Testimony before the House of Representatives Committee on Energy and Commerce

Sub-Committee on Digital Commerce and Consumer Protection

Hearing on "Disruptor Series: Delivering to Consumers"

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Summary:

Unmanned Aerial Vehicle or "drone" based delivery is a game-changing commercial and consumer technology that is rapidly becoming technologically and economically feasible in the United States.

Flirtey Inc. is a leading drone delivery service that has created many firsts in the use of this technology – in humanitarian relief operations and commercial delivery. The mission of the company is to "save lives and enhance lifestyles."

Widespread adoption of drone delivery services requires speedier approvals from the Federal Aviation Administration (FAA) using a risk-based approach to granting waivers and permissions. The FAA has made a remarkable job of maintaining the safety of US air space, but needs to move faster to encourage air commerce using drones.

With sensible regulation and co-operation between business and government commercial drone delivery services can create jobs, improve productivity and enhance consumer welfare.

Thank you to the Sub-Committee on Digital Commerce and Consumer Protection to invite me to this hearing. My name is Shyam Chidamber, I am a Senior Advisor at Flirtey –the leading drone delivery service. Our mission is to save lives and change lifestyles by making delivery instant. In my allotted time, I would like to do two things: a) Give a brief history of our remarkable company and b) Share with you our perspective on drone technology and where it is going.

Flirtey is a start-up company that has its roots in Sydney, Australia. In 2013, we began testing textbook delivery at the University of Sydney – our goal was for students to place their orders using a smart phone app and receive it within minutes at their current GPS location on campus.

We are now an American company headquartered in Reno, Nevada. We were chosen by Y-Combinator the famous Silicon Valley business incubator, have collaborated with NASA, the University of Reno, Virginia Tech and The Johns Hopkins Medical Center. We have been funded by venture capitalists – like Menlo Park, Qualcomm Ventures and several others. About a quarter of our current employees are US Veterans and we employ young graduates from engineering schools who want to change the world through innovation. Over the last 24 months we have achieved some major milestones in US Aviation history. Here are a few:

a) In July 2015 – we made the first FAA approved drone delivery on US soil. We delivered essential medicines to patients at a free medical clinic in South West Virginia in collaboration with NASA Langley, which CEO Matthew Sweeny referred to as our "Kitty Hawk Moment".
b) In June 2016, we conducted the first ever Ship to Shore to Ship transport of medical samples – simulating the applicability of drones to emergency medical situations in the aftermath of a natural disaster. Appropriately this was conducted in Cape May, NJ – a few miles from the bull eye of Hurricane Sandy.

c) Again in 2016 we made the first FAA approved delivery to a suburban home in Reno, Nevada. Partnering with 7 11 we delivered over the counter medicine, food and drinks to wonderstruck customers.

Most of all we are delighted that our historic drone delivery in Wise, Virginia has been recognized by the Smithsonian Air and Space Museum with an exhibit that will be opening soon. We ARE a genuine American success story.

Most people are no doubt familiar with the military applications of drone technology. But I am here to suggest to you that drones are a game changing commercial and civilian technology – one, we believe can save lives and enhance lifestyles. Let me share 2 examples:

Imagine an elderly woman who lives by herself home bound during a snow storm. She finds to her dismay that she just ran out of her insulin medication. The snow storm has raged all night, her driveway is not clear and the roads are impassable. She can pull out her cell phone and order her insulin refill from a pharmacy and have it delivered by a Flirtey drone that takes off from the pharmacy, flies using GPS and hovers close to her front stoop and lowers a packet of live-saving insulin. As Doc says in *Back to the Future* – "Roads? Where we are going, we don't need roads!"

Think of a handy man who fixes roofs for a living. Instead of climbing a rickety ladder placed against a mossy gutter, he pilots a drone over your roof and takes vivid HD pictures that you can both see on an iPAD. Its's quick, easy, efficient, safe and more reliable. You have first-hand proof of the damage to your roof, the handy man has to carry less hazard insurance, can inspect more roofs and earns more money.

This brings me to the larger point, that drones save lives, increase blue collar productivity, create new jobs, enhance worker and community safety.

This future is being made possible by simultaneous advances in a range of technologies from GPS, batteries, avionics, materials, smart phones and 3-D printing – to name just a few. The age of fast, efficient, safe, low cost last mile delivery using drones is at hand. There are technical challenges in drone design, battery capacity and safety systems that remain. These are being addressed and in it is only a question of time before we solve them.

Simultaneously in order for the economics of delivery to scale several regulatory changes will be required.

Let's take a look at the regulatory question. In the early days of aviation there was no FAA. Then, as a result of the 1956 Grand Canyon mid-air collision, in 1958 we passed the Federal Aviation Act of 1958 (interestingly, the same year as NASA).

Section 102 of The Federal Aviation Act of 1958 states that FAA's responsibility includes "The promotion of safety in air commerce". The FAA has done a very good job in this regard.

However, Section 102 also states that FAA's responsibility includes the encouragement and development of an air-transportation system properly adapted to the present and future needs of the foreign and domestic commerce of the United States. In other words, the "Fostering of Air Commerce"

The FAA has done a great job on safety, but has not kept pace with pace and diffusion of drone technology.

- One interesting quote that came from FAA just a few years ago was "30,000 UAVs will fill the skies in less than 20 years"
- This reminds us of a famous quote, commonly attributed to Thomas Watson, "I think there is world market for maybe 5 computers".
- There are now more than 3 times more registered drones in the US

than aircraft (800,000 registered drones in the US; 260,000 registered aircraft)
- And, over 1million drones were sold last Christmas in the United States. Almost all of them were manufactured in China. There is a huge risk here that if regulations stifle the emergence of this industry, the market leaders will start elsewhere. If regulations stifled the use of routers in the 1980s, we would have no Silicon Valley today. If regulations stifle the emergence of drone delivery, we may lose our lead in drone delivery technology and the $ multi-billion business that it is likely to become.

Industry needs 3 things, and they are very simple –
- For FAA to accept risk-based approvals to do drone delivery (i) over populated areas (ii) beyond visual line of sight; and (iii) with multiple drones per pilot.
- Industry has spent millions of dollars on the technology to build the above capabilities. We just need regulators to let them do it safely, sooner.

There is some urgency on this matter – several other countries are moving ahead faster than we are. The FAA has made many, substantial forward-thinking changes and we applaud them for it. We would like to work more closely with them so that we can continue to maintain the safety and security of US airspace while bringing the immense benefits of drone-based delivery services to a wide swathe of American consumers.

Let me close with a story from the 1840s – Michael Faraday – the father of electricity – was giving a public lecture and demonstrating the effects of electric current using a magnet and a coil. After the lecture was over a member of the audience came up to him and asked “Mr. Faraday – what is the practical use of this electricity?” Michael Faraday answered “Sir, may I ask you – what is the practical use of a new born baby?”

We at Flirtey ask you to imagine a future where in the event of a natural

disaster like Hurricane Katrina, drones deliver urgent medical supplies, food and water to those in need. Imagine a future where you can order anything you like online and have it reliably delivered to you within hours. Imagine a future where you can order food and have it delivered directly to your location within minutes. This future is here, if you let it be.

Submitted by:

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