INTERNATIONAL SPORTS GROUNDBREAKERS CHALLENGE

by SPORT SINGAPORE and GLOBAL SPORTS INNOVATION CENTER POWERED BY MICROSOFT (GSIC)

Basis of Participation
Nov 2022

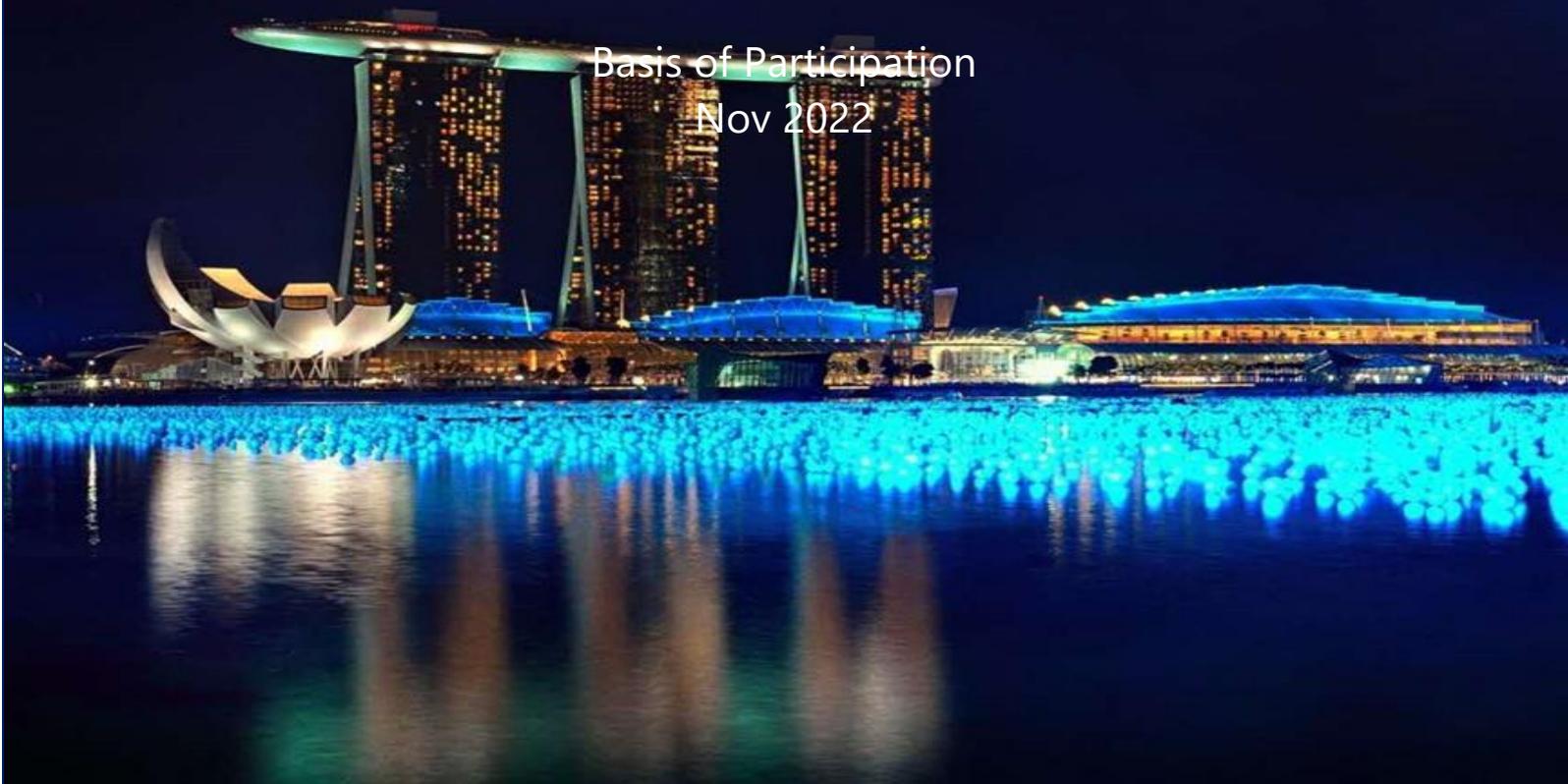**Table of Contents**

1. Introduction and Objectives

Sport Singapore (SportSG), in partnership with Global Sports Innovation Center powered by Microsoft (GSIC), is launching the **International Sports Groundbreakers Challenge**.

Through this Challenge, we aim to reduce information asymmetry and search costs for solution providers, by getting the ecosystem to address real business challenges/problems that buyers are hoping to resolve. In the process, we also wish to identify the best sport-tech projects and/or companies around the world.

Companies around the world are invited to submit innovative solutions to address 35 problem statements identified by the sports and fitness industry. These problem statements span across topics on Fan Engagement, Team and Player Performance, Smart Venues, Sport for Good, Media, Sponsorship, Fitness and Wellness, and Esports.

2. The Problem Statements

For this International Sports Groundbreakers Challenge, we are launching 35 problem statements. They are attached in the Appendix on page 8.

3. Participation Requirements

This call targets any company, regardless of its size and where it is based, that can solve any of the problem statement(s) in this Challenge using technological innovations.

Companies may participate in the challenge if they meet all of the following requirements:

- Be a legally created company, or part of a research group in a university, from any part of the world;

- Have a dedicated full-time team to work on the proposed solution(s);
- Have previous experience in building innovative and technology based solutions;
- The individuals working on the proposal must be of legal age in their respective jurisdictions. At the time when proposals are submitted, they must not be employees of SportSG or GSIC; and
- The participants can apply to solve up to three problem statements for this challenge.

Applicants who do not fulfill any of the requirement(s) listed above will not be eligible for the Competition. SportSG and/or GSIC reserve(s) the right to disqualify any application that does not adhere to the Basis of Participation for this Competition.

4. Applications and Timeline

Interested participants will need to register, fill in the relevant information, and submit their proposals via the following **FORM.**

Applications that fail to meet the deadline for close of applications will be disqualified automatically from the Challenge.

This challenge will be conducted annually, and the first phase timeline is:

Applications Opens: 10 November 2022

Applications Close: 21 January 2023

Announcement of Finalists: 24 February 2023

Final Pitch: 24 March 2023

Announcement of Winners: 21 April 2023

The organizers reserve the right to amend the dates published in this document.

5. Selection Criteria

The following criteria will be evaluated for the selection of participating submissions in each of the stages of the process:

This challenge is looking for credible Teams who have solution(s) which will be assessed based on the following criteria:

1. **Relevance** – the extent to which the proposed solution addresses the problem statement.

2. **Innovativeness** – the level of innovation of the product or solution.

3. **Market Viability and Solution Scalability** – the maturity of the proposed solution and its potential to scale.

With all things equal, proposed solution(s) that are aligned with the United Nations Sustainable Development Goals will be assessed favourably.

For the Pitch, the jury will evaluate the finalists based on:
- The aforementioned evaluation criteria;
- The materials (decks, videos, demos, etc.) submitted by the participant; and
- The pitch presentation.

The judging committee, made up of representatives from the sport's ecosystem and organizing entities, is responsible, among others, for ensuring the correct development of the selection process and the quality of the same; resolving any doubts as to the eligibility of applications and the application of the rules; selecting the experts-evaluators who will externally rate the applications and assigning them the applications; short-listing the most promising companies and projects.

6. Prize

Prizes include:
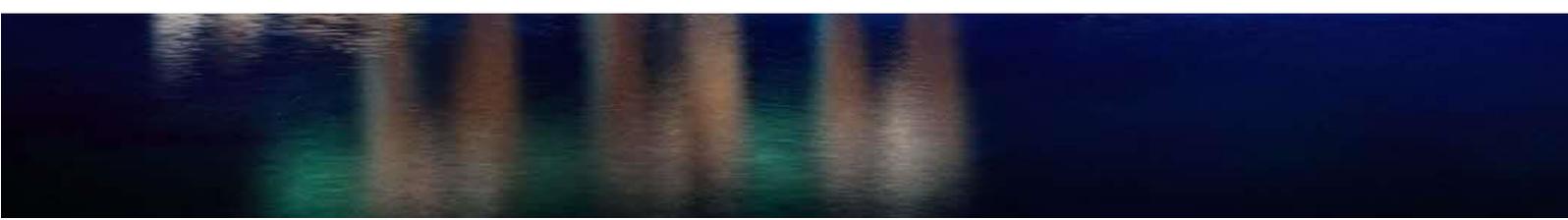
1. The opportunity to implement a pilot project at a sports events and/or facilities supported by the problem statement owners who are part of this Challenge;
2. A prize money of SGD$15,000 sponsored by SportSG for each winning participant (up to 10 participants in total), on the condition that these winning participants either already have their offices incorporated and based in Singapore or they plan to open an office in Singapore within three months of the announcement of winners.
3. Participation in a mentoring program from experts and executives of the sport-tech industry from the GSIC network
4. The opportunity to access the benefits of the Microsoft for Startups program.
5. The opportunity to be part of the PR and marketing materials to promote the solution.
6. The opportunity to showcase the solution in the GSIC Experience Centre in both Singapore and Madrid.
7. The opportunity to get additional benefits directly from the sport entity involved in the challenge.

7. Visibility, Use of Logos and Information

Through the challenge, different activities will be organized for the successful applicants focused on giving them and their proposed solutions visibility across the sports tech industry. In this sense, GSIC will work with media partners on publicity.

The applicants, regardless of their preferred publicity shall commit themselves to respecting and applying the rules for the use of trademarks and logos, provided to the organizers. In case there is a match with the company to the challenge, the PR related activities will be managed directly with the sports entity for the use of their logos, media materials etc.

8. Confidentiality, Data Protection and Acceptance of Conditions

Confidentiality of the applications received is guaranteed throughout the entire process. In any case, the general characteristics of the applications (as detailed in the previous section) may be disseminated and, in due course, the name of

projects/startups (and logo if applicable), a brief description, the beneficiary and its logo, the name of the promoter and his/her photo, may be published through, without limitation, press releases, emailing, brochures and websites to communicate the startup competition.

Participating in the call implies the acceptance of these conditions in full and the adherence to these rules for participation, their interpretation lying within the corresponding jury during each stage of the process.

9. Organizers

Sport Singapore is the national agency for the promotion and development of sport in Singapore. To drive innovations and build a competitive ecosystem, it seeks to establish cross-sectoral partnerships and create a marketplace which is conducive for global, regional, and local companies to nurture innovation and incubate ideas in Singapore.

Read more at: https://www.sportsingapore.gov.sg/

Global Sports Innovation Center powered by Microsoft (GSIC) is a business cluster powered by Microsoft Sport Team that gathers all kind of sports entities (clubs, federation, associations), institutions, tech-companies (from start-ups to enterprises), research organizations, investors and key figures of sport industry to improve its value chain. To do so we focus our activities and services on 6 main points: entrepreneurship, networking, applied research, showcase, Microsoft Partners Solutions and digital transformation advisory services. With headquarters based in Madrid and Singapore, GSIC now has members in 40 countries around the world.

Read more at: http://sport-gsic.com

10.   Contact

For any information and inquiries, please contact:

APAC: Raj Sambwani at raj.sambwani@sport-gsic.com
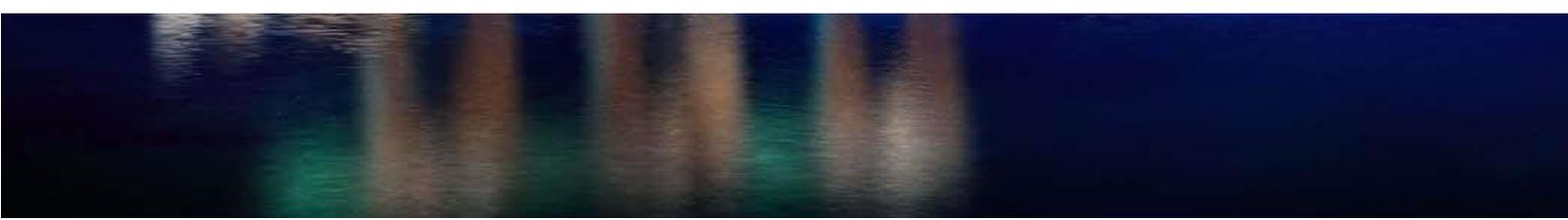HQ: Guillermo Marin at gulliermo.marin@sport-gsic.com

APPENDIX – Problem Statements

CODE	Sport	Problem Statement
PS1	Cycling	Singapore's land constraints means that there are limited roads and locations for cyclists to enjoy rides. 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. **How can cyclists in Singapore ride safely and enjoy themselves, while taking into consideration space constraints and without compromising the experience?**
PS2	Bowling	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. **How can we reduce paper waste at bowling events, while allowing for the tracking of scores digitally?**
PS3	Cricket	We are living increasingly digital lives, with more competition for our limited free time. In a world of short attention s and unprecedented battle for attention, it is critical to provide a comprehensive engagement offering. **How do we combine digital and physical experiences to create compelling fan experiences and increase fan participation/engagement?**
PS4	Cricket	The landscape for sports has changed. Viewers have shorter attention spans, and they now prefer to watch games on-demand. **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?**
PS5	Cricket	Cricket is a sport for all and serves to bring communities together. 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 kinds to the game at an early age provides a critical pathway to develop future elite talents and to grow a youthful fan base. 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?**

PS6	Cricket	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. **How do we surface and tell these stories better in a scalable way?**
PS7	Cross-sport	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. 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. **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?**
PS8	Cross-sport	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). **How can we easily and cost-effectively identify/differentiate runners and track their starting/finishing times, while being environmentally conscious?**
PS9	Cross-sport	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). 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. **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.**

PS10	Cross-sport	Currently, Active Health Labs island-wide in Singapore is staffed by Active Health Coaches who help individuals with their health and wellness journey. **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?** 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.
PS11	Cross-sport	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. Consumers may be hampered by inertia, lacking of playing opportunities, time and space to participate in sport. Can technology help • 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? **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?**

PS12	Football	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. 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. **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.
PS13	Football	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. **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?**
PS14	Football	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. **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?**
PS15	Football	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. **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?**
PS16	Football	The atmosphere in the venues sometimes is highly dependent on the number of participants. **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?**

PS17	Football	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. **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.**
PS18	Football	Currently, there is a general lack of awareness for recycling and how important proper recylcing of items is in helping to protect the planet. **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.
PS19	Football	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. **How might we get a full understanding of their carbon footprint across the whole team and stadium operations?**
PS20	Football	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. **How might we tackle this challenge responsibly to meet the legislation requirements and still operate to a high quality standard?**
PS21	MMA	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. **How can we automate and/or simply the process of collection of statistics?**

PS22	MMA	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. 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. 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. **How can we mitigate part of the flux that is created at the last minute?**
PS23	MMA	For a sports media property, a large portion of engagement as well as monetization happens via 3rd party platforms. 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. **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?**
PS24	MMA	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. **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.

PS25	MMA	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. **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?** If this solution works out for Muay Thai and boxing, it could potenially be used for every striking martial arts such as Taekwondo, karate, sambo, etc. which utilise pads in training.
PS26	MMA	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. **How can we recreate the boundaries that are usually defined by a physical ring or cage?** 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.
PS27	Swimming	Fans currently only get to watch aquatics competitions without any means of engagment with the sport, in the stadium or with the athletes. **How can we better engage fans during an aquatics competition?**
PS28	Table Tennis	The table is the most iconic part of Table Tennis. However, it remains the only aspect that has not seen innovations. **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.
PS29	Table Tennis	Currently, stickers are placed on the table tennis floor to show sponsorship logos. **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.

PS30	Table Tennis	All international sporting events result in a high carbon footprint due to flights, electricity, car transport, plastic consumption and more. **How can event organisers reduce their events' carbon footprint? Are there innovative ways to do so?**
PS31	Table Tennis	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. **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.
PS32	Table Tennis	Table tennis is a very technical and tactical sport with many subset stories of every match between different styles of players. 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. **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?**
PS33	Table Tennis	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. 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. **How can we show the true story of an athlete through television broadcast and on digital/social media?**
PS34	Triathlon	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. **How can we incentivise the local audience to support event communication, education, and promotion (possibly through Web3 technology or local platform/network)?**

PS35	Triathlon	Spectators in and around the event venue want to have easy access to information such as schedule, participants, venue map, etc. **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.