

An abstract geometric design on the left side of the image. A diagonal line runs from the top-left corner towards the bottom-right. To the left of this line, there are several geometric elements: a small white circle at the top-left; a light blue square containing concentric circles; a light gray semi-circle; a pink triangle with diagonal lines; a pink square with concentric lines; a light blue square; a light gray triangle; a pink triangle; and a pink square. The background is a solid blue color.

# QUANTUM QUERIES



# ABOUT QUANTUM QUERIES

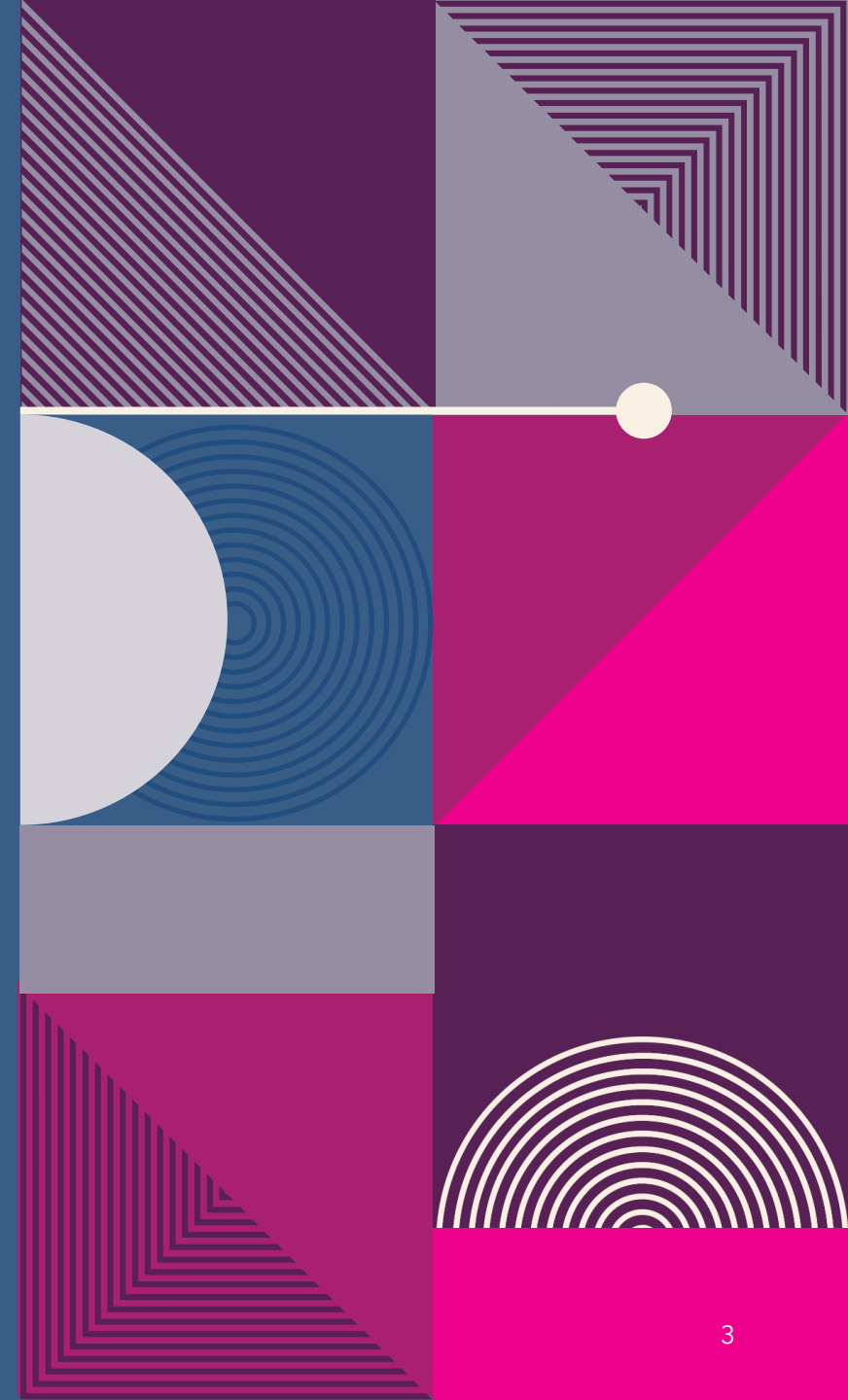
Quantum Queries (QQueries) provides non-deterministic information derived using quantum mechanics to deterministic systems such as blockchain smart contracts and decentralized applications (dApps). The goal of QQueries is to provide a reliable source of non-deterministic information that can be used to enhance the functionality and security of smart contracts and dApps.

# QRNG

QRNG will be the flagship product of Quantum Queries. It is a service that provides random numbers generated from quantum phenomena.

The service is designed to be used by developers of smart contracts and other decentralized applications (dApps) that require true randomness.

QRNG will be available on the OpenGPU network, an EVM-compatible layer 1 blockchain designed to be a low-cost, high-performance platform for decentralized applications with a focus on AI and other GPU intensive workloads.



# THE PROBLEM

To date, true random number generation (RNG) cannot be performed directly on EVM-compatible blockchains due to their deterministic nature. Pseudo-RNG performed on-chain can be gamed by malicious validators.

True random number generation is necessary for a variety of use cases:

- Gaming
- Fair Selection
- Authentication
- Many more...

# EXISTING SOLUTIONS

On the OpenGPU network, there are currently no existing solutions for true RNG.

In the wider market, Chainlink VRF is the most well-known. The main issue with their solution is cost. At the time of this writing, their ERC-20 token (LINK) trades for \$15 (conservatively).

Even if it only took one LINK token to use their solution, this pricing leaves smaller projects that require RNG out of the game.

# THE QRNG SOLUTION

By leveraging OpenGPU network's blazing fast transaction processing and comparatively (to Ethereum) low fees, the QRNG service will be able to provide true random number generation to smart contracts and dApps operating on the chain in an affordable way.

Similar to Chainlink VRF, consumers of the QRNG service will be able to pay for its use with an ORC-20 token (QRNG) or the native currency (support will come in v2).



# THANK YOU

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