

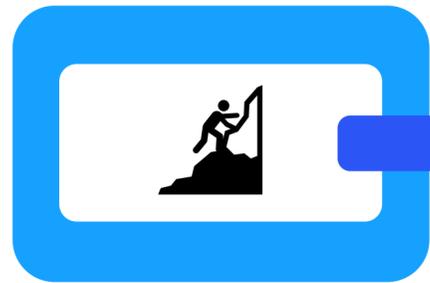
# Blockchain Adoption for Lotteries

A blueprint for lotteries transition to blockchain; Onboarding approach and readiness assessment overview

February 2023



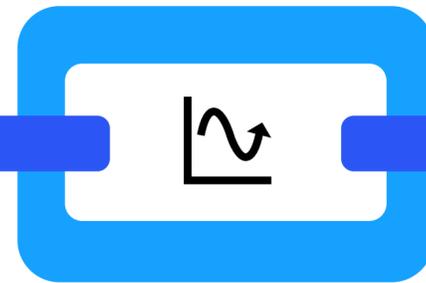
# Why building presence on blockchain



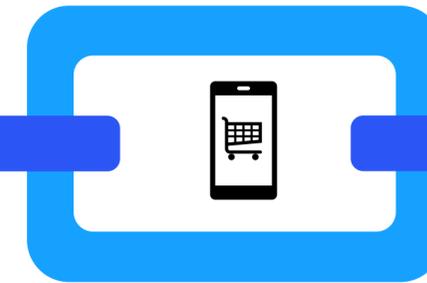
The global lottery industry is moving closer to cross-border, high-technology lotteries, and **Blockchain technology as an enabler**, can be the steppingstone needed for this innovation.



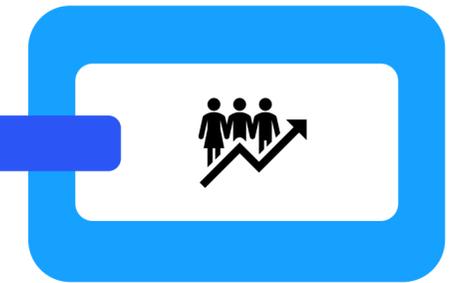
It is forecast that blockchain will generate an annual business value of **\$3.1 trillion by 2030** and 20% of global economic infrastructure will be running on blockchain-based systems ([Gartner](#)).



The global lottery industry is facing challenges and inefficiencies that **inhibit responsible and sustainable growth**. State-authorized lotteries seek growth partners focused on channel expansion, game content, and attracting new players.



With an increased blockchain adoption and a **shift in consumer behavior**, it's time to focus on a seamless, secure, and innovative solution that allows state-authorized lotteries to be more circular, with no additional operating and administrative overhead.



Several factors are contributing to generally stagnant lottery revenues, including lower participation rates by millennials and **lack of participation of Zoomers (Gen Z)**; a new generation of players that soon expect to do everything on blockchain.

# Sample use cases (non-exhaustive)

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Although the following use cases are just a few samples, they try to explain how lotteries are enabled to overcome some of their challenges with the help of blockchain, if they are properly implemented\*\*.

01

## Transparency in funds, financing and payments authentication

Blockchain has the potential to enhance management of traditional land-based gaming operations, for compliance with regulations as a no-charge-back payment system. For example, payments from customers could be authenticated and finalized with no chance of failure. It can also help to authenticate identities for payment of financial transactions. The process involves using the blockchain as another factor of security to create and verify the identity of users **through their blockchain-based wallets** used in purchase process. It would be feasible to publish aggregated or high-level financial information, like an annual report or to report the charities, in which funds were distributed (**transparency in where the money goes**), and since transactions are verified by a decentralized blockchain network, the basis of the published data can be trusted.

02

## Converging retail and digital experience, and improving operational efficiency

Bringing retail experience to digital world and providing the **best of in-store/retail and online experience** at the same time. A safe and secure environment to purchase tickets with unique identity associated to players without going through a painful signup process or having to login to a platform just to participate in online formats. This will drastically improve onboarding and participation time for players providing an enhanced and seamless experience through **blockchain-based PoS solution**, built on the premise that the **entire lottery experience begins and ends the same as at a retail store**.

\*\* Note: These sample use cases are just some of many use cases that are enabled by blockchain, and they are not by any mean a recommendation or a roadmap, and their application are subject to a thorough assessment as per Block Expert's blockchain adoption methodology and approach, management approval and implementation of appropriate infrastructure to allow such use cases to execute.



# Sample use cases (non-exhaustive) - Continued

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03

## Preventing ticket fraud and fraudulent claims

Ticket sales recorded on a blockchain help to prevent ticket fraud. If a user cannot see their ticket entered into the system, they know it is not a legitimate purchase. Similarly, it could reduce incidences of fraudulent claims for operators, who would be able to reference a verifiable record of ticket sale transactions traceable back to each vendor. All listed transactions on blockchain can be verified by viewing the **transaction history**. This element of transparency will **build trust in players and help prevent any sort of fraud**. This also means full auditability as blockchain gives a triple entry bookkeeping system in which all transactions are irreversible and are timestamped, documented in real-time, encrypted, and cannot be discarded or altered.

04

## Innovation in digital marketing, brand loyalty, and ticket validation

In Web1, marketing efforts were focused on building awareness and driving traffic to websites. With the advent of Web2 and social media, marketing became more about engagement and building relationships with customers. Web3 (blockchain) is moving us into a new era of marketing where authenticity, trust, transparency, and **ownership** are paramount.

Non-fungible Tokens (NFT) are one of the key technologies powering this new web. NFTs are unique digital assets, meaning they cannot be replicated or substituted for another asset. This makes them perfect for lottery ticketing. NFTs can be used in the form of collectibles to cultivate inclusion, belonging and engagement; To earn and buy digital collectible stamps in the form of non-fungible tokens (NFT) that can also automate **a loyalty program**. Each NFT has its own unique ownership verified on the blockchain. This helps gaining more trust from customers by issuing tickets that can **never be stolen, altered, duplicated or damaged**, so they will always be the true owners, and this will also eliminate labor intensive and long processing time for ticket validation.



# Sample use cases (non-exhaustive) - Continued

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05

## Dangers of falling behind and relevancy to new generation of players

There is a viewpoint to be considered with regards to customer trust and perception. As more and more sectors take on blockchain, it will become more widely known to provide efficient and highly secure options, with customers, especially new generation of players (**millennials and Gen Z**), looking at all areas of their lives to use blockchain. If a transparent, trustless, secure system is not being used, customers will question whether a company has something to hide or if it is even secure. There is also a danger of not keeping up with technology and risk of falling behind the competition. Much the same as when the internet came in, it had an impact on almost every sector; companies who were quicker to adapt, benefited more from the opportunities. The online gaming industry, as well as the demographics of lottery players, are **rapidly changing**.

06

## Offering provably fair and tamper-resistance drawing

Traditional random number generation or physical drawing systems in lotteries are centralized and lacks an easy cost-effective way to verify the results or if there has been any tampering. **Blockchain random number generators**, on the other hand, solve this problem by leveraging the blockchain technology to bring transparency, fairness, verifiability, and tamper-resistance into the process of generating numbers. Due to blockchain's provably fair system, it does not require third parties to verify randomness. The blockchain can generate **verifiably random numbers** and players could then assess the fairness by checking the process themselves.

# Adoption journey

To be on blockchain, a lift-and-shift approach will not work for many enterprise organizations. In fact, a transitional journey is a safer and more sustainable approach.

Starting point

## Onboarding – Scope of this document

Closing the gap between the perceived and actual value of blockchain, allowing for a more seamless transition for employees and other stakeholders.

Establish your presence

## Growth

Identifying growth partners in a B2B model (like in Metaverse) to build a broader customer base and create strategic alliances to achieve social purpose targets and accelerating ESG program for our lottery clients.

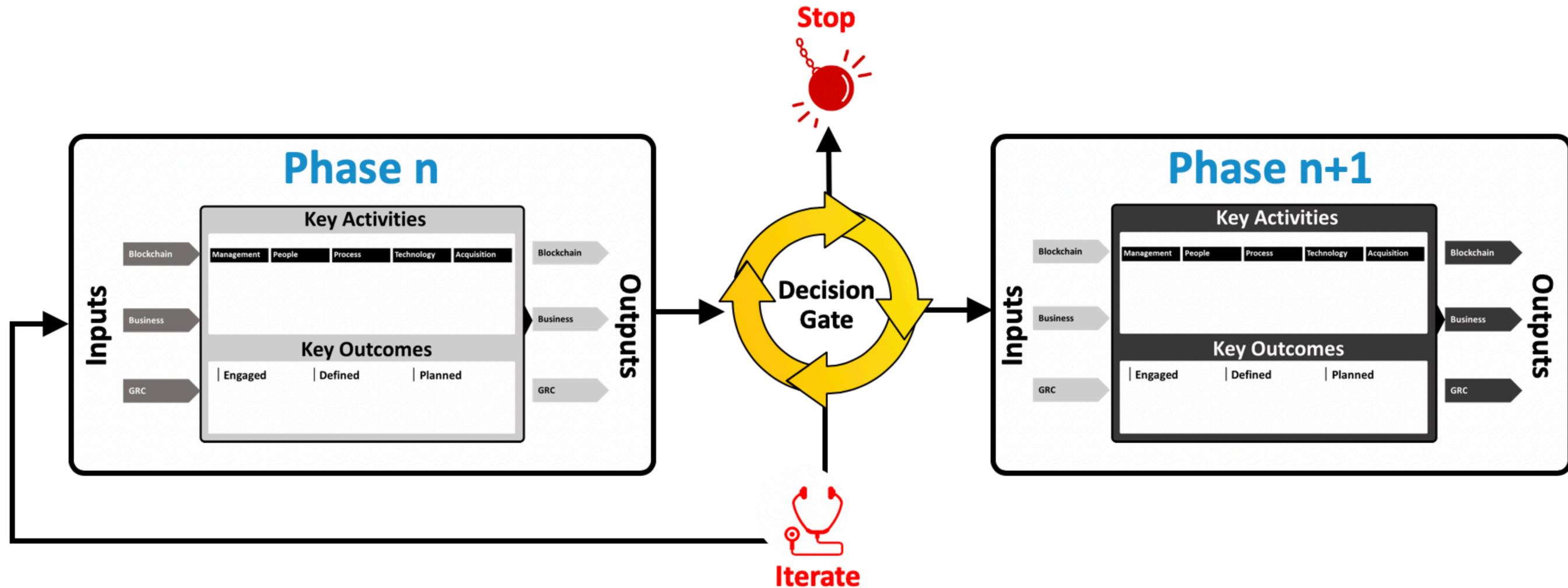
Maximising profit and market share

## Maturity

An optimized ecosystem to meet and exceed innovation and sustainability objectives that hosts all products and portfolios with zero interruption for our lottery clients.

# Onboarding methodology

Block Expert uses a tailored methodology based on the framework introduced by American Council for Technology-Industry Advisory Council (ACT-IAC), to evaluate organization's readiness state, assess its capabilities and requirements, and recommend blockchain services. Our methodology has 4 phases that at the end of each phase, management will decide to what extent to advance with their blockchain program.



# Onboarding approach

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Our approach to “onboarding” stage in Blockchain Adoption journey has 4 phases. At each phase, management can decide either to continue to the next phase or to stop progressing. The first phase will assess the organization’s appetite in blockchain adoption, and it is followed by a current state assessment of existing portfolios, identifying gaps, and development of a roadmap for the implementation of select use-cases in phase 2. Phase 3 and phase 4 will include the implementation and integration activities of such use cases. Only at phase 4, the current business model and processes of the organization will be impacted.

## 01

### READINESS ASSESSMENT

Determine if blockchain is the appropriate technology to solve the problem(s)

## 02

### CURRENT STATE AND ROADMAP

Identifying use case(s) and enabling the organization to operationalize the use case(s) (roadmap)

## 03

### IMPLEMENTATION

Implement the solution; pilot and run independent to the existing business operating model

## 04

### INTEGRATION

Integrate the use cases into the existing business operation



# Readiness assessment

Stage 1. Onboarding

Stage 2. Growth

Stage 3. Maturity

Phase 1. Readiness Assessment

Phase 2. Current State & Roadmap

Phase 3. Implementation

Phase 4. Integration

The Organizational Blockchain Adoption Readiness Assessment (OBARA) is a tool developed by Block Expert that helps organizations evaluate their readiness for blockchain adoption by assessing their maturity level across 5 key scope areas: Management, Process, People, Technology, and Acquisition. Each scope area includes categories that define objectives of assessment in that scope area.

Block Expert's uses six maturity levels to measure maturity in OBARA framework, starting with a level 0 that indicates no activities, followed by five standard maturity levels to measure maturity, ranging from 1 to 5.



# Key activities in onboarding stage

The following matrix proposes the key activities for all 4 onboarding phases mapped to the scope areas:

Phase/Scope	Management	People	Process	Technology	Acquisition
<b>READINESS ASSESSMENT</b>	<ul style="list-style-type: none"> <li>Identify the risk appetite to adopt blockchain to achieve mission goals</li> </ul>	<ul style="list-style-type: none"> <li>Identify potential stakeholders and collaborators</li> </ul>	<ul style="list-style-type: none"> <li>Define current state and identify the impacted business processes</li> </ul>	<ul style="list-style-type: none"> <li>Understand the blockchain attributes needed</li> </ul>	<ul style="list-style-type: none"> <li>Determine the procurement options</li> </ul>
<b>CURRENT STATE AND ROADMAP</b>	<ul style="list-style-type: none"> <li>Identify use cases for review</li> <li>Define initial schedule, budget, and governance</li> <li>Approve the schedule, and governance</li> <li>Finalize budget</li> <li>Develop and approve change management plan</li> </ul>	<ul style="list-style-type: none"> <li>Identify the key resources, users and consumers, and network participants</li> <li>Confirm engaging resources</li> <li>Identify skill gaps</li> <li>Develop and approve a plan to upskill engaging resources</li> </ul>	<ul style="list-style-type: none"> <li>Define scope of portfolios and services</li> <li>Identify the use cases and the value proposition</li> <li>Validate impact and develop target Concept of Operations (ConOps)</li> <li>Validate scope</li> <li>Test ConOps for target state</li> </ul>	<ul style="list-style-type: none"> <li>Assess readiness for risks related to DLT technology, security and decentralization</li> <li>Define scope requirements</li> <li>Choose technology platform</li> <li>Define business architecture</li> <li>Define operating model</li> <li>Develop roadmap</li> </ul>	<ul style="list-style-type: none"> <li>Establish consensus on DLT governance model</li> <li>Baseline target KPIs</li> <li>Define performance metrics</li> <li>Develop acquisition model and milestones</li> <li>Prepare acquisition</li> <li>Approve technology partner</li> </ul>
<b>IMPLEMENTATION</b>	<ul style="list-style-type: none"> <li>Finalize schedule and governance</li> <li>Standard process developed and deployed</li> <li>Risk analysis completed on testing environment</li> </ul>	<ul style="list-style-type: none"> <li>Resource allocation</li> <li>Fill skill gaps</li> <li>Deliver required training</li> <li>Continuous skill audit and training</li> </ul>	<ul style="list-style-type: none"> <li>Manage scope</li> <li>Initiate and run project management and design sprints</li> <li>Finalize and approve implementation process</li> </ul>	<ul style="list-style-type: none"> <li>Regulation refined and met</li> <li>Deploy technology platform</li> <li>Finalize business architecture</li> <li>Finalize operating model</li> <li>Implement security controls</li> </ul>	<ul style="list-style-type: none"> <li>Award solicitation</li> <li>Administer the contract</li> <li>Modify contract</li> <li>Prepare and award follow on acquisition</li> </ul>
<b>INTEGRATION</b>	<ul style="list-style-type: none"> <li>Monitor schedule &amp; budget</li> <li>Approve governance of Smart Contracts (if any)</li> <li>Initiate change management process</li> </ul>	<ul style="list-style-type: none"> <li>Monitor skill gaps</li> <li>Rollout compensation structure</li> </ul>	<ul style="list-style-type: none"> <li>Initiate integration of use cases to existing business model by establishing a project management office</li> </ul>	<ul style="list-style-type: none"> <li>Integration with client code</li> <li>Integration with participant's network</li> <li>Complete code deployment and testing</li> </ul>	<ul style="list-style-type: none"> <li>Administer the contract</li> <li>Monitor contract performance</li> <li>Modify contract</li> </ul>



# Tentative timeline

The following timeline outlines a tentative schedule and an overview of steps involved in the “Readiness Assessment” phase of “Onboarding” stage in Adoption Journey. We anticipate to complete our work within 6 to 8 weeks, which also depends on the availability of business stakeholders and process owners for interview workshops.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Step 1 Plan	■							
Step 2 Assess		■ Review documents, interviews and workshops						
Step 3 Analyze				■				
Step 4 Report						■		





# Appendix

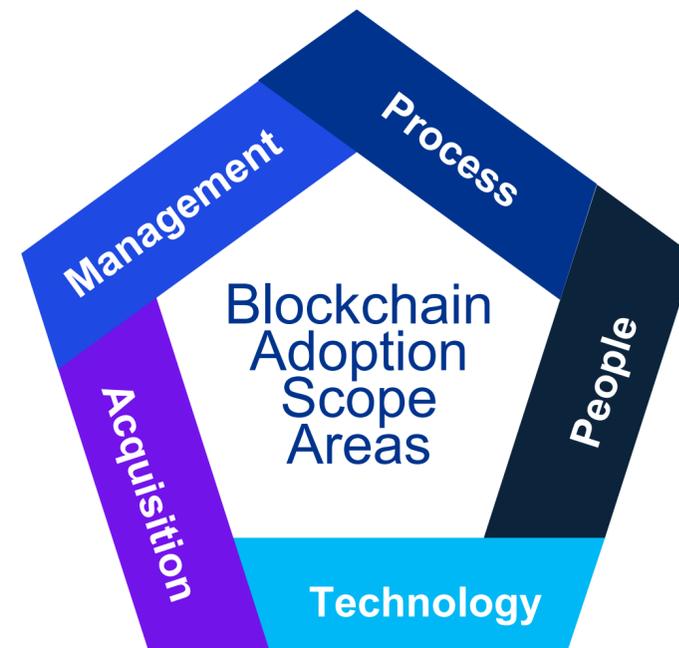
# OBARA framework

## Introduction

Implementing blockchain technology can bring significant benefits, but also unique challenges and risks that must be considered. A readiness assessment helps heavily regulated and traditional businesses such as the lottery corporations evaluate their capabilities and identify areas for improvement and ensure that the implementation of blockchain technology aligns with goals, objectives and relevant laws and regulations.

## OBARA

- The Organizational Blockchain Adoption Readiness Assessment (OBARA) is a tool developed by Block Expert that helps organizations evaluate their readiness for blockchain adoption by assessing their maturity level across 5 key scope areas: Management, Process, People, Technology, and Acquisition.
- OBARA helps organizations evaluate their readiness for blockchain adoption and identify areas for improvement to make data-driven decisions for successful implementation of a secure and compliant blockchain program. It also aims to identify the maturity level needed for the simplest use cases.



## Scoring

Block Expert scores each blockchain adoption scope area and their related categories against the maturity model resulting in a maturity score per scope area. This helps you to identify which scope areas are below your desired maturity level.

Block Expert provides specific recommendations to improve the maturity level and help you initiate your blockchain program in a sustainable way.



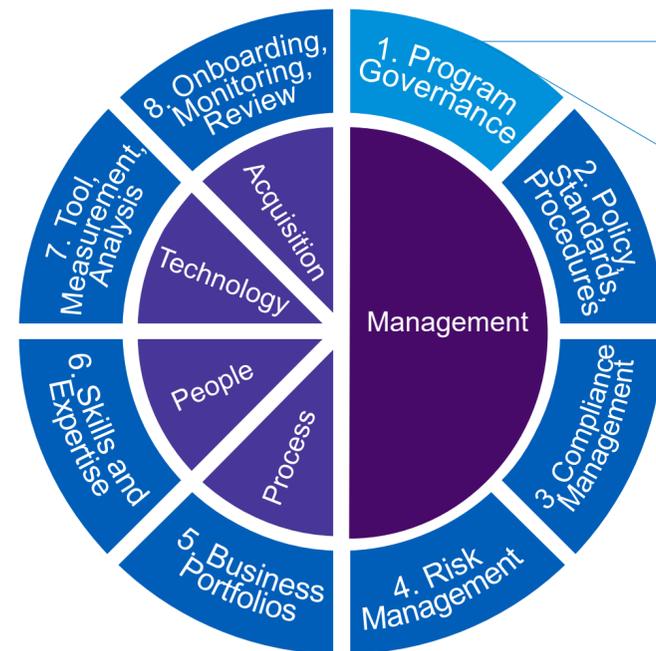
# How OBARA framework works

The OBARA framework is designed to assess the organization's current capabilities and identify areas for improvement, with the goal of ensuring that the organization's blockchain program is aligned with its strategic goals and objectives, compliant with relevant laws and regulations, secure, and effectively managed.

The framework includes 5 scope areas that cover 8 categories.

Each category contains several topics.

Each topic includes several control requirements.



PROGRAM GOVERNANCE MODEL / STRUCTURE

PROGRAM OBJECTIVES AND GOALS

...

The organization should have a clear governance structure in place that outlines the roles and responsibilities of individuals and teams responsible for overseeing the blockchain program.

The organization should have a defined governance framework in place that outlines the policies and procedures for managing the blockchain program, including decision-making, risk management, and compliance.

...

## Assessment questions

- The OBARA framework consists of 8 categories, each category has several topics and for each topic there is a set of maturity questions.
- To give an example we have taken one topic from the 'Program Governance' category and the table below shows the associated readiness assessment questions.

1. Program Governance					Current State	
					0.0	
Topics	Ref. ID	Objective	Control	Assessment Question	Current Maturity	Maturity Criteria
Program Governance Model / Structure	PG.1	To ensure that there is a clear and defined responsibility and accountability for the oversight of the organization's blockchain program.	The organization should have a clear governance structure in place that outlines the roles and responsibilities of individuals and teams responsible for overseeing the blockchain program.	Does the organization have defined responsibility and accountability for the oversight of blockchain program?	0 – Start-up or no activity	There is no formalized blockchain governance program, and no defined responsibility or accountability for the oversight of the blockchain program.
	PG.2	To ensure that the organization has a governance framework in place for its blockchain program.	The organization should have a defined governance framework in place that outlines the policies and procedures for managing the blockchain program, including decision-making, risk management and compliance.	Does the organization have established a governance framework for the blockchain program?	0 – Start-up or no activity	There is no established governance framework for the blockchain program.
	PG.3	To ensure that the organization has a defined schedule in place to review and evaluate the blockchain program.	The org defined review including perform compli			

Blockchain Adoption Readiness Assessment Maturity Results



# Blockchain Lottery Initiative to Support Good Causes in Ukraine

Block Expert  
July 6, 2022 · 4 min read



Block Expert

One blockchain company – Block Expert, Inc. – provides a turnkey solution (MyLottoCoin), that shapes a blockchain-enabled future for state-authorized lotteries. The organisation has developed a UNL Super Lotto-themed lottery with the same rules on blockchain (BNB Chain) so it can be accessed globally and played by crypto (BNB) with a substantial portion of sales going to charitable causes through official channels.



## Case study

<b>Organization</b>	<b>United24 – the office of president of Ukraine</b>
<b>Project title</b>	Fundraising through blockchain version of Ukraine National Lottery (UNL)
<b>Project description</b>	<p>Since the start of war in February 2022, UNL has lost more than 80% of their revenue due to lack of player’s participation. During the early stages of war, Block Expert started communication with the United24 – an initiative by the office of president of Ukraine to raise funds – to help the people of Ukraine by building a fully autonomous version of UNL’s SuperLotto game on blockchain. This move was as part of our corporate social responsibility to:</p> <ul style="list-style-type: none"> <li>• revive the SuperLotto game to fulfill its fundamental mission of raising funds for good causes.</li> <li>• contribute to Ukraine’s recovery through a historically-proven method to raise funds in a sustainable manner (the foundational concept of lottery: more people participating, more funds collected).</li> <li>• allocate 35% of proceeds to the charitable causes of the Ukrainian government at each draw.</li> <li>• reward the participating players quarterly with 10% of tickets sold.</li> </ul> <p>At Block Expert, we did our part in leveraging innovation for humanitarian causes. The game went live on 8th July 2022, which marks “Family Day” in Ukrainian calendar, and everyone now has a chance to play or donate to the prize pool for a greater good.</p>



# About Block Expert

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- ❖ Our goal is to build with our partners the infrastructure that allows official and state lotteries to be more circular, with near-zero operating and maintenance cost, in a format designed for the blockchain age ensuring both traditional lottery players and blockchain-enthusiasts enjoy the future, today while empowering players and maintaining the traditional elements.
- ❖ Our team are Subject Matter Experts (SMEs) on business process management, cyber security, and enterprise blockchain adoption and development, specifically in the lottery industry, to help state authorized lotteries build their blockchain presence.
- ❖ We assist our clients at every phase of the process, from initiation and onboarding stage to growth stage providing in depth research and analysis to full scale development, factoring in the full spectrum of business procedures and regulations.

## Who we are

Block Expert Inc., headquartered in Canada, serving globally, is at the forefront of blockchain adoption for lottery industry, assisting our partners to respond to the ever-changing market demands by adopting emerging technologies to increase revenue with near-zero operating and administrative cost while still reinforcing the existing brick-and-mortar business model.



# Links and portfolio

Company Website:

<https://bexpert.com>

Company One-Pager:

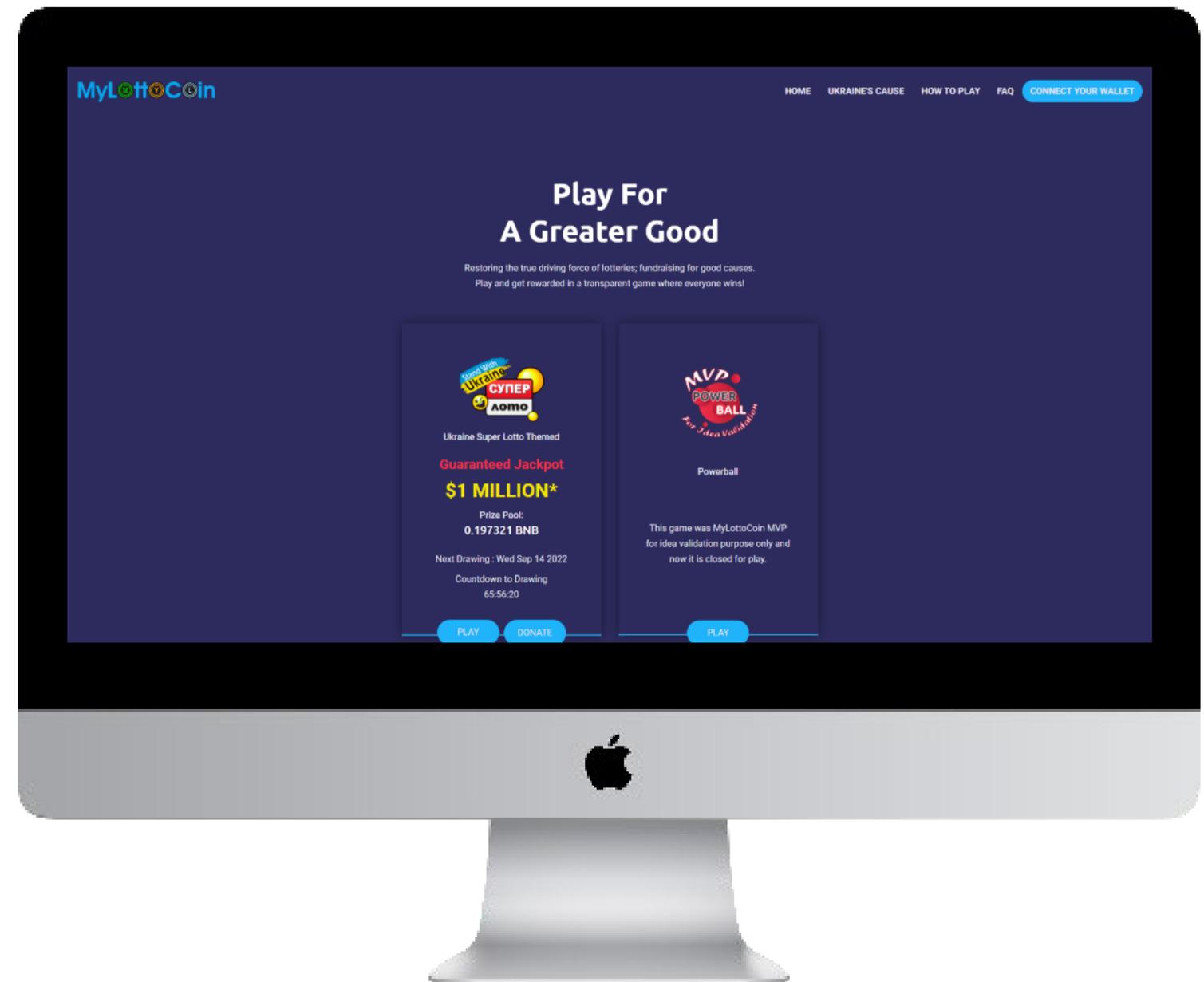
<https://www.bexpert.com/factsheet.pdf>

Game DApp:

<https://www.mylottocoin.com>

The Turnkey Solution Deck:

<https://www.bexpert.com/turnkey.pdf>



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**Bennett Jones**

*Block Expert Inc. has contracted Bennett Jones LLP to help navigating the legal complexities of this new environment and to help our clients create and seize opportunities and mitigate risk.*





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