

| CODE | Sport | Problem Statement |
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| PS1 | Cycling | <p>Singapore's land constraints means that there are limited roads and locations for cyclists to enjoy rides.</p> <p>Riding on roads in Singapore is also extremely dangerous, as there is a lack of bike paths, roads are not designed for cycling, and a general peripheral vision of car drivers and their lack of judging speed.</p> <p>How can cyclists in Singapore ride safely and enjoy themselves, while taking into consideration space constraints and without compromising the experience?</p> |
| PS2 | Bowling | <p>Many bowlers still have to record their scores on a piece of paper and calculate their final scores manually. As a result, much paper waste is generated, especially at bowling events.</p> <p>How can we reduce paper waste at bowling events, while allowing for the tracking of scores digitally?</p> |
| PS3 | Cricket | <p>We are living increasingly digital lives, with more competition for our limited free time.</p> <p>In a world of short attention spans and unprecedented battle for attention, it is critical to provide a comprehensive engagement offering.</p> <p>How do we combine digital and physical experiences to create compelling fan experiences and increase fan participation/engagement?</p> |
| PS4 | Cricket | <p>The landscape for sports has changed. Viewers have shorter attention spans, and they now prefer to watch games on-demand.</p> <p>As a result, how do we diversify the target audience, produce new content, and create new revenue streams to attract further investments into cricket, so as to grow the sport for future generations?</p> |
| PS5 | Cricket | <p>Cricket is a sport for all and serves to bring communities together.</p> <p>Research shows 80% of cricket fans have played the game in a structured format before they became adults, and kids that have played for three or more years are the most engaged fans! Because cricket is a complex game, exposing kids to the game at an early age provides a critical pathway to develop future elite talents and to grow a youthful fan base.</p> <p>As a result, how do we accelerate that aspiration to attract new kids (5-12) from all backgrounds to participate in the sport? How do we also continue to grow the game for women and girls, so that the sport is more inclusive?</p> |
| PS6 | Cricket | <p>Cricket creates a stage for inspirational stories and people. The heroes on the field and behind the scenes are motivators for others to join and tell the story of our values. Getting this right, and broadening the awareness helps drive interest and participation, and present the sport appropriately.</p> <p>How do we surface and tell these stories better in a scalable way?</p> |

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| PS7 | Cross-sport | <p>As Singapore does not have a mid-sized, multi-purpose stadium that can hold different types of events for up to 20,000 spectators, this could potentially limit the types of events that could be held in Singapore and/or hinder the provision of an intimate fan experience for the spectators.</p> <p>Building a permanent venue that could potentially be underutilised is expensive. In addition, temporary event overlays for a one-off event will not be cost-effective, sustainable or environmentally friendly.</p> <p>How can the Singapore National Stadium or other large venue(s) be more flexible spaces that can scale down based on different capacity requirements such that we can diversify our event offerings without compromising on the intimate fan experience?</p> |
| PS8 | Cross-sport | <p>Sport events such as marathons often generate paper waste which comes from marketing materials as well as number tags for participants. High costs related to adoption, inventory, transportation, and maintenance could prevent event organisers from utilising technology (e.g. RFID technology) to easily identify/differentiate participants during the event (instead of using obvious visual cues in the form of number tags).</p> <p>How can we easily and cost-effectively identify/differentiate runners and track their starting/finishing times, while being environmentally conscious?</p> |
| PS9 | Cross-sport | <p>The measurements and readings of water quality using sensors and instruments (pH and chlorine) often differs at the FOP of the swimming pool and at the pump room. This difference is due to external contaminates from the environment (e.g. increased bather load, rainfall, exposure to UV deterioration).</p> <p>Deviations that exceed the legislated parameters pose public health/hygiene risks. For example, an overdosage of chlorine would cause irritation to the eyes and burns to the skin/eyes/other sensitive areas. As a result, it is critical and vital to accurately monitor and administer the dosing regimen. An accurate dosage will also reduce potential wastage.</p> <p>Given the context, how can we cost-effectively, accurately, and digitally capture such readings at the FOP of the swimming pool? This can also be combined with an early warning system and/or a fail-safe mechanism that is triggered if sensors and instruments are off-calibration.</p> |
| PS10 | Cross-sport | <p>Currently, Active Health Labs island-wide in Singapore is staffed by Active Health Coaches who help individuals with their health and wellness journey.</p> <p>How can we scale our capabilities and capacities, so as to empower individuals to measure their own status of fitness, health, posture, and/or movement and performance quality independently?</p> <p>The solution can potentially be in the form of self-servicing kiosks, and provide teleconferencing capabilities to speak to a coach for consultation or to book a follow-up programme with Active Health Lab.</p> |

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| <p>PS11</p> | <p>Cross-sport</p> | <p>ActiveSG Circle serves to be an ecosystem connecting consumers (demand) with the sport industry (supply) and acts as a digital complement to our physical sport centres.</p> <p>Consumers may be hampered by inertia, lacking of playing opportunities, time and space to participate in sport.</p> <p>Can technology help</p> <ul style="list-style-type: none"> •by automating matching of players of same ability to play in a tennis, •by enabling interest groups to organise recreational sport leagues or events by easing the process of recruiting players and booking facilities, •by allowing recreational tournament organisers to track key stats such as goal scorers, expected goals or assists, etc to easily identify best recreational sport athletes for talent acquisition •by allowing the unmanned video recording of such recreational tournaments for later sport analytics or using AI to create match highlights •by enabling sport fans to sponsor for the production of the videos, photos or content they love •by encouraging people to check in their favourite running or cycling routes •by bringing people into a metaverse where players from their own remote locations can play real time in a 3x3 basketball match for example? <p>How can ActiveSG Circle become a truly self-sustaining nexus where consumers can easily find opportunities to play either physically or virtually? How can industry players or content creators monetise their offerings?</p> |
| <p>PS12</p> | <p>Football</p> | <p>Lots of people are in and around the stadium venue hours before an event, and they would like to find the shortest line to buy food and beverages as well as merchandise, and also the shortest and best way to enter the stadium. Hence, there is a need as a stadium operator to improve crowd flow and reduce long lines to increase F&B revenue, as well as to manage engagement with our services.</p> <p>It is also important for a stadium operator to know precisely where all our staff, particularly security staff, are in real-time, so that we can activate them onsite if there is an unexpected situation that needs to be managed.</p> <p>Given the context, how do we improve stadium operations and enhance the fan experience before, during, after events? The solution can ideally have a precision of less than 1 metre and a latency of less than 2 seconds.</p> |
| <p>PS13</p> | <p>Football</p> | <p>Currently, we do not have non-invasive ways to capture additional vital signs of a football player to help us build a more complete player profile for analysis. It will be helpful to have this additional layer of data to help analyse a player's performance.</p> <p>How can we measure/detect their vital signs (particularly the human respiratory and heartbeat signals) via remote monitoring, during training, and in matches when they are competing?</p> |
| <p>PS14</p> | <p>Football</p> | <p>Fans, especially the younger ones, now have higher expectations when they watch a football game. For example, they want to see digital content as well as Team/Player statistics.</p> <p>How can we improve fan engagement through technologies that allow fans to access new content, data/statistics in real time, or other enhanced content related to the game?</p> |

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| PS15 | Football | <p>It is sometimes tricky to adapt digital transformation to the physical world, but there is a great potential to leverage digitalisation to create fan experiences.</p> <p>How can we combine the physical and digital world within the venue in an innovative way, creating attractive and immersive experiences together with new business models?</p> |
| PS16 | Football | <p>The atmosphere in the venues sometimes is highly dependent on the number of participants.</p> <p>How can we leverage technologies and innovations so that we can still create an entertaining and motivating environment for fans as well as to monetise the venue, even if it is not full?</p> |
| PS17 | Football | <p>The players of our social schools are people at risk of social exclusion and with few resources to access a decent job. In addition, we also have players with intellectual disabilities whose access to the labour market is also challenging.</p> <p>How can we help them to generate a quality CV, improve their access to job offers, as well as to help them develop their interview skills? The solution can also potentially bring together companies looking for workers who are relatively less skillful.</p> |
| PS18 | Football | <p>Currently, there is a general lack of awareness for recycling and how important proper recycling of items is in helping to protect the planet.</p> <p>How can we gamify learning about recycling so as to raise awareness of its importance, especially amongst young fans? The solution could potentially be in the form of a metaverse, where the scenarios change accordingly on the options selected. It can also entice players with prizes and rewards for participating in the game.</p> |
| PS19 | Football | <p>As part of their sustainability drive, a football club wants to fully understand their carbon footprint. They have a strong commitment to cut the CO2 emissions and reduce the carbon footprint by 2030 in the following set of areas across the whole operation: gas & electricity, water, fuel, staff, team and fan travels, procurement, and waste.</p> <p>How might we get a full understanding of their carbon footprint across the whole team and stadium operations?</p> |
| PS20 | Football | <p>The future European legislation will completely ban the use of chemical pesticides in green areas, including natural grass sports surfaces. Therefore, meeting the required quality standards for professional football, will be nearly impossible in some areas of Spain due to the current turf diseases and the lack of alternative treatments.</p> <p>How might we tackle this challenge responsibly to meet the legislation requirements and still operate to a high quality standard?</p> |
| PS21 | MMA | <p>Just like any other sport, statistics become quite important from a perspective of story telling as well as making the sport more engaging. There are great solutions that exist to capture statistics in sports like Soccer where you can see formations, the way a ball is passed, distance travelled in passes, possession time etc. In martial arts, it becomes quite challenging since the athletes are sometimes quite close / in a grapple / on the ground. Beyond this, it is also quite subjective in terms of what is a significant hit or not and how much material impact it has.</p> <p>How can we automate and/or simply the process of collection of statistics?</p> |

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| PS22 | MMA | <p>As with any televised / "live" event, there is traditionally a schedule that needs to be adhered to based on the time slot of the broadcast partner in multiple countries.</p> <p>There are matchups created keeping in mind a wide range of parameters including card cost, representation of different countries, story telling (tournament structures), trying to create the most exciting match ups etc. However, a lot of this is in flux till the last minute because for a variety of reasons, the overall card might not turn out the way it is anticipated.</p> <p>The Athlete could fail their hydration test, they could miss weight or they could fall ill. This could be anywhere from 1 month before an event to 1 hour before the bout. This has a huge impact considering there are fixed slots to fill with impactful content and at the same time, it may not be cost effective to be spending huge amounts to have a ton of back-ups.</p> <p>How can we mitigate part of the flux that is created at the last minute?</p> |
| PS23 | MMA | <p>For a sports media property, a large portion of engagement as well as monetization happens via 3rd party platforms.</p> <p>This includes content and social platforms like YouTube, Facebook, Instagram, TikTok etc. as well as with traditional broadcast and OTT partners. There is no direct relationship that is forged with the fan, and this makes it difficult to kickstart DTC businesses / initiatives like ticketing, merchandising, NFTs, PPV, gaming etc. Without this direct fan engagement and not all 3rd party platforms helping to move the needle, you basically have to start from scratch each time you launch a DTC business or initiative. At the same time, content and social platforms also drive substantial value since the reach and network effect really starts from there and the fan already sits there.</p> <p>How do we drive our fans who are engaging with us on broadcast & social platforms to our own operated properties without harming engagement and monetization?</p> |
| PS24 | MMA | <p>Brazilian Jiu Jitsu is one of the leading forms of self-defence in the world today. It is a sport that always requires 2 persons to practice. Currently there are grappling dummies available for individuals to use when they train alone but these have zero interactivity and engagement while training. They are also extremely heavy and not viable for many smaller size individuals to properly use.</p> <p>How can we let practitioners know when they are applying techniques correctly? How can we also provide practitioners other information such as pressure applied while using those techniques? The solution should be durable, yet made of a lightweight material.</p> |
| PS25 | MMA | <p>Muay Thai punch/ kick pads and boxing mitts are integral in Muay Thai and boxing training. Practitioners hit these pads/ mits while practising these martial arts to improve their power and accuracy. While still useful and a key element in training for striking martial arts, there is no way to quantify an athlete's improvement in power, speed and accuracy.</p> <p>How can these pads and boxing mitts detect and measure the power and accuracy of an athlete during training, with the help of an app?</p> <p>If this solution works out for Muay Thai and boxing, it could potentially be used for every striking martial arts such as Taekwondo, karate, sambo, etc. which utilise pads in training.</p> |

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| PS26 | MMA | <p>When MMA, Muay Thai and boxing athletes compete, they always do so in either a cage or a ring. Knowing your boundaries in the ring/ cage is very important in one's game plan and can either be an advantage or be detrimental. Despite the necessity of training in a cage or a ring, many gyms do not have either one due to the high cost and the space required to have them installed. This is an obstacle for many athletes training for their fights.</p> <p>How can we recreate the boundaries that are usually defined by a physical ring or cage?</p> <p>The solution needs to be easily set-up and taken down, and all components need to be compact and easily transported to and from different locations. Ideally, it should be a low cost solution to allow any gyms or athletes to be able to purchase it.</p> |
| PS27 | Swimming | <p>Fans currently only get to watch aquatics competitions without any means of engagement with the sport, in the stadium or with the athletes.</p> <p>How can we better engage fans during an aquatics competition?</p> |
| PS28 | Table Tennis | <p>The table is the most iconic part of Table Tennis. However, it remains the only aspect that has not seen innovations.</p> <p>How can we innovate the table top such that it remains "normal" or "black" during play, but can be used as part of the show presentation in between points and games and engage fans in meaningful ways? Players will need to feel that they are competing just like they are on a regular table with tip-top playing conditions.</p> |
| PS29 | Table Tennis | <p>Currently, stickers are placed on the table tennis floor to show sponsorship logos.</p> <p>How can we innovate the floor surface such that it can be lit up as part of the show, possess the same characteristics as a normal floor, is safe for player to play on, and does not affect the quality of play? This can provide an opportunity for deeper sponsorship activation and show presentation.</p> |
| PS30 | Table Tennis | <p>All international sporting events result in a high carbon footprint due to flights, electricity, car transport, plastic consumption and more.</p> <p>How can event organisers reduce their events' carbon footprint? Are there innovative ways to do so?</p> |
| PS31 | Table Tennis | <p>Pong for Table Tennis was the one of the earliest e-sports games in the world (https://en.m.wikipedia.org/wiki/Pong). To continue this legacy, we will need to provide as much gamification as possible in the broadcast and TV production, such that it will eventually be turned into a virtual reality esports game.</p> <p>How can we create a virtual reality environment to better explain the match and bring TV viewers closer to the action? This will give pundits and commentators a much richer product to be able to explain Table Tennis to a wider audience.</p> |
| PS32 | Table Tennis | <p>Table tennis is a very technical and tactical sport with many subset stories of every match between different styles of players.</p> <p>Currently Table Tennis experts understand the different tactics between different players, but the casual fan or new fan does not understand the different idiosyncrasies that goes into being a Table Tennis champion.</p> <p>How can we track the motion and locations of balls in each rally and display this in an attractive way on television, websites or mobile applications, so that it is easier for fans to understand the match?</p> |

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| PS33 | Table Tennis | <p>Table Tennis is such an athletic and tough sport and it is very difficult to become a professional player. The fact that so many people play Table Tennis as a hobby around the world, compared to professional players means that it is tough for people to understand the fundamental difference between pro Table Tennis and hobby Table Tennis.</p> <p>There is currently no way to show the power and speed of the athletes to tell their amazing sport and how they fundamental lay differ from hobby players.</p> <p>How can we show the true story of an athlete through television broadcast and on digital/social media?</p> |
| PS34 | Triathlon | <p>Currently, we are dependent on digital platforms like Facebook, etc. to recruit and communicate with the local audience. This is expensive and not an optimal way of engagement.</p> <p>How can we incentivise the local audience to support event communication, education, and promotion (possibly through Web3 technology or local platform/network)?</p> |
| PS35 | Triathlon | <p>Spectators in and around the event venue want to have easy access to information such as schedule, participants, venue map, etc.</p> <p>How can we provide spectators with easy access to information in a green/sustainable way (i.e. not a brochure or pamphlet)? This can potentially be used for all events in Singapore.</p> |