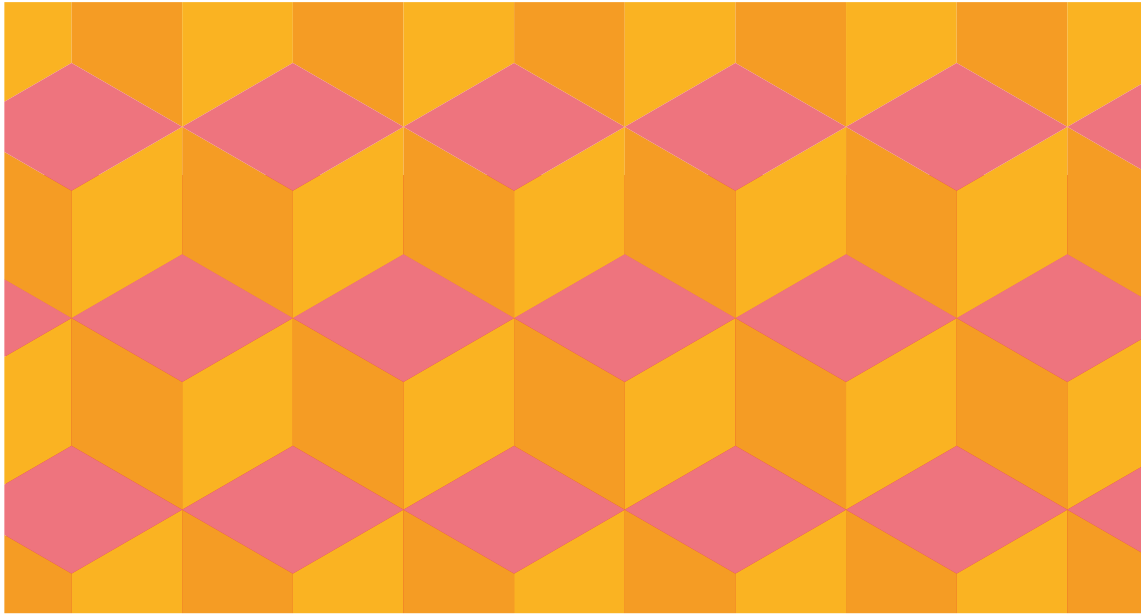


How blockchain and its applications can help grow the sports industry?







The Games: commitments for an ambitious social project

Paris has been selected to host the 2024 Olympic and Paralympic Games.

The French people, together with public and private stakeholders, must seize the momentum from the bid to ensure that the Games drive economic and social progress over the long term. Most sectors of activity have commitments involving sport, which is considered to be a catalyst for balanced regional development, environmental excellence, youth development, job creation, cohesion, social diversity and the fight against discrimination.



#Ambitions2024

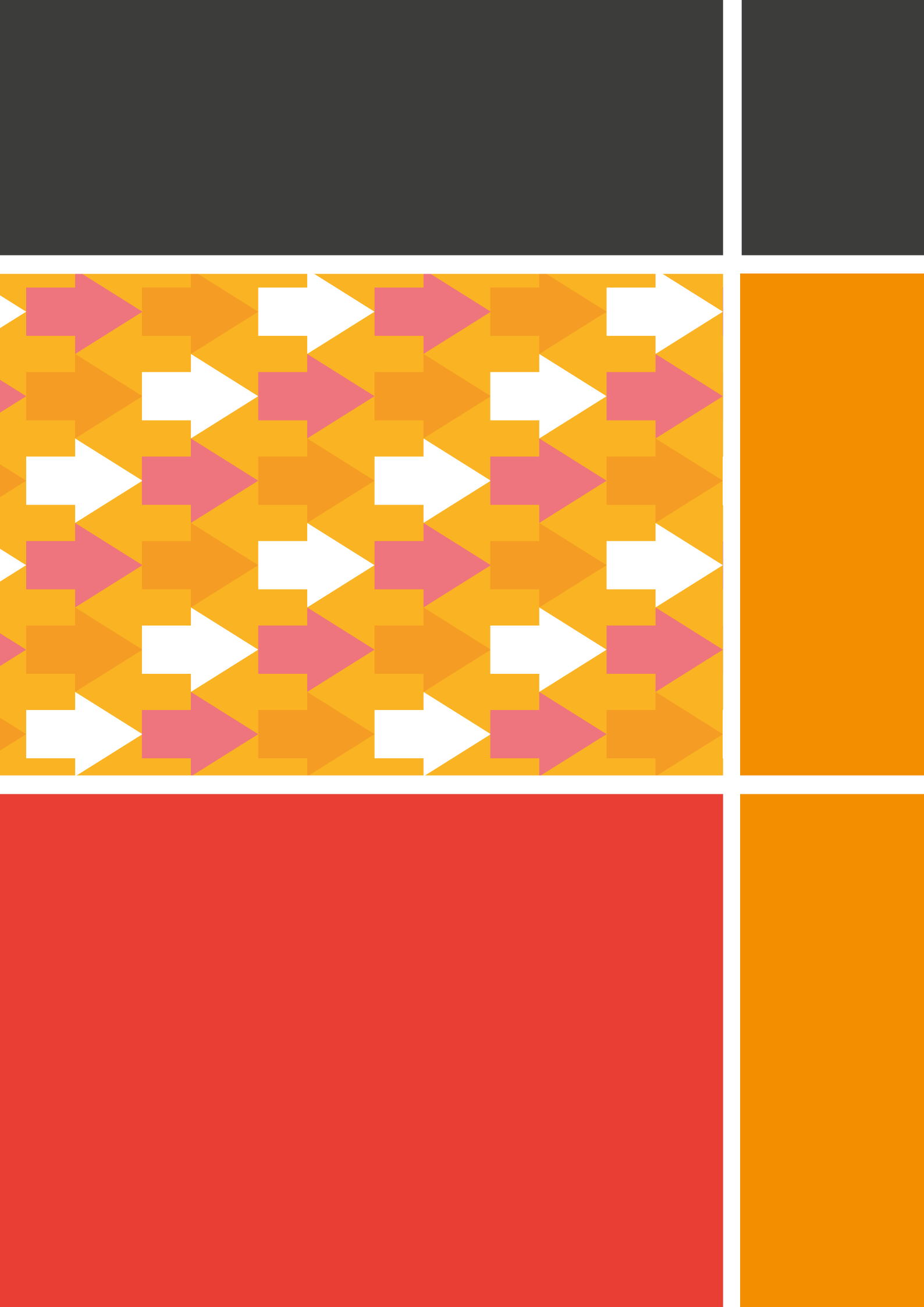
A community of Committed Stakeholders working for the success of the Games

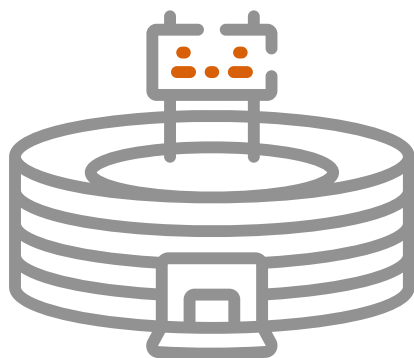
One of the keys to the success of the Paris bid was the collaboration between public authorities, businesses, the sports movement and civil society to come up with bold ideas.

As the time for action dawns, the two organisations designated to make the bid's promises a reality and ensure the success of the Games (the OCOG – with the Heritage programme – and Solidéo) will need this support more than ever. These stakeholders will need to sustain their efforts in the run-up to 2024 to make the Games a success, and beyond that to embed the values conveyed by sport in society.

That is the conviction behind the series of workshop discussions launched by PwC under the name Ambitions2024. They have been designed to bring together communities of Committed Stakeholders around the bid's key focus areas: sustainability and environmental excellence, innovation and the athlete and spectator experience, transport and mobility, safety and security, health and well-being, and financial transparency.

Each event will bring together all those working for the success of the Games to workshop one of the key focus areas of the bid. The aim is to collectively design action plans that can help meet the commitments and ambitions set out in the Paris 2024 bid.





How blockchain and its applications can help grow the sports industry?



In his report to the Minister of Economy and Finance on cryptocurrencies, Jean Pierre Landau raises the possibility of digitising part of the ticketing of the 2024 Paris Olympics. “Tokens giving access to the ceremony could be issued on a blockchain for the people who contributed to the preparation and organisation of public events held alongside the games.”

The transformation of consumer habits and the ubiquity of digital technology have given rise to a stream of innovations ranging from virtual reality and data analytics to connected objects. They offer new sources of growth for sports industry stakeholders. There is a particular buzz surrounding blockchain, due largely to bitcoin, the cryptocurrency (or virtual currency) exchangeable peer to peer without a trusted third party. While bitcoin as a currency was seen as speculative, its underlying technology – blockchain – went on to enable new uses emerging in areas including insurance and logistics.

To put it simply, the blockchain allows two individuals who do not know each other to exchange value by redefining the role of trusted third party. This opens up a range of new possibilities for any intermediated model involving the circulation of value and a large number of stakeholders. The notion of network or community underpinning a blockchain is critical, as it is this community that ensures the veracity and authenticity of the information in the ledger.

In the blockchain, all information that the network authenticates as accurate is saved to a database that is secured and shared among all members.

In the sports industry, blockchain could be used to:

- facilitate mass coordination between stakeholders through decentralisation
- reduce costs by removing third parties
- build trust between stakeholders
- secure data and make them transparent

It was with this in mind that we organised our third workshop discussion in partnership with Le Tremplin to demystify the topic and identify concrete blockchain solutions that meet the needs of stakeholders in the sports industry.

Complicated words that can be off-putting

Tokenisation

Tokenisation is the representation of an asset (like an athlete or tickets) on a token to allow them to be managed and exchanged using blockchain technology.



ICO (Initial Coin Offering)

Initial Coin Offering ("ICO", also token launch or token generation) is a term describing a limited period in which a company sells a predefined number of digital tokens (coins) to the public, in exchange for cryptocurrencies or fiat currencies.

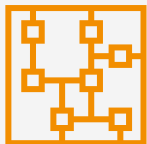
STO (Security Token Offering)

Security Token Offering ("STO") is a sale of tokens with features comparable to classic securities that are fully regulated and accepted within at least one jurisdiction. Prospectively, ICOs / STOs are increasingly an alternative to classic debt / capital funding as performed today by Venture Capital / Private Equity firms and banks.

Blockchain

Blockchain is a digital storage and information transmission technology based on four main features:

- **Decentralised:** nobody owns the ledger
- **Shared:** each network member has a synchronised copy of the ledger
- **Transparent:** anyone can trace back the history of ledger and see what has happened since its creation
- **Secure:** every transaction is validated consensually, encoded and then recorded in the ledger



Peer-to-peer network

A peer-to-peer network is a network of computers connected to each other and exchanging information via the internet.



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Cryptocurrency

Cryptocurrencies are digital assets traded between individuals and/or institutional stakeholders on platforms. The first cryptocurrency was bitcoin. Created in January 2009, it uses blockchain technology to solve the problem of decentralised control and double payment through the use of algorithms.

Node

A node is a computer connected to the blockchain network. It uses a program relaying transactions. Nodes keep a copy of the blockchain ledger and are spread throughout the world.



Decentralised application

The network is decentralised, as opposed to traditional applications that rely on centralised servers. It is backed up by one or more smart contracts contained in a blockchain.



Smart contract

A smart contract is a computer code that automatically triggers events agreed between two parties (like payments). They make cryptocurrencies and tokens programmable. Some blockchains, such as Ethereum, are more suited than others to the use of smart contracts because they have been designed natively around this concept.

ICO (Initial Coin Offering)

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White paper

White papers are collections of information on a project. They are often used during an Initial Coin Offering (ICO) to present the project's business model and business plan.



Token

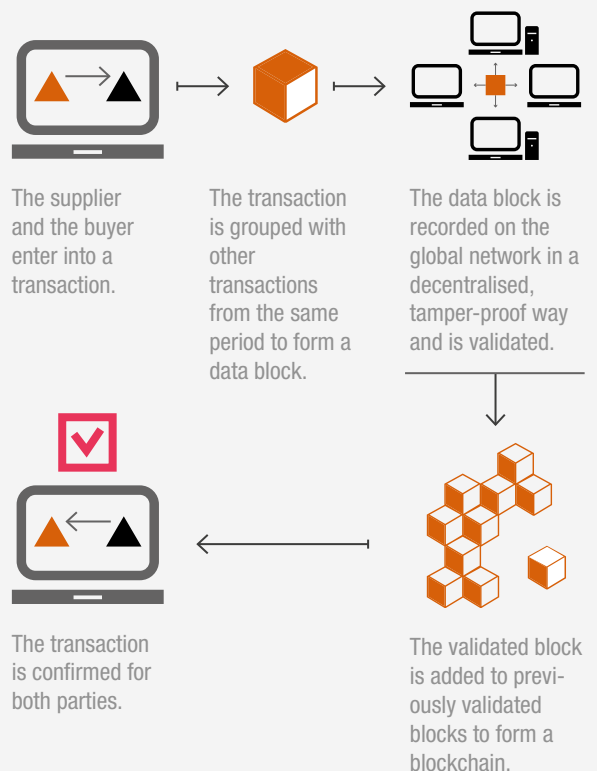
The tokens of a blockchain are often issued during an Initial Coin Offering (ICO), which is a way of raising funds using cryptocurrencies. ICOs allow entrepreneurs to fund a project without using conventional bank financing or having to go through a venture capital fund.

Tokens are either created via a smart contract (defined above) in an existing blockchain (particularly for tokens meeting the ERC20 standard on Ethereum) or allocated in the first block of a new blockchain (as was the case for Tezos, one of the biggest ICOs in 2017).

There are several types of tokens. The most noteworthy are:

- utility tokens, which represent future rights to a product or service,
- security tokens, which are the issuer's debt or equity instruments.

How a blockchain works



We hear from Le Tremplin start-ups



Jauffray Dunyach
Founder & CEO

E-Cotiz is an online registration and payment solution developed for sports associations. Our platform has half a million users. Members can register whenever they like without the people in charge having to handle the administrative side.

Blockchain would be a great way to streamline transmission and update information instantaneously between the various parties involved in the process, from members and clubs to committees and federations.



Nicolas Menciaire
Co-Founder & CTO

bFAN is a digital and mobile platform for professional sports clubs. In practical terms, we provide the club with an app and a back office to manage it.

Our loyalty programme could be migrated to blockchain to ensure that points exchanges are transparent and tamper-proof.

The idea would be to create a fan token that could be distributed in several ways:

- a fan does something and earns a token
- a partner can buy advertising space at the club in euros or in tokens
- the club or fans can buy bFAN tokens to distribute

The aim is to create a local economy with three stakeholders: club, fans and partners.

The participants at the **third “Ambitions2024” workshop discussion** did more than just answer questions.

Together, they came up with **five practical action plans**, described in the following pages.

Clubs/Federations



Fan engagement

Player financing

Athletes



Player financing

Optimisation of data management

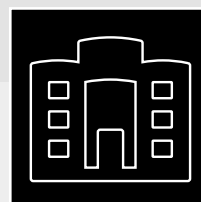
Spectators/Fans



Sports betting

Fan engagement

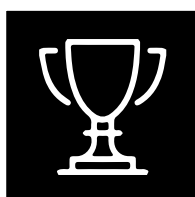
Institutions



Fight against doping

Optimisation of data management

Events organisers



Ticketing 2.0

Fan engagement



How blockchain and its applications can help sustain relationships between clubs and their members?



Sports associations are constantly looking for new ways of communicating and raising money in an industry that has become highly competitive. With the rise of self-organised sports activities, clubs are keen to diversify their activities in order to increase their membership and build loyalty. Member engagement has become a priority. Innovation, and more specifically blockchain, can meet the expectations of clubs, federations, fans and members.



- ✓ Decentralisation
- ✓ Security
- ✓ Sharing
- ✓ Transparency

Solution

Tokenisation in a club

Action plan

A blockchain offering...

A virtual currency issued by the club, usable through a decentralised app associated with the club.

A solution of this nature would allow buyers (fans, volunteers, partners, sponsors) to:

- Vote on the club's strategic and financial decisions
- Hire spaces and organise events within the club
- Get special prices for lessons and outings, the club's merchandising products and complementary services (physiotherapy, sports medicine, or local mechanics partnering with the club, for example)
- Promote non-club activities and services to members

... based on a cryptocurrency

It would allow the club to:

- Reward the work of volunteers
- Fund some of the projects promoted by members
- Reinforce its connection with members and their engagement
- Reward members and foster a sense of belonging through games and challenges, with tickets to sporting events as prizes
- Help raise money for its members' individual projects by facilitating crowdfunding initiatives

Rollout

Sponsors

Clubs, federations and national leagues could offer tokens to give their holders access to exclusive services.

Key metrics

A token issuance (ICO/STO) can cost between €500 thousand and €1 million. Projects last roughly a year.

Bonus

Better management of fans gives the club more exposure among its financial partners.

Did you know?

There have been more than 50 token issuances (ICOs/STOs) dedicated to the sports industry. They can be broken down along several lines: financing, fan engagement, sports betting and various marketplaces.



Trailblazing initiatives



Fantastec has developed a blockchain solution to reward fan engagement with a platform that connects fans with their favourite teams and players.

The Fantastec solution rewards their activity in the app and allows them to play an active role in the club's development (timestamped and protected with total security).



Lymbo is a free app that gives users the chance to earn rewards in the form of tokens by sharing their sports and health data.

They can then use their tokens to buy products and services on the Lymbo platform, which brings together more than 500 fitness professionals. The solution also includes a platform for financing innovative start-ups.



With its offices a stone's throw from the Roland Garros tennis venue, it was only logical that **Setteo** should develop a platform dedicated to the more than 650 million players of racket sports worldwide. The Setteo platform is not just a social network; it is also a management tool for clubs and federations and can be used to

organise matches and competitions. The company has also launched SETcoin, a cryptocurrency that can be used to book and pay for lessons, register for tournaments, watch games and even buy sports merchandise.



How blockchain and its applications can help develop the user experience for fans?



Most clubs are run on a strict hierarchy. Fans have little say in the club's decisions, strategic or otherwise. Blockchain can help redefine the relationship between fans and their favourite club by providing the transparency that has until now been lacking. Tokens (or clubcoin) can be used to provide new services. In addition, blockchain offers clubs innovative ways of financing through token issuances (ICOs or STOs).



Solution

Tokenisation for fans

Action plan

Token issuance (ICO or STO): issue of a club coin to redefine the relationship between the club and its fans

- Definition of a business model allowing a coin to be issued via a digital fundraising process (token issuance – ICO or STO)
- The coin would help fund a project, for example by partly financing the transfer of a player and/or funding the creation of an infrastructure that allows the fan owning the coin to obtain a service:
 - Financial: e.g., getting “royalties” on the club's sales
- Non-Financial: e.g., getting tickets for a match or meetups with players
- Tokens could also give their owners a voice on non-strategic club decisions, such as in a vote on the colour of a shirt or the composition of a team.

Rollout

Sponsor

Clubs, federations and national leagues could offer tokens to give their holders access to exclusive services.

Key metrics

A token issuance (ICO/STO) can cost between €500 thousand and €1 million. Projects last roughly a year.

Bonus

A project of this nature would help clubs trace their fans more effectively, increase their service offering, and in some cases fund new projects.

Did you know?

To date, there are more than 2,000 cryptocurrencies representing a market value in the vicinity of \$130 billion.



Trailblazing initiatives



Fantoken has created a token that gives fans a vote on important club decisions like selecting upcoming talent, or offers them a chance to share feedback with the community.

The greater the fans' engagement, the more tokens they earn and can then exchange for merchandising products or tickets to sporting events.



The **Socios.com** platform allows fans to exchange "clubcoin" for chiliZ tokens, which give their holders voting rights for non-strategic decisions like logos, the music played in the stadium, the colour of the shirts and summer tours. They also give them VIP status and other rewards.

Holders can also vote for the Most Valuable Player (MVP) or the player of the month.



Swace is a community initiative designed to remedy unsatisfactory experiences for users and brands on social networks, each from their own perspective. It is an independent platform with predefined game frames that brands can use to interact with users, who in turn receive rewards.

The app's economy is based on decentralised blockchain technology and revolves around a token known as Swace Coin. Its main purpose is to improve interactions between users and brands.



How blockchain and its applications can help build up funding for a sporting career?



Today's sports institutions are designed for high-level athletes scouted at an early age by sports professionals in clubs or sports centres. But talents can emerge later or outside a high-level sporting structure. So how can these athletes be given the chance to become the champions of tomorrow? What can be done to help them find funding and manage their sporting data?



Decentralisation



Security



Sharing



Transparency

Solution

A digital platform: “Les Jeunes Poussent !”

Action plan

A funding offer

- Funding of athletes via a digital platform in the form of a token issuance (ICO/STO)
- Creation of a pool of athletes appointed by a “Les Jeunes Poussent !” Board
- Establishment of a contract between investors and athletes or pools of athletes

A marketplace

- Provision of sporting data (results, physical performances, etc.) on the platform thanks to the athlete, who authenticates the information
- Creation of a marketplace to sell athletes' data to other stakeholders: athlete management systems, clubs, leagues, broadcasters, labs

A solution to current shortcomings

- Funding for semi-professional athletes who are not part of a high-level structure
- Pooling of sporting data

Rollout

Sponsors

The working group identified several potential sponsors for a project of this nature: investors, young semi-professional athletes and other stakeholders such as athlete management systems, labs, broadcasters, clubs and leagues.

Phasing

The first phase involves putting investors in contact with athletes on the platform. The second key phase is the sale of data to other stakeholders.

Bonus

This offer allows non-professional athletes outside sporting structures to find funding and let their talent shine through.

Did you know?

In Brig, young skiers have to pay between 18,000 and 40,000 Swiss francs each year to cover their expenses.



Trailblazing initiatives



SportyCo is a crowdfunding platform based on blockchain.

The SPF token funds talents, with investors' returns coming as a share of the athlete's future performance and earnings. SportyCo puts athletes in direct contact with fans.



Globatalent is a marketplace that allows people around the world to fund and trade their favourite athletes, clubs and sporting idols.

Athletes can raise funds to develop their careers, later giving fans back a portion of their income.

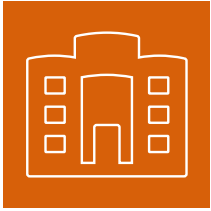
Clubs and sports institutions can raise funds in exchange for a percentage of tickets, sponsorship, television rights and more, in total transparency.



Netscouters is a football investment platform designed chiefly to create a decentralised platform to access players' skills. By extension, this simply means a collaborative effort with public and private sectors or agencies to help make football a more inclusive game.

promote the status and economy of the clubs and leagues for which they play.

It allows children from all backgrounds to develop their innate potential, and helps



How blockchain and its applications can improve management and data use and strengthen the fight against doping?



Most high-level athletes lack both regular medical follow-up and expert medical advice. This poses a real problem when athletes have to take medical treatment, since they need to know which drugs they can take without being vulnerable to accusations of doping. This is a question of education, monitoring and prevention, and above all of transparency in relation to the World Anti-Doping Agency (WADA), federations, events organisers and fans. Moreover, international institutions could establish a new standard sports contract to reduce the complexity of contract negotiations in sport in view of the great number of stakeholders (agents, lawyers, clubs, banks, investment funds, relatives, etc.).



✓ Decentralisation ✓ Security ✓ Sharing ✓ Transparency

Solution

Decentralised medical records for athletes and “blockchained” contracts 2.0

Action plan

Create a decentralised register containing all the athlete’s medical data

A digitised “blockchained” sports contract

- The creation of a decentralised register containing the athlete’s full medical record (prescriptions, report, dosage, etc.) would facilitate the submission of examination results and the monitoring of controls.
- A decentralised register could:
 - Significantly reduce the risk of hacking, which would not alter athletes’ behaviour.
 - Promote better sharing of information and greater awareness among athletes about drugs that are dangerous to their health and that also pose a doping risk.
 - Provide the athlete’s location data at any given time for random controls.
- The implementation of decentralised smart contracts would ensure the automated execution of certain clauses of the contract.
- Digitisation and transformation into decentralised smart contracts would simplify contract negotiations and make for additional transparency and clarity.
- Such an approach could help standardise contracts, making for better use of data.

Rollout

Sponsors

The working group cites clubs, athletes, institutions, agents, leagues, management and control organisations, and international institutions as the potential sponsors for a project of this nature.

Phasing

Six months of development and three to five years to be implemented.

Bonus

A solution of this nature would give athletes reliable and optimal access to data (drugs, dosage, geography, etc.) authorised by WADA. Institutions could also use blockchain to map and optimise financial flows between the stakeholders of the ecosystem.

Did you know?

Between 0% and 2% of official anti-doping tests give a positive result

Athlete contracts can have as many as 100 clauses



Trailblazing initiatives



Carrefour applies blockchain in the food sector, allowing each link in the supply chain (producers, processors and distributors) to provide traceability information for its respective part in the process and for each batch (dates, places, livestock buildings, distribution channel, potential treatments, etc.).

At the end of the chain, the product label features a QR code that consumers can scan to access information including where and how the animal was reared, the name of the breeder, what feed was used (whether it was fed on French grains and soybean meal, whether the feed was free of GMOs, etc.), whether it was treated in any way (absence of antibiotics, etc.), any quality labels it bears and where it was slaughtered.



Sports Decisions digitises and models sports club contract data, providing a direct interface between contracts and sports results, and generating a preparatory statement of players' pay.

The digitisation of contracts and the interfacing with sports results is a first step towards securing and simplifying data management between clubs, leagues and athletes.



Woleet is used to timestamp data, thereby fixing them in the bitcoin blockchain. The evidence generated is verifiable without calling on a third party, anywhere in the world and at any time.

Confidential data remain under the complete control of the Woleet user. The conclusive proof of signature is independent of the document and can be verified without a third party.



How blockchain and its applications can help develop event organisation?



International events give rise to a lot of ticket selling and reselling. Fraud, identity theft and falsification are widespread.



Decentralisation



Security



Sharing



Transparency

Solution

World Cup token: from ticket tokenisation to a fan marketplace

Action plan

Creation of a marketplace
for ticketing or fan data

- Creation of a decentralised platform to:
 - guarantee the authenticity of buyers' data ("know your customer")
 - guarantee the authenticity of tickets
 - sell, resell and swap tickets for an event
 - fight the circulation of counterfeit tickets
 - control the secondary market
- Once the ticket has been purchased, the platform can give ticket holders the chance to share their personal data and monetise it, e.g.:
 - photos and videos of the event
 - comments and analysis on the match, with payment for relevant content
- Event organisers could create smart contracts to:
 - create cancellation insurance for supporters giving rise to automatic refunds
 - share comments and analysis on the match, with payment for relevant content

Rollout

Sponsors

Clubs, federations and events organisers are the potential sponsors and first beneficiaries of this action plan.

Phasing

Six months of development and three to five years to be implemented.

Bonus

A project of this nature would ensure the full traceability of tickets for their entire life span. It would also allow event organisers to create new services to offer fans.

Did you know?

In the United Kingdom, the value of the ticket resale market is estimated at more than a billion dollars a year.



Trailblazing initiatives



Footballcoin combines fantasy league and sports betting using blockchain and an app-specific cryptocurrency. When they win matches and tournaments, users can spend their tokens to virtually buy or sell players. FootballCoin is partnering with MonPetitGazon in France.



EtherSport is a platform where people from all over the world can bet on sports events. The lottery mechanism uses Ethereum contracts that guarantee fair and transparent results, avoiding risks and corruption.

EtherSport offers many advantages, including security, a simple user registration process, anonymity, an open and transparent process for all monetary transactions and fast payment of the prize, with no hidden fees. Ethersportcoin (ESC) is an ERC20 token built on the Ethereum platform.



AXA has developed an insurance product for flight delays using blockchain technology. Travellers can take out flight delay insurance, and AXA refunds them automatically if the flight is more than 2 hours late.

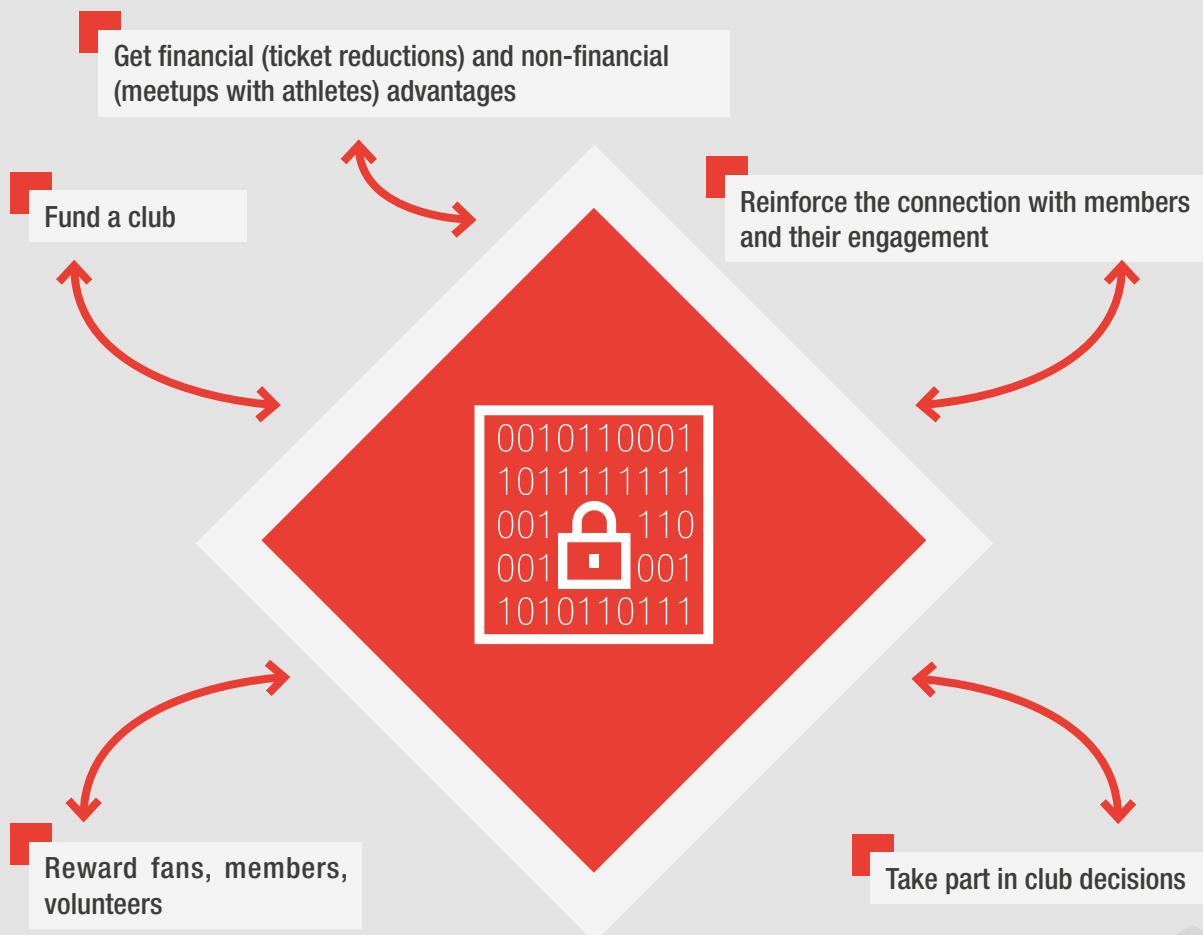
Subscribers don't need to fill in any documents or provide any proof. The money is transferred instantly when the plane touches down.

To sum up

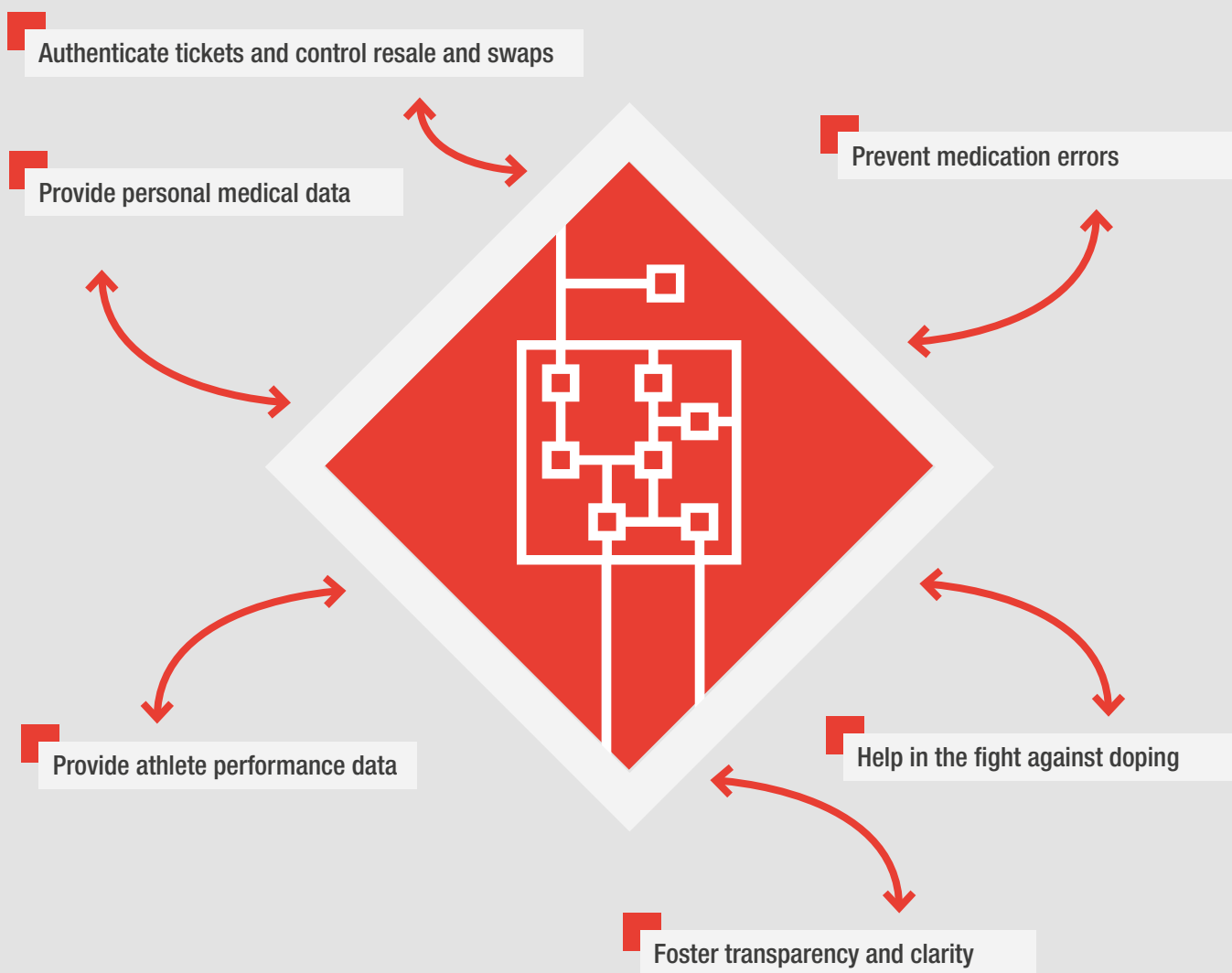
A range of stakeholders...

... using the same blockchain solutions

Use of a token



Use of a decentralised platform



Let's fast forward to 2024...

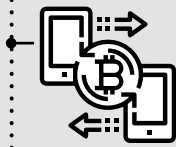
Welcome to 2024: the Le Tremplin Sport team vs the PwC Sport team in a “blockchained” world



Ticketing 2.0

Tickets issued by the organiser are tokenised on a decentralised platform

- Blockchain gives organisers control over the secondary market (ticket resale/swaps)
- This guarantees the authenticity of the swapped tickets, greatly reducing fraud and the circulation of counterfeit tickets

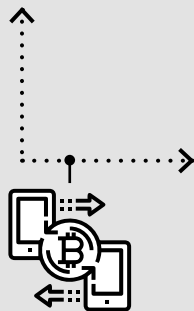


- Tickets are all issued on a blockchain: buyers can be sure that their tickets are genuine and that they really belong to them
- Organisers can be sure of the buyers' identity

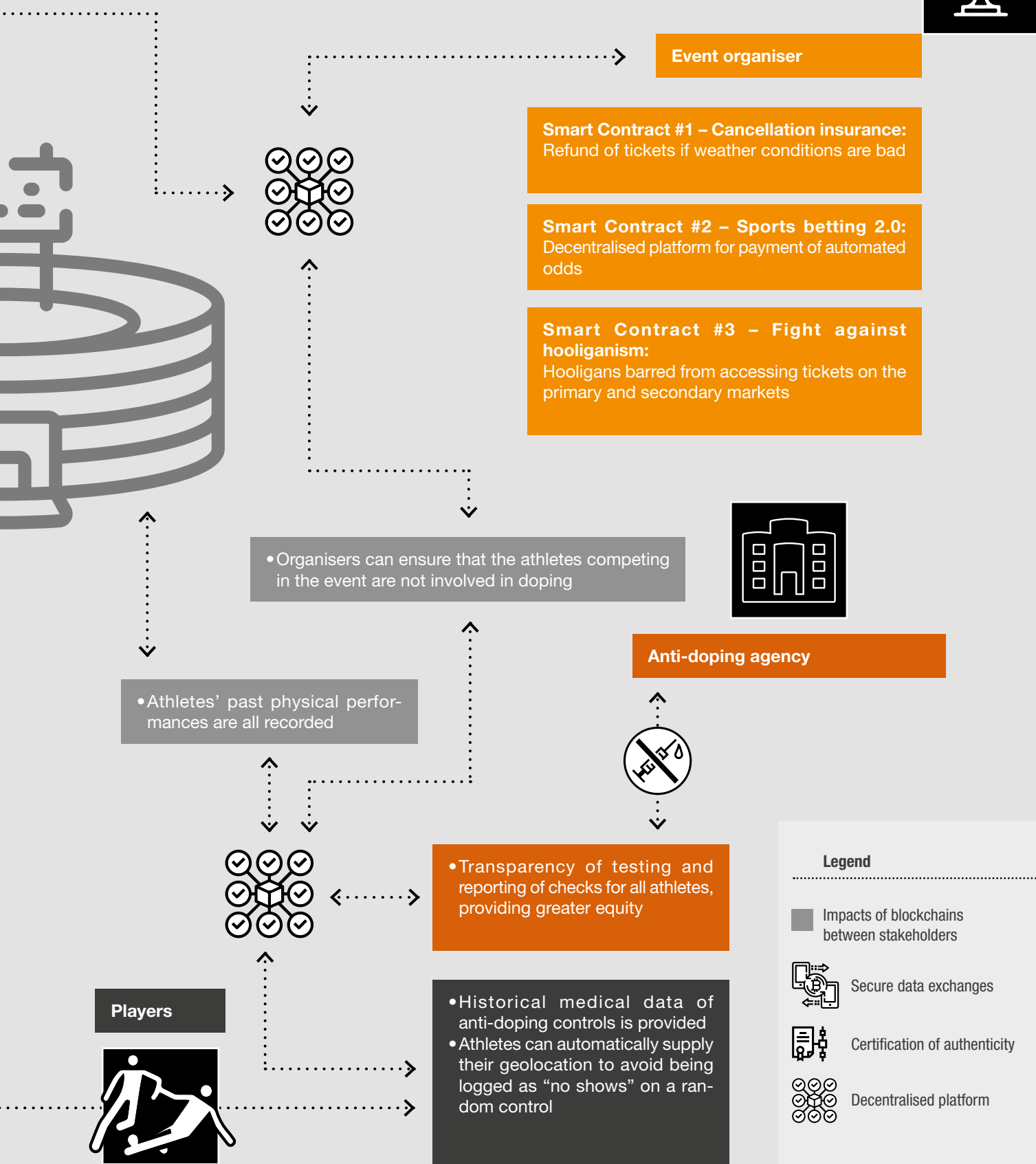


The fans of both teams get their respective tokens

- Vote for the colour of a shirt
- Vote for players in the starting lineup and on the bench
- Vote for the player of the match
- Access exclusive club services
- Vote on transfers and get a share of the profits on purchases



- Players can resell their data
- The relationship with fans is optimised and controlled
- Players have total control over their image



Forty Stakeholders Committed to the success of the Games

At this workshop, participants from various sectors of activity pooled their expertise to discuss the significant actions needed to develop blockchain applications in sport.

“They shared their expertise from different sectors of activity”



Themes

The French sports movement is facing a number of challenges. Blockchain technology has many applications in other industries, and is already changing the face of professional sports. But what about amateur sport?

The French Ministry of Sports, together with the French Football Federation and the French Tennis Federation, two organisations seen as benchmarks in innovation, and Le Tremplin, Paris&Co's dedicated sports-innovation platform, have joined forces for the first call for projects on blockchain technology to encourage people to play sports. Going by the name of **"Sports Hackathon": blockchain in the service of sport**, it will take place on **March 30 and 31, 2019**.

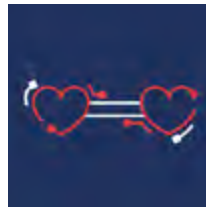
The eight teams selected will develop prototypes on the four themes cited above. The hackathon's winning project will receive a prize of €30,000, along with mentoring from Le Tremplin. It will also benefit from experiments with the FFF and the FFT.

<http://www.agorize.com/hackathon-sport-2019>

(*) A hackathon is an event where a group of people from different backgrounds (developers, students, specialists in a sector, designers, financiers, etc.) get together for some collaborative computer programming over several days. It is a creative process frequently used in the field of digital innovation.



Volunteering:
how can we strengthen
engagement and
recruitment?



Sports by prescription
and sporting health



The future of licences



Augmented clubs:
experiences for the
community

The workshop discussion was organised and facilitated by passionate sports consultants, the PwC "Ambitions2024" team, in collaboration with start-up incubator Le Tremplin, part of Paris&CO.

Cyrielle Peretti, Romain Tormen, Pierre Alexis Bernard, Elodie Marinier, William Heude, Eloi Pomé and Rémi Rouet for Ambitions2024

Tristan Muratore, Corentin Richard, Romain Tormen, William de Toro and Rémi Rouet for the Blockchain Lab.

Vincent Chotel, Charles Frémont, Maryline Ottman and Omar El Zayat for Le Tremplin.



LE TREMLIN

#Ambitions
2024





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Ambitions2024

#Ambitions 2024

A PwC France initiative

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