



UnBLOCK the Chain

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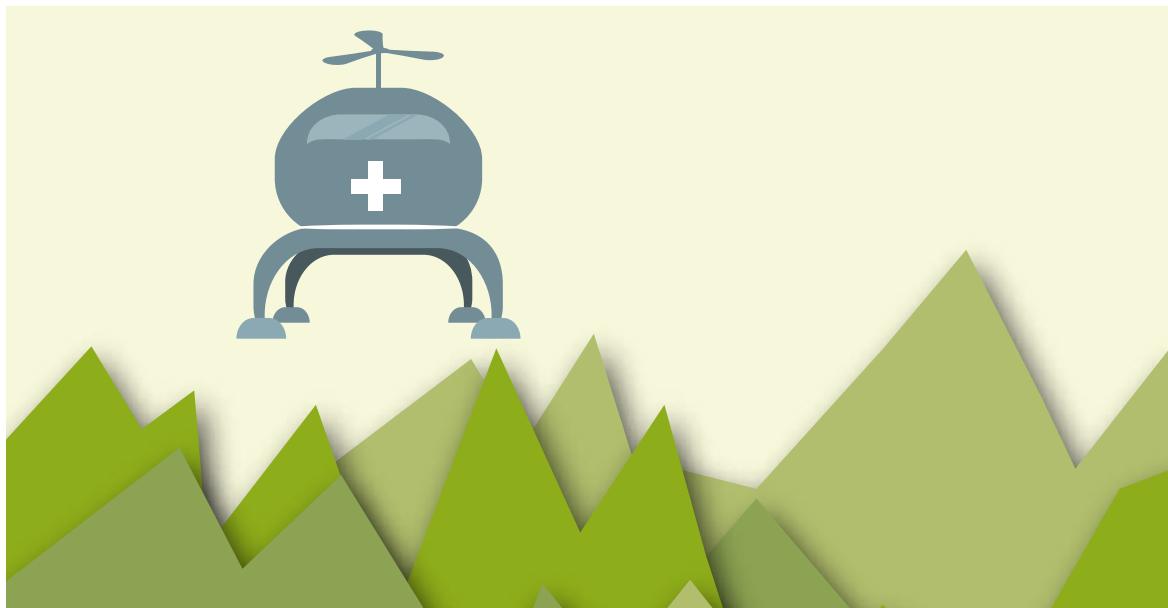
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Transforming lives a drone delivery at a time

Rwanda leading the way with life-saving drone tech

Rwanda shows how rapidly-developing drone technology can improve healthcare infrastructure at a national scale.



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In late 2016, the Government of Rwanda entered a Public Private Partnership with automated logistics company Zipline to deliver blood and medical supplies, becoming the first country to deploy drones at national scale. Based out of Half Moon Bay in Silicon Valley, Zipline is operating in Rwanda in partnership with Gavi, the Vaccine Alliance and UPS Foundation.

The current first phase of the partnership is with 21 hospitals in the southwestern region of the country, reputed for its rugged mountainous terrain, making access to hospitals difficult, especially during the rainy season.

As of December 2017 the partnership told a compelling story: over 3,200 on-demand deliveries by SMS text message had been made, predominantly to serve postpartum haemorrhaging mothers. When an order is made, the drone leaves Zipline's warehouse facility within 12 minutes, dropping the supplies in a designated zone of the hospital in a biodegradable package. Upon fulfillment delivery the hospital staff

is notified by SMS text message.

Today Zipline's deliveries save the National Centre for Blood Transfusion an estimated 20 percent, compared to costs of the prior delivery mechanisms, and is integrated to the National Hemo-vigilance system to support monitoring and forecasting for the blood distribution cold chain – the network for critical and perishable medical products.

The use of drones has addressed a number of challenges including slow response time to remote hospitals (about two hours to deliver blood) and improved resource management, including refrigeration facilities and delivery vehicles.

Within the next two years the partnership with Zipline will expand to the Eastern region of the country. In the long term the Government is looking to explore the use of drones for other opportunities such as delivery of vaccines, medicines, lab samples, supplies for artificial insemination of livestock and other essential and lifesaving products.

Laying the foundation

With few benchmark examples, in 2016 when the Government of Rwanda embarked on this partnership, stakeholders from various Government institutions (Health, ICT, Aviation and Infrastructure) focused on strong collaboration to establish the appropriate policy and regulatory frameworks for drone delivery. In addition to this, awareness programmes were carried out in communities across the country, to ensure the acceptance of this new technology.

“THESE PARTNERSHIPS WITH ZIPLINE MAY SERVE AS MODELS FOR OTHER GOVERNMENTS LOOKING TO UNLOCK THE POTENTIAL OF DRONES IN IMPROVED HEALTHCARE DELIVERY”

The public private partnership model was imperative to ensure maximum impact and the ability to sustainably scale the project. Eighteen months later, as Zipline deliveries increase, and as the industry grows, key actions have been taken to foster investment and innovation in drones, including the adoption of performance-based regulations.

Earlier this year Jean de Dieu Rurangirwa, Rwanda’s Minister of ICT noted that: “As we look to the future, we will continue to put in place the infrastructure and policy frameworks that accelerate the adoption of emerging technologies to transform people’s lives.”

Capacity building

The Government of Rwanda recognises that working with technology pioneers like Zipline presents an opportunity, not only to improve service delivery to its people, but also to spur innovation and multiplier effects as a result of employing Rwandans. In fact technology is a pillar of the country’s plan to become a knowledge-based economy by 2050.

A cornerstone of the partnership with Zipline is that the company employs Rwandans and ensures the diffusion of technical knowledge in the development and operation of their drone technology. Today over 95 percent of the staff are locals including pharmacists, engineers, nurses and biotechnologists.

As drone innovation and other technologies continue to play a pivotal role in delivering quality healthcare to Rwandans, the Government of Rwanda and Zipline entered a new partnership to establish

a training institute for drones to serve as a regional Center of Excellence.

A model

Rwanda’s experience is a demonstration that it is possible for Government to collaborate with the private sector to harness technology to benefit its citizens. In 2017 the Government of Tanzania entered a partnership with Zipline to deliver blood and medical supplies.

These partnerships with Zipline may serve as models for other governments looking to unlock the potential of drones in improved healthcare delivery. This is especially true for environments with inadequate transportation and road infrastructure, resulting in increased costs for distribution, and hampering the cold supply chain management to healthcare facilities.

Every context shall be different, but a clear vision; appropriate governance (policy and regulatory frameworks) and an emphasis on developing local capacity have proven to be paramount. It is also important for policy-makers to actively engage with a diverse set of stakeholders in order to maximise the benefits of adopting drone technology to transform their healthcare systems and improve their citizens’ lives. ■

KEY POINTS



- ✓ Rwanda and Silicon Valley company Zipline entered into a PPI on drone cold chain delivery of medical supplies in late 2016
- ✓ The network serves 21 hospitals in the rugged southwestern region of the country
- ✓ Orders are made with text and take no more than 12 minutes to deploy
- ✓ Within 12 months, 3,200 on-demand deliveries had been made, primarily to postpartum haemorrhaging mothers
- ✓ As part of the agreement with Zipline, 95% of network staff are Rwandans
- ✓ The technology supports the country’s ambitions to become a knowledge-based economy by 2050
- ✓ Zipline is expanding to the eastern part of Rwanda