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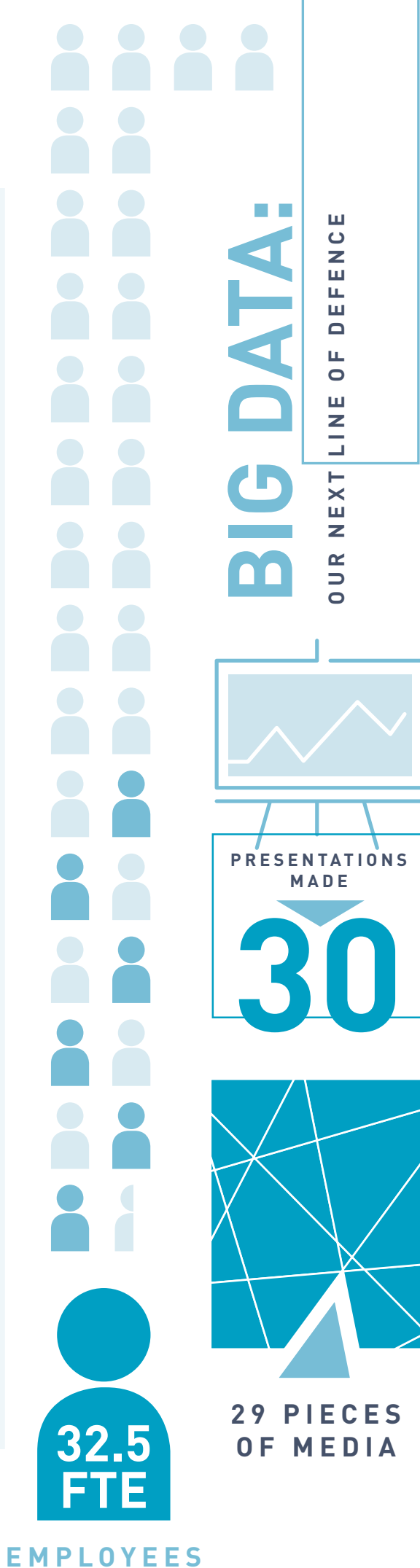
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ABOUT THE D2D CRC

Established with a grant of \$25 million in July 2014, the Data to Decisions Cooperative Research Centre (D2D CRC) is part of the Cooperative Research Centres Programme where, with funding from the Australian Government, researchers and industry are brought together to be a leading provider of Big Data capability resulting in a safer and more secure nation and a sustainable Big Data workforce for Australia.

Vision: a leading provider of Big Data capability resulting in a safer and more secure nation and a sustainable Big Data workforce for Australia.

Mission: to undertake impactful research, development, education and training that delivers outcomes to national security and other data intensive sectors.

UNLOCKING THE VALUE OF AUSTRALIA'S DATA®

CHAIRMAN'S REVIEW

As we launch into our second year, it is worth reflecting on the D2D CRC's first year of operation, in particular to build on our initial success.



Tim Scully

Following Government endorsement of our submission, our management team under Sanjay Mazumdar lost no time in setting up the CRC as a fully operational and compliant company, including achieving Essential Participants Agreement within days of commencement of the CRC. All necessary governance mechanisms to allow us to operate effectively as a corporate entity were quickly established.

And this is to be expected given that we have only a short five years to meet the big data needs our users have identified for the CRC.

We have not wasted time getting on with our raison d'être: helping to solve the National Security Community's big data challenges through outcomes-focused research and development activities. So far, we have numerous exemplar and tied projects well under way, including:

- Big Data Reference Architecture;
- Large Scale Image Classification;
- Exploiting Context in Machine Learning;
- International Perspective on Strategy, Policy & Law;
- Multi-source Information Analysis Platform;
- Topic Mining & Temporal Trend Monitoring; and
- Immersive Intelligence Pod

We also hit our first year Education and Training Program targets with 16 PhD students starting their research as well as the development of the Data Science Competency Framework. A significant body of work led by Chief Technology Officer (CTO) Brenton Cooper was the Future Studies. This critical work refined the user requirements that were outlined during the CRC's submission development phase and now provides a framework for future projects. One user requirement that was not well advanced during our submission development phase was open source intelligence. As a result of the Future Studies, Open Source Intelligence (OSINT) is now at the fore of our research and development Research and Development

(R&D) efforts with several programs in development, namely Beat the News (event prediction from open source data) and Apostle (an open source intelligence platform).

Additionally, the scoping of the Integrated Policing Program, which will focus on distributed data linkage and analysis, is well underway.

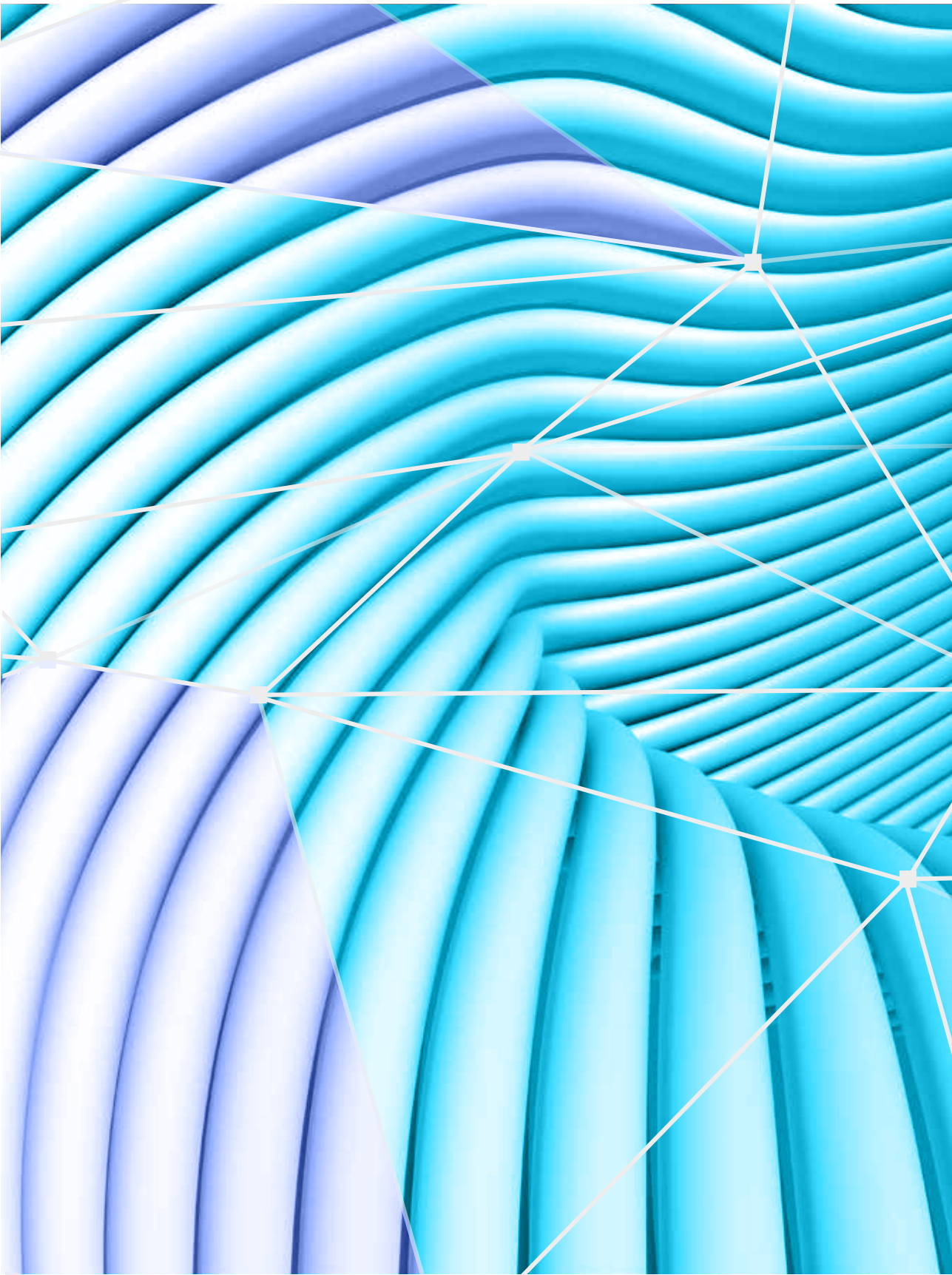
The establishment of these programs has emphasised a key capability that all CRC participants must continue to improve: communication. Our researchers and industry participants, who will develop and operationalise CRC outputs, must clearly understand what our users in the National Security Community need. And our users must clearly articulate their big data challenges. This is a continuous effort that requires our researchers to have clear and open lines of communication with operators and subject matter experts in the National Security Community.

The Attorney-General's Department and the Defence Science and Technology Organisation (now DST Group) have acted very effectively as interlocutors for the CRC in the Australia-New Zealand Counter-Terrorism Committee (ANZCTC) and Defence communities, respectively. This is greatly appreciated and we look forward to both organisations continuing this critical function.

Nonetheless, it must be complemented by continually facilitating communication with the operators and experts in each participant organisation – researchers must be able to clearly articulate to users 'what is possible' and users must be able to freely describe what they need.

As long as we keep talking, I am very confident that our first year of operation provides a solid base for success over the next four years. On behalf of the Board of Directors, I congratulate all of our participants and our management team for helping the CRC get off to a flying start.

TIM SCULLY, CHAIRMAN.



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The first year of operation of the Data to Decisions Cooperative Research Centre (D2D CRC) was focussed on “hitting the ground running”. In particular, the Board and management team focussed on building the infrastructure to enable the CRC to operate effectively and establishing projects and activities to enable the first year milestones to be achieved. This was essential given the CRC has only five years to meet the big data needs of our national security end-users.



Sanjay Mazumdar

Some of the key research and education achievements of the CRC include:

- starting seven exemplar and two tiered research projects;
- achieving the challenging target of 16 PhD student starting in year one;
- developing an initial Data Science Competency framework;
- scoping a Data Science short course training program;
- establishing several “Innovation Exchange” initiatives in other sectors; and
- development of capability roadmaps for the CRC’s two major areas of focus, namely counter-terrorism (CT) and policing, and defence intelligence, surveillance and reconnaissance (ISR).

The latter achievement is particularly important as it has helped to establish an end-user defined, prioritised list of capabilities that the CRC will focus on for all future projects. Specifically, it is the basis on which the CRC’s major “strategic projects” (Beat the News, Apostle and Integrated Policing) have been defined.

Several governance and operational goals were also achieved during the D2D CRC’s first year of operation, namely:

- signing the Essential Participant Agreement and all Other Participant Agreements within the first month of operation;
- establishing a skills-based Board with representatives of significant experience, expertise and standing in their respective sectors;
- undertaking the official CRC launch in Canberra and subsequent “meet and greet” sessions with end-user, industry and research participants in South Australia, New South Wales and Victoria;
- establishing all of the advisory committees to the Board;
- achieving not-for-profit status;

- establishing an information management system to track project and Centre KPIs, capture deliverables, store policy and processes and implement approval workflows;
- establishing the CRC headquarters in the Base64 IT incubator in Adelaide;
- conducting several media, conference and industry presentations; and
- establishing and actively growing the “on-line” presence of the CRC (web, Twitter, LinkedIn)

Nonetheless, no new venture is established without some “teething pains”. For the D2D CRC, the most significant issues during the first year of operation have been associated with resourcing. There are several factors contributing to this. First, the marketplace for data scientists and high-calibre PhD candidates in our field is extremely competitive. Therefore, we have had to be very visible in promoting the CRC to try and secure scarce talent. As a result, the CRC was extremely successful in attracting high-calibre PhD candidates with over 200 applicants for the 16 scholarships on offer. Secondly, in the face of a high operational tempo in national security, some of our government participants have grappled with the release key staff as in-kind contributions into the CRC. Thirdly, the large strategic projects (Beat the News, Apostle and Integrated Policing) have only just started to ramp up, so there has not been as many opportunities for participants to apply their staff. We are confident that once these projects are fully underway, and with continued marketing of the CRC, the issues associated with resourcing quickly will diminish. On a final note, I’d like to offer my thanks to CRC staff, researchers, Board and advisory committee members for their great work in helping the D2D CRC “hit the ground running”. The achievements listed above are significant and have placed the CRC in a brilliant position to continue to deliver on its milestones, outcomes and impacts, which will result in the delivery of significant capability to national security and other data intensive sectors.

SANJAY MAZUMDAR, CEO.

ACHIEVEMENTS

RESEARCH		COLLABORATION		COMMERCIALISATION AND UTILISATION		EDUCATION & TRAINING					
<p>While it is early days for the D2D CRC, the following key research achievements have been made:</p> <ul style="list-style-type: none">• A shared vision was established for the analysis and exploitation of data by end-users in the national security community. This was achieved through the conduct of two future study projects – the first focussed on security analytics for counter terrorism and policing and the second for defence intelligence, surveillance and reconnaissance. End users have been extensively involved in the development of the future studies. Interviews were conducted with over 30 stakeholder groups and a total of eleven workshops were conducted with over 110 participants.• Strategic projects has been formulated, each focussed on user needs elicited in the future studies. These projects - Beat the News, Apostle and Integrated Policing - will form the foundation for integrating, demonstrating and evaluating the research outputs from the D2D CRC.• A tied research project has been established with Genix Ventures to develop and integrate		<p>topic modelling and trend monitoring in the CaseGenix a case management system that integrates with existing databases, processes and software.</p> <ul style="list-style-type: none">• A tied research project has been established with Semantic Sciences to deliver architectures and techniques for a scaled-out platform for multi-source information analysis.• The Big Data reference architecture project has been established to deliver tools, guidance and advice for architects, system designers and managers when building big data solutions.• Projects have been established to build upon the latest convolutional neural network techniques for image understanding. A range of fundamental research contributions have been made, including best-in-class results achieved in the leading image captioning and image segmentation competitions.• The first policy focused project has been initiated to examine the policies, regulatory approaches, processed and strategies used to balance confidentiality and privacy against the need for analysis and exploitation of data in the context of national security. The project will initially focus on Australia, the United Kingdom and Canada.		<p>The D2D has placed a strong focus on collaboration. All projects must demonstrate collaboration between researchers and end-users (government and/or industry). Specific collaboration of note includes:</p> <ul style="list-style-type: none">• Basis Technology joining the CRC for the Beat the News and Apostle projects; and• additional government agencies becoming involved in the research projects;• working with the Commonwealth Government's Data Analytics Centre of Excellence on the Data Science Competency Framework Project;• creating linkages with the Intelligence Advanced Research Project Activity (IARPA) in the USA, particularly the Open Source Indicators project, and Virginia Tech. These linkages will jump start our efforts in the Beat the News project;• the expansion of the engagement with Carnegie Mellon University beyond Australia to include the Software Engineering Institute and CMU Pittsburgh, specifically for the Big Data Reference		<p>Architecture project, as well as the education and training activities;</p> <ul style="list-style-type: none">• a project investigating the legal and policy barriers of Open Data with the Department of Communications;• several activities under the Innovation Exchange, including:<ul style="list-style-type: none">o a proposal regarding the application of predictive analytics to help reduce unwarranted variation in cardiac therapeutic procedures and diagnosis tests with the Queen Elizabeth Hospital.o the Big Data Connect Program – a data analytics capability improvement program for manufacturing small to medium enterprises (SMEs) with the South Australian Government;o a digital marketing project with the Centre for Digital Video Intelligence, University of South Australia.		<p>a culture where all staff and researchers recognise that they are developing valuable intellectual property and must consider up-front all of the potential exploitation paths for that IP. This has been important to ensure that the CRC is best placed to maximise the value of the IP for Australia. To that end, the D2D CRC has:</p> <ul style="list-style-type: none">• deployed mandatory IP awareness training,• developed a set of IP principles defined by the Board and encapsulated in the CRC's IP policy and procedure,• deployed an IP register and innovation disclosure system within the Information Management System,• established the Commercialisation and IP Advisory Committee with representation comprising IP and commercialisation experts,• engaged Madderns Patent and Trademark Attorneys to provide IP (particularly software IP) advice and expertise,• established an IP strategy process in consultation with National ICT Australia (NICTA), Australia's Information Communications Technology Research Centre of Excellence, to help develop IP exploitation strategies• engaged a cohort of commercialisation experts to support IP strategy development, and• established an initial catalogue of potential foreground IP from the projects and activities.		<p>The key focus of the Education and Training program during the reporting period was to recruit and enrol 16 high-calibre PhD candidates across the three research programs. The successful PhD candidates started as CRC students in the February 2015 intake at La Trobe University, University of Adelaide, University of South Australia and UNSW Australia. In addition to the PhD program, the CRC has:</p> <ul style="list-style-type: none">• hosted three Masters students from Carnegie Mellon University Australia for 10 to 12 week industry placements at our Adelaide HQ;• engaged with the Defence Honours Scholarship Program through the Defence Teaming Centre Inc.;• confirmed and advertised the ongoing PhD+ program;• developed the initial Data Science Competency Framework;• scoped the Data Science short course training program, and• planned the rollout of training programs to build the Big Data workforce for implementation from September 2015 onwards.	

RISKS AND IMPEDIMENTS

END-USER ENVIRONMENT

The D2D CRC employs an active risk and opportunity management process which involves regular assessment of risks and opportunities by the management team, the Audit and Risk Committee and the Board. Two of the high impact risks being managed by the CRC relate to in-kind contributions and ensuring the CRC is generating a return on investment for the industry and national security participants. While these risks have not affected the CRC’s ability to deliver against milestones and outputs, they are being actively mitigated to ensure they remain under control.

In-Kind Contributions
Many of the CRC’s participants have not been able to apply their promised in-kind contributions to the CRC’s projects activities. There has been a variety of reasons for this, including a high operational tempo in the national security agencies resulting in their inability to release staff and delays in establishing the large “strategic projects” (Beat the News, Apostle and Integrated Policing) resulting in fewer opportunities for participants to apply in the first year. Furthermore, a large proportion of the in-kind contributions from participants is software. Since the Big Data and software domains evolve rapidly, many of the software packages committed during the bid phase have not been required, but they will be replaced by other software required by the strategic projects, most likely of a similar valuation. Once these projects are fully underway, the issues associated with in-kind contributions will diminish.

Industry and National Security Return on Investment.

A key tenet of all CRCs is to ensure that they deliver value for the investment from their participants. In the D2D CRC’s case, it is particularly important to continue to demonstrate a return on investment to industry and national security. To ensure this, the CRC undertook two end-user driven future studies to identify the priority capability needs (use cases) that must be addressed. These capability needs then formed the key requirements for the CRC projects, particularly the three strategic projects. The future studies identified one significant new requirement which did not come to the fore during the bid phase, namely Open Source Intelligence (OSINT). This requirement is critical to both Counter Terrorism (CT) and Policing, and Defence Intelligence, Surveillance and Reconnaissance (ISR), particularly in the current national security environment. The CRC’s ability to meet this requirement will be critical to generating a ROI for the national security agencies, and we are addressing this by establishing the Beat the News and Apostle projects.

The operational tempo in national security has increased significantly in recent years. Adding to this, the need for national security agencies to analyse and exploit data to effectively undertake their activities has also increased. This environment is tailor-made for big data analytics.

With machine enablement, big data analytics allow people to find connections and insights in vast, disparate volumes of data that are imperceptible to humans. Decisions can be made faster and more reliably. This was one of the primary motivations for establishing the CRC and the current national security challenges have only reinforced this requirement. Further to this, one of the main activities conducted by the D2D CRC this year was to undertake two future studies. The aim on these studies was to refine the end-user requirements that were outlined during the CRC’s submission, with the aim of developing capability roadmaps for CT and Policing, and Defence ISR. These future studies involved a series of interviews and workshops with end-user representatives. They were subsequently validated by the CRC’s Research Advisory Committee and the Defence and National Security Advisory Committee. The future studies highlighted

the importance of OSINT to the national security community which has resulted in the Beat the News and Apostle projects. The requirement are not well advanced during the CRC’s submission phase, as a result of the future studies, it is now at the fore of our R&D efforts with several programs in development, namely Beat the News and Apostle. OSINT is an important focus for the D2D CRC as:

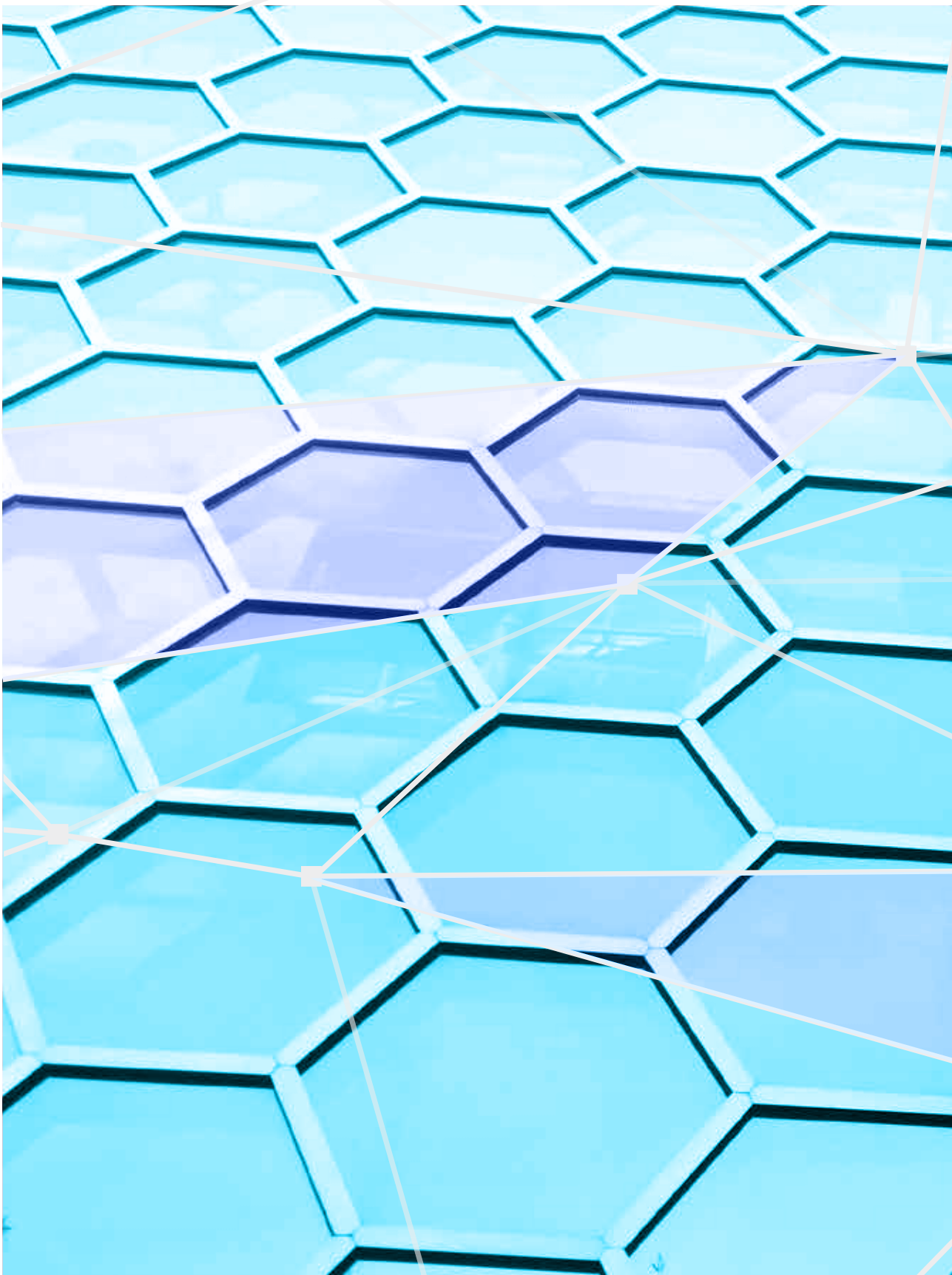
- it addresses an identified need,
- the tools, techniques and procedures developed for it are applicable to an all-source environment,
- the tools, techniques and procedures are applicable to use cases in a range of sectors,
- it opens up opportunities with other national security agencies not currently in the CRC who have a similar need,
- it can be used to enrich traditional intelligence that is typically used in CT/ Policing and Defence ISR, and
- it more easily enables unclassified R&D to be undertaken.

IMPACTS

The projected impacts of the D2D CRC are:

- improved security for Australians and their interests;
- reduced acquisition risk for national security project,;
- reduction in national security operating costs;
- royalties from the exploitation of D2D CRC IP;
- growth of SMEs;
- economic benefits in other sectors;
- commercial spin outs leveraging D2D CRC IP;
- approximately 20 patent applications, 350 publications, 48 PhD graduates and 1000 trained data scientists;
- improved balance between privacy laws and national security; and
- an overall benefit : cost ratio of 3.31.

The D2D CRC is on track to deliver these impacts as a result of the achievements of its first year of operation.



RESEARCH PROGRAMS	PROJECTS	HIGHLIGHTS
Security Analytics for Counter Terrorism and Policing Delivery of integrated capability demonstrators to address identified needs from the law enforcement and intelligence community.	FUTURE STUDY FOR SECURITY ANALYTICS IN COUNTER TERRORISM AND POLICING Establish a shared five-year vision for the analysis and exploitation of data in the law enforcement and security community.	Extensive consultation with the law enforcement and security community and industry to identify capability roadmaps, priority use cases and capability gaps for data analysis and exploitation.
	INTEGRATED POLICING Access, linking and analysis of distributed law enforcement data.	Formulated the integrated policing project to address priority use cases and issued a call for participation.
	BEAT THE NEWS Predict events such as social disruption, disease outbreak and election outcomes from analysis of open data sources.	Formulated the Beat the News project to address priority use cases and issued a call for participation. Established collaborative arrangement with the Intelligence Advanced Research Projects Activity (IARPA) and Virginia Tech. Developed prototype platform and commenced experiments in prediction of social disruption and election outcomes from open source data.
	MULTISOURCE INFORMATION ANALYSIS PLATFORM	Initial design and prototype of scale-out approaches for Sintelix platform from Semantic Sciences.

OF THE 29
RESEARCH
OUTPUTS DUE
FOR 2014-15,
28 WERE
COMPLETED.

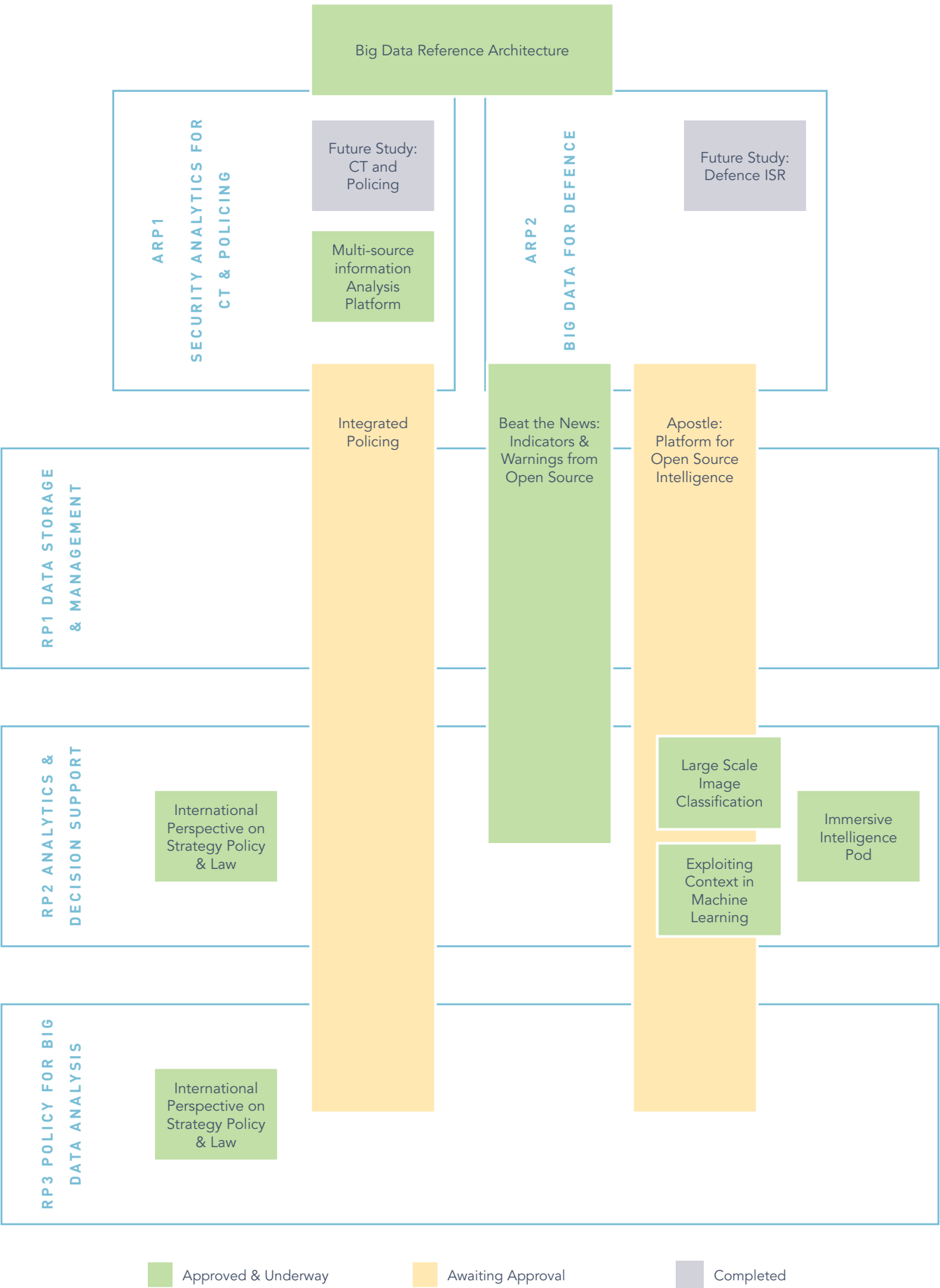
RESEARCH PROGRAMS	PROJECTS	HIGHLIGHTS
Defence Intelligence, Surveillance and Reconnaissance Delivery of integrated capability demonstrators to address identified needs from the defence community.	FUTURE STUDY FOR DEFENCE INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE Establish a shared five-year vision for the analysis and exploitation of data in the defence community.	Extensive consultation with the defence community and industry to identify priority use cases and capability gaps for data analysis and exploitation.
	BIG DATA REFERENCE ARCHITECTURE Guidance to architects, designers and managers to be used when building Big Data systems.	Developing a Big Data reference architecture to provide tools, guidance and advice to architects, designers and managers when building big data solutions.
	APOSTLE Develop, integrate and evaluate technology to search, interrogate and understand open source multi-media data (text, image and video).	Formulated the Apostle project to address priority use cases and issued a call for participation.

Data Storage and Management Improving our capacity to access, transform, search and query data that is held by multiple, distributed organisations.		Review of the IARPA Knowledge Discovery and Dissemination project and the National Information Exchange Model. Outputs of this review informed the development of the Integrated Policing project.
		Initial design of language and techniques to enable easy use of analytics by non-technical users.
		Review of streaming event extraction and knowledge graph construction techniques. Outputs of this review informed the development of the Apostle project

D2D CRC'S PROJECT LANDSCAPE DIAGRAM

RESEARCH

RESEARCH PROGRAMS	PROJECTS	HIGHLIGHTS
<p>Analytics and Decision Support</p> <p>Improving our ability to extract, search, understand and visualise relevant information from vast heterogeneous data sets.</p>	<p>LARGE SCALE IMAGE CLASSIFICATION</p> <p>Automated ability to identify objects found within an image.</p>	<p>Best-in-class results achieved for image captioning (Microsoft Common Objects in Context) and image segmentation (Pascal Visual Object Classes) competitions.</p>
	<p>EXPLOITING CONTEXT IN MACHINE LEARNING</p> <p>Utilise existing knowledge to aid in the identification of objects in an image and the interpretation of scenes.</p>	<p>Preparation for submission to ImageNet large scale visual recognition challenge.</p>
	<p>IMMERSIVE INTELLIGENCE POD</p> <p>Effective visualisation of spatio-temporal data.</p>	<p>Working closely with end users, developed algorithms and concept demonstrator for visualisation of spatio-temporal data.</p>
	<p>TOPIC MINING AND TREND MONITORING IN TEMPORAL TEXT SOURCES</p> <p>Extracting topics, monitoring topic evolution and anomaly detection in temporal text sources such as Twitter and news feeds.</p>	<p>Successfully evaluated topic clustering and trend monitoring across twitter and news data sources.</p> <p>Commenced integration of research outputs into the CaseGenix platform.</p>
<p>Policy for Big Data Analysis</p> <p>Assess and develop policy frameworks, regulation and practices to address the tension between the protection of civil rights and liberties, and the use of Big Data analytics to advance national security interests</p>	<p>BIG DATA TECHNOLOGY AND NATIONAL SECURITY: COMPARATIVE INTERNATIONAL PERSPECTIVES ON STRATEGY, POLICY AND LAW IN AUSTRALIA, THE UNITED KINGDOM AND CANADA</p> <p>Examination of policies, regulatory approaches, processes and strategies used to balance confidentiality and national security analysis and exploitation of data.</p>	<p>Conducted analysis of legal and documentary materials. Designed project methodology and undertook extensive interviews with stakeholders in Australia.</p>



PERFORMANCE AGAINST THE ACTIVITIES

Of the 29 research outputs due for 2014–15, 28 were completed.

APPLICATION RESEARCH PROGRAM: SECURITY ANALYTICS FOR COUNTER TERRORISM AND POLICING

The program’s key activities are to research, develop, integrate and evaluate concept demonstrators that address the data analysis and exploitation needs of users in the law enforcement and intelligence community. Specifically the program will focus on:

- prediction of events such as social disruption, disease outbreak and election outcomes from analysis of open data sources (Beat The News); and
- integrated access, linking and analysis of distributed law enforcement data (Integrated Policing).

Extensive end-user involvement provides evidence that research is meeting their needs, in particular:

- End users have been extensively involved in the development of the future studies. Interviews were conducted with 18 stakeholder groups. A total of three workshops were conducted with over 75 participants and 12 end user organisations represented. Industry and end user participants were

- consulted with extensively during the capability gap analysis with over seven workshops conducted.
- End user and industry participants have been extensively consulted throughout the scoping of both the Beat the News and Integrated Policing projects. End users have facilitated the introduction to IARPA, which will enable us to build upon the extensive investment in aligned capabilities that has already been made by IARPA;

Key research achievements and evidence of research quality is demonstrated by the following:

- establishment of a shared five-year vision for analysis and exploitation of data in the law enforcement and security community;
- analysis performed to identify the capability gap between the needs of the national security community and the capabilities of commercial and open source tools;
- a working arrangement was established with the IARPA Open Source Indicators Project and Virginia Tech;
- formulated the Beat the News project, issued the call for participation and established the production of ground truth data;
- reviewed techniques and data sources used in the IARPA Open Source Indicators Project;
- development of a prototype platform and started experiments in prediction of social disruption and election outcomes from open source data;

- review of techniques used in the IARPA Knowledge Discovery and Dissemination program
- initial design and prototyping of scale out approaches for the Sintelix platform from Semantic Sciences.
- The one milestone not completed was due to a delayed Integrated Policing project start and will be completed in the first quarter of 2015-16.

The following specific impediments are acknowledged and will be addressed:

- Prediction of events from open source data is challenging. In particular, the paucity of ground truth data, potential for biases in the sampled data sets and the availability of features or drift in streaming data may affect research outcomes.
- Development of tools and techniques for integrated information access and analysis will necessarily require access to real data sets, but access to these data sets is challenging within the end user community for the D2D CRC

No changes to future research directions are envisaged for this program.

APPLICATION RESEARCH PROGRAM: DEFENCE INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE

The program’s key activities are to research, develop, integrate and evaluate concept demonstrators that address the data analysis and exploitation needs of users in the defence community. Specifically, the program will focus on:

- techniques to enable the effective search, interrogation and understanding of open source multi-media (text, image and video) data (Apostle); and
- guidance to architects, designers and managers to be used when building Big Data systems (Reference Architecture).

Extensive end-user involvement provides evidence that research is meeting their needs, in particular:

- End users have been extensively involved in the development of the future study. Interviews were conducted with 15 stakeholder groups. One workshop was conducted with over 25 participants and 10 end user groups within Defence represented
- End user and industry participants have been extensively consulted throughout the scoping of the Apostle project

The following list provides key research achievements and evidence of its quality:

- a shared five-year vision for analysis and exploitation of data in the defence community was established;
- the Apostle project was developed and a call for participation issued;
- techniques for large scale graph storage and query, and resource description framework (RDF) triple stores were reviewed and prototyped;
- an initial system architecture for integrated concept demonstrator was developed;
- existing industry and academic reference architectures and system architectures were reviewed; and
- Carnegie Mellon University Software Engineering Institute was engaged to commence development of a Big Data Reference Architecture.

While not a specific impediment, it is acknowledged that there is a need for continuing engagement and input from end users to guide research and development activities, in particular, to develop of effective tools and techniques for users and analysts in the national security community.

No changes to future research directions are envisaged for this program.

PERFORMANCE AGAINST THE ACTIVITIES

RESEARCH PROGRAM 1: DATA STORAGE AND MANAGEMENT				RESEARCH PROGRAM 2: ANALYTICS AND DECISION SUPPORT				RESEARCH PROGRAM 3: POLICY FOR BIG DATA ANALYTICS			
<p>The program's key research areas are:</p> <ul style="list-style-type: none">information architectures for access and analysis of diverse, distributed data;scalable graph processing and query architectures; andsharing, query and mining of distributed data. <p>Extensive end-user involvement provides evidence that research is meeting their needs. In particular, this foundation research program will deliver outputs to the, Beat the News, Apostle and Integrated Policing concept demonstrator projects. Each of these projects will include regular demonstrations (every two months) and undergo an annual evaluation by a working group consisting of representatives selected from the end-user community. Each concept demonstrator project will also be governed by a project steering committee consisting of senior executives from the end-users, whose role is to ensure that the projects are meeting end-user needs.</p> <p>The following list provides key research achievements and evidence of its quality:</p> <ul style="list-style-type: none">federated data access and entity linking and resolution techniques used in the IARPA Knowledge Discovery and Dissemination program were reviewed;the National Information Exchange Model for				<p>The program's key research areas are:</p> <ul style="list-style-type: none">information extraction techniquessearch and retrieval of datarisk profiling and predictionvisualisation techniques <p>Extensive end-user involvement provides evidence that research is meeting their needs, in particular:</p> <ul style="list-style-type: none">they have been actively involved in establishing and reviewing the progress of the Immersive Intelligence Pod project;researchers from the La Trobe University team have been embedded with Genix, as they work collaboratively on transferring topic mining and trend monitoring techniques into the commercial CaseGenix platform; andincreased end-user and industry involvement is still being actively sought in two projects <p>The following list provides key research achievements and evidence of its quality:</p> <ul style="list-style-type: none">A new approach was developed to identify objects in images using Convolutional Neural Networks (CNNs) to improve the performance of Conditional Random Fields in exploiting context as a cue.A new method was developed to encode for CNNs which improves performance.				<p>The major achievements of this program was the initiation of the first project (Comparative International Perspectives on Strategy, Policy and Law in Australia, the United Kingdom, the United States, New Zealand and Canada). The project started in late 2014 and will continue until mid-2016. Four program-related outputs were finalized in the 2014/2015 financial year. A government report was completed in 2014 and three papers were finalized in 2015. One of the papers was presented at the 5th International Conference on Artificial Intelligence & Law (June 2015, San Diego) and another was published in the Sydney Law Review.</p> <p>While not a specific impediment it is acknowledged that academic research expertise on law and policy in this field is limited in Australia and it has proved challenging to attract PhD students the law, policy and technology academic profile required in this program.</p> <p>Extensive end-user involvement provides evidence that research is meeting their needs. In particular, the Attorney-General's Department (AGD) is a key representative of the Australian government as end-user. AGD officials have facilitate extensive user engagement for the CRC across the National Security Community. AGD officials are also participating as researchers in the first research project of the Program to ensure that the project outcomes meet end-user needs. The Program team has interacted with various government departments and agencies about the projects that they believe the Program should undertake in future.</p> <p>No changes to future research directions are envisaged for this program.</p>			

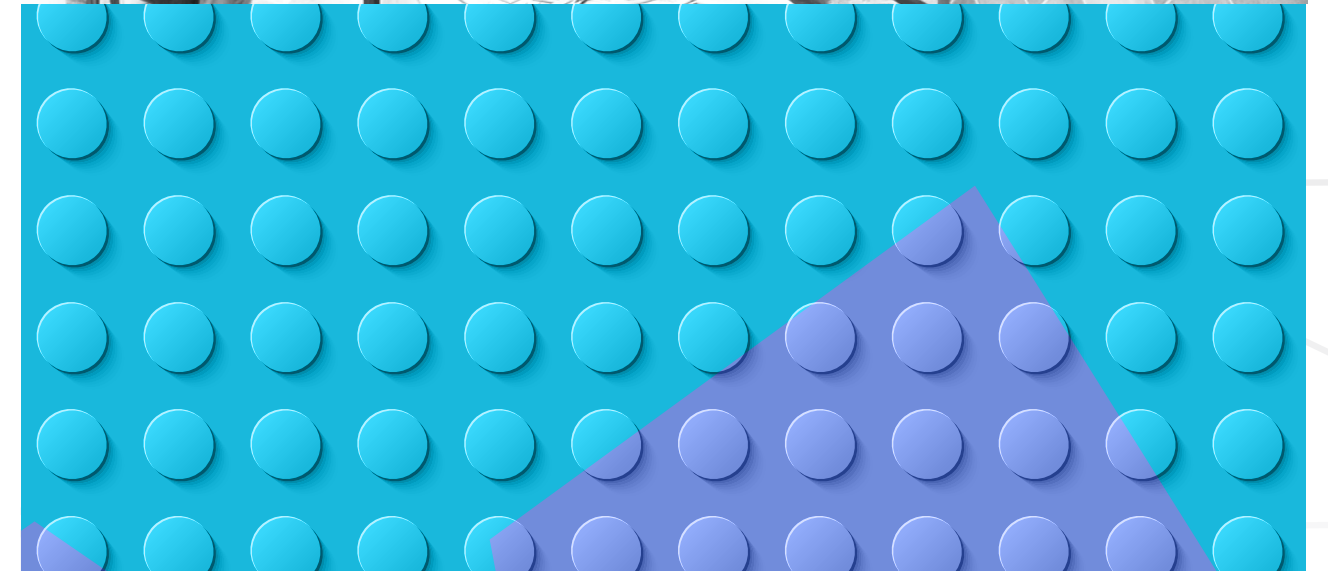
EDUCATION AND TRAINING

A SUSTAINABLE BIG DATA WORKFORCE FOR AUSTRALIA

The target for the 2014-15 reporting period was achieved with 16 high calibre PhD candidates commencing across the three programs at La Trobe University, University of Adelaide, University of South Australia and UNSW Australia.

The key milestone to be achieved during the 2014-15 reporting period for Education and Training was to recruit and enrol 16 high-calibre PhD candidates across the three research programs. The successful PhD candidates started as CRC students in the February 2015 intake at La Trobe University, University of Adelaide, University of South Australia and UNSW Australia. While it has proved challenging to attract PhD students to the Law and Policy Research Program, the CRC is investigating other measures to attract students. The CRC to date has:

- 16 equivalent full-time student load (EFTSL) of students working for their doctorate by research during the reporting period;
 - 17 university staff members involved in formal supervision of higher degree by research students; and
 - two non-university staff members involved in formal postgraduate educational activities either developed or conducted by the CRC, other than supervision of research students during the reporting period.
- The CRC does not have milestones for undergraduate and/or vocational education and training students
- The CRC has also:
- hosted three Masters students from Carnegie Mellon University Australia for 10-12 week industry placements at our Adelaide headquarters;
 - hosted two Defence Internship Program students from the University of South Australia from June to November 2015
 - hosted mandatory IP awareness training for all CRC PhD students;
 - hosted induction sessions for all CRC PhD students;
 - engaged with the Defence Honours Scholarship Program through the Defence Teaming Centre Inc.;
 - confirmed and advertised the PhD+ program which includes:
 - o annual attendance at the D2D CRC Conference including travel and accommodation,
 - o annual attendance at the annual PhD Symposium run in the same week as the annual conference,
 - o merit based 6-8 week exchanges to industry, government agencies and international research institutes,
 - o free of charge access to the Data Science Competency Framework,
 - o free of charge access to the Data Science Short Course Training Program, and
 - o access to entrepreneurship, innovation and commercialisation mentoring and training
 - developed the initial Data Science Competency Framework;
 - scoped the Data Science Short Course Training Program specifically tailored to meet our end-users needs, determined after several consultation sessions held in 2014-15;
 - planned the rollout of training programs to build the Big Data workforce for implementation from September 2015 onwards; and
 - employed a Delivery Director from July 2015 to achieve the end user needs to build a sustainable big data workforce for Australia.



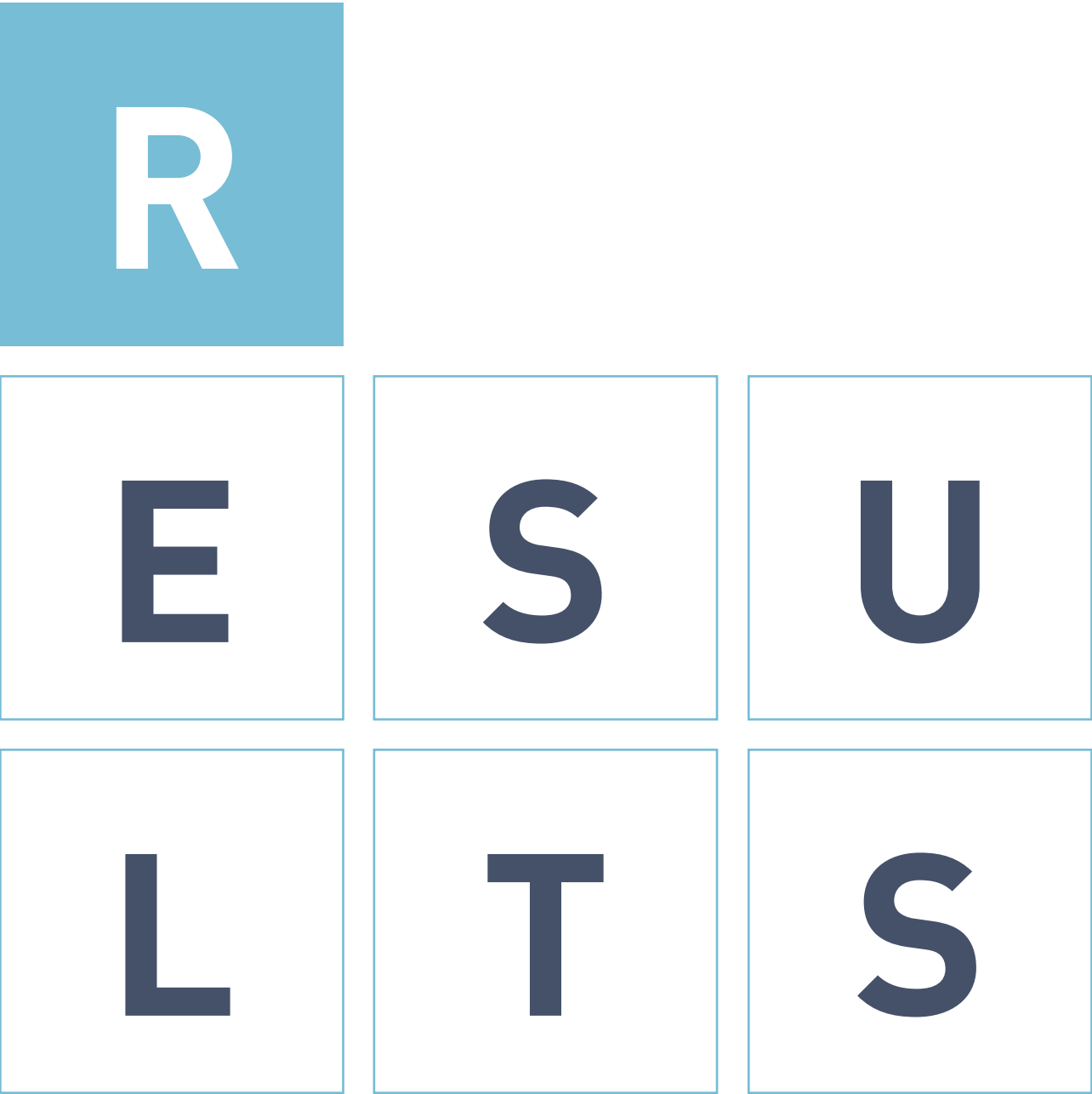
D2D CRC PhD students and interns, May 2015

SME ENGAGEMENT

The D2D CRC has two very active SMEs in its participant group, namely Semantic Sciences and Genix Ventures.

These two SMEs are participating in activities that are enhancing their core products with research outputs from the Multi-source Information Analysis Platform and Topic Mining & Temporal Trend Monitoring projects, respectively.

Additionally, the D2D CRC has established the Innovation Exchange as a mechanism to engage with SMEs across a broad range of sectors. Through this initiative, the D2D CRC is forming the Big Data Connect Program which will help exchange capability and know-how from the national security focussed activities to manufacturing SMEs. It is the intention to undertake similar activities in sectors such as health, digital marketing and precision agriculture.



UTILISATION AND COMMERCIALISATION

A strong focus on commercialisation and utilisation was established early.

Several actions have been taken to ensure that there will be effective and appropriate utilisation and/or commercialisation of the CRC's outputs.

These include:

- ensuring that all projects are aligned to priority capability needs as defined by the national security agencies, during the future studies
- ensuring active engagement of national security or industry participants in all research projects,
- establishing tied projects with Semantic Sciences and Genix Ventures,
- undertaking Law and Policy projects with the ultimate end user of their outputs, namely Attorney-General's Department, and
- structuring all technology focussed research projects with regular demonstrations of capabilities to national security representatives.

The specific utilisation milestones for FY2015 were:

- providing an initial concept demonstration to Defence in the Data Storage and Management program – while outputs from this program were not demonstrated to Defence, concept demonstrations from the Immersive Intelligence Pod, Large Scale Image Classification and Exploiting Contextual Cues in large-scale machine learning projects have been presented to Defence; and
- establishing terms of reference and priority sectors for the Innovation Exchange.

INTELLECTUAL PROPERTY MANAGEMENT

D2D CRC has the essential mechanisms in place to ensure adherence to the National Principles of IP Management. Provisions within the Commonwealth and Participants' Agreements provide the key elements for IP management.

In addition to the Agreements, D2D CRC has implemented appropriate policies, procedures and systems, including those for:

- mandatory IP awareness training
- identification and disclosure of IP
- assessment of existing IP
- protection of IP
- record keeping via an IP register

The D2D CRC has established an IP strategy process, in consultation with NICTA, to help develop IP exploitation strategies for the projects. All projects are required to develop an IP strategy and review the strategy on a regular basis.

On the 4 December 2014, the CRC filed a trade mark **UNLOCKING THE VALUE OF AUSTRALIA'S DATA®** (Trade Mark No. 1661970). It was accepted for registration on the 31 July 2015.

An initial catalogue of potential foreground IP from the projects and activities has been established. No patent applications were filed during the reporting period. No registered IP was sold, transferred or licensed for commercialisation during the reporting period.

COMMUNICATION

Over 29 media articles and
30 external presentations
were made in 2014-15.

The D2D CRC has an active communication program which aims to:

- increase awareness of the D2DCRC;
- increase awareness of the Australian Government's CRC Programme;
- in the second year of operation, publish six issues of the D2D CRC's eNews currently in 2014-15, a quarterly electronic newsletter;
- ensure participants are fully abreast of CRC's research and training activities through the DATACAST electronic newsletter;
- hold a series of roadshow and other promotional events in the second year of operation;
- introduce education and training programs in the second year of operation;
- inform the general public of the CRC's achievements via website and social media channels and continuously increase social media following:
 - Twitter @D2DCRC, and
 - LinkedIn www.linkedin.com/company/data-to-decisions-crc.

During the reporting period, the CRC:

- established the new CRC headquarters in the Base64, Adelaide's cutting edge IT incubator;
- held the official D2D CRC launch at Parliament House on 1 October 2014 with the Minister for Industry, Ian Macfarlane, officiating;
- held state launch events in New South Wales, Victoria and South Australia, attended by South Australia's Minister for Defence Industries, Martin Hamilton-Smith;
- made over 30 external presentations to end user focussed audiences in Adelaide, Canberra, Melbourne and Sydney;
- was reported 29 times in the media;
- launched the website and social media accounts, Twitter and LinkedIn
- published four articles in scholarly refereed journals and 11 full written conference paper (refereed proceedings).



The Hon Ian Macfarlane MP, Minister
for Industry and Science.



D2D CRC Official Launch
audience, Canberra,
Wednesday 1 October 2014

MEDIA TABLE

PUBLISHED	NAME	PUBLICATION	MEDIUM
1/07/2014	New \$88m big data CRC to boost Australia's national security	D2D CRC	media release
July 2014	\$88m Big Data CRC to boost Australia's national Security	CRCA	e-newsletter
1/07/2014	eNews issue 1	D2D CRC	e-newsletter
3/07/2014	Mawson Lakes Data to Decisions Cooperative Research Centre will help defence, national security agencies monitor, analyse data	The Advertiser	print, online
4/07/2014	Big data in SA	Radio Adelaide	radio
9/07/2014	Cyber wrap	The Strategist	online
19/08/2014	Big Data	UNSW Law	online
September 2014	Partnering for research impact	KnowHow	magazine
September 2014	The data deluge	KnowHow	magazine
4/09/2014	Govt research body proposes big data for APS staff vetting	iTnews.com	online
1/10/2014	Cooperative Research Centre to maximise the collaborative benefits of Big Data for Australia	D2D CRC	media release
3/10/2014	The formal launch of the Data to Decisions CRC (D2D CRC) by The Hon Ian Macfarlane, Minister for Industry	AIIA Bytes	e-newsletter
November 2014	A Day in the life of Sanjay Mazumdar	SA Defence Business	magazine
10/11/2014	New data analysis centre in Adelaide to tackle terrorism and crime risks	ABC News	online
12/11/2014	Data to Decisions intelligence hub for defence and security launches in Adelaide	Australian Defence	online

PUBLISHED	NAME	PUBLICATION	MEDIUM
2/12/2014	DATACAST issue 1	D2D CRC's Research eNews (for Participants only)	e-newsletter
8/02/2015	Analysing metadata	The Point	magazine
24/02/2015	Big Data: Our next line of defence	Enterprise, University of South Australia	print, online
26/02/2015	DATACAST issue 2	D2D CRC's Research eNews (for Participants only)	e-newsletter
3/03/2015	Internode founder Simon Hackett's new Adelaide business incubator	The Advertiser	online
31/03/2015	DATACAST issue 3	D2D CRC's Research eNews (for Participants only)	e-newsletter
May 2015	Tracing security issues to the source	Knowhow	print, online
16/06/2015	eNews issue 3	D2D CRC	e-newsletter
24/06/2015	UniSA to launch Centre for Digital Video Intelligence to examine online advertising	The Advertiser	online
25/06/2015	"Major brand" interest in new digital video intelligence venture	Adnews	online
1/07/2014	CMU Australia participates in winning Big Data project	CMU	online
3/07/2014	BAE to Help Back Australia "Big Data" Research Centre	BAE Systems	online
11/08/2014	Big Data Collection and the D2D CRC	666 ABC Canberra	radio
8/12/2014	eNews issue 2	D2D CRC	e-newsletter



D2D CRC is a tax exempt,
not for profit body that
operates to the fiduciary
and governance standards
required of an incorporated
body under Australian Law.

D2D CRC was incorporated on 26/3/2014 and was awarded not for profit status commencing 14/4/2014. At the time of its incorporation, three Directors were appointed with the responsibility of steering the company through to the execution of the Essential Participants Agreement (EPA). Upon the execution of the Essential Participants Agreement (EPA) on 23 July 2015, five independent, skills based non-executive directors (as outlined in the EPA) were appointed and confirmed.

The D2D CRC Board is comprised of five non-executive directors (independent and skill based) and one executive director (the CEO). Non-executive directors are appointed on two year terms and may seek re-nomination once their term has finished. Two non-executive directors are required to resign at the AGM in late 2015. The D2D CRC Board is supported by one board committee and three advisory committees:

- The Audit and Risk Committee (ARC) – Board committee
- The Research Advisory Committee (RAC) – Board advisory committee
- The Defence and National Security Advisory Committee (DNSAC) – Board advisory committee
- The Commercialisation and IP Advisory Committee (CIPAC) – Board advisory committee

MEMBERSHIP OF THE BOARD

The following members served on the Board during the year ended 30 June 2015.

TIM SCULLY	FATIMA BEATTIE	CATH INGRAM	KATHRYN ADAMS	SUZANNE CAMPBELL	SANJAY MAZUMDAR	NIALL FAY
Organisation	Organisation	Organisation	Organisation	Organisation	Organisation	Organisation
INDEPENDENT	INDEPENDENT	INDEPENDENT	INDEPENDENT	INDEPENDENT	D2D CRC	D2D CRC
CRC Position/role	CRC Position/role	CRC Position/role	CRC Position/role	CRC Position/role	CRC Position/role	CRC Position/role
DIRECTOR AND CHAIR	DIRECTOR	DIRECTOR	DIRECTOR	DIRECTOR	DIRECTOR/ D2D CRC CEO	DIRECTOR (RETIRED JULY 2014)
Key Skills: <ul style="list-style-type: none">Public Service AdministrationStrategy Development & PlanningManagement Public SectorDefence ISRNational Security & Intelligence	Key Skills: <ul style="list-style-type: none">Public Service AdministrationCorporate GovernanceStrategy Development & PlanningIntellectual PropertyManagement – Public Sector	Key Skills: <ul style="list-style-type: none">FinanceRisk, audit, insurancePublic Service AdministrationCorporate GovernanceDirector Public & Private SectorManagement Privat Sector	Key Skills: <ul style="list-style-type: none">Public ServiceCorporate GovernanceStrategy Development & PlanningIntellectual PropertyResearch & DevelopmentDirector Public SectorManagement Public SectorCRCResearch Provider – Industry InterfaceLegal	Key Skills: <ul style="list-style-type: none">Management – Private SectorInformation Technology	Key Skills: <ul style="list-style-type: none">Management – Private SectorResearch Provider – Industry InterfaceDefence ISRStrategy Development & PlanningResearch and Development	Key Skills: <ul style="list-style-type: none">DefenceNational SecurityFinance

KEY SKILLS OF BOARD MEMBERS

Tim Scully

Tim Scully is a senior leader with over 30 years’ experience building and leading operational capabilities in government and industry. He has played lead roles in developing operational responses to national and international intelligence and security challenges. Tim’s leadership roles include Director, Stoneleigh Consulting; CEO Stratsec and Head of Cyber Security at BAE Systems Australia; inaugural Head of Defence’s Cyber Security Operations Centre; Head of the Defence Security Authority; Director General Support to Military Operations; and Assistant Secretary Intelligence Analysis and Production.

Fatima Beattie

Fatima Beattie is currently the Deputy Director General of IP Australia. She joined IP Australia in 2003 as the Commissioner of Patents, in 2007 she was appointed Deputy Director General having responsibility for all the registered intellectual property rights in Australia including the roles of Commissioner of Patents, Registrar of Trade Marks, Designs and Plant Breeder’s Rights.

Cath Ingram

Cath Ingram is the KPMG Chairman of Partners for the Canberra Office which is the centre of excellence for government. As the Lead Partner responsible for Federal Government, Cath has over 27 years’ experience in the delivery of professional services to the Public Sector. Through these engagements she has a strong appreciation for the Australian Government accountability framework, policy drivers, inter-agency relations and the importance of collaboration.

Kathryn Adams

Kathryn Adams is a microbiologist and lawyer and specialises in intellectual property management, commercial application of R&D and corporate governance. She has had extensive experience in R&D investment from the perspective of a researcher, research institute leader and as an investor. She is currently on the Boards of a number of CRCs as well as Agriculture Victoria Services Pty Ltd and PBIP Ltd.

Suzanne Campbell

Suzanne Campbell was appointed in 2011 as Chief Executive Officer, Australian Information Industry Association. Suzanne has more than 20 years of IT and telecommunications experience, which includes leading major change, transformation and growth projects for domestic and international companies to deliver significant results.

Sanjay Mazumdar

Dr. Sanjay Mazumdar is the CEO of the D2D CRC. Sanjay is a proven and experienced senior leader who has worked across the defence, ICT, government and academic sectors. Sanjay has had senior roles in engineering management, general management, business development and project management. His former roles include the CEO of the Defence Systems Innovation Centre, Head of Engineering for BAE Systems Australia, Operations Manager at Motorola Australia and Research Scientist at the DSTO (now DST Group).

Niall Fay (retired)

Niall Fay is the COO and Company secretary of the D2D CRC. He is an experienced business manager with over 12 years’ experience in the Defence, National Security, Government and Academic Sectors. Niall was a company Director at the incorporation of the D2D CRC and resigned upon the signing of the EPA in July 2014.

BOARD MEETING ATTENDANCE

The attendance of the Board members at Board meetings is outlined in the table below.

MEETING DATE & LOCATION	9/7/14 (CANBERRA)	11/11/14 (ADELAIDE)	11/2/15 (SYDNEY)	19/5/15 (MELBOURNE)	TOTAL	ELIGIBLE TO ATTEND
Tim Scully	Yes	Yes	Yes	Yes	4	4
Sanjay Mazumdar	Yes	Yes	Yes	Yes	4	4
Niall Fay	Yes	N/A	N/A	N/A	1	1
Cath Ingram	N/A	Yes	Yes	Yes	3	3
Fatima Beattie	N/A	Yes	Yes	Yes	3	3
Kathryn Adams	N/A	Yes	Yes	Yes	3	3
Suzanne Campbell	N/A	Yes	No	Yes	2	3
TOTAL	3	6	5	6	20	21

AUDIT RISK COMMITTEE (ARC)

The ARC is a board committee of the Board. It provides assurance and advice to the Board on D2D CRC’s risk, control and compliance framework, as well as overseeing the audit process of the D2D CRC financial statements.

CATH INGRAM	KATHRYN ADAMS	NIALL FAY
Organisation	Organisation	Organisation
D2D CRC DIRECTOR	D2D CRC DIRECTOR	D2D CRC
CRC Position/role	CRC Position/role	CRC Position/role
CHAIR/DIRECTOR	DIRECTOR/MEMBER	D2D CRC ADVISOR TO COMMITTEE
Key Skills: <ul style="list-style-type: none">• Finance• Risk/Audit/Insurance• Public Service Administration• Corporate Governance• Director Public & Private Sector• Management – Private Sector	Key Skills: <ul style="list-style-type: none">• Public Service• Corporate Governance• Strategy Development & Planning• Intellectual Property• Research & Development• Director Public Sector• Management Public Sector• CRC• Research Provider – Industry Interface• Legal	Key Skills: <ul style="list-style-type: none">• Defence/National Security• Finance• Risk/Audit/Insurance• Corporate Governance

MEETING ATTENDANCE

MEETING DATE & LOCATION	31/10/15	23/1/15	15/4/15	TOTAL	ELIGIBLE TO ATTEND
Cath Ingram	Yes	Yes	Yes	3	3
Kathryn Adams	Yes	Yes	Yes	3	3
Niall Fay	Yes	Yes	Yes	3	3



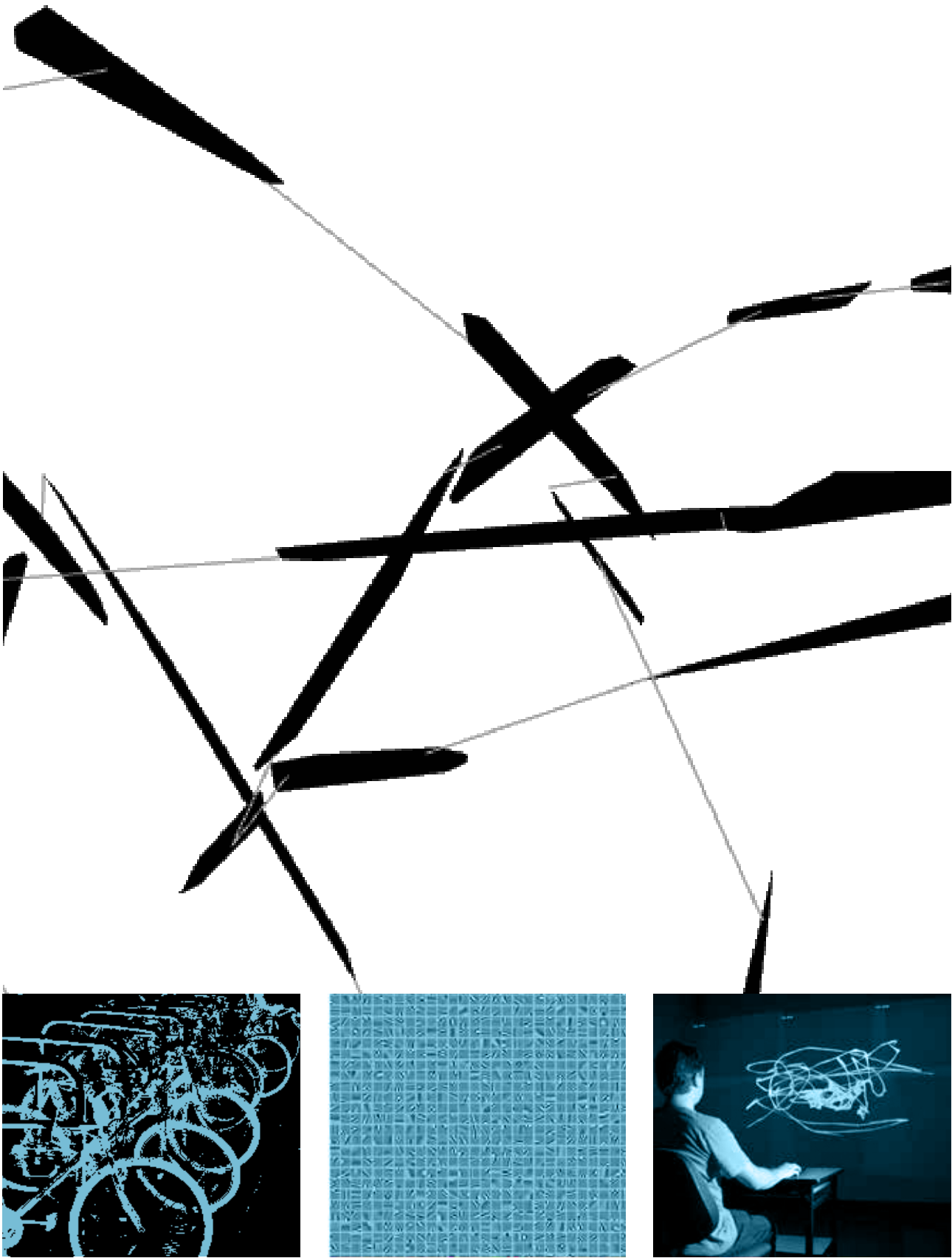
RESEARCH ADVISORY COMMITTEE (RAC) - MEMBERSHIP

The RAC is an advisory committee to the Board. It provides advice on the quality, scope, effectiveness and relevance of the D2D CRC research program. The RAC also provides advice and recommendations to the Board on proposed new Projects with a specific focus on their alignment with the D2D CRC’s Strategic Plan, Capability Roadmap, Technology Roadmap and linkage to D2D CRC’s impacts, outputs and utilisation milestones from the D2D CRC impact tool and Commonwealth Agreement.

	TONY LINDSAY	KATHRYN ADAMS	PAUL COMPTON	GREG WOOD	DANIEL MCMICHAEL	BRENTON COOPER
	Organisation	Organisation	Organisation	Organisation	Organisation	Organisation
	DST GROUP	D2D CRC	UNSW	SAS	SEMANTIC SCIENCES	D2D CRC
	CRC Position/role	CRC Position/role	CRC Position/role	CRC Position/role	CRC Position/role	CRC Position/role
	CHAIR	BOARD REPRESENTATIVE	MEMBER	MEMBER	MEMBER	D2D CRC REPRESENTATIVE
	Key Skills: <ul style="list-style-type: none">Defence ISRNational Security & IntelligenceManagement and delivery of end-user focussed research programs	Key Skills: <ul style="list-style-type: none">Management and delivery of end-user focussed research programsCommercialisation and utilisation strategies	Key Skills: <ul style="list-style-type: none">Data storage and managementManagement and delivery of end-user focussed research programsCommercialisation and utilisation strategies	Key Skills: <ul style="list-style-type: none">Data storage and managementCommercialisation and utilisation strategies	Key Skills: <ul style="list-style-type: none">Defence ISRNational Security & IntelligenceData storage and managementData analytics , decision support and data visualisationManagement and delivery of end-user focussed research programsCommercialisation and utilisation strategies	Key Skills: <ul style="list-style-type: none">Defence ISRNational Security & IntelligenceData storage and managementData analytics, decision support and data visualisationManagement and delivery of end-user focussed research programsCommercialisation and utilisation strategies

MEETING ATTENDANCE

MEMBER	22/1/15	30/3/15	TOTAL	ELIGIBLE TO ATTEND
Tony Lindsay	Yes	Yes	2	2
Brenton Cooper	Yes	Yes	2	2
Kathryn Adams	Yes	Yes	2	2
Paul Compton	No	Yes	1	1
Greg Wood	No	Yes	1	1
Daniel McMichael	No	Yes	1	1



DEFENCE AND NATIONAL SECURITY
ADVISORY COMMITTEE (DNSAC)

The DNSAC is an advisory committee to the Board. It provides advice to the Board regarding its strategic and business plan’s relevance to the National Security community. In addition, it provides guidance on how to best ensure the transfer of outputs from the D2D CRC into Nation Security community.

MICHAEL PHELAN
Organisation
AUSTRALIAN FEDERAL POLICE
CRC Position/role
CHAIR
Key Skills: <ul style="list-style-type: none">National Security

CHRIS KEANE
Organisation
BAE SYSTEMS
CRC Position/role
MEMBER
Key Skills: <ul style="list-style-type: none">Defence ISRTransition of capability from industry to end-users

JOHN PERCIVAL
Organisation
DST GROUP
CRC Position/role
MEMBER
Key Skills: <ul style="list-style-type: none">Defence ISRNational Security

SCOTT TILYARD
Organisation
TASMANIAN POLICE
CRC Position/role
MEMBER
Key Skills: <ul style="list-style-type: none">National Security

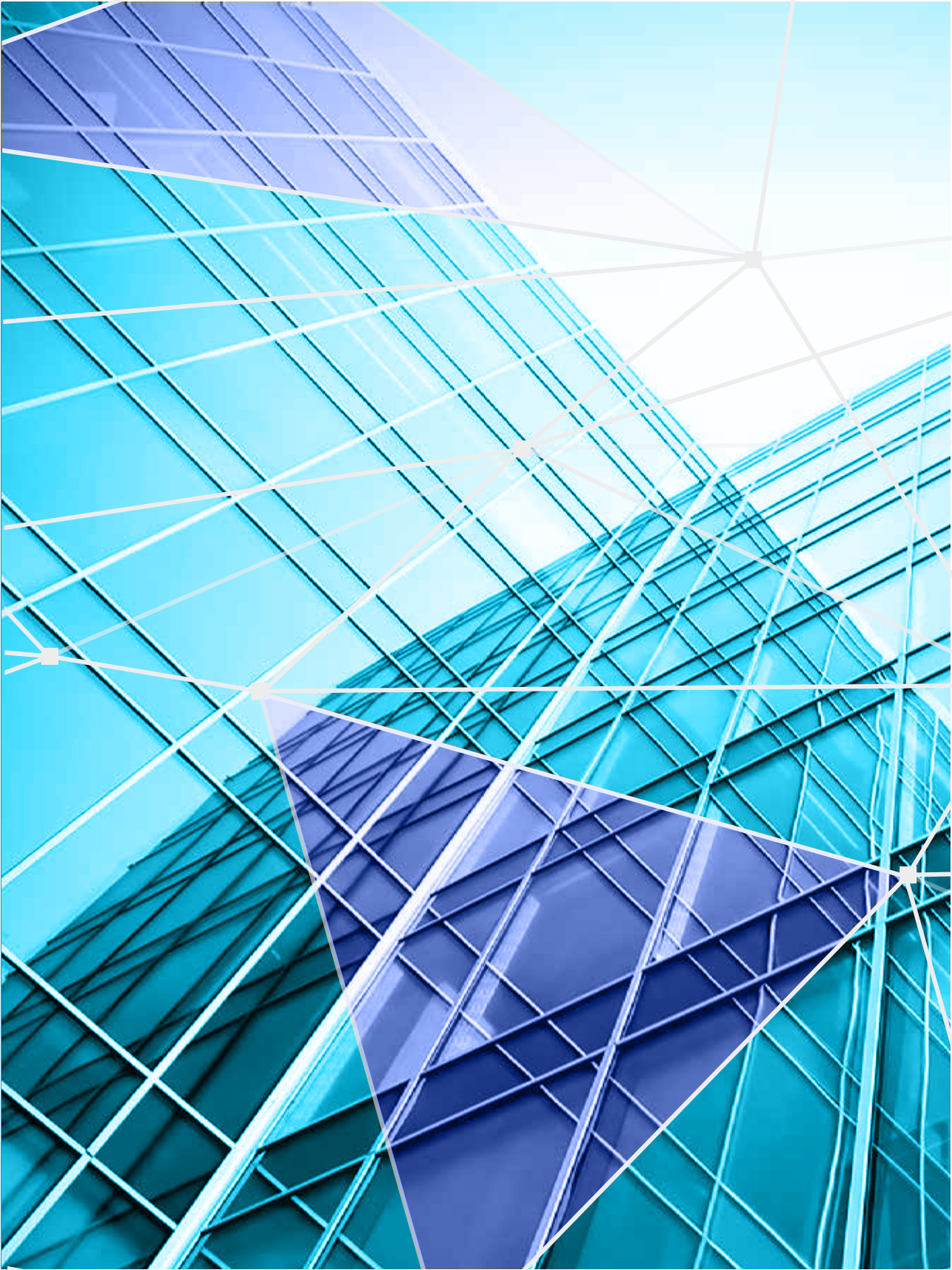
STEVE GODINHO
Organisation
GENIX VENTURES
CRC Position/role
MEMBER
Key Skills: <ul style="list-style-type: none">Transition of capability from industry to end-users

DIRK KLEIN
Organisation
SAS INSTITUTE
CRC Position/role
MEMBER
Key Skills: <ul style="list-style-type: none">Transition of capability from industry to end-users

SANJAY MAZUMDAR
Organisation
D2D CRC
CRC Position/role
D2D CRC AND BOARD REPRESENTATIVE
Key Skills: <ul style="list-style-type: none">Defence ISRTransition of capability from industry to end-users

MEETING ATTENDANCE

MEMBER	22/1/15	TOTAL	ELIGIBLE TO ATTEND
Michael Phelan	Yes	1	1
Chris Keane	Yes	1	1
John Percival	Yes	1	1
Scott Tilyard	Yes	1	1
Steve Godinho	Yes	1	1
Dirk Klein	No	0	1
Sanjay Mazumdar	Yes	1	1



COMMERCIALISATION AND IP ADVISORY COMMITTEE (CIPAC)

The CIPAC is an advisory committee to the Board. It provides advice to the Board regarding the development, assessment and execution of project IP strategies. In addition, it works with projects and the Board in the identification, development and assessment of IP commercialisation opportunities.

FATIMA BEATTIE	ROB CHALMERS	JIM HENDERSON	JC TAN	BRENTON COOPER
Organisation	Organisation	Organisation	Organisation	Organisation
D2D CRC	ADELAIDE RESEARCH & INNOVATION	UNSW INNOVATIONS	ITEK VENTURES (UNISA)	D2D CRC
CRC Position/role	CRC Position/role	CRC Position/role	CRC Position/role	CRC Position/role
CHAIR AND BOARD REPRESENTATIVE	MEMBER	MEMBER	MEMBER	D2D CRC REPRESENTATIVE
Key Skills: <ul style="list-style-type: none">IP strategy and managementIP protection	Key Skills: <ul style="list-style-type: none">IP strategy and managementIP protectionCommercialisation pathways for R&D	Key Skills: <ul style="list-style-type: none">IP strategy and managementIP protectionCommercialisation pathways for R&D	Key Skills: <ul style="list-style-type: none">IP strategy and managementIP protectionCommercialisation pathways for R&D	Key Skills: <ul style="list-style-type: none">IP strategy and managementIP protectionCommercialisation pathways for R&D

MEETING IN ATTENDANCE

The CIPAC was formed, but did not meet in the reporting period.



D2D CRC Program Leaders, L-R Professor Anton Van Den Hengel, Professor Markus Stumptner, Professor Louis De Koker and Professor Dineli Mather

KEY STAFF

Key staff as at 30 June 2015

NAME	ORGANISATION	CRC POSITION	TIME COMMITMENT
Sanjay Mazumdar	D2D CRC	Chief Executive Officer	100%
Brenton Cooper	D2D CRC	Chief Technology Officer	100%
Niall Fay	D2D CRC	Chief Operations Officer	100%
Jacqui Martin	D2D CRC	Communications and Education Manager	100%
Markus Stumptner	University of South Australia	Research Program 1 Leader (Data Storage and Management)	63%
Anton van den Hengel	University of Adelaide	Research Program 2 Leader (Analytics and Decision Support)	61%
Louis de Koker	Deakin University	Research Program 3 Leader (Policy and Law)	50%
Dineli Mather	Deakin University	Education and Training Program Leader	33%

PARTICIPANTS

Details of the Essential Participants involved in the D2D CRC during the reporting period are provided below.

ESSENTIAL PARTICIPANT	ABN	ORGANISATION TYPE
Australian Federal Police	17 864 931 143	Australian Government
Attorney General’s Department	92 661 124 436	Australian Government
Department of Defence	68 706 814 312	Australian Government
Defence SA	42 912 246 233	State Government
BAE Systems Australia	29 008 423 005	Industry
Genix Ventures	84 117 733 696	Industry
Leidos	12 001 071 239	Industry
Pivotal	97 162 413 274	Industry
SAS Institute Australia	13 002 287 247	Industry
Semantic Sciences Research	80 132 254 089	Industry
Deakin University	56 721 584 203	University
eResearch SA	61 249 878 937	Research
The University of Adelaide	61 249 878 937	University
University of New South Wales	57 195 873 179	University
University of South Australia	37 191 313 308	University

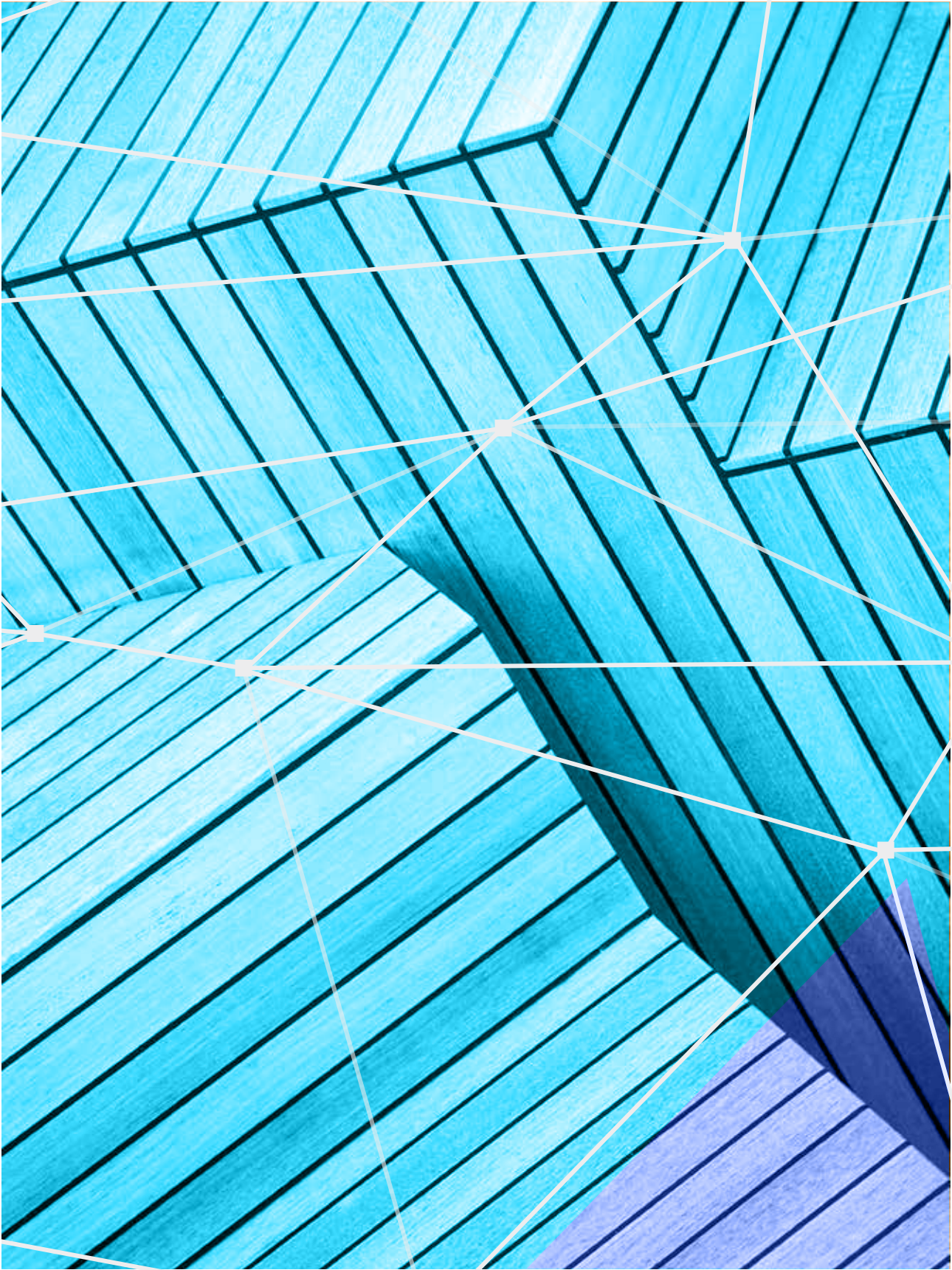
Details of the Other Participants involved in the D2D CRC during the reporting period are provided below.

OTHER PARTICIPANT		
The Boston Consulting Group	70 007 347 131	Industry
Palantir Technologies Australia	48 144 948 309	Industry
PricewaterhouseCoopers Australia	52 780 433 757	Industry
Teradata Australia	77 125 071 374	Industry
Unisys Australia	31 105 642 902	Industry
Carnegie Mellon University Australia	97 116 769 423	University
La Trobe University	64 804 735 113	University

COLLABORATION

D2D CRC has built strong collaborations in all aspects of its research program, from proposal development through to advisory panel assessment, research development and evaluation of the programs.

The future studies conducted early in the reporting period were indicative of this strong collaboration. Tasked to establish a shared vision for the analysis and exploitation of data, these studies were led by PwC, one of the D2D CRC partner organisations. The future studies involved all end-user participants (government and industry alike) and all research participants. The future studies also engaged with several government agencies that are not currently participants in the D2D CRC. The strategic projects (Beat the News, Apostle and Integrated Policing), while still early in their lifecycle, also highlight the extent to which collaboration will be enabled. These projects have been designed to include multiple agencies from the national security community, numerous industry organisations and research participants. As previously highlighted, these projects will also extend collaboration to overseas organisations including IARPA and Virginia Tech. Further collaboration, outside the national security domain, has been achieved through the Innovation Exchange program. The D2D CRC is currently collaborating with the Centre for Digital Video Intelligence, from the University of South Australia's Business School, on a project to evaluate the effectiveness of digital advertising. The D2D CRC has also established the Big Data Connect Program with the South Australian Government, a data analytics capability improvement program for manufacturing SMEs. The D2D CRC intends to undertake similar activities in sectors such as health, digital marketing and precision agriculture.



OTHER ACTIVITIES

D2D CRC also undertook
a review of the Barriers
to Open Data for
the Department of
Communications.

This was a consultancy service for the Department of Communications which involved a review of the legislative, administrative, cost and cultural barriers to making five key Government-held high economic data sets freely available for use across government, and for public use. The activity resulted in recommendations on how to remove barriers and create incentives for agencies to maximise the economic benefits of opening, sharing and/or linking of government data, while maintaining strong and effective privacy and related protections.



DIRECTOR'S REPORT

The directors present their report on the company for the financial year ended 30 June 2015.

Information on Directors

The names of each person who has been a director during the year and to the date of this report are:

- Mr Timothy Scully
- Dr Sanjay Mazumdar
- Ms Fatima Beattie appointed 23 July 2014
- Ms Cathryn Ingram appointed 23 July 2014
- Ms Kathryn Adams appointed 23 July 2014
- Ms Suzanne Campbell appointed 23 July 2014
- Mr Niall Fay retired 23 July 2014

Directors have been in office since the start of the financial year to the date of this report unless otherwise stated.

Operating Results

The surplus of the company amounted to \$2,024,176. The company is not-for-profit and exempt from income tax.

Review of Operations

A review of the operations of the company during the financial year and the results of those operations are as follows:

The surplus arises from the contributions received from participants and governments being received in advance of the related project work being carried out. These timing differences will reverse over the coming years as all the contributions are expended on the projects.

Significant Changes in the State of Affairs

There have been no significant changes in the state of affairs of the company during the year.

Principal Activities

The principal activities of the company during the financial year were promoting and managing the collaboration of Research and Development activities within the big data field.

No significant changes in the nature of the company's activity occurred during the financial year.

Events After the Reporting Date

No matters or circumstances have arisen since the end of the financial year which significantly affected or may significantly affect the operations of the company, the results of those operations, or the state of affairs of the company in future financial years.

Environmental Issues

The company's operations are not regulated by any significant environmental regulations under a law of the Commonwealth or of a state or territory of Australia.

Dividends paid or recommended

The company is limited by guarantee and has no share capital. The directors of the company are precluded by the company's constitution from declaring a dividend.

Options

No options over issued shares or interests in the company were granted during or since the end of the financial year and there were no options outstanding at the date of this report.

Indemnification and Insurance of Officers and Auditors

No indemnities have been given or insurance premiums paid, during or since the end of the financial year, for any person who is or has been an officer or auditor of the company.

Management liability insurance covers all directors and office holders of the company.

Auditors' Independence Declaration

The lead auditors' independence declaration in accordance with section 60-40 of the Australian Charities and Not for Profits Commission Act 2012, for the year ended 30 June 2015 has been received and can be found on page 3.

Signed in accordance with a resolution of the Board of Directors:

Chair: 

MR TIMOTHY SCULLY

Dated this 18th day of October 2015



Auditor's Independence Declaration

To the Directors of D2D CRC Ltd

In accordance with Section 60.40 of the *Australian Charities and Not-For-Profits Commission Act 2012*, in relation to the audit of the financial report of D2D CRC Ltd for the year ended 30 June 2015, to the best of my knowledge and belief, there have been no contraventions of any applicable code of professional conduct.

ASF Audits

A blue ink signature of Richard Smith, written in a cursive style.

Richard Smith
Partner

Adelaide SA

14 October 2015

STATEMENT OF PROFIT OR LOSS AND OTHER
COMPREHENSIVE INCOME FOR THE YEAR ENDED 30 JUNE 2015

	Note	2015 \$	2014 \$
Income			
Contributions		5,841,000	-
Third Party Contracts		70,909	-
Other income		3,883	26
Expenditure			
Research Program Expenditure		(2,534,944)	-
Third Party Contract Expenditure		(61,890)	-
Centre Administration Expenditure		(1,294,782)	(255,039)
		2,024,176	(255,013)
Surplus (Deficit) for the year	2	2,024,176	(255,013)
Total comprehensive income for the year	13	2,024,176	(255,013)

STATEMENT OF FINANCIAL POSITION AS AT 30 JUNE 2015

	Note	2015 \$	2014 \$
Assets			
Current Assets			
Cash And Cash Equivalents	3	2,360,387	495,026
Trade And Other Receivables	4	385,922	-
Other Current Assets	5	39,494	-
Total Current Assets		2,785,803	495,026
Non-Current Assets			
Trade And Other Receivables	4	32,475	-
Property, Plant And Equipment	7	29,097	-
Intangible Assets	6	110,007	112,585
Total Non-Current Assets		171,579	112,585
Total Assets		2,957,382	607,611
Liabilities			
Current Liabilities			
Trade And Other Payables	8	339,037	391,339
Provisions	9	60,408	-
Other Current Liabilities	10	788,774	471,285
Total Current Liabilities		1,188,219	862,624
Total Liabilities		1,188,219	862,624
Net Assets (Liabilities)		1,769,163	(255,013)
Equity			
Retained Earnings (Accumulated Losses)		1,769,163	(255,013)
Total Equity		1,769,163	(255,013)

STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 30 JUNE 2015

	Retained earnings / (Accumulated losses) \$	Total \$
Surplus/(deficit) attributable to equity	(255,013)	(255,013)
Balance at 30 June 2014	(255,013)	(255,013)
Surplus/(deficit) attributable to equity	2,024,176	2,024,176
Balance at 30 June 2015	1,769,163	1,769,163

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 JUNE 2015

	Note	2015 \$	2014 \$
Cash Flows From Operating Activities			
Receipts From Project Participants And Government		6,119,374	495,000
Payments To Suppliers And Employees		(4,053,495)	-
Interest Received		3,883	26
Net Cash Provided By Operating Activities	13	2,069,762	495,026
Cash Flows From Investing Activities			
Payments For Plant And Equipment		(34,801)	-
Payments For Intangible Assets		(137,125)	-
Payments For Other Non Current Assets		(32,475)	-
Net Cash Provided By (Used In) Investing Activities		(204,401)	-
Net Increase In Cash Held		1,865,361	495,026
Cash At Beginning Of Financial Year		495,026	-
Cash At End Of Financial Year	3	2,360,387	495,026

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2015

NOTE 1. Summary of Significant Accounting Policies

D2D CRC Ltd is a company limited by guarantee, incorporated and domiciled in Australia.

Basis of Preparation

The directors have prepared the financial statements on the basis that the company is a non reporting entity because there are no users dependent on general purpose financial statements. These financial statements are therefore special purpose financial statements that have been prepared in order to meet the requirements of the Australian Charities and Not-for-profits Commission Act 2012 for large charities.

The financial statements have been prepared in accordance with recognition and measurement criteria in the Australian Accounting Standards and the disclosure requirements of AASB 101 Presentation of Financial Statements, AASB 107 Statement of Cash Flows and AASB 108 Accounting Policies, Changes in Accounting Estimates and Errors, AASB 1031 Materiality, AASB 1048 Interpretation of Standards, AASB 1054 Australian Additional Disclosures, and the significant accounting policies disclosed below which the directors have determined are appropriate to meet the purposes of preparation. Such accounting policies are consistent with the previous period unless stated otherwise.

The financial statements have been prepared on an accruals basis and are based on historical costs unless stated otherwise in the notes. The accounting policies that have been adopted in the preparation of these statements are as follows:

Property, Plant and Equipment

Each class of property, plant and equipment is carried at cost less, where applicable, any accumulated depreciation and impairment.

Plant and equipment

Plant and equipment are measured using the cost model.

Depreciation

Property, plant and equipment, is depreciated on a straight line basis over the assets useful life to the Company, commencing when the asset is ready for use.

Financial Instruments
Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise principally through the provision of goods and services to customers but also incorporate other types of contractual monetary assets.

After initial recognition these are measured at amortised cost using the effective interest method, less provision for impairment. Any change in their value is recognised in profit or loss.

The company's trade and most other receivables fall into this category of financial instruments.

Significant receivables are considered for impairment on an individual asset basis when they are past due at the reporting date or when objective evidence is received that a specific counterparty will default.

The amount of the impairment is the difference between the net carrying amount and the present value of the future expected cash flows associated with the impaired receivable.

In some circumstances, the company renegotiates repayment terms with customers which may lead to changes in the timing of the payments, the company does not necessarily consider the balance to be impaired, however assessment is made on a case-by-case basis.

Subsequent recoveries of amounts previously written off are credited against other expenses in profit or loss.

Impairment of Non-Financial Assets

At the end of each reporting period the company determines whether there is an evidence of an impairment indicator for non-financial assets.

Where this indicator exists, the recoverable amount of the asset is estimated.

Where assets do not operate independently of other assets, the recoverable amount of the relevant cash-generating unit (CGU) is estimated.

The recoverable amount of an asset or CGU is the higher of the fair value less costs of disposal and the value in use. Value in use is the present value of the future cash flows expected to be derived from an asset or cash-generating unit.

Where the recoverable amount is less than the carrying amount, an impairment loss is recognised in profit or loss.

Reversal indicators are considered in subsequent periods for all assets which have suffered an impairment loss, except for goodwill.

Intangibles
Website creation

Website creation costs incurred are capitalised to the extent that they represent economic benefits. The capitalised costs are amortised on a straight line basis over the expected useful life.

Other intangibles

Formation costs incurred are capitalised to the extent that they represent future economic benefits. The capitalised costs are amortised on a straight line basis over the expected useful life of the CRC, which in this instance is the Federal Government grant term (5 years).

Employee Benefits

Provision is made for the company's liability for employee benefits arising from services rendered by employees to the end of the reporting period. Employee benefits that are expected to be settled within one year have been measured at the amounts expected to be paid when the liability is settled.

Employee benefits expected to be settled more than one year after the end of the reporting period have been measured at the present value of the estimated future cash outflows to be made for those benefits. In determining the liability, consideration is given to employee wage increases and the probability that the employee may satisfy vesting requirements. Cashflows are discounted using market yields on national government bonds with terms to maturity that match the expected timing of cashflows. Changes in the measurement of the liability are recognised in profit or loss.

Employee benefits are presented as current liabilities in the statement of financial position if the company does not have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date regardless of the classification of the liability for measurement purposes under AASB 119.

Provisions

Provisions are recognised when the company has a legal or constructive obligation, as a result of past events, for which it is probable that an outflow of economic benefits will result and that outflow can be reliably measured.

Cash and Cash Equivalents

Cash and cash equivalents comprises cash on hand, demand deposits and short-term investments which are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in value.

Revenue and Other Income

Revenue is recognised when the amount of the revenue can be measured reliably, it is probable that economic benefits associated with the transaction will flow to the entity and specific criteria relating to the type of revenue as noted below, has been satisfied.

Revenue is measured at the fair value of the consideration received or receivable and is presented net of returns, discounts and rebates.

i. Rendering of Services

Revenue is recognised when the outcome of a transaction involving the rendering of services can be estimated reliably by reference to the percentage of the service performed.

ii. Interest Revenue

Interest revenue is recognised using the effective interest rate method.

iii. Government Grants

Government grants (including non-monetary grants at fair value) are not recognised until there is a reasonable assurance that all conditions will be complied with and that the grants will be received. Grants are recognised in the Statement of Profit or Loss and Other Comprehensive Income as received. Grants received in advance in the 2015 financial year were in relation to expenses that will be incurred for the 2016 financial year.

iv. Cash Contributions from Participants

Cash contributions received from participants in the current financial year, which are on account of future costs to be incurred by the Company, are treated as liabilities until the associated costs are incurred.

v. In-kind Contributions from Participants

In-kind contributions from participants have not been recognised as income and expenses as the Board considers they do not meet the criteria of AASB 1004. In-kind contributions from participants have been audited separately and these figures will be submitted to the Commonwealth as required under the Commonwealth deed of funding.

Goods and Services Tax (GST)

Revenues, expenses and assets are recognised net of the amount of goods and services tax (GST), except where the amount of GST incurred is not recoverable from the Australian Taxation Office (ATO).

Receivables and payables are stated inclusive of GST. The net amount of GST recoverable from, or payable to, the ATO is included as part of receivables or payables in the statement of financial position.

Cash flows in the statement of cash flows are included on a gross basis and the GST components of cash flows arising from investing or financing activities which are recoverable from, or payable to, the taxation authority are classified as operating cash flows.

Income Tax

No provision for income tax has been raised as the company is exempt from income tax under section 50-5 of the Income Tax Assessment Act (1997).

Comparative Amounts

Comparatives are consistent with prior years, unless otherwise stated.

Where a change in comparatives has also affected the opening retained earnings previously presented in a comparative period, an opening statement of financial position at the earliest date of the comparative period has been presented.

NOTES TO THE FINANCIAL STATEMENTS

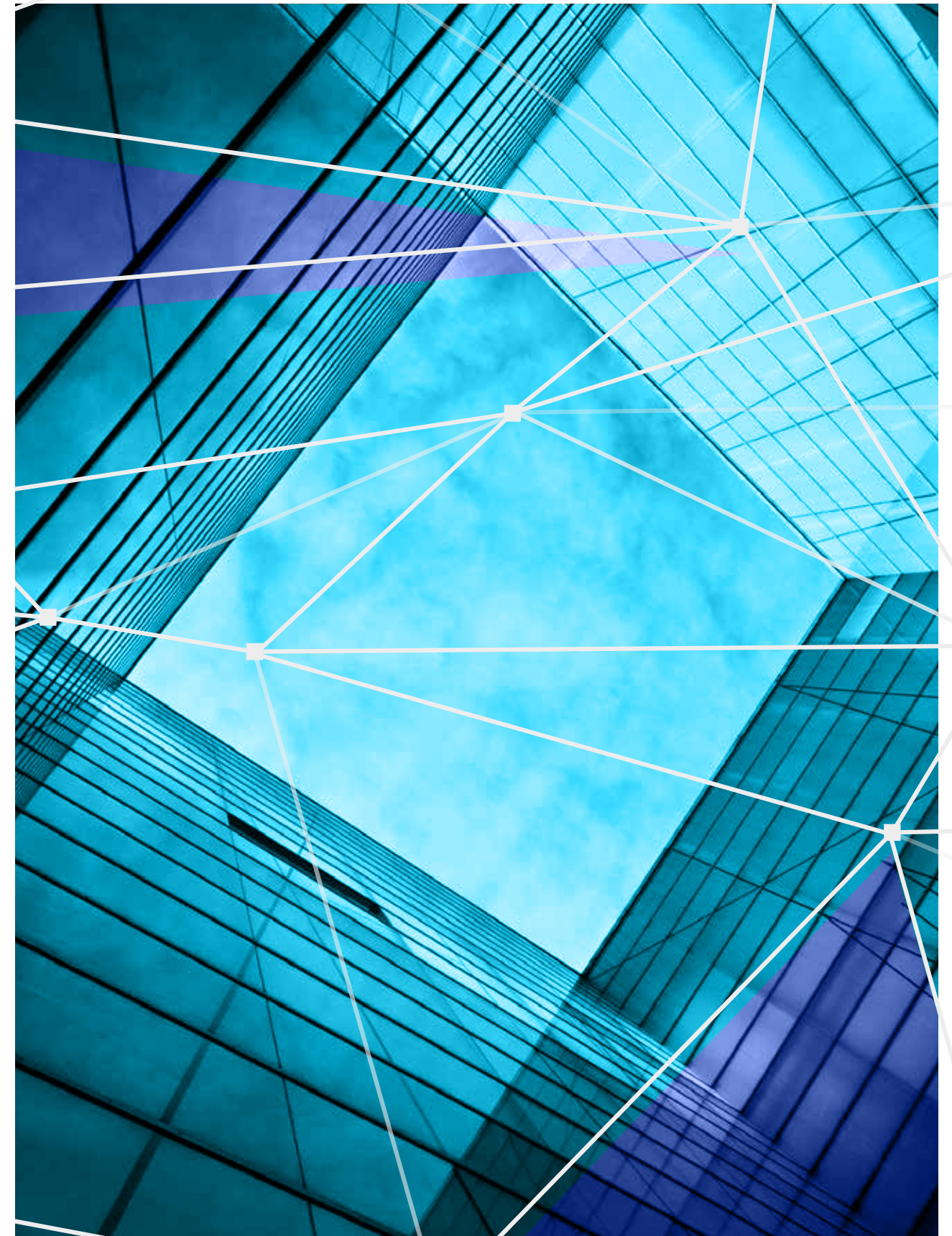
FOR THE YEAR ENDED 30 JUNE 2015

NOTE 2 - Surpluss For Year

Surplus before income tax from continuing operations includes the following income and expenses:

	2015 \$	2014 \$
Income		
Contributions		
Department of Industry Program Funding	3,316,000	-
Essential Participant Contributions	2,175,000	-
Other Participant Contributions	350,000	-
Total Contributions	5,841,000	-
Third Party Contracts		
Review of Barriers to Open Data	70,909	-
Other Income		
Bank Interest	3,883	26
Total Other Income	3,883	26
Total Income	5,915,792	26
Less Expenditure		
Research Program Expenditure		
Application Research Program 1 – CT & Policing	483,097	-
Application Research Program 2 – Defence ISR	396,535	-
Research Program 1 – Data Storage & Management	317,645	-
Research Program 2 – Analytics & Decision Support	820,653	-
Research Program 3 – Policy For Big Data Analysis	208,100	-
PhD Scholarship Program	135,686	-
Education Program	173,228	-
Total Research Program Expenditure	2,534,944	-
Third Party Contract Expenditure		
Review of Barriers to Open Data	61,890	-
Centre Administration Expenditure		
Centre Administration Expenditure	1,280,555	255,039
Auditor Expenses	14,227	-
Total Centre Administration Expenditure	1,294,782	255,039
Total Expenditure	3,891,616	255,039
Net Surplus/Deficit	2,024,176	(255,013)

Centre administration expenditure is relatively fixed regardless of research expenditure and while appearing large in comparison to research spend in year one, will become a small percentage of total expenditure in future years.



NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2015

NOTE 3. Reconciliation of cash

Cash and Cash equivalents reported in the statement of cash flows are reconciled to the equivalent items in the statement of financial position as follows:

	2015 \$		2014 \$
3. Cash And Cash Equivalents			
Cash on Hand	115		-
Westpac A/C #145777	2,360,272		495,026
	2,360,387		495,026
Reconciliation of cash			
Cash and Cash equivalents reported in the statement of cash flows are reconciled to the equivalent items in the statement of financial position as follows:			
Cash and cash equivalents	2,360,387		495,026
	2,360,387		495,026

NOTE 4

	2015 \$		2014 \$
4. Trade And Other Recevables			
Current			
Debtors - Accounts Receivable	385,922		-
Non-Current			
Bonds - Base 64 & Cabcharge Bond	32,475		-

The carrying value of trade receivables is considered a reasonable approximation of fair value due to the short term nature of the balances.

NOTE 5, 6, 7 & 8

	2015 \$		2014 \$
5. Other Non-Financial Assets			
Current			
Prepayments	39,494		-
6. Intangible Assets			
Formation Costs	112,585		112,585
Less Accumulated Amortisation	(22,517)		-
	90,068		112,585
Website Creation Costs	24,540		-
Less Accumulated Amortisation	(4,601)		-
	19,939		-
Total	110,007		112,585
7. Property, Plant and Equipment			
PLANT AND EQUIPMENT			
Plant and Equipment:			
At cost	34,801		-
Accumulated depreciation	(5,704)		-
Total Plant and Equipment	29,097		-
8. Trade and Other Payables			
Current			
Creditors - Accounts Payable	196,905		380,973
Corporate Credit Cards	13,724		-
GST Payable	90,504		10,366
PAYG Payable	35,740		-
Superannuation Payable	2,164		-
	339,037		391,339

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2015

NOTE 9 & 10

	2015 \$	2014 \$
9. Provisions		
Current		
Provision for Annual Leave	60,408	-
10. Other Liabilities		
Current		
Accrued Expenses	348,774	21,285
Revenue Received in Advance	440,000	450,000
	788,774	471,285

NOTE 11. Contingent Liabilities and Assets

The company has no known contingent liabilities or contingent assets as at 30 June 2015.

NOTE 12. Economic Dependence

The company is economically dependent on the Commonwealth Government of Australia's and Participants' cash contributions (as committed in the Commonwealth Agreements and the Essential Participants Agreements) under a five year funding agreement ending 30 June 2019.

NOTE 13

	2015 \$	2014 \$
13. Cash Flow Information		
Reconciliation of Cash Flow from Operations with Surplus after Income Tax		
Surplus (Deficit) after income tax	2,024,176	(255,013)
Non-cash flows in profit		
Depreciation and amortisation	32,820	-
Changes in assets and liabilities, net of the effects of purchase and disposals of subsidiaries		
(Increase) Decrease in current receivables	(385,922)	-
Increase (Decrease) in accrued income	(10,000)	450,000
(Increase) Decrease in prepayments	(39,494)	-
Increase (Decrease) in trade creditors	(71,483)	278,754
Increase (Decrease) in other creditors	131,767	-
Increase (Decrease) in current provisions	60,408	-
Increase (Decrease) in accrued charges	327,490	21,285
	2,069,762	495,026

NOTE 14. Change in Accounting Policy

Recognition of Income

In-kind contributions have not been recognised in the financial statements of the company. This change has no effect on comparatives.

NOTE 15. Company Details

The registered office of the company is: D2D CRC Ltd - Base64, 64 North Terrace, Kent Town SA 5067

The principal place of business is: Base64, 64 North Terrace, Kent Town SA 5067

DIRECTOR'S DECLARATION

The directors have determined that the company is not a reporting entity and that this special purpose financial report should be prepared in accordance with the accounting policies described in Note 1 to the financial statements.

The directors of the company declare that:

- 1. The financial statements and notes, as set out on pages 1 to 17 are in accordance with the Australian Charities and Not for Profits Commission Act 2012, and:
 - (a) comply with Accounting Standards as stated in Note 1 and the Australian Charities and Not for Profits Commission Regulation 2013; and
 - (b) give a true and fair view of the company's financial position as at 30 June 2015 and of its performance for the year ended on that date in accordance with the accounting policies described in Note 1 to the financial statements.
- 2. In the directors' opinion, there are reasonable grounds to believe that the company will be able to pay its debt as and when they become due and payable.

This declaration is made in accordance with a resolution of the Board of Directors.

Chair: 

MR TIMOTHY SCULLY

Dated this 18th day of October 2015

INDEPENDENT AUDITOR'S REPORT

To the Members of D2D CRC Limited

Report on the Financial Report

We have audited the accompanying financial report, being a special purpose financial report, of D2D CRC Ltd, which comprises the statement of financial position as at 30 June 2015, the statement of profit and loss and other comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, notes to the financial statements, comprising a summary of significant accounting policies and other explanatory information, and the Directors' declaration.

Directors' Responsibility for the Financial Report

The Directors of the registered entity are responsible for the preparation of the financial report that gives a true and fair view and have determined that the basis of preparation described in Note 1 to the financial report is appropriate to meet the requirements of the *Australian Charities and Not-for-profits Commission Act 2012* (ACNC Act) and the needs of the members. The Directors' responsibility also includes such internal control as they determine is necessary to enable the preparation of a financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the financial report based on our audit. We have conducted our audit in accordance with Australian Auditing Standards. Those standards require that we comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the responsible entities' preparation of the financial report that gives a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the registered entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the responsible entities, as well as evaluating the overall presentation of the financial report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion the financial report of D2D CRC Ltd has been prepared in accordance with Division 60 of the *Australian Charities and Not-for-Profits Commission Act 2012*, including:

- (a) giving a true and fair view of the registered entity's financial position as at 30 June 2015 and of its financial performance and cash flows for the year ended on that date; and
- (b) complying with Australian Accounting Standards to the extent described in Note 1, and Division 60 of the *Australian Charities and Not-for-profits Commission Regulation 2013*.

Basis of Accounting

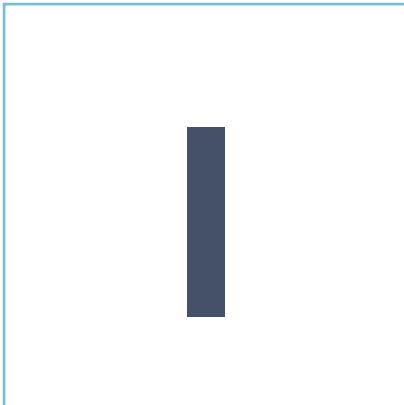
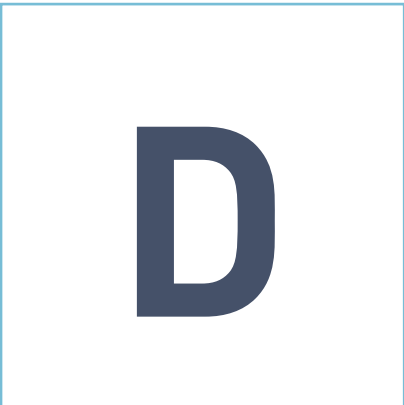
Without modifying our opinion, we draw attention to Note 1 to the financial report, which describes the basis of accounting. The financial report has been prepared for the purpose of fulfilling the responsible entities' financial reporting responsibilities under the ACNC Act. As a result, the financial report may not be suitable for another purpose.

ASF Audits



Richard Smith

20 October 2015
Adelaide SA



DOCTORATE BY RESEARCH STUDENTS

PHD STUDENT	COMMENCEMENT DATE	RESEARCH PROGRAM	PROJECT TITLE	RESEARCH ORGANISATION	COUNTRY	EXPECTED COMPLETION DATE
Daniel Carter	2/03/2015	3: Law and Policy for Big Data Analysis	Mass Data Analysis; National and International implications for data with limited protections	UNSW Australia	Australia	30/08/2018
Adrian Johnston	9/02/2015	2: Analytics and Decision Support	Large Scale Geospatial Image Understanding and Visualisation	University of Adelaide	Australia	9/08/2018
Ang Yang	29/08/2014	1: Data Storage and Management	An information Quality Model for Big Data	University of South Australia	China	26/02/2018
Chaowen Huang	16/02/2015	1: Data Storage and Management	Studying Novel Methods for Event Detection and Tracking	University of South Australia	Australia	16/08/2018
Christopher Targett	2/03/2015	2: Analytics and Decision Support	Utilising context for unsupervised learning of features and their relationships	University of Adelaide	Australia	30/08/2018
Craig Jones	19/01/2015	2: Analytics and Decision Support	Automated knowledge representation using Big Data and natural language processing.	University of Adelaide	Australia	19/07/2018
Danqing Dong*	1/03/2015	2: Analytics and Decision Support	Improving Reliability for Image Recommender Systems using Big Data	University of Adelaide	Australia	29/08/2018
George Stamatescu	10/06/2014	2: Analytics and Decision Support	Modelling Intelligent Targets using Hidden Reciprocal Chains	University of Adelaide	Australia	8/12/2017

*Please note this student withdrew after the reporting period.

PHD STUDENT	COMMENCEMENT DATE	RESEARCH PROGRAM	PROJECT TITLE	RESEARCH ORGANISATION	COUNTRY	EXPECTED COMPLETION DATE
Hayden Faulkner	2/03/2015	2: Analytics and Decision Support	Scene Interpretation from Video	University of Adelaide	Australia	30/08/2018
John Steven Calvo Martinez	2/03/2015	2: Analytics and Decision Support	Distributed stream mining	UNSW Australia	Brazil	30/08/2018
John Wondoh	17/02/2014	1: Data Storage and Management	Bi-temporal event driven process interoperability	University of South Australia	Ghana	17/08/2017
Peter Mathews	7/01/2015	2: Analytics and Decision Support	Learning theory and algorithms for large scale probabilistic graphical models	University of Adelaide	Australia	7/07/2018
Seung Youb Ssin	16/02/2015	2: Analytics and Decision Support	Assistance of Natural User Interface, Sensor Tracking in real time for Robot teleoperation (or) "Real time Spatial programming for Robot teleoperation"	University of South Australia	Korea	16/08/2018
Tharinda Bandaragoda	30/03/2015	2: Analytics and Decision Support	Real-time Cognitive Analysis for Capturing Suspicious Behaviours	La Trobe University	Sri Lanka	27/09/2018
Thomas Zola	17/02/2014	1: Data Storage and Management	A framework for bidirectional mappings over heterogeneous data sources	University of South Australia	Australia	17/08/2017
Yujie Wang	14/04/2015	2: Analytics and Decision Support	New multi-dimensional knowledge base to capture and store patterns in evolving text streams	La Trobe University	Australia	12/10/2018

FORMAL PUBLICATIONS

PUBLICATION TITLE	PROJECT TITLE	RESEARCH PROGRAM	FORMAL PUBLICATIONS	PUBLISHED
Bitemporal Support for Business Process Contingency Management	Integrated Policing - Scoping	CT and Policing (ARP1)	Full written conference paper – refereed proceedings	Published
Verification of CD2RDBMS model transformation case in Flora-2	Integrated Policing - Scoping	CT and Policing (ARP1)	Full written conference paper – refereed proceedings	Published
Data Mining for Building Knowledge Bases: Techniques, Architectures and Applications	Apostle - Scoping	Defence ISR (ARP2)	Full written conference paper – refereed proceedings	Preliminary Approval
Depth and surface normal estimation from monocular images using regression on deep features and hierarchical CRFs.	Exploiting contextual cues in large-scale machine learning	Research Program 2	Full written conference paper – refereed proceedings	Published
Image Captioning with an Intermediate Attributes Layer	Exploiting contextual cues in large-scale machine learning	Research Program 2	Articles in scholarly refereed journals	Published
Image-based Recommendations on Styles and Substitutes	Exploiting contextual cues in large-scale machine learning	Research Program 2	Full written conference paper – refereed proceedings	Published
Learning Graph Structure for Multi-label Image Classification via Clique Generation	Large Scale Image Classification	Research Program 2	Full written conference paper – refereed proceedings	Published
Learning to Rank in Person - Re Identification with Metric Ensembles	Large Scale Image Classification	Research Program 2	Full written conference paper – refereed proceedings	Published
Mid-Level Deep Pattern Mining	Exploiting contextual cues in large-scale machine learning	Research Program 2	Full written conference paper – refereed proceedings	Published

PUBLICATION TITLE	PROJECT TITLE	RESEARCH PROGRAM	FORMAL PUBLICATIONS	PUBLISHED
Spatial Augmented Reality - A Tool for 3D Data Visualization	Immersive Information Pod	Research Program 2	Full written conference paper – refereed proceedings	Published
The Treasure Beneath Convolutional Layers	Large Scale Image Classification	Research Program 2	Full written conference paper – refereed proceedings	Published
Algorithmic Prediction in Policing: Assumptions, Evaluation, and Accountability	Comparative International Perspectives on Strategy, Policy & Law	Research Program 3	Articles in scholarly refereed journals	Preliminary Approval
Supplier integrity due diligence in public procurement: limiting the criminal risk to Australia	Comparative International Perspectives on Strategy, Policy & Law	Research Program 3	Articles in scholarly refereed journals	Published
The potential of big data for law enforcement and security intelligence: A cultural analysis	Comparative International Perspectives on Strategy, Policy & Law	Research Program 3	Articles in scholarly refereed journals	Preliminary Approval
Using 'Big' Metadata for Criminal Intelligence: Understanding limitations and appropriate safeguards	Comparative International Perspectives on Strategy, Policy & Law	Research Program 3	Full written conference paper – refereed proceedings	Preliminary Approval

AGD	Attorney-General's Department
AIG	Australian Industry Group
AIIA	Australian Information Industry Association
ANZCTC	Australia-New Zealand Counter-Terrorism Committee
ARC	Audit and Risk Committee
BCG	Boston Consulting Group
Big Data	A term for any collection of data sets so large and complex that it becomes difficult to store, process and analyse using current technologies. Big Data comes from many sources (e.g. text, image, audio, social media etc.) at an alarming velocity, volume and variety.
Big Data Analytics	The process of examining large data sets containing a variety of data types -- i.e., big data -- to uncover hidden patterns, unknown correlations, market trends, customer preferences and other useful business information.
Caffe	a deep learning framework made with expression, speed, and modularity in mind. It is developed by the Berkeley Vision and Learning Center (BVLC) and by community contributors
CIPAC	Commercialisation and IP Advisory Committee
CMU	Carnegie Mellon University
CPU	Graphics processing units
CRC	Cooperative Research Centre
CRF	Conditional Random Fields
CT	Counter-terrorism
D2D CRC	Data to Decisions Cooperative Research Centre
DNSAC	Defence and National Security Advisory Committee
DST Group	Defence Science and Technology Group
HQ	Head-quarters
IAPA	Institute of Analytics Professionals of Australia
IARPA	Intelligence Advanced Research Project Activity
ISR	Intelligence surveillance and reconnaissance
KDD	Knowledge Discovery and Dissemination
Machine Learning	A subfield of computer science that evolved from the study of pattern recognition and computational learning theory in artificial intelligence. Machine learning explores the construction and study of algorithms that can learn from and make predictions on data.
NICTA	National ICT Australia is Australia's Information Communications Technology Research Centre of Excellence
OSINT	Open-source intelligence
PwC	PricewaterhouseCoopers Australia
R&D	Research and Development
RAC	Research Advisory Committee
SMEs	Small to Medium Enterprises
UniSA	University of South Australia
UNSW	UNSW Australia
UoA	University of Adelaide
Virginia Tech	Virginia Polytechnic Institute and State University, Blacksburg VA, USA

GOVERNMENT

 AFP AUSTRALIAN FEDERAL POLICE	 Australian Government Attorney-General's Department	 Australian Government Department of Defence	 Government of South Australia DEFENCE SA
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INDUSTRY

 BAE SYSTEMS	 GENIX	 BCG THE BOSTON CONSULTING GROUP	 leidos
 Pivotal	 pwc	 Palantir	 sas
 UNISYS	 TERADATA	 Semantic Sciences	

UNIVERSITY AND RESEARCH

 Carnegie Mellon University Australia	 DEAKIN UNIVERSITY	 eRESEARCH SA	 LA TROBE UNIVERSITY
 THE UNIVERSITY of ADELAIDE	 University of South Australia	 UNSW AUSTRALIA	

