**Condensed Curriculum Vitae**

**Preface:** My talents are those of a visionary R&D program leader. Over the last ten years I have successfully demonstrated the ability to develop the strategic foresight that aligns emerging platform technologies with the major changes occurring in the macro socio-economic system and to then create the conceptual architecture to support interdisciplinary programs that address the identified high impact challenges and opportunities. These programs provide the rationale and focus for collaborative partnerships between industry and university-based research groups. My modus operandi is to recruit CI’s and PI’s from across key stakeholder organisations and to build multidisciplinary research teams capable of generating new knowledge and translating it into innovative production systems, products and practice models.

**My role at the University of Adelaide** has provided me with the opportunity to initiate and supervise the following research projects that showcase this approach. Each of the following research projects generated new knowledge that was captured in the form of IP, patents and licence fees as well as translation into articles published in peer reviewed journals and conference papers by the participating CI’s and HDR candidates and provided the environment for the effective supervision, mentoring, training and development of HDR’s and PDf’s

**Nano-level surface engineering**

* Collaborative R&D partnerships were established between SMR Technologies Pty Ltd, Prof Gordon Wallace, Director Intelligent Polymer Centre Wollongong University and Prof Peter Murphy Director Future Industries Institute University of South Australia focused on the development of nano-level coatings on polymer substrates to create “plastic glass”.
* The research outcomes included new knowledge, several patents, and an innovative solution that was diffused across SMR’s global product portfolio and the Australian capability recognised as a Global R&D centre of excellence in coatings technologies by the SMR Group.

**Next generation actuator**

* Collaborative R&D partnerships were established between SMR Technologies Pty Ltd and Prof Franz Fuss’ Group at RMIT to explore the application of emerging technologies and novel actuation design to create a disruptive product range that drew less power with substantial performance improvement.
* The research outcomes included new knowledge, several patents, and an innovative solution that was diffused across SMR’s product portfolio and the Australian research group recognised as a Global R&D centre of excellence for actuation systems by the SMR Group.

**Advance LED lighting systems**

* Collaborative R&D partnerships were established between SMR Technologies Pty Ltd and Prof Andre Luiten and his team at the Institute for Photonics and Sensors, Prof Gordon Wallace’s team at the Intelligent Polymer Centre and the organic chemistry group at CSIRO to explore the development of organic LED’s and their potential application across SMR’s product range.
* The research outcomes included new knowledge, several patents, and an innovative solution that was diffused across SMR’s expanded product portfolio and the Australian research group recognised as a Global R&D centre of excellence in advanced lighting solutions by the SMR Group.

**Machine learning systems**

* Collaborative R&D partnerships were established between SMR Technologies Pty Ltd and Prof Ian Reid and the Australian Centre for Robotic Vision to investigate the creation of a robotic vision inspection system capable of accurately detecting minute imperfections in a product at the final stage of production, thereby enhancing the quality control system and substantially reducing labour costs.
* The research outcomes included new knowledge, several patents, and an innovative solution that was diffused across SMR’s production systems and will be commercialised as a separate system.

**RFID patient management systems**

* Collaborative R&D partnerships were established between Prof Renuka Visvanathan (Director of Aged and Extended Care Services and Adelaide Geriatrics Training and Research Aged Care at the Queen Elizabeth Hospital) and the advanced electronics and computer science research group at the University of Adelaide. The focus of the project was to investigate the potential of RFID technology to underpin the design of a realtime patient remote monitoring system with a special focus on fall prevention capability.
* Whilst the research program is ongoing, outcomes to this point in time have included new knowledge, a provisional patent and economic modelling that demonstrates the potential savings to the national health budget should such a system be employed in geriatric wards and other care facilities.

**Automated customised seating**

* Collaborative R&D partnerships were established between Domiciliary Care Services (the South Australian Government agency responsible for the provision of devices to aid the mobility impaired) and A/Prof Andre Kotousov (UoA) to investigate a range of technologies that could be integrated into a system capable of capturing in real-time the musculoskeletal image and a detailed pressure map of a mobility impaired individual and to then convert the images to a digital file that could then be sent to a 3D printer.
* Whilst the research program is ongoing, outcomes to this point in time have included new knowledge, a provisional patent and economic modelling that demonstrates the potential savings to the national health budget should this system be used.

**Intelligent infusion system**

* Collaborative R&D partnerships were established between CPIE Pty Ltd and leading computer science, chemical engineering, electronics, population heath and health economics research groups at the University of Adelaide to develop technologies, materials and integrated systems to create a self-managed, remotely monitored infusion system to support hospital in the home treatments for patients needing antibiotic, palliative and chemo therapies.
* Whilst the research program is ongoing, outcomes to this point in time have included new knowledge, several patents and innovative economic models that demonstrate the potential savings to the national health budget and the qualitative improvement in patient care and their ability to self-manage their condition.

**Power-assist wheelchair**

* Collaborative R&D partnerships were established between Domiciliary Care Services and A/Prof Andre Kotousov (UoA) to investigate a range of technologies that could be integrated into a customised system designed to power a manual wheelchair. The system is expected to have the capacity to be programed in realtime by the clinician and or the end-user to address the specific condition and performance requirements of the individual user and their changing environmental context.
* Whilst the research program is ongoing, outcomes to this point in time have included new knowledge, a provisional patent and innovative economic models that demonstrate the potential savings to the national health budget and the qualitative improvement in patient care.

**University of South Australia: Advanced Manufacturing Centre of Excellence [AMCOE] and the Mawson**

**Institute 2003-2008**

AMCOE was developed in 2003, after a series of consultations and negotiations with key manufacturers, the University of South Australia (UniSA) and the South Australian Government. The role of the Centre was to provide a virtual architecture across three key research centres in the university and the CSIRO to create multidisciplinary research teams that address the technology challenges facing the advanced manufacturing sector.

**Role: Executive Director and Founding Professor of Advanced Manufacturing Strategy**

**Key Responsibilities**

Provided the visionary leadership for the centre and developed the initial Strategy and business plan;

* Established and managed strategic research partnerships between the Centre for Advanced Manufacturing Research, Advanced Computer Research Centre, the Ian Wark Research Institute and CSIRO;
* Developed and coordinated interdisciplinary research teams with a unique capability created by the synergies between the above centres;
* Strengthen UniSA’s research capability and established strong collaborative R&D partnerships with key manufacturers;
* Actively contributed to the supervision and mentoring of HDR candidates and PDF’s.

**Significant Achievements**

* Secured $450K in seed funding from UniSA’s Emerging Thematic Priorities program to establish the centre;
* Gained $350K from industry to co-fund the Director’s position;
* Created new research synergies by integrating the discrete capability residing in the three research centres and CSIRO;
* Established a new research group focused on nano-level coatings for medical and other applications and secured $2.3M in state of the art equipment;
* Developed and coordinated interdisciplinary research teams to work on CRC and ARC-funded projects valued at $8.7m, recruited eight new PhD and five post-doctoral students;
* Established collaborative R&D partnerships with a cluster of South Australian manufacturing enterprises and a portfolio of experimental projects focused on the application of emerging technologies to address the high impact strategic challenges confronting each firm;
* Negotiated and executed an MOU with the CMIT Division of CSIRO to create new collaborations with the three UniSA research centres and secured $300k to seed-fund the initial pilot projects;
* Developed the Vision, concept and Business Plan for the Mawson Research Institute, together with the Research Road Map, facilities, equipment and staffing requirements;
* Secured the support of the Department of Trade and Economic Development and the Manufacturing Consultative Council and $120K to undertake a feasibility study of the Mawson Institute proposal I had developed;
* Gained the support of the Science and Technology Directorate within DFEEST for the Mawson Research Institute proposal, culminating in the SA Government committing $8m to match the $6.7m from UniSA for this initiative.

**Cooperative Research Centre for Advanced Automotive Technologies (2005-2010)**

**Role**

I provided much of the visionary leadership and the conceptual framework for the CRC. Presented the proposed model and strategic plan to key industry leaders and succeeded in gaining support for the application from among the key industry players and the education and research institutions.

**Key Responsibilities**

* Member of the Executive team that coordinated the preparation of the successful funding application;
* Foundation member of the Board of Directors;
* Chairman of the selection committee responsible for recruiting and negotiating the contracts with the Chairman of the Board and CEO;
* Member of the Strategic Planning Group and the Education Program Committee.

**Significant Achievements**

* Secured $39m in new cash from the Commonwealth Government;
* Secured $70m in cash and in-kind support from the major industry partners and seven universities;
* Substantially improved the technology and intellectual capital base from which the Australian Automotive industry now operates;
* Developed a substantial portfolio of industry-sponsored R&D projects that achieved high impact outcomes for the enterprises;
* As a member of the Education Program Committee I helped to facilitate the uptake of HDR scholarships and actively contributed to the training and development of the candidates.