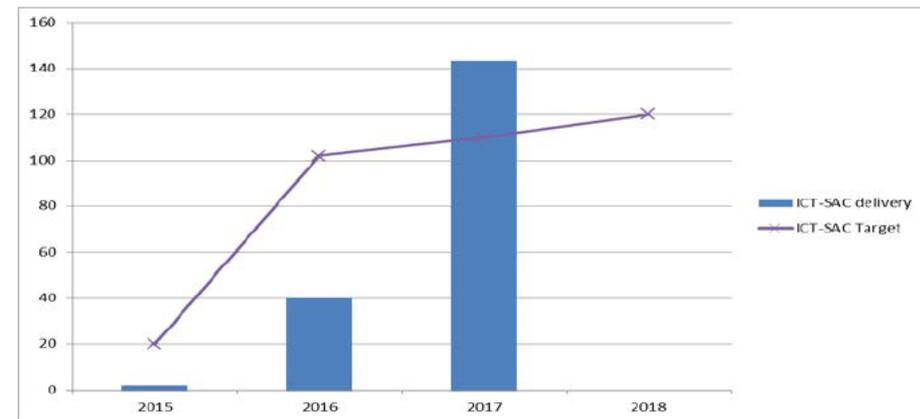
Funding per annum



Note: the final outcomes payment is outside this funding period, but relates to activities undertaken during the funding period.

## Delivery of total EFTS:

Due to launching later than anticipated, the Auckland School enrolled fewer EFTS in 2015 and 2016 than anticipated. However, over-delivery against its targets in 2017 has meant that the School has delivered 80% of its cumulative EFTS enrolment target.



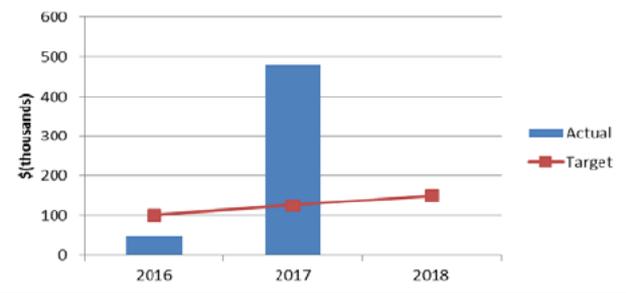
## Working with the ICT Industry:

### Cumulative industry engagement targets

	2017 target	Actual 2017
Internships	150	88
Network event speakers	24	26
Guest Presentations and Workshops	38	57

The School has indicated that missed internship targets are due to the late start for the School. It expects that EFTS growth will result in more internships.

Industry and research revenue



The School did not achieve industry revenue targets in 2016, but far exceeded its 2017 target. Most of its industry revenue comes from internships, which are expected to increase as EFTS grow.

**Industry partners include:** Opus Consulting, New Zealand Investment Trust, Xero, Datacom and Ernst and Young.

## Diversity:

### Percentage of students who are Māori or Pasifika

	Baseline	2016		2017		2018	
		Actual %	Target %	Actual %	Target %	Actual %	Target %
Māori	4.8	0	5.2	0	5.6	-	8.0
Pasifika	6.0	2.49	6.3	3	6.6	-	9.0

The School has not met targets for Māori or Pasifika EFTS. The School has indicated it is working with partner institutions to improve this.

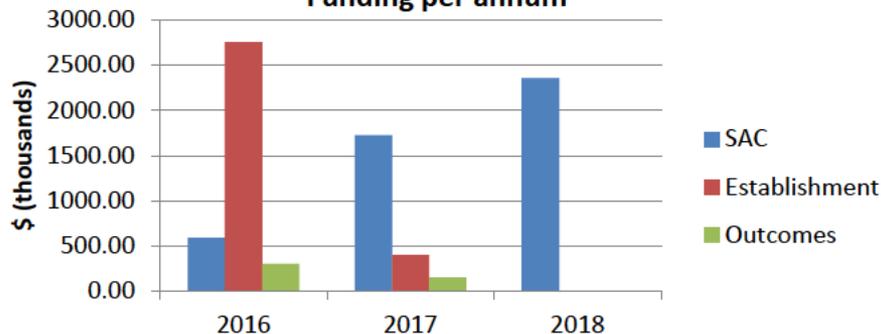
# The Wellington ICT Graduate School

The Wellington School is a partnership between Victoria University of Wellington, Weltec and Whitireia New Zealand. It offers several qualifications – the Master of Professional Business Analysis, Master of Software Development, Master of Information Technology, Master of User Experience Design, Master of Design Technology, Postgraduate Certificate in Information Technology and a Postgraduate Diploma in Information Technology. Delivery of programmes occurs in Wellington CBD, with non-academic staff located in the Collider Tech Hub (BizDojo).

## Funding:

The School is funded from 1 January 2016 to 31 December 2018 and will receive about \$8.7 million in total.

**Funding per annum**

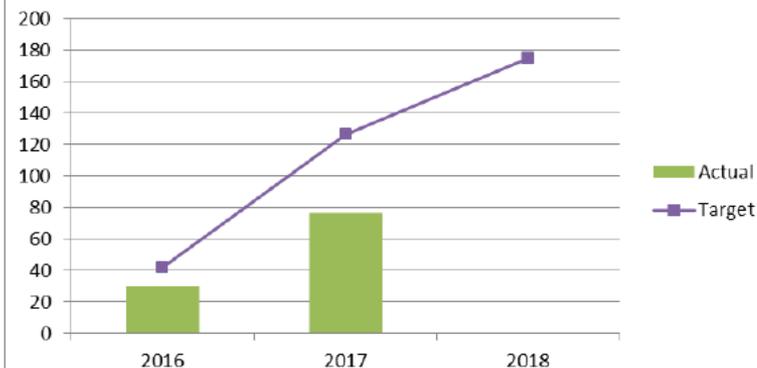


It is noted that the School will receive a bonus payment of \$200,000 in 2018 if it meets its EFTS targets. Given enrolment trends to-date, this is unlikely to occur.

## Delivery of EFTS:

The Wellington School enrolled fewer EFTS in 2016 and 2017 than anticipated. This has meant that the School has delivered 63% of its cumulative EFTS enrolment target.

**Enrolment EFTS against target**



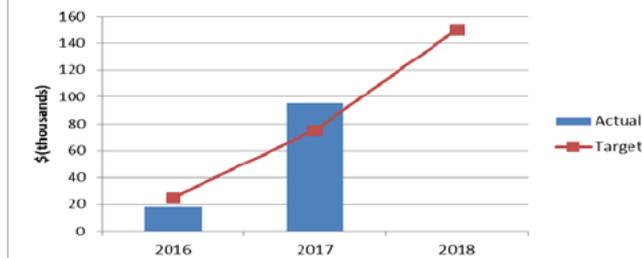
## Working with the ICT Industry:

### Cumulative industry engagement targets

	2017 target	Actual 2017
Industry-sourced class projects	35	17
Industry internships within Masters	11	11
Industry funded scholarships	13-33	8
Hosted events	26	29
Industry fellowships / lectureships	23-50	52
Summer of Tech programmes	TBC	13

The School has indicated that missed class project and scholarship targets are due to the late start for the School. It expects to deliver more scholarships now the School is better established.

**Industry and research revenue**



The School missed its industry revenue target in 2016, but met it in 2017. All of its industry revenue is from internships, which are expected to increase as EFTS grow.

**Industry partners include:** Weta Digital, ANZ, Trade Me, Deloitte.

## Diversity:

### Percentage of students who are Māori, Pasifika, Female

	Baseline	2016		2017		2018	
		Actual %	Target %	Actual %	Target %	Actual %	Target %
Māori	7	18.9	8	6.9	9	-	11.0
Pasifika	3.0	0	4	1.7	5	-	7.0
Women	11	32.3	15	36.5	20	-	30

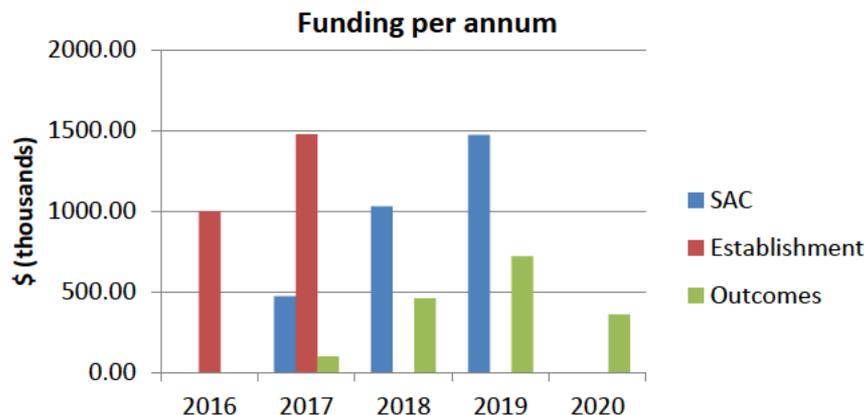
The School has not met targets for Pasifika EFTS and is slightly below target for 2017 Māori EFTS. The School has indicated it is working on a number of initiatives to improve this. The School is exceeding targets for women.

# The SIGNAL (South Island Graduate Network And Laboratories) ICT Graduate School

The SIGNAL School is a partnership between The Universities of Canterbury, Lincoln and Otago, Ara Institute of Canterbury, and Otago Polytechnic. It offers several qualifications – the Shift (Graduate Diploma in ICT), Accelerate (Master of Professional Practice), Xtend (Master of Information Technology Leadership), Educate (Postgraduate Certificate in Education for secondary school teachers). Delivery of programmes occurs in Christchurch and Dunedin.

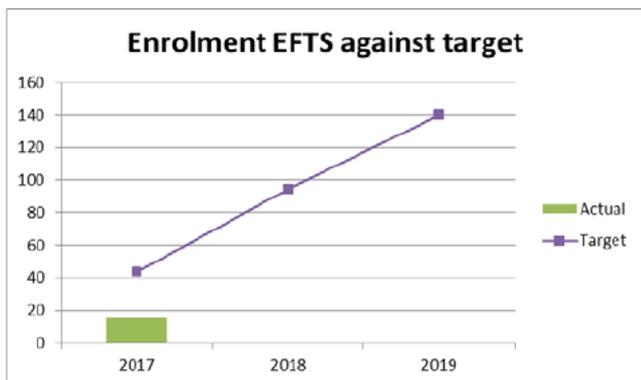
## Funding:

The School is funded from 1 October 2016 to 31 December 2019 and will receive about \$7.1 million in total.



## Delivery of EFTS:

The SIGNAL School enrolled fewer EFTS in 2017 than anticipated. This has meant that the School has delivered 36% of its cumulative EFTS enrolment target.



The School has indicated that the lower than expected enrolments are due to the late start for the School. SIGNAL expects that enrolments will improve as the School becomes established and that cumulative EFTS will meet targets.

## Working with the ICT Industry:

### Cumulative industry engagement targets

	2017 target	Actual 2017
Shift internships	0	4
Industry networking events	3	20
Studying in employment	28	31
Industry mentors	15	4
Students attending industry visit	16	35

The School has indicated that missed mentor targets are due to the late start for the School. It expects that this will increase as the School develops.

It is noted that the School has no targets for industry revenue and does not intend to focus on this during the current funding period.

## Diversity:

### Percentage of students who are Māori, Pasifika, Female

	2017		2018		2019	
	Actual %	Target %	Actual %	Target %	Actual %	Target %
Māori	7.7	3	9	9	14.0	14.0
Pasifika	2.5	0.5	3	3	5.0	5.0
Female	56	20	25	25	30	30

The School has exceeded targets for female, Māori and Pasifika representation. The School has indicated that it is working with partner institutions to boost diversity and implement strategies to help it continue to meet targets in coming years.

## Appendix 2 – Analysis of enrolment trends at the ICT Graduate Schools

1. Table 1 below shows the number of enrolments at each ICT Graduate School in 2016 and 2017. Although delivery at the Auckland School started in 2015, this is not shown as enrolments were insignificant accounting for less than one EFTS delivery.

**Table 1. SAC-funded enrolments (EFTS) at ICT Graduate Schools in 2017**

School	2016 actual	2017 actual	2017 target
Auckland	40.2	143.28	120
Wellington	30.2	76.8	126.5
South Island	Not operating	15.77	43.5
<b>TOTAL</b>	70.4	235.85	290

2. The South Island and Wellington Schools under-delivered against their individual enrolment targets. Both Schools have indicated that the reason for under-delivery was due to the Schools commencing later than planned. Both Schools report strong interest and buoyant enrolments so far in 2018.
3. Despite under-delivering in 2016, the Auckland School intends to improve enrolments and reach its cumulative EFTS targets by the end of 2018. The Wellington School also under-delivered in 2016 and has indicated that its EFTS targets were ambitious. Nonetheless it is also working to boost enrolments.
4. However, the Schools are unlikely to meet cumulative enrolment targets. Table 2 sets out the cumulative enrolments for each School against 2018 cumulative enrolment targets. The data shows that Schools' are unlikely to meet cumulative SAC-funded EFTS targets either individually or collectively.

**Table 2. Cumulative SAC-funded enrolments (EFTS) at ICT Graduate Schools**

School	At end 2017 actual	At end 2018 target
Auckland	185.48	352
Wellington	106.99	343.5
South Island	15.77	137.9
<b>TOTAL</b>	308.24	833.4

5. It is worth noting that enrolment data differs slightly from delivery data, which reflects completed study. To-date, the Schools have delivered 223 EFTS.