SIGFOX

Between the years 2012 and 2014, Spanish telecom companies offloaded their balance sheets by selling and leasing back their networks of antennas to Abertis Telecom, a telecommunications infrastructure and media service company operating in the broadcast, satellite and mobile communications markets.

In February 2014, Abertis Telecom announced a partnership with a French tech startup, SIGFOX, to roll out the first world's only dedicated Internet of Things (IoT) network. The company builds wireless networks to connect low-energy objects such as electricity meters, home alarms, washing machines, bicycles and many others, which need to be continuously on and emitting small amounts of data. It can be used for applications such as geolocation and tracking, monitoring a public defibrillator station to know when someone uses it, or parking-space monitoring and billing. SIGFOX devices can work for years off two AA batteries.It has been calculated that the IoT market will be worth 1,6-1,7 trillion by 2020.

SIGFOX is the French company that has been able to raise the largest round of funding ever, more than $150 million from investors such as Telefonica, NTT DoCoMo or Samsung.

SIGFOX employs a cellular style system that enables remote devices to connect using ultra-narrow band (UNB) technology, the same used for submarine communications during World War I. Machine-to-Machine (M2M) communications and IoT will give rise to billions of nodes connecting all types of objects. Most of these will require only low bandwidth to transfer small amounts of data, and some will also require this to be connected over distances greater than those achievable simply by a transmitter on its own. For these applications, the traditional cellular phone systems are too complex to allow for very low power operation, and too costly to be feasible for many small low cost nodes. Sigfox charges $1 per device per year for those with 50,000 or more devices attaching to their network. The expected ARPU can be as low as 2€ per year.

The SIGFOX network and technology competes with LoRa and Huawei's Neul, and is aimed at the low cost M2M application areas where wide area coverage is required. Sigfox messages can travel up to 1000 km, and each base station can handle up to a million objects, consuming 1/1000th the energy as a standard cellular system. SIGFOX devices cannot carry heavy amounts of data, being able to handle approximately 12 bytes per message, and at the same time no more than 140 messages per device per day. However, this enables the transmission of the simple messages required for M2M communications.

These two innovations, IoT and M2M, can drastically change the way the whole telecom industry operates. The potential implications include all sort of actors, from device manufacturers (from traditional ones, like Samsung, to new ones such as Telit), to the very own final customers and their adoption patterns, to developers, etc.

Once again, Telefonica calls you (you know, being in Spain, and all that...) as an innovation and technology expert to participate in a meeting with their board. Specifically, they want to understand:

- How could the advent of IoT and M2M impact their business. Try to come up with an idea (map, diagram or bullet list) of the relevant actors in this redefined industry panorama, and to what extent can they be friends or enemies for Telefonica
- Which actions could Telefonica undertake in order to foster the adoption of IoT and M2M? Which actor plays the most significant role?

Please include any links you find relevant for your answer. As soon as you finish (max. 2 pages), please submit it using your Assignments tab in the Campus.