

How drones can help deliver us from a declining economy

By **K. Kathirgugan** - March 24, 2021 7:00 AM

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It seems like good news is a precious commodity that's hard to come by these days, especially with regards to Malaysia's economic and technological development.

Major foreign industry players seem keener on investing in our neighbours Singapore and Indonesia than here; our investment in research and development has fallen steeply; we're losing our most talented and skilled people by the boatload; and we are over-reliant on cheap, foreign labour to the detriment of developing our own automation capabilities.

However, some positive vibes wafted in when AirAsia recently announced plans to start a drone delivery and air taxi service.

I cannot stress how important this could be to our development as a regional tech power. The drone market is set to explode like few else. In 2020, it generated RM92 billion in revenue worldwide and is expected to grow at an annual rate of 13.8% till 2025, becoming worth almost double what it is today – at around RM175 billion.

With large scale drone deliveries set to take flight in the next few years, I wouldn't be surprised if it overshoots the projected growth rate. Large parts of the technology necessary to make this a reality has existed for a few years now, with the biggest impediment being aviation regulations.

This is why AirAsia's entry into this nascent market is a game-changer. With its clout and influence, I'm confident Malaysia's aviation laws and regulatory framework can be tweaked to stay ahead of the changing times, allowing drone deliveries to become mainstream.

Recently, Science, Technology and Innovation Minister Khairy Jamaluddin said: "The pandemic has presented us the opportunity to accelerate structural changes to the economy in terms of digitisation, automation and robotics, and we must embrace that change to vault Malaysia towards an innovation-driven economy."

He then added: "We believe this strategic partnership between AirAsia and MaGIC (Malaysian Global Innovation and Creativity Centre) will speed things up and signal the beginning of the nation's urban drone delivery revolution."

Now this is a vision we can all get behind! I'm incredibly bullish on the budding drone delivery market as it will undoubtedly have a transformational effect on the colossal e-commerce and delivery industries.

Right now, when you order something on Shopee or Lazada, the package finds its way to their fulfillment centre. Once there, it gets sent out for delivery via a large delivery van that ferries hundreds of similar packages to your and others' doorsteps.

This is an inefficient, time-consuming, traffic congestion-contributing and carbon footprint-heavy process.

Instead, imagine if once your package reaches the fulfilment centre, it is attached to one of hundreds of drones sitting in a loading bay. Your address is then fed to a drone which lifts off and flies autonomously to your location.

And once the drone reaches your location, your smartphone will start buzzing, informing you of its arrival. When you step out, you'll see a drone safely hovering a few metres from the ground while lowering a package using a tether. You extend out your arms to grab it and once you do, the tether releases the package and the drone flies back to the fulfilment centre.

Imagine how much faster things could be delivered if this was a reality. If the specific item you're looking for is already stocked in the fulfilment centre, you could have it delivered within minutes, instead of waiting days as is the case today.

Needless to say, drones will also revolutionise the food delivery industry. You order some food on Grab or Foodpanda and a drone delivers it to you within 15 minutes.

With drone delivery, anything below a certain weight threshold, say around 10kgs, can be flown to their final destination. This has plenty of advantages:

1. Drones are a lot more environmentally friendly, as they are battery powered, unlike the petrol-guzzling cars and motorcycles that pepper our roads today;
2. Drones will be able to deliver goods faster as they don't have to negotiate their way through our horrendous city traffic;
3. Drone deliveries would be cheaper than delivery via motorcycles, cars or vans as one operator can monitor an entire fleet of autonomous drones, and they consume less power; and
4. Drone deliveries provide Malaysians with higher paid, higher skilled technical jobs, instead of the sparsely skilled jobs that the gargantuan gig economy bathes our country in today.

The gravity of the final point can't be overstated and I am glad that it is not lost on AirAsia CEO Tony Fernandes who said: "Most importantly, this innovation will allow us to create new and high-tech job opportunities for Malaysians."

And perhaps most importantly, creating a high-paying, technology-based economy will help Malaysia plug its massive brain drain. Skilled Malaysians will realise that they don't have to leave home to look for jobs that pay well and may choose to stay, boosting our national intellectual capital – a prerequisite if we are to gain developed nation status.

However, achieving this won't be a walk in the park. There are a few technical, logistical and safety hurdles that will need to be overcome before this becomes a reality. They include:

1. Drones need to be able to land or crash safely in an uninhabited area in the event of a malfunction;
2. Drones need to be programmed to not fly over major roads so that in the event of a catastrophic failure, they don't crash onto moving traffic;
3. Drones will have to be fitted with a parachute which will deploy in the unlikely event of a catastrophic failure;
4. Drones should never be allowed to come close to people. Instead, packages need to be attached to a tether which will be lowered during delivery. This tether needs to be designed to be detachable in case of misuse;
5. These drones will have to be hexacopters or octacopters, not quadcopters, as the additional propellers will add redundancy to the system. This will ensure that even if one or two of the propeller motors fail, it'll still be able to stabilise itself and land safely; and
6. Drone docking and recharging stations will need to be set up across major cities within around a 5km radius of each other. These stations can be set up on top of shop lots and on the roofs of existing buildings. Their batteries will need to be hot swappable so that drones can deliver items one after the other, instead of waiting to be recharged.

As with most challenges, if they are handled with some skill and plenty of tenacity, I am sure Malaysia will emerge as a global leader in drone technology. This is exactly the win we need to regain our regional relevance, boost our economy and turn us into an era-defining tech hub.

Malaysia Boleh!

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