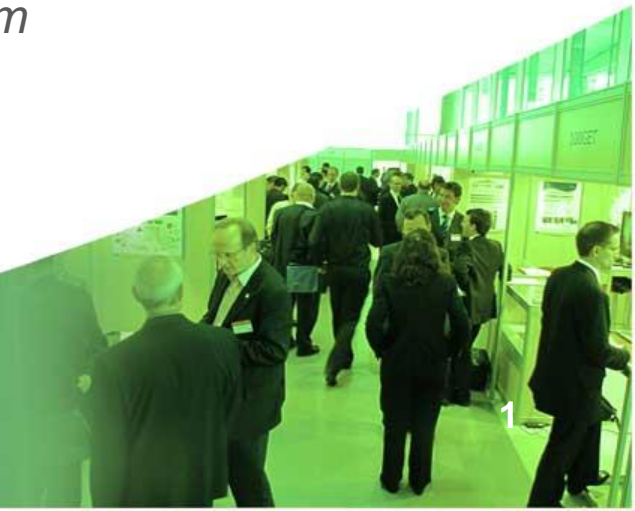Celtic-Plus Event
28-29 April 2016, Stockholm

Personal Air Quality Monitors

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1

Teaser

What is the main benefit of the idea/proposal?

By making these sensors small we could make a citizen scientists of us all, significantly increasing the amount and precision of environmental data through crowdsourcing.
This new wave of personal environmental sensors has the potential to really change the way that data is gathered, analysed and consumed

What makes the added value?

Over 3 year of research to develop 2 versions of the personal sensor and make sense of the data. The 3rd version is already under development. We need to test it!
*Daily exposure to gases has consequences-
CO- "the silent killer". Poor combustion leads to high CO concentrations. We cannot smell or see CO
H2S and mercaptans are the most common odorants. Also used to monitor bad breath
NO2 and **O3** are the most dangerous air pollutants, attacking our lungs, aggravating asthmatics and at risk persons

Why should I participate in the project?

There is a big deal of research in the field of Air Quality at a Institution level and also the new Citizen Scientists builing their IoT networks with several sensors

*John Saffell Technical Director Alphasense Ltd.

Organisation Profile

Ateknea Solutions

Specialisation in R&D and Innovation; Innovation Project Management; Innovative Engineering Solutions; **15+** years of experience.

We are the SME with the highest number of SME-targeted projects funded in the Seventh Framework Programme (FP7).

100+ Engineers
30+ PhDs

170+ projects
600+ SMEs involved
25+ European countries represented

BARCELONA

BRUSSELS

BUDAPEST

KRAKOW

VALLETTA

Proposal Introduction

Types of Air Quality Networks

- **Fixed site**: 50 to 5,000 nodes per city- *best calibration options*
- **Mobile**: trams, buses, special cars- *no power problems, but a moving platform*
- **Personal**: rapid mapping of the city, citizens make local pollution maps- *hardest to validate*
- **Wearable**: a bitfit that measures gases, particulates *a technology challenge*

The next generation of Air Quality Networks are cloud-based

44mm

96mm

80mm

SENSOR PACK
test phase
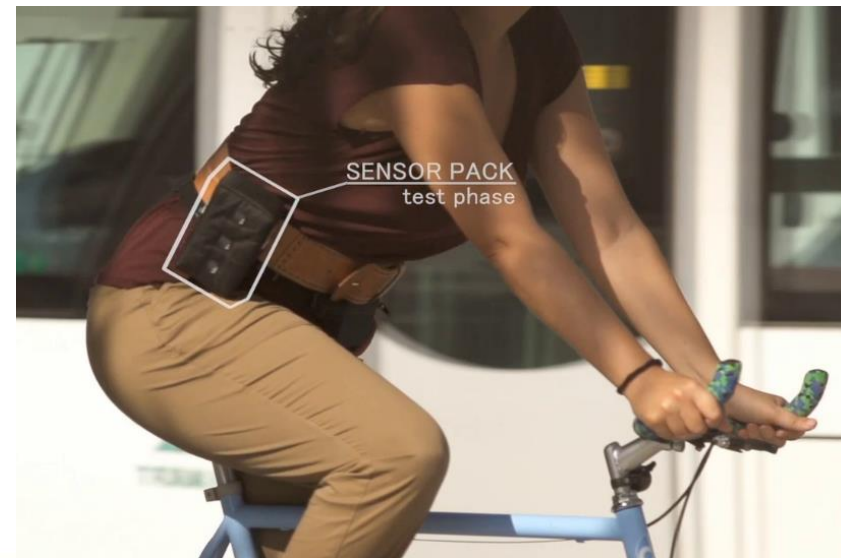
Proposal Introduction

12 to 18 months to:

Finalize the 3rd Version of the Little Environmental Observatory (LEO)

- Electrochemical Sensors for NO2, O3, CO (or NO) (ppb)
- Temperature (°C)
- Relative Humidity (%)
- Bluetooth 4.0
- GPS and accelerometer information from smartphone
- Cloud to and online processing tools for data processing
- Activity Index Calculation for exposure to pollution

Carry out Intensive Validation test

- More validation for the gas measurements are required for users to trust the devices.

Partners
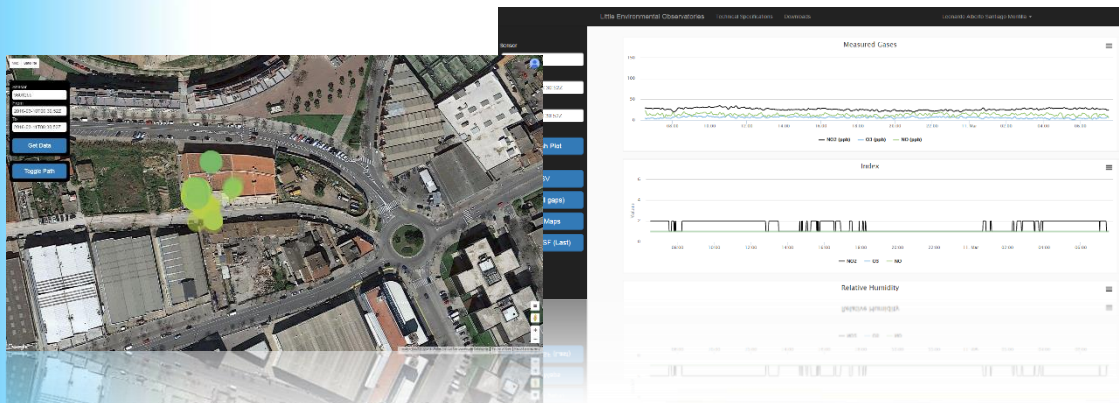
Looking for profiles and expertise

- *Manufacture several hundreds of units*
- *Human resources: to test the sensors with volunteers*
- *Air Quality Experts: to validate sensor measurements*
- *GIS Analysis. Data analysis to create high resolution air quality maps*

Contact Info

For more information and for interest to participate please contact:

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