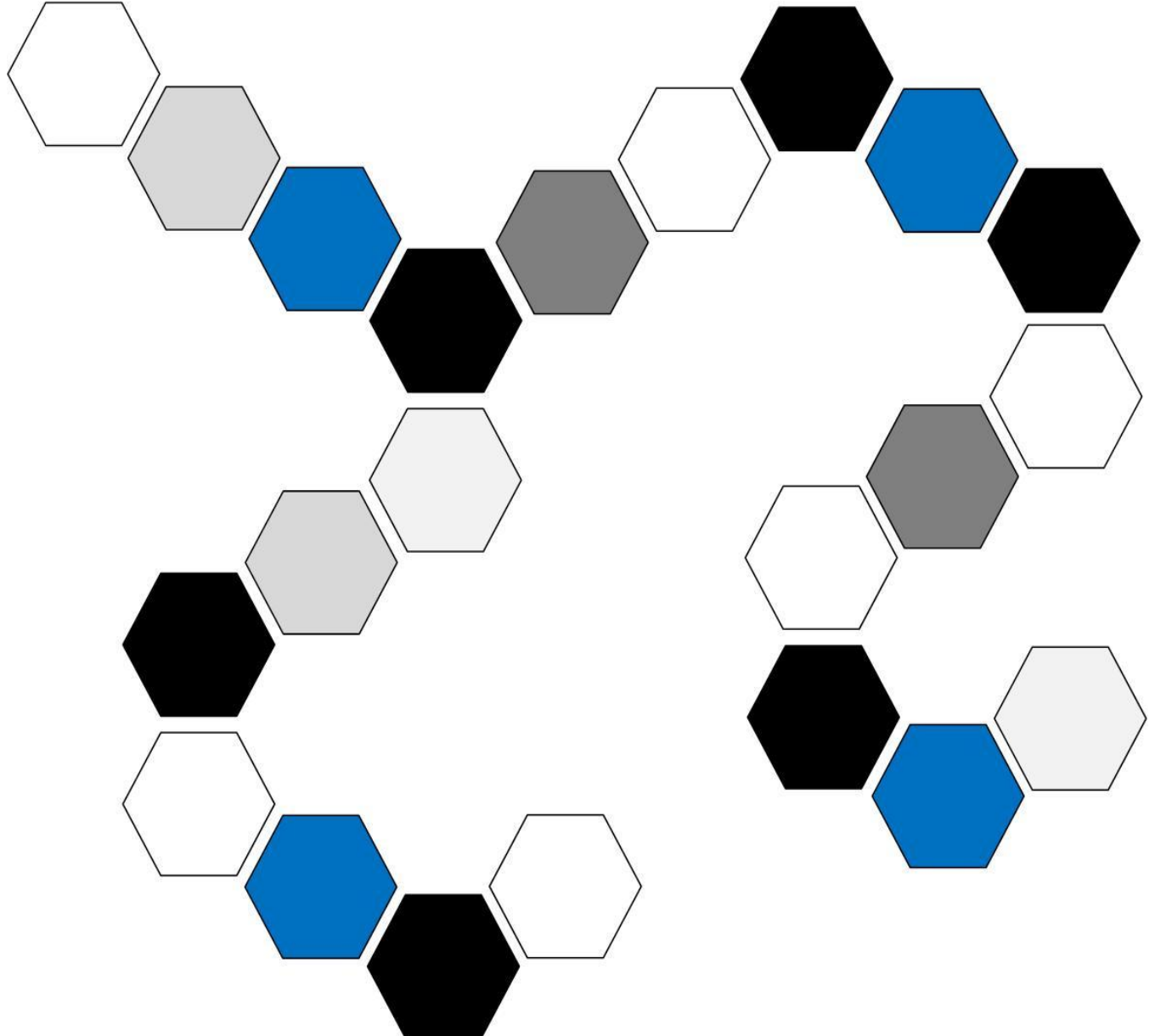


# 2011 Annual Report Institute for Supply Chain and Logistics





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	<i>2011</i>	

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## 1 Director's Report

In 2011 the Institute for Logistics and Supply Chain Management (ILSCM) was renamed the Institute for Supply Chain and Logistics (ISCL) within the limits of the University's Institute naming Policy, to simplify the Institute's name for recognition in the industry and to establish a badge appropriate to the new direction and team.



A matrix management recruitment strategy was developed and implemented, including a world-wide recruitment search for academic leadership in supply chains, to build the new team to guarantee that we can respond to industry demand and lead future thinking in supply chain and logistics research, education and industry engagement.

The Institute developed a Capability Statement (Appendix 1), which comprehensively describes the Institute's strategy and competence and clarifies our vision to achieve international recognition as a world-class supply chain education and research centre; and the first reference point for supply chain businesses, associations, government, students and scholars. The Institute and the Capability Statement were launched at an industry function with 80 industry and Government contributors to the Port of Melbourne Container Chain Logistics Study, for which we received a national Universities peak B-HERT Research Award with our commercial partner IMIS/Aurecon.

The Institute developed a range of entry level education programs for the freight and logistics industry, including Certificates IV and Diplomas in Logistics and Purchasing and an Associate Degree. Victoria University thereby became the national logistics provider for Linfox graduates, operators and managers. The Institute also received a world first international accreditation for its development and delivery of the Diploma of Logistics from the UK based Chartered Institute of Logistics and Transport. Students completing studies delivered by ISCL can graduate with a Victoria University Diploma of Logistics, reinforced with the internationally recognised CILT Diploma in Logistics and Transport, to satisfy the strong demand in India, the Middle East and the Asia Pacific.

The Institute was commissioned to undertake a range of high profile contracts for complex research projects, within the principle themes of port related logistics and supply chain. Many of the projects utilised versions of the Institute's business relationships research methodology. Professor Peng Shi played a lead role in Victoria University's world class, and better than world class academic research in Applied Mathematics and Applied Engineering.

The Institute's senior personnel contributed to a broad range of state, national and international organisations and the Institute continued to guide and manage the Victorian Supply Chain Learning Network, the Victorian Freight Efficiency Group of the Victorian Freight and Logistics Council, and the Victorian Transport and Logistics Workforce Advisory Group established on the initiative of the Committee of Australian Governments. The Institute accepted a leadership role in establishing Victoria University's cross-sectoral and cross-disciplinary cohesion in this area of study, which then developed into planning for a whole of University Supply Chain and Logistics Distinctive Specialisation.

The Institute comprised 18 full time equivalent positions in education, research and industry engagement and the development is supported by the University as a deferred benefit. The opportunity cost associated with labour allocated toward revenue generation across the University has not been quantified. The Institute's strategic development includes a trajectory with cost recovery in 2015.

ISCL developed a Governance Framework and Strategy document (Appendix 2) to comply with Victoria University's Institute Policy which was modified in support of Victoria University's Strategic Plan and the change management process. The internal management of the Institute was through the Office of the Deputy Vice Chancellor Research and Knowledge Exchange in 2011.

We were very fortunate in achieving the support of eminent industry and government leaders who agreed to join the Institute's Industry Advisory Board (IAB); they represent a very broad range of sectoral and specialist experience and the first meeting is scheduled for early 2012.

The Institute has built significant capability and capacity and enjoyed very strong growth in academic and contract research; tailored industry engagement projects; and the development and delivery of highly customised demand led education services; with each program and activity contributing to a reputation for excellence.

My sincere thanks go to the Institute's Executive Managers, the Institute Team, the members of the Institute's Industry Advisory Board, Victoria University's Senior Leadership Team and our partners and supporter's across the industry, during an exciting and rewarding year.

**Dr Hermione Parsons**

**Director**

## 2 Management Reports

### 2.1 Research

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In 2011, ISCL's academic research team again achieved exceptional outcomes, through a range of activities such as international peer-reviewed scientific journals and conference publications; supervising postgraduate students, collaborating with academic scholars, and hosting visiting PhD and international exchange Master students.

The Institute published widely on the following topics:

- Supply chain and logistics modelling and optimization
- Novel reliable optimal control techniques
- System performance analysis with partially known information
- Complex hybrid dynamical system modelling and analysis
- Information processing and signal processing
- Communication systems, wireless sensor networks, networked control systems
- Novel multi-objective optimisation techniques and applications
- Systems reliability
- Neural networks.

According to the 2011 Australian Research Council Excellence in Research for Australia Assessment, ISCL staff published 58 papers in international journals and 10 papers in international conference proceedings. Among the journal publications, 27 were ERA A\* or A ranked journal papers, 19 were ERA B ranked journal papers and the rest were C ranked journal papers. From the data analysis of VU's publication submission, ISCL's contribution was clearly significant. In the Electrical and Electronics Engineering submission, ISCL's journal publications and citation contribution were both over 90%, while in the Applied Mathematics submission ISCL's journal publication contribution was over 70% and the citation count exceeded 96%. Victoria Universities A\* ranked journal publications, in both Electrical and Electronic Engineering and Applied Mathematics, were predominately the result of ISCL's work in partnership with the Faculty of Health, Engineering and Science.



ISCL's key research staff were actively involved in editorial positions with a range of international scientific journals and their respective conference development programs. In recognition of this leadership, Professor Peng Shi was appointed and/or invited to participate as Editor-in-Chief, Advisory Board Member, Associate Editor, and Editorial Member in a number of prestigious top-ranking journals and conferences programs including:

- IEEE Transactions on Automatic Control (ERA: A\*)
- IEEE Transactions on Fuzzy Systems (ERA: A\*)
- IEEE Transactions on Systems, Man, and Cybernetics–Part B: Cybernetics (ERA: A)
- Signal Processing (ERA: A)
- IEEE Conference on Decision and Control (ERA: A)
- American Control Conference (ERA: A)
- Information Sciences (ERA: B)
- Journal of the Franklin Institute (ERA: B)
- Nonlinear Analysis–Real World Applications (ERA: B)
- International Journal of Innovative Computing Information and Control (ERA: B)
- International Journal of Systems Science (ERA: B)
- Circuits Systems and Signal Processing (ERA: C)
- Nonlinear Analysis: Hybrid Systems (ERA: C)

In 2011, each PhD student at the Institute made satisfactory progress.

International collaborations were further strengthened by visiting scholars Dr Ying Zhao and Dr Licai Zhang from Shandong Jiao-Tong University in China. Dr Licai Zhang worked at the Institute for 6 months. The Institute's status in research was further confirmed by hosting a number of visiting PhD students and exchange Master students from China and France.

In 2012, the Institute aims to develop its academic research team and program, and the Institute's strong relationships with Industry will form the basis of our strategic development.

## **Professor Peng Shi**

### **Professorial Research Fellow**

## **2.2 Contract Industry Research**

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In 2011 the Institute continued to build its reputation as a specialist research facility providing independent, robust knowledge to support and deliver value to organisations, businesses and individuals operating in the supply chain industry.

ISCL continued to develop its links with the public sector at the Departmental, Government Business Enterprise and Ministerial level through project engagement. The Institute's close relationship with industry representative bodies such as the Victorian Freight and Logistics Council, the Victorian Transport Association, the National Transport Council and the International Cargo Handling and Co-ordination Association further cemented our industry reputation as a relevant and useful research partner.

2011 saw the completion of the Port Botany Origin and Destination FCL & LCL Study and the Port of Adelaide Containerised Freight Origin/Destination Study. These projects followed a similar research methodology to the Port of Melbourne Container Logistics Chain Study, which was undertaken on behalf of the Port of Melbourne Corporation, the Victorian Governments Department of Transport and Essential Services Commission by ISCL in conjunction with IMIS/Aurecon.

A number of short term projects were delivered directly to industry, including a Supply Chain Analysis of Intermodal Terminals in Sydney and the Tasrail Intermodal Terminal Planning and Analysis. The Supply Chain Analysis of Intermodal Terminals in Sydney was commissioned to facilitate a study of intermodal rail terminals in NSW for the Road Traffic Authority (RTA). The Institute provided industry based knowledge concerning terminal operation layout and design and processes to substantiate their modelling assumptions.

During the Tasrail Intermodal Terminal Planning and Analysis Project the Institute was engaged to provide expert advice to Tasrail, the newly formed government owned rail services provider in Tasmania, to support the development of its terminal operations and the transshipment of freight from Trans Bass Ferries to rail on Tasmania's North Coast.

As part of the Institute's program to promote discussion in contemporary issues affecting the supply chain sector and to bring together leading thinkers across the industry, the Institute conducted a forum on Coastal Shipping Reform at the Melbourne Convention and Exhibition Centre. This forum focused on both Australian and international trends in coastal shipping against the background of the Australian Government Shipping Reform Agenda.

**Scott Welsford**

**Manager Commercial Research**

## 2.3 Education Services

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After establishing and recruiting an experienced and industry focused education team in 2010, the design, development and delivery of quality University award courses was the key priority of 2011. By actively responding to student and industry feedback, ISCL concentrated on the continuous improvement of the following courses:

- Certificate IV in Supply Chain Principles
- Certificate IV in Purchasing
- Diploma of Logistics for full time and part-time students
- Diploma of Logistics for industry and provision by distance learning
- Diploma of Purchasing

The Institute worked closely with the Faculty of Business and Law through the School of Management Information Systems to continue to develop and implement the Associate Degree in Logistics. The Institute also reviewed and streamlined the pathway from the Diploma of Logistics to the Bachelor of Business (with specialisation in Supply Chain and Logistics Management) to create a smooth pathway between vocational and higher education in line with the Victoria University Strategy.

Significant effort was devoted to improving course delivery and assessments, AQTF procedure, resource development and teaching and learning practices. This included increasing ISCL's capability and capacity to deliver distance education programs for the ongoing expansion of courses to industry. The distance learning platform was developed in conjunction with the delivery of the 2011 Diploma of Logistics to Linfox and the number of students interstate and in remote locations increased. Over the next few years, it is envisaged that ISCL's distance education platform will continue to support the further expansion of ISCL's courses.

In May 2011, The Institute received international accreditation by the Chartered Instituted of Logistics and Transport (CILT), the world's leading professional association in this sector, for the development and delivery of the Diploma of Logistics. On successful completion of their studies, students will now be able to graduate with an Australian Diploma of Logistics from Victoria University and a CILT International Diploma in Logistics and Transport. All efforts were taken to ensure the successful implementation of this program in 2012.

Through a close working relationship with the Victorian Transport Association (VTA), the Institute developed the VTA-VU Logistics Cadetship Program in 2011 for 2012 delivery. This is a structured program which integrates paid work, on the job learning and off the job vocational education over a two-year period. In the first year, cadets undertake the Certificate IV in Logistics and in the second year, the Diploma of Logistics. The Logistics Cadetship provides a pathway for participants to access higher education award courses and is valued as a succession planning program by an industry with an aging workforce. It should be noted that approximately 60% of Australia's Transport and Logistics workforce left school at 16 years of age and have no post school qualifications.

An overarching achievement of the Institute in 2011 was the increase of fee for service and internationally recognised industry education programs.

**Greg Cain**

**Manager Education Services**

## **2.4 Business Management**

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In 2011 the Institute for Supply Chain and Logistics continued to build capacity, capability and a reputation for excellence and relevance within Victoria University and across the supply chain industry.

Going into 2011, ISCL had the capability, capacity, and recognised expertise to meet the identified industry needs of workforce development and a demand driven commercial research program.

The delivery of University award based education services flourished through a focus on quality teaching and student engagement, and our fulltime, part time and work based delivery programs. All experienced strong growth as described in Section 6 of this report.

Commercial research business development was intensified and whilst not extensive in 2011 the pipeline effect as a deferred benefit into 2012 was real. There were a number of high profile commercial research programs in 2011 which are reported in Section 5 of this report.

The Institute has adopted a matrix management approach which allows the organisation to draw on the skills of personnel across education services and academic and commercial research. This aggregate of specialist skills and competencies has resulted in our ability to respond to a broad range of contract research programs.

Of particular merit is that all ISCL staff involved in the delivery of each program have significant industry backgrounds and a genuine commitment to currency and the relevance of our programs for students, industry and government.

Going forward it is essential that the University recognises the interdependency of the Institute's education and applied research staff skills in order to meet the objectives of demand led industry engagement.

In 2011 the Institute as a business continued to build process around executive communication, financial management, cost identification, product enhancement, program alignment and human resource competency.

The executive leadership group comprising of the Director, Academic Research, Commercial Research, Education Services and Business Management scheduled regular communication meetings around a consistent business development and management agenda.

Work In Progress reports by function were designed to monitor ISCL's activity and to focus where practicable on effective resource allocation. The activity reports underpinned the rigor of the revenue forecasts supplied to Victoria University's Innovation and Commercial Development Unit inclusive of the status of pipeline projects and probability ratings.

The Transport and Logistics industry is recognised as substantially underqualified and the CILT accreditation creates significant potential for ongoing industry participation. Education Services have developed an effective distance learning program to support the opportunity that the CILT accreditation provides.

Going forward it is recognised that flexibility and agility in the delivery of all Institute services will be required to satisfy industry demand.

During 2011, the Institute was committed to delivering a case for facilities expansion which would allow PHD students housed in inadequate facilities in a Geelong Road premises to join academic supervision and ISCL's Education Services on the first floor of 213 Nicholson Street, Footscray. The case was accepted and the Institute has benefitted from the student, teacher and supervisory interface at a single location.

A focus on governance was most evident during the 2011 year as demonstrated by the very successful recruitment of an ISCL Industry Advisory Board (IAB) whose members are high profile and highly influential within the supply chain and logistics specialisation.

Congratulations to the Institute's Director Dr Hermione Parsons for her persistence and influence in putting together the IAB.

Finally during 2011, ISCL continued to collaborate strongly across the University, most particularly with the Faculty of Business and Law and the Faculty of Health Engineering and Science at Victoria University, and externally with businesses, industry associations and government agencies nationally and internationally.

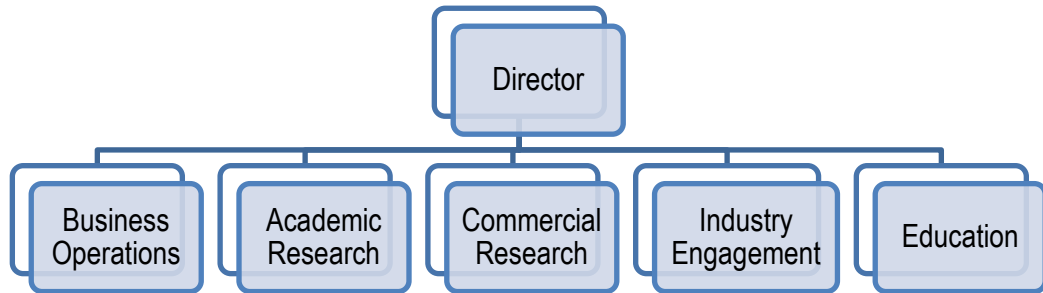
ISCL also led the Supply Chain Learning Network which involves TAFE Colleges across regional and metropolitan Victoria. Of particular note was ISCL's foundation work in partnership with the Victorian Transport Association which resulted in establishing a highly successful Logistics Cadetship Program.

**John McFarland**

**Manager Business and Business Development**

### 3 Management

#### 3.1 Organisation Chart



Please see Appendix 2 for a detailed ISCL Organisation Chart

#### 3.2 ISCL’s Industry Advisory Board

During 2011 the Institute laid the foundations for the formation of its Industry Advisory Board (IAB) which formalised the strategic liaison between the Institute, Industry and Government.

The IAB is primarily a strategic reference body that will guide the formation of the Institute’s vision, strategic research and education objectives to ensure relevance with industry’s current and future needs. The high profile membership consists of:

Member	Industry Experience (Historical and Current)
Laura Anderson	Chairman – Victoria; National Board at Starlight Children’s Foundation Governor at American Chamber of Commerce Chairman at L’Oreal Melbourne Fashion Festival, Chairman at Strategic Vision Global, Director - Board Member; Audit, Risk and Remuneration Committee at Australian Grand Prix Corporation Former Director, Chairman Risk Committee at Just Group, Director at Eastern Health, National Partner in Charge - Strategy and Development at KPMG

Ivan Backman	Former Chairman Australian Logistics Council, Managing Director and Deputy Chairman of Linfox, Managing Director K&S Ltd, President of the Victorian Chamber of Commerce and Industry
Michael Byrne	CEO Linfox Logistics Former CEO of Westgate Logistics Former General Manager at Mayne Logistics
Bob Dalziel	Board Member: Pas Group, Fred Hollows, Rebels Former Chairman and Managing Director: Harris Scarfe, Loscam, Mayne Nickless, Optus, Coles Myer (Discount Stores), Grace Brothers
Ingilby Dickson	General Manager Supply Chain and Logistics at BlueScope Steel Foundation Member, Australian Logistics Council. Former Director Customer Supply Chain at Hutchison Australia, Director Logistics at Goodman Fielder, General Manager - TNT Integrated Logistics at TNT Australia
David Doherty, OAM	General Manager Supply Chain CSL Former President, Supply Chain Logistics Association and Chairman Victorian Transport and Logistics Industry Round Table
Maurice James	Qube CEO Former Executive Director and Head of Ports Group at Patrick Corporation
Mike Mrdak	Secretary, Australian Commonwealth Government Department of Transport Former Deputy Secretary (Governance) with the Department of Prime Minister and Cabinet
Hermione Parsons	Director, Institute for Supply Chain and Logistics
Lindsay Tanner Permanent IAB Observer	Former member of the Australian <a href="#">House of Representatives</a> Former Minister for Finance - Federal Labor Government Vice-Chancellor's Fellow and Adjunct Professor, Victoria University Special advisor to Lazard



### 3.3 Governance

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In 2011 the Institute for Logistics and Supply Chain Management was rebranded the Institute for Supply Chain and Logistics (ISCL) with the Director reporting directly to the Deputy Vice Chancellor, Office of Research and Knowledge Exchange. It was decided that there was a greater benefit for the Institute to concentrate on building the association with an Industry Advisory Board (IAB) rather than develop and respond to an internal VU Management Committee.

It was also agreed that the ILSCM Government Framework and Strategy Document (See Appendix 2) which was accepted in early 2011, be in abeyance until Victoria University's change management program was complete, and that ISCL's governance structure should be simplified with less need for the establishment of external committees, including Research and Education Reference Groups.

The achievement of the Institute's vision would be achieved through genuine access to leading best practice practitioners and strategists and the formal and informal exchange of ideas with the Institute's Industry Advisory Board members.

### 3.4 Staff

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<b>Director</b>	Dr Hermione Parsons <i>PhD, Master Urban Planning, BA (Hons), Dip Ed</i>
<b>Academic Research</b>	Professor Peng Shi <i>DS, PhD, MSc, BSc</i>
<b>Commercial Research</b>	Scott Welsford <i>B Bus</i> Peter van Duyn <i>Master Mariner</i> Meaghan Siemensma <i>B Bus</i>
<b>Education</b>	Greg Cain <i>B App Sc, Grad Dip HR/IR, Grad Dip Ed Admin, Dip Log, Dip Ed</i> Adam Voak <i>LLB, MA, LLM, NE, BA, B Bus, Adv Dip Log Mgt, Dip OH&amp;S</i> Alan Galt Grad <i>Dip Mgt Studies, Dip Bus, Dip Log. Cert IV T&amp;L, Cert IV TAA</i> Evlín Jankoff <i>BSc (Hotel and Restaurant Admin), Dip FMI, Grad Cert Mgt, Cert IV TAA, Cert IV Small; Bus Mgt,</i> John Dorton <i>BA, Dip Bus, Dip Log, C.P.M, Grad Cert Mgt</i> Peter Nightscales <i>M Ed, Grad Cert Bus, Grad Cert Mgt, Grad Cert VET, Grad Cert Competitive Manufacturing, Adv Dip Logistics, Dip FLM, Dip Training &amp; Assessment, Cert IV TAE</i>

**Industry Engagement  
Business**

Stephen Gale *Dip Log, Dip Purchasing, Grad Cert Management, Cert IV TAA, Cert IV FLM*

Rosie Cirillo *Dip of International Trade, Adv Dip HR, Dip HR, Cert IV TAE*

Linda Boyack *Dip Bus Admin, Cert IV TAA*

Jennifer Dick *M Ed, Grad Dip Bus Admin, BA Cert IV in TAA,*

John McFarland *Grad Cert Mgt, Dip Log, Dip Ret Mgt, Cert IV TAA*

Tania Scodellaro

Krissy Savidis

### 3.5 Research Associates and Adjuncts

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Name	Topic
Dr Axel Korthaus	Management and Information Systems
Dr Liping Wang	ACCD (Australian Community Centre for Diabetes)
Dr Wei Dai	Management and Information Systems
Mr Paul Hawking	Management and Information Systems
Mr Brendan McCarthy	Management and Information Systems

## 4 Academic Research

### 4.1 Students

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#### *PhD Students*

<b>Name</b>	<b>Topic</b>
Andrew Downard	Predicting & Measuring Supply Chain Relationships & Trust
Adam Voak	Ethics and Social Responsibility Development in the Diploma of Logistics: A Case Study of Vocational Logistics Education
Vijay Sangam	Supply Chain Strategic Outsourcing Preferences; Evaluation of Outcome, Factors Working in Favour and Elements Contributing to the Downfall in Australia and New Zealand
Aida Ghalebeigi (VU Scholarship Recipient)	Demand Uncertainty in the Australian Perishable Food Supply Chain : Developing an Option Contract Strategy

#### *International Exchange Students - French Institute for Advanced Mechanics*

<b>Name</b>	<b>Topic</b>
Benjamin Berthet	Supply Chain and Logistics Modelling
Stanislas Laquet	Supply Chain and Logistics Modelling
Clément Bonin	Supply Chain and Logistics Modelling

#### *Visiting PhD Students*

<b>Name</b>	<b>Topic</b>
Yanyan YIN	Automation and Optimization
Qi Zhou	Control Systems Design and Optimization

## Visiting Academics

Name	Topic
Dr Bo Wang	Electrical & Information Engineering
Ms Ying Zhao	Advanced Concepts of Logistics
Ms Licai Zhang	Advanced Concepts of Logistics

## 4.2 Conferences and Presentations

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In 2011 Dr Hermione Parsons was invited to present at the following events:

- Australian Logistics Council Forum, Melbourne, February 2011;
- Australian Technical Experts Network Chinese Delegation, Melbourne, February 2011;
- Guest speaker at the Chartered Institute of Logistics and Transport Australia Women Moving Forward Mentoring Forum, Melbourne, March 2011;
- National SMART Infrastructure Research Summit Workshop, Canberra, March 2011;
- Transport and Logistics Skilling Summit, Melbourne, March 2011;
- Australian Logistics Council and Department of Infrastructure & Transport Stakeholder Dialogue, Canberra, April 2011;
- Western Transport Alliance Priority Transport Projects in the Western Region Think Tank, Melbourne, April 2011;
- Chartered Institute of Logistics and Transport International World Leaders Conference, Melbourne, May 2011;
- Women of Influence, Melbourne, May 2011;
- Ringwood District Historical Society, Melbourne, July 2011;
- Victorian Transport Association Freight Week, Melbourne, September 2011;

- Shipping Reform and the National Ports Strategy Conference, Melbourne, September 2011;
- Victorian Transport Infrastructure Summit, Melbourne, November 2011;
- Australian APEC Study Centre Conference, Melbourne, November 2011.

In 2011, Professor Peng Shi was invited to present at the following events:

- International Conference on Academic Collaborations, Monterrey, Mexico, Feb 2011 (as Plenary Speaker);
- North China Electrical Power University, Beijing, China, Jul 2011;
- Dalian University of Technology, Dalian, Jul 2011;
- Dalian Maritime University, Dalian, China, Jul 2011;
- Congress of the International Federation of Automatic Control, Milan, Italy, Aug-Sep 2011;
- University of Agder, Grimstad, Norway, Sep 2011;
- The 2nd International Conference on Complexity Science Management & Intelligent Information System, Beijing, China, Oct 2011 (as Plenary Speaker);
- Nanjing University of Aeronautics and Astronautics, Nanjing, China, Oct 2011;
- Harbin University of Science and Technology, Harbin, China, Oct 2011;
- Harbin Institute of Technology, Harbin, China, Oct 2011

Professor Peng Shi was also Co-General Chair at the 6th International Conference of Innovative Computing Information and Control, Kitakyushu, Japan, in December 2011.

## 4.3 Published Works

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### 4.3.1 Publications

In 2011, ISCL staff published 58 papers in international journals and 10 papers in international conference proceedings. Among the journal publications, 27 were ERA A\* or A ranked journal papers, 19 were ERA B ranked journals; papers and the remainder were C ranked journal papers. From the data analysis of VU's publication submission, ISCL's contribution was clearly significant. In the Electrical and Electronics Engineering submission, ISCL's journal publications and citation contribution were both over 90%, while in the Applied Mathematics submission ISCL's journal publication contribution was over 70% and the citation count exceeded 96%. Victoria Universities A\* ranked journal publications, in both Electrical and Electronic Engineering and Applied Mathematics, were predominately the result of ISCL's work in partnership with the Faculty of Health, Engineering and Science.

## 4.4 Academic Highlights

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### *Most Cited Paper Recognition*

J. Zhang, P. Shi and J. Qiu, Non-fragile guaranteed cost control for uncertain stochastic nonlinear time-delay systems, *Journal of the Franklin Institute*, vol.346, pp.676-690, 2009, was listed as one of the most cited papers for all papers published in the journal since 2009. (ERA: B)

P. Shi, M. Mahmoud, S. Nguang and A. Ismail, Robust filtering for jumping systems with mode-dependent delays, *Signal Processing*, vol.86, pp.140-152, 2006, is currently the 3rd most cited paper for all papers published in the journal since 2006. (ERA: A)

P. Shi and E. K. Boukas, H-infinity control for Markovian jumping linear systems with parametric uncertainties, *Journal Optimization Theory and Applications*, vol.95, no.1, pp.75-99, 1997", is currently the 3rd most cited paper for all papers published in the journal since 1997. (ERA: A)

### *Most Downloaded Paper Recognition*

Z. Gao, B. Jiang, P. Shi, M. Qian and J. Lin, Active fault tolerant control design for reusable launch vehicle using adaptive sliding mode approach, *Journal of Franklin Institute*, vol.349, no.4, pp.1543-1560, 2012, is currently listed as one of the Most Downloaded papers in the journal since 2012.(ERA: B)

### *Faculty Collaborative Research Grant*

Prof Peng Shi with Prof Akhtar Kalam and Dr Juan Shi successfully obtained a Faculty Collaborative Research Grant on “Robust Power System Stabilisers for a Smart Grid with Wind Generators”.

### *International Leading Researcher Status Recognition*

Prof Peng Shi was an invited to be a plenary speaker at the following international conferences:

- International Conference on Academic Collaborations, Monterrey, Mexico, February 2011.
- The 2nd International Conference on Complexity Science Management & Intelligent Information System, Beijing, China, October 2011

Prof Peng Shi was also the Co-General Chair of the 6th International Conference on Innovative Computing Information and Control, Kitakyushu, Japan, Dec 2011.

## **5 Commercial Research Projects**

### **5.1 Compendium of Best Practices and Benefits of National Logistics Associations in APEC Economies**

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The Institute for Supply Chain and Logistics was awarded an Asia Pacific Economic Co-operation (APEC) project which was initiated by the Department of Infrastructure and Transport, and funded by AusAID. ISCL was commissioned by the Commonwealth Government Department of Infrastructure and Transport Asia Pacific Economic Co-operation (APEC) Unit to facilitate a series of workshops and produce a compendium designed to assist selected economies establish National Logistics Associations (NLAs) as a conduit for collaboration between industry and governments across the region. The program involved six APEC economies: Papua New Guinea, Singapore, Thailand, Australia, Vietnam and Indonesia.

The project aimed to raise awareness and transparency concerning logistics interfaces at regional policy and regulatory levels, and inconsistency in supply chain standards across jurisdictions. These areas have been identified as common themes in driving supply chain effectiveness and value delivery, at both the micro (business-to-business) and macro regional-economic levels.

The project was awarded to ISCL on the basis of its strong cross-disciplinary research focus, as well as its proven experience in developing industry based collaboration models to facilitate collective dialogue across supply chain improvement.

ISCL Director, Dr Hermione Parsons, chaired and facilitated the first APEC workshop in Melbourne, 5-6 April 2011. The Melbourne workshop is the first of three workshops designed to research and document a "Compendium of Best Practices and Benefits of National Logistics Associations in Selected APEC Economies". Subsequent workshops will be held in Bangkok, Thailand and in Hanoi, Vietnam in 2012



## **5.2 Supply Chain Analysis of Intermodal Terminals in Sydney**

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In 2011 the Institute was commissioned to facilitate a study of intermodal rail terminals in NSW for Road Traffic Authority (RTA). The primary focus of the study was to assess road traffic generation rates based on pre-determined terminal throughput levels. The Institute provided industry based knowledge concerning terminal operational layout, design and processes to substantiate modelling assumptions. The Institute also provided extensive peer review of the report to ensure consistency with known industry characteristics, as well as detailed explanations of specialist terminology for a non-expert audience.

The project was undertaken in partnership with Aurecon and the final report was delivered to the NSW RTA in May 2011.

## **5.3 Port Botany Origin and Destination FCL & LCL Study**

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In May 2010 the Institute and IMIS partnership was commissioned to conduct the 2010 Port Botany Origin, Destination FCL and LCL International Container Freight Study for the Sydney Ports Corporation. The research involved collecting, analysing and reporting on data from companies at each point of the logistics chain.

## **5.4 Port of Adelaide Containerised Origin/Destination Study**

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As a result of the successful Melbourne and Sydney Container Logistics Chain Studies in April 2011, the Institute in partnership with Aurecon was awarded a contract to conduct a similar study in South Australia for the Department of Transport, Energy and Infrastructure in conjunction with Flinders Ports.

The research involved collecting, analysing and reporting on electronic data from companies at each point of the logistics chain and assessing infrastructure requirements, capabilities and capacities of container facilities at Port Adelaide Outer Harbour. Data was collected across a range of organisations connected with the movement of containers between the port, the Adelaide metropolitan area and throughout South Australia.

## **5.5 Coastal Shipping Forum**

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The Institute hosted a one day seminar “Shipping Reform and the National Ports Strategy” on the 14th October 2011 at the award winning Melbourne Convention Exhibition Centre, Victoria.

The seminar brought together key figures and leaders who are leading the national agenda for shipping and ports reform in Australia. The seminar focussed on current developments in shipping and ports reform and in particular policy, industrial relations, global shipping trends, finances and environmental considerations.

Presentations were made by senior representatives from both the Australian Government and industry, and Professor Alfred Baird from the Edinburgh Napier University in Scotland was a special international guest sponsored by the Institute specifically for this event. The forum was attended by approximately 90 delegates from across government, industry and academia.

## **5.6 Australian Amalgamated Terminals (AAT) Relocation of Automotive Imports and Exports to the Port of Geelong**

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The Institute was requested by Australian Amalgamated Terminals Pty Ltd (AAT) in September 2011 to assist in the development of their submission in response to the discussion paper “Relocation of Automotive Imports and Exports to the Port of Geelong” issued by the Victorian Department of Transport. AAT is the major operator of automotive terminals in Australian ports and one of the incumbents which is likely to be significantly affected by the proposal. In addition to reviewing the suitability of the proposal and the effect the relocation would have on AAT’s operations, the Institute engaged, on AAT’s behalf, with a number of industry stakeholders to canvas views on broader supply chain impacts. The Institute produced a report for AAT which was subsequently adopted as the principle component of their submission.

## **5.7 Tasrail Intermodal Terminal Planning and Analysis**

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The Institute was engaged to provide expert advice to Tasrail, the newly formed state government owned rail services provider in Tasmania, to support the development of its terminal operations and the transshipment of freight from Trans Bass Ferries to rail on Tasmania's North Coast.

The Institute provided strategic advice regarding customer and contract management, terminal layout and operations, and logistics chain mapping and assessment to assist Tasrail's Executive Management in developing its terminal investment and operations strategy.

## 6 Education Services

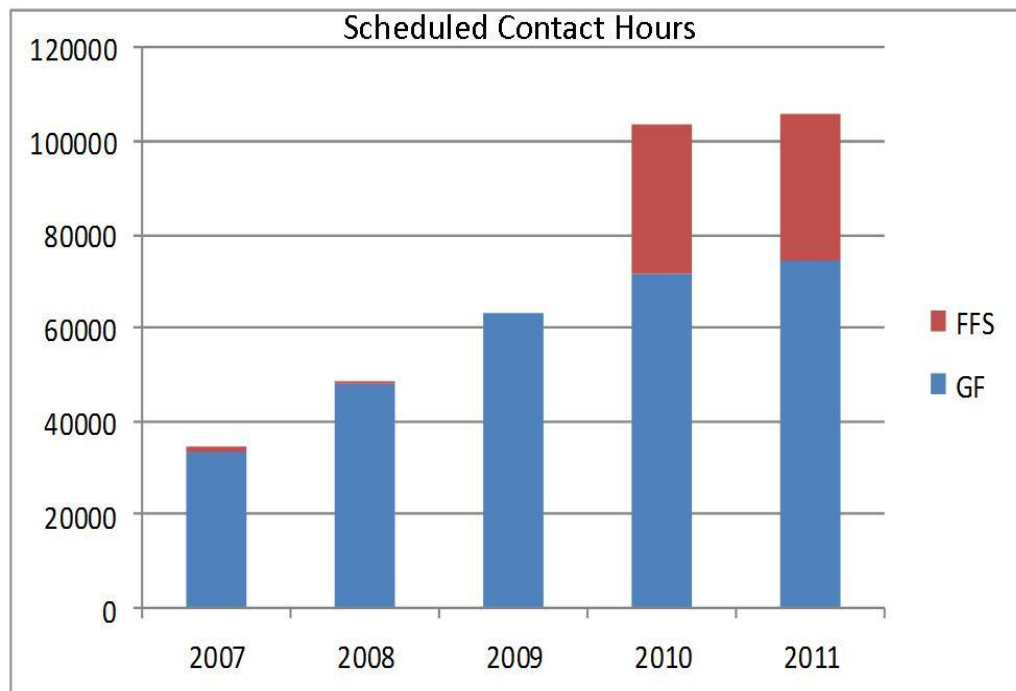
### 6.1 Vocational Education

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In 2010 – 2011, the Institute concentrated on reviewing and improving its Vocational Education courses and recruiting industry specialists to service expanding industry demand.

In 2010 the Institute delivered Certificate IVs in Logistics and Supply Chain Principles, Purchasing and Business (Operations Management) as well as the Diploma of Purchasing and the Diploma of Logistics. The Institute also worked closely with the Faculty of Business and Law (School of Management Information Systems) to implement an Associate Degree in Logistics. Significant planning and development effort was devoted to improving course delivery and assessments, AQTF procedures, resource development and teaching and learning practices.

The graph below illustrates growth in student contact hours from 2007 – 2011.



## 7 Industry Awards in Education and Research

### 7.1 National Awards

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In 2011, ISCL was awarded 2 prestigious national awards for its Competitive Supply Chain – Targeting Skills Needs in the Regions Program (TSNR). This program was funded through a grant from the Australian Government’s Department of Education, Employment and Workplace Relations. The program succeeded in delivering a measurable bottom line business improvement aggregate of approximately \$860,000 to the five participating firms and enhancing the TAFE teachers’ professional skills in working with industry.

The partners in the program were the:

- Institute for Supply Chain and Logistics at Victoria University and Toll AutoLogistics & Motherson;
- Goulburn Ovens Institute of TAFE and Jeftomson Transport;
- South West TAFE and Bulla Ice-Cream;
- The Gordon Institute of TAFE and Local Mix Concrete; and
- Wodonga Institute of TAFE and Murray Goulburn Cooperative

#### *2011 National Universities Business-Higher Education Round Table (B-HERT) Award*

In November 2011, the Institute won its second national university research B-HERT Award for Best Collaboration with a Regional Focus in the Regions. B-HERT awards are sponsored by Australian Universities through Business - Higher Education Round Table membership.

The Institute was presented with the Award on the basis that the TSNR Project provided a highly effective model for collaboration between industry and regional TAFEs, delivering skills and innovation into industry, and ultimately driving business performance improvement through bottom line business performance.

### *2011 Australian Freight Industry Awards*

The Australian Freight Industry Awards are the most prestigious event on the Australian Freight and Logistics Industry calendar. The awards are designed to reward excellence and raise the standards and public perception of the Australian Freight Logistics Industry

The Institute was presented with the 2011 Award for its collaboration with a network of regional TAFE institutions, which provided significant innovation in enterprises through an innovative process that demonstrated real, beneficial commercial outcomes for the industry.

## **7.2 CILTA National T&L Excellence Award in Professional Development**

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In May 2011 the Institute received international accreditation by the Chartered Institute of Logistics and Transport (CILT UK), the world's leading professional association in this sector, for development and delivery of the Diploma of Logistics. This program provides the opportunity for students to elect to complete prescribed units in the Diploma of Logistics in order to obtain the International Diploma in Logistics and Transport.

ISCL was highly commended for this achievement by the Chartered Institute for Logistics and Transport Australia (CILTA) as the Institutes international accreditation was a first not only for an Australian education provider, but it was also the first education provider in the world to receive this international accreditation.

## **8 Industry Engagement Projects**

### **8.1 Supply Chain Learning Network (SCLN)**

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The Institute was initially funded by Skills Victoria to manage the SCLN but in 2010 the network became self-funding. The membership comprises seven TAFE Institutes: Wodonga, Gordon, South West, Go TAFE, Chisholm, Kangan and Victoria University, and requested ISCL to continue in its leadership role in 2011 and 2012. The main objective of the network is to increase enrolments in higher vocational education qualifications to the supply chain industry and to promote the professionalism of the workforce.

Membership delivery of the Certificate IV and Diploma of Logistics in the key metropolitan and regional freight areas in Victoria continued to increase in 2011.

### **8.2 Integrated Education Program (IEP) Grant**

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The Institute was awarded a Victoria University IEP grant to improve the learning capabilities of full-time, part-time and industry based Diploma of Logistics students. The objective was to lift and support student capabilities so they could successfully undertake higher education qualifications in the established pathways involving the Associate Degree in Logistics and the Bachelor of Business (Global Logistics and Transport).

As a result of this project and collaboration between Victoria University's Language, Learning and Literacy staff and the Institute's teaching team, a new unit "PSPGOV504B Undertake Research and Analysis" was transformed and embedded into learning and assessment materials in the Diploma of Logistics.

### **8.3 Linfox Partnership**

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The Institute continued to work closely with Linfox College to identify and deliver professional development opportunities for Linfox employees.

In 2011, ISCL enrolled 32 Linfox employees from across Australia in the Diploma of Logistics and an additional 34 Graduates completed two customised units as part of the Linfox Graduate Recruitment Program.

Linfox's diverse and geographically dispersed workforce requires the Diploma of Logistics to be available in Melbourne, Sydney, and in other interstate and remote locations. This has driven the continued development of ISCL's integrated,

flexible, hybrid, delivery model that promotes in-depth learning and facilitates the transfer of knowledge to employees and their workplaces.

The transfer of knowledge is facilitated through a learning and assessment strategy which involves the completion of a major work-based project. In 2011 individual student projects covered a wide range of operations including changes in vehicle choice for particular routes, to route selection, pallet management, administration and relocation of a distribution centre, with identified savings ranging from \$36,000 to over \$300,000 per project.

During early 2011 it became increasingly evident that Graduates from the Diploma of Logistics and other employees were seeking the opportunity to undertake specialised postgraduate studies in Supply Chain Management. The Institute worked closely with Linfox College and the School of Management and Information Systems at Victoria University to customise a Graduate Certificate Program for delivery in 2012.

The objective of the Linfox programs is to create accessible, unique learning opportunities for employees that will foster the development of leading-edge supply chain knowledge, leadership skills and business acumen, all of which are recognised as adding value to the Linfox Group.

#### **8.4 Chartered Institute of Logistics and Transport Australia**

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The Chartered Institute of Logistics and Transport (CILT) International has more than 33,000 members globally and is one of the leading professional bodies for the Transport and Logistics Industry.

In 2010, CILTA approached the Institute to examine how we could work together to promote the professionalisation of the transport and logistics workforce as both organisations are acutely aware that critical skills shortages inhibit productivity in the global transport and logistics industry.

In May 2011, the Institute was awarded international accreditation by the Chartered Institute of Logistics and Transport (CILT) for the Diploma of Logistics, which provides the opportunity for students who fulfil CILT requirements and successfully complete prescribed units in the Diploma of Logistics to obtain the: Diploma of Logistics from Victoria University; and the international Diploma in Logistics and Transport from the Chartered Institute for Logistics and Transport. The program was under development in 2011 with a pilot program beginning in 2012.



## **8.5 Victorian Transport Association (VTA)**

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An ongoing partnership was formed with the Victorian Transport Association (VTA) and areas of joint activity include: promotion of education and training in the industry, the exploration of research activity, and the potential development of an induction program for new industry entrants.

Through a close working relationship with the VTA, the Institute has developed a comprehensive understanding of the types of education services the VTA would like to offer its members and the broader Transport and Logistics Sector.

In 2009, a Transport and Logistics Cadetship Program was developed and piloted through a partnership involving Industry Training Advisory Board (TDT Victoria) and the VTA. The program won the Australian Freight Industry Award in 2009, but since then the program lost momentum. In response to requests from industry the VTA decided to redevelop and reinvigorate this program with the Institute as its partner and preferred education provider.

The primary objective of the VTA-VU Logistics Cadetship Program is to attract and retain young people in the industry. The industry is characterised by an ageing workforce where the number of workers aged 15 to 34 years in the Transport and Logistics Sector is below the average for all industries (30% compared to 40% for other industries)

The Cadetship is a structured program which integrates paid work, on the job learning and off the job vocational education over a two-year period. In 2012 (year 1), the Cadets will study the Certificate IV in Logistics and in year 2 they will study the Diploma of Logistics

## 9 Key Performance Indicators

### 9.1 Research

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KPI	2011 Actual
Books or Chapters	0
Journal Articles	58
A* / A Journal Publications	27
Conference Papers	10
PhD Students	5
Academic Research Projects	0

## 10 2011 Profit and Loss

Income Statement	2011
Revenue	
Australian Government	10,000.00
State & Local Government	240,000.00
Enterprise Fee for Service – Teaching	60,000.00
Enterprise Fee for Service - Consultancy/Research	120,000.00
Misc.	50,000.00
Award Courses (SCH)	560,000.00
<b>Total Revenue</b>	<b>1,040,000.00</b>
Expenses	
Salary	2,080,000.00
Non-Salary Expenditure	
Non-Capitalised Equipment	30,000.00
Advertising and Marketing	20,000.00
Telecommunications	20,000.00
Travel, Staff Development and Entertainment	90,000.00
Inventory Used	30,000.00
Printing and Stationery	40,000.00
Fees and Subscriptions	10,000.00
Legal and Professional Fees	50,000.00
Depreciation	20,000.00
Other (Miscellaneous)	50,000.00
<b>Internal Expenses</b>	<b>30,000.00</b>
<b>Total Expenses</b>	<b>2,470,000.00</b>
<b>Operating Result (underlying)</b>	<b>(1,430,000.00)</b>

## 11 2012 Budget (Revised)

Income Statement	2012
Revenue	
Enterprise Fee for Service – Teaching	130,000.00
Enterprise Fee for Service - Consultancy/Research	990,000.00
Other Fees and Charges	60,000.00
Trading Operations	30,000.00
Award Courses (Government) Internal Income	1,100,000.00
<b>Total Revenue</b>	<b>2,310,000.00</b>
Expenses	
Salary Expenditure	2,040,000.00
Non-Salary Expenditure	
Repairs and Maintenance	10,000.00
Scholarships, Grants and Prizes	20,000.00
Non-Capitalised Equipment	20,000.00
Advertising and Marketing	30,000.00
Travel, Staff Development and Entertainment	40,000.00
Inventory Used	30,000.00
Operating Lease Rental	10,000.00
Printing and Stationery	50,000.00
Class Materials and Consumables	10,000.00
Fees and Subscriptions	10,000.00
Legal and Professional Fees	20,000.00
Depreciation	30,000.00
Other (Miscellaneous)	30,000.00
Internal Expenses	20,000.00
<b>Total Expenditure</b>	<b>2,410,000.00</b>
<b>Operating Result (Underlying)</b>	<b>(110,000.00)</b>

## **12 Appendices**

**Appendix 1: Institute for Supply Chain and Logistics Capability Statement**

**Appendix 2: Institute for Logistics and Supply Chain Management (ILSCM) Governance Framework and Strategy Document**