

AVIATION INDUSTRY ADVISORY GROUP 26 MAY 2022

AIAG Forum, Aviation School, NMIT,
NZDF Base Woodbourne, Blenheim, Marlborough airport location

SUMMARY OF PROCEEDINGS

Industry Present:

Andrew Crawford, Managing Director, SOUNDSAIR
Brad Jacobs, Engineering Mgr, SOUNDSAIR
Paul Trask, PHI International
Jamie France, Dir, Production, ROCKETLAB
Maurice Gordon, General Mgr, JET AVIATION
Phillip Hutchings, CEO, SOUTH PACIFIC AVIONICS
Don McCracken, Chairman AEA Aviation Engineering Assoc
Dean Martin, CEO, Air Whanganui
Jock Cameron, AIRBUS
Des Ashton, ASHTON TECHNOLOGIES
Zoom: Lee King, ROCKETLAB
Dave Johnson, Div Mgr, FIELDAIR, Helicopter

Apologies:

Jason Benton, Performance Aviation
Brian Porter, Air Chathams
Mark Fox, Mission Aviation Fellowship
Toby Reid, The Helicopter Concept
Kevin Walsh, Christchurch Helicopters
Phil Bedford, Skyline
Chris Murray, PHI International
Neil Mathieson, Aero Support NZ
Ian Andrews, Pres NZAR, NZ Aviation Federation
Marja Kneepkens, NMIT, Director, Teaching & Learning

Institutions and NMIT

Allan Moulai, Workplace Development Council (WDC) Ringa Hora
Pip Direen, WDC, Ringa Hora
Dave Evans, Service IQ
Mark Snalam, Service IQ
Mike Naus, NZDF Airforce

NMIT -

Zoom: NMIT- Carole Crawford, Director, Marlborough
Wayne Cooper, Curriculum Mgr, Aviation School
Peter Davies, Tutor DAMC
Saluka Liyanagunawardane, Mgr H&S
Judith Hill, Business Support CoOrdinator
Sheree Wilcox, Industry Liaison

Steve Wright, Snr Tutor, Coordinator
Chris Young, Tutor, Programme Development
Kathy Perkinson, Snr Administrator
Charlotte Goodman, Marketing
Craig Prichard, Project Manager

Programme: **Saluka Liyanagunawardane:** H&S Emergency Procedure advised to group

Wayne Cooper – NMIT Aviation School, Curriculum Manager: Welcome and introductions of all participants

Programme: Purpose of the Advisory Group

Aviation School activities overview: Programmes, Students, Staff

Challenges: COVID impact, funding, equipment, scholarships, student wellbeing.

Two years ago, the Aviation School was understaffed and under-resourced. The Airforce changed direction with their DARs programme that we were delivering, which resulted in some staff layoffs. Then Covid impacted and staff rapidly adjusted to online teaching. On returning to campus, Covid has not affected the learning environment as much as anticipated and thanks to staff adaptability and competence, students have been able to continue their programmes with little down-time. With Executive supporting the hiring of additional Tutor, Programme development and support personnel, the school is beginning to stabilise again. Rapid ramp -up for the delivery of a renewed Fundamentals Engineering Course for the Airforce and

Nelson Campus

322 Hardy Street, Nelson 7010, New Zealand
Private Bag 19, Nelson 7040, New Zealand
P +64 3 546 9175

Marlborough Campus

85 Budge Street, Blenheim 7201, New Zealand
PO Box 643, Blenheim 7240, New Zealand
P +64 3 578 0215

Richmond Campus

390 Lower Queen Street,
Richmond 7020, New Zealand
P +64 3 546 9175

continuation of the delivery of Mechanical Engineering for the Army, along with our NZ Certificate in Aeronautical Engineering 2-year Courses and the Online Diploma in Aeronautical Maintenance Engineering, the school is servicing a wide range of students with strong graduate results. These positive results have also reflected the strong industry stakeholder support as well as that of the Industry Advisory Group, who have provided hard assets, rotor and fixed wing training frames, as well as funding resources through competitive scholarships for students.

We have established closer relationships with stakeholders and our post-graduate surveys show graduates are meeting industry expectations. Greater demand than supply means jobs for graduates. We also need to involve industry in our push for getting younger students into the aviation engineering pathway.

In addition, we have developed better understanding by Executive about the challenges and costs of delivering aviation programmes. Tertiary funding is the same as for Mechanical engineering for instance. Aviation requires higher ratios of staff to students; equipment costs are higher. This is because of the high-risk inherent in, and the level of training that is required for the aircraft environment. Students now have an increased level of support for their learning.

The constraints of our facilities being the Defence Force base, restricts growth and therefore the financial viability of the School. However, with industry providing many resources, our students learn the product that is out in industry, thus we know we are meeting industry requirements.

Steve Wright – NMIT Aviation School, Snr Tutor, Coordinator: CAE Philosophies – NZ Certificate in Aeronautical Engineering L4.

Steve came to NMIT to teach the DARs programme. The Philosophy for both DARs and the Certificate in Aeronautical Engineering is the same, much different from the traditional intense classroom theory tutor presentation that we are used to.

From feedback and surveys, employers want graduates with a 'can-do' attitude, honest, reliable, hard-working. At the aviation school we stress integrity, the right way of doing things for the aviation community. Knowledge and skills can be built. Curiosity and understanding what they are doing is very important. This is what employers want, and this is how we assess them throughout. This is where labour and resources play a part. We want students to see if they can do things, to review what happens, to encourage self-reflection, thinking, and conclude learning from experience.

Mike Naus, New Zealand Defence Force (NZDF) explained the different pathways for training and qualifications into aviation career: NMIT Aviation School, NZDF (Airforce, Army), Air New Zealand. All require theory and practical and move through assisted block-course apprenticeships, up to 5 or 6 years to full LAME, to gain the necessary competency for an aviation workplace

Peter Davies – NMIT Aviation School, Tutor – NZ Diploma in Aeronautical Maintenance (DAMC) L6 (Online courses).

Programme is designed to support non-licensed trainees; has nine modules all conducted online. They are all required to be working in the industry.

We have another Programme of online tutor-assisted training schemes for students who want to address specific subjects (Air Law, for instance) but who don't want to complete the entire LAME qualification.

The online format works for students as they can be working and complete courses in their own time, even if it takes them years. The online tutorship helps them focus and target what they need to study to pass the exams. Plus, online serves employers who would not be able to release valued staff members for off-site learning, because there is such a shortage of skilled aviation engineers in the workplace.

In terms of regulations and controls: the Aviation School must be compliant to: NZQA, TEC, NMIT, CAA (Civil Aviation Authority), NZDF. The School is well regulated and controlled. Moderation and Consistency Reviews on an ongoing basis ensure programmes are standard across the NZQA requirements.

Saluka Liyanagunawardane –NMIT H&S Manager: Just Culture at Woodbourne campus - what that means, CAA Fit and Proper Person.

The Aviation School is the first 147-credited aviation teaching organization in NZ. We conduct Health & Safety and special programmes. The focus currently is on facilities/capacity and safety. We operate around the Just Culture philosophy and strive for gradual improvements in H&S awareness, implementation and training. We promote to our students the recording and reporting of any incidents, so they learn applied skills to manage safety. Tutors support students in this culture and create opportunities to develop self-learning for their career paths. Digital systems and info pertaining to the industry standards of behaviour are available and students are encouraged to self-learn while they are here.

We are aligned with the Just Culture Safety environment, and the CAA Fit and Proper Person that the industry is expecting and we encourage positive attitude, willingness to learn. We do an assessment and

strategize options for remedies to incidents, to encourage self-thinking skills and awareness, in an open environment for communication. Industry wants a thoughtful, self-reflective approach.

Wayne Cooper – Future focus, Relocation and why it is necessary for future growth, strength and longevity for the Aviation School: Aviation is a National Asset that needs to be approached from a collaborative effort from and for all Aviation parties: NZ Aviation Association, NZ Aviation Federation, Industry, NMIT, Te Pūkenga, Workforce Development Council, Ringa Hora.

AIAG members agreed that the Base constraints are restricting the Av School to reach a wider market for student capture, especially international students, but also a younger interest in the aviation pathway. The School could also consider many more programmes for delivery, eg CAA courses, and later, middle-management and degree programmes and the like for aviation-centred organizations.

Craig Pritchard – NMIT: Project relocation of Aviation School, status and progress, who is involved.

Other locations have been looked at as potentially meeting needs. Sounds Air as well as NMIT will comprise a campus site which can be a dedicated Engineering Campus. We are looking at around 3000-25000 sq. meter building, with the support of the Marlborough District Council, and are aiming to present the business case, with sign-off for early next year build commencement. We will need to double the number of students over 2-3 years during build, with upwards of 60 full time students.

Participant discussions and questions:

With Te Pūkenga there will be one organization. Students come from all over NZ (and potentially worldwide). Most are recruited by stakeholders. There is a positive future, the enthusiasm, motivation, direction, passion, is evident, but we need action. What programmes and programme development will result, it is too early to say, but things need to move towards the future and the aviation school is at the forefront of this growth.

Overarching focus is that the aviation industry must speak with one voice, have one message: aviation is a viable career; schools are not aware, there must be clear pathways of development and lobby government for funding for students, training and an emphasis of the critical skills status of engineering. All aspects of aviation are under stress, Airways for instance, facing shortages and possibly closing towers. What impact will this have on NZ aviation, once international tourists return. **Need ACTION to follow the discussions.**

Marketing/Industry engagement: Charlotte Goodman and Sheree Wilcox: Presented current and near-term industry/educational engagement to enhance community awareness of the Aviation presence, and the many pathways to an aviation career. Marketing is focused on working closely with Industry partners in collaborative events, promotional materials, scholarships and funnelling students into the aviation tertiary pipeline.

Andrew Crawford – Mg Dir, Sounds Air and SA Aero Maintenance – Electric Aircraft in development here in Blenheim –zero-emissions flight - the way of the future. Wellington airport was a driver in encouraging SA to move in the zero emissions direction, along with the Energy Efficiency Governing Authority (EEGA), plus the NZ Grid Investment Fund. We have presented a feasibility study to the government and advised it's a NZ Inc problem and needs a NZ Inc solution. The entire package must be progressed: development, infra-structure, engineering development, pathways for young people into careers. These things are coming.

Jamie France – Rocketlab. Now 1200 employees, growing. Launch to deposit small satellites into low orbit. Means smaller equipment, less launch power, different launch vehicle concept. Move now is to do constellation satellites for better groundcover from space. Interested in the NMIT programmes and programme development because Rocketlab needs talent, skills, knowledge and intelligence. Also want to grow withing the NZ workforce partnered with Service IQ to develop subset of skills, moving through to second stage for aerospace qualifications.

Carole Crawford – Dir and Senior Management NMIT Marlborough: **Te Pūkenga (NZ Institute of Skills and Technology)** integration, what is involved, what it will mean for NMIT and the Aviation School. This process is taking on accelerated momentum which means all stakeholders are being affected to incorporate new systems and processes as they are identified and implemented towards streamlining. NMIT believes this will eventually mean a better funding awareness and facility to garner additional students into the various locally-relevant core industries identified. Within the next 5 years, all delivery outcomes will be unified under one standard nationally. This is to ensure that a student who begins a programme say in Marlborough, can move to any other part of the country and continue with the same qualification outcome expectations without disadvantage. The national entity will incorporate on-the-job, online and on-campus learning to meet the local community needs: employers and education facilities. It is up to all of us to ensure our voices are heard and

we are part of this development work, so please get involved in all the working groups and give feedback to influence the final product. Concept is that learners will have more choice, there will be more flexibility in what, where, how they can learn, and an emphasis on work-place learning. There is a strong focus on equitable learning, involving student, family, community, with equity being pushed towards Māori, Pasifika and disabled learners because it is recognized that these populations are currently underserved. The transition will take an extended period so it is phased into three stages, of which we are in the first phase to Jan 2023; Co-branding will continue with focus on the changeover, unfortunately details are not available at this time. Everything concerning management, qualification standardization, funding, will be run by Te Pūkenga so it is important that tertiary and industry are connected to key people.

Te Pūkenga – Dave Evans – Service IQ – How the integration will occur.

Workforce Development Council (WDC) with Ringa Hora is looking after Aviation through NZQA into NZ qualifications. So, the qualifications have gone to WDC as the Standard-setting body, and they are held accountable to Industry. Apprentice managing is going to Te Pūkenga July this year, as part of work-based learning. All ITOs have gone into work-based learning groups – as a temporary holding place until 01Jan 2023, at which time they will all get blended into one organization.

What is proposed for NMIT will become aviation excellence, a bigger aviation training role in Te Pūkenga, under the Te Pūkenga branding and nationalization. This should facilitate the better use of resources in development of programmes standards across industries.

Workforce Development Council (WDC) Ringa Hora – Allan Moulai and Pip Direen, spoke about:

- a. located in Wellington, with office in AKL and aiming to have one in CHC,
- b. ramp up with personnel at WDC to progress the objectives of the integration, and
- c. status of progress of integration of all institutions, personnel, programmes under the Te Pūkenga umbrella, with various regional organizations which will incorporate former Service IQ (now Ringa Hora) and other NZ national entities. NMIT Aviation school will integrate with Service IQ, both under Ringa Hora. Everyone will be getting the same standard, same training across the country. Even if AirNZ want a NZQA approved qualification, they will have to meet those requirements.

Another part to the WDC is advice to TEC to ensure the qualifications meet the industry standards, coming to WDC first before they are sent on to NZQA for final approval. Allan is integral to this liaison between industry and NZQA. Every year WDC will give NZQA recommendations on what to fund, and what qualifications industry needs, e.g. Engineering. Funded by government, but independent of government influence in decision-making, to advise government on the status and needs of the various (109) industries, every 30th June, all 6 WDCs will meet to discuss and fund those qualifications that industry and the workforce need. By legislation, TEC must give effect to WDC advice. So, qualifications that are developed are now industry-focused, not for the benefit of the provider.

Te Pūkenga has not yet published how it is intending to deliver courses. We are waiting on that clarity for the actual operating model. SiQ have gifted accumulated resources of \$3 million to Te Pūkenga/WDC/Ringa Hora, to be used to support projects for recruitment and promotional events for aviation initiatives.

Participant Questions and forum discussion:

Will Te Pūkenga also offer the development of standards that may meet international standards, but in NZ? If this model presented restricts what were Polytechnics from having international student programmes, won't that increase the cost to NZ students? Eg: EASA training – that can be delivered in NZ. After listening to the industry discussion, Allan and Pip can go back and amplify the importance of funding to the aviation engineering sector. The WDC is still evolving, so by 2023 there should be a better organisation geared to promoting industry solutions.

Paul Trask – Dir Training, PHi: Scholarship presentation to Will Lowther recipient. Thanks to Industry for their strong commitment and support to students by way of scholarships and work placement offers which support new learner entrants into the workforce. And congratulations to all scholarship applicants and recipients for your focus and commitment to excellence.

Paul spoke about other industry gaps that his company is trying to fulfil in his organization in operations and management, so they also support programmes for their staff in professional development to meet those needs. For instance: aircraft tech planning, management, with increased opportunities open for this type of human resource development.

Wayne outlined other scholarships from Industry (Airbus) and the NZ Aviation Federation, with support and accommodation and opportunities for candidates and recipients. This year's NZAF was directed to Women in Aviation and we had three successful recipients for these awesome scholarships. Hearty thanks to all concerned – the support is much appreciated and the students get real benefits from it.

Student Rep: Campbell McRobbie: presented a quick introduction of students currently on campus – 4 females in his group and two international students: around diversity, motivations and goals. He highlighted student harmonious cohesion in class, as well as the professional development encouraged through the Fit and Proper Person aspects of student learning. Also, the exceptional skills of the tutors who meld the theoretical and practical aspects of the course content for student benefit. Campbell mentioned it was a privilege to be a student at the school and in these courses, and expressed the class sentiment of enjoying the challenge., especially with the great guidance of the tutors. Students are passionate, curious, problem-solvers, who love aviation for all their various personal reasons. Campbell is to be commended for stepping up (along with Scott Wood) to take on the Class representative role, and for his ability to inspire other students in his class. “We are the future aviation engineers.”

Industry and student interface, walk-through workshops and individual conversations between Industry participants and students as they work on the shop floor.
Feedback from this engagement was very positive from both stakeholders and students.

Brad Jacobs – Sounds Air: Engineering Manager. Training and suggestions for improvement of apprenticeship methodologies and practices. Key: there is no solid apprenticeship training – they get a check-up from time to time, but not a robust programme to support, on site. With the shortage of skilled trainees throughout the country, there are just not enough people to draw from. Because aviation is a highly regulated environment, apprentices must reach a higher level in their work, for low pay, where they could go drive a truck and be well-compensated.

As leaders in the industry, it is our responsibility to push for an apprenticeship programme and better support. This needs to be flowed up to government for subsidising so industry can afford to support/employ apprentices. Sounds Air would like to see an accredited course such as what NMIT provide (and SiQ), where an apprentice can be on campus for a block-course, say 4 x 2-week blocks a year, perhaps incorporating some CAA License courses along the way.

Industry input: training for competency, continuous learning throughout their career path, which may begin on the shop floor but grow into management, responsible for balance sheet, etc, so it's continual learning. The compensation/responsibility for LAME (Licensed Aeronautical Maintenance Engineer) is not on par and there is a lack of experienced, certified people who will take it on. The entire country and culture is now 'risk averse.' We need to get youth into the workforce then put them on accreditation courses. The qualifications are at the standard that we need them and we should not try to change them because it takes years. There needs to be a better way to get young people into the workforce without it taking \$16,000 up front before they can earn an income. Only 30% of school leavers go on to university – where are the other 70% going. A big key to that is funding.

Wayne – Summary: New courses developed: Micro-Credential for Engineering Fundamentals, for the Airforce. A small piece of training specifically designed for a time-period and specific use. These two courses could be used as 'taster' courses within engineering, something a lot of tertiary institutes within Te Pūkenga could pick up, to increase exposure into engineering pathways. Seeking Industry feedback on this concept.

Chris Young, our recent Programme Developer/Tutor is working on the micro-credentials. The first one is basic engineering, the second is more mechanical leaning. It is a foundation programme of basic skills. It could be delivered in schools prior to school-leavers, at Level 3, and fill the gap for students who are not sure what they will go into after school. There would then be 3 ways for industry to screen candidates: short micro-credentials; 1-year NMIT course, 2-year NMIT course. Candidates would have a portfolio of work to show potential employers as evidence of their level of competency – as good introduction to potential apprenticeships. Might be an affordable jump, funded by employer or funding access, to continue through the 1, 2-year courses. Better selection tool for employers.

CALL TO ACTION – Thanks, and appreciation to all participants. We acknowledge industry support and the importance of industry engagement with input to WDC. Lobby government influencers for recognition and vital resources to support the future of aviation in New Zealand. Further Industry engagement and productive forums on specific challenges is needed. Priority: pathways needed for opportunities for all students. Regionally and nationally, a collective voice needs to focus aviation. The school is a national asset - Industry input vital for us to be adaptable with growth to serve Industry. Time is of the essence.

Proposed next AIAG meeting: THU 17 Nov 2022

POSTSCRIPT: **Dean Martin – Air Whanganui,** has advised a generous Student Scholarship offer, ongoing annually, as well as confirming substantive avionics equipment to be forward to the Aviation School in support of

Avionics programmes.

Feedback to date: “Informative and well-planned event.” “Would like to see Aviation School and aviation overall, have its dedicated marketing spokespeople to promote programmes, career paths, lobbying.”

Presentations: 1. CAE training philosophies; 2. DAMC; 3. H&S Just Culture;
4. Te Pūkenga transformation; 5. NMIT’s General Aviation Engineering Programmes;
6. Marketing and Engagement Aviation 7. Sounds Air Training
Other materials: Marketing Flyers

ⁱ Notes: Te Pūkenga: Te Pūkenga – NMIT is part of Te Pūkenga – New Zealand Institute of Skills and Technology, the organisation responsible for delivering vocational education and training across New Zealand. [See more information here.](#)