

## CDCIN JOINS NET WARRIOR

DSTO has awarded a contract to CDCIN to provide communication networking services for integrating its battle labs. Net Warrior is the code name for this collaborative project, under which test-beds and simulators belonging to eight divisions at DSTO will be eventually integrated.

Net Warrior is expected to enhance DSTO's considerable research capabilities in NCW. It will facilitate cross-divisional experiments to investigate operational and systems issues that impact on the ADF's future war-fighting effectiveness.

CDCIN will be working closely with the Airborne Mission Systems (AMS) branch within DSTO's Air Operations Division (AOD), a key driver of the program. "We hope that our engagement with specialist service providers such as CDCIN will accelerate the R&D of Net Warrior", said Dr Arthur Filippidis, the Task Manager for the tactical information exchange components of Net Warrior.

Under contract, CDCIN will provide a realistic communication environment for the simulated tactical battlespace. This will add more realism to Net Warrior exercises. Prof Michael Rumsewicz, Director of CDCIN, said "We bring to this project our core expertise in communication systems modelling and our superb track record of delivering on time and within budget."

### *From the Director ...*

Welcome to the first edition of the CDCIN newsletter. It is released to coincide with the first anniversary of the official opening of our centre.

The first twelve months have been hectic and successful beyond our expectations.

We are working closely with industry on a number of fronts. We recently conducted a far-reaching simulation capability study for DefenceSA on defence communication systems.

CDCIN is also contributing to the Networked Anti-Submarine Warfare task for the RPDE program.

With respect to research, we have won significant work from DSTO to support their efforts in integrating their battle-labs for the Net Warrior program.

Earlier this year, we won another contract from DSTO to provide active sonar detection techniques in the presence of interferers.

In summary, we have enjoyed a very productive year – a result of being aligned to customer needs and industry trends.

We look forward to being even busier in 2008!

*Prof Michael Rumsewicz*



**Above: The DSTO and CDCIN team:** (Standing L-R) Peter Temple, Mario Gencarelli, Jeff Tweedale, Chris Sioutis and Pierre Urlings. (Seated L-R) Dushy Tissainayagam, Arthur Filippidis, Michael Rumsewicz and Sanjee Peiris.

### DefenceSA Simulation Study Completed

CDCIN has successfully completed a capability study on modelling and simulation of defence communication systems. The nation-wide study was commissioned by DefenceSA, the peak state government body responsible for maintaining South Australia's pre-eminence in defence.

Kim McCleery, General Manager for Business Development at DefenceSA said, "Network Centric Warfare is a key operational concept for the Australian Defence Force and the capabilities of Adelaide University's CDCIN in communications and network modelling and simulation can contribute strongly to it. Moreover, such a capability in South Australia assists the state and local industry in achieving our goals as the Defence State."

The study was undertaken over a 3-month period and more than 50 organisations, including Commonwealth defence agencies, prime contractors, defence SMEs and academic institutions, contributed to it.

Dushy Tissainayagam, CDCIN Business Manager and Senior Analyst, who led the study said, "I am certain that implementing the recommendations we made to DefenceSA, based on the key findings of the study, will increase our state's competitive position in attracting more defence business here."

## News in Brief

### DFCTC

The team that includes CDCIN as a core participant has been down-selected for the Defence Future Capability Technology Centre.

The capability domain of the team is Integrated Battlespace and Systems Integration. The UniSA-led team includes Queensland University of Technology, Curtin University of Technology in WA and a range of defence companies.

Interviews were held last week as part of the DFCTC selection process. The winning team is expected to be announced by Christmas.

### PSRF

CDCIN has submitted a proposal to the Premier's Science and Research Fund (PSRF) panel to undertake R&D projects in Defence Mobile Ad Hoc Networks.

The PSRF is a South Australian government initiative to facilitate investment in key areas that are of strategic value to the state.

This joint proposal with the UniSA was submitted in September. The proposal lead-teams were interviewed by the PSRF panel in October. A funding decision is expected later this year.

### LWC 2007

Dushy Tissainayagam, CDCIN Business Manager and Senior Analyst, gave a presentation at the recent Land Warfare Conference.

The Land Warfare Conference, which has grown to become a major event in the defence calendar, was held at the Adelaide Convention Centre from October 23 – 27.

Dushy spoke on the role that network emulation can play in propelling emerging technologies from research and development to defence systems that are introduced into service.

Over 2000 delegates attended the conference this year.

## Sonar Project for DSTO on Target

CDCIN has successfully completed the second phase of its active sonar detector project for DSTO.

Earlier this year, DSTO's Maritime Operations Division (MOD) awarded CDCIN a three-phase contract to undertake fundamental research on detecting targets using active sonar in a noisy environment. Doing so while maintaining a low number of false alarms is a challenging problem.

Dr Richard Ellem, Heavyweight Torpedo Development Lead for the Torpedo Systems Group within MOD said that, "This research explores some novel active waveform design and broadband signal processing techniques and their application to a difficult active sonar detection problem. The collaboration with Prof Lang White has been excellent, producing a number of useful new insights for active sonar detection and contributing some very interesting results to our research program."

Prof Lang White, who has been leading the project, says "This project is an exciting opportunity for the centre to grow its expertise in defence-related signal and information processing. It also presents new research opportunities and challenges in the area of active sonar detection".



**Above: The DSTO and CDCIN team:** (L-R) Ashley Larsson, Allan Baker, Richard Ellem, Limin Yu, Lang White, David Bartel, Doug Grey and Dushy Tissainayagam

## DEF.NET 2008

Symposium on Defence Communications & Information Networking

**Coming soon:** DEF.NET 2008. Stay tuned for more details in our next newsletter.

This symposium will build on the successful format of DEF.NET 2006 which focused on NCW policies, projects, experimentation and R&D with a particular emphasis on the communications domain.



**Above Left:** Major General Jim Molan (Defence Materiel Advocate), Prof James McWha (Vice Chancellor and President of the University of Adelaide), and Neil Bryans (Deputy Chief Defence Scientist of DSTO), at the official launch of CDCIN.

**Above Right:** Brigadier David Welch, Director General Integrated Capability Development, giving a keynote address at DEF.NET 2006

We welcome your feedback. Please email your comments or queries to [info@cdcin.adelaide.edu.au](mailto:info@cdcin.adelaide.edu.au)

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