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Market analysis and strategic plan for the implementation of a sports innovation hub for the FIFA World Cup 2030 application

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Abstract

In this market analysis and strategic plan, we examine the potential for a sports innovation hub to support the shared application of Portugal, Spain and Ukraine for the World Cup 2030. We conduct a thorough analysis of the sports industry, narrow down potential partners and stakeholders, and develop a strategic plan for implementation. Our plan includes a detailed budget and financial model, a marketing and communication strategy, and recommendations for overcoming challenges and risks.

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Keywords: Innovation Hub, Market Analysis, Sports, Portuguese Football Federation, Technology, FIFA World Cup, Strategic Analysis

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1 Introduction

The Sports Management Field Lab was developed in response to growing interest and the opportunity for professional development within the Sports Management Field. NOVA SBE has established a framework that leverages the expertise of students across the master's degree program to advise and add value to projects suggested by external sports entities. This project was developed in conjunction with the FPF.

The last time a European country hosted the FIFA World Cup was 2018 in Russia. With the upcoming events in Qatar and North America, the world cup returns to Europe. A joint bid has been submitted by Portugal, Spain and the Ukraine to host the 2030 FIFA World Cup. Previous world cups have attracted over 3 million fans who attend matches throughout the event. This massive influx of fans and global media attention will be spread across the host countries and has the potential to generate significant opportunities for different sectors. What is the best way to capture the impact of a world cup and ensure it has a lasting legacy?

This study investigates the viability of a Sports Innovation Hub as a means of maximizing the positive externalities of the shared FIFA World Cup candidacy of Portugal, Spain and Ukraine, while also ensuring a lasting and sustainable impact for the host nations. Furthermore, in

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response to the controversy surrounding human rights issues in Qatar, FIFA has implemented new bidding guidelines that include 'human rights due diligence' during the host city selection process. MSEs (mega sporting events) have a significant potential to advance human rights, and the establishment of an innovation hub can help to meet FIFA's sustainability requirements by fostering long-term and sustainable economic growth.

The World Cup precipitates an economic and political environment where the implementation of an innovation hub can be justified and would aid Portugal, Spain and the Ukraine's host bid. A comprehensive market analysis will be conducted to determine best use cases of existing sports innovation hubs to benchmark against and form recommendations. A study was also conducted on the various areas and industries of the candidate countries that the hub could explore and collaborate with, in order to improve interactions between the three countries while adding value to the World Cup bid. A strategic plan was also developed to help with understanding the hub's purpose and to facilitate recommendations.

In the following, we will briefly go through all parts of the project and their relevance about the goal of building a sports innovation hub to increase the chances of hosting the FIFA World Cup 2030. In order to gain an overview of the general definition of an innovation hub, a literature review is first prepared. After that, an overview of the general process of a World Cup bid must be analyzed in order to have a view on how the World Cup can positively influence the Sports innovation Hub. This also includes an analysis of the markets regarding the influence of football. Afterwards, in the chapter Benchmarking, an analysis of different already existing Sports innovation hubs will be made. In general, the structure and organization of these hubs, the programs, challenges and events they offer, their existing partnerships and networks, and

their revenue models will be examined in greater detail. As the sports innovation hub is also particularly influenced by future trends in the sports industry, which will also have a major impact on the success of the innovation hub, these are analyzed in order to narrow down the selection criteria for start-ups, as companies that are in line with trends have a more promising chance of success and therefore providing the innovation hub not only with good revenue but also with good reputation. In order to get a better overview of the financing and revenue streams, a more detailed analysis of the financing and possible revenue streams of innovation hubs in general will be made. Existing models will be discussed as well as the trends that are emerging in these areas. After all the analysis of existing opportunities, a Strategic Plan for the Innovation Center is part of it. The usual analyses, such as PESTLE, SWOT and Porter's 5 Forces are used to get an overview of the market, the opportunities but also the challenges. Before the conclusion, there is a section with recommendations from the individual areas for the design of the innovation hub. The recommendations are somewhat broader in order to cover all possible actions.

2 Literature Review

2.1 The innovative environment

Innovation entails not only developing new products or methods, but also providing better solutions to meet new requirements, new demands, and existing market needs. (Maranville, 1992). Additional innovation is driven by the ability to identify opportunities, to recognize connections and to gain advantage because of them (Tidd & Pavitt, 2011). A very promising approach to promoting innovation is, for example, more efficient products, processes, technologies or business models. Digital innovation, which has radically altered the standards of several industries, is one form of technology innovation. Numerous instances have

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demonstrated the significant impacts that digital innovation has had on changing industries. Popular examples of this are the publishing, music or film industries. The publishing industry is one in which rapid digitization is challenging the role of printed journals to digital magazines and newspapers and has changed the way information is obtained forever. In the music industry digitalization caused a huge drop in the production and distribution expenses of music itself. Big players like Spotify and Apple Music made it possible to not only listen to and download individual songs instead of buying the whole album on a CD, vinyl record or even online platforms, like iTunes, but also increased the accessibility and flexibility of distribution immensely (Prabha, 2013).

In today's technology-driven world, companies want to have the most innovative activities in their industry and thus to become its technology leader. This is driven by the assumption that a company in a leading position in a particular technological field may benefit from this position because of reliability and a better reputation, which will boost its earnings (Gottinger, 2006). The digital industry is continually evolving quickly, is prone to disruptive technologies, and as a result, industry norms are continuously being challenged. Since regulations and laws are always changing, it is difficult for businesses to maintain the competitive advantages brought forth through innovation (D'Aveni et al., 1994). Because of that the digital industry is, through new and disruptive innovations which create unsustainable advantages and fast competition, interspersed with enormous competition leads to highly volatile markets. These continuously evolving, and increasingly competitive market conditions are forcing businesses to innovate in order to remain competitive. This does not even consider the effects of globalization and thus access to emerging markets, as well as the continuous improvement of technologies, which leads to even more market competition.

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All of these factors compel businesses to succeed, to maximize their capacity, performance, and resources in order to develop innovations (Huse et al., 2005). Companies are using open innovation, a relatively new approach to research and development. It distinguishes itself through open collaboration with other businesses, knowledge sharing, and the development of collective intelligence (Chesbrough, 2003). Traditionally, in-house R&D has been used as a strategic mechanism for companies to maintain a competitive edge in the market. Heavy investments in R&D have allowed large, resource-rich companies to increase their market share by driving innovation, while at the same time creating entry barriers for smaller new market entrants. A strong pool of capital available for R&D investment provides a self-reinforcing anchor for the corporate market (Chesbrough, 2003). However, the character of the knowledge landscape in terms of the logic behind the emergence and exploitation of innovations and ideas has changed in recent years. But the growing number of knowledge workers, which makes it much more difficult to protect and control intellectual property, has changed the logic behind the source and use of innovations and ideas in recent years. The change in the characteristic of the knowledge landscape together with the increased and easier access to venture capital has significantly improved the financing of new companies or start-ups and innovations. (Chesbrough, 2003).

Instead of doing in-house research and development, companies are increasingly making their innovation activities more open, allowing innovative ideas to be created and brought to market internally and externally. This allows companies to increasingly specialize their know-how in more focused areas by sourcing the required knowledge externally rather than developing it internally. Rather than protecting their intellectual property by keeping it away from competitors, companies should make it available to outside parties and profit from unwanted competitor innovations by selling or leasing them. This accelerates innovation by making new

ideas more accessible, reducing the need to develop products from start to finish, and allowing companies to focus their innovation research on developing the expertise they are already best at. Licensing, joint ventures, or other arrangements that enable the mobility and flexibility of shared knowledge while requiring companies to effectively organize and manage their innovation activities in the face of a changing innovation environment and create the necessary support structures are the best use cases (Chesbrough, 2003).

2.2 Clusters and Networks

Research on local development efforts shows that physical proximity plays a key role in the success of local innovation. Several authors discuss how clustering can speed up a region's growth due to enhanced company competitiveness, as the concentration of businesses in one place also expands the pooling market of employees with specialized industry-related abilities (Krugmann, 1991). As a result, there are decreased risks of both a labor shortage and unemployment, which helps the labor market work more effectively. In addition, a high concentration of similar industrial enterprises promotes the growth of businesses in related sectors, creating opportunities for synergy effects. Additionally, and probably most significantly for IT innovation, the clustering of businesses enables knowledge and information transfer to geographically close firms, leading to advantageous externalities. Due to its enhanced effectiveness and efficiency, the growth of this kind of regional stickiness is anticipated to continue and produce increasingly specialized clusters, says Shapira (2005).

The economic divergence of fortunate and less fortunate regions should encourage this concept even more as successful clusters generate more wealth and resources, attracting more capital and talents. economic divergence from less fortunate regions. Several of these arguments have

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been used to explain the creation and growth of high-tech clusters, such as Silicon Valley, and industrial clusters in the United States (Shapira, 2005; Saxenian, 1996). According to Saxenian “they are seen as cumulatively self-reinforcing agglomerations of technical skill, venture capital, specialized input suppliers and services, infrastructure, and spillovers of knowledge associated with proximity to universities and informal information flows” (Saxenian, 1996). Further, he stresses the importance of regional firms' relations with local institutions and social structures (Saxenian, 1996). Innovation networks and clusters share many characteristics, but their definitions differ in some ways.

As mentioned previously, per definition clusters are collections of interconnected companies and their supporting industries. That means clusters of companies produce goods and services that are related or similar, and they are supported by institutions located in the neighborhood. On the other hand, a network can be described as “a complex, interconnected group or system” (Tidd & Bessant, 2013). In a network, companies work together toward common economic goals and collaborate with each other. It is possible to design networks to generate innovation in both directions. This means horizontally, which indicates innovations between firms at the same level of the value chain, and vertically, which includes companies at different levels of the value chain. There are also different types of networks according to their connectedness and openness, where closed networks protect the ideas and competitive advantages of their members. Companies in a closed network are usually autonomous and disconnected from one another, as well as other companies in the value chain. Its advantages are economies of scale. Meanwhile, an open network supports sharing knowledge with competitors and supporting markets. Further, open networks have the advantage of economies of scope, allowing companies to pursue multiple segments and markets simultaneously while also allowing companies to engage and financially benefit from open innovation (Tidd & Bessant, 2013).

Like open innovation, open networks require effective mechanisms and supporting structures to organize and foster innovation and collaboration.

2.3 Innovation hubs vs business model incubator and accelerator

In recent years, innovation centers have received increased attention as a means to nurture innovation and boost economic growth in both established and developing economies. These hubs serve as incubators or accelerators for entrepreneurs and businesses, and can take numerous forms, including coworking spaces, business accelerators, and innovation labs. According to a study (Lyras and Peachey, 2011), the recent shift toward non-traditional sport-related practices such as community hubs or innovation centers is a far more effective vehicle for enacting positive social change, reaching communities in ways that traditional sports activities cannot. A World Bank study concluded that tech centers are an effective instrument for driving economic growth in underdeveloped nations inside Africa (World Bank, 2016). In affluent countries, leveraging innovation center frameworks has proven to be a successful method of facilitating innovation. The International Olympic Committee has identified the importance of their centers of excellence as a driver of innovation, and significant advances in sports injury prevention have been made, most notably by the Australian Center for Research into Injury in Sport and its Prevention (ACRISP) and the Sport Injury Prevention Research Center (SIPRC) in Canada (Engebretsen et al., 2014).

Innovation hubs are continuously being adopted by different sectors such as companies, science parks, local governments, and industries such as the automotive and sports industries. Innovation processes can be improved in terms of problem solving (Chesbrough, 2011), informal communication, knowledge sharing and open collaboration, and idea generation to

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support newly innovative efforts. As a form of organization as well as the concept of an innovation center is relatively new. Academic researchers are beginning to study its properties and provide insights into the management of innovation activities and collaboration within the centers.

There are different definitions for an innovation hub one of the easiest is that an innovation hub is a system of connections that combines individuals, companies, start-ups, incubators, and accelerators together to transform innovative ideas into technologically solutions. The communication patterns inside the hubs are usually informal and flat to foster knowledge exchange and sharing. The function of innovation hubs is acting as a catalyst to transform ideas into feasible solutions (Giaccone & Longo, 2016). Another view is that an innovation hub is an independent physical entity with three specific abilities, idea generation, idea acceleration and incubation. (O'Hare, Hansen, Turner, & Dekoninck, 2008). While Baark und Sharif (2006) define that the concept of innovation hubs has two key characteristics that are closely associated. The two characteristics are namely, innovative activities are significantly more prevalent than in the surrounding area and they have strong links and a transfer of knowledge to its geographical surroundings. Moreover, successful innovation hubs not only invest in innovative activities, which leads to the development and generation of new knowledge, but they also diffuse and adopt new knowledge developed elsewhere to speed innovation within their innovation hubs.

Innovation hubs have a lot of similarities to the older concepts of business incubators and accelerators. However, these concepts differ from innovation hubs in some key aspects. First, an incubator is a company or organization that charges entrepreneurs at the initial seed stage in return for their services. These services include office space, mentoring, administrative support, establishing contact with investors, legal and accounting advisors, and technology transfer

advisors. The time horizon for such collaborations is typically one to five years. Business accelerators, on the other hand, are short-term, usually three to six months, programs that provide their services in exchange for equity in the start-ups instead of charging rent or a fess. Accelerators offer similar services to client companies as incubators, but targeted start-ups are typically in a more mature stage with a clear business idea and are almost ready to start their operations (Cohen, 2013).

One main difference is that the business model of incubators and accelerators intend to have a restricted life span in terms of collaboration with the start-ups. Innovation hubs, on the other hand, want to develop a strong and long-term relationship with the start-ups. Additionally, innovation hubs seek to establish a network that fosters innovation with a wide variety of members in terms of industries, level of development, and size, with the value offered being in the network and ecosystem made up of the innovation hub's members as well as the innovation hub's full network. In contrast to that, recent studies show that the business models of incubators and accelerators can be combined and are part of innovation hubs. In terms of programs offered by innovation hubs the similarities to these business models cannot be overlooked. Further, innovation hubs added the aspect of a long-lasting collaboration and therefore, providing additional support after the programs such as the inclusion into their portfolio (leAD Sports & Health Tech Partners, 2022)

2.4 Network management, success and failure of innovation hubs

Successful innovation hubs must manage the network's operations to provide the best chances for maximizing the network's innovation output in addition to ensuring that the necessary supporting industries are present and that the network has a diverse composition design.

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Therefore, the success of innovation networks depends on the network design as well as the network management. The network design includes activities like managing the size and diversity of members within the network, guarantee the members density and autonomy, namely the network structure, the network's position and importance of its members. While managing the mobility of knowledge, the networks stability and applicability of its innovation are seen as network management activities (Dhanasai & Parkhe, 2006).

A study of Giaccone & Longo (2016) about several big and trans-regional innovations hubs in the UK have provided some insights not only on the management and design of the innovation hubs but also came up with three potential challenges an innovation hub needs to tackle. The challenges are not only related to organizational topics but also operational ones. The corporate culture and the members' attitudes toward a highly transparent workplace are the first challenge. The opportunity to gain value from the big data gathered in the hub is the second challenge. The final challenge focuses on the innovation hubs' system or technique for releasing creative potential and enhancing participants trust and reliability (Giaccone and Longo, 2016). In contrast to studies that are focusing on the challenges, design and management of innovation hubs, there are also many research papers about failure of innovation hubs in an early stage as well as of the success factors of creating and managing an innovation hub.

One of these papers was written by O'Hare et al. (2008) which studied multiple innovation hubs in terms of failure and success. The study shows that the biggest and most critical factors for early failure are too high expectations and too short-term goals, as well as too much focus on idea creation and fast growth. When innovation ideas were not strategically aligned with the predefined ideas, or when ideas did not become accepted and commercialized in the short term,

owners lost patience and closed innovation hubs, calling it a failure. This leads to the conclusion that when building an innovation hub, managers should pay particular attention to managing its expectations. Another factor is that innovation hubs that failed in an early stage were more likely to use too many resources on the idea generation with a strong focus on technology while overlooking to develop commercialization skills such as incubation and acceleration.

In contrast to the failures, successful hubs focused on maintaining a low profile, going the longer way and growing organically, having a close relationship with the participating start-ups and partners as well as building a diverse and balanced range of competencies. (O'Hare et al., 2008)

2.5 Research Gap

Since the work is about the implementation of a sport innovation hub in Portugal, Spain or Ukraine, the literary research about innovations and innovation hubs in general was very suitable to get a rough overview of the topic and the previous works that have dealt with the topic. As the Innovation Hub will be built in connection with the joint bid for the FIFA World Cup 2030, the influence of the World Cup on the project will be taken into account. Therefore, in the following work, the FIFA World Cup and the influence it can have on the success of the sport innovation center, as well as the concept innovation hub in Portugal and Spain and relevant industries that can positively influence the innovation hub, will be analyzed.

In order to properly evaluate and develop the business model Sports Innovation Hub, an analysis of different Innovation Hubs around the world is made. As start-ups in sports innovation hubs benefit mainly from coaching & mentoring, physical space, networking

opportunity, financial support and trainings & workshops (Smart Cities & Sport, 2018), the business model innovation hub is analysed according to these criteria. Further, some of the most successful start-ups that once participated in the programs of the respective innovation hubs, are put under closer observation. After the analysis of the model, a market analysis of the countries involved, i.e. Portugal, Spain and Ukraine, must be made in order to guarantee the best possible conditions for the innovation hub. Due to the ongoing war in Ukraine, a more detailed analysis of the markets was left out for the time being. Additionally, the trends of the sports industry must be considered to build a bridge between the strong industries in the countries and the trends in the sports industry.

3 The FIFA World Cup Bid

Every four years, the world comes to a halt to watch the best football competition in the world, where 32 teams, 48 as of the 2026 edition to be held in Canada, the United States and Mexico, compete for a month for the title of world champion. According to the 2018 FIFA World Cup Russia Global Broadcast and Audience Summary, an estimated 3.572 billion people, or more than half of the current global population, watched the latest edition of the tournament, demonstrating the competition's true power and reach. It is true that the bid of the federations of Portugal, Spain, and Ukraine to host the 2030 World Cup, which was made official on 5 October 2022 with the support of UEFA, is significant not only in terms of the potential growth that this competition can bring to the Hub, but also in terms of the value and strength that the Hub can provide to the bid.

To be able to host and organize the World Cup, candidate countries must first go through a bidding process in which FIFA analyses and evaluates the various proposals for event

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organization. The key principles of this process for the 2026 World Cup were transparency, commitment to human rights and sustainability, participation, and objectivity, values that are consistent with the hub proposal of this study, particularly the second, because sustainability is one of the main pillars of the innovation and technology center. A Bid Evaluation Task Force and an independent audit company analyzed and evaluated the bidding process, and they were also in charge of preparing a Bid Evaluation Report assessing each bid. This report has three key components: compliance assessment, risk assessment, and technical evaluation report, and it assesses whether the countries meet the necessary requirements for hosting, so that FIFA Council members can later evaluate the reports and select the winning bid during the FIFA Congress.

The requirements for hosting the competition in the countries are classified into five categories: Hosting Vision and Strategy, which includes elements such as the integrated hosting vision and strategy, the legacy, and political support from host country governments; Host Country information, which contains detailed political, economic, and marketing information about the host countries; Technical issues, which refer to the infrastructures and organizations required to hold the event (stadiums, airports, security); Other event-related matters, where factors such as communication, public relations, and event promotion, as well as host city services, competition-related events, and health and medical system, are evaluated; and Sustainable event management, human rights, and environmental protection, in which each country's Sustainable event management, Human rights, and labor standards, and environmental protection are thoroughly examined.

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Simply by observing the FIFA requirements, it is clear what contribution the creation of the hub can make to the application. The innovation and excellence centre may be of value in evaluating the hosting vision and strategy, as well as in competition-related events and sustainable event management, because all of its bases and outputs contribute to the development of these areas. Not only will the hub promote events that encourage the long-term technological development of football, but it will also incubate future projects with a strong connection to those areas (FIFA, 2018).

Looking at the bidding process for the 2018 and 2022 FIFA World Cups, where Portugal and Spain also submitted a bid, it becomes clearer the benefits that a new bid can derive from the centre. A closer examination of the bid evaluation reports from Russia and Qatar, the host countries for the 2018 and 2022 World Cups, reveals that these bids are linked to long-term social and human development and environmental protection initiatives. When it comes to the Portuguese and Spanish bids in this process, the report states that a “co-hosting concept could pose challenges regarding the joint operational delivery of the FIFA World Cup”. The successful creation and development of the hub not only strengthens the application's arguments for co-hosting and operational response, but it also reinforces the application's contribution to initiatives that, in addition to being innovative, are also sustainable and environmentally friendly (FIFA, 2010).

Another highly appealing aspect of the hub for the bid is its technological and innovative component. It is well known that FIFA's vision for 2020-2023 outlines a commitment to harnessing the full potential of technology in football. "By harnessing technology in football, FIFA is able to bring this vision to life at the FIFA World Cup 2022™ by implementing and

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leveraging various technologies to improve the football experience of football fans both on and off the pitch." Technologies such as Video Assistant Referee and Goal-Line Technology were also used at the 2022 World Cup in Qatar, but FIFA went one step further by betting on Semi-automated Offside Technology, a support tool for video match officials and on-field officials to help them make faster, more reproducible, and more accurate offside decisions, and FIFA PlayerApp, an app that will give each player access to their individual player-performance data shortly after the tournament. If FIFA remains committed to technology and innovation, the creation of the hub will undoubtedly give the application a new technological perspective, opening the door to partnerships between the hub FIFA partners and FIFA itself. (FIFA, 2022). Not only can the hub benefit the World Cup bid, but also the hosting of the competition can benefit the hub. If FIFA selects the Portuguese application, in collaboration with Spain and Ukraine, to host the World Cup 2030, a window of opportunity to promote the hub and all its activities opens.

Nowadays, major sporting events, particularly the World Cups, attract a large number of influential people to the host countries. They attract not only thousands of journalists from all over the world, but also important football figures such as ex-footballers, ex-coaches, coaches, presidents of clubs and institutions associated with football, and even high political positions in several countries, specifically the countries participating in this edition of the competition. For example, the FIFA World Cup 2022 in Qatar featured ambassadors Ronald de Boer, Xavi Hernández, Samuel Eto'o, Cafu, and Tim Cahill, as well as several Arab leaders, UN Secretary-General Antonio Guterres, and International Olympic Committee President Thomas Bach. Both the President of the Republic Marcelo Rebelo de Sousa and Prime Minister António Costa were present during some of the Portuguese games, a common protocol followed by several countries

of participating teams, though there were some absences due to the controversy surrounding this edition (Francisco, 2022; Tavares, 2022; AL Jazeera, 2022; MadreMedia / Lusa, 2022).

This high affluence of personalities associated with sports and other areas, which the event's organisation has as a result, is an opportunity for the hub to demonstrate its potential, displaying successful cases throughout the event, increasing its number of partners, and attracting new projects. Creating an event with a structure similar to the Web Summit or GSIC Summit 2022 during the competition, could be one way to accomplish this. Not only in the short term, but also in the long run, because there is more trade between the host country and the countries participating in the competition after it concludes, though this correlation is decreasing over time (Avsar & Unal, 2014).

4 Football Relevance

4.1 Portugal

Football is a highly relevant sector in Portugal in a cultural, social and economic spectrum. UEFA Grow SROI (Social Return on Investment) studied has calculated that football has a total impact of 1.670 million euros in Portugal (directly and indirectly). Considering only direct impacts on the economy, Liga Portugal bwin and Liga Portugal SABSEG contributed with €550 million euros to the gross domestic product and have impacted the country with 3729 jobs and €192 million in taxes, during the 2020-21 season, according to EY Anuário do Futebol Profissional Português 2020-21.

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Considering the size of Portugal, a country that has a 200 billion GDP, we can see how relevant these figures are towards the country's economy. Moreover, football is also an important part of the Portuguese culture, as there are 190 thousand football players registered in football associations (2020), which accounts for almost 2% of the Portuguese population. Moreover, it also has high relevance in developing and promoting social responsibility by having initiatives in order to promote a fairer society, supporting humanitarian causes, value protection, social inclusion, promoting research and environmental sustainability (Liga Portugal and Fundação do Futebol)

.
According to a study promoted by UEFA (UEFA Grow SROI) that measured the social impact of football in Portugal, the positive social impact of the Portuguese population that is associated to football is valued at 366 million euros, with volunteering accounting with 299 million euros to this value and education and employment with 66,78 million. Furthermore, the study also acknowledges a positive value of 200.000 euros associated to crime reduction and 460.000 euros in projects and programs. Football also has an indirect impact on health, with 361 million euros being saved annually from health-related issues.

4.2 Spain

Football is not any less relevant in Spain, a report produced by PWC has conducted that the economic impact of the professional football industry in Spain is equivalent to 1,37% of GDP, having a total impact (direct, tractor effect, indirect and induced) of 15,68 billion euros during the 2016-17 season. The football industry also employs a total of 185 thousand people in Spain and has a contribution of 4.100 million euros in taxes. Moreover, La Liga states that, for the 2017-17 season, for every 100 euros earned it invests 1,72 euros in Corporate Social

Responsibility Projects, having a huge social impact in Spain. This report also calculated that a total of 2,96 million Spaniards play football on a regular basis, which contributes to a subjective wellbeing valued at 3.630 million euros.

4.3 Ukraine

Football is by far the favorite sport in Ukraine, with the existence of two arch-rivals teams, Shakhtar Donetsk and Dynamo Kyiv, that are two teams that participate, with some regularity, in the most competitive competition in Football, the Champions League. According to a PWC report, Ukraine is investing hard in developing the sport with an investment of 1.245 billion euros and the construction of 6 stadiums between 2007-2021. However, due to Russia's invasion, football in Ukraine has been affected by suspending all the sports competitions, and foreign players in Ukraine teams have been forced to leave the country. FIFA also published a series of temporary measures authorizing the suspension of contracts of players and coaches, allowing them to sign a new contract with another club without any consequences.

5 Benchmarking

In this section, we will look at some pre-existing models that serve as good examples of the operation, planning, and long-term development of Hubs related to innovation, performance, and sport. The main goal of this analysis will be to collect information in the practical sense of possible use of ideas for the achievement and development of a Hub in Portugal, Spain or the Ukraine in anticipation of the World Cup 2030, for which Portugal, Spain, and Ukraine plan a joint candidacy. In this way, we will examine some successful temporary and permanent models, such as the arena Hub in Sao Paulo, Brazil, the UEFA Innovation Hub, the Global

Sports Innovation Center (GSIC), and the NFL Player Health and Safety, as well as other Hubs created around the world that represent stable infrastructure and business models with potential for future development in various areas. The four identified Excellence and Innovation centers were evaluated based on seven criteria: general information, strategy, structure, start-ups and projects, challenges and events, funding and revenue streams, and partnerships and sponsorships.

5.1 Arena Hub

As a theoretical and descriptive framework, we can consider Arena Hub to be a role model in terms of innovation and entrepreneurship. Created in 2020 and idealized by the Sao Paulo State Government, the Sao Paulo Football Federation, EY, and 2simple, it is an innovation and entrepreneurship hub focused on sports and entertainment, headquartered at Allianz Parque, with over 40 start-ups and over 25 partner companies since its inception. It opened doors during the pandemic, having, however no focus or plan in that sense, i.e. the adaptation and the various components it covered were critical during the pandemic situation, resulting in a perfect symbiosis between the objectives and the restructuring of sport in general (due to the necessary measures) during that time. In addition to everything else, this Hub is an important job promoter and supplier, having created more than 156 new jobs directly in the year of its construction, as well as many others indirectly, i.e. through new employees needed to continue with projects carried out by partner companies and start-ups within the scope of activities of this Hub.

5.1.1 Strategy and Structure

This arena is composed of several areas from meeting rooms, event rooms, studios, decompression room, branding Arena Hub, reception and main lobby and private parking. In a

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second phase of construction and development of the Hub, it aims to employ more than 800 people, further expanding the space at Allianz Parque in the form of a work environment that focuses on facilitating knowledge sharing, balance, productivity and collaboration.

The Arena hub forms a development and innovation foundation which promotes the formation of synergies between different industries and companies. Aside from the obvious cost savings from sharing a workspace, creating this environment promotes knowledge and value sharing, encourages better resource utilization and maximizes opportunities for domestic talent ensuring ideas are not lost to other countries and in turn minimizing human capital flight. The Hub's main goal is to develop the sports, media and entertainment industry, generating economic and social impact, based on the principles and strategies highlighted above. Through creating physical work environment that promotes an ecosystem where professionals, start-ups, entities, universities, investors and large companies all work toward a common goal, retaining the best ideas and improving on weak points. The arena's main focus is supporting, creating and accelerating initiatives, companies, technologies and ideas that use their knowledge as an engine for sport improvement, but also as a vehicle for the promotion of digital and social transformation, being that all the activities developed must have the generation of social impact as a support.

Identifying the best elements related to the design and organization of this physical and digital infrastructure we identify that it is based upon 3 fundamental pillars: the partner companies, brands with market recognition and scale that support and invest in innovation initiatives, digital, technological and social transformation; the start-ups, that offer disruptive and innovative technologies and ideas to solve existing problems in the industry and to draw in top

talent to the sector add potential to the sector. Finally, the fundamental pillar in that enables any new implementation, creation or development to be possible: The industry partners, which include entities, federations, leagues, professionals, referees, and athletes, all serve as a link between novel technologies and their successful implementation in sport, ensuring that the technology or practice complements the area in which it is introduced. It is essential there to be consistent contact, communication and connection with the Hub to understand how the technology can be implemented and to provide feedback. Besides these 3 pillars that form the foundation of the Arena Hub, there are two more important but not essential for the improvement of the processes and the whole structure, being them a department responsible for the economic and social impact of all the activities, namely the measurement of this type of impact in what is developed in terms of innovation and digital transformation and a department dedicated to knowledge, being this one very based on partnerships with schools, universities and academies, carrying out training programs, acceleration and courses.

5.1.2 Selection Criteria of Start-ups

In the essence of choosing the start-ups that are attracted to the project due to its attractiveness as a business powerhouse, a series of characteristics that the start-ups should present are used as criteria for entering the project: Fan engagement potential, Improvement and attention to human performance; Intelligent spaces, knowledge with solutions for education at scale, training for professionals and athletes, business intelligence, eSports, Media and attractive content, concern with social impact and sustainability. These start-ups that enter the project have access from the outset to a platform of tools and services that aim to generate benefits to the ecosystem and integrate it in general. Within these tools are brand activations, start-up challenges that promote the fastest growth due to the existing competition, training, acceleration, strategic support, trips made on innovation missions and a coworking space that

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promotes an atmosphere of constant learning, sharing resources, experience and knowledge in real time. The challenges created for start-ups constitute one of the central tools that the Hub has at its disposal, contributing to the growth and improvement of the development processes of small companies, which, encouraged by healthy "competitions", have every interest in improving and developing new ideas in a faster, more consistent and effective way. Within the challenges created in Arena Hub, the following should be highlighted:

5.1.3 Programs

5.1.3.1 Podium Labs

The acceleration program "Podium Labs" Had the support and partnership of the company Catarina Capital, a management company focused 100% on technology assets to offer the market complementary investment products directed to obtain returns and the development of innovation ecosystems. Podium labs is a program aimed at start-ups with business models focused on the sports industry that present solutions to the challenges presented by the various agents in the world of sports, with a view to creating new products and services with high added value. This program aims to empower and find start-ups through entrepreneurial training and education, as well as with the integration and direct connection with the sports innovation and new business generation ecosystem that the Podium network has. The selected start-ups will receive help to find angel investors, increase the number of clients or become part of an acceleration program. It is expected that the start-ups admitted to the program will be able to obtain a definition of a traction strategy, access new markets and obtain an evolution in the roadmap of solutions for the sports industry.

5.1.3.2 Brazil Cup challenge

Starting in 2023, carried out in partnership with Klefer, which has as its main focus the selection of start-ups that offer solutions to improve the fan experience and solve problems in the sports industry in general, namely through solutions for greater fan engagement, broadcasting and optimized experience in stadiums.

5.1.3.3 Arena Hub Paulistão Challenge

Another challenge to be highlighted, with some similarities to the one previously mentioned, is the Arena Hub Paulistão Challenge, created by Arena Hub, São Paulo's football federation and LiveMode, which puts a start-up to work on the final of Paulistão 2022, having once again as main objective to improve the fan experience, through a more innovative and immersive experience in the decisive match of the largest regional championship in Brazil. The start-ups should once again focus on finding solutions for fan engagement, broadcast and stadium experience.

5.1.3.4 Like a woman Challenge

Demonstrates the Hub's constant and permanent concern to promote gender equality, giving opportunities to all and fostering and encouraging companies led by women. This challenge, which started in 2021 and ended in 2022, aimed once again to search for innovative and technological solutions that can contribute to the development of the sports industry in order to enhance the segment and generate new business, from start-ups that were led by a team of women, and this female leadership was the basic criterion for admission into the challenge.

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This competition took place in the Arena Hub, having as sponsors Ambev, Brahma and the support of companies such as EY and Sebrae, which provided training and mentoring to the selected entrepreneurs, namely in solving problems such as business modeling, idea validation, reduction of uncertainty adjacent to the business and improvement of market performance. Between workshops, tools and methodologies from the best companies in the world, the perfect environment for growth and innovation was created.

5.1.3.5 Golaço Challenge

Was based on the creation of an exclusive solution for the Ambev company. This challenge was focused on solving once again some problems found in the sports and entertainment industry, with the aim of enhancing the segment and generating new business. The challenge began and ended in 2021 looking for start-ups in operation phase or scale, with prizes, in addition to the participation that included all the understanding of the dynamics and methodology of innovative products, knowledge about the universe of start-ups and exchange of experiences with local professionals and specialized mentors, the possibility of the 1st to 5th place receiving 3 months of incubation within the Arena Hub, access to a network of specialized Mentors, obtaining a monetary prize by Ambev, disclosure in the main Ambev channels and an active PR throughout the program.

5.1.3.6 Like a player Challenge

Like a player, developed by the Arena Hub in partnership with the company Sebrae that as all those mentioned above has in view the enhancement and development of strategies in order to solve existing problems in the sports and entertainment sector. It differs from the others by the prizes awarded to the winners, which in addition to what other programs offer, the winner has

the ability to be equity free (with total participation in their own capital); the possibility to get individual mentoring in modelling, sales, product, marketing, finance, strategy and management with experts in start-ups; establishment of a networking network with the network of associates and sports entities of the arena hub and obtaining exclusive prizes.

5.1.4 Revenue streams

Besides sponsorships from several entities and revenues from advertising, arena hub has several plans for companies that want to join the ecosystem. These plans represent a fundamental part of the project's revenues, with features that determine the nature/level of the plan, from Basic, where start-ups are offered basic conditions such as registration on the platform, digital immersion, disclosure, access to 1 mentor per month and the possibility of participating in acceleration plans at a cost of 39,90 BRL (~7 EUR) per month, to the Network Plan which costs 199,90 BRL (~37 EUR) per month and includes all the features already mentioned but also the possibility to work with 3 mentors, have a meeting room for 2 hours per month, participation in Virtual DemoDays, discounts with partners, workshops.

Partner and sponsorships: The functioning of the ecosystem is based on an atmosphere of knowledge sharing by companies with name and experience, of which we can highlight for example 2simple, ABSG, AWS, Allianz parque, BR Angels, Campus party, Celta Lab, Idexo, among others that together with a network of Mentors belonging to these and other companies and individual mentors cooperate in order to make possible the development of ideas and projects of start-ups that helped financially and with the know-how of these partners can optimise their activity and contribute to the development of both sport and innovation in

general. In addition, the Arena Hub has a network of ambassadors who aim to help start-ups improve their results.

5.1.5 iSportistics – A start-up present in the Arena Hub ecosystem

iSportistics is a start-up that is present in the Arena Hub ecosystem and that showcases how a successful company that has emerged from this sports innovation Hub. In 2020, Arena Hub had its first start-up competition, Like a Player, in which iSportistics finished second place, behind Fan Base. However, iSportistics has been able to have a huge impact on sports, having been working directly with multinational such as DAZN, Google and Desimpedidos.

iSportistics' value proposition is based on a technology enabled by a SSVP (Smart Sports Video Platform) that uses Artificial Intelligence and Machine Learning to develop media content. With the use of an automatic technology, the SSVP can identify sports content that will perfectly fit audiences and engage with them. Since the start of the project iSportistics has already been able to capture \$4 million dollars in investment, having raised \$2 of those \$4 million during 2022, according to Crunchbase. Additionally, according to Growjo, iSportistics had a \$1,7 million dollars revenues in 2022, until December 6th. Furthermore, Isportistics is an example of a successful start-up that has positively impact the football ecosystem by allowing a better fan engagement and experience, while creating value for the founders, the Arena Hub, the employees and its clients (Arena Hub São Paulo, 2021) (Startupi, 2020)

5.1.6 What will be incorporated into the hub

After a detailed analysis of the functioning of the Arena Hub, we consider that its model will be implemented with great expression in the Hub created in the scope of the 2030 World Cup.

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From the Hub's goal that allows large and small companies to create an ecosystem of growth and mutual enhancement, to the various existing tools for this to happen inside the Hub (mentors, challenges, workshops, big events, coworking, etc.), we will largely use existing processes in this centre. In this sense we will detail in more detail what we have extracted for our model in the recommendations part of the work (section 13).

6 Strategic Analysis

Football is a growing sport that already has a significant impact on the European community. To keep up with this sport's growth is necessary to innovate on the technology, procedures and trends that follow the sport. Therefore, promoting and incentivizing innovation in the sports industry is the goal of creating the Innovation Hub. For the strategic plan to have a more holistic view of the benchmark, we have produced a strategic plan in which we have developed some theoretical models that may contribute to a better understanding of the study and how to use the analysis we have computed. Moreover, as this innovation hub is a multi-nation project, it is essential to assess how that can impact its implementation and efficiency. Thus, we have computed a PESTLE analysis, in which we have collected information regarding political, economic, social, technological, legal and environmental factors that must be considered when creating the Innovation Center. The main takeaways from this analysis regard the legal and political factors, as Ukraine does not belong to the European Union nor NATO, and economic factors, as Ukraine's currency, is different than the Euro and has a less protected economy.

Furthermore, there is also a SWOT analysis in this study, in which the main objective is to address this innovation hub's potential strengths, weaknesses, opportunities and threats. Therefore, we have understood that the 2030 World Cup can be perceived as a tremendous quick start to the innovation Center opening and can bring massive innovation to the sport. To better comprehend the potential threat of new entrants, the threat of substitute products, the bargaining power of buyers and suppliers and the rivalry among existing competitors, we have computed a Five Porter analysis. Although there is always the risk of being outperformed by the competition and the (almost guaranteed) possibility of having new entrants in the market, we must consider this innovation hub as an opportunity of creating strategic alliances with other

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Innovation Centers and to work in compliance with other organizations, to have a balanced ecosystem and add as much as possible to sports.

Considering that this Innovation Center will operate in a dynamic industry with rapid changes and trends that have an impact on the market, we have developed a scenario plan to forecast potential scenarios that may occur in the future. In order to have a more analytic and quantitative understanding of this strategic planning, we have also performed a balanced scorecard and a strategy map. The balance scorecard helps to measure the potential performance of the innovation hub, and the strategy map gives a clearer perception of the strategic objectives. Moreover, a VRIO (Valuable, Rare, Inimitable and Organized) analysis was performed to perceive the company's resources and capabilities and if that is enough to have a clear sustainable competitive advantage. There were also considered a growth-share matrix and responsive evaluation analysis in order to have different strategic perspectives. Our objective is that these analyses give a clearer and more holistic perception of how this Innovation Center can impact the sports industry.

6.1 PESTEL Analysis

It is necessary to understand the Innovation Hub operations better to analyze the external macroeconomic factors that can influence those operations. So, to do this, it will use a management method that analyzes the Political, Economic, Social, Technological, Environmental, and Legal factors that impact the industry, the PESTEL analysis. A PESTEL analysis is an environmental scanning framework that provides a better understanding of the broader business environment, encouraging organizational managers to think strategically and quickly to respond to these external factors, avoiding or reducing the risk of negative impacts.

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In this case, it will be approached factors that affect not only the Hub but also the companies participating in it.

6.1.1 Political and Legal Factors

Considering the political and legal factors, because Innovation Hub will operate between three countries, Portugal, Spain, and Ukraine, it is expected that some aspects of the external environment will affect the Hub's operations because of cultural differences. On the one hand, Portugal and Spain have an **excellent bilateral political relationship**, and it is important to take advantage of this relationship. However, on the other hand, Ukraine has different political procedures and the war between them and Russia, although the creation of the Hub will be in 2030, it isn't known what their situation at the time will be.

Despite the political differences, all three countries have many **incentives for innovation**. The Portuguese government promotes business innovation through incentive systems that support **R&D projects**. For example, the industrial property incentive program is a program that supports, by funding, companies that wish to file industrial property rights as patents, utility models and designs as a result of supported R&D projects. In the Spain R&D ecosystem, companies will benefit from tax deductions and subsidies, a secure and growing environment for intellectual property rights, social security and contribution discounts favouring the environment for recruiting talent. Ukraine also has some incentives for R&D in the IT industry by providing a special corporate income tax regime and venture investment tools. Ukraine government also provide a program, "eRobota" that grants financial support for Ukrainian start-ups by the Ukrainian Start-up Fund.

6.1.2 Economic Factors

An Innovation Hub is a physical space that brings together researchers, creators, and innovators to expose and debate ideas, which means that it becomes easily vulnerable to **economic crises** because it makes companies reduce their investment, which includes investments in **innovation**.

Another relevant economic factor is the change in the **exchange rate**. The **Euro** currency is currently used in Portugal and Spain, while in Ukraine, the currency used is **Ukrainian hryvnia**, which corresponds to about 0,026 euros. These fluctuations in the exchange rate can affect the Hub's profitability. **Interest rates** are also a relevant economic factor that indirectly affects the Hub. When interest rates rise, businesses and consumers will cut spending, which means less consumption and fewer investments, downsizing innovation. Portugal and Spain participate in the European Union, which means their interest rates are similar, 3.26% and 3.29%, in October 2022, respectively, since the central bank sets the official interest rate. In Ukraine, the interest rate was around 25% in October 2022, but if the EU speeds up Ukraine's entry process, it is possible to reduce the interest rate by 2030, when the Hub will be created. **Inflation** is also an economic factor related to the interest rate, and because of the covid-19 pandemic, the inflation rate has increased, which could lead to a possible **economic recession**.

6.1.3 Social Factors

Although social factors are more challenging to quantify, they are still important factors that help companies to better plan their marketing analytics strategy. **Lifestyle trends** are very relevant social factors affecting all industries, including sports. It dramatically impacts innovation, guiding where and what to innovate because it indicates what the consumer is

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looking for. Lifestyle trends in fashion, health, wellness, food, related to sports are always essential factors that affect innovations in the sports industry.

6.1.4 Technological Factors

The world is becoming more technological over time, and today's young generation, the millennials, grew up already in a more advanced digital world, where the access to devices has grown to a point where almost 91% of the world's population has access to mobile phones. Sports will always be present in people's lives, and as the world evolves technologically, sports also need to grow. Technology impacts sports on so many levels, affecting players' performance and in-game decisions and the rest of the population in the health, wellness, food, entertainment, and gaming industries.

With the 4.0 industry, automation has become an essential technological factor in the sports industry. Automation contributes to faster, more accurate, and more efficient decisions, improving and helping referees' work, leading to a fairer sport. Research and Development is the most relevant technological factor. Therefore, R&D is one of the services that the Hub will provide to researchers and innovators, reflecting on the pro-activeness of firms towards introducing innovative solutions, contributing to economic growth, and promoting even more investments in innovation.

6.1.5 Environmental Factors

Football, like any other sport, impacts the environment negatively. The massive use of water to water the field, the high amount of energy spent on floodlights, the high levels of carbon

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emissions due to thousands of fans who travel to the games, and many other environmental impacts. Part of what is innovation in the sports industry is the changes in traditional procedures to more sustainable ones. Environmental regulations are a relevant environmental factor that boosts innovation in the environmental field. Portugal and Spain are both countries from the European Union which means that both have high environmental standards. According to the European Union website, the EU and national governments, including Portugal and Spain, have already set objectives to guide the European environmental policy, with the support of dedicated programs, legislation and funding, in order to protect the EU's natural capital, increase the use of more sustainable products and become a resource-efficient, green and competitive low carbon economy.

6.2 SWOT Analysis

In this segment will be made a SWOT analysis, a strategic planning technique that helps assess and understand the internal and external forces related to business competition or project planning. On the one hand, we have strengths and weaknesses, which are the internal factors that assess the characteristics of a business that give it a relative advantage or disadvantage over its competition. On the other hand, opportunities and threats are external factors. Opportunities are the elements of the external environment that improve the performance of a business, and threats are elements of the external environment that may endanger the business's competitive advantage. (see EXHIBIT 1)

6.2.1 Strengths

The primary strength of the Innovation Hub is the participation of two well-established institutions recognized already by FIFA and UEFA. The Portuguese (FPF) and Spanish (RFEF) football federations are governing bodies from their respective country, meaning that both federations manage all the competitions and amateur and professional leagues of their country. Portuguese, Spanish main professional football leagues, Liga Portugal and La Liga, are already well-known competitions in the football community, being ranked in 2nd and 7th place in the UEFA country coefficient in season 2022/23. Despite that, FPF also manages the Portugal national, men and women, football, futsal, and beach soccer teams. The Portuguese federation also RFEF manage the Spain national man and women of football, futsal, and beach soccer teams. Through the support of these two big federations, it's easier to reach partnerships with big multinational companies since both federations are already sponsored by some of the biggest sports companies in the world, Nike, and Adidas.

6.2.2 Weaknesses

The Innovation Hub operations depend on the economic situation of the participating countries since the main focus of the innovation Hub's operations is to invest in innovation relative to sports, promoting a better quality for the sport, facilitating digital transformation, developing new trends, and promoting economic growth. To promote innovation, it is necessary for the countries involved to be in a stable economic situation, so investments in innovation become a priority.

6.2.3 Opportunities

The most significant opportunity and the initial reason for the creation of the innovation hub is the application for the 2030 world cup by Portugal, Spain and Ukraine. The world cup is not only the biggest competition in football but also one if not the most watched sports competition in the world, reaching about 3.57 billion people watching the 2018 world cup, according to FIFA. Because it is the biggest sports competition in the world, it is also the biggest opportunity for exposure by increasing the tourism of all the countries participating and bringing all the most prominent companies and institutions related to the sport. The creation of the innovation Hub also comes to develop the most recent technologies and trends and implement them into the world cup games of 2030, for example, the implementation of the Semi-automated Offside Technology at the 2022 World Cup.

6.2.4 Threats

The biggest threat to the Innovation Hub's environment is the vulnerability of the Hub to economic crises. The Innovation Center is focused on research and development of new technologies and trends in the sports industry to promote the sport's quality and economic growth in the countries participating in the application. This being said, a lot of investments in innovation are needed to reach the advanced level that the sport is aimed at. Economic crises cause companies to reduce their investment, including investments in innovation where returns are uncertain and long-term. Another environmental factor that threatens the Innovation Hub is the possible participation of Ukraine, which has a different currency and is currently in a fragile state. With the inflation on food and energy, and investments in re-constructing the infrastructures destroyed by Russia's invasion, Ukraine's economy has been wrecked, which is

projected to shrink by as much as 35 per cent this year, according to World Bank estimates. Through this economic crisis is hard for the country to contribute to innovation in the sport

6.3 Porter's Five Forces

The Porter's Five Forces model, named after Harvard Business School professor Michael E. Porter, was used to better determine, and define the structure of the Portuguese and international sports innovation and excellence hub industry. Even though it was developed over 40 years ago and is backward-looking, the model is still relevant and useful for understanding how the Hub will fit into the market. The five forces are Industry Competition, Potential of New Entrants into an Industry, Power of Suppliers, Power of Customers, and Threat of Substitutes

6.3.1 Industry Competition

Porter's first force is industry competition, specifically the number of competitors and their ability to undercut projects like this one. The greater the number of competitors, as well as the number of comparable products and services offered, the less powerful a company (Porter M. E., 1980; Investopedia, 2022).

Although Portugal is becoming an international technology hub, due to Lisbon hosting the Web Summit annually since 2016, nothing with the dimensions of the Portuguese Football Federation project is currently in operation, sports-wise and particularly football-wise. However, on 22 February 2022 construction began on the new headquarters of the Portuguese Professional Football League, the Arena Liga Portugal. This new building will house a "High-Tech football zone, where the most varied performance tests can be carried out on athletes", "spaces equipped with the most advanced technology for learning and coworking" and nine rooms to host football-related start-ups. According to the Porto City Hall, "the Portugal League

Arena will be the first Centre for Professional Football Development Companies, becoming a meeting point and business development, both nationally and internationally" (Liga Portugal, 2022; Silva, 2022). The headquarters is scheduled to open in 2023 and, once operational, it must be perceived as a competitor capable of capturing a significant share of the national market, not only because of renowned partnerships such as La Liga, but also because it is part of an institution with significant influence in Portuguese football and sport.

At the international level, the industry is already much more populated, with the vast majority of institutions associated with football and sport having a center of innovation and excellence that supports and fosters the evolution of the sport as well as the institutions themselves, or at least a partnership with one, as is the case with UEFA (example studied in greater detail in the benchmarking), La Liga, or the NBA. Although there are many innovation centers around the world, the vast majority are non-profit, with the ultimate goal of developing the sport in which they are involved and their partners. In this sense, it is more than feasible for the Portuguese Football Federation to build a hub, not only because they are almost non-existent or very early nationally, but also because it is a necessary requirement for growth, given that there are few large institutions of great level and efficiency that are not involved in similar projects internationally.

6.3.2 Potential of New Entrants into an Industry

The potential for new industry entrants and how those entrants would influence the new center of excellence and innovation is Porter's second strength (Investopedia, 2022; Porter M. E., 1980). As stated in the benchmarking, a good hub is dependent not only on investment and good facilities, but also on a network of contacts and partnerships with enough clout to make a

difference and create real impact. In this way, new entrants into the industry are not common, but if they do occur, they will have a significant impact on the market because they will have a network of partners and associates that can shake the networks of the current innovation and excellence sport centres, mainly internally because the market outside of Portugal is already well populated.

6.3.3 Power of Suppliers

Power of Suppliers, Porter's Third Force, is the factor that models how easily suppliers can drive up the cost of inputs. It is affected by the number of suppliers of key inputs of a good or service, how unique these inputs are, and how much it would cost a company to switch to another supplier (Investopedia, 2022; Porter M. E., 1980). As the business model of centers of innovation and excellence does not exactly have suppliers, for the assessment of this factor we considered the partnership network as suppliers. As previously stated, a wide and good network of partners and experts in the sports area is essential for the sport hubs to make sense and contribute with impact in the community; however, there are many institutions that look for these partnerships and contact with the hubs and the benefits that come from them, so only a mass change can give suppliers power. The FPF already has a strong network of contacts and partnerships in the football ecosystem, and as a public entity, partners are unlikely to gain market power.

6.3.4 Power of Customers

Porter's fourth force, customers' ability to drive down prices or their level of power (Investopedia, 2022; Porter M. E., 1980), which in this scenario would be the companies and projects that will benefit from the Hub's support and all of its advantages, will also not be a

critical factor in the Hub's implementation. As in the way we see it, there will be no shortage of start-ups and businesses with initiatives and new ideas in need of the assistance of renowned institutions such as the FPF and its partners. Because there is still nothing similar to this project in action in Portugal, we can conclude that Porter's fourth force will have little or no impact.

6.3.5 Threat of Substitutes

Finally, Porter's fifth strength is Threat of Substitutes, which refers to substitute services that can be used in place of a company's services. Companies that manufacture goods or provide services for which there are no close substitutes will have more leverage to raise prices and secure favourable terms (Investopedia, 2022; Porter M. E., 1980). There are no substitute services for these hubs at the moment and given that the purpose of these types of centres is to promote innovation and excellence in sport on a non-profit basis. More investment and restructuring in the current types of centres and hubs will occur faster, than the creation of a substitute service. (The Investopedia Team, 2022) (Porter M. E., 2008).

7 Recommendations

7.1 Goals and Fundamental focus

In this section of our work, we will try to frame as best as possible all the study carried out over these months, in order to put forward a proposal that makes sense taking into account the needs and objectives of the Portuguese Football Federation to achieve and develop a hub that promotes innovation, development and the ability to disrupt to improve the sport and enhance and leverage national resources of the countries that are part of it. The innovation center will be created in Madrid as the main headquarters and Lisbon as a pole, because Spain has more influence in international football than Portugal. A pole in Ukraine is not recommended for the time being due to the war, but that it could be an objective in the future in order to reach the eastern countries more easily. This formation of the centre will coincide with the candidacy of Portugal, Spain and Ukraine for the 2030 World Cup, taking advantage of the great flow of information and people that this event will have, as well as the economic activity that will be generated during the tournament, which will directly and indirectly boost the activities of our hub.

Most of these recommendations and the presentation of the Center take into account the interview conducted with Dr. André Seabra and Dr. António Laranjo of the Portuguese Football Federation. We use practices, concepts, initiatives and processes from some success cases that are already well established in the market, such as the Arena Hub, the UEFA Innovation Hub, the Global Sports Innovation Center, the NFL Player Health, the IeAD Sports Accelerator and the Colosseum Sports Tech, whose analysis and information was internalized, analyzed and worked on during the intensive benchmarking that we carried out.

In this sense we start by clarifying the objective of the proposed innovation center, which is to join large companies from the sports industry, such as representative brands with good market presence, such as Adidas, Nike, New Balance, for example, and large companies with good market position in other areas, namely the textile industry, the technology industry healthcare and food industry, among others, allying them with start-ups that present ideas seen as disruptive and innovative not only to improve sports in general, but also capable of creating value in strategic terms for the empowerment and valorization of companies that want to expand their business to other areas, or improve their performance in the markets where they already operate. In addition, the hub provides for the connection of these large companies and start-ups to the bodies that regulate sport in Portugal, Spain, Europe and the World, so that the creation and development of new methodologies related to sport is done in the most efficient way and in line with the market. Our hub will thus be based on a purpose of development and innovation, always concerned with the economic and social sustainability of the countries in question.

In this way, the hub will seek to be a space where the knowledge, experience, know-how and financial resources of companies with a name in the market will co-exist with start-ups that present innovative and disruptive ideas, not only for the development of football and sport in general, but also projects capable of attracting companies from different areas that, despite already having a strong position in the market, want to expand their business and make it more efficient. As a result of this approach, start-ups with good projects and ideas capable of causing significant changes in various branches of business, being supported by companies that offer them financial means and experience that they could not have on their own, will be able to put their ideas and businesses into practice much more quickly. On the other hand, many of these ideas will contribute to the leverage of already existing resources and to an improvement of processes.

As discussed and observed, in the Arena Hub in Brazil, one of the objectives will also be to ensure the profitability and leverage of the human capital existing in these countries, which is often not maximized due to lack of financial and technical resources, making it impossible to make the most of these resources. Since the Hub is very much linked to the search for talent (valuable human capital, often diversified in the portfolio of existing start-ups), it will allow, through existing partners and large companies, this talent (start-ups) to have the maximum possible return, managing to explore projects and ideas financed in large part by the large companies that are part of the project of our Hub. We can thus attribute as a major focus of our center, as also some of the hubs that have been studied have, the development of the sports industry, and the generation of economic and social welfare in many other areas, based on a working environment that promotes an environment capable of creating an ecosystem where professionals, start-ups, large companies, universities and partners work together, in order to maximise each other's capabilities and minimise existing weaknesses, with the creation of initiatives, support for ideas outside the box, disruptive projects, technological development and efficient management of resources, generation of economic and social impact and support for digital transformation.

Basing ourselves a little bit on the UEFA Innovation Hub, our hub will also be particularly interesting to receive start-ups whose ideals are fundamentally linked to sport, favouring that more direct connection to one of the points that is intended, the rapid valorization and growth of the various methods of play and tools available to the players (both in technological terms associated not only to the improvement of the methodologies adopted so that the game improves, but also in terms of optimization of the performance and well-being of the players). From this point of view, our center will benefit from agreements with partners who represent big sport brands in Portugal, Spain and Ukraine, such as Nike, Adidas (both of them are the

official sponsors of Portuguese and Spanish federations of football), but also with companies that are significant for the quality of the game (maintenance companies, sport material companies, technological companies) that together with mentors specialized in the sport area, connoisseurs of sport in general, such as experienced coaches, sports directors, presidents, referees form a network of knowledge, resources and experience that create an almost perfect symbiosis with the disruptive and innovative projects of the start-ups that enter the hub and incubator, forming a "partnership" for the development of performance and the direct and indirect stakeholders, of sport in general.

7.2 Services provided by the Hub

We have already covered in detail, the objectives of our hub, as well as its structure and fundamental pillars. Just as important as all of this are the services that our hub offers, which go beyond a space where large companies and start-ups meet. We are talking about a totally immersive experience, where the sharing of knowledge, both through physical proximity and through partnerships, happens in a natural and progressive way. Besides the central element being the point of contact between start-ups and large companies, where new methods, projects and ideas are promoted for the benefit of both parties, there is a whole set of services that the hub offers to start-ups that are an added value for their entry into the ecosystem.

7.2.1 Mentors

Firstly, we are talking about a network of experienced mentors, with a name in the market, who will be present in the development of the start-ups and who will try to get the best out of their capabilities. These mentors will accompany the start-ups throughout their insertion in the hub,

transmitting knowledge and enhancing their best features in a continuous process, in the medium and long term.

7.2.2 Courses and workshops

In addition, our center will provide courses and workshops in various areas such as marketing, sales acceleration, workshops and courses linked to the financial area, courses linked to the technological area, such as programming courses and other tools, but also courses linked to process optimization. These courses present themselves as added value for the start-ups that initiate them, since they are a good opportunity to work with accredited professionals from the various sectors.

7.2.3 Digital Platform

Another service will be a highly advanced and avant-garde digital platform, which will include a registration area where each start-up can access in its own name and communicate with other start-ups, clarify doubts in real time, have a notion of the various activities that the hub has and present itself publicly to other companies (personal page that can be visited).

7.2.4 Discounts and offers

Partners and large companies also offer added value in the form of discounts on their products and services to start-ups that are part of the ecosystem. Often these products or services will also be offered to the start-ups when they are in the launch and testing phase, with the start-ups having that advantage in getting free products of great quality, which they can give as a prize to their employees.

7.2.5 Infrastructures

Last but not least, our center will provide a series of high-quality infrastructures, with elements such as meeting rooms equipped with state-of-the-art technological elements (projectors with screens on 3 walls, last generation computers, chairs with different levels) that will allow the participants of those meetings to have the best conditions for success, but also a series of elements at the level of building design that will foster coworking.

7.3 Innovation Hub's economic and social impact

The introduction of an Innovation Hub always has an impact from an economic and social perspective. One of the primary goals of an Innovation Hub is to promote economic growth through innovation in the sports industry. When innovation is brought up, it is necessary to understand that innovation is not only the creation of new technologies and digital transformation but also the understanding of how to catch trends, anticipate the future, and operate more efficiently. This Hub will be based on four pillars, Start-ups, Strategic partners, Sports institutions, and Universities. Not only start-ups but every pillar will benefit from the creation of the Hub leading to economic and social impacts.

This Innovation Hub will be created to help start-ups by offering them support on facilities giving them access to Hub's facilities for research and development projects, knowledge guiding them through mentorship to improve their management decisions, on the social network by providing contact with the most prominent companies operating in the sports market, and on funding by providing access to big companies, venture capitalists and other sources of financing, enabling these start-ups to have the necessary capital power to reach the next phase of a business. Start-ups are known for introducing innovative technologies, products, and

services in the market, which is already contributing to economic growth. But, despite that, these young companies impact the economy by increasing competition by challenging already well-established companies.

It is expected to create a big Innovation hub not only from an infrastructure perspective but also of how impactful it will be for the sports industry, which means that it will emerge new job opportunities, increasing the employment rate. Furthermore, the participation of universities in the hubs structure will impact the educational level, with the involvement of students on innovative and challenging projects that will contribute to improving their skills, knowledge and competencies.

Since this is a Sports Innovation Hub, its existence will also contribute to all the social impacts inherent in sports. The practice of sports is the most significant activity regarding people's health and physical well-being, which contributes to decreasing obesity rates. Not only on a physical level, but sports also can contribute to the improvement of teenagers' mental health through the release of endorphins, the body's natural "happy chemicals," and by reducing the levels of the stress hormone cortisol. Because a big part of sports is played in teams, sports also contribute to reducing social exclusion.

7.4 Structure model

Through the elaboration of a benchmarking into some of the biggest sports innovation hubs in the world, it will be proposed a structure model of 4 fundamental pillars on which the Hub's operations will be based. Start-ups will be part of the first pillar; these are the ones that the Innovation Hub will promote and provide the facilities to help develop innovative ideas. The

second pillar will be the strategic partners, meaning the big companies involved in the sports industry that have a well-established brand with market recognition, supporting with the know-how and the financial power contributing not only to the development of the start-ups but also to brainstorming and developing their own ideas. Sports institutions, such as entities, clubs, federations, leagues, professionals, referees, and athletes, will be part of the third pillar; these institutions will be the link between the new technologies and their successful implementation in sport. The fourth and last pillar of the structure model is the universities that can support well-structured facilities and R&D services.

This Innovation hub will base its operations on coworking, which means that people from different teams and companies will all come together to work in a single shared space, that will be located possibly in Portugal or Spain. This concept is perfect for the cooperation of all four pillars of the Innovation Hub structure because all the participants have an essential role in the Hub's operations. Coworking brings some benefits to the table. Flexibility is one of the primary benefits because coworking spaces typically have a lot of different desks, and workers can reserve the space based on their work requirements. It also brings a sense of community through face-to-face interactions, which provide opportunities for networking since coworking space is a social environment. Coworking also increases productivity and creativity, which is essential to an Innovation Hub because often, the most creative solutions appear by interacting with different people. Since it is all based on a shared infrastructure, costs related to reception services, internet, printers, desks, computers, break room space, and bathrooms are expected to decrease.

1st	2nd	3rd	4th
Start-ups	Strategic Partners	Sports Institutions	Universities

7.4.1 Start-ups

Start-ups are young companies usually focused on a single product or service that the company want to bring to the market. Rooted in innovation, these companies typically don't have a fully developed business model. They lack adequate capital to move into the next phase of business since, normally, these companies are funded initially by their own founders. Usually, to reach the next step, start-ups turn to others for more funding, including family, friends, and venture capitalists.

These companies are the principal customers that the Hub is reaching by providing the necessary funding, high-quality facilities for research and development, the know-how through the participation of big companies in the market and business mentors, and the social network that help these start-ups to reach the next level of the business. It is also a goal of the Innovation Hub to provide exposure to these companies through events, where they can showcase their product or services to the biggest companies and entities in the market, and through challenges where start-ups will compete to obtain rewards that will help in the company's growing process. These challenges are an effective way to start-up gain visibility and simultaneously push themselves to their limit. Will also be required to these start-ups some entry requisites to choose the start-ups with suitable characteristics to the Hub's objectives

7.4.2 Strategic partners

The strategic partners are the companies that already have a brand with significant market recognition and have the capital power and the necessary resources and infrastructure to promote innovation. These partners are aimed to be the biggest companies in the world, not only in the sports industry, but also companies that can promote the development of the business management of these start-ups. Since the Innovation Hub will be operated by the Portuguese and Spanish football federations that already have the power and the social network necessary to reach these companies, being that they both are already sponsored by two of the major sports companies in the world, Nike, and Adidas.

It's in the Innovation Hub's best interest that the strategic partners support and invest in innovation initiatives and digital, technological, and social transformation from the start-ups that offer innovative technologies and ideas to solve existing problems in the sports industry. Strategic partners will support start-ups with their knowledge and talent in order to help them solve upcoming challenges. The Innovation Hub will also benefit the strategic partners by providing the facilities for research and development, and access to young and creative companies that can help with talent and innovative ideas that can promote the growth of these already well-established companies.

7.4.3 Sports institutions

Sports institutions include football clubs, federations, leagues, professionals, referees, and athletes. These institutions are the main link between the creation and development of the innovative technologies developed by the other pillars of the Innovation Hub's structure, and the successful implementation of these new technologies in the sport. The participation of these

institutions is fundamental to the progress of the novel technologies since they are the ones that implement the technologies in the sport and provide feedback, so it is necessary a constant communication and connection between the sports institutions and the Hub.

7.4.4 Universities

The participation of the universities in the Hub is also an essential pillar for research and development of innovative ideas. In addition, universities have a significant impact on economic growth by providing high-quality and motivated students specialized in certain areas that are interested in working on innovative projects and that have access to the university's great facilities for R&D projects.

Partnerships with universities also directly benefit the university, preparing the student for the inevitable challenges and opportunities they will face after graduation by providing challenging projects related to sports innovation, oriented by mentors also offered by the Innovation Hub, which will help to develop their skills and knowledge, contributing to an increase in human capital. In addition, the Innovation Hub will also give an opportunity for university students to promote themselves by providing them with contact with top companies. This bilateral relationship makes universities excellent partners in promoting innovation.

7.5 Revenues and Funding

It is very important to look at how the Hub will structure itself in terms of revenue and ways of creating value. In our study in terms of financing, some of the possible ways in which the Hub can be financed were addressed: external financing by private investors, business angels, partners from the local environment and related industries , or even by the state which will bring

us benefits at tax level, but which will also lead to a partial or total loss of control of the project, depending on the level of financing obtained; also self-financing by the Portuguese Football Federation itself, which with a set of revenues from its own activity, namely the monthly membership plans by start-ups, the support of strategic partners in several areas and the own revenues from the flow of people from all over the world during the World Cup itself and the activities generated by the World Cup will allow the development of the economic activity of the structures based on this event, in which our Hub is located. The hub's financing strategy is something that will have to be analyzed in more detail over time, with our recommendations:

There are several applicable financing frameworks that could be used to establish the hub. Financing a project like this will be 'patchwork,' with multiple funding sources being used to cover different sections of the project. Each financing method has unique characteristics that make it more appropriate for various aspects of the hub's development. Public funding in the form of R&D tax credits is critical to the hub and appears to be an area in which Portugal invests heavily. Venture capital and private equity are two types of funding that could provide large start-up capital for the initial infrastructure or investment in companies once the hubs ecosystem is fully established. Traditional investment channels can also be used to fund infrastructure or hub areas that depreciate gradually. However, establishing strong strategic partnerships will be critical to ensuring the hub has a long-lasting impact and successful daily operations because of the sweeping positive effects they have on different business areas.

7.6 Internal Funds and activity

Having said that, we will focus on how the Hub can generate revenues internally, that is, with its own activity, using the model proven in the market by the Arena Hub, in which the start-ups

to be part of the Hub have to comply with a series of criteria, and after being analyzed and complying with those criteria, the companies that result from that lot of choice may trigger and choose one of the membership packages to the Hub that will be available for the acceleration and potentiation of those start-ups.

7.7 Criteria to select and recruit start-ups

Starting with the selection criteria for the start-ups that are attracted to the center in view of the growth potential generated by the chance of having a network of specialized and experienced mentors, who will be able to take the best out of these small companies, together with funding and investment from large companies present in the Hub, these relate to general characteristics such as the potential for fan engagement, improvement and attention to human performance, business intelligence, attractive media and content, concern with social and environmental impact.

Other characteristics that start-ups should have in order to have a place in our center are, for example, to present a business model focused on the sports industry, creating solutions for the challenges that the various elements and agents of the sports industry face, aiming to create new products and services with high added value; as well as companies that aim to boost the business segment in which they operate, extending their activity to other complementary segments and contributing to the generation of new businesses and enhancement, valuation and profitability of existing ones. However, this feature is important but not mandatory, because above all we seek start-ups with entrepreneurial capacity that present differentiated and innovative ideas and projects in various areas of economic activity.

This selection criteria, as in the UEFA innovation hub, will not be fixed in time, that is, the applications by start-ups to be part of the hub will always be open, regardless of the time of year. This application will be made online, through a specific portal created within our hub's website, where start-ups may access, create a profile and apply spontaneously. There may be certain times of the year when it makes sense for our hub to create marketing strategies to attract start-ups for a recruitment process, either because a specific event is starting or a new challenge that seeks start-ups from a certain specific sector. However, as mentioned above, these applications will be spontaneous throughout the year, with a committee prepared to analyze them 12 months a year.

Then, after being selected following an intense analysis of compatibility between the hub and each start-up, these start-ups have the possibility to choose one of the monthly packages available, which generally give these small companies the possibility to obtain a set of tools such as brand activations, start-up challenges network of mentors, acceleration, strategic support, trips to develop innovation processes and a coworking space that inserts start-ups in an ecosystem where renowned companies, established brands in the sports industry, experienced directors, national institutions, promoting the sharing of resources and continuous and permanent learning cohabit.

7.8 Revenue models

7.8.1 Packages/Memberships

For the membership offer we use the Arena Hub model as a reference for this part of the recommendations, the monthly plans activated by start-ups will be part of the business structure of our center. Therefore, we propose the existence of 3 possible packages to be activated by

start-ups, in order to offer different conditions and characteristics to start-ups, being them able to define which plan best fits their needs and potential growth: Basic Plan, Premium Plan and Network Plan. (see EXHIBIT 3)

7.8.1.1 Basic Plan

Starting with the Basic Plan, it will be a standard plan that will offer only the essential and basic tools for the development of the start-up, including features such as the registration on the platform, the possibility of inclusion in a wide digital network, in terms of digital immersion, disclosure of the start-up in the showcase of the portfolio, which includes the advertisement and inclusion in the website as well as in the Start-up Map. Further start-ups would also have access to the database from all over the world and to 1 mentor/month that will accompany the development of the start-up, get the possibilities to participate in challenges and acceleration programs as well as the possibility to get introduced to large companies and sports entities.

7.8.1.2 Premium Plan

Then we understand that there should be a Premium Plan. The Premium Plan includes all services and benefits from the Basic Plan and offers additional value. With the Premium Plan start-ups will have access to meetups with partners, to an additional mentor per month, resulting in a total of 2 mentors per month, as well as the right to use the physical spaces of the hub 2 days per month. Additional start-ups can use the meeting rooms for 2 hours per month, can participate at selected events and get exclusive discounts for service partners software.

7.8.1.3 *Networking Plan*

Finally, we would also offer a Networking Plan. This plan would offer engagement in all available tools and methodologies. This would empower the start-ups development and lay the path for continuous growth. The Networking Plan includes all services and advantages of the Premium Plan as well as an additional mentor per month, making a total of 3 mentors available per month, access to an additional hour in the meeting rooms along with an additional day access to the physical spaces, resulting in a total of 3 hours of access to the meeting rooms and 3 days of access to the Innovation Hub. Furthermore, start-ups can participate in workshops on various topics and specialization courses as well as unlimited access to the business network.

7.8.2 *Programs*

Another possible revenue model is to offer programs, probably either so called bootcamps, which would include workshops over a duration of 2-3 weeks or programs that would have a duration of several months, ideally between 2-6 months. The price for the programs would depend on the duration but could lay in a range from 250€ to 1000€. As alternative another type of payment could be taken into consideration by offering programs for individual selected start-ups for an exchange of equity shares. For the equity stakes a range of 5-10% equity would be justified. This would also open the possibility to another type of revenue stream. This would allow the innovation hub to create an own portfolio of start-ups, that would secure long-term benefits.

7.8.3 *Portfolio*

Additional to the revenue model of memberships and programs another interesting model is to create an own internal portfolio of promising companies. To realize this, however, shares in the

companies are of great self-benefit. of course, instead of equity in the start-ups, one can also demand a consulting fee, but that would not be exactly the same. Further, would this allow the innovation hub to build a long-term relationship with the start-ups, as well as to create a long-term source of revenue. This principle would correspond to that of the innovation hub leAD Sports Accelerator which has made the innovation hub very well-known. Moreover, this partly supports the statement in the literature that innovation hubs are more successful and have a higher change to survive for long if they have a well-balanced, low profile, a good relationship with their start-ups and let them grow organically (O'Hare et al. 2008). This can be ensured by providing them with long-term support and advice within the own portfolio.

7.9 Challenges and Events

The Hubs' events and challenges are critical to their growth and vitality. Not only do they keep the search for innovation and excellence active and demonstrate results and ongoing projects to current partners, but they also serve as a source of dissemination for the Hub and open doors to new projects and partners. As a result, we believe that the Hub should host at least one major event and three different types of challenges each year, with an additional event and challenge taking place during the month of competition in the World Cup year.

The annual event would be inspired by the GSIC Summit APAC 2022 and Liga Portugal Thinking Football Summit style events, a summit looking to promote a better understanding of the football industry, where the Hub's annual progress, new challenges for the following year, and the results of the previous year's challenges would be announced, and where all the Hub's partners and companies would participate. There would also be stages for speeches and discussions on current issues in sport by entrepreneurs, ambassadors, and high-level positions

associated with sport, innovation, technology, and sustainability. The event's location should ideally change from year to year between cities in Portugal, Spain, and, as soon as possible, Ukrainian cities. A similar but larger scale event would take place during the month of the World Cup in the year of the competition, with the opportunity to also bring in some politicians and influential people from around the world, as discussed in The FIFA World Cup Bid section.

In terms of challenges, the working group proposes three annual challenges inspired by the UEFA Innovation Hub process. The first challenge would be a competition in partnership with NOVA University Lisbon with no pre-defined specific theme in which several start-ups and groups of students would present an idea proposal that would sustainably revolutionize the sport, with the winners receiving full support from the innovation and excellence center as well as the necessary investment. A second annual challenge would be modelled after the Arena Hub's Paulista Challenge and Brazil Cup challenge, in which start-ups would present ideas to improve the fan experience through a more innovative and immersive experience of a Portuguese, Spanish, or Ukrainian federation competition. The competition and discipline may vary from year to year. The third challenge would include physical protection for athletes or rule changes in the game to improve safety in the sport, with the best annual idea being rewarded. Finally, A fourth FIFA World Cup-related challenge would be developed in 2030. If FIFA agrees, the ability to join start-ups connected to the hub with the World Cup would not only add value to the Hub and those involved, but also to the World Cup.

8 Conclusion

As the 2030 World Cup approaches, it is becoming increasingly important to establish a strategy to adequately capture the unique legacy that a Mega Sporting Event (MSE) of this scale can create. This paper conducts a comprehensive analysis of relevant literature to better understand the broader innovation ecosystem and establish the facilitating role these hubs play in fostering innovation and economic growth. In addition, it seeks to narrow down potential partnerships for the innovation hub based on industries and emerging trends. The paper highlights the financing and revenue models that would be applicable for this project and forms a strategic plan for the implementation of a hub based in Portugal, Spain or the Ukraine. Finally, this paper aims to develop a roadmap for the creation of an innovation hub that not only contributes to and strengthens the broader innovation ecosystem, but also promotes sustainable economic growth by supporting the development of industry-shaping and world-leading start-ups.

Based on our analysis of the market and insights from our interviews with Dr. André Seabra and Dr. António Laranjo of the Portuguese Football Federation, we have formed the following recommendations. (see EXHIBITION 4). Given the current environmental and political climate, it is clear that the innovation hub should be headquartered in Madrid, taking advantage of Spain's international influence in the world of football. Lisbon would serve as a key branch for the innovation hub, with the potential to expand into the Ukraine and the East once the conflict has subsided. In order to succeed, the innovation hub should form strategic partnerships with leading sports companies and firms with a strong presence in the textile, technology, healthcare, and food industries. Membership of an innovation hub offers several benefits to large companies, such as exposure to emerging technologies and trends, opportunities for partnerships and collaboration with other companies and start-ups within the hub, and the ability

to support and mentor younger companies and start-ups. These benefits can help drive innovation and entrepreneurship within the community and foster a culture of creativity and innovation for participating companies. Leveraging large firms' resources and knowledge can be beneficial for smaller businesses, however creating an environment that fosters innovation and development for all members will be critical to the hub's success.

From a financing perspective, there is still some ambiguity regarding which funding models are most appropriate. Although there is a clear appetite for public investment in projects that have the potential support economic growth and innovation, there will inevitably be concerns over accountability and transparency when funds are used for a cross border projects. Furthermore, it is challenging to quantify and ensure the positive externalities that accrue from this project offset the investments made each region, which will be closely scrutinized. The flexible capital structures offered by Private Equity and Venture Capital firms means both avenues need to be explored and offers evaluated individually. Each financing model has unique characteristics that make it more appropriate for funding various aspects of the project, the funding for initial hub infrastructure and activities is likely to be a combination of various sources that need to be evaluated on a case-by-case basis.

However, we have been able to develop specific recommendations for revenue streams and activities that will support the ongoing operations of the innovation hub and ensure its sustainability once it is established. The hub should implement a membership structure with varying features and fees depending on the plan purchased. This is an efficient way to accommodate to members' varying levels of interest and commitment. Furthermore, it allows the hub to form a deeper understanding of its members' needs and preferences, which can guide

future decisions and activities. Furthermore, the hub should launch incubator programs that include seminars and personalized mentoring for early-stage companies and individuals with ideas in exchange for a fee or an equity stake in the company. Hosting challenges and events was also regarded as a useful tool for generating revenue, allowing the organization to demonstrate its experience and knowledge while also fostering a sense of community and involvement among employees and members. Finally, the hub should consider taking promising companies into a portfolio in order to continue providing mentorship and development opportunities in exchange for equity in the company. The start-ups could participate in special programs deep mentoring in return for equity stakes. This encourages long-term collaboration and significantly improves the developed innovation ecosystem. Furthermore, it incentivizes employee performance because the success of the company they are assisting is linked to the revenues received by the hub.

The FPF will have several obstacles to overcome should they decide to proceed with the outlined plan. Securing funding and resources is a complex and costly endeavour, although our plan outlines our recommendations, pushing the project over the finish line and securing the required funding is going to be a challenge. Furthermore, innovation hubs require a diverse range of expertise and building a team with the necessary skills and knowledge on a budget will be challenging. This process will likely involve recruiting and hiring staff with deep knowledge and experience in the innovation field. There are also likely to be significant regulatory and legal challenges that will have to be tackled. Innovation hubs operate in complex and dynamic regulatory environments, so the FPF will need to be consistently engaging and working closely with legal and compliance teams to ensure the innovation hub operates within all relevant laws and regulations.

This paper establishes a clear vision and mission for the hub. The market analysis establishes where the hub will be positioned relative to the broader innovation ecosystem and the strategic plan outlines a roadmap for the hub's implementation. The next steps in the development of the hub will involve leveraging the information presented in this document to inform the decision-making process of the team that is selected to proceed with the project proposal. Once a like-minded team of individuals with relevant knowledge and expertise has been formed, their focus should shift to funding, engaging and forming partnerships with relevant stakeholders, securing a physical space for the innovation hub, and developing a membership strategy. Once funding has been secured, expanding the initial team to incorporate mentors, experts and facilitating staff will be essential.

Innovation hubs can play a critical role in fostering economic growth and development, particularly in the technology and start-up sectors. This hub will provide a space for people with diverse backgrounds and expertise to come together, collaborate, and share ideas, to develop new technologies, products, and businesses. This hub can provide access to resources such as funding, mentorship, and networking opportunities, which can help entrepreneurs and innovators turn their ideas into successful ventures. Overall, this sports innovation hub can play a key role in driving economic growth and fostering innovation within the host regions. The success of this hub will be dependent on the ability of stakeholders to create a sense of community and encourage collaboration between participants.

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Analysis of the Best Practices and Strategies of NFL Player Health Hub and Strategic Plan for a FPF Hub

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Pedro Brinca

Abstract

This analysis is intended to supplement the benchmarking analysis and strategic plan completed in the Market analysis and strategic plan for the implementation of a sports innovation hub for the FIFA World Cup 2030 application. Following a benchmarking analysis of the Arena Hub and the SWOT, PESTEL, and Porter's Five Forces analyses, this report investigates the NFL Player Health hub model and runs the VRIO and Growth Share Matrix analyses to assess the feasibility of the new hub and understand the best international practices in the area.

Acknowledgements: I would like to extend my thanks to my supervisor Pedro Brinca for guidance throughout the project. Finally, I would like to thank Dr. André Seabra and Dr. António Laranjo for their time and input regarding this project proposal.

Keywords: Innovation Hub, Market Analysis, Sports, Portuguese Football Federation, Technology, FIFA World Cup, Strategic Analysis

9 Introduction (Individual Part)

The United States of America is one of the most powerful forces in sports, holding the record for the most Olympic medals with 2633, including 1061 gold, 834 silver, and 740 bronze. To achieve these results, a significant investment in sports, particularly in the pursuit of innovation and excellence, was required, justifying an examination of the NFL hub, the main league of the sport king of the United States, American football, to supplement the benchmarking already carried out in the Market Analysis and Strategic Plan for the Implementation of a Sports Innovation Hub for the FIFA World Cup 2030 application in collaboration with the FPF.

The VRIO analysis and the Growth Share Matrix will also be carried out in order to deepen the strategic plan for the sports innovation hub and determine whether its development will add value not only to the FPF and the partner federations (Spanish and Ukrainian), but also to the bid that these federations submitted to host the 2030 World Cup.

10 Benchmarking (Individual Part)

10.1 NFL Player Health

A sport with high rates of success, development, and evolution, mainly in the United States and Canada, is American football. A team sport that, like traditional football, is played with 11 players on each team, where the team in possession of the oval ball tries to advance on the field by running with the ball or passing it between its players, while the defending team tries to prevent it, in order to get it back for itself (Wikipedia 2022). The offense must advance at least ten yards in four downs or plays; if they fail, they turn over the football to the defense, but if they succeed, they are given a new set of four downs to continue the drive. To score points, the ball must be advanced into the opposing team's end zone for a touchdown or kicked through

the opponent's goalposts for a field goal. At the end of a game, the team with the most points wins. (Gardener 2011) (National Football League 2012) (Wikipedia 2022).

Despite the fact that American football is structured differently than traditional football in Portugal, Spain, and the rest of the world, the NFL (National Football League), the world's largest professional American football league, is undoubtedly an essential element of study when it comes to centers of excellence and innovation. Despite not having a center that encapsulates all areas and sectors related to sports, NFL do have a highly developed hub dedicated to the physical and mental well-being of athletes called NFL Player Health and Safety.

10.1.1 Strategy and Structure

Committed to advancing progress in diagnosis, prevention, and treatment of sports injuries, enhancing medical protocols, improving how the game is taught and played, and protecting players' overall health, safety and wellbeing, the center is divided into eight committees, each of which linked and overseen by a Chief Medical Officer, who is currently Dr Allen Sills. The NFL CMO also collaborates closely with team medical staffs across the league, the NFL Players Association and its advisors, and the many medical and scientific experts who serve on the NFL's medical committees. He works with these medical experts to lead the league's efforts to advance, both on and off the field, to protect players from unnecessary risk through rule changes, equipment evolution, and robust injury reduction plans.

The eight committees forming the hub are the Health and Safety Committee, the Engineering Committee, the Head, Neck and Spine Committee, the Musculoskeletal Committee, the General Medical Committee, the Comprehensive Mental Health and Wellness Committee, the Joint Pain Management Committee, and Research and Innovation Committee. The committees meet

throughout the year to review player health and injury data and determine what policies, programs and protocols should be adopted by the League. Normally the work begins before the season starts at the NFL Combine in Indianapolis, an event where clubs' scouts evaluate each year's top draft-eligible college players on a variety of medical, mental, and physical. Committee members use this meeting as the first of several throughout the year to examine injury data from the previous season. The committees debate statistical trends, find outliers in the data, debate the rationale behind the numbers, and pose key concerns that require additional investigation and reporting. All committee members are not employed by the NFL, and the majority are only paid a small honorarium of \$1,500 to cover travel and other expenses incurred while attending meetings (NFL 2020, NFL 2022).

10.1.2 Partnerships

Something quite relevant in the research is the partnership that the NFL has with the NFLPA (NFL Players Association), the labour organisation that represents professional American football players in the National Football League. This collaboration is critical in structuring and developing the various hub sectors, with NFLPA representatives overseeing all meetings and decisions made there. The National Football League Physicians Society (NFLPS), the Professional Football Athletic Trainers Society (PFATS), and the Board of Directors for Football Research, Inc. (FRI) are also always consulted before an impactful decision is made in the NFL. The data is analyzed and compiled by a third independent company, IQVIA, which then shares the results with the NFL Player Health and Safety Center (NFL 2020).

10.1.3 Challenges and Events

Since the establishment of this center, the NFL has already deliberated on a large number of rules that prevent and prohibit dangerous tactics and plays, as well as improved the equipment used by the players and the stadium conditions in order to protect the players' health and maximize their performance. Facts such as the fact that 99% of players now wear top-performing helmets, as well as rules such as the elimination of the wedge block and the prohibition of blindside blocks, demonstrate this. The creation of events and innovation challenges, such as the NFL Helmet Challenge, a \$3 million competition designed to accelerate helmet performance and safety for NFL players, not only raises awareness for player protection, but also speeds up equipment development and is one of the hub's most important strategic moves (NFL 2020).

10.1.4 Digital Athlete – A technology that emerged from NFL Player Health

The NFL Player Health has engaged in a collaboration with Amazon Web Services (AWS), from which it was co-developed a technology called Digital Athlete, which is “a computer simulation model of a football player that can be used to replicate infinite scenarios within the game environment”. This project is part of a broader project between the two companies that has a forecasted \$60 million dollar budget.

The main objective of Digital Athlete is to compute data observed from games, via video reviews, equipment scans, mouthguard sensors, game and practice performance data, field mapping, pose tracking and more, and compute it to replicate the attributes of a player and improve game quality. Additionally, as the technology allows for the creation of multiple scenarios, its ultimate goal is to have a better understanding of how the game can be safer for the players and prevent injuries.

Since the collaboration between NFL and AWS started in 2015 there have been amazing benefits to the league and most importantly to players' health, having been able to decrease 25% of the concussions (when comparing two periods of 3 years) and also to have 99% of NFL players to wear top-performing helmets, compared to 40% prior to the partnership.

Considering the huge impact that this technology has been able to provide, it is also an extremely good example of how beneficial the FPF innovation hub can be. If the FPF can develop a technology that improves player's health and security, by preventing injuries, it will come as a great benefit for the FPF and to the sport ecosystem in general (NFL 2020, NFL 2022).

10.1.5 What will be incorporated into the hub

As the NFL Player Health and Safety Center is one of the most developed, innovative, and successful health hubs in practice, we believe that the health department of the Center for Excellence and Innovation should be based on it. The formation of committees for each medical area in which football has a significant impact, as well as the scheduling of at least two annual meetings of these committees (one during pre-season and one in the middle of the season), so that they can analyze the injury data from the previous semester and discuss improvements and necessary changes in the game to improve it and keep it safer for its players, are two essential measures to create and maintain a constant evaluation and innovation of this sector. This will require a partnership with a third-party company that collects and maintains a database on injuries to registered players. Ideally, the information would cover all European professional leagues, but due to logistical and bureaucratic constraints, the professional leagues of Portugal, Spain, and Ukraine would suffice for the time being.

This department, in collaboration with the events and challenges department, is also responsible for the organization and promotion of events and competitions that promote the development of innovative products and services related to health in sport and football (NFL 2020) (NFL 2022).

11 Strategic Plan (Individual Part)

11.1 VRIO

Another essential tool for the analysis of the firm's internal resources is the VRIO analysis, which was originally developed by Barney, J.B. in 1991 in his work 'Firm Resources and Sustained Competitive Advantage' where the author identified four attributes that the firm's resources must possess to become a source of sustained competitive advantage and later in 1995 in his later work 'Looking Inside for Competitive Advantage' updated to the definition used today. The acronym VRIO stands for the framework of four questions asked about a resource or capability to determine its competitive potential: the Value question, the Rarity question, the Imitability question (Ease/Difficulty to Imitate), and the Organization question (ability to exploit the resource or capability) (J. B. Barney, Firm Resources and Sustained Competitive Advantages 1991) (Barney e Hesterly, VRIO Framework. In Strategic Managment and Competitive Advantage 2010, Barney e Hesterly 2005, Jurevicius 2022).

11.1.1 Valuable

Starting with the V for Valuable, the answer is clearly yes when asked if the resource in question, in this case the excellence and sports center, adds value by enabling a firm to exploit opportunities or defend against threats (Jurevicius 2022). With the Hub's goal of bringing

together the best projects and innovative and revolutionary ideas from national industries and sport at the highest level, encouraging the development and growth of football performance and football itself, it is clear that the resource in question is valuable both for the Portuguese Football Federation and for international sport, as well as all industries and companies that participate in the project.

11.1.2 Rare

Rare questions whether the center of excellence can only be acquired by one or very few companies or is it a service that any company or project can initiate. A firm's resources and capabilities must be both short in supply and persist over time to be a source of sustained competitive advantage. If both elements (scarcity and persistence over time) are not met, a firm's resources and capabilities cannot provide a sustained competitive advantage. A center of excellence and innovation, as previously mentioned in other strategic analysis tools, is not easy to establish because it requires a strong network of partners and know-how in various industries. The fact that there is no sports hub in Portugal, with only Arena Liga Portugal developing something similar that will be ready in 2023, demonstrates this. This service also guarantees the second element, persistence over time. Being the constant pursuit of excellence and innovation the foundation of the center's creation objectives, and both being infinite objectives, the service's longevity is guaranteed.

11.1.3 Imitability

The VRIO model's third question is Imitability, which asks whether "firms without a resource or capability face a cost disadvantage in obtaining or developing it compared to firms that already possess it?" (Jurevicius 2022) Firms with valuable and rare resources that are difficult

for other firms to imitate can gain first-mover advantages in the market and thus gain a competitive advantage (Wikipedia 2022). Given the importance of a strong network of partners and professional experts for the proper operation of a hub, it is easy to conclude that the centers provide a service that is difficult to replicate. Creating a network of partners, such as the FPF network, takes not only years, but also power and influence in football.

11.1.4 Organization

Finally, the "O" in VRIO refers to the organization's ability to capitalise on the competitive advantage that the Value, Rarity, and Difficult Imitability of centers of excellence and innovation provide. The FPF is the highest Portuguese football association, and with over 100 years of football experience, it is clear that it has more than enough capacity to sustain a hub's competitive advantage. The VRIO analysis concludes that ERCs provide a sustained competitive advantage, which encourages the FPF and its partners to establish the hub.

11.2 Growth Share Matrix

It is very important that a business, when implemented from scratch, builds a sustained and complete strategic model capable of showing the company and the outside world the basis of the business. The BCG matrix or Growth Share Matrix is an important foundation for analyzing a business by dividing the products/services offered into 4 components or 4 quadrants, each with a symbol that represents a certain degree of profit: Stars, question marks, cash cows and Pets (dog). By allocating each part of the business to each of these categories, directors make more informed and streamlined decisions on how to allocate resources and what kind of focus to give in terms of resources employed and capital employed to each product or business unit. Each quadrant represents a combination of market share and growth.

Low Growth and High Share is characterized by products called cash cows, which present themselves as solid in the market and capable of generating important cash for possible reinvestment. In the case of the Hub that is being developed, these "products" represent the companies that finance the project and provide the basis for start-ups and the Hub itself to invest in new ideas and innovation projects, that is, the partners. In this section we can highlight as cash cows the textile industry companies that have a great importance in the Portuguese economic activity and that represent a reference in the national industry, especially in the North of the country. Other industries that have a significant weight in the national economy and that are present in this quadrant as important pillars of our Hub, are companies in the food and healthcare industries, which are not only fundamental for any country, but are also very connected to sports and its evolution and development, also presenting themselves as engines for the functioning of the Hub. These companies represent the engine of the whole center, contributing both financially and through experience and market share to the empowerment of small companies and start-ups that present disruptive and innovative ideas and that alone could not reach their full potential. We can consider these large companies as a bridge between ideas and their exploitation and leverage.

High Growth and Low Share, are called question marks, and in the case presented here we can attribute this quadrant to the start-ups, namely to the monthly plans activated by them when they want to be part of the ecosystem in which the Hub consists, having an enormous growth potential, representing, however, still a smaller slice of the market when compared to the large companies that sustain and base the existence of the Innovation Center. These start-ups are a fundamental part of the dynamics of the Hub, complementing the experiences of the companies (sharks) with ideas capable of revolutionizing and innovating the various business areas that the established companies themselves dominate, or in other cases are supported by these large companies to develop disruptive ideas in other areas. We can also include some partners,

namely companies that come from advanced textiles and smart materials industries that are paramount to the development in sport and are growing fast in the last years.

High Share and High Growth, called stars, are companies from the technology industry that also have an important role in the Hub. They have an increasingly important role in the world economy and, consequently, in the national economy, being a fundamental part in bridging the gap between experience and new ideas that start-ups present, also contributing with initiatives linked to the evolution of Football.

Low Share and Low Growth, called Dogs, are products that do not represent a significant weight in the conception of the Hub, but in this case do not make a loss, being able to attribute to this quadrant the sponsorships of brands and entities that only seek some publicity in exchange for funding for the Hub, not having a significant weight for materials the normal operation of the activities and main objectives of the center, representing only a short help for needs that the various components of the system may require (CFI Team 2022).

12 Conclusion (Individual Part)

When compared to the other hubs studied, two major findings were drawn after benchmarking NFL Player Health. The first finding was that innovative and technological hubs can have a completely different structure: a hub without a physical headquarters that only requires periodic events where measures to improve the sport are discussed and decided upon. The second conclusion to be drawn from the American hub is how they attract excellent professionals from a wide range of fields without having to hide behind high costs. The NFL Player Health program will not be replicated in its entirety for the FPF hub, but it may aid in the definition of events or the development of more cost-effective and efficient programs.

The VRIO and Growth Share Matrix analyses offer promising prospects for the innovation and excellence hub's success. They clearly show not only how the center will provide a sustained

competitive advantage for the Portuguese Football Federation and all other stakeholders, but they also demonstrate that the primary type of clients and stakeholders who will be a constant in the hub not only have a high rate of progress, but also a very attractive market share, implying that the project will be successful and have a bright future.

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14 Appendix

EXHIBIT 1 – SWOT Analysis

Strengths • Participation strong institutions FPF and RFEF. • Both federations are sponsored by some of the biggest companies in the sports industry. • Inclusion of Ukraine give access to Eastern Europe market	Weaknesses • Depend on the economic situation of the participating countries.
Opportunities • 2030 world cup will give the necessary exposure to the quickstart of the IH.	Threats • Economic crises. • Different politics procedures due to the participation of 3 countries and 1 of them is not in the EU. • Different currency is used in Ukraine.

EXHIBIT 2 – Balance Score Card

Strategic Objectives	KPI's	Targets	Projects
Financial: - Reduce the churn rate - Maintain a sustainable average ticket; - Reduce the cost of customer acquisition	- Number of new start-ups; - Value of the packs; - Churn Rate;	- Increase the number of start-ups in the Hub by 10%/year; - Increase the number of companies in the Hub by 5%/year; - Reduce the Churn Rate by 3%/year;	- Promote attractive monthly packages for start-ups; - Provide a network of mentors capable of attracting start-ups. - Attracting large companies motivated by disruptive ideas;
Customer: - Improve Customer satisfaction; - Increase Customer Retention; - Increase the number of new start-ups and companies;	- Customer Retention (% of start-ups and companies that remain in the following year) % Customer satisfaction Index % of new customers (start-ups and companies)	- Reaching 80% of Start-ups and companies' retention; - Reaching 90% of customer satisfaction index; - Getting 5% of new companies and 7% of new start-ups in the next year;	- A network of mentors and contacts between companies and start-ups that is easily accessible. - Providing favourable conditions for learning and growth; - Providing good plans for innovation and development;
Internal Processes: - Improve daily productivity of start-ups and companies; - Improve the way how start-ups, mentors and companies communicate; - Create and improve ways how to better exploit new ideas and turn them into innovative processes and ideas;	- Productivity; - Innovation; - Research and development;	- Increase the productivity in 5% next year; - Get new ideas; - Have more companies participating in start-ups businesses and shares; - Improve ideas and situations in football, aligning technology with new ideas;	- Creation of a spacious and comfortable co-working space; - Promotion of several monthly meetings of start-ups with mentors; - Access to private rooms within the Hub for meetings; - Promoting large corporations' participation in start-up equity; - Support ideas that promote environmental well-being;
Organizational capacity: - Improve ideas; - Promoting team spirit and team working; - Promoting a co-working space that promoting cooperation; - Creation of challenges to increase and maximize the motivation of start-ups to have new ideas and projects;	- Number of new start-ups; - Number of new projects; - Challenges;	- Increase the percentage of that are participating in challenges; - Improve the communication between companies/mentors and start-ups;	- Create challenges and events that are looking for a competitive environment that will increase the motivation of start-ups to improve their ideas and innovate; - Create work spaces that minimize the distance between sharks and small companies in the hub; - Support new tech ideas that look for the improvement in football;
Efficiency, Community	Sustainability, team spirit	Social well-being, R&D	Innovation in football

EXHIBIT 3 - List of packages

Following the services and advantages included in the different packages will be listed for a better overview

Basic Plan	Premium Plan	Network Plan
• Registration on the platform • Inclusion in a wide digital network • Inclusion in the Start-ups Map • Advertising on the website • Access to the database (remote) • Access to the challenges • Access to acceleration programs • Access to 1 mentor/month that will accompany the development of the start-up • Networking with large companies and entities	• All services included in the Basic Plan + 1 additional mentor/month (Total 2 mentors/month) + Access to meetups + Access to meeting rooms (2h per month) + Access to the physical spaces (2 days per month) + Exclusive discounts and benefits for partners software/services + Access to selected exclusive events	• All services included in the Premium Plan + 1 additional mentor/month (Total 3 mentors/month) + 1 additional hour access to meeting rooms (Total 3h per month) + 1 additional day access to the physical spaces (Total 3 days per month) + Access to business networking + Access to workshops on various themes + Access to specialization courses

EXHIBIT 4 – Interview with the FPF

Question 1: Is the hub supposed to be virtual or physical as well? If physical, taking advantage of Cidade do Futebol installations?

Engineer Antonio Lanranjo (EAL) - "There is currently a proposal on the table (30/11/2022), but it appears to me that it should not be implemented politically. This proposal was prepared by a company hired to prepare the application dossier, proposing to locate the centre in Olivenza (a Spanish town located near the Portuguese border, but which has the particularity of being a territory still claimed by Portugal and annexed by Spain). However, I believe it does not have strong probability of happen, politically-wise."

EAL – "It has not yet been decided whether a headquarters will be established for this phase of the application; that is, until the application is submitted, there will be no headquarters, but rather a joint team working in Portugal and Spain. As soon as the bid to host the World Cup is accepted, a company will be formed with the participation of the three federations (Portugal, Spain, and Ukraine), with its own - yet to be determined - headquarters."

EAL - "I believe the research centre must have a headquarters, which I doubt would be in Portugal, but rather in Madrid with a pole in Portugal, or at most vice versa. Other poles, both in Europe and elsewhere, may be established in the future, but for the time being, I see the headquarters being established in Portugal or Spain as soon as the application is approved".

Question 2: Is the hub being implemented to aid the world cup bid or as a standalone project? Or is the world cup used as a kickoff event to boost the hub and therefore the world cup would benefit the sports hub?

EAL - "The centre has the world cup as its live motive; it is what started the centre, creating the technological innovation and development component in the world cup, but it is to continue beyond the world cup."

Question 3: How much will the fpf invest? Should we look for partners that want to invest?

EAL - "The idea we defended initially is that the centre should have as partners, fundamentally the big brands that are involved in sports, not only football, but for sports as a whole. The plan is to attract the big brands in the sports area, such as Adidas or Nike, but also in other areas such as Technology, the automobile business or the big companies in the Energy area. It is evident that the founding partners of a centre have to have a participation, with the big partners having a more effective contribution, the federations having some contribution, and the entities linked to education, such as NOVA or other universities and research centres that may be involved having a symbolic contribution. Basically, a major contribution would come from the partners, a second contribution from the federations and finally a more know-how and support contribution from the universities."

Comment from Pedro Brinca (PB) - "The project has to be sustainable, it would be important that a strategic roadmap for financial sustainability and long-term viability is clear within the proposal, because this is what will determine the impact of the centre on the application, as one of the vectors of the application is the transforming and dynamic impact that hosting the tournament may have on the countries and on the development of football and on the areas connected to football. And this can only be ensured if the project is able to move forward after the event. In this sense, it is important to have some strategic guidelines from the point of view of business plans that will ensure the financial sustainability of the project."

EAL - "Does that mean having contribution figures from each of the entities at this point?"

PB - "I wouldn't say figures, but it would be important to understand in terms of benchmark how similar institutes organise themselves in terms of financial funds, how they monetise value creation, and to have those strategic lines identified and stated in the founding or organisational document. At the end of the day, the centre must create money. Is it necessary to go into such detail? Maybe not. I don't think it is essential to go into that detail, but it is essential to have identified, from a strategic point of view, the lines of financial constitution and the plan for monetisation of knowledge. This work can be done through benchmarking".

Question 4: A Liga Portugal is currently launching a project that we consider similar to this one, the Arena Liga Portugal. Should we consider them as competition, or is there a chance to combine efforts and make partnerships?

None of the interveners had knowledge about the Arena Liga Portugal.

Not EAL, another FPF member - "There is nothing planned yet, but I would say that it is very reductive to say at a time like this that we don't want any cooperation with any entity of this type. If there is an openness in principle (to partner with an existing centre) it would be necessary to verify on a case-by-case basis if there are lines of understanding and common lines. Something that would have to be analysed in greater detail."

EAL - "The two entities mentioned, Liga Portugal and Microsoft (a major partner of GSIC), seem too pollinating to me. I don't see the federation partnering with an existing centre that's already talked to Liga Portugal. The Microsoft one, is a bit reductive because it limits the entry of competing partners, right up front. I'd see a better association with something (don't know if it exists) that is in development with the Spanish Olympic committee in partnership with the Portuguese one. I say this because

I'm going this afternoon to the Olympic Committee's International Sustainability Congress, Blue Planet. They are with tremendously active sustainable development goals in a diverse set of areas, not only technological, but that are also geared towards the green area or the environment. I saw this connection to centres with Olympic Committee-type entities, of a more global scope, rather than being associated with a brand. If we don't find the perfect match, we see ourselves creating our own centre and bringing the various brands and entities to us.

Question 5: Should the partners only be companies from Portugal, Spain and Ukraine, or can we partner with companies from abroad as it will contribute to the development of the sport?

EAL - "Partners beyond the three countries as well"

PB - "In terms of spin, it has more power if the application is leveraged on the comparative advantages of these three economies (Portugal, Spain and Ukraine) (I think he is referring to industries). In other words, when asked why this will be done within these 3 countries, in this area of influence, the justification will be the comparative advantages that can interact with sport and create significant impact. Highlighting these advantages that leverage the growth and projection of this project."

PB - "Basically I think that one way of giving personality to the centre and to the candidacy is to say that the centre has the capacity to potentiate a set of areas, which have not been potentiated yet, but thanks to this opportunity they will be potentiated."

EAL - "I totally agree, I just don't know if we don't get a bit limited, for example looking at the two big international sportswear brands (Nike and Adidas), none of them are Portuguese, Spanish or Ukrainian."

PB - "But they are federation partners"

EAL - "Yes, they have to be brands that we have recognised use of them in the 3 countries, but limiting it only to brands and companies that originate from these 3 countries would be more complicated."

PB - "What I said was in the sense that, for example, Portugal, in the area of intelligent fabrics and fabrics, has a development pole in Vale do Ave that can have an important contribution to this industry. Spain will certainly have similar things. I think it gives more credibility and strength to the application if it is leveraged with this. Without eliminating the other partnerships, but making sure that these industries are also part of it.

EAL agreed.