



FoodSmart  
phone.eu

## Smartphone analyzers for on-site testing of food quality and safety

### Summary

A paradigm shift in food quality and safety testing is required in order to free resources for an intensified combat against fraud in the food chain. As an enabling technology solution to the problem, **FoodSmartphone** proposes the development of smartphone-based (bio)analytical sensing and diagnostic tools, for simplified on-site pre-screening of quality and safety parameters and wireless data transfer to servers of relevant stakeholders. The consortium has been built upon highly complementary disciplines: (bio)analytical chemists, biologists, physicists, micro/nano-engineers, mathematicians, organic- and food chemists will work together on the joint supra-disciplinary goal. **FoodSmartphone** offers the ESRs (early-stage researchers) an extensive programme of both mandatory and optional network-wide training events and intersectoral secondments. The scientific training in novel smartphone-based sensing technologies plus the complementary skills training provided, will have a major impact on future EU monitoring practices and, moreover, pave the road for Citizen Science.

### Facts & figures

**Grant Agreement** : 720325 – **FoodSmartphone** - H2020-MSCA-ITN

**Start date** : January 2017

**Duration** : 48 months

**Volume** : 2.8 M€

**Coordinator** : Prof. dr. Michel Nielen  
RIKILT Wageningen University & Research

**Participants** : Universities, research centres, industry and SMEs

### The individual ESR projects

| Topic   | PhD   | Country |
|---|-------|---------|
| Multiplex Smartphone assay for allergens              | ESR1  | NL      |
| <b>FoodSmartphone</b> -mass spectrometry confirmation | ESR2  | NL      |
| LSPR smartphone for marine toxins                     | ESR3  | UK      |
| LSPR smartphone for food spoilage organisms           | ESR4  | UK      |
| Novel image analysis software                         | ESR5  | UK      |
| Enzyme paper assays for AChE inhibitors               | ESR6  | CZ      |
| DNA-addressable multiplex binding assays              | ESR7  | SP      |
| Electrode arrays for multiplex smartphone assays      | ESR8  | SP      |
| Lab-on-chip for iSPR smartphone detection             | ESR9  | SE      |
| Bioaffinity microsieves for integrated sample prep    | ESR10 | NL      |
| Aptamer-based smartphone assays for aflatoxins        | ESR11 | CH      |

### The training program

Summer school on Smartphone-based assay development

Summer school on food applications, QA/QC, validation

Summer school on software design and on **FoodSmartphone** exploitation

Final **FoodSmartphone** conference and Open Day

*Plus* 10 more knowledge and skills courses offered in the network

*Plus* 16 optional and 11 mandatory intersectoral secondment opportunities in the network

### Dissemination program

Open access scientific papers, posters, lectures

11 PhD theses

Final **FoodSmartphone** conference

Website, stakeholder e-Letters, social media strategy

Best practices in a joint training manual

Results implemented in continuous PhD and MSc education programmes

Outreach activities

Open Day

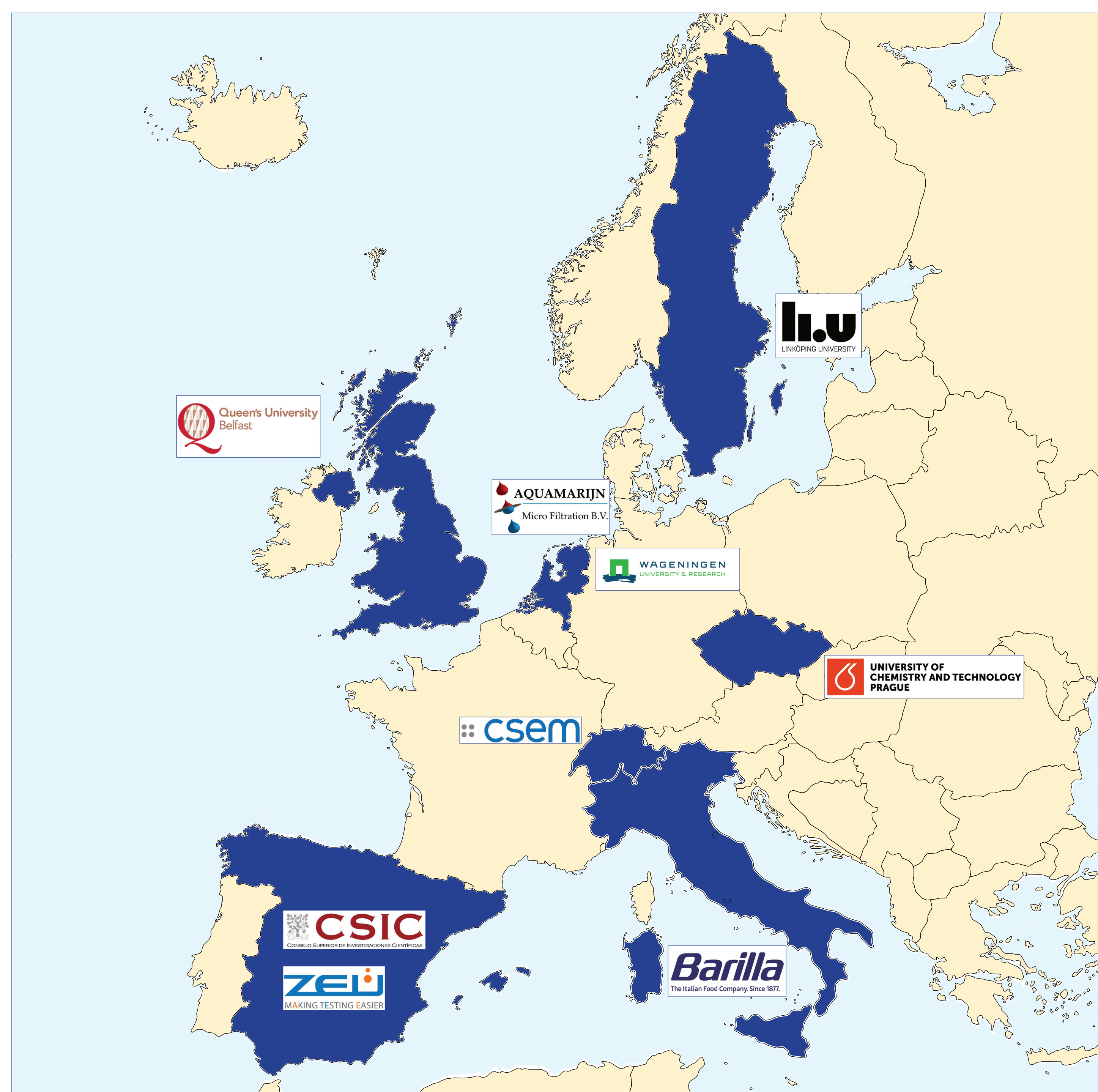
### Information / contacts

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