Dr Jeremy Tucker, Co-Founder of Airbox, the world's first drone delivery smart mailbox, discusses one of the key drivers of his company – opening up e-commerce to the developing world.

Global e-commerce – if achievable – would transform the world's economy and help developing countries prosper. In fact, it will lift first world economies as well.

If you live in a first world country, you may be thinking: “What do you mean? I already have Amazon deliveries and grocery deliveries to my front door! Doesn't everyone?” It is shocking to learn that approximately 4 billion citizens do not have a proper address. How can we help the rest of the world join the rapidly growing e-commerce markets?

E-commerce grew by 16% in North America in 2018 surpassing $500 billion in value according to a report by Absolunet. Shopify estimates global e-commerce sales will reach $4.8 trillion by 2021.

As the developed markets mature, the largest opportunities will be in the developing world. Also, as unmanned aerial vehicle (UAV) technology continues to improve, logistics companies will be able to reach more remote locations, bringing e-commerce to the far corners of the earth and approach an almost “on demand” delivery pace in cities.

As I travel around the world and talk to people interested in drone delivery programs, the pent-up demand for online shopping with front door delivery is very evident. In the US of course, we take this for granted. I also talk to entrepreneurs in these very same countries that are longing to start companies such as food delivery but cannot without proper address system in their cities. There are people in island communities that do not even have a pharmacy and cannot easily access healthcare. If you live on Barbuda for example, it becomes an all-day chore to get on a boat to Antigua to access healthcare, go to the pharmacy or pick up any deliveries at a shipping store.

One of the key challenges to global e-commerce is global addressing – primarily the fact that address systems differ radically from country to country. From numbers and names to postal codes; small changes or mistakes can lead to items ending up in very different locations.

Navigation and mapping software has really improved our ability to get items from point A to point B however these map points need frequent updates and are often incorrect. According to what3words (the company who have divided the world into a grid of 3m x 3m squares and
assigned each one a unique 3 word address), about three quarters of the world is plagued by poor or non-existent addressing systems.

Then there is the terrain and great distances on the Asian and African continents. Some roads are impassable in the best weather and present difficulties to efficient delivery. Many countries have favelas and villages that just don’t have addresses and ways to definitively locate the correct package recipient.

What are some ways we can solve these issues and help to advance e-commerce to the world? How about a redesign to something that was invented in the mid 1800’s and became mandatory in the US in 1923? The mailbox! They have changed very little since then. Of course there are post office boxes and now lockers. You may have a plastic box or a door slot but otherwise, there have been few advancements in the platform.

Brandon Pargoe, inventor of the AirBox, conceived the idea of a real IOT smart mailbox system to help deliver healthcare to remote areas after his own personal health scare. He wanted to give back in a radical new way to help with healthcare delivery. Working with engineers, the AirBox was designed and tested in an iterative fashion and then launched in 2015.

With the AirBox Home, you can now have a GPS location to deliver any package to and a secure receptacle to protect the delivery from theft or damage. By using notifications through an app, you can be sure of your packages location until the very moment you retrieve it.

The key features of the Airbox Home are solar powered so that they can be installed virtually anywhere. This allows even the most remote village with limited electricity service to install one in a neighbourhood or right in front of your home.

A delivery person with truck, motorcycle, or bicycle could deliver right to the AirBox securely. Multiple boxes could be deployed throughout an area in a network for on demand, wherever you happen to be delivery using any box you choose from the app if you desire.

Remember I mentioned UAV’s? Well, they can deliver right to the AirBox Home. It is designed for precision landing from most drone platforms. When UAV’s start earnestly flying our retail products, prescriptions, and other important items, they can already deliver right to the AirBox. As UAV technology develops and flight distances increase, this form of delivery will increase rapidly. There are already UAV platforms that have prototypes that can achieve 24 hours of flight time. From short, heavier and quick urban deliveries to remote or island deliveries, UAV’s will be able to do this and at a much reduced cost to fossil fuelled ground vehicles thus reducing carbon emissions.
“This entirely new Smart design on an age-old product...will radically change the way people participate in the global economy.”

Potential for developing countries

No matter the addressing system used from GPS location of the box, or even What3Words, the Airbox Home can be moved and relocated when needed, temporarily or permanently and your packages will still find you. The solution is really a physical, secure box and a digital address and this should help propel e-commerce around the globe.

In Antigua, we are currently preparing intra-island UAV delivery projects for critical payloads such as medicine. Working with local leaders, companies and the government, we will deploy AirBox Home and partner with UAV companies to start delivery. I believe it will rapidly evolve to everyday e-commerce delivery via ground and air vehicles.

In Kenya, we are working with an established air cargo company to provide AirBox home for secure drone delivery in Eastern Africa. This will allow prescriptions, vaccines and other health supplies to be delivered right to the intended patient much quicker. Citizens with mobility problems or chronic illnesses will have the added benefit of e-commerce with items such as health food and product delivery that can assist them maintain independence in their homes.

And it is not just developing countries who can benefit from the Airbox. In terms of the West’s desire for instant gratification the Airbox has that covered. Dropped your smart phone and need a quick replacement? How does an hour delivery time for your new phone sound? Need food for a hungry family on the go? With drone delivery, it is conceivable to have a pizza delivered to your secure box in 30 minutes instead of an hour or more.

Imagine you are traveling, arrive to your hotel very late and realise you have forgotten something you needed for a presentation the next morning. You could very easily order what you need online and have it delivered securely to a box adjacent to the hotel and pick it up on your way into the hotel. Voila! On demand delivery ANYWHERE you happen to be.

This entirely new Smart design on an age old product, the mail box, will radically change the way people participate in the global economy and e-commerce, lead to new businesses and possibly even save lives with better healthcare delivery.

About the author

Dr. Jeremy Tucker, DO is an emergency physician and global drone expert focusing on healthcare drone delivery. Dr. Tucker is a Co-Founder of Drone Delivery Systems as well as Co-Founder of Medssenger, a healthcare software company. He also serves on the board of directors for Fruit Street a telemedicine platform for diabetes prevention and healthy eating. In addition, he is an investor and advisor for a number of healthcare technology startups.