

## *I-Perform* – Proposed Cooperative Research Centre (CRC)







The University of Melbourne and the Australian Sports Technologies Network (ASTN) are assembling a consortium of world class Australian and international industry and research partners in an exciting proposal to the Commonwealth Cooperative Research Centres (CRC) Programme in 2018.

## THE CRC PROGRAMME

The Cooperative Research Centres (CRC) Programme is an Australian Government Initiative funding industry-led collaborations between industry, researchers and the community with a focus on research application and impact. The CRC Programme supports science, research and commercialisation activities to improve the competitiveness, productivity and sustainability of Australian industries in line with Government priorities. The Programme offers industry very attractive leverage with both cash and in-kind contributions being matched by Programme cash.

# Asserting Australia's leading edge in sports & human performance technologies

Australia's sports industry currently exports \$AUD500 million p.a. and there exists an exciting opportunity to secure a much larger share of an estimated \$US900 billion global sports and human performance market. New product development, business innovation and commercialisation support are key to catapulting this emerging Australian industry into a global force. The I-Perform CRC brings together a targeted, industry-focused research team in human health, engineering, information technology and entrepreneurship to grow investment, exports and employment opportunities for the benefit of Australia.

The I-Perform CRC will focus on the development and commercialisation of solutions that improve the preparation,

performance, protection and/or recovery of an athlete or team – at the elite, sub-elite, grass roots and recreational levels. This includes innovations ranging from performance and protective wear, sports products and equipment, wearable technologies, and sports and health analytics (data/video), through to stadia and sports surfacing technologies.

Australia has a genuine global competitive advantage in developing and validating sports and human performance technologies. The nation's outstanding record in sporting achievement, its sporting culture and world-class expertise in sports science and management have created the foundation for the development of this high value-add and innovative industry.

Access to elite sporting leagues and federations as well as high levels of participation across a multitude of sports makes Australia the perfect test-bed for innovation in sports and human performance technologies.

The escalation of chronic diseases like diabetes and obesity means that technologies - once the realm of high performance or medtech applications - are increasingly reaching a mass consumer market. **Australia is uniquely positioned to take advantage of opportunities from the convergence of health, sports and wellbeing, but must invest in the right research and innovation to maintain its leading edge.**

**The I-Perform CRC will innovate, validate and commercialise globally competitive sports & human performance technologies. We will do this by collaborating with industry, world-class researchers, and sporting and health organisations to grow exports, investment and jobs for the benefit of Australia.**

## About the leaders

### THE AUSTRALIAN SPORTS TECHNOLOGIES NETWORK

The ASTN is an industry-led national network of organisations with a vested interest in sports technology development. ASTN's role is to better capitalise on Australia's reputation as a great sporting nation by providing leadership in the commercialisation, development and promotion of Australian-inspired sports technologies.

The ASTN has a national reach across the entire 'sports ecosystem' in Australia, including sports technologies companies, national sporting organisations, sports marketers, universities, governments, service providers and investors. The ASTN has more than 150 members, and has hosted events attended by nearly 3,000 delegates.

Since its establishment in 2012 the ASTN has developed a suite of programs and activities to support the continued development of the sector as one of the world's leaders. This has included seed

funding opportunities, advisory and accelerator programs, targeted trade missions and connections, exhibition opportunities, conferences, innovation masterclasses and pitching competitions.

The ASTN and its programs have a 'Born Global' philosophy. The sophisticated domestic sports market provides an outstanding test-bed to validate new sports innovations. However, the industry needs to continue to improve its ability to collaborate, innovate and scale-up to take advantage of global market opportunities. The ASTN plays a role in connecting Australia's industry to the rest of the world.

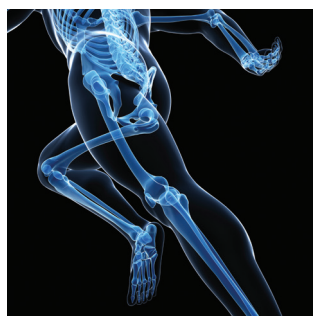
### THE UNIVERSITY OF MELBOURNE

The University of Melbourne is the number one university in Australia, and remains among the fastest rising research universities in the world's top 100, according to the Academic Ranking of World Universities (ARWU). It is counted among the best universities in the world – 33 by the Times Higher Education (THE) and 32 by the US News & World Report rankings.

The I-Perform CRC is aligned with key priorities of the University of Melbourne's Growing Esteem 2015-2020 strategy with significant focus on engagement with industry and new ways to translate research into impact. The University is committed to developing new knowledge that improves people's lives, opens up new lines of enquiry and contributes to a better understanding of the world. The University of Melbourne further supports the CRC Programme's objectives to grow industry and provide economic benefit to Australia through world-class research and innovation. As a comprehensive, multi-disciplinary institution, the University is in an ideal position to contribute to the 'convergence revolution' of biomedical and health research, bringing together the life sciences, engineering and the physical sciences and realise the impact of these in business innovation.

The University of Melbourne and the ASTN will partner with other research institutions with complementary research expertise in realising the I-Perform vision.

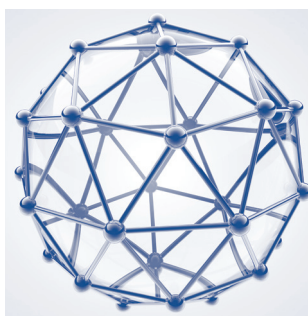
## Research Themes



Research Theme 1  
**Human Performance**



Research Theme 2  
**Devices**



Research Theme 3  
**Materials**



Research Theme 4  
**Software & Data Analytics**

*Business Innovation and Entrepreneurship*

*Consumer and Market Insights*

**Validation ground and test market**

### I-PERFORM RESEARCH THEMES WILL INCLUDE:

#### 1. Human Performance

Specific research capability in examining the biological, physical and psychosocial determinants of human performance, leveraged with expertise in human-device/computer interfaces, remote sensing, data acquisition and transmission, relevant 'omics' (for example genomics) and bioinformatics, complex human data analysis, neural networks and machine learning.

#### 2. Devices

Expertise includes mechanical, electrical and electronic and bio-engineering as well as nanotechnology and sports science and design, specialised in all six pillars of Sports Engineering: smart equipment and devices, advanced manufacturing, non-linear engineering, sports aerodynamics, sustainable engineering, and design optimisation.

#### 3. Materials

Capability in carbon fibre, functional fibrous materials, green natural fibres and nano fibres, graphene combined with the infrastructure polymers and nanomaterials formulations, fibre extrusion and textile engineering.

#### 4. Software & Data Analytics

Expertise and capabilities in computational health, data analytics, machine learning, natural language processing, sensor network architectures, motion capture, virtual and augmented reality, privacy and security. These capabilities can be applied to the analysis, understanding, optimisation and visualisation of sports performance, contributing to the development of applications and services that promote efficiency, effectiveness and enjoyment of performance, coaching and spectating of sports.

#### Business Innovation & Entrepreneurship

This theme draws on knowledge about innovation management and commercialisation/scale-up research to identify pathways for moving from ideation to successful market launch and beyond. It also builds on knowledge about entrepreneurial behaviour and decision making in new venture contexts, including personal and team characteristics, venture project factors (financing, legal, governance, production/distribution, IP), and market/ecosystem success factors. Cutting edge training in these elements will build the work-force of the future for growing markets.

#### Consumer & Market Insights

This theme draws on consumer insights derived from big data, econometric modelling, consumer sentiment research, social psychology, consumption research, innovation research and law (with a focus on IP and data privacy). It builds on this knowledge to identify new consumer markets for growth, export and mass consumption.



## How will I-Perform add value to my organisation?

The I-Perform CRC will enable Australia's human performance and sports technologies industry to assert its position as one of the world leaders for at least the next 10 years.

For the first time the CRC will provide the industry with coordinated access to world-class research to develop the next generation of technologies for global markets.

### Value to Sports & Human Performance Technology Companies

- *Develop new solutions and intellectual property for global market opportunities*
- *Access world-class inter-disciplinary research and talent*
- *Leverage funding*
- *Improve market and export readiness and success*
- *Industry ready workforce for the future*

### Value to National Sporting Bodies, Leagues, Institutes & Clubs

- *Influence the development of new solutions to maintain a leading edge*
- *Access and collaborate with world-class research and industry partners*
- *Improve the preparation, performance, protection and recovery of athletes*
- *Better usage/uptake of data and data analytics*
- *Leverage funding*

### Value to the Insurance Industry

- *Investment in individual holistic health activities to ensure their members remain well, active and engaged*
- *Reduction in the cost and number of claims through evidence based research for injury prevention*
- *Provision to members of cost-effective treatment (for example: activity trackers that will enhance members' health profile)*

### Value to Universities & Research Institutions

- *Develop more industry-research collaborations and market-driven research*
- *Develop students and researchers skills that meet industry needs*
- *Leverage funding*

## Join the I-Perform CRC

Becoming a partner of the I-Perform CRC will allow your organisation to participate in and benefit from large scale research and innovation in this exciting field.

Partners will benefit from in-built flexibility and scalability with regard to timing and financial commitment, depending on their own needs. Two levels of participation are proposed:

**Level 1: Direct participant in the CRC.** Companies who choose this level of participation will have direct input to the design of the research and support programs and projects in their area of interest and leverage world-class research, product development, validation and market innovation.

**Level 2: ASTN will act as a coordinator for small companies** that do not have the capacity to join the CRC as direct participants. Participants through this mechanism will access research and knowledge generated by the CRC and world-class training in business innovation and entrepreneurship.



## INTELLECTUAL PROPERTY

The CRC's projects and outcomes will align with industry needs and have a primary focus on commercialisation and market opportunities. To meet these objectives I-Perform CRC will have timely, efficient and equitable management of intellectual property (IP) brought to or created by the CRC. We also understand that industry will have specific requirements in relation to management of IP and utilisation. I-Perform will have intellectual property arrangements tailored to the needs of individual projects, considering the commercial imperatives, the contributions and needs of all parties.

## Timeline\*

2018	April	Partner engagement and program development
	May	Expected CRC Round 20 OPEN
	June	Expected CRC Round 20 CLOSE
	October	Expected Stage One proposals shortlisted
	December	Full business case for shortlisted Stage One proposals due
2019	Early - mid	Successful CRCs to commence

\* All dates subject to variation.

## Governance

It is proposed that the I-Perform CRC will run for 10 years, governed in accordance with the CRC Programme guidelines.

- The CRC entity will be established and governed as an incorporated company, limited by guarantee.
- CRC Board will include a Chairperson who is independent of the participants with the necessary skills and experience required to lead an organisation with diverse participant needs and outcomes.
- The composition of the CRC Board will include senior figures with general industry experience (not necessarily from the specific industry of the CRC) and reflect skills, experience and expertise relevant to managing the CRC.
- The majority of the Board members will be independent.



## I-Perform CRC Leadership Team



**Dr Martin Schlegel**

*Interim Chair for the I-Perform CRC*

Dr Martin Schlegel has more than 20 years' experience in the sports and recreation, construction and medical specialty chemicals industry in the areas of product development, process engineering and research and development commercialisation.

Amongst other roles, he is Principal of Chemneera Consulting providing advice in the sport and recreation industry across Australia, Europe and the USA. Martin lectures in the field of sports management, innovation and surfacing technology and is also a member of the Editorial Board of the Journal of Sports Technology published by the Routledge, Taylor & Francis Group.



**Dean Emeritus Professor Field Rickards**

*Research Director I-Perform CRC*

Former Dean of the Faculty of Education, Dean Emeritus Professor Field Rickards is renowned for his transformative work in education reform through the Melbourne Graduate School of Education and the Melbourne School of Government. Field is an audiologist and his research in the 1980s led to the commercial development of an automatic evoked response audiometer (ASSR) which can accurately measure hearing in infants. The device is protected by a series of patents and has been manufactured in the US for more than ten years and sold globally. Field has a working knowledge of the mechanics of CRCs having been a Director on the board in the most successful HEARing CRC which has been running for over 20 years.



**James Demetriou**

*Chair ASTN*

James Demetriou is the founding Chair of the Australian Sports Technologies Network and Sports Without Borders. Under James' leadership, the ASTN developed and implemented the first-ever sports technology industry and innovation programs in Australia. Through this role he is also an influencer of National and State strategies on sports, industry and innovation policy programs.

James has played a major role in Australian sport over the past 40 years as a senior player at the Essendon Football Club (1975-1976), a Board Director of Essendon Football Club in the mid to late 90s and a sessional lecturer in the Master of Sports Technology. James is also a senior executive with extensive management experience in local and international corporate mergers and acquisitions (M&A) and turnarounds across the education, manufacturing and rural sectors. He has extensive experience in commercialising technology, particularly sport technologies, and has been involved in 7 start-ups over the past 15 years.

James is also a Business Development Director within the Research, Innovation & Commercialisation (RIC) team at the University of Melbourne. In this role, James is responsible for leading the growth, development and management of a pipeline and portfolio of commercial opportunities for the University with a focus on Education.

## Contact

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