Keynote Address  
by the Council President  
of the International Civil Aviation Organization (ICAO),  
Dr. Olumuyiwa Benard Aliu,  
to the inaugural ICAO Blockchain Summit and Exhibition  
(Abu Dhabi, UAE – 2 April 2019)

Your Excellency Saif El-Wahidi, Director General GCAA  
Excellencies Directors General of Civil Aviation,  
Members of the ICAO Council,  
Distinguished friends and colleagues,  
Ladies and gentlemen,

It is my great honour today to address this inaugural ICAO Blockchain Summit and Exhibition here in Abu Dhabi.

I also wish to appreciate the leadership and vision of our hosts from the Government of the United Arab Emirates for helping to spearhead this important initiative, to focus to how our sector can be more proactive and aligned regarding the potential of blockchain approaches for air transport applications.

This year 2019 is the 75th Anniversary of the Chicago Convention and of world governments cooperating through ICAO to their mutual benefit.

We intend to celebrate not only the past of our sector but importantly focus on the future of our industry. Accordingly, I have tasked the ICAO Secretariat to include Aviation Innovation as one of the main topics of our celebratory activities.

New developments and operations such as drones, sub-orbital commercial space flights, hypersonic flights, high altitude operations, space based ADS-B, urban mobility as well as the application of artificial intelligence and Block chain technologies are transforming the scope of our industry.

This joint ICAO and the UAE Summit on Block chain helps to further illuminate the role which innovation has played in establishing and progressing air transport into the global network we know today.

I wish to emphasize however, that innovation has been the hallmark of aviation since inception. Powered flight is one of the most amazing accomplishments humanity has ever realized, and we should all appreciate the innovative aspects of the insights and vision, which led to the development of the Chicago Convention.

This multilateral agreement has changed our world arguably more than any other since, it was created in 1944, but in the years since its policy innovations have been overshadowed by some of the awe inspiring technological achievements which led to the dawning of the jet age and to the world of air transport we appreciate today.

It is nothing short of incredible for instance that more than 100,000 flights are managed by the aviation network every 24 hours, carrying some ten million passengers and many thousands of tonnes.
This performance owes a tremendous amount to the men and women who make aviation operate so smoothly the world over, but it has also been the result of some incredible leaps in technological capability, which we have witnessed during our lifetimes.

Air Transport has long been established as the safest mode of transport. The safe, efficient and seamless interoperability of our global network that the travelling public normally expects is assured by the harmonized implementation by States and industry of the global Standards and Recommended Practices and the Global plans agreed through ICAO.

As the international aviation traffic which in 2018, amounted to 4.1 billion passengers and 38 million flights is forecast to double over the next 15 years, it is important that this growth be managed safely and efficiently in order to retain the precious public confidence in our system.

It is for this reason that ICAO embarked on the ‘No Country Left Behind’ initiative in order to ensure that all the member States develop and maintain effective regulatory oversight capabilities as well as facilitate the development and modernization of aviation infrastructure.

One of the main challenges of growth is the attendant increase in workload and complexity of operations that necessitate attraction and training of hundreds of thousands of new aviation professionals and managers with enhanced skills and competencies. Innovation and disruptive technologies further add to these complexities of our sector.

From the standpoint of established industry sectors like air transport, with very mature degrees of integration and interoperability, new technologies such as the blockchain distributed ledger can be both disruptive and beneficial. However, a certain period of time needs to elapse to permit their potential to be understood and leveraged to practical ends.

Blockchain has the potential to have significant impacts on how air transport organizes and manages its flights and passengers, but we should recognize that the process of its adoption from a practical standpoint could be more gradual and steady rather than sudden and destabilizing.

This is relevant to aviation because as a community we have tended to advance by making methodical and calculated improvements to our system over the years. So while our system changes constantly, its built-in requirements for consensus and interoperability also safeguard it from some of the risks and perils of nascent technologies.

With traffic growing at its exponential rate, one of the new challenges and risks is the growing number of logistical, administrative and oversight activities, which will result from projected traffic growth. As the number of aircraft and flights increases, so too do ground, passenger, ticketing, and cargo handling activities, as well as the related tracking, documentation, approval, and certification requirements.

Blockchain technologies could be of tremendous benefit to reduce the pressure on current human resources, while at the same time sustaining increasing demand and quality levels.

Blockchain is commonly known to many of us because of its relationship to Bitcoin financial transactions, but its possibilities go far beyond this narrow and original application.

Aviation has a need to safeguard its critical data just like any other major sector, this include not only commercial and financial but also safety and security-critical operational data at the heart of air transport.

Blockchain distributed ledgers are replicated across a significant number of identical databases, each hosted and maintained by an interested party. When changes are entered in one copy, all the other copies are simultaneously updated, bringing not only increased security but also transparency, traceability, and efficiency to related transactions and validations.
Blockchain technology is highly relevant in this regard because it has the potential to virtually exclude loss, distortion, or forgery of vital log data in all aviation sectors where certificates are issued and controlled.

It can ensure the integrity of the ever growing certification-based system, which is integral to aviation, with the potential to increase efficiency while reducing errors, and therefore enhancing both safety and security. This explains why applications for blockchain technology can be envisioned in almost all areas of the aviation system, which manage and update complex and safety critical records, such as, personnel licensing, aircraft maintenance, operational approvals, or cargo manifests.

The aviation system today relies mostly on human agents or intermediaries to assume these validation activities, and so we can foresee that the integration of blockchain processes in support of a State’s aviation safety oversight system, for example, would likely require substantial adjustments to related regulations, procedures, and responsibilities.

Another promising application of blockchain for aviation and governments concerns the methods we use to establish traveller identity.

Accurately capturing and documenting a person or business’s identity is a core function of enterprise blockchain applications, and blockchain-based capabilities could therefore empower air transport and border control stakeholders to engage in any type of identity verification or transaction more securely and transparently than is possible today.

Indeed some see blockchain as having the potential to become the system of record for all transactions, leading eventually to radical economic shifts as new sources of transactional influence and control emerge.

Along with this potential there will be risks, to be sure, mainly as relying on a set of servers and smart contracts to validate documents and issue certificates poses clear cyber risks.

It is therefore important to recall one of the outcomes from the 2017 ICAO Cyber Summit, also hosted here in the UAE. That collaboration and exchange between States and stakeholders is key to an effective and coordinated global cybersecurity posture for civil aviation: This becomes even more valid if we rely on blockchain to manage critical safety and security processes.

Ladies and gentlemen,

This Summit should help focus our attention on how our sector can be more proactive and aligned regarding the potentials of blockchain approaches for air transport applications. is a very important first step as we begin to bring together pertinent specialists to discuss the merits and risks of distributed ledger technologies relevant to all of ICAO Strategic Objectives for global aviation.

This technology is of great interest to the ICAO Council and the Air Navigation Commission, and I am accordingly looking forward to some provocative ideas and insights from our key presenters, as we seek to ensure a suitably robust and resilient blockchain preparedness in the civil aviation sector.

On behalf of ICAO and our very gracious hosts today here in Abu Dhabi, I wish to thank you for being part of this process and express our shared expectation for a very engaging and informative set of discussions ahead.

Thank you.