

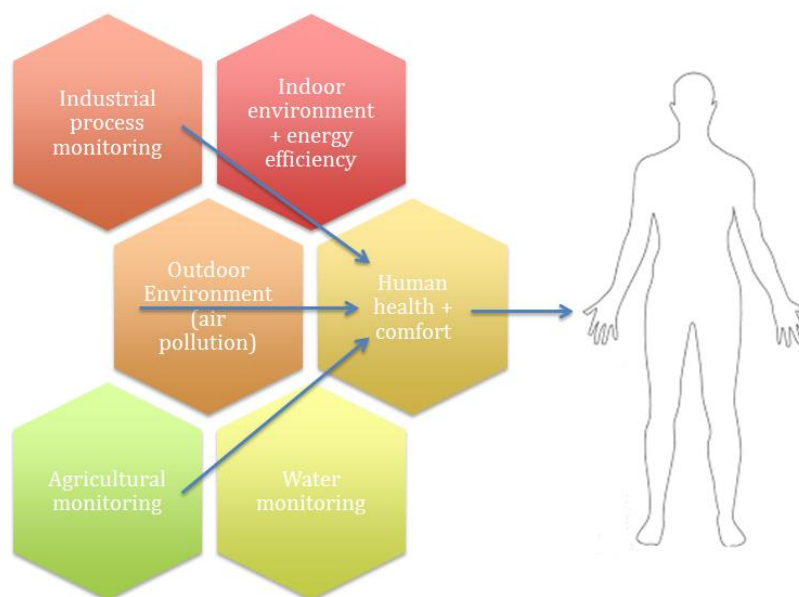


# The European Sensor Systems Cluster (ESSC)

## Vision

Environment and health, including air and water quality, food safety and medicine, pose various challenges to achieve a sustainable development in Europe and worldwide. Collecting information on the status of the environment or the health of an individual is typically the first step to the desired improvement and, thus, *sensor systems* play a key role to address these challenges. In spite of considerable research efforts over the last decades, sensors and sensor systems to collect and evaluate (bio)chemical information are still not available for many applications, either due to lack of sensitivity, selectivity or stability (3S).

The **European Sensor Systems Cluster (ESSC)** will identify technical or non-technical challenges for (bio)chemical sensing and highlight opportunities resulting from nanotechnology, microsystems integration, advanced data evaluation, their manufacturing, commercialization and systemic integration. **ESSC** will mobilize a pan-European network, ready to advice, assist and execute the national or international measures leading to strengthened position of *European Research and Innovation*.



## Objectives

- Maximize **cooperation between projects** (avoid duplication and improve efficiency)
- Identify **common interests in on-going research and development** (e.g. open calls, training)
- Provide **a forum** for discussion, problem solving and analytical planning R&D activities in Europe
- Establish the **EU-wide meeting platform** for researchers, industry and end-users
- **Remove commercialization barriers** to ensure EU leadership in sensor technologies
- **Integrate inputs** and recommendations from other existing clusters or groups
- Promote **connection with external bodies**
- Disseminate **sensor-related issues/findings** to stimulate awareness for the invisible environmental problems and support *citizen science*



## Technological Challenges

1. Improved 3S of Sensors and Sensor Systems
2. Functional Materials for Advanced 3S Sensors
3. Miniaturization and Integration
4. Integration to Systems



Particular challenges for R&D and commercialization:

- Indoor Sensing
- Environmental Sensing
- Biosensors
- Chemo/bio Sensors for Liquids
- Modelling and Simulation
- Analytical Tools and Metrology
- Standardization and Regulation
- Business Models and Spin-offs



## Governance

The ESSC Cluster is an open group and a self-driven initiative (no direct funding foreseen).

Steering Committee (SC) of the *European Sensor Systems Cluster*:

- **Chairman:** Dr. Michele Penza (ENEA, Brindisi, Italy) - [michele.penza@enea.it](mailto:michele.penza@enea.it)
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Further info: [www.cluster-essc.eu](http://www.cluster-essc.eu)

