TELKOM AND LOON ANNOUNCE PROGRESSIVE DEPLOYMENT OF LOON TECHNOLOGY TO CUSTOMERS FROM JULY

- *Progressive deployment of this pioneering technology to customers is now on course for this month;*
- *This is the first application of the technology in Africa, and the first large-scale, non-emergency use of the technology anywhere in the world;*
- *Telkom and Loon target to continuously improve the technology to progressively offer better experience to the customer.*

MOUNTAIN VIEW / NAIROBI, July 7, 2020: Telkom and Loon are proud to announce the availability of mobile Internet service via the Loon technology to Kenyans, starting July 2020. This important milestone comes as the project partners approach the completion of their network integration tests, that have seen them successfully assess service quality across their infrastructure and respective networks. In one field testing session in late June, Loon and Telkom registered an uplink speed of 4.74 mbps, a downlink speed of 18.9 mbps, and latency of 19 milliseconds (ms). In this and subsequent testing, the service was used for applications such as email, web browsing, data calls e.g via WhatsApp, video calls, and YouTube.

Even with Loon's advanced machine learning algorithms that work to keep the balloons up, there are times when certain impediments such as wind patterns and restricted airspaces, could result in intermittent service availability. Loon and Telkom are working together to limit any potential service disruptions and improve the user's experience. As Loon gains more experience flying in Kenya, and dispatches more balloons to the service region, it is expected that service consistency will increase. In addition, with the Loon technology being a solar-powered solution, customers will get to experience mobile Internet service availability from 6:00 am to 9:00 pm.

The service will initially cover a region spanning nearly 50,000 sq.km., including the areas of Iten, Eldoret, Baringo, Nakuru, Kakamega, Kisumu, Kisii, Bomet, Kericho, and Narok.

Telkom Kenya's Chief Executive Officer, Mugo KIBATI, states:

"This is an exciting milestone for Internet service provision in Africa and the world, more so that the service will pioneer in Kenya. This being a purely data service and with the continued migration of communication towards data-supported platforms, the Internet-enabled balloons will be able to offer connectivity to the many Kenyans who live in remote regions that are underserved or totally unserved, and as such remain disadvantaged. This new technology will also complement Telkom's ongoing strategy to further widen our network coverage, enabling us realise our brand promise; to be Kenya's preferred data network."

With the advent of the COVID-19 pandemic, the impact of this crisis has made online education, and other crucial interventions to the country such as Telemedicine as well as digitised and automated platforms to enable the consumer still access service, the new normal.

Loon's Chief Executive Officer, Alastair WESTGARTH, states:

"We could not be more excited to launch service in Kenya. This is the culmination of years of work and collaboration between Loon, Telkom, and the government. Without the support and engagement by various government agencies, today would not be possible. We are incredibly grateful to the many governmental stakeholders who helped usher in Africa's first application of this innovative technology."

To provide service in Kenya, Loon and Telkom are utilising a fleet of around 35 or more separate balloons that are in constant motion in the stratosphere above eastern Africa. Balloons are launched from locations in the United States and navigate to Kenya using wind currents in the stratosphere.As Loon gains more experience flying in Kenya, and dispatches more balloons to the service region, it is expected that service consistency will increase.

Loon Inc's Chief Executive Officer, Alistair WESTGARTH, adds:

"In light of the spread of COVID-19, Telkom and Loon are working as fast as we can to realise service deployment. This will also enable us support the Kenyan Government's efforts to manage the current crisis in the short-term, and to establish sustainable operations to serve communities in Kenya in the long-term. The Loon service has the capacity to bring about positive impact; connecting targeted communities to emergency services, as well as ensure enhanced and alternative communication options during this time."

Mr. KIBATI concludes:

"We remain intent on expediting all projected timelines with the primary objective being to further shorten the total time taken towards progressive service deployment."

How the LOON service works and its expanse:
The LOON service will work by beaming Internet connectivity from ground stations to balloons 20 km overhead. The balloons (floating base stations) are linked to the ground stations that have been connected to Telkom's network. These ground stations utilise millimeter wave spectrum to send connectivity from the ground to the balloons overhead. From there, a signal can be sent across multiple balloons, creating a network of floating base stations that will serve a wide coverage area, delivering connectivity directly to a user's LTE-enabled device, below. Each balloon covers a large area—roughly 200 times greater than a ground-based system – which enables Loon to provide service to traditionally hard-to-reach or underserved areas.

Coming Back to Earth:
An important part of deploying the balloons is ensuring their safe and secure journey back to the ground. The successful landing of a balloon begins before it is even launched. In the weeks before a balloon is scheduled to come out of service (decommissioning), Loon and Telkom will work closely with local air traffic control officials and ground partners to finalise this plan and prepare for the actual descent and landing. Extensive planning goes into securing landing zones, training in-country recovery partners, coordinating with officials on landing and recovery procedures, and developing landing plans to bring a balloon safely to the ground. All of this preparation allows for a balloon to safely and efficiently land, when the time comes.

To begin the process, the lift gas keeping the balloon aloft, is released and a parachute automatically deploys to control the descent to the ground. While the balloon is descending, Loon's flight engineers are in communication with local air traffic control to ensure real-time coordination. Landing paths are designed to avoid established commercial aircraft flight routes, and transit time through the altitudes where other aircraft might operate is very limited. Nonetheless, the balloon is also outfitted with an ADS-B transponder that makes it visible to aircraft in the vicinity. Guided to the ground by its parachute, the balloon lands at relatively low speed – around 20 km/hour, or about the speed at which a skydiver might land. The entire process from deflation to landing takes about 60 minutes. Once on the ground, specially-trained recovery teams collect the balloon and materials for analysis and recycling.

Landing zones for the Kenya deployment:

For the deployment of balloons in Kenya, it is anticipated that some of the balloons will be navigated to Australia for landing purposes. Recovery zones have already been established in Australia, with Loon landing and recovering many balloons there. Eventually, it is envisaged to begin landing balloons in Kenya, with the goal being to work with local partners around the country to ensure the safe and secure landing and recovery of the balloons. Telkom and Loon will determine landing areas in coordination with local partners and officials. Ideal landing and recovery zones are remote from both population centres and the flight paths used by commercial air traffic.

About Telkom Kenya

Telkom connects the people that ***keep Kenya on the move***. It does this by providing integrated telecommunications solutions to individuals, Small and Medium-sized Enterprises (SMEs), Government and large corporates in Kenya, drawing from a diverse solutions suite that includes voice, data, mobile money as well as network services. Powered by its vast fibre optic infrastructure, it is also a major provider of wholesale carrier-to-carrier traffic, within the country and the region.

Telkom is building on strong, consumer-centric ethos that is committed to providing innovative, accessible and refreshingly simple communications solutions that suit customers' everyday communication needs.

Established as a telecommunications operator in April 1999, Telkom is 60 per cent owned by Helios Investment Partners, with the remaining stake held by Kenyans through the Government of Kenya. Telkom Kenya owns a 23% stake in TEAMS, a 5,000km undersea fibre optic cable through Fujairah, UAE; a 10% stake in LION2 another 2,700km undersea fibre optic cable through Mauritius. It also owns a 2.6% stake in the East African Submarine System Cable and manages the National Optic Fibre Backbone, an inland fibre optic cable network running through Kenyan counties. The arrival of DARE 1 with Telkom as the landing partner further reinforces its role in the management of the National Optic Fibre Backbone. Please visit www.telkom.co.ke to get to know more about Telkom.

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About Loon

Loon's mission is to connect people everywhere by inventing and integrating audacious technologies. By redesigning the essential components of a cell tower so they can be carried by balloon 20 kilometres above Earth, Loon makes it possible to extend internet access to the billions who currently lack it. Using a network of balloons traveling on the edge of space, Loon works with mobile network operators to expand their coverage to un-served and underserved communities, supplement existing networks, and provide expedient coverage after natural disasters. To date, Loon's balloons have travelled more than 40 million kilometers around the world. Loon is a subsidiary of Alphabet.