



ISSUE 6
15 December 2017

CAPABILITY THROUGH COLLABORATION

follow us on



From the CEO

Because of both the release of our most recent Annual Report and the impending end of another calendar year, this is always a good time to reflect on our achievements and acknowledge the efforts of individuals and their teams.

I remain very proud to lead the DMTC and my recent engagements with senior stakeholders across Defence and the sector continue to reaffirm that we are doing work that is relevant and highly valued.

DMTC's strong focus on enhancing capability for the Australian Defence Force continues to be backed by a commitment to build Australian industrial capacity, and underpinned by best-of-breed Australian research expertise. Through engaging with our Defence customer to understand their policy direction and priorities, and to leverage the seed funding they provide, we can align our collective efforts in advancing technologies for adoption by Australian industry.

For us, this is what achieving 'capability through collaboration' is all about. Real collaboration relies on real people and real partnerships. It also requires real investment and commitment from the industrial sector and the research sector.

Welcomes and farewells

This is also a good opportunity to communicate some personnel changes, and for me to acknowledge the service and commitment of some extraordinary individuals. Professor John Norrish is retiring from our Board after many years of service. It's no overstatement to suggest that John is one of a small number of people, without whom DMTC would not exist and would not have succeeded.

Suresh Palanisamy remains at Swinburne University and will hopefully continue to contribute to DMTC, but has relinquished his responsibilities as Program Leader for Air Platforms. Suresh has made a huge contribution to DMTC and we're very grateful for his efforts.

Finally, but by no means less importantly, Anne Jupp is retiring from her role as Program Support Officer. Anne has been a mainstay of the Management Team and is held in such high regard by all of us. She will be sorely (and surely!) missed.

With these changes comes an opportunity to welcome some new people to the [DMTC team](#). Professor Valerie Linton has joined our Board; Elisa Woodlock has been added to the Management

Team to fulfil the Quality Manager role; and Martin Veidt has commenced as our Program Leader for Enabling Technologies (Program 3). I look forward to each of their contributions to our team.

Festive season

I take this opportunity to offer my best wishes to you all for the festive season. Stay safe and enjoy the break. As we did last year, DMTC has elected not to send Christmas/festive season greeting cards this year. Instead, your season greetings are arriving with this newsletter, and DMTC has made a donation to Soldier On on behalf of everyone in the DMTC community in recognition of the physical and mental health support needs of our returned service personnel.

We hope our donation goes in some small way to provide assistance to those who need it. I hope, too, that you can set aside 20-21 March in your 2018 calendar, to join us in Canberra for our annual technical conference.

Dr Mark Hodge
CEO, DMTC

DMTC's Annual Report 2017 released

DMTC is proud to announce the release of its latest Annual Report, which is now available online and is currently being distributed to key stakeholders.

The report summarises the activities and achievements of the DMTC community for the 2017 financial year and highlights continuing efforts to deliver enhanced Defence capabilities while also investing in Australian industrial capacity and in the research leaders of the future.

Our report also looks forward to opportunities and strategic developments for DMTC and its industry and research partners in 2018 and beyond.

View here: <http://www.dmtc.com.au/reports>



Round 2 of the MCMs Program announced by Minister Pyne



Pictured: Dr Mark Hodge (far left), DMTC CEO, signs a letter of intent for the collaboration involving DMTC, Vaxine Pty Ltd, Flinders University and ARASMI. Looking on are (L to R) Minister Pyne, Ms Sharen Pringle from Vaxine and Mr Tony Kyriacou (Defence Partnerships Director, Flinders University) and Dr Dimitar Sajkov from ARASMI. Photo supplied: Flinders University (T Bawden)

Three projects have been selected from more than 50 expressions of interest to progress as part of Round Two of DMTC's Medical Countermeasures Program.

Minister for Defence Industry, the Hon. Christopher Pyne, MP, announced the selected projects at Flinders University in Adelaide on 16 November with DMTC CEO Dr Mark Hodge and Program Leader Dr Felicia Pradera.

Minister Pyne toured laboratory facilities at Flinders Medical Centre and met with team members who will work collaboratively to advance a vaccine against Japanese encephalitis (JE) and related viruses.

The planned clinical trial for the new vaccine will be conducted by DMTC partners Flinders University, the Australian Respiratory & Sleep Medicine Institute (ARASMI) and Adelaide-based company Vaxine Pty Ltd.

In a second project, the University of Queensland will lead the development of magnetic nanotechnologies that will speed up the diagnosis of bacterial infections to ensure correct antibiotics are administered effectively.

The final project involves Planet Innovation and CSIRO who will continue development of a deployable point of care diagnostic by increasing the sensitivity and specificity of the multiplexed system.

DMTC CEO Dr Mark Hodge said the seed funding provided by CSIRO and by Defence Science & Technology Group through its Next Generation Technologies Fund (NGTF) was critical to the program's success and showed significant strategic vision and foresight.

Under DMTC's proven co-investment model, the funding provided by these Government agencies is leveraged by contributions of cash and resources from industry and research partners.

Minister Pyne said the projects relied on technical expertise from industry partners, many of whom had limited previous exposure to the defence sector.

"That in itself is a great reflection of the dual purpose of the DMTC – to enhance Defence capabilities but to also to strengthen the industrial sector supporting Defence," Minister Pyne said.

Medical countermeasures are an important sovereign capability for military or civilian personnel in response to a range of scenarios including chemical, biological and radiological threats, as well as infectious disease outbreaks and pandemics.

DMTC director recognised for research excellence



DMTC is thrilled to congratulate Dr John Best, who recently received a prestigious Alumni award for Excellence in Research and Innovation from the University of Wollongong.

Dr Best, who has a PhD (Mathematics) from UoW, is a DMTC Board member with a long and distinguished career in innovative technologies. He is currently Vice-President, Chief Technical Officer of Thales Australia, where he oversees the technical capability of the company. In addition to the DMTC Board, Dr Best sits on the Industry Advisory Board of the UTS Faculty of Engineering and IT.

Full steam ahead for on-ship trial of corrosion monitoring

The Royal Australian Navy has agreed to an on-ship corrosion monitoring trial to assist with the development of prognostic health monitoring tools in DMTC Project 9.08.

DMTC Project Leader Dr John Colwell said Anzac SPO and FFG SPO had been integral in setting up the trials, and their support had been “invaluable”. He was also delighted to welcome Mr Graeme Emerton, Principal Naval Hull Inspector at the Department of Defence’s Naval Technical Bureau, to the team conducting the trial.

“As a specialist maintenance engineer for Naval ship structures, his expertise is highly valued,” Dr Colwell said.

Discussions are underway to coordinate installation of a prototype corrosion monitoring system to collect data while the ships are in service.

While the on-ship trial was a boon for the project, it will be challenging, Dr Colwell said.

“Data and samples need to be retrieved from the ships while they are on deployment, so there could be potential issues with retrieval of information and instrument failure. We’ll need to structure the trial in such a way as to get enough data back to build corrosion models and determine what type of corrosion is occurring, which will influence the models that are used.”

A successful on-ship trial could significantly improve understanding of corrosion and corrosion mitigation in the context of maintenance of the RAN’s fleets, he said. The on-ship trial is expected to run for one year.

Explosive results inform computer model



Pictured: A still from video taken of blast tests conducted by a DMTC project team.

A successful series of blast tests has been conducted

at Cooma, NSW, yielding large amounts of data that will be used to validate computer models for predicting blast impact effects on armoured vehicles.

DMTC partners Thales Australia, University of Melbourne, ANSTO and DST Group are collaborating on DMTC Project 6.06, which aims to improve an existing soil blast computer model for inclusion in a larger full vehicle simulation.

“By having accurate, reliable computer models, Thales can reduce the cost of developing new vehicle designs as well as reducing the timeframe,” explains Mr Gary Savage, Land (Mounted) Program Leader.

On the last day of testing at Cooma, a team from Swinburne University of Technology conducted suspended charge blast tests on lightweight sandwich panels, developed under Project 6.04, to validate deformation predictions of these panels.

The ultimate goal is to improve the design process of protected mobility vehicles that better withstand blasts during deployment.

Mr Savage said the tests at Cooma explored a wide range of experimental conditions, and the resulting data would be analysed over the coming months, with projects 6.06 and 6.04 due to conclude in June 2018.

Student Conference hones professional skills

DMTC has held another successful Student Conference, with scholarship recipients gathering in Melbourne on 2 November.

Our annual student conference is conducted in partnership with the Research Training Centre for Naval Design and Manufacturing (RTCNDM) and the Defence Science Institute. The conference gives PhD and Masters candidates the opportunity to professionally present on the progress and conclusions of their research work to their peers and to continue to develop their presentation and communication skills.

This year’s conference topics were wide-ranging, with everything from inspection robotics to immunology to additive manufacturing of cutting tools, and more. There were 45 attendees and 20 presentations.

More information about the 2017 Conference including presentation abstracts is available [here](#).

OFFICE HOLIDAY ARRANGEMENTS: DMTC’s head office will close from close of business on 21 December 2017 and reopen 2 January 2018.