Pixels Camp

Hackathon – a Tool for City Transformation & Market Acceleration

inmarsat
The mobile satellite company™

Inmarsat

How ‘cool’ is Inmarsat?

We launched the **world’s first** global mobile satellite communications system to enable merchant ships to stay in touch or call for help in an emergency.

Today we own and operate a total of **15 spacecraft** flying in geostationary orbit 35,786km (22,236 miles) above the Earth. We remain a pioneer and industry leader in space communications with the launch of Global Xpress and the development of our unique European Aviation Network.

As the industry **leader and pioneer** of mobile satellite communications, Inmarsat has been powering global connectivity for nearly four decades.

We offer an unrivalled portfolio of global satcom solutions and value-added services to keep you connected at all times – whether travelling on land, at sea or in the air. No matter where your business takes you, you can **rely on Inmarsat** for all your mission-critical communications.

Inmarsat and Smart Cities

Why are we in Cities?

Satellite networks are inherently **exceptionally reliable and secure**, they are **available everywhere** and can be deployed in just days or weeks.

Why Hackathons

- A tool for city **transformation**, and market **Acceleration**
- A tool to **build the skills** our governments and industries so desperately needs to equip ourselves for the ongoing task of **solving** our most wicked **urban problems**.

Technology leap straight to a next generation capability – Inmarsat IoT

- Support entrepreneurs, industry and communities, and liberate their full potential, through **seamless connectivity**.

Rapid Problem Solving

Saving the city, one hackathon at a time

Smart Cities and Connected Communities promise to improve citizen wellbeing. Inmarsat enables smart infrastructure, particularly in developing countries where there is a lack of adequate network connectivity.

There is a wide choice of connected things available on the market which can be used to measure stuff in a city. So, we've deployed a number of pilot projects using our satellite and LoRaWAN networks with off-the-shelf sensors.

But we have a general problem, we haven't yet found a way to **really improve peoples' lives in the city**.

The What – Use Case

Problems in the city

Roads and Traffic – In Africa roads are chaotic, they are always congested and are often in poor condition (potholes). It's a frustrating experience for people trying to get across town. It's also a frustrating experience for city officials responsible for road maintenance – proper GIS data doesn't exist, teams are under resourced and there is no proper system for alerting authorities that there is indeed a problem. What if we were able to engage citizens (pedestrians, taxi owners) to help detect and locate poor road conditions, to help prioritize road maintenance work?

Air Pollution – Vehicle emissions, cooking fires, industrial exhaust we all know that the quality of the air we breathe is oftentimes poor. In Africa, many people do not have easy access to clean energy for domestic use and so they tend to use wood or paraffin fires for cooking and heating. Vehicles are not always well maintained and therefore produce more toxic emissions. All of this can contribute to health problems suffered by many, many who do not have adequate access to medical treatment. Fortunately, there are many environment IoT sensors available on the market that can help us measure the environment. That's the easy part. The hard problem to solve is: "how can we improve the overall health of citizens, proactively or reactively?" Can we leverage different data sources to help prioritize cleaner energy usage, or reduce vehicle emissions? Maybe we can help people obtain medical treatment more easily?

Public Safety – Face it, African cities can be dangerous. I mean really dangerous. Many people are too scared to walk outside at night for fear of being robbed or mugged. Police often take far too long to respond, they're simply overwhelmed and under resourced. How can we help citizens to feel safe at home or in the street? It's easy to install sensors to measure sound level, for example to detect gunshots. We could also consider CCTV to have a remote view on public places, but that's more of a first-world solution. Are we perhaps missing something that citizens themselves can use to feel safer, either by preventing an incident or by getting help faster when it is needed? How could the Internet of Things help to increase law enforcement or neighborhood watch visibility?

The Challenge

What can you do?

How can you use this opportunity to make an impact on the life's of people on the street within a smart city?

- **Roads and Traffic -** Better traffic/ public transport and or roads?
- **Air Pollution -** Cleaner Environment?
- **Public Safety -** Safer city to live in?
- **Emergency Response -** Quicker/better response in emergency i.e. *Natural disaster (hurricane Harvey, Irma) how to re-establish order quickly*

The field is wide open to create a solution that improves peoples' lives, on the road, at home or in a public place.

The How

The Tools

Development Kits:

- Environmental sensors
- Accelerometer sensor
- Github Wiki
- https://github.com/InmarsatSmartCity/PixelCamp2017/wiki