



media release

Pegasus Universal Aerospace – innovative aircraft design geared towards economic development

International Civil Aviation Day, 7 December 2023

The United Nations General Assembly (UNGA) proclaimed 7 December as the International Civil Aviation Day in 1994, urging governments, intergovernmental and non-governmental organisations (NGOs) to acknowledge the day annually. This day is promoted by the International Civil Aviation Organization (ICAO), a specialised agency of the UN, as a part of the ICAO's 50th anniversary of the signing of the Chicago Convention on Civil Aviation which had birthed the ICAO. The purpose of this commemorative day is to help create awareness and highlight the importance of civil aviation for social and economic development. It also calls attention to the role of the ICAO, in helping countries to establish a fast-tracked global transit network for the people. The values envisaged by the Chicago Convention, include aviation as a fundamental pathway for global peace and development.

The theme for this year – Innovation: In accordance with the ICAO anniversaries, every five years the organisation's council creates a special theme for International Civil Aviation Day. The theme currently, is 'Advancing Innovation for Global Aviation Development', to foster conversations around development and future technologies in the Fourth Industrial Revolution (4IR). This is in line with the [National Science and Technology Forum \(NSTF\)](#)'s ongoing focus on innovation and NSTF's theme for 2024: the 4IR.

Economic contribution of aviation: The international aviation network carries over 4 billion passengers yearly and has generated over 65 million jobs as well as USD 27 trillion in global economic activity. This happens mainly through supply chains of various sectors and the tourism sector. Air transport started gaining prominence due to cost effectiveness, the benefit of no traffic congestion and fuel efficiency. It is vital for economic growth and gives countries a channel to participate in global markets, allowing them to specialise in specific trades which could be advantageous for them.

Aviation and innovation for future technology: The ICAO reported that they have many frontier technologies that are in the works, which include AI sorting of notices to airmen (NOTAM's - a Notice to Airmen is a notification from an official body alerting airspace users to hazards along their route, both in the air and on the ground within the national airspace system). The ICAO also mentions new technologies using blockchain (a secure form of transactional exchanges used for cryptocurrencies) for encryption and log bookkeeping of aviation data. Blockchain can also assist with safe storage of aircraft operations records, doing financial transactions and logging data, e.g., freight data, in a more accurate and efficient way. Blockchain has the potential to evolve the aviation industry and allow airlines, civil aviation authorities, international organisations and other key players to unlock the full potential of data and information available to them.

A NSTF-South32 Innovation Award for Pegasus Universal Aerospace (sponsored by the National Intellectual Property Management Office - NIPMO)

Dr Reza Mia, the chairman and founder of Pegasus Universal Aerospace (PUA) has created a futuristic prototype of an aircraft that could be used in rescue and emergency services. Being smaller than a jet it would require shorter runways and it is likened to both a helicopter and a business jet. Dr Mia says: "It's the first time that a vertical take-off and landing (VTOL) vehicle can match a business jet when it comes to things like speed, range and payload as well as number of passengers".



He further explained how it would be safer than a plane or helicopter since it would be able to extend its wings and prepare for take-off in the event of a drop down from the sky. Although PUA is primarily self-funded, they have recently partnered with an automotive and robotics company, creating quarter scale models with a wingspan of four meters.

Dr Mia said: "The thing that excites us the most is what we'll be doing next with them, which is building a full-scale, manned aeroplane that will do the full job of vertical-take-off-and-landing transition back to vertical-take-off mode, and then land like a helicopter". He says that unlike in the United States (US) and in Europe, there is too little funding given to projects like these owing from doubts about their feasibility in South Africa. He attributes his early success to a drive to gain more knowledge to make things that do not exist, a reality. Therefore, self-funding sends a loud message that this needs to change. "Through the process of uncovering new ideas and new channels, we were able to do things that people in other countries would not have expected us to be able to do". He hopes that his unusual pathway towards becoming an inventor inspires young people to work hard so that they can achieve things that they could never believe were possible. Dr Reza Mia won a prestigious 2023 [NSTF-South32 Award for Innovation: SMME](#), sponsored by NIPMO. **Read more:** [Pegasus Aerospace is Developing a New Business Jet with Vertical Take-off Capability in South Africa - Avionics International \(aviationtoday.com\)](#)

About the NSTF: NSTF is an independent non-profit stakeholder body and network – a civil-society forum of organisations involved in science, engineering, technology (SET) and innovation in SA.

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References/Sources:

<https://www.un.org/en/observances/civil-aviation-day>
<https://www.internationaldays.org/december/international-civil-aviation-day>
https://www.icao.int/meetings/wrds2011/documents/jointworkshop2005/atag_socialbenefitsairtransport.pdf

About the NSTF

The National Science and Technology Forum (NSTF), established in 1995:

- is a broadly-representative stakeholder body for all science, engineering and technology (SET) and innovation organisations in South Africa
- gathers stakeholders around burning issues of national and global interest, across the public and private sectors, including matters of public policy
- includes a network of professional societies in SET and STEM education (STEM = science, technology, engineering and mathematics) - the NSTF proSET membership sector.
- recognises, awards and profiles the outstanding contributions of individuals and groups to SET and innovation through the prestigious NSTF Awards
- runs and supports collaborative projects and youth outreach, including recognition of top performance in mathematics and science, role modelling, bursary and STEM career information
- runs and supports the STEMulator.org which attracts youth and educators to Explore>Discover>Learn the world of STEM including careers. (Established by NSTF proSET)

For more information
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