Australian Sports
Technologies Network

Powering Sports Innovation

ASTN Sports Innovation Report
Second Edition, May 2023

ANALYSIS OF AUSTRALIA'S THRIVING SPORTSTECH SECTOR
WITH SPOTLIGHT ON INDUSTRY INSIGHTS AND MAJOR TRENDS

Australian Sports Technologies Network
*Powering Sports Innovation*

SPORTS INNOVATION REPORT 2023

A deep dive into Australia's burgeoning sportstech sector with insights into industry growth, leaders and major trends.

$4.25b
annual revenue

11%
of Australia's sport industry annually

ASTN estimates that the market size of the Australian sportstech sector is valued at approximately A$4.25 billion annually, representing 11% of Australia's A$37 billion total sports industry.

employs **13,438** people
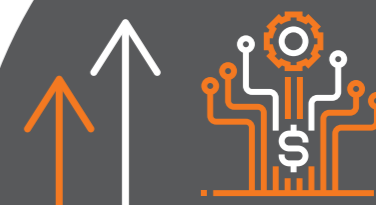
Australian sportstech company creation has **grown by 11.8% per annum**, year-on-year in the past decade. There are now 758 companies compared to 284 companies in 2012.

Australia's sportstech sector is now equal to Australia's fast growing **fintech industry** which generates **A$4-5 billion in revenue annually** and has a similar number of companies (700-800)
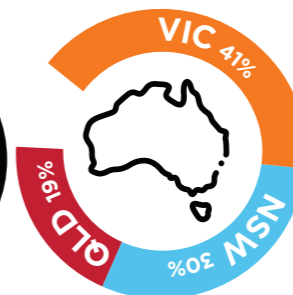
ASTN companies are paving the way

ASTN has identified 115 Australian sportstech companies as industry leaders and estimates that these companies now employ more than 9,473 people and generate A$3.7 billion revenue or 87% of the total revenue of the industry.
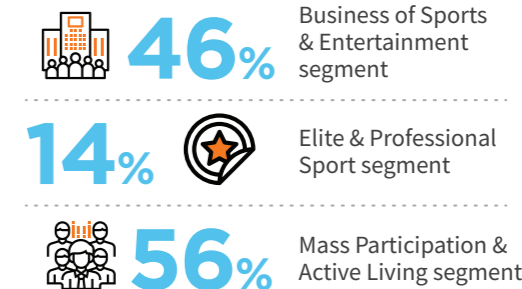
>9,473 people employed   **+87%** total revenue of industry   **$3.7b** revenue per annum

State by state breakdown

Australia's eastern seaboard is home to new sportstech cluster

VIC 41%
NSW 30%
QLD 19%

Market applications

Of the 758 companies in the sportstech industry:

46% Business of Sports & Entertainment segment

14% Elite & Professional Sport segment

56% Mass Participation & Active Living segment

Mergers and Acquisitions

M&A activity has slowed from

A$1 billion + in FY22

to around

A$500 million in FY23

ASTN alumni raised more than A$60 million in capital

Thirty of the 70-plus alumni startups from ASTN's Accelerator program have raised a total of more than A$60 million in capital over the last few years. This proves that the early-stage sportstech investment landscape is evolving in Australia from its nascent state

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Foreword

Australia's growing sportstech sector now generates over A$4 billion in annual revenue which is equal to Australia's fintech industry.

As Australia's peak body for sportstech, the Australian Sports Technologies Network (ASTN) is pleased to release its Sports Innovation Report 2023. This second edition of our annual report shines a light on Australia's sports technology and innovation sector with deeper and more comprehensive insights from the ecosystem.

Australia's growing sportstech sector now generates over A$4 billion in annual revenue which is equal value to Australia's fintech industry. Our sector has experienced rapid growth in skilled jobs at the intersection of data, digital and technology where the business of sport, entertainment and gaming converge with active living, wellness and digital health.

This second edition of ASTN's Sports Innovation Report is designed to present the latest industry findings on sportstech in Australia. We see this report as an important piece for further discussion and debate and we always welcome feedback and insights from the broader sports industry on our analysis and findings.

Many of the insights in our report are grounded in conversations with industry leaders, government, ASTN members and Australian sportstech startups. It provides detailed, aggregate information and classification of more than 750 sports innovation and technology companies across Australia. Each sportstech company is categorised by a Market Application and a Technology Stack classification, as well as geographically on a state-by-state level.

We take this opportunity to celebrate the role of ASTN as an industry-led, not-for-profit facilitator of this ecosystem since 2012 – with the sole purpose of shaping Australia's sportstech sector and propelling it forward to ensure we are well placed in making waves on the global stage over the coming decade and beyond.

In looking at the development of the sector, ASTN proudly sees evidence that our 'Born Global, Die Local' sportstech playbook is assisting to build capability and capacity in sports companies and the sportstech sector as a whole. Local entrepreneurial talent continues to create jobs, generate economic growth and actively participate in global trade and investment.

Over the past three recent years alone, ASTN has directly supported and interacted with more than 230 early-stage and growth-stage startups and export-ready sportstech companies through our knowledge programs, growth-stage commercialisation activities and trade investment initiatives. ASTN has helped to facilitate invaluable introductions to venture capitalists and investors resulting in millions of dollars of new funding for the sector.

For the first time in 2022, ASTN accurately estimated the market size of the sportstech sector relative to the sports industry. Furthermore, ASTN is one of the first sportstech networks in the world to actively promote the benefits of cross-linkages and knowledge transfer with nearby adjacent industries, such as defence, finance, healthcare, aged care, workplaces and education.

Today, Australia's sportstech ecosystem has emerged as one of the top six sports innovation regions in the world alongside Northern America (US and Canada), United Kingdom, DACH (Germany, Austria, Switzerland), FRES (France, Spain) and Israel. ASTN continues to push boundaries and build evidence that its entrepreneurial playbook is working and impacting the gross-value-add of the Australian economy. As a small and geographically isolated country we have done exceptionally well, but many new and exciting opportunities exist into the future.

The coming decade of mega-sports events and live entertainment spectacles for all Australians, will be complimented by the mass digitisation of sports participation, re-imagination of the business of sport and pursuit of world's best human performance and active living outcomes for our nation.

All athletes need a goal to give them a sense of purpose and direction. For Australia, it is the Brisbane 2032 Olympics and Paralympics Games. And as you wouldn't train for a marathon in two weeks, we need a long-term plan, incremental progress and accurate measurements of success to run the full distance.

We look forward to continuing to work closely with our network of entrepreneurs, start-ups, established sportstech companies and the wider industry to ensure we cross the finish line, confident that we've given our best performance. Our goal is for our next play, next game, next season to always be better than the last.

A world-class sports economy for 'Team Australia' is one of the greatest legacies we can leave our children and grandchildren for generations to come.

Please feel free to reach out to us to if you have any questions about the report.

Yours sincerely,

Martin Schlegel

Dr Martin Schlegel
Executive Chair
Australian Sports Technologies Network (ASTN)

ASTN has directly supported and interacted with more than 230 early-stage and growth-stage startups and export-ready sportstech companies through its specialised programs and activities.

Executive Summary

Sportstech is defined as a sector of the sports industry placed at the intersection of data, digital and technology where the business of sport, entertainment and gaming converge with active living, wellness and digital health.

The second edition of the ASTN Sports Innovation Report reveals that Australia's sports technology and innovation industry has remained remarkably resilient during COVID-19 and continues to thrive. Looking ahead, Australia's sportstech sector is projected to continue its successful trajectory with a new wave of technologies emerging in preparation for the Brisbane 2032 Olympic and Paralympic Games.

ASTN has seen existing businesses innovate, grow and diversify and new players enter the market. This has been driven by an accelerated adoption of digital technologies as the world increases its appetite for rich data and insights that improve performance, enhance entertainment and increase knowledge.

Through harnessing technology, professional sports has found new ways to engage with fans and improve operational efficiencies, while recreational athletes are realising fitness and health benefits as they embed smartwatches, connected fitness systems and training and coaching apps into everyday physical activities.

Spotlight on Sportstech

Sportstech is defined as companies working at the intersection of data, digital, technology and business and direct applications to Sports, Fitness, Media, Entertainment, Esports, Stadiums & Venues, Wearables, Wellness & Active Living.

At the intersection of human performance and science, technology, engineering and math (STEM), sports technology or 'sportstech' as its more commonly referred to – includes more than sports equipment, apparel, protective supplies or footwear. In addition to on-the-field technologies used in monitoring health and improving performance of athletes of all abilities, sportstech also includes off-the-field technologies involving sports business applications, fan engagement, broadcasting, sports infrastructure and communication are also considered part of sportstech.

Australia's Sportstech Sector is now on Par with Fintech

ASTN's research and partnerships team have uncovered 758 sportstech companies operating in Australia adding another 160 companies to the report from 2022.

Australian sportstech company creation has grown by 11.8% per annum, year-on-year in the 10 years since the inception of the ASTN in 2012, when only 284 companies were in existence.

Sportstech startups, SME's and large corporates are now generating A$4.25 billion per annum in revenue which makes the sportstech sector of similar size to the Australian fintech sector with around A$4-5 billion revenue per annum[1] and 775 fintech companies[2].

It is estimated that the top 115 companies (or 15% of companies) generate A$3.70 billion (87% of total) and employ 9,473 people (70%). The entire sector now employs 13,438 people, excluding wagering and betting companies and sports professional services companies.

Understanding the Market Applications and Technology Categories

ASTN has categorised the sportstech sector into three Market Applications (or verticals) – referring to the sport market segment in which a sports technology company provides its solution to. There are three Market Application categories and 33 sub-categories.

Within the Market Applications of sportstech in Australia, ASTN found the majority of companies (56%) provide their products and solutions to the Mass Participation & Active Living market, followed by Business of Sport & Entertainment market (46%) and Professional & Elite Sport (14%).

ASTN also identified that there are four Technology Stack categories – referring to the type of technologies utilised to form a proprietary product or solution by a sports technology company – and 36 accompanying sub-categories.

ASTN found that the majority of companies develop their solutions using Information and Communication Technologies (ICT) (66%), followed by Advanced Materials (23%) to build their products, 15% use Medical, Health or Biotech-related technologies and 13% of companies apply Sensors & Devices to their offerings.

M&A and Venture Capital Activity

There has been a decline in mergers and acquisition (M&A) and capital raising activities in FY23 compared to FY22 – due to significant tightening of access to investment capital, driven by rising interest rates and inflationary pressures. M&A activity has slowed to around A$500 million in FY23, compared to over A$1 billion in FY22.

There were three major acquisition highlights including Body Science, MSL Solutions and Smartabase. And the largest funding raised was by Queensland-based VALD, a global leader in human performance measurement for elite sports and allied health markets.

Thirty of the 70-plus alumni startups from ASTN's Accelerator program have raised a total of more than A$60 million in capital over the last few years, revealing that the early-stage sportstech investment landscape is evolving in Australia from its nascent state.

Sportstech Cluster Identified on Australia's Eastern Seaboard

ASTN data suggests the formation of a rapidly growing sportstech cluster along Australia's eastern seaboard. 90% of Australia's sportstech companies are based in Victoria (41%), New South Wales (30%) and Queensland (19%) – with a concentration of activity in the three key metro areas including Melbourne, Sydney and South-East Queensland.

The remaining states of Australia are under-represented at a total of 10% of established entities. ASTN predicts that with several major international sporting events coming to Australia over the next decade, there is an opportunity to further develop, deploy and showcase Australian-inspired sportstech to the world.

Emerging Sportstech Trends

ASTN has revisited its 10 emerging sportstech themes from its 2022 report – including Artificial Intelligence, emerging sports, ESG and Women in Sportstech – that form part of ASTN's five-year strategy. ASTN believes startups, companies, founders, government and the wider sports industry must recognise and embrace these themes – looking at how they impact current activities, how they need to evolve and adapt, and what opportunities they present.

Australia's top 115 sportstech companies generate A$3.70 billion and employ 9,473 people. The entire sportstech sector now employs 13,438 people.

1. https://www2.asx.com.au/blog/listed-at-asx/pandemic-boosts-growth-in-australian-fintech-sector
2. https://kpmg.com/au/en/home/insights/2022/10/australian-fintech-landscape.html

1. National Snapshot

Over the past decade the industry has achieved a year-on-year growth rate of 11.8%. This growth rate is four to five times faster than Australia's annual economic growth rate.

The Australian sportstech sector generated approximately A$4.25 billion in revenue in FY23, comprised of 758 companies and employed an estimated 13,438 people. Today it represents approximately 11% of the Australian sports industry which is valued at around A$37 billion per annum. In a significant milestone, Australia's sportstech and fintech industries both appear to be of equivalent revenue size (A$4 billion+ annually[3]) and equivalent number of companies (700-800)[4].

Rapid Growth for Australia's Sportstech Sector

At the time of publishing the second edition of the Australian Sports Innovation Report in May 2023, ASTN identified 758 companies that make up Australia's sportstech sector. Since publishing the inaugural report in July 2022, ASTN's ongoing engagement and research with the sector uncovered an additional 160 companies that represent the industry.

Over the past decade the industry has achieved a year-on-year growth rate of 11.8%. This growth rate is four to five times faster than Australia's annual economic growth rate. The six-year period from 2015 to 2021 represented the period of most significant growth for the industry, when the number of established companies grew from 400 to 729 – an increase of 329 companies.

Impact of COVID-19

The global sports industry 'returned-to-play' in 2022 after COVID-19 significantly disrupted professional sports league calendars and general sports participation across the globe in 2020 and 2021. Despite the economic and social uncertainties through the 2020-22 period, it appears that the sports technology and innovation industry has remained remarkably resilient. Despite revenue and operational pressures, only a small number of Australian sportstech companies ceased operation during this period. However, at this stage the rate of company creation slowed in 2022 compared to previous years.
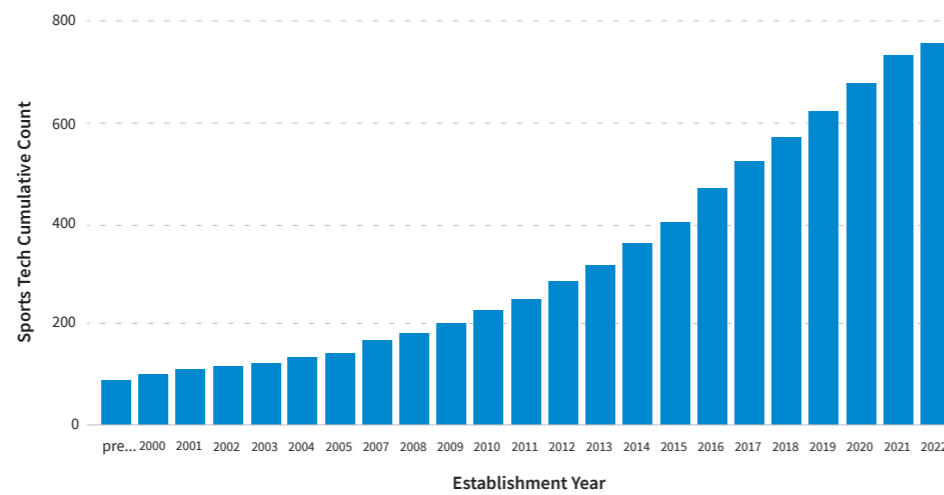
The cumulative number of companies established over the past 10 years highlights the significant growth of the sportstech sector.
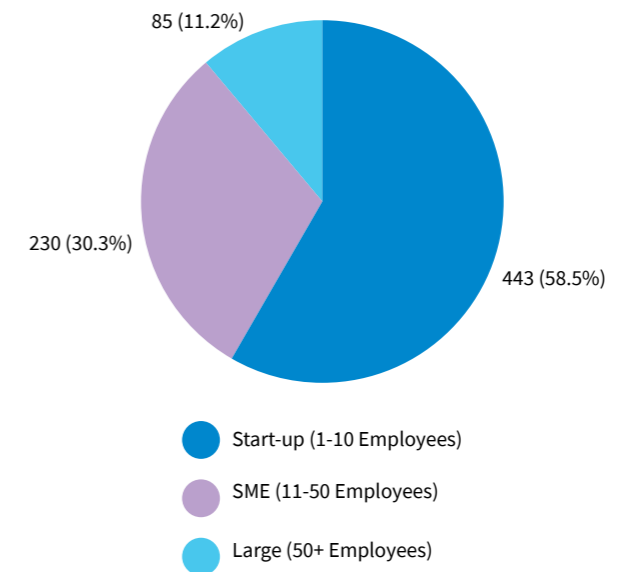
Market Size – Revenue and Employment

There is considerable academic and industry debate about the size of the global sports industry and sportstech sector, largely due to the conflicting definitions and the inherent difficulty in accurately sizing some sub-sectors and early-stage areas. One recent estimate of the market size of the global sports industry is valued at US$2.3 trillion[5] making it the ninth largest industry worldwide, behind oil and gas, technology and banking. Another recent estimate of the market size of the global sportstech sector has conservatively estimated it to be worth US$22.9 billion in 2022, with it expected to grow by 13.8% per annum to US$41.8+ billion by 2027[6]. ASTN estimates that the US sportstech sector may be worth around US$46 billion alone, making the global market worth close to US$100 billion per annum (or 4.3% of the global sports industry).

Spotlight on Australia's thriving sector:

- Using bottom-up analysis, ASTN estimates that Australia's sportstech sector generated approximately A$4.25 billion in revenues and employed around 13,438 people in FY23.
- ASTN estimates the top 115 companies (15% of companies) contribute approximately 87% or A$3.70 billion revenues, whilst employing around 70% of the total industry or 9,473 people.
- The sector is of growing economic and jobs importance to the wider Australian economy. Based on ASTN's research the sports technology and innovation industry represents between 11% of the Australian sports industry which is valued at around A$37 billion, employing close to 150,000 people.

- Comparably, the size of Australia's sportstech sector is equivalent to that of the Australia's fast-growing fintech industry which generates A$4-5 billion in revenues annually (Source AFR[7]) and includes a similar number of 775 companies (Source KPMG[8]).
- Startups represent approximately 443 companies (58.4%) employing one to 10 people that contribute only about 5% of the sector's revenue. More than 130 startups have participated in the ASTN-GSIC Pre-Accelerator Program since 2020, and more than 70 startups have participated in the ASTN Accelerator growth-revenue program since 2017. ASTN estimates that 230 companies (30.4%) employ 11-50 staff, and only 85 companies (11.2%) employ 51 or more people.

Sportstech Industry by Company Size

85 (11.2%)
230 (30.3%)
443 (58.5%)

- Start-up (1-10 Employees)
- SME (11-50 Employees)
- Large (50+ Employees)

3. https://www2.asx.com.au/blog/listed-at-asx/pandemic-boosts-growth-in-australian-fintech-sector
4. https://kpmg.com/au/en/home/insights/2022/10/australian-fintech-landscape.html

5. Best R, Howard D. The Global Sports Industry. Eugene OR (2022)
6. https://www.marketsandmarkets.com/Market-Reportssports-technology-market-104958738.html
7. https://www2.asx.com.au/blog/listed-at-asx/pandemicboosts-growth-in-australian-fintech-sector
8. https://kpmg.com/au/en/home/insights/2022/10australian-fintech-landscape.html

Victoria Dominates Industry Representation

Victoria continues to be the backbone of Australia's sportstech sector – with around 312 companies based in Victoria (41% of the sector). With around 26% of Australia's population, this means that Victoria over-represents the industry by more than 60%. The sports economy is an important economic driver for the state, evident through Victoria's significant major sports event calendar and the investment by the Victorian Government in key sports infrastructure precincts.

New South Wales is home to 30% of Australia's sportstech companies, and Queensland 19%. Along with Victoria, the three states along the Australian eastern seaboard represent 90% of the national industry compared to 77% of the entire population[9].

The remaining states of Australia are under-represented at a total of 10% of established entities (23% of population). These states typically are not home to headquarters of major professional teams or national sports federations.
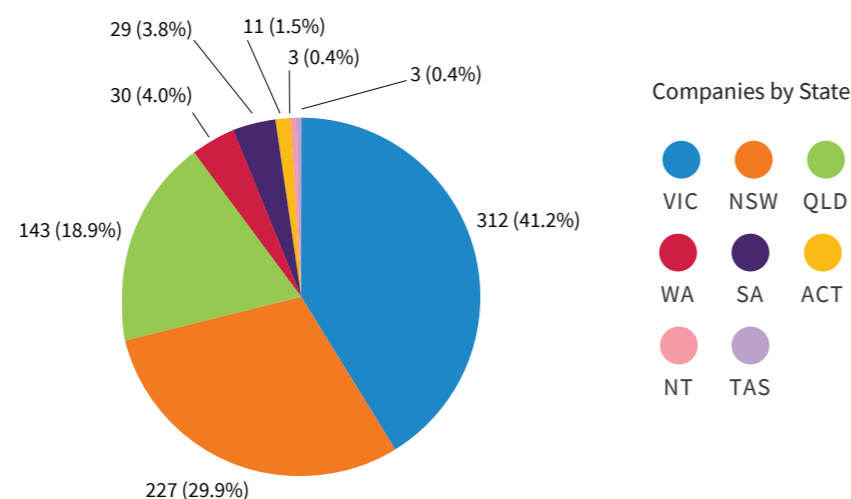
The significance of the sports economy as a future driver of economic growth cannot be underestimated. The Queensland Government has made strong commitments to building a significant sports innovation ecosystem in the lead up to and legacy of the Brisbane 2032 Olympic and Paralympic Games. This may result in the eastern seaboard's representation increasing even further over the next decade and beyond.

Emerging Technologies and Market Maturity

The Australian sportstech sector is benefiting from growth of both traditional and emerging sports market applications as well as market maturity. Historically, Australia's sports teams, leagues, federations and brands have often lagged other industry sectors in the adoption of technologies to build efficiencies in their businesses. However, specialist technologies developed for the purposes of operating and managing stadium and venues, facilities, leagues, teams and events have grown strongly in recent years and now represent more than 20% of all companies in the industry.

Emerging technology developments involving artificial intelligence, wearables, sensors, robotics, blockchain and virtual reality or augmented reality are now applied by 20% of sports technology companies, whilst a further 15% of companies develop big data analytics applications. Smart equipment, wearables and advances in the use of composites, fibres and textiles are also evolving traditional sports equipment, apparel and footwear markets.

Companies by State

Pie chart:
- 312 (41.2%) VIC
- 227 (29.9%) NSW
- 143 (18.9%) QLD
- 30 (4.0%) WA
- 29 (3.8%) SA
- 11 (1.5%) ACT
- 3 (0.4%) NT
- 3 (0.4%) TAS

Legend:
VIC, NSW, QLD
WA, SA, ACT
NT, TAS

Key Insights from Australia's Leading Sportstech Companies

The top 115 companies represent the leading 15% of Australia's sportstech sector in terms of numbers of entities. These organisations generate approximately A$3.70 billion in revenues per annum, or 87% of A$4.25 billion generated by the industry annually. They also employ around 70% of the industry or a total of 9,473 people.

Of the top 115 companies, 54% provide technology to the Business of Sport & Entertainment category. This includes those providing technologies that service events, teams and leagues, media and broadcasting as well as esports and fantasy sports. The other important category was Mass Sports Participation & Active Living market which represented 39% of the top 115 companies. Typically, these companies are focused on either sports equipment or apparel and footwear.
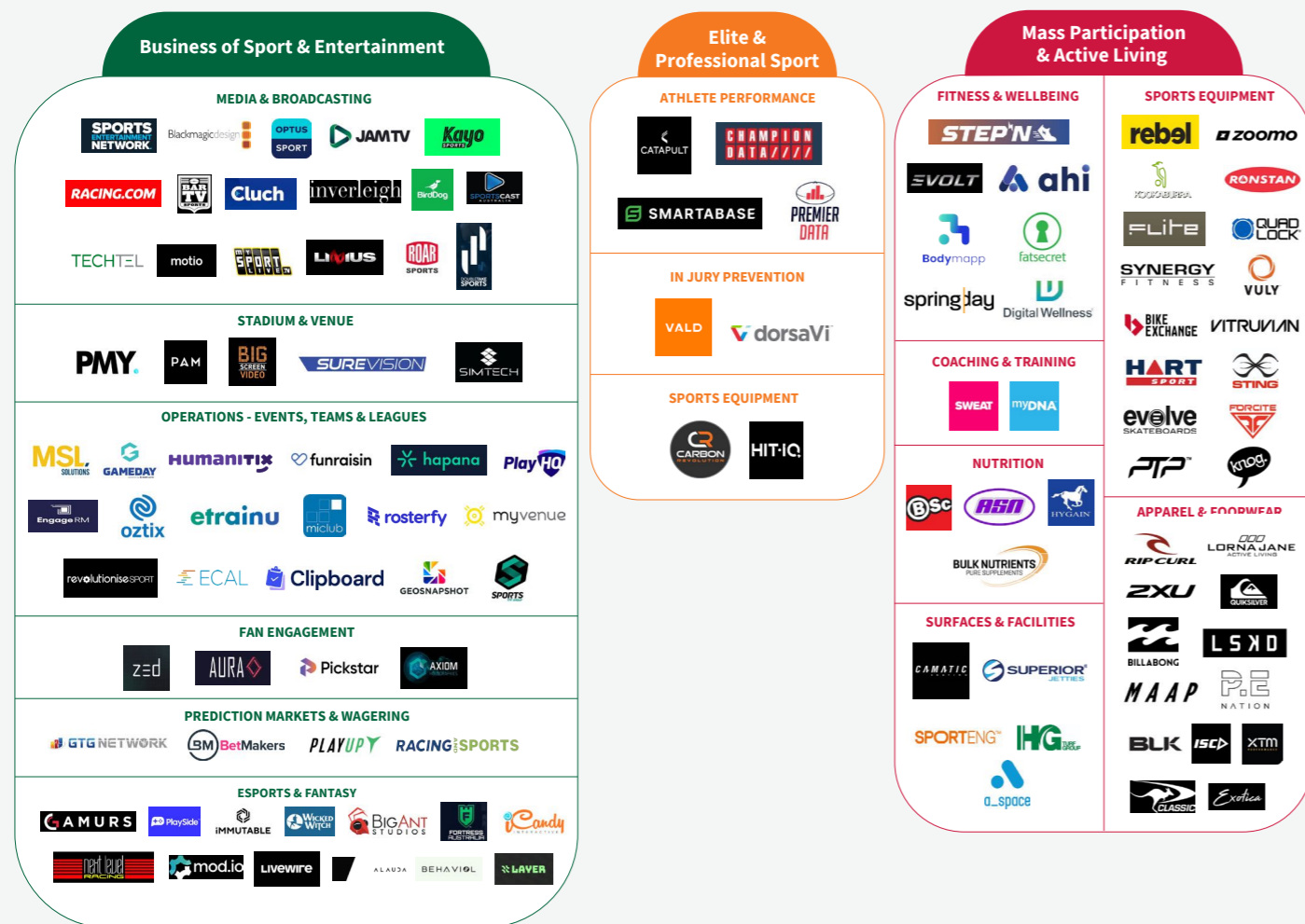
Despite the development of technologies for high performance sports providing the foundation for Australia's global recognition in sports technology through the early part of the 2000's, only 7% (eight companies) of the top 115 companies served the Professional & Elite Sports market in 2022.

Australia's Sports Innovation Landscape

Top 115 local leading and fast-group companies + 9,473 jobs and A$3.70 billion annual revenues

Business of Sport & Entertainment

MEDIA & BROADCASTING

STADIUM & VENUE

OPERATIONS - EVENTS, TEAMS & LEAGUES

FAN ENGAGEMENT

PREDICTION MARKETS & WAGERING

ESPORTS & FANTASY

Elite & Professional Sport

ATHLETE PERFORMANCE

IN JURY PREVENTION

SPORTS EQUIPMENT

Mass Participation & Active Living

FITNESS & WELLBEING

SPORTS EQUIPMENT

COACHING & TRAINING

NUTRITION

APPAREL & FOODWEAR

SURFACES & FACILITIES

Top 115 Sportstech Companies Paving the Way

Company	Description	Headquarters (HQ)
Business of Sport & Entertainment		
Media & Broadcasting		
Sports Entertainment Network	Sports Media and Content Production	VIC
Black Magic Design	Live Production and Digital Film Production Camera Manufacturing	VIC
Optus Sport	Sports Media and Streaming	NSW
JAM TV	Sports Media and Content Production	VIC
Kayo Sports	Sports Media and Streaming	NSW
Racing.com	Racing Media and Streaming	VIC
Bar TV Sports	Broadcasting Solutions for Large and Mid-Tier Sports	NSW
Cluch TV	Broadcasting Solutions for Grassroots Sports	NSW
Inverleigh	Premium Sports Content Production and Distribution	VIC
Bird-Dog	Live Streaming Software, Hardware and Cloud Solutions	VIC
Sportscast	Broadcasting Solutions for Grassroots Sports	VIC
TechTel	Broadcast Systems Integration	NSW
Motio	Digital Displays and Advertising platform	NSW
Double Take Sports	Broadcasting Solutions for Grassroots Sports	QLD
Linius Technologies	Video Technology Solutions	VIC
My Sport Live	Broadcasting Solutions for Grassroots Sports	VIC
The Roar	Online Sports Content and Opinion Platform	NSW
Stadium & Venue		
PMY	Technology Solutions for Stadium, Venues and Sporting Teams	VIC
PAM	Smart Venue Navigation	NSW
Big Screen Video	Big Screen Technology Solutions and Installations	SA
SureVision	Digital Signage and Content Management	NSW
SimTech	Digital LED Signage and Displays for Venues	QLD
Event Operations		
MSL Solutions	SaaS Management and Point-of-Sale Technologies	QLD
Gameday	Registration and Competition Management for Grassroots Sport	VIC
Humanitix	Event Ticketing Platform	NSW
Funraisin	Fundraising Management Platform	NSW
Hapana	Member Management Solutions for Fitness Industry	NSW
PlayHQ	Registration and Competition Management for Grassroots Sport	VIC
Engage RM	Intelligent CRM Platforms for Sports Teams, Leauges and Venues	VIC
Oztix	Event Ticketing Platform	QLD
EtrainU	Learning Management Platforms for Multi-Industry including Sports	QLD
MiClub	Golf Club Management Platform	WA
Rosterfy	Workforce and Volunteer Management Platform	VIC
MyVenue	Point-of-Sales Solutions for Stadia and Venue	SA
Revolutionise Sport	Registration and Competition Management for Grassroots Sport	NSW
Ecal	Sports Calendar Marketing Platform	VIC
Clipboard	School Extracurricular Management System	NSW
Geosnapshot	Sports Content and Distribution Platform	NSW
TPF Sports	Sports Marketing / Merchandise Agency, inc E-Commerce Technologies	VIC
Fan Engagement		
Zed Run	Digital Horse Racing	NSW
Aura	VR/AR, OTT and Interactive Entertainment for Sports	NSW
Pickstar	Athlete Talent Marketplace and Booking Platform	SA
Axiom Holographics	Holographic Technologies for Entertainment and Training	QLD
Prediction Markets		
GTG Network	Sports Data Solutons for Wagering, Fantasy and Sports Publishers	VIC
BetMakers	Data Analytics Solutions for Wagering Markets	NSW
PlayUp	Fantasy Sports and Betting Technology Platform	NSW
Racing and Sports	Content, Media and Technology Provider for Horse Racing	ACT
E-Sports & Fantasy		
GAMURS Group	E-Games and Digital Entertainment	NSW
Playside Studios	Mobile Games Development	VIC
Immutable	Web 3.0 Games using NFTs	NSW
Wicked Witch Software	E-Games and Digital Entertainment	VIC
Big Ant Studios	E-Games and Digital Entertainment	VIC
Fortress Australia	E-Games and E-Sports Venues	VIC

iCandy Interactive	E-Games and Digital Entertainment	VIC
Next Level Racing	Racing, Flight and Motion Simulators	QLD
Mod.io	Games Mod Development and Distribution Platform	VIC
LiveWire	Gametech and Gaming Marketing	NSW
Alauda Aeronautics	Performance Electric VTOL Aircraft for Racing	SA
Layer Licensing	Licensed IP Intregation into Games Development	NSW
Behaviol	Web 3.0 Game Development for Sports	NSW

Elite & Professional Sport

Athlete Performance		
Catapult Sport	Sports Wearables and Analytics For Athlete Performance	VIC
Champion Data	Sports Data Capture and Distribution for AFL and Selected Sports	VIC
Smartabase	Athlete Management Systems for Elite Sports and Defense	QLD
Premier Data	Sports Data Capture and Distribution for Sub-Elite AFL	VIC
Injury Prevention		
VALD Performance	Human Performance Measurement Technologies	QLD
DorsaVi	Wearable Technologies for Sports, Allied Health and OHS	VIC
Sports Equipment		
Carbon Revolution	High Performance Carbon Wheels for Motor Sports	VIC
HIT IQ	Instrumented Mouthguard Technology	VIC

Mass Participation & Active Living

Fitness & Wellbeing		
STEPN	Move2earn NFT Games on Mobile Devices	SA
Advanced Health Intelligence	Mobile Human Scanning Technology for Medical, Health and Fitness	WA
Evolt 360	Body Composition Scanning Solution for Health and Fitness	QLD
Digital Wellness	Nutrition and Weight Management Platform	NSW
BodyMapp	3D Body Mapping for Health and Fitness	NSW
Fat Secret	Food & Nutrition Database and Management	VIC
SpringDay	Corporate Health and Welling Platform	NSW
Coaching & Training		
Sweat	Digital Fitness and Training App	SA
MyDNA	DNA Diet, Fitness and Lifestyle Testing	VIC
Nutrition		
Body Science	Sports Nutrition Manufacture and Distribution	QLD
Australian Sports Nutrition	Sports and Health Supplements	QLD
Hygain	Equine Nutrition	VIC
Bulk Nutrients	Sports Nutrition Manufacture and Distribution	TAS

Surfaces & Facilities		
Camatic Seating	Seating Design and Manufacture for Stadia and Venue	VIC
A_space	Fitness, Recreational and Playground Equipment Design and Manufacture	VIC
Superior Jetties	Custom Floatation Devices	QLD
SportENG	Sport Infrastructure Design	VIC
HG Turf Group	Turf Solutions for Stadium and Venues	VIC
Sports Equipment		
Rebel Sports	Sports Ecommerce Marketplace	NSW
Zoomo	E-Bike Design and Manufacture	NSW
Kookaburra Sport	Cricket, Hockey and Football Equipment	VIC
Ronstan	Sailboat Hardware	VIC
Fliteboard	Electric-Powered Hyrodrfoil	NSW
Quad Lock	Smart Phone Mounting for Active Lifestyles	VIC
Synergy Fitness	Design and Manufacturer of Strength and Conditioning Equipment	QLD
Vuly	Outdoor Equipment for Kids (Trampolines and Swing Sets)	QLD
BikeExchange	Online Cycling Marketplace	VIC
Vitruvian	Smart Connected Fitness Equipment	WA
Hart Sports	Multi-Sports Equipment and Fitness Equipment Provider	QLD
Sting Sports	Boxing Gloves and Boxing Apparel	VIC
Evolve Skateboards	Electric Skateboard Manufacturer	QLD
Forcite Helmets	Smart Helmet Technologies	NSW
PTP	Resistance Training Equipment and Programs	NSW
Knog	Bike Accessories Design and Manufacture	VIC
Apparel & Footwear		
Ripcurl	Wetsuits, Lifestyle Apparel and Surfboards	VIC
Lorna Jane	Womens Activewear and Apparel	QLD
2XU	Compression, Workout and Fitness Apparel	VIC
Quiksilver	Wetsuits, Lifestyle Apparel and Surfboards	VIC
Billabong	Wetsuits, Lifestyle Apparel and Surfboards	QLD
LSKD	Activewear and Apparel	QLD
MAAP	Cycling Apparel Manufacture	VIC
P.E Nation	Activewear and Apparel	NSW
BLK Sport	Activewear and Apparel	QLD
ISC Sport	Activewear and Apparel	NSW
XTM Australia	Snow Apparel and Accessories	VIC
Classic Sportswear	Activewear and Apparel	NSW
Exotica Athletica	Activewear and Apparel	QLD

Note: If your business is not on this list and you think it should be please let us know. Typically, a minimum of 20+ employees is a benchmark for inclusion. The list does not include wagering & betting companies or sports companies involved in digital, architectural, engineering, product design, leisure, planning and strategic advice.

Thirty of the 70-plus alumni startups from ASTN's Accelerator program have raised a total of more than A$60 million in capital over the last few years, revealing that the early-stage sportstech investment landscape is evolving in Australia from its nascent state.

2. Australia's Sportstech Categories

ASTN has created a proprietary database of 758 Australian sports technology and sport innovation companies that provide the foundation of this landmark industry research. ASTN has committed significant resources to understanding what Australia's sportstech landscape looks like in terms of its geographic distribution, the sports markets that companies are servicing, and what technology platforms these companies are building their solutions on. As part of the detailed analysis of the industry, ASTN has developed a categorisation system that can be applied to each sportstech company identified in the directory.

Market Applications

The Market Application refers to the sport market segment in which a sports technology company provides its solution to. There are three Market Application categories (verticals), and an accompanying 33 sub-categories:

i. Business of Sport & Entertainment (9 sub-categories)
ii. Elite Sport (13 sub-categories)
iii. Mass Participation & Active Living (11 sub-categories)

Market Application Verticals

Professional & Elite Sport

Business of Sport & Entertainment

Stadium & Venue / Event Operations	Media & Broadcasting	Social Media / Fan Engagement / Prediction Markets	eSports / Fantasy / Metaverse

Athlete Performance / Injury Prevention

Mass Participation & Active Living

Wearables / Sensors & Devices	Fitness & Wellbeing / Medical / Nutrition	Coaching & Training / Strength & Conditioning / Sports Analytics	Apparel & Footwear / Equipment / Surfaces

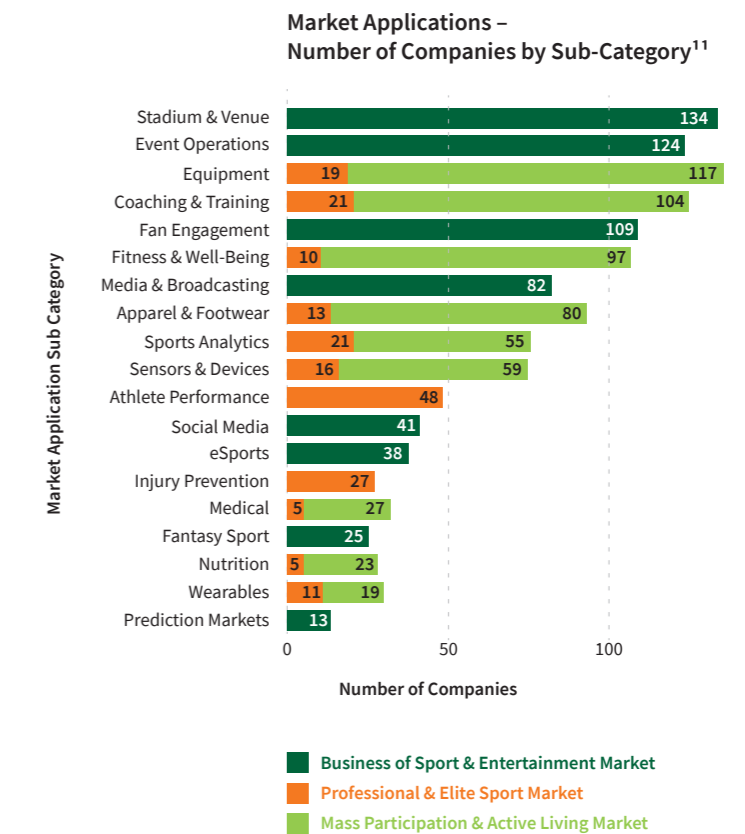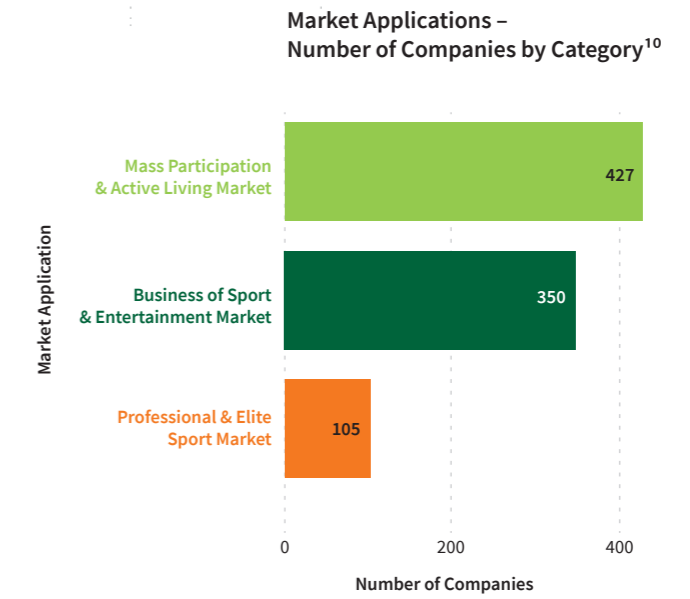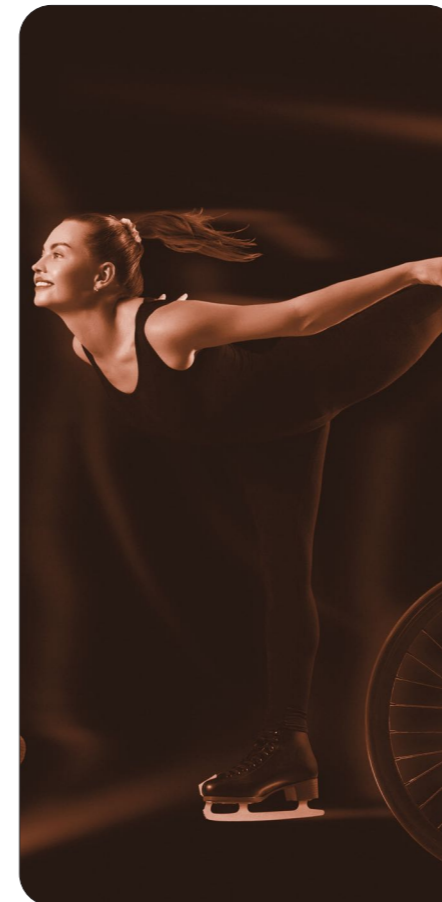### Business of Sport & Entertainment Market

Approximately 350 (46%) of companies develop technologies that service the Business of Sport & Entertainment market. This includes technologies developed for media & broadcasting, stadium & venues, league, team & event operations, fan engagement, predictive markets & wagering as well as e-sports & fantasy sports.

Professional & Elite Sport Market

Only around 105 (14%) of companies develop technologies that service the Professional & Elite Sport market. This includes technologies developed to measure athlete performance, strength and conditioning and injury prevention as well as sports nutrition, specialised sports equipment, apparel and footwear innovations used by professional athletes and teams.

Mass Participation & Active Living Market

Based on ASTN's research, approximately 427 (56%) of companies develop technologies that service the Mass Participation & Active Living market. This includes technologies developed for fitness & wellbeing, training & coaching, apparel & footwear, and wearables, sensors & devices.

Market Applications – Number of Companies by Category[10]

Market Application / Number of Companies

- Mass Participation & Active Living Market: 427
- Business of Sport & Entertainment Market: 350
- Professional & Elite Sport Market: 105

Market Applications – Number of Companies by Sub-Category[11]

Market Application Sub Category / Number of Companies

- Stadium & Venue: 134
- Event Operations: 124
- Equipment: 19 / 117
- Coaching & Training: 21 / 104
- Fan Engagement: 109
- Fitness & Well-Being: 10 / 97
- Media & Broadcasting: 82
- Apparel & Footwear: 13 / 80
- Sports Analytics: 21 / 55
- Sensors & Devices: 16 / 59
- Athlete Performance: 48
- Social Media: 41
- eSports: 38
- Injury Prevention: 27
- Medical: 5 / 27
- Fantasy Sport: 25
- Nutrition: 5 / 23
- Wearables: 11 / 19
- Prediction Markets: 13

- ■ Business of Sport & Entertainment Market
- ■ Professional & Elite Sport Market
- ■ Mass Participation & Active Living Market

10. Note: Some sportstech companies may be assigned to multiple categories..

11. Note: Each sportstech company may be assigned to multiple categories and sub-categories dependent on the sports market(s) that the company services and the technology platform(s) that they are built on. Therefore, the numbers in the tables may add to more than 100% of the sector.

The majority of companies (56%) provide their products and solutions to the Mass Participation & Active Living market, followed by Business of Sport & Entertainment (46%) and Professional & Elite Sport (14%).

Top 10 Market Application Sub-Categories[12]

Number of Companies	% of Total Companies	Market category	Market Sub-Category
134	17.7%	Business of Sport & Entertainment	Stadium, Venue & Facilities
124	16.4%	Business of Sport & Entertainment	Operations (inc Events, Leagues & Teams)
117	15.4%	Mass Sports Participation & Active Living	Equipment
109	14.3%	Business of Sport & Entertainment	Fan Engagement
104	13.7%	Mass Sports Participation & Active Living	Coaching & Training
97	12.8%	Mass Sports Participation & Active Living	Fitness & Well-Being
82	10.8%	Business of Sport & Entertainment	Media & Broadcasting
80	10.5%	Mass Sports Participation & Active Living	Apparel & Footwear
59	7.7%	Mass Sports Participation & Active Living	Sensors & Devices
55	7.2%	Mass Sports Participation & Active Living	Sports Analytics

When aggregating and analysing this data, some of the key observations from the Market Application research on the industry include:

- 23.2% (176) of technologies are fitness, wellbeing, coaching and training applications for the mass sports participation and active living markets.
- 22.9% (174) of technologies have a broadcasting, media and /or fan engagement application.
- 22.2% (169) of technologies are sports equipment and apparel innovations for the mass sports participation and active living markets.
- 20.2% (153) of technologies developed are for the purposes of operating and managing stadium, venues, facilities, leagues, teams and events.
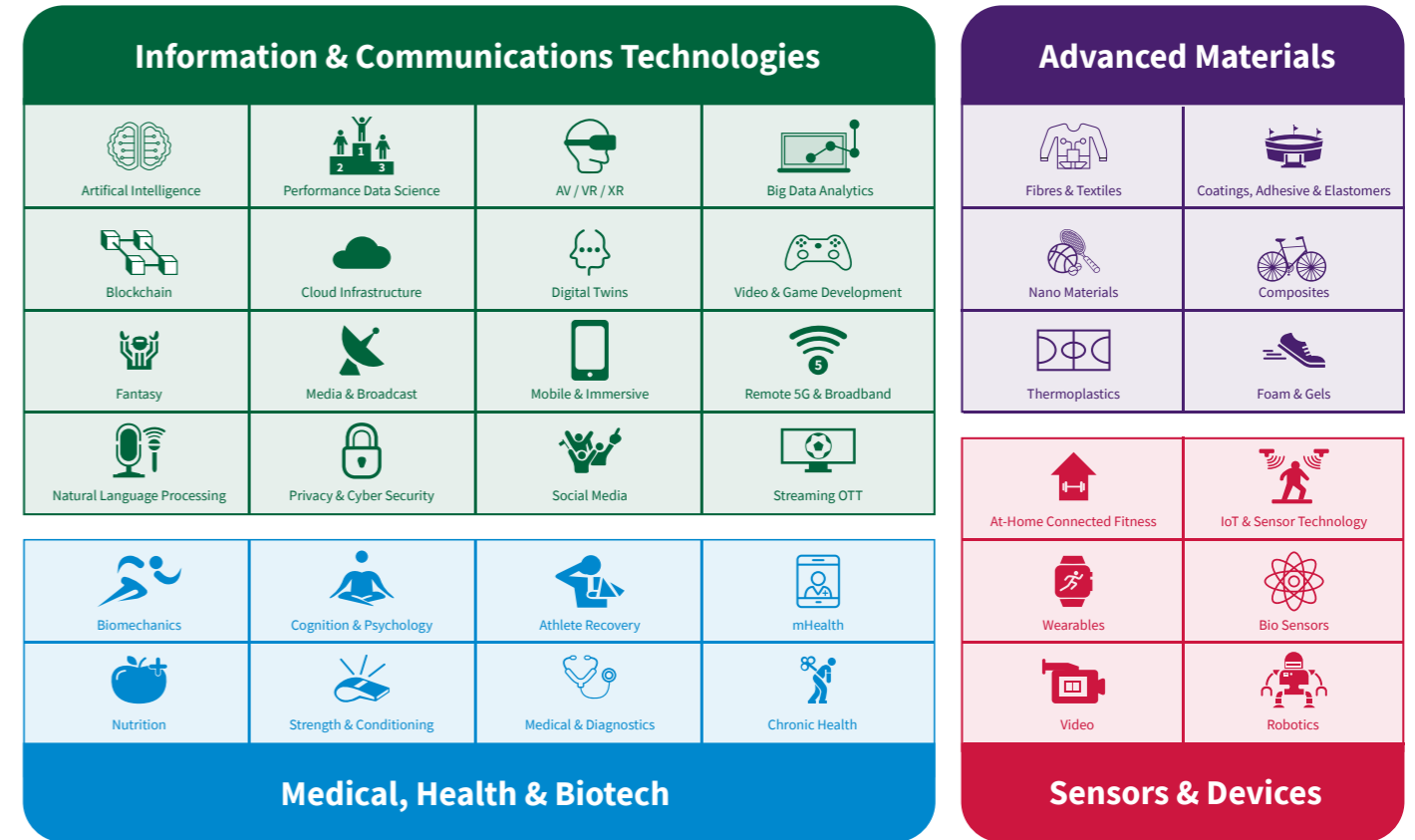
12. Note: Each sportstech company may be assigned to multiple categories and sub-categories dependent on the sports market(s) that the company services and the technology platform(s) that they are built on. Therefore, the numbers in the tables may add to more than 100% of the sector.

Technology Stack

Technology Stack refers to the type of technologies utilised to form a proprietary product or solution by a sportstech company. There are four technology stack categories, and 36 accompanying sub-categories.

i.   Information & Communications Technologies (16 sub-categories)
ii. Advanced Materials (6 sub-categories)
iii. Medical, Health and Biotech (8 sub-categories)
iv. Sensors & Devices (6 sub-categories)

Technology Stack Categorisations

Information & Communications Technologies
- Artifical Intelligence
- Performance Data Science
- AV / VR / XR
- Big Data Analytics
- Blockchain
- Cloud Infrastructure
- Digital Twins
- Video & Game Development
- Fantasy
- Media & Broadcast
- Mobile & Immersive
- Remote 5G & Broadband
- Natural Language Processing
- Privacy & Cyber Security
- Social Media
- Streaming OTT

Medical, Health & Biotech
- Biomechanics
- Cognition & Psychology
- Athlete Recovery
- mHealth
- Nutrition
- Strength & Conditioning
- Medical & Diagnostics
- Chronic Health

Advanced Materials
- Fibres & Textiles
- Coatings, Adhesive & Elastomers
- Nano Materials
- Composites
- Thermoplastics
- Foam & Gels

Sensors & Devices
- At-Home Connected Fitness
- IoT & Sensor Technology
- Wearables
- Bio Sensors
- Video
- Robotics

(c) Hill Persico Schlegel (2022)

Information and Communications Technologies (ICT)

Based on ASTN's research, approximately 504 (66%) of companies develop technologies using Information & Communications Technologies (ICT) such as digital, communications, cloud, software and IT hardware typically associated with creation, management and distribution of sports video, data and content.
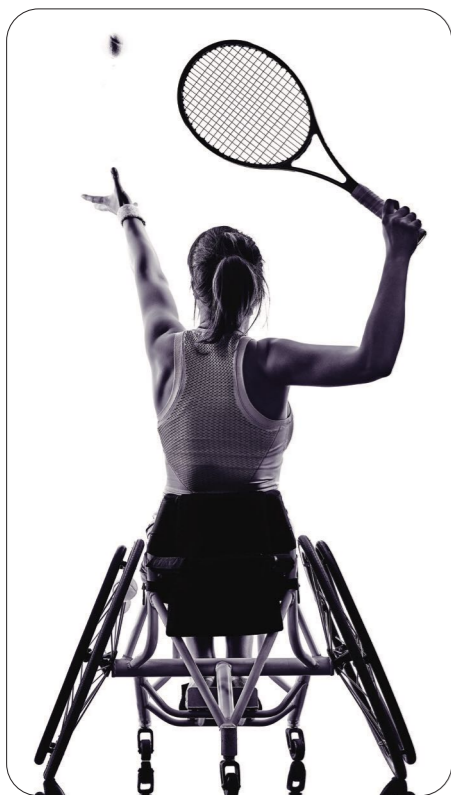
Medical, Health & Biotechnology

113 companies (15%) look at Medical, Health & Biotechnology developments typically related to measuring, assessing and / or improving the physical, cognitive and / or well-being of elite and amateur athletes.

Advanced Materials

175 companies (23%) create Advanced Materials, relating to the manufacture of sports equipment, apparel, footwear and any other tangible sports products. Advances in the development and use of composites, textiles and fibres typically improve the performance of the sports product and equipment.

Sensors & Devices

100 companies (13%) provide wearable and non-wearable devices that capture data for the purposes of monitoring, assessing and improving the performance of elite athletes, amateur athletes and fitness enthusiasts.
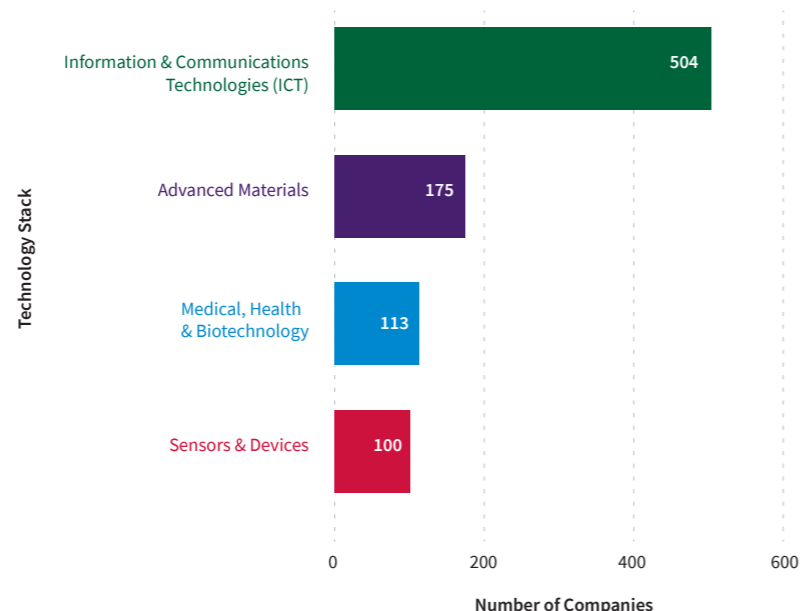
Technology Stack – Number of Companies by Category [13]

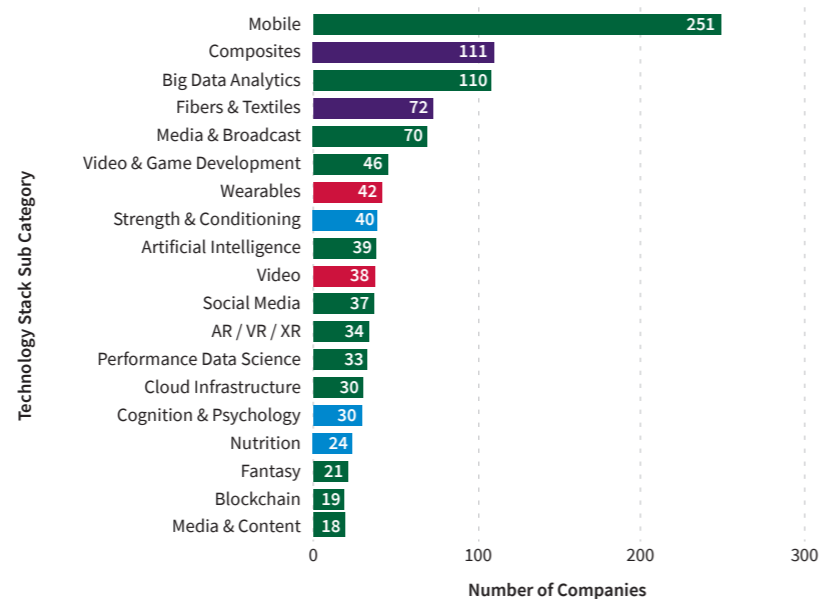| Category	Number of Companies
Information & Communications Technologies (ICT)	504
Advanced Materials	175
Medical, Health & Biotechnology	113
Sensors & Devices	100

Key insights from Technology Stack data:

- Almost one-third of all sports technologies are developed with a mobile-based application.
- Almost a quarter of all sports technologies are physical product developments using composites, fibres or textiles.
- Around 20% are considered emerging technology developments involving artificial intelligence, wearables, sensors, robotics, blockchain and virtual reality or augmented reality.
- Around 15% of companies develop technologies with big data analytics, combined with or separately focusing on performance data science and statistics.

Almost one-third of all sports technologies are developed with a mobile-based application.

Technology Stack – Number of Companies by Sub-Category [14]

Sub-Category	Number of Companies
Mobile	251
Composites	111
Big Data Analytics	110
Fibers & Textiles	72
Media & Broadcast	70
Video & Game Development	46
Wearables	42
Strength & Conditioning	40
Artificial Intelligence	39
Video	38
Social Media	37
AR / VR / XR	34
Performance Data Science	33
Cloud Infrastructure	30
Cognition & Psychology	30
Nutrition	24
Fantasy	21
Blockchain	19
Media & Content	18

3. M&A Venture Capital Activity

Sportstech Transactions for FY23

The FY23 period witnessed a significant tightening of access to investment capital, driven by rising interest rates and inflationary pressures. This had a downward impact on sportstech valuations and mergers, acquisitions and capital raising activities globally. This was in contrast to the FY22 period which was characterised by rising valuations and relatively easy access to capital, despite a period of uncertainty around the ongoing impacts of COVID-19.

Transactional data shows that FY22 was a year of industry rationalisation and consolidation. Venture capital investment and M&A transactions in FY22 totalled over A$1 billion, with the acquisition of three of Australia's major fitness and wellness apps. Major international sportstech players such as Sportradar, Genius Sports and Stack Sports were also very active in the local market during this time acquiring a number of smaller, quality sports digital companies. At the same time, emerging smart equipment innovators, new blockchain and NFT technologies were successful in raising funds at strong valuations. In FY23, Australia's M&A transactions halved to around A$500 million.

Major Acquisitions

In FY23 there were three major acquisitions of Queensland-based sports technology and innovation companies. These acquisitions show that the momentum towards the Brisbane 2032 Olympics has well and truly begun as the Queensland sportstech ecosystem continues to expand.

Sports nutrition manufacturer **Body Science** was acquired by Swedish-based health goods manufacturer, Humble Group in July 2022 for an undisclosed amount.

ASX-listed **MSL Solutions**, developer of world-leading SaaS-based management and point-of-sale technologies for the leisure, sports and hospitality industries, was acquired by private equity firm Pemba Capital Partners for A$119 million in November 2022.

Teamworks acquired **Smartabase** (formerly Fusion Sport) in January 2023. Smartabase is a global leader in the development of athlete management systems for elite sports and defence. Teamworks added Smartabase to a growing portfolio of companies servicing the elite sports and college high performance markets.

Funding Highlights

Thirty of the 70-plus alumni startups from ASTN's Accelerator program have raised a total of more than A$60 million in capital over the last few years, revealing that the early-stage sportstech investment landscape is evolving in Australia from its nascent state.

The largest funding raised was by Queensland-based VALD[15], a global leader in human performance measurement for elite sports and allied health markets. VALD raised US$25 million in November 2022 led by Canadian-based investor, Vistara Growth and supported by Queensland Investment Corporation (QIC) to help accelerate growth in allied health markets globally.

Another Queensland-based company, Evolt360[16], a fast-growing body composition scanning company which services the health and fitness industry, raised A$12 million in October 2022 led by a number of Australian-based institutional investors. The funds will be used to increase manufacturing and rising demand for new orders globally. Gaming, esports and entertainment network, GAMURS[17], raised US$12 million in October 2022 from established sportstech investor, Elysian Park Ventures as well as Cerra Capital based in the United States. It is earmarked that the investment funds will mainly be used to make acquisitions to continue to its rapid growth plan.

Leading volunteer and workforce management company, Rosterfy based in Melbourne , raised A$9.8 million from ASX-listed venture capital fund, Bailador Technology Investments in April 2023. With flagship global customers including FIFA and the NFL Superbowl as well as a growing list of major non-for-profit customers the funding will be used to accelerate product innovation and international expansion.

13. Note: Some sportstech companies may be assigned to multiple categories.
14. Note: Each sportstech company may be assigned to multiple categories and sub-categories dependent on the sports market(s) that the company services and the technology platform(s) that they are built on. Therefore, the numbers in the tables may add to more than 100% of the sector.

15. www.vald.com
16. www.evolt360.com
17. www.gamurs.group
18. www.rosterfy.com

Major M&A and Venture Capital Activity – 2022-2023

Acquisitions

Date	Company	Description	Transaction Activity	Amount
July 2022	Body Science	Sports Nutrition Manufacturer	Acquired by Humble Group (Sweden)	Undisclosed
November 2022	MSL Solutions	SaaS Management Technologies for the leisure, sports and hospitality industries	Acquired by Pemba Capital Partners	A$119 m
January 2023	Smartabase	Athlete management systems for elite sports & defense	Acquired by Teamworks (USA)	Undisclosed
December 2022	Fan+	Personalised sports & entertainment experiences	Acquired by TEG (Ticketek parent)	Undisclosed
November 2022	Punting Form	Horse racing analytics	Acquired by Betmakers	A$20m
March 2023	Preventure	Wearable tech & analytics for injury prevention and return-to-work	Acquired by Bardavon (USA)	Undisclosed

Capital Raisings

Date	Company	Description	Transaction Activity	Amount
November 2022	VALD	Human performance measurement for elite sports & allied health	Investment led by Vistara Growth (Canada)	US$25m
October 2022	Evolt360	Body composition scanning technology	Investment led by Regal Funds Management, Washington H Soul Pattinson and Smarter Capital	A$12m
October 2022	GAMURS	Esports, gaming and entertainment	Investment led by Elysian Park Ventures and Cerro Capital (US)	A$12m
April 2023	Rosterfy	Volunteer & workforce management platform for large-scale events, NFPs and Government	Investment by Bailador Technology Investments	A$9.8m
December 2022	BODD	3D body scanning technology	Investment by Nick & Candice Hirons and Tim Allison	A$5m
July 2022	Cipher Sports Technology Group	Sports data and prediction models for wagering & fantasy sports	Investment led by Cygnet Capital	A$5m
October 2022	Aura	Immersive media technology platform	Strategic Investment by Seven West Media	Undisclosed
October 2022	Dabble Sports	Social digital wagering platform	Strategic 20% Investment by Tabcorp	A$33m

M&A and Investment Trends in Australia

Early-Stage Investment Landscape is Emerging

The Australian sportstech venture capital market has been virtually non-existent over the past decade. Investment funding for early-stage Australian sportstech companies have been small, fragmented and opportunistic, and investors have historically doubted Australia's leadership potential in the sector.

In FY23 ASTN began to see the emergence of a more active, coordinated and sophisticated investor community. Investors led by principals and executives with strong ties to the Australian sports, entertainment and health landscape is acknowledgement of the potential of Australia's sportstech on the world stage. One example is XT Ventures[19], an Australian early-stage venture capital company focused on the next generation of sports and health. Meanwhile, Tennis Australia's venture capital arm, Wildcard Ventures, has actively invested in sports innovation companies in Australia and globally[20].

ASTN expects that the active investor community servicing early-stage companies will continue to grow over the next few years. However, there remains a significant funding gap in the market for local companies seeking large-scale investments (A$10 million and above) with Australian entrepreneurs needing to access international capital markets.

Continued Global M&A Consolidation in FY24

Well-funded industry players such as Hudl, Teamworks, Sportradar, Sony and Genius Sports are well-positioned to continue to pursue M&A transactions across multi-geographies, driven by integration of growth companies with strong proprietary technologies and customer bases.

Big Deals, Bigger Demand

The sports industry is colloquially understood to be a 'recession-proof' industry. Investment interest in sports assets (including traditional sporting organisations) by private equity, sovereign funds and high-profile international athletes mean values of major sports leagues and sports teams continues to rise worldwide. For some investors, quality Australian sports-tech companies may be a valued addition to a global industry portfolio.

Organic Growth

ASTN has seen evidence within its member-base that some of Australia's leading sportstech companies have experienced rapid international business growth in FY23 without the need for funding transactions. There is a growing notion that with the right people, technologies and flagship customers, Australia's sportstech entrepreneurs can still rapidly expand internationally without relying on raising large amounts of venture capital as is commonly witnessed in the USA market. This can be achieved by leveraging experienced executives, adapting their products and services to new jurisdictions and understanding the niche market applications where they can be classified among the world's best.

There has been a decline in mergers and acquisition (M&A) and capital raising activities in FY23 compared to FY22 – due to significant tightening of access to investment capital, driven by rising interest rates and inflationary pressures.

19. https://xtventures.com/
20. www.wildcardventures.vc
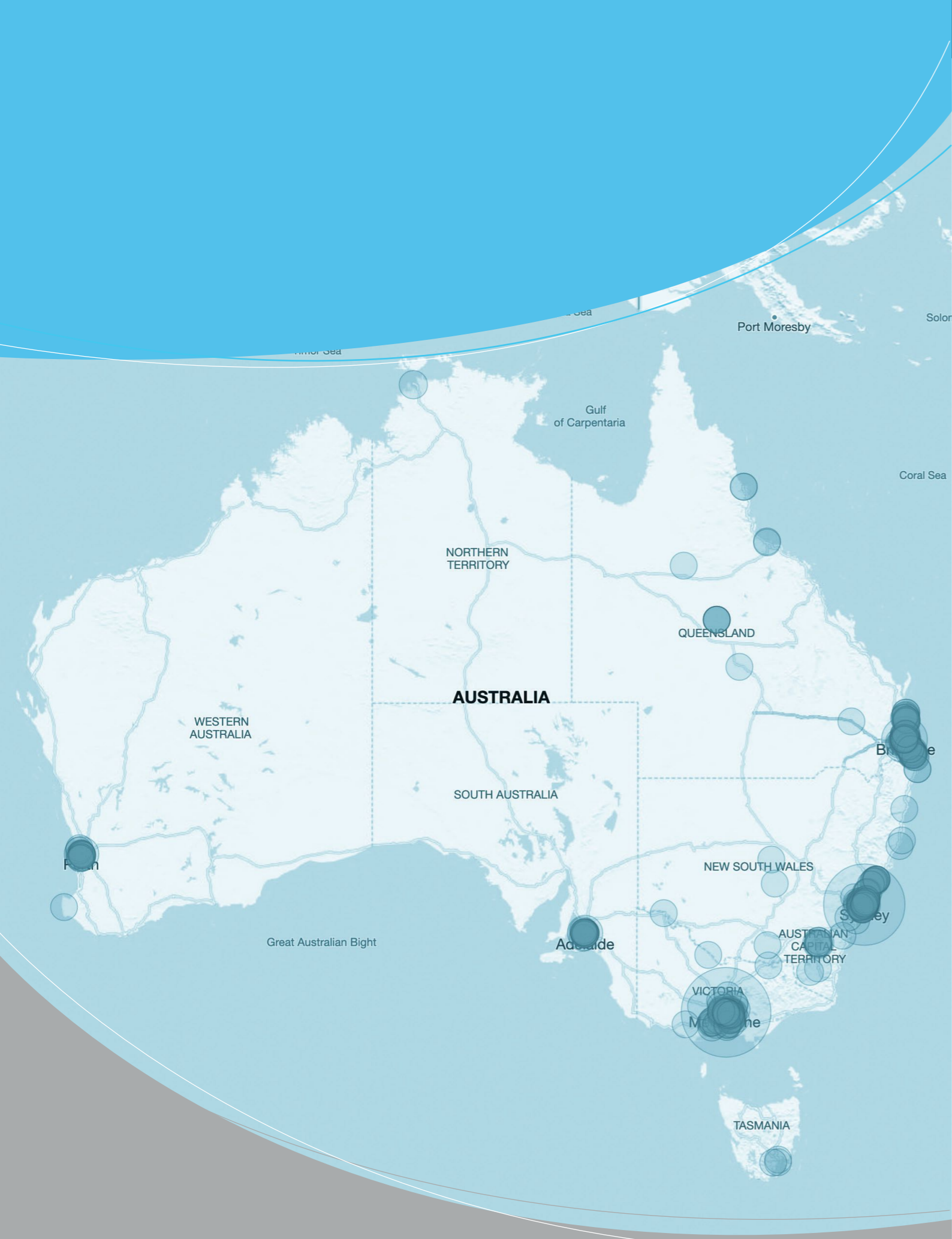
4. Geographic Mapping

Geographically 77% of the Australian population lives on the eastern seaboard. A strong commitment to building world-class sporting infrastructure and facilities on the doorsteps of the major eastern cities provides the foundation to host a multitude of sports and hundreds of thousands of fans to a sports-hungry nation. Examples of large-scale attendances in 2023 include the 800,000-plus patrons at the Australian Open tennis and 450,000 attendees at the Australian Formula One Grand Prix in Melbourne.

Australia's track record of consistently hosting outstanding major sports events will be further enhanced with the Women's FIFA World Cup 2023, the 2026 Commonwealth Games, the Netball World Cup 2027 and the Rugby World Cup 2029. The Brisbane 2032 Olympic and Paralympic Games will give Australia the proud title of the second nation in the world to have hosted the Summer Olympic Games across three major cities – Melbourne (1956), Sydney (2000) and Brisbane (2032).

Sportstech Cluster on the Eastern Seaboard

ASTN data suggests the formation of a rapidly growing sportstech cluster along Australia's eastern seaboard. More specifically, the industry is characterised by its concentration of activity in the three major population centres of these states – Melbourne, Sydney and South-East Queensland (Brisbane, Gold Coast and Sunshine Coast). There is only minimal regional activity beyond the metro areas as highlighted by the heat maps.

Victoria continues to be the backbone of Australia's sportstech sector with around 312 companies located in the state, or 41% of the total sector (26% of national population). This means Victoria is over-represented by more than 60% in comparison to its population. Around 227 companies or 30% of the domestic market is based in New South Wales, whilst a further 142 companies or 19% are based in Queensland. This means that the three Australian eastern seaboard states represent 681 companies or 90% of the national industry. Reinforcing this, a total of 103 of the top 115 companies, or 90% are based in Victoria, New South Wales and Queensland.

The remaining states of Australia are under-represented at a total of 10% of established entities (23% of population).

90 per cent of Australia's sportstech companies are located along the eastern seaboard.
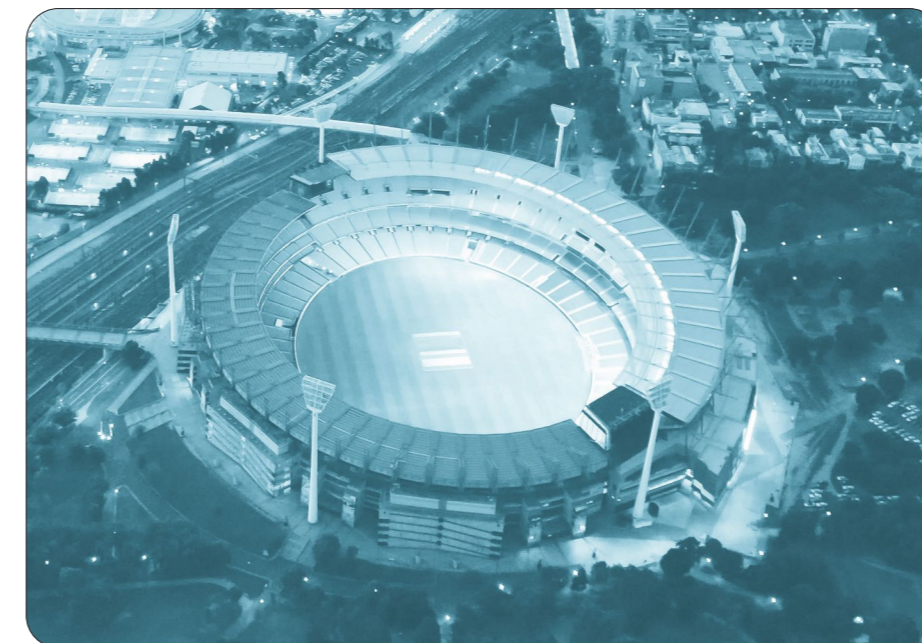
i. Melbourne

The Victorian heat map highlights the concentration of companies in the Melbourne CBD, inner-city (within 10km of the CBD) and the south-eastern corridor. There is limited activity in the western suburbs, outer suburbs and the regional areas. This geographic distribution may be explained by a number of factors including:

- Location and proximity to major sports precincts on the doorstep of the Melbourne CBD in Richmond, the Docklands and South Melbourne.

- Headquarters of several major sports federations, professional sports teams and institutes being located close to or within these sports precincts.

- Access to start-up and co-location facilities in the CBD and inner-city locations. The establishment of the co-located facility, Australian Sports Innovation Centre of Excellence (ASICE) in Cremorne / Richmond, is already resulting in a concentration of activity around Melbourne's major sports precinct.

The Victorian Government recognises sport as a key economic driver for the state. It leads a world-class major sports events calendar and continues to invest in the inner-city sports precincts making these infrastructure and facilities some of the very best in the world. The Victorian Government continues to be the leading public investor in the sportstech sector. It is a major partner of ASTN through its investment in the Australian Sports Innovation Centre of Excellence (ASICE) facility and accompanying programs as well as through its technology startup agency, LaunchVic and trade and investment facilitation agency, Global Victoria.
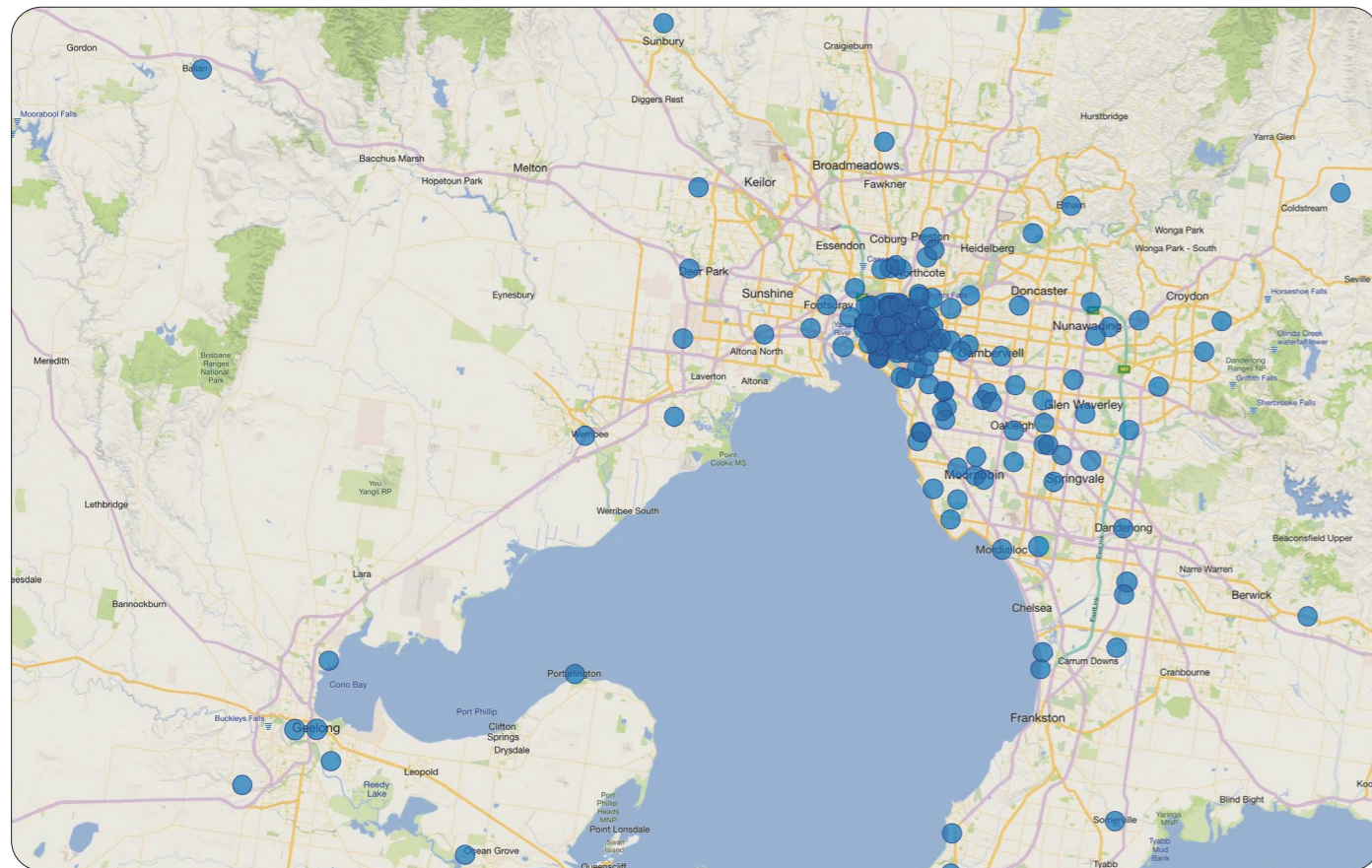
ii. Sydney

The sportstech sector in New South Wales is mainly concentrated in the Sydney CBD and inner-city suburbs, with activity also scattered through other suburbs. The two major sports precincts are based in the inner-south (Moore Park), with the Sydney Olympic Park Precinct located 15km west of the city centre. Despite the presence of numerous sports federations, professional teams and the NSW Institute of Sport at the Sydney Olympic Park Precinct there are only a relatively small number of sportstech companies operating in and around the location. Currently, there is no significant public or private stakeholder leading investment in or coordination of the development of the sportstech sector in Sydney or NSW broadly.
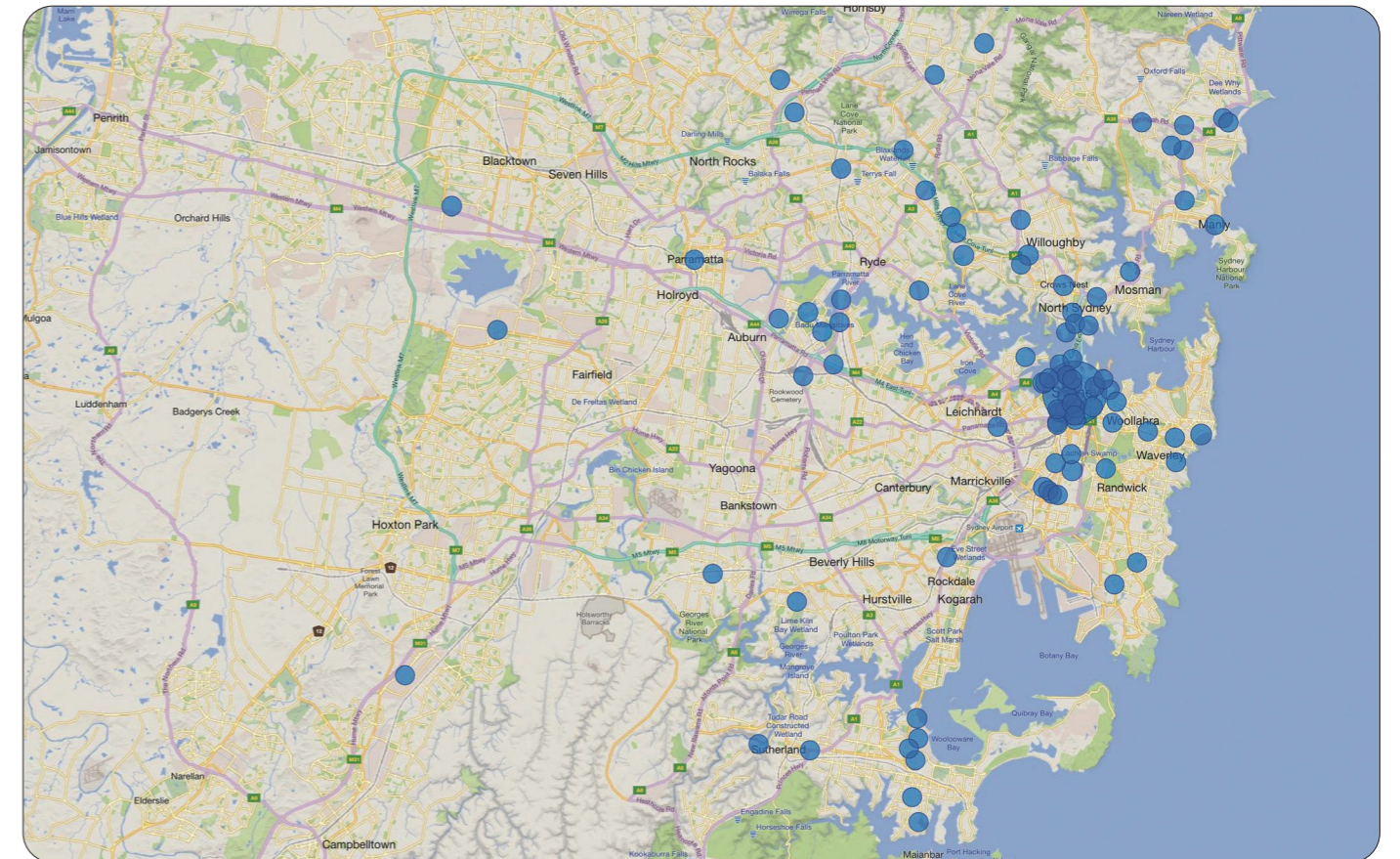
iii. South-East Queensland

The current Queensland sportstech sector is concentrated in the inner-Brisbane suburbs, followed by the Gold Coast and then the Sunshine Coast. Beyond this there is very little regional activity. The hosting of the 2032 Summer Olympics in Brisbane is already providing the impetus for growth of the sports technology and innovation industry in South-East Queensland. The Queensland Government appears to be very committed to building a significant sports innovation ecosystem in the lead-up to and as a legacy of the Games. There exists an outstanding opportunity to develop a globally-relevant hub for sports innovation over the coming decade and beyond. This could potentially provide both innovation development and procurement opportunities for sportstech companies.

The Queensland Government has already made a number of small investments to support the development of Queensland's sports technology industry. A long-term strategy and investment commitment to drive the development of the sector is expected in the near future, which should see Queensland increase its status internationally.

5. Emerging Sportstech Themes
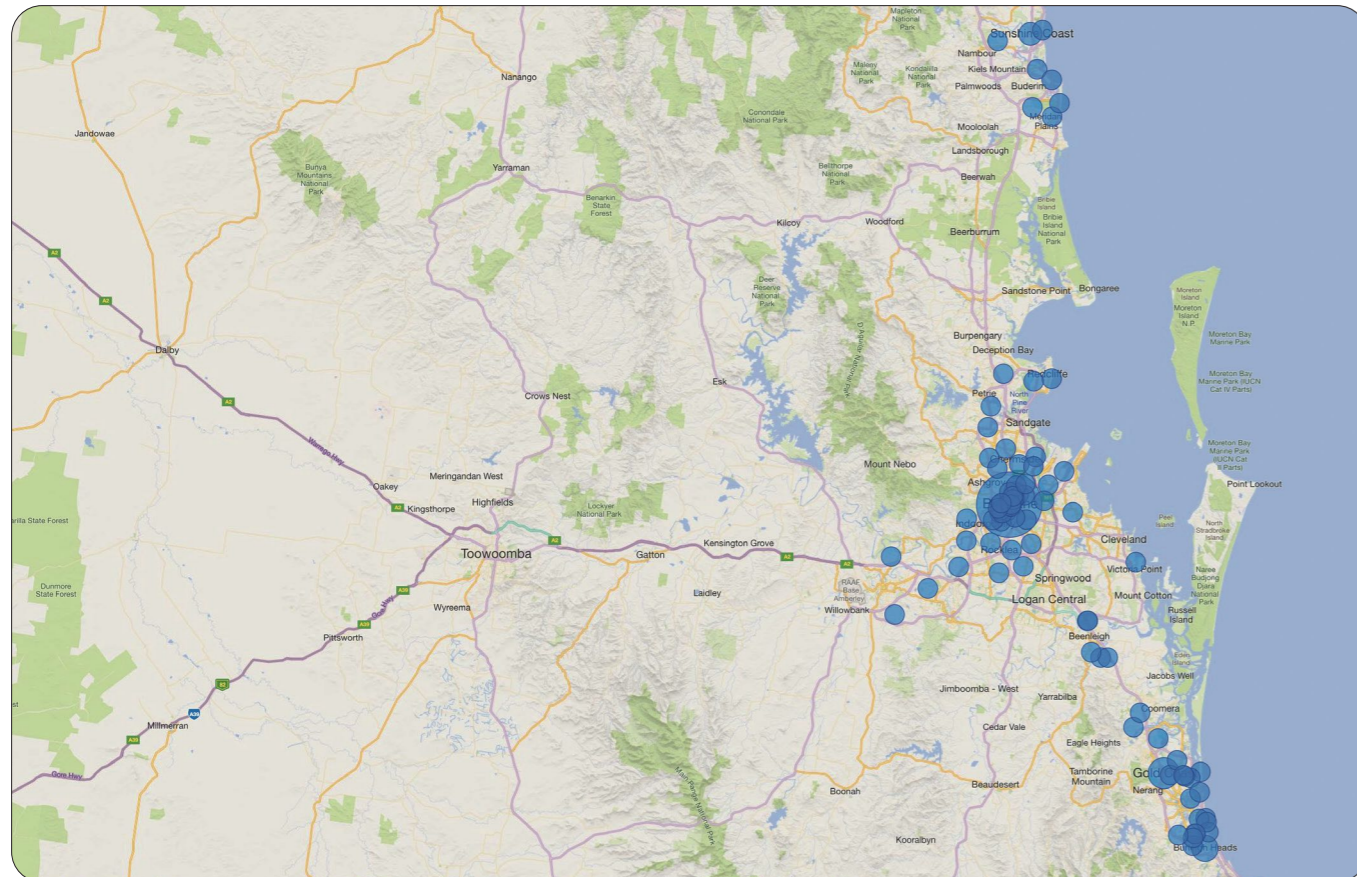
ASTN has identified 10 emerging themes that form part of ASTN's five-year strategy (2022-2026). These themes provide strategic opportunities for Australia's sportstech sector as well as stakeholders across the entire sports industry. ASTN encourages its members and the wider industry to evaluate their operations against these themes.

These emerging sportstech themes have accelerated digital transformation across leagues, teams and federations globally, meaning it is critical for industry stakeholders to understand and embrace these major trends of the rapidly evolving sportstech sector. In the year ahead, ASTN and the Australian Sports Innovation Centre of Excellence (ASICE) will be focussed on both the risks and opportunities within some of the following themes through research and advocacy.

ASTN's 10 sportstech themes:

Theme 1: Artificial Intelligence (AI) in Sport

Everyone from coaches, sports scientists, commentators and punters use historical data to analyse plays and review actions, strategies, techniques and tactics. Predicting the efficiency and potential outcome of an action on or off the field in a precise and expeditious manner using Artificial Intelligence (AI) can create value in several aspects.

Firstly, AI may provide a more superior and accurate way to rate and evaluate gameplay activity over the existing practice of simple human observation. Secondly, deploying AI technology automates manual information capture and analysis that is provided to coaches, the media or the wagering markets. This becomes particularly important when sports data rights are separately negotiated from broadcasting media rights. Finally, generative AI, a form of technology that can produce various types of content including text, imagery and audio, can create new revenue streams by providing additional or aggregated data sets. For example, machine learning algorithms coupled with image recognition have been utilised to automate the production of game play highlights provided to sport broadcast. It has also been used to evaluate sponsor logo recognition in sport marketing as well as assessing and analysing skill or performance of in-game activity.

Whilst professional sports and broadcasts of elite sporting events seem to be driving AI technology uptake, applying such technologies to grassroots, junior and non-professional sports may transform and level up these competitions in ways we can't predict. Youth talent identification, coaching, scouting and translation into fitness, wellness and health represent just a few of the possibilities. According to the Responsible AI framework developed by the CSIRO's Data61[21], widespread adoption of AI technologies will require 'a practice of developing and using AI systems in a way that provides benefits to individuals, groups, and wider society, while minimising the risk of negative consequences.'

Australia is at important cross-roads and is poised to build a powerful next-generation sports economy. Australian's love of sports, support of entrepreneurship and appetite to harness digitisation continues to generate a groundswell of new companies, especially in the events space, ahead of the Brisbane 2032 Olympics.

21. Dawson D and Schleiger E*, Horton J, McLaughlin J, Robinson C∞, Quezada G, Scowcroft J, and Hajkowicz S† (2019) Artificial Intelligence: Australia's Ethics Framework. Data61 CSIRO, Australia

Theme 2: Active Living, Fitness and Wellness

As a result of the rapid emergence of fitness trackers, advanced smartwatches and AI-assisted nutrition and wellness solutions, the line between sensors and devices for elite athletes and consumer products has started to blur. Historically, only elite athletes had access to high performance solutions, whereas today these technologies have been democratised and are available as everyday consumer devices.

As the availability and accuracy of non-invasive sensor devices increase, more elite athletes are also using consumer devices. An example of this is the partnership between Apple and Swimming Australia[22] where Australia's national swim team, The Australian Dolphins, are harnessing the sensors and activity-tracking features within Apple Watch coupled with iPad apps to enable coaching staff to accurately capture a complete picture of the athletes' overall health and performance in real-time.

Globally, the smartwatch and wearables segment is dominated by big tech companies, led by Apple providing 30% of the global smartwatch market, followed by Samsung, HUAWEI, Garmin and Fitbit (Google)[23]. These large technology companies also have ambitions to penetrate the wellness and allied health markets. ASTN sees the extraordinary ability of sportstech to diffuse knowledge into other sectors, such as health, aged care, workplaces, education and others, had previously been outlined by the ASTN[24] as one of the growth or exit opportunities for companies in the sportstech sector.

Theme 3: Web 3.0, Metaverse, Gaming and Blockchain

Web 3.0 is an all-encompassing phrase to describe non-fungible tokens (NFTs), metaverse, cryptocurrency, smart contracts and community governance. The frenetic appetite for Web 3.0, the metaverse and NFTs has tempered since the heights of early 2022. However, ASTN believes stronger use cases for Blockchain will continue to evolve, possibly focused on fan engagement and experiences, in particular ticketing, memberships, sponsorship and digital trading marketplaces and athlete creator economy.

Theme 4: Virtual Sports of Tomorrow: Esports, Drone Leagues, E-Bike and more

With electronic sports increasingly gaining more widespread adoption, it has become evident that competitive gaming with teams of professionals training like other pro-athletes, features similar forms of governance and operations to traditional sports.

Esports events are organised with athletes being able to make a living through competing online. The widespread lockdowns caused by the COVID-19 pandemic, accelerated the appeal of gaming due to its ability to play online with friends wherever they are located. Parallels between traditional sports and Esports will also enable cross-pollination in terms of immersive broadcast, on-demand streaming and stadium and venue innovations.

Theme 5: Smart Apparel, Equipment and Wearables and their Role in Paralympics, Special Needs and Mobility

Whilst smart equipment and wearables have started to penetrate active living, more must be done to develop Australia's entrepreneurial leadership understanding of opportunities in areas of special needs, disability, mobility and aged living. Cutting-edge global sports innovations deployed across Paralympic disciplines can potentially test the boundaries of human-machine interfaces using functional electrical stimulation or advanced robotic aids.

Theme 6: Sustainability and Environment, Social and Governance (ESG)

The sport industry can deliver significant improvements across a wide range of societal, environmental and economic measures. The most powerful framework for evaluating and improving the impacts of sports technology companies and sporting event organisers is ESG (environment, social, governance). Investors, government and regulators have recognised that ESG is the key framework used to understand how an organisation manages risks and opportunities around sustainability issues – taking a holistic view that sustainability extends beyond just environmental impact. When sporting events, organisations and facility providers specifically target the needs of a wide range of stakeholders including society at large and the environment, many mutual benefits can be achieved.

Keeping ESG top of mind is not only the right thing to do, consumers of today, and stakeholders more broadly, demand it. Therefore, organisations need to respond to this heightened interest in ESG-related issues and must go beyond a simple checklist. Consumers want organisations to do more on ESG to realise environmental and social gains, and to have strong governance.

Commercial sponsors expect that their partner organisation has good management processes in place and will not damage the sponsor's brand reputation. Major event organisers might look at benchmarking and procurement processes to determine which sporting bodies can participate. Potential investors in sportstech startups like to understand what governance regimes are in place that warrant responsible deployment of their investment. Accordingly, ASTN expects an increased requirement for a simple self-assessment measurement technology and more comprehensive implementation of ESG best practices across all levels of sport in the future.

Theme 7: Sports Digital Ethics, Privacy and Security

From player unions and sport governing bodies to data rights advocates, the ownership of data has become a very important question for industry stakeholders. Collecting, analysing and transmitting sports performance and personalised tracking data nowadays is intrinsically linked to privacy, cyber security and data protection regimes. Accordingly, ASTN believes that collaboration across and integration with other industry sectors is required to adopt best practice security and privacy frameworks into sport.

This applies not only as significant commercialisation opportunities emerge across high performance, broadcasting and the prediction markets, but as more data is collected across recreational and junior sport. This creates an essential need for protection of minors and child safety. Stakeholders must embrace the challenge to agree on *commonly adopted standards, data sharing policies* and processes as well as sportstech-specific cyber protocols.

Theme 8: Investment & Venture Capital into Australian Sports Companies

For the first time, we are seeing dedicated and coordinated commitment to invest in the Australian sportstech sector led by experienced sports executives and investors. This is very encouraging for early-stage and growth-revenue start-ups as these investors bring stronger strategic value to their companies. Locally born companies with impressive international customer bases and / or proprietary technologies may be targets for well-funded major players in the investment space as the broader global sports tech industry undergoes consolidation.

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"It's such an exciting time to promote Australian-inspired sports technologies on a global scale."

Global ASTN Ambassador Lydia Lassila (OAM)

"I'm passionate about supporting the next generation of sports people and sportstech businesses to compete at a global level."

Global ASTN Ambassador George Gregan (AM)

Theme 9: Women in Sportstech

Women in sport have never been more visible on and off the field of play. Recently we've seen ground-breaking achievements evidenced in increased televised and live audience numbers, fan engagement at an all-time high, increased representation in media and leadership, and a global focus on high-performance women's World Cup events such as the FIBA Basketball World Championships (2022), Rugby World Cup (2022) and the 2023 FIFA Women's World Cup.

Nevertheless, compared to other areas of the sport industry, women in sportstech (as founders or working in sportstech companies) are unfortunately still under-represented. Recognising the need for a structured and customised approach, ASTN has partnered with US-based organisation Women in Sports Tech (WiST) to provide a suite of activities to increase the success of female-founded sportstech businesses to help increase representation of women in the sportstech industry. In early 2023 ASTN also launched a new report 'Paving the Way for Sports Innovation in Australia' – to recognise and celebrate women who are leading sports innovation across Australia within government, industry, sporting, institutions, universities and high-performance sport within Australia.

ASTN believes that the wider sports industry needs to work together to change the ratio. Assisting female founders from other sectors to apply their knowledge into sport will open a range on new ideas and perspectives driving greater commercial opportunities. Failure to do this will continue to lead to an exodus of talent, start-ups and other knowledge transfer opportunities.

Theme 10: Global Trade and Business Matching

Over the past decade, ASTN has developed what is referred to as the ASTN 'Born Global or Die Local Playbook'. The Playbook details strategies and tactics specific to Australia's own sports technology industry on how to build a successful sports technology startup. ASTN has engaged with hundreds of companies across the industry and the executive team have travelled to key markets across the world to better understand global opportunities. Key elements of the Playbook have been embedded into many of ASTN's programs including the early-stage Pre-Accelerator, the growth-stage Startup Accelerator and international market access programs specific to export-growth companies.

Increasing evidence illustrates that Australian sportstech companies are successfully implementing the 'Born Global or Die Local' philosophies and strategies leading not only to success domestically but supporting them to access global markets.

Local companies often validate and build flagship customers in the small, but sophisticated Australian sports market prior to pursuing overseas market opportunities. Such an approach has provided many Australian sportstech companies with market entry pathways that often include participating in well-regarded international sportstech accelerators, market research programs (eg. UCLA Global Access Program and University of Washington Consulting Association) as well as ASTN-led trade missions and business matching activities.

Based on in-depth market research amongst members, the regions of particular interest, that really spur Australian startups, include the United States, Western Europe, UK and selected markets in Asia. Amongst these target regions, the United States on its own represents a total addressable market of about $46 billion USD which currently represents more than 40% of the entire global market size. Australia also finds natural sports innovation partners in New Zealand and amongst our Pacific Island neighbours assembled in the Oceania National Olympic Committees (ONOC).

Methodology

ASTN has applied a 'bottom-up' approach in quantifying revenue and employment generated by the sportstech sector. ASTN has used publicly available as well as measured revenue-per head estimates to calculate the economic contributions.

Company revenue and employment estimates:

The ASTN's original mandate and mission focused on developing 'Australian-inspired' sports technologies, and this also provided the foundation for the quantification of the sportstech industry.

- All revenues and employment (both domestic and international) of Australian headquartered companies were included for the purposes of market sizing.
- Where Australian companies have been acquired by international entities, only Australian revenues and employment have been included.
- International sports innovation companies with Australian operations were also included in the market sizing estimates.
- For companies servicing multiple industries an estimated pro-rata of sports-related revenue and employment was calculated.
- For the 2023 Report ASTN added an additional 160 companies that represent the sportstech industry – some of which may not have been identified in the 2022 Report.

Sectors excluded:

- The Australian sportstech market size excludes the sports wagering and betting industry which is estimated to be A$6.4 billion per annum in 2022 (IBISWorld)[25], employing over 3,000 people. This sector relies heavily on sports data analytics and sports broadcasting and media talent in procuring services to the market.
- Professional services to the sports innovation industry such as digital, architectural, engineering, product design, leisure, planning and strategic advice has also been excluded for the purposes of market sizing. It is estimated that this professional services sector employs at least another 2,000 people across Australia's sports economy.

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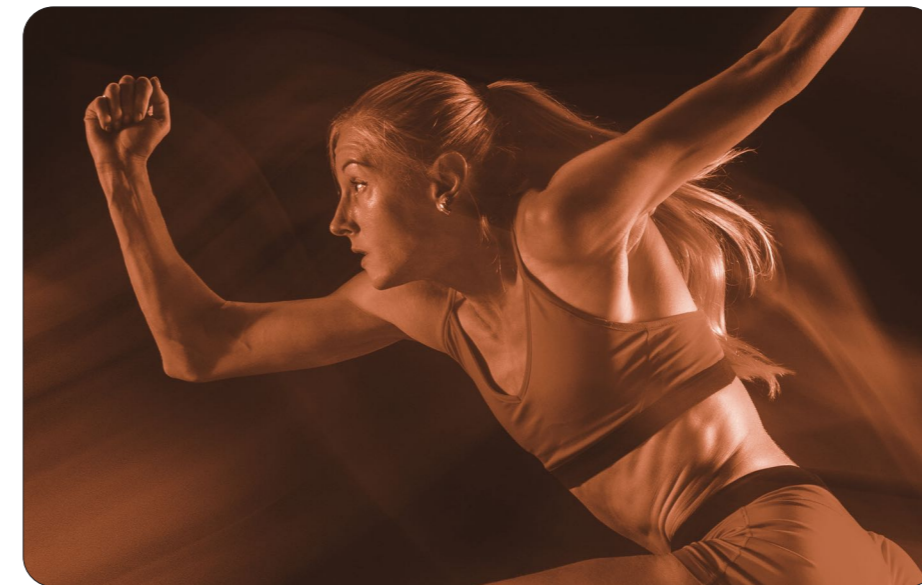
Authors

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Co-Founder, Sportstech Startup Advisor and Senior Industry Analyst, ASTN

Craig Hill is a leading sports technology specialist in Australia, currently engaged as Sportstech Startup Advisor and Senior Industry Analyst at Australian Sports Technologies Network. Craig co-founded the Australian Sports Technologies Network (ASTN) in 2012 and was inaugural Executive Director until 2017. He led the development and implementation of a suite of programs to support the development of the sector including, international trade missions, startup accelerator programs, conferences and international partnerships.

John R Persico
Board Member, ASTN

John Persico is an international leader in Sports Technology and Future of Sports. He advises governments, sports federations and leading corporates across the world on the sports digital emconomy, investments nd transactions at the intersection of technology in Sports, Health, Media, Artificial Intelligence and Emerging Industries. He also co-founded the Australian Sports Technology Conference. He previously worked and studied in investment banking, private equity, law and management consulting.

Dr Martin Schlegel
Executive Chair and Board Member, ASTN

Martin has 25 years' experience in the sports and recreation, construction and plastics specialty chemicals industry in the areas of product development, process engineering and research and development commercialisation. As a Consulting Principal he has been providing advice in the sport and recreation industry across Australia, Europe and the USA. Previously, Martin worked in various positions in the USA and Australasia including management roles in business information technology, quality management engineering and business M&A. His ASTN work focuses on startup programs, trade missions and global partnerships with other clusters of innovation.

Contributors

James Demetriou
Co-Founder, Founding Chair and Board Member, ASTN

James is an experienced Senior Executive Director in Mergers and Acquisition, cross-border investment, specialist advisor in Asian investment and listed and large private board governance who has served on many government, large private and listed company boards. As the Founding Chair of the ASTN (retiring September 2022), James is one of Australia's most respected leaders in sports business, sports governance and sports technology having represented the sector at many Asian conferences and trade missions. Over the past 40 years, James has played a major role in Australian sport as a senior player at the Essendon Football Club (75-76), a Board Director of Essendon Football Club in the mid to late 90s and the founding Chair of Sports Without Borders (2006-16).

Professor Emma Sherry
Dean – School of Management, RMIT University

Professor Emma Sherry is a Professor and Dean at RMIT University in Melbourne, Australia. Professor Sherry's expertise focuses on the areas of social and policy innovation and engaging and increasing representation for women and other under-represented communities in the sport industry in Australia and Asia-Pacific region. Professor Sherry is a member of the Australian Sport Innovation Centre of Excellence (ASICE) Advisory Committee, and a Director of Sport Inclusion Australia.

Professor Danny Samson
Professor of Management, University of Melbourne

Danny Samson is Professor specialising in operations/ supply chain management at the University of Melbourne, having previously worked as an engineer and academic in multinational companies and universities in Australia and the USA. He has published 150 articles and a dozen books on aspects of management, leadership and innovation. Danny has advised senior executives in dozens of companies on matters of business strategy, operations and supply chain design and improvement, and he is one of Asia Pacific's leading executive educators. He has been a company director and advisor to numerous government agencies.

ASTN Global Ambassadors

Lydia Lassila OAM
Sportstech Founder and Former Athlete

Lydia Lassila (OAM) is an Olympic Gold and Bronze medallist and a trailblazer in freestyle aerial skiing having competed at five consecutive Winter Olympics (2002-2018). Her accolades include being awarded Sport Australia Hall of Fame's Don Award, Australian Institute of Sport's Athlete of the Year, Ski and Snowboard Australia Athlete of the Year and the Order of Australia Medal. Lassila is also the founder of Zone By Lydia, an eco-conscious yoga brand, and BodyICE, specially designed ice packs that help people recover from injuries.

George Gregan AM
Sportstech Founder and Former Athlete

George Gregan (OAM) is respected throughout the rugby world for his skill, tenacity, sportsmanship and leadership ability. He is a Rugby World Cup Champion and holds a Medal of the Order of Australia for his service to Rugby Union Football and as the Captain of the Wallabies. He has a wealth of achievements under his belt and is best known for leading the ACT Brumbies, Australian Wallabies and Suntory Sungoliath in Japan to multiple victories over the years. Off the field, Gregan co-founded PTP Fitness over 12 years ago, developing strength and conditioning products and programs to help people move smarter and ultimately perform better in whatever fitness or sporting goals they set out to achieve.

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Powering Sports Innovation

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