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Citation

Nugraha, R. A., & Scott, B. I. (2024). Flying taxis, air mobility and challenges for Indonesia. *Jakarta Post*, 6. Retrieved from <https://hdl.handle.net/1887/3728442>

Version: Publisher's Version

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Downloaded from: <https://hdl.handle.net/1887/3728442>

Note: To cite this publication please use the final published version (if applicable).

Flying taxis, air mobility and challenges for Indonesia

From the inception of the aviation industry, the transportation of passengers and cargo by air has played a central role. Very few air passengers' journeys begin and end at the airport. Rather, they start their journey at home, from a hotel or their office and want to end it somewhere similar, be it for business or pleasure.

However, it can sometimes take longer to get to and from the airport than the actual duration of the flight. Further, many airports are underserved by public transportation and have disproportionate pricing options.

Examples of this include high surcharges on tickets to the airport and expensive parking options. This adds a level of complexity to transportation.

This point is often overlooked by policymakers, who often focus on movement between transport hubs, be it airport to airport, port to port or station to station. Instead, the focus should be on mobility.

Such terminology means the ability to move by utilizing an integrated network of transportation modes. This involves traditional modes such as buses, bikes and cars, but also newer entrants like app-based ride-hailing services. This links also to the concept of "mobility-as-a-service", which is a shift away from personal ownership of vehicles to the use of shared mobility solutions as services.

Efficient and sustainable mobility is essential for the functioning and development of modern cities and regions. It enhances accessibility, reduces congestion, improves productivity, contributes to environmental protection and fosters economic growth.

Additionally, mobility options and infrastructure should be designed to be inclusive, ensuring accessibility for people with disabilities and promoting equitable access for all.

As the world continues to evolve, mobility is also being influenced by technological advancements, such as autonomous vehicles, ride-hailing services and smart transportation systems. These innovations aim to enhance the efficiency, safety and sustainability of mobility while addressing challenges such as traffic congestion, environmental impact and limited infrastructure capacity.

One solution to answering societal mobility needs is the inclusion of the third dimension for urban and regional mobility. Utilizing airspace is the answer. This refers to unmanned aircraft (or drones) and piloted vertical take-off and landing (eVTOL) aircraft. This is often referred to as ad-



Antara/Rizka Khaerunnisa

Futuristic flight: An EHang 216 flying taxi is displayed on July 31, 2022 at Hall B3 of Jakarta International Expo in Central Jakarta, during the 2022 Periklindo Electric Vehicle Show (PEVS).



By Ridha Aditya Nugraha and Benjamyn I. Scott

Jakarta

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vanced air mobility (AAM), which has been acknowledged by the International Civil Aviation Organization (ICAO) and the United States Federal Aviation Administration (FAA).

Key features of AAM include electric propulsion, autonomous or semiautonomous operations aided by artificial intelligence, integration with urban infrastructure, reduced congestion and faster transportation. AAM is more than just helicopter utilization.

Numerous companies are currently developing AAM technologies such as EHang, Joby, Lilium and Volocopter. Several cities around the world, including some in Indonesia, are exploring the possibility of integrating these air transportation systems into their urban landscapes.

Some of the proposed early use cases include urban air taxi services, medical evacuations and other emergency services, monitoring and surveillance services, good deliveries, as well as tourism.

With the recent developments, a few national regulatory bodies are working to establish standards and guidelines to ensure the safety and reliability of AAM operations.

These include the European Union Aviation Safety Agency (EASA) and FAA. They are primarily focused on safety.

However, other areas are relevant, such as security, environmental protection, liability, insurance, privacy and data protection.

Indonesia has an advantage

in developing urban air mobility. There are bays and areas separated by rivers and lakes with limited transportation modes. In big cities, traffic jams have become the main issue, which hampers citizens' productivity and lowers quality of life.

Legal certainty is essential to encourage private enterprises to join and develop urban air mobility. It should cover both foreign direct investment and operations issues at the same time.

Speaking of the former, pertaining to airlines, in general, national legislation puts a cap on foreign ownership. The traditional way is through a single majority concept to ensure national interests are served.

The current Indonesian positive investment list acknowledges such a single majority concept for airlines with an additional clause of a minimum of operating three aircraft.

AAM is not on the same page as the airline industry. Its functions and goals differ, but still, both need sufficient funding. In case a foreign direct investment cap is determined, a more liberal approach should be taken to accelerate deployment. The nationality clause is not an issue as it only operates domestically. Make things happen first.

In parallel, the introduction of AAM leads to a test of the legal framework. On operations, the question is raised whether Transportation Ministry Regulation No. 37/2020 and No. 26/2021 accommodate AAM. For

example, the former mentions that the operation of unmanned aircraft systems (UAS) only requires the ministry's approval for flights above 120 meters. This provision was drafted when the sale of small UAS skyrocketed and outside of passenger transportation. A review of this is needed considering that AAM brings additional safety and security concerns.

Ministerial Regulation No. 37/2020 categorizes UAS into small UAS and remotely piloted aircraft systems (RPAS). The introduction of AAM brings the urgency to develop a new category with its technicalities.

The EHang 216, which was showcased at the Periklindo Electric Vehicle Show 2022, transported one man-sized mannequin, which demonstrates the strength of this premise. EHang's presence was being reviewed from the 2009 Indonesian Aviation Law and the ministerial regulations perspective.

Another main issue is liability. This issue relies on the development of the definition of an aircraft according to national legislation. Currently, Indonesia's draft bill on airspace management introduces an air vehicle definition that differs from that of an aircraft. This step potentially raises the question of whether AAM passengers are entitled to similar compensation as airline passengers.

Comparing this with innovations half a century ago, hovercrafts are excluded from the aircraft category. Thus, airline liability to passengers is inapplicable to hovercraft operations. A similar logic may go with AAM third-party liability.

Further study should be conducted to ensure legal certainty. It will prepare insurers to cover AAM operations. Then, investors will be keen on financing urban air mobility projects ranging from flying taxis to cargo delivery.