

# Introducing 0G network

From e-commerce to smart cities, almost every facet of modern society depends on communications networks. As the world becomes increasingly interconnected, it is important for us to establish a global telecommunications standard dedicated to the transfer of small messages – to give everyone access to a minimum communication service.

Enter the Sigfox 0G network, which interconnects low-bandwidth, battery powered devices with low bit rates over long ranges.

What does that mean? Essentially, it's about using radio frequencies to communicate small messages over a very long distance, very quickly. Imagine if you wanted to track a message in a bottle as it floats across the sea – that's what 0G is able to help with.

The 0G network is easily implementable thanks to its low-cost, lightweight and low-powered infrastructure, and is a practical complement to broadband networks to power simple IoT applications for functions such as asset tracking or conditions monitoring.

# Why does 0G matter when 5G is already on the way?

0G and 5G technology do not directly compete with one another, neither can one replace the other. As technology develops, the world will come to depend greatly on the ultra-high speed and bandwidth enabled by 5G, while 0G acts as a safety net to ensure that we are always connected to one another.

The fourth industrial revolution will be marked by massive Internet of Things adoption, and will rely on the full spectrum of connectivity from 0G to 5G.



## Key 0G principles\*

### Scalable Globally



1st and only **global IoT network** present in over 75 countries.



**Low power consumption**, predictable life span, and close to **zero maintenance**.



**Wide Area Coverage with Indoor penetration**. Highly compatible with Bluetooth, GPS, 2G/3G/4G and WiFi.



**Low cost**, easy-to-implement and use. **No cables**, no complex installations.



**Anti-jamming and advanced security features**.



**Cognitive network based on Software defined radio**, perfectly fitted for AI and Blockchain.

\*Key principles introduced to the International Telecommunication Union (ITU) in 2019

# How is 0G used today?

## Asset Tracking - DHL

Deutsche Post DHL Group, the leading logistics company in Germany, optimises individual processes within the supply chain of DHL's German parcel network through the systematic use of networked sensors.

800,000 DHL roll cages are gradually fitted with smart trackers in an initial phase to provide exact information about their locations and movements, giving staff complete visibility into their own operations.



## Healthcare - KKH

ENGIE and Sigfox operator UnaBiz partnered KK Women's and Children's Hospital (KKH) on a Smart Facilities Management project with digitization of temperature and humidity monitoring. Using low-power sensors to provide remote monitoring, they could provide a better patient experience and enabling timely intervention of anomalies.

Sensors collect data of room temperature and humidity, allowing staff at KKH to save time on daily temperature logs. This avails them more time to look after patients.



## NGO & Conservation - Sigfox Foundation

The Sigfox Foundation leverages to global 0G network to conceive low-cost, easily implementable solutions to protect the environment. The foundation is Sigfox's armed arm for environmental and societal issues.

One such project is "Now Rhinos Speak", which supports rhino conservation through a monitoring system for endangered rhinos. Low-cost trackers – embedded in the rhino's horns – send the animals' locations to solar-powered base stations, allowing rangers to form a mobile map of the rhinos. This program has been awarded with the e-Environnement prize at the WSIS 2019 forum.



# Sigfox and 0G

## A Snapshot

- Sigfox's ambition is to collect physical data from the world around us at the lowest cost and to allow billions of autonomous objects to play a role in economic, environmental and social development
- Sigfox and 0G make it possible to send and receive data without the need for complex connections or SIM cards
- The seamless and global 0G network is deployed in 75 countries and regions, across all five continents
- It currently covers 6 million km<sup>2</sup>, and 1.4 billion people
- 20 million objects are connected to the 0G network, and 80 million messages are sent every day
- Sigfox is the leader in asset tracking and indoor & outdoor condition monitoring

