Forschungsinstitut für Mikrosensorik GmbH

SMARTER - SI

Smart Access to Manufacturing for Systems Integration

Application experiments based on building blocks of different European RTOs and SMEs

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Objective: Increase competitiveness of SMEs providing them smart modules integrated in new products

Model: Complementary cooperation of several Research Centres to accelerate design and manufacturing processes for advance prototyping an validation

Test bed: Realise 10 application projects identified by SMEs to exploit in niche markets (low volume, high value).

Core Partners - RTOs
Research & Technology Organisations

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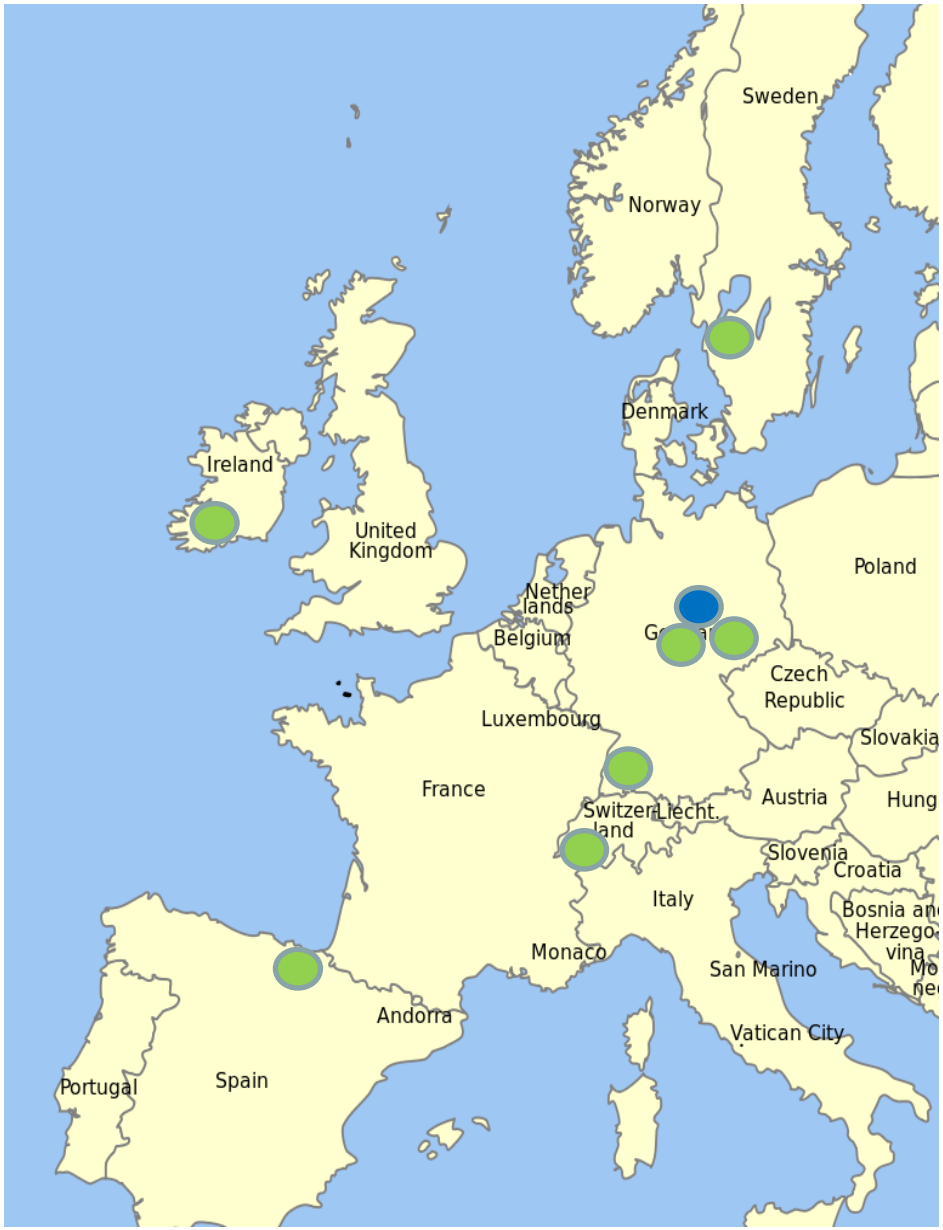

Hahn Schickard

CiS Forschungsinstitut für Mikrosensorik GmbH

IK4 IKERLAN Research Alliance

Tyndall National Institute

swerea IVF

LEIBNIZ-INSTITUT für PHOTONISCHE TECHNOLOGIEN ipht jena

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Innovation through cooperation in manufacturing

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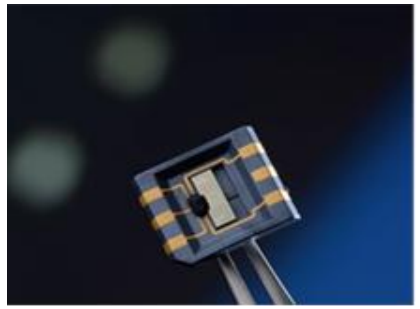

Mission: Small lot manufacturing of Smart Systems for SMEs / mid caps

Concept: Cooperative Foundry Model (CFM)

Implementation:

- RTOs have components and subsystems developed and validated in former R&D projects
- These can act as building blocks to be combined to novel products
- Advantage is no need of extra R&D work out of adjustments and interfaces
- Manufacturing of small lots possible at reduced time and cost

Facts and Figures

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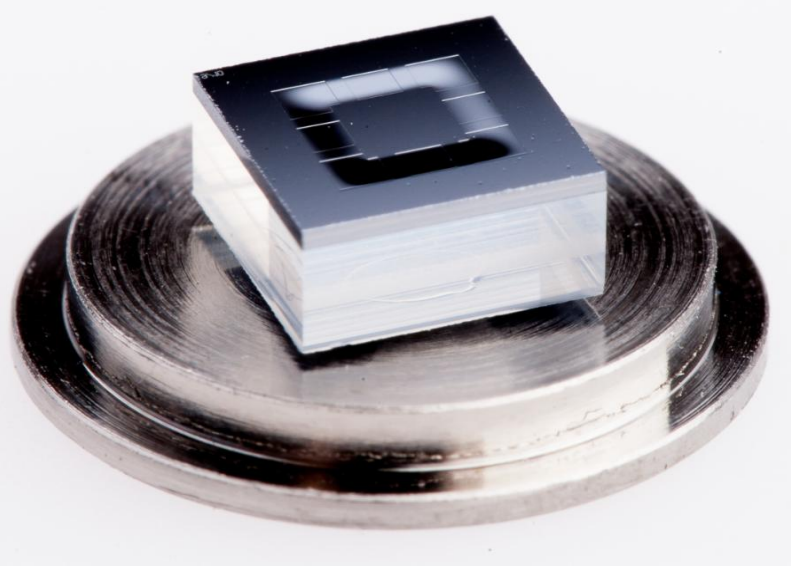
- Horizont 2020, IKT-2014-1
- GA-No 644596
- 01.02.2015 – 31.01.2018
- Innovation Action
- Part of the “Smart Anything Everywhere” Initiative of the EC
- 10 M€ total costs
- 5.6 M€ funding
- 15 Partners

IDEAS FOR NEW APPLICATIONS ARE WELCOME!



Approach:

- SMEs submit their ideas for new smart systems
- A feasibility study will show, if it can be realised using the building blocks of the partners
- The study also shows the time and money needed (selection process and competition!)
- The partners establish step by step an improved procedure of cooperation (effective, sustainable …)

The Application Experiments 1 + 2

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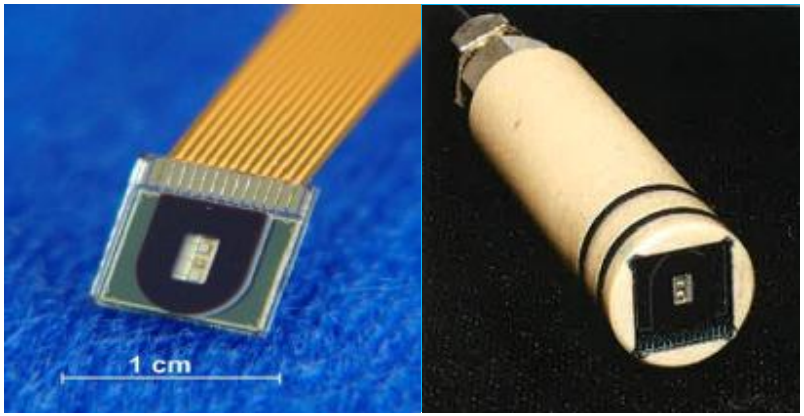
1

Point of care testing (POCT) device

IKERLAN, CiS, Hahn-Schickard and two SMEs

Modular system for multi-parametric optical detection using an automatised biological protocol. First validation by detection of several microtoxins

2



Carbon Dioxide measurement system

CiS, CSEM and two SMEs

A sensitive polymer-layer is combined with a micro-optical module to reduce cross sensitivity. Benefits: Maintenance free, low power consumption, high accuracy, wide operation range.

The Application Experiments 3 + 4

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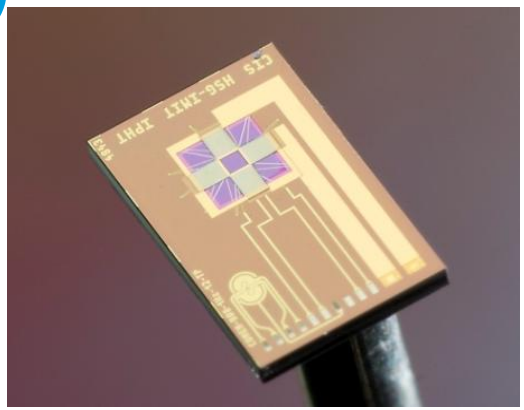
3



Dew-point measurement system

Hahn-Schickard, CiS, Sverea IVF, IPHT and three SMEs

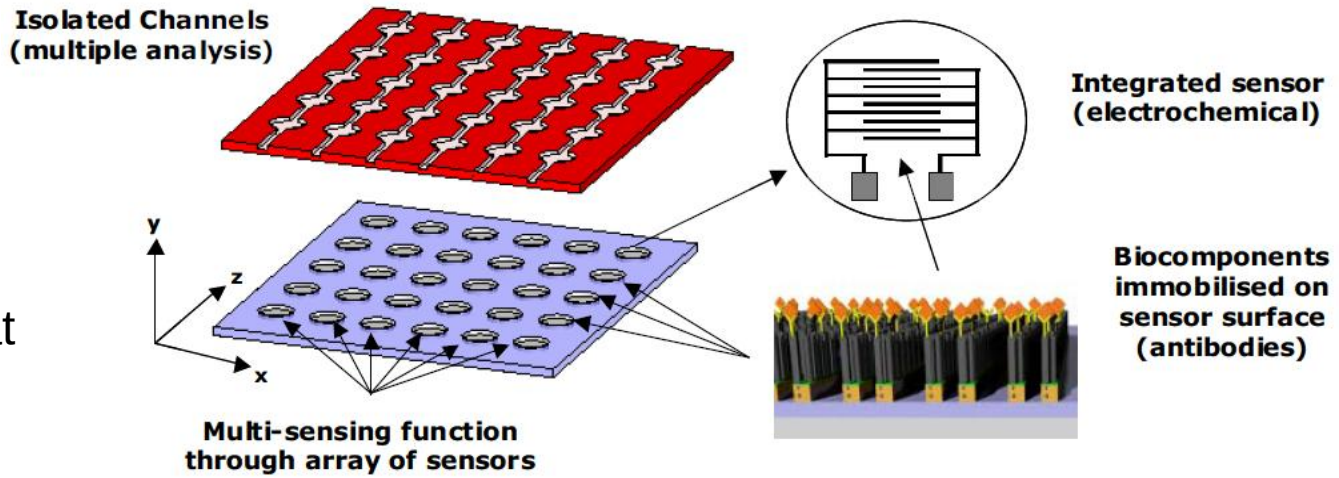
High precision dew point measurement system for application fields, where commercial available polymer sensors cannot be used.

4

Water Quality Testing

Tyndall, IKERLAN,
Hahn-Schickard and one SME

Portable device based on immune-sensor technology that can be used to screen water quality, other environmental parameters or food and beverages



Thank you for your attention!

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