STRATUM

BASED ON QUANTUM TECHNOLOGY AND AI

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Introduction

The Second Quantum Revolution is under underway, taking advantage of huge advances in our capacity to detect and operate single quantum objects. This global transformation is being driven by the Stratum Quantum Technologies development.

A quantum technology is one that derives its functioning from manipulating the states of quantum systems. This distinguishes quantum technologies from other twentieth-century technologies (e.g., lasers, magnetic resonance imaging, semiconductor electronics) that use quantum phenomena (e.g., coherence, quantised energy, tunneling) but do not directly initialize, manipulate, or measure the states of individual quantum systems. Some elementary quantum physics is required for this concept and the subsequent parts to make sense.

Quantum physics is best defined as the bizarre physical rules of the microscopic realm of elementary particles (such as electrons, photons, and nuclei) that ultimately control everything. A quantum system is a collection of these particles. Measurements of a quantum system produce random values, the probabilities of which are defined by the state of the system at the moment of measurement. A quantum system is projected into a state that corresponds to the measurement process and value after it has been measured. The state of a quantum system at any given time may be defined as a superposition of the states associated with a measurement mechanism—the concurrent possession of several states with specified relative amplitudes and phases. Some states of the quantum system display entanglement of two or more sub-systems (i.e. sub-groups of particles).

Entanglement causes statistical relationships in the values of measurements taken by individual subsystems. Interactions between a quantum system and its surroundings can cause its state to become random. This is known as decoherence, and it eventually restricts the precision with which a quantum system's state may be designed. Each of these ideas will be shown in the next and subsequent blog postings.

How do they work?

The fundamental building block of quantum technology is the qubit—the simplest quantum system—which has two states |0> and |1>. The qubit is a useful, abstract concept that allows us to understand how different quantum technologies work and compare. In practice, different systems of particles or different variables of similar systems play the role of the qubit in different technologies.

Quantum technologies function by using normal 'classical' devices (e.g. lasers, microwave electronics and photodetectors) to initialise (e.g. by a laser pulse), manipulate (e.g. by a microwave pulse) and measure (e.g. by detecting emitted photons) the state of their qubit(s). A normal 'classical' computer is used to program and control these devices and record the measurement data. So, when you operate a quantum technology, you simply interface with a familiar classical computer. Despite the qubits being a relatively small component of the quantum technology, their different physical behaviour is what delivers advantage over classical technologies.

The performance of a quantum technology is determined by both its qubits and its classical control system and methods. Like other technologies, performance can be described in terms of precision, accuracy, speed and endurance.

Precision quantifies how reproducibly the qubit state(s) can be engineered and measured, whereas accuracy pertains to how close the actual qubit state(s) and measurement(s) are to the ideal state(s) and measurement(s). Speed is the rate at which the different processes (i.e. initialisation, manipulation and measurement) can be performed, and endurance is the lifetime of the qubit state(s) before decoherence, which sets the maximum time over which manipulation can be performed. In subsequent blog posts, I will detail how precision, accuracy, speed and endurance combine to form the key performance metrics of different types of quantum technology.

Performance is improved by engineering higher quality qubit systems, classical control hardware and methods, and shielding the qubits from the environment. The first three are pushing the limits of material growth, microfabrication, electrical, optical and mechanical engineering, and optimal control design. Environmental shielding requirements depend on the type of technology and qubit system. Some require cryogenics to achieve ultra-low temperatures and/ or vacuum systems to achieve ultra-high mechanical isolation. Others don’t require either and can operate in ambient and extreme conditions. Nevertheless, high quality materials, fabrication and device engineering is the key to high performance quantum technology.

What do they do and why are they advantageous?

Thus far, quantum technologies can be categorised into three main types: quantum sensing and imaging, communications, and computing. Each category has different characteristics, capabilities, scopes of application and readiness.

Quantum sensing and imaging: new limits in precision.

Quantum sensors measure time, dynamics (i.e. forces, acceleration and rotation), and fields (i.e. gravitational, electromagnetic and mechanical) with unprecedented precision and stability. They primarily achieve this by exploiting quantum superposition to apply interferometry techniques to detect small changes in a qubit's state by the passage of time, dynamics or interactions with fields. Quantum entanglement between multiple qubits may be exploited to further enhance precision. Stability is achieved through the qubits having fixed and universal susceptibilities (e.g. electron gyromagnetic ratio and atomic mass). Imaging is an extension of quantum sensing where quantum sensors are combined with an imaging apparatus (e.g. that scans the position of the qubit).

Quantum communications: networking quantum devices and physically-assured communication security.

Quantum communications can be used to network quantum sensors to correlate and enhance sensitivity over large areas (e.g synchronise clocks within a communication network) and networking quantum computers to efficiently exchange data and amass computational power. Quantum communications may also be used to securely transmit data between classical devices (e.g. distribute encryption keys) or securely access remote quantum computers.

Quantum communications implement these different functions by sending superimposed or entangled qubits between the devices. Security is assured by the projective nature of quantum measurements, which means that it is not physically possible to copy the qubit encoded information without modifying it. Thus, security is assured in the sense that interference by eavesdroppers can be detected and quantified.

Quantum computing: a leap in computational power.

Quantum computers dramatically speed-up the solution of particular computational problems. Whilst the full range of such problems is still being discovered, established examples are related to signal processing, optimisation, simulation, searching and factoring. They achieve this by exploiting quantum superposition and entanglement to represent and manipulate information in a fundamentally more dense and efficient way than classical computers. Thus, quantum computers require fewer physical resources and operations to solve the same problem as a classical computer. Having introduced the key fundamental concepts and principles, the next three blog posts will delve into each category of quantum technology. I will outline their key characteristics, capabilities and readiness, as well as provide example applications and assess their implications for defence.

Why we use Quantum Technology?

Quantum Technology is a new branch of physics and engineering that is based on quantum physics concepts. For us this technology is the future of Artificial intelligence, because of its algorithms that beat the rudimentary computing algorithms. It will help a lot of people in integrating safe concepts for a brighter future. Developers love this new Technology, it is something that they have never seen before and with a lot of potential to explore and faster executions for testing the final product.

Our products will represent high interest work for big companies such as (Lufthansa, KLM, British Airways, Wizz and etc.). We care about the environment this is the main reason why our Team works on code optimization more than others. As a result, we get the best efficiency – energy consumption interest in the result of the team development.

Why we use Quantum Technology?

Aviation segment is one of the most vulnerable, because of corruption and dishonesty.The Plan developed by Stratum Dev will help in combat with terrorism, hijacking, assaults and drug trafficking. Software developed with AI and Quantum Algorithms will help to identify criminals faster by understanding their habits till they are in AirPort. If they seem to show some suspicious behaviour the system will alert supervisors of this incident.

The mechanics of this concept are based on self learning algorithms. In general this technology will be able to:

• Recognise visitors by behaviour instead of facial aspects that can be modified. (Machine Learning integration with our software will have the future of understanding and recognising persons unique character next time, often criminals tend to change facial aspects in order to not get recognised by city cameras, but with this technology it will be useless.)

• Analyze in real time visitors background and report suspicious changes of persons based by background. (If a visitor has been flying last year 1 time a month, and this year has over 4 personal flights per month our software will report this information. Often drug smugglers get caught by dubious flights activity.)

• Find criminals in less than 20 ms in case of 8300 distinct faces reviewing last 20 minutes. (Imagine the case when a person is being inside the AirPort and information is being sent to the border office, as soon as they can find and immobilize the criminal no one will suffer.)

Based on Policy of Privacy sharing more information about our product features is denied, because of Terms mentioned in our Partnership contracts.

Utility Use

Chain Linking

SUM will offer chain linking for the Crypto Asset in order to confer more confidence to the Final User.

Biometrical Identifier

This token will be used as an identifier within Holders in order to validate the Real Tokens and avoid Phishing, Scam and Clones.

On Chain Payments

All the payments of this token will be available within multiple DEX and stored eventually in Internal Database of Stratum.

Travel Grant

It could serve as a local currency in AirPorts territory shops. This feature would reduce the pocket theft cases within foreingners.

Stacking Feature

We aim to create a Stacking feature with a 7% APY with Monthly withdrawals. Longer you Stack, better you get.

Digital Asset

SUM is an asset that will remain in value, because of the Economical Backing plan. It is planned to develop Crypto integrations with own NFTs Collection and Metaverse Games (iOS).

Roadmap

AUGUST 2021

Offline Project Development Start

OCTOBER 2021

Signing Agreements with Investors and Reasearching in Global Legal Terms of Our Product

NOVEMBER 2021

Beta Testing of AI in Small Stores around the world (United Kingdom, Germany, Asia, India and Mexico)

JANUARY 2022

Integration with Social Media Space and Stellar BlockChain for first Public Sale

FEBRUARY 2022

Marketing and Fundraising for continuing Development and integration of more Features

MARCH 2022

Hard-Debugging of AI errors and features to initiate Second Phase of The Project

APRIL 2022

Liquidity Pools creation for SUM Token and Chainlinking Development

To be continued

We will reveal our Goals gradually in order to mentain project unique.

Tokenomics Plan:

1 % - BlockChain Fees

3 % - Development

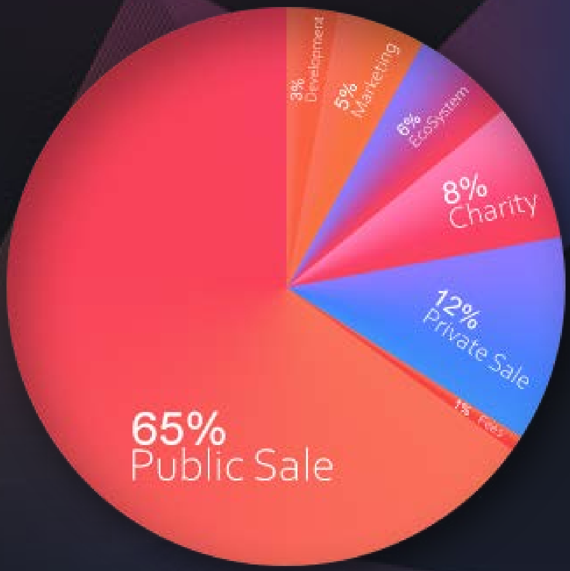
5 % - Marketing

6 % - EcoSystem

8 % - Charity for victims of Terrorism

12 % - Private Sale

65 % - Public Sale



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