



ICT

**ΣURIPIDES<sup>2</sup>**

Smart Electronic Systems

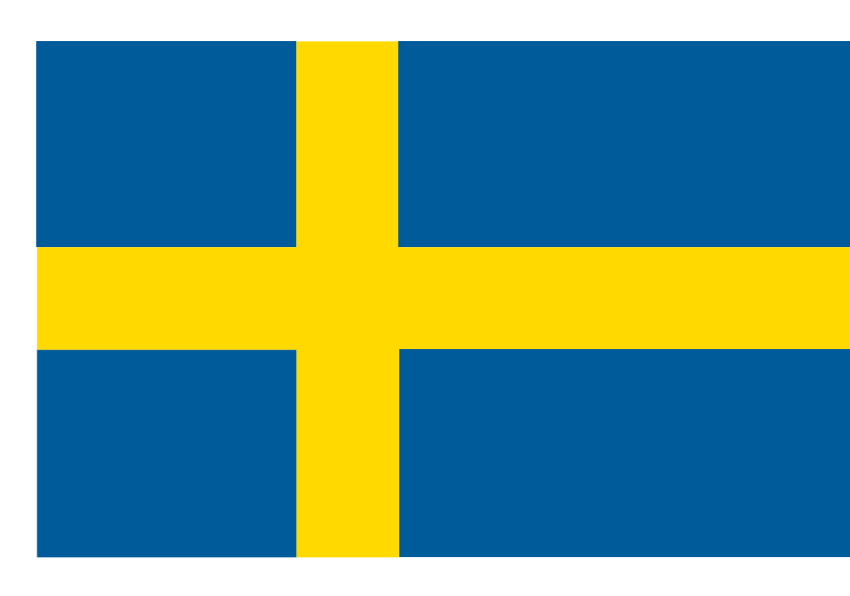
PAMIAQ

*PAMIAQ*

Particulate Matter and Air Quality

Particle matter  
sensors for indoor  
air quality





Sweden  
Sverige

Chairmanship



2015/16

## PROJECT SUMMARY

The PAMIAQ Project develops a new kind of smart Particle Matter sensor according to the PM10 and PM2.5 standards suitable for applications in mass markets.

The three stages of innovative processing methods are combining successively microelectronics processing chip, nanoMEMS Cantilever based measurement, microfluidics and the final packaging on one micro-mechatronics chip.

## OBJECTIVES

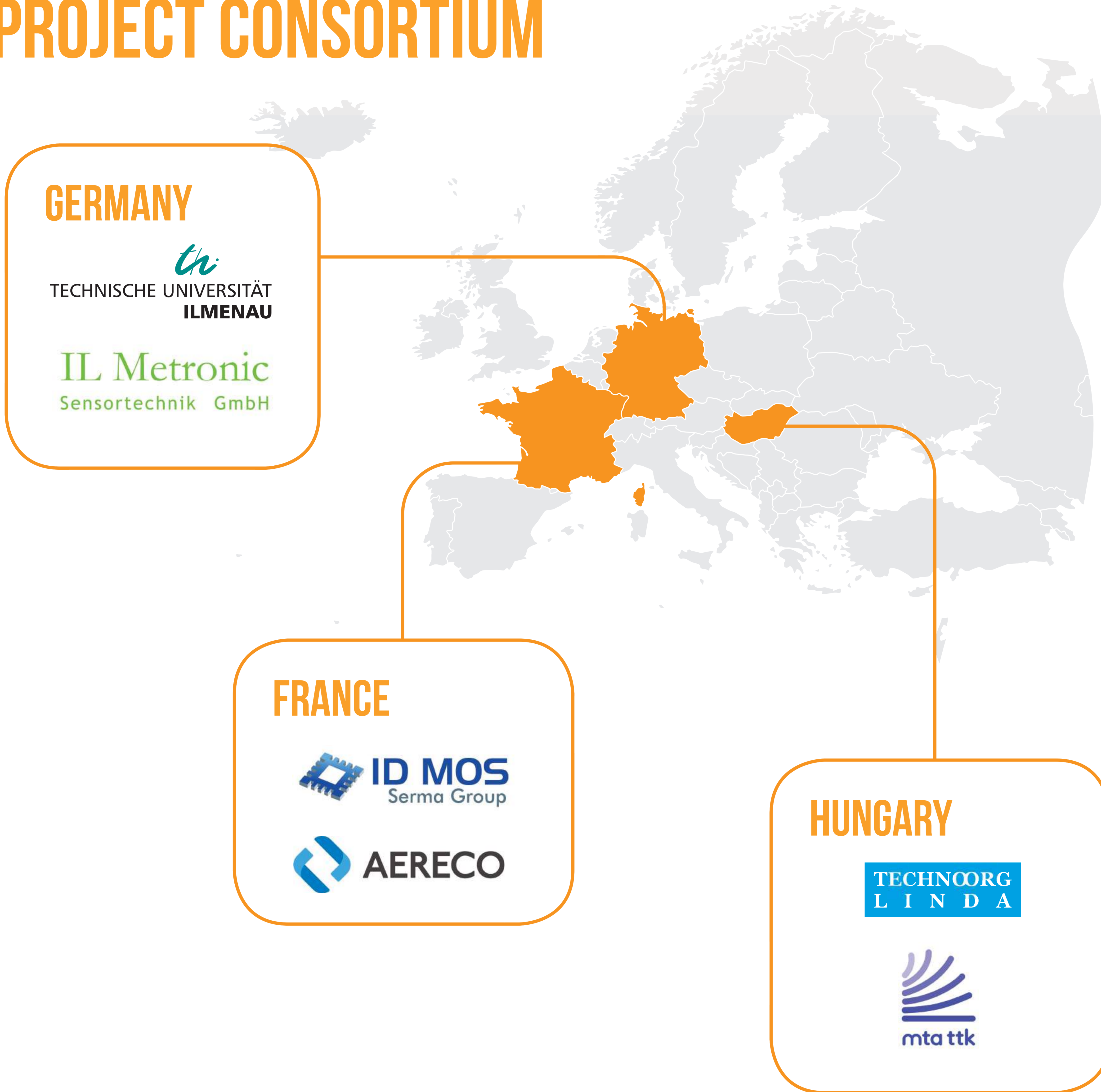
- Build a fully integrated product for Particulate Matter sensing
- Develop a 3 step process integration of 3 consecutive and heterogeneous technologies
- Deliver a product suitable for mass markets as they are identified for now and the future, automotive passenger comfort, building air quality, and smartphone integration
- ASIC integration for mass markets

## BUSINESS IMPACT

- Construction area: 36M/year for residential and office buildings (TAM)
- Automotive: 60M/year (TAM)
- Mass market Business opportunity: 50M€ (SOM) construction/automotive and 50M€+ Smartphone integrated
- Cluster IAQSense (VOC and Chemical Threats detection) and PAMIAQ (Particle detection)



## PROJECT CONSORTIUM



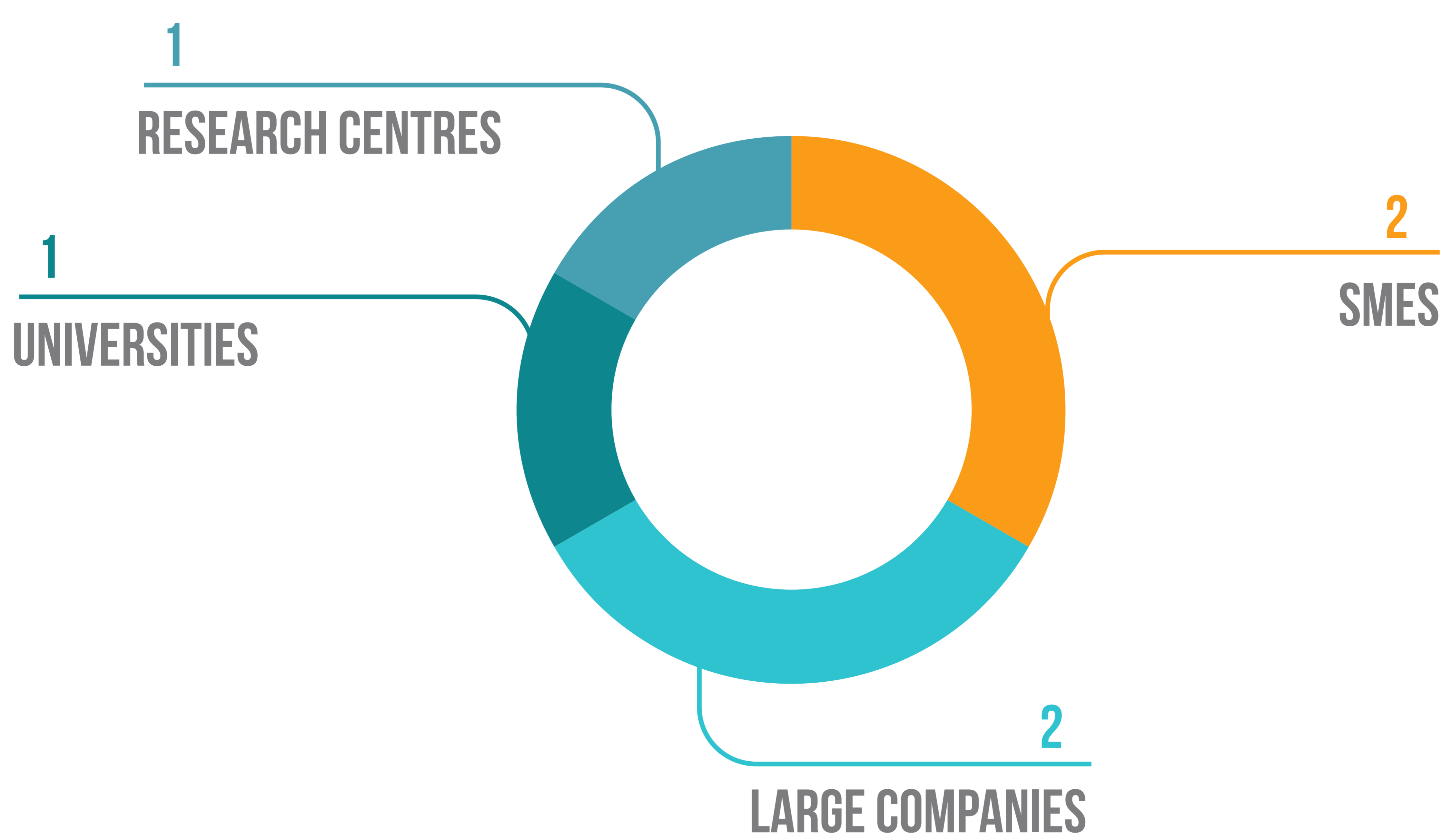
## PROJECT FACTS & FIGURES

### PROJECT CONTACT

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**PROJECT DURATION** March 2015 - February 2018

**PROJECT BUDGET** € 3.1 Million



**PAMIAQ**

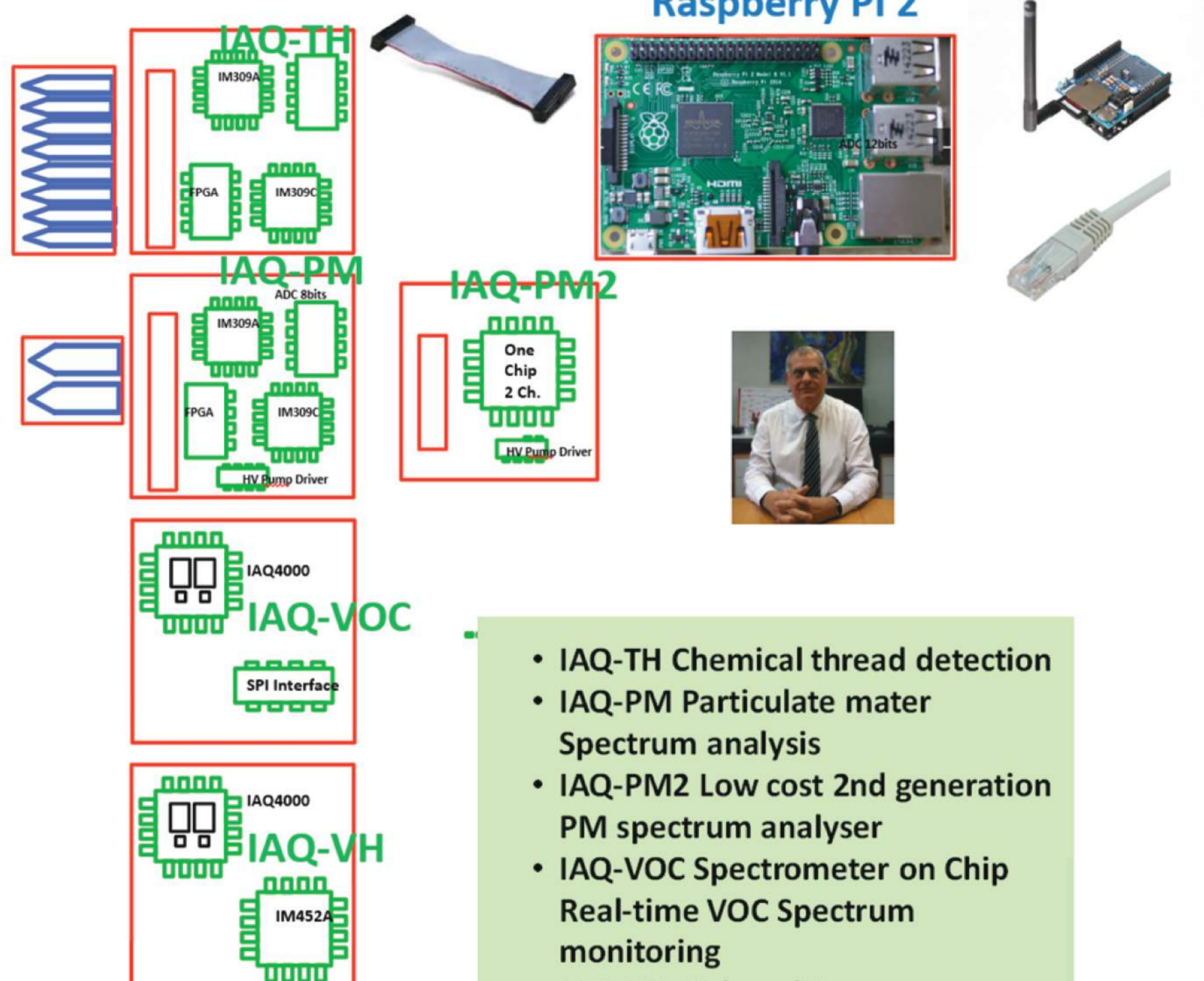
Particulate Matter and Air Quality

[www.IAQSense.eu](http://www.IAQSense.eu)

## IAQSense-EcoSystem

IAQSense-EcoSystem

dimanche 28 février 2016 09:22



Windows IoT, IBM Bluemix via Raspberry Pi 2

IoT Network (Sigfox, LoraWan ...), Internet

Cloud Computing (IBM Watson IoT ...)

Real-time Analytics

- Collecting:
- Unstructured data
  - Pervasive sensing
- Analytics:
- Statistics (SPSS)
  - Artificial Intelligence
- Monitoring:
- Correlation between distributed (pervasive) sensors
  - Real-time feedback to users

- IAQ-TH Chemical thread detection
- IAQ-PM Particulate mater Spectrum analysis
- IAQ-PM2 Low cost 2nd generation PM spectrum analyser
- IAQ-VOC Spectrometer on Chip Real-time VOC Spectrum monitoring
- IAQ-VH High end Spectrometer on Chip

[www.pamiaq.eu](http://www.pamiaq.eu)

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Smart Electronic Systems

