



THE NEW ZEALAND ELECTRONICS INSTITUTE

(Incorporated)

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2020 Secretary's Report

General

The last year brought the first deployments of 5G mobile services in New Zealand. Tentative steps to be sure but the harbinger of a very different future. Combining this new technology with a greening of our environment, is going to enable applications we have not even dreamed about yet. But for New Zealand and the world the question is will we be better off than today?

An example of beneficial use of the technology is fire fighters using virtual reality for training. This allows fire fighters to realistically practice critical skills for dangerous scenarios, without ever stepping out of the safety of classroom. Another example is the IoT (Internet of Things) tracking of specialist transport containers. Firstly, the tracking allows a controller to be instantly notified if there is a problem but also the nearest empty container can be located when the next job comes along. Both of these examples save money and contribute to a greener environment.

Hidden away behind the flashy new application of 5G technology there is a quieter revolution taking place. To enable the functionality delivered by 5G (eg network slicing and the large numbers of radio access nodes) optimisation of the network needs to occur in real-time. Gone will be radio engineers taking hours to optimise a cell site and dedicated hardware. Instead, we have software defined networks utilising virtualised network functionality configured by artificial intelligence and running on cloud-based servers.

So, will we be better off than today? I definitely believe so but we are all going to need to embrace change. With our backgrounds in electronics, we are uniquely positioned to help society transition. What will be your contribution?

The Institute continued its sponsorship program by awarding another two grants to promising electronics students. Ross Muir remains the driving force behind the program. It is only through his contacts into the education world that the program exists at all. The two recipients of the 2020 \$500 Ross Muir Awards are Lueki Fusitu'a (Auckland) and Sam Rasmusen (Christchurch).

The Institute extends its appreciation to the Spark Foundation for making the video conference facilities available free of charge.

My thanks to Ross Muir and Peter Over for their assistance and wisdom, throughout the year.

Financial

This year, 2020, the Institute reports an operating loss. The underlying trend of costs exceeding revenue continues and sees the Institute eating into reserves. Ross has made a further donation of \$1 000 for the current awards, so we keep the wolf from the door for a little longer. Thank you, Ross.

The underlying financial viability of the Institute remains dire! Declining membership, lowering subscription income, and the new normal of low interest rates has led to the loss-making situation. It is only the generosity of Ross Muir that is keeping us from making a substantial loss. Unless we can find a way to increase our appeal to the electronics community, the outlook is not bright.

Membership

	2018	2019	2020
Members as of 01 January	91	82	81
New	2	2	2
Gone No Address	-5	0	-1
Resignations	-5	-1	-2
Deceased	-1	-2	-1
Members as 31 December	82	81	79

Comprising:

Life Fellow	2
Fellow	2
Senior Member	53
Member	10
Associate Member	12

Auckland	32
Waikato/BoP	6
Palmerston North	7
Wellington	7
Christchurch	14
Dunedin	9
Overseas	4

Website

The Institute's website is the principle way of communicating with the members. All electronically themed meetings I am advised of are posted along with articles of interest that cross my desk.

Members are always welcome to submit relevant items for uploading to the site for the benefit of the wider membership.