

# Leveraging Decentralized Machine Learning and EXPERIO Token for On-Demand Expert Advice

## Abstract

You wake up feeling unwell with a fever of 38.1°C, a severe cough, scratchy throat, and frequent visits to the bathroom. You contact your doctor but are offered an appointment for the next week. Feeling disappointed, you decline, one week is just too long. All you want is an answer to your illness! As days pass, your condition worsens, leading to an emergency room visit where you're diagnosed with a bacterial infection and prescribed antibiotics. You recover in five days, wondering why getting medical advice had to be so difficult. In the digital age, the quest for swift and accurate expert advice, especially in complex fields like medicine and law, is crucial yet challenging to satisfy. Current online platforms often fall short of delivering the promptness and precision needed for effective decision-making. This white paper introduces a pioneering ecosystem that marries decentralized machine learning technologies, such as BitTensor, with an exclusive network of real-world experts, underpinned by the EXPERIO token. This innovative amalgamation dramatically elevates the speed and accuracy of accessing expert advice online, markedly decreasing professional burden and enhancing procedural efficiency by over tenfold.

## Introduction

The proliferation of internet technology has vastly improved access to information. However, timely and accurate expert advice remains a challenging commodity, especially in critical areas requiring specialized knowledge like law and medicine. The limitations of current platforms, including delays, high costs, and inconsistent quality, underscore the urgent need for innovation. Further, these platforms often fail to value the human element and often miss out on the between-the-lines information that humans can more easily pick up on and understand. To bridge this gap, EXPERIO

utilizes an innovative blend of decentralized machine learning, AI, and blockchain technology to ensure rapid, reliable, and accessible expert advice. By incorporating real-time data analysis and leveraging a global network of professionals, EXPERIO aims to redefine the standards of online advice.

## **Problem Statement**

Access to expert advice is crucial in a world where such guidance can significantly impact personal, financial, and health outcomes, especially in critical fields like law and medicine where accuracy, immediacy, and reliability are paramount. The current system's inefficiencies are not just minor inconveniences but substantial gaps that can lead to serious consequences. In today's digital age, the expectation for instant information and advice clashes with the reality of traditional expert advice platforms, which suffer from significant latency issues. This delay can have detrimental effects, such as in legal situations where timing is critical, potentially leading to missed deadlines, lost cases, or the irreversible loss of rights or assets, and in medical scenarios, where delays can hinder effective treatment, turning into health crises. Furthermore, the prohibitive cost of professional consultations exacerbates inequality, making expert advice inaccessible to many and deterring preventive consultations that could mitigate future issues.

The inconsistency in the quality of advice across traditional platforms further complicates matters, leading to potential misguidance in complex scenarios that require specialized knowledge. This lack of a standardized mechanism for evaluating advice accuracy and relevance forces users to depend on anecdotal evidence or the reputation of an expert, which may not reflect their current expertise or understanding of a specific issue accurately. Additionally, the current ecosystem's lack of mechanisms for holding experts accountable and regularly evaluating their expertise diminishes the incentive for experts to maintain the accuracy and quality of their advice. This reliance on word-of-mouth reputation is a flawed and unreliable metric for assessing professional competence. Addressing these challenges is imperative; a novel approach that offers a reliable, immediate platform with a transparent mechanism for ensuring the quality of advice is essential. This solution should make expert knowledge affordable and accessible to all, regardless of socioeconomic status, thus transforming the landscape of expert advice and ensuring that decisions in critical areas are informed, timely, and based on the highest quality of guidance available.

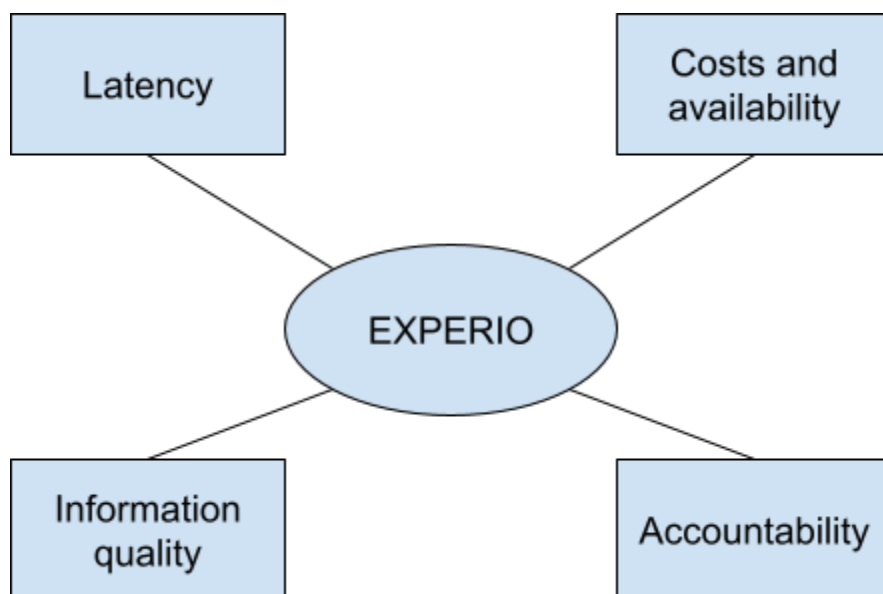


Figure 1: The Problem

## Theoretical Background and Technological Foundation

Underpinning our approach is a blend of theoretical insights on information quality and digital trust with the technological prowess of decentralized machine learning. Bitsensor's decentralized network provides a robust foundation for accurate, initial automated responses, while the integration of human expertise ensures nuanced, context-aware advice. This dual approach harnesses the best of AI and machine learning capabilities with human judgment, directly addressing the limitations of current technologies in understanding complex human scenarios. Furthermore, EXPERIO is committed to developing cutting-edge Natural Language Processing (NLP) algorithms to further enhance and process expert advice, ensuring that our platform remains at the forefront of technological innovation in the field.

Subnets being developed on popular blockchain AI platforms like Bittensor and Fetch.ai are poised to supplement the advice from experts, with these models improving at an exponential pace. They offer a fertile ground for a potential decentralized application, such as EXPERIO, to leverage these models for practical, real-world applications. This progression is integral to the future of the EXPERIO token and network, aiming to harness a proprietary EXPERIO AI. This AI utilizes all information passing through in the form of questions and answers, supported by both experts and AI and machine learning, to provide advice that is increasingly complex, quicker, and more cost-effective than

ever before. Through this innovation, EXPERIO aspires to redefine the landscape of expert advice, making it more accessible and reliable for users worldwide.

## Solution Overview

The proposed solution ingeniously marries Bittensor's decentralized machine learning with a network of vetted professionals within the EXPERIO token economy. User inquiries initially processed by Bittensor's machine learning template are directed to relevant experts when necessary, ensuring efficient and accurate advice. This layered methodology, facilitated by the EXPERIO token, optimizes professional involvement and incentivizes high-quality contributions.

This might take place with a question related to a field like estate planning. A buyer might ask the question, **what are the consequences of buying a home with structural problems?** The user would then pay EXPERIO tokens based on the complexity of the question. This would be decided by a **proprietary EXPERIO AI** which would determine the amount of tokens necessary to fulfill the request based on three variables: the payout to a professional, activity within the network, and the currency needed to execute on the AI or machine learning blockchain that would be most appropriate. We also multiply that, adding 3% onto the price, as a deposit to ensure that there is extra room in case of a stark change on the price of the AI chain utilized.

$$E(cost) = 1.03 ( TruePayoutToProf ) * activity + TAO$$

Figure 2 Equation determining price of question (TAO is a placeholder for the AI blockchain currency to be used for the transaction)

It is important to note, not all questions will likely require usage of advanced AI or machine learning technology and, thus, the AI blockchain fee will not be present. Once the payment has been made, the question is hashed to ensure that the user stays anonymous. This is then transferred through to the AI or machine learning chain, if necessary, and the output is then routed to a professional that has been specified by the EXPERIO AI. In this case, the Bitsensor network outputs that “sellers are required to disclose information regarding the structural integrity of the product and allow for the buyer to make an adequate decision. If not, you can pursue legal action against the seller”. An estate lawyer, chosen by the EXPERIO AI, would then scan through the question, and understanding the human nuance of the situation and understanding that this person is likely buying a property and may be looking for potential solutions for a

dilapidated house might add, “and potentially a buyer, in most jurisdictions, may demand that the seller fix those issues prior to purchasing the house”. With the estate lawyer looking over the response, and approving it, the solution would then be sent back to the asker which would provide feedback on a rating of the answer as well as any comments they may have. These would be stored in the EXPERIO backend and be utilized for allocation of future questions and payment for the expert.

$$TruePayout = PayoutToProf (complexity * rating)$$

Figure 3 : Payout formula

The *rating* function allows for the network to maintain professional integrity by multiplying by 1 for a 5 star grade and multiplying by .90 for 4 star rating and .75 for 3 star rating. This encourages professionals to put effort into their answers as falling below 4 stars can become punitive.

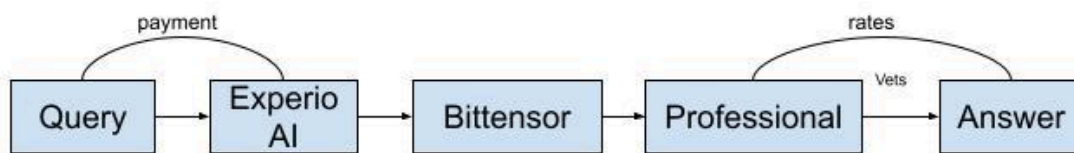


Figure 3: Flowchart for EXPERIO Queries

## Quality Assurance and Professional Network

To guarantee the highest standards of advice, our platform implements stringent professional vetting, including credential verification and performance-based evaluations. The EXPERIO token underpins a reputation and compensation mechanism, ensuring only top-tier professionals contribute, thus maintaining exceptional advice quality. We also try to use mechanisms within the operating system to ensure professional integrity as a core value. We request documentation of board certification from their respective country and ban all professionals that receive under a 2 star rating, on average, every 3 months. Further, our *rating* variable payout function to a provider encourages quality responses for the maximum pay which makes quality extremely valuable for providers, encouraging them to read between-the-lines and fully answer a question. This will create a continuous feedback loop, where user satisfaction and outcome effectiveness feed into an evolving quality assurance model. This model will regularly update vetting criteria and training materials for experts, ensuring that the

advice provided remains top-notch and up-to-date with the latest industry standards and regulations.

## Auditing Professionals

Every 3 months EXPERIO will conduct an internal audit giving select users meeting certain specifications, centered around interaction with the platform, EXPERIO to ask critical questions related to an expertise. We will also provide those users with a certain output to expect and will then compare the answer output to the answer expected from a board exam or other standardized professional guidelines to determine the validity of the answer. Those who fail the audit 2 times in a row will be subject to suspension from the platform with a potential ban. Those who help participate in these transactions in auditing professionals will be rewarded with the deposit to keep for ensuring professional integrity of the platform.

## Implementation and Operation

The market available in professional services and advice is estimated to be around 6.1 billion currently with a CAGR(compounded annual growth rate) of 5%. This shows a growing market space that might reach up to 8 billion by 2030 just in the United States. This is growing even faster in emerging markets like India, implying huge growth in the field of professional services. A company that is able to decentralize these services and allow for the masses to access the professional services they desperately need in a quick and efficient manner, worldwide, would revolutionize the industry and be able to capture a large amount of the total market available in the industry.

The implementation process of the EXPERIO token is already in motion. The minting of tokens will be given in stages, with the total number never to exceed 1 billion tokens. Network fees will be saved to reward users who ask the best questions, experts that give the best answers, and those who audit throughout the functioning of this application. A larger percentage of this fee will reward those who stake the token by giving them a chance to win airdropped tokens. The percentage that is leftover will be then used to burn or buyback EXPERIO so the currency maintains its value along with maintaining the EXPERIO service. This ensures that the token continues to increase in value and rewards those who continue to believe in the token and its utility.

EXPERIO is committed to comply with regulatory standards globally and are in active conversations with legal experts to ensure our ICO adheres to securities laws, KYC, and

AML requirements where we operate. We stress that EXPERIO is a utility token and not a security token.

Investors should consider market volatility, regulatory changes, and execution risks. While we are committed to our roadmap, changes in technology, market demands, or regulatory environments may necessitate adjustments.

Our core team is composed of a lawyer, a blockchain expert, along with a medical professionals that are supported by numerous well-known advisors who elect to stay anonymous at this time.

## **Challenges and Considerations**

Addressing the multifaceted challenges of this innovative ecosystem requires tackling technological, ethical, and logistical hurdles. This includes ensuring the reliability of AI-generated advice, safeguarding user privacy, and fostering a sustainable token economy. Strategies for overcoming these obstacles are discussed above to validate and ensure that advice given through this platform is accurate and helpful. The ethical issues with this type of platform will be addressed through consistent auditing along with a ratings system which will have a steep cutoff when a provider is lower than a 4 star rating.

Ensuring the token remains valuable is one of the biggest challenges in most token economies, however, ours addresses it through two unique mechanisms. Our token's value is based on the value of blockchain based AI/machine learning chains along with the real-world value of professional, hard-to-get advice. This ensures that our coin has a high floor for value due to the value of professional advice by itself, along with the advent of AI and machine learning algorithms becoming more valuable in the future. Further, the future of tethering tokens to real-world interactions opens up a whole new market of individuals that have largely been untapped as a user base in the cryptocurrency market.

## **Impact and Benefits**

The implementation of this platform promises a transformative impact on online access to expert advice. By streamlining the process, it dramatically reduces the barriers to obtaining crucial information, potentially saving lives and protecting assets. Furthermore, it democratizes access to expert knowledge, particularly benefiting underserved communities with limited access to professional advice. It also serves

those professionals in underserved communities as it may allow for them to serve more of their community along with the ability for providers living in highly saturated markets to find utility in their skills and provide to those in underserved communities.

Further, this will start to tether crypto tokens towards those individuals who have not yet seen a large influx of crypto in their everyday life in an easy way that they understand. Professionals will see an opportunity to exchange a couple minutes of time for cash they can redeem which is a value add they currently do not have. In addition, the economy of associating crypto with RWA(real world assets) presents a huge marketplace and as the value of EXPERIO increases, so will the data stored within the blockchain which could further enhance our proprietary AI analyzing both questions and answers to further increase the value of the EXPERIO token along with being better able to provide intelligent answers to expert level questions.

## **Roadmap**

Within two weeks after the initial ICO we plan on releasing our pre-MVP that demonstrates the basic functionality required for our product that users will be able to use. The next few months, till August of this year, our team will be focused on developing our and refining our proprietary AI algorithm along with marketing of EXPERIO to professional networks along with users through a Zealy based incentive program. After releasing our AI algorithm in August, we anticipate releasing our integration with multiple machine learning/AI blockchains by January of 2025 which will allow for our load of questions to increase and, likely, significantly reduce fees for usage of our product. By May of 2025 we anticipate a fully functional product with AI and machine learning chains fully integrated along with the ability of our platform to choose which chain would be best suited and cheapest for the best quality answer. By December of 2025, we anticipate being able to have over 1,000 providers on the platform with having answered over 1 million questions with that number continuing to increase exponentially. As our AI continues to filter more and more expert questions, and notices consistent themes between the individual advice, we will eventually be able to provide personalized expert advice that may end up needing no guidance by a professional. This would allow for a lessened expert burden and would be implemented likely by 2026 January to ensure that the network could handle the large amount of questions we predict it could be receiving by then, and ensure that the cost per question remains low if the complexity of the question is low.

## **Conclusion**



The fusion of decentralized machine learning and AI with a vetted professional network, powered by the EXPERIO token, offers a groundbreaking solution to the longstanding challenge of accessing reliable expert advice online. This white paper presents a visionary framework that marries technological innovation with human expertise, setting the stage for a new era of digital services powered by blockchain, AI, and machine learning. A future where every question, expert level or beginner, is answered is the future of the world with EXPERIO.