The objective of BEEP-C-EN is the integration of innovative biosensor research and technology and their exploitation by industry and/or other socio-economic entities in the fields of environment and agro-industry. The first target application is the detection of pesticides, heavy metal and organic compounds in water. The aim is building up a biosensor modular industrial platform, which can be easily adopted for multi-parameter/multi-sensor design and production. It consists of a series of electrochemical-optical sensors and microsystems suitable for various biomediators (microorganisms, DNA, proteins or cells) and based on new technologies studied and developed by the research performers in the consortium. The transduction approach is suggested by two main biomediator properties, often exploited in biosensor operation in response to analyte or modification of a physical-chemical condition: the variation of the bioluminescence/fluorescence emission and the internal electrical behaviour. These changes when transduced to readable electrical signals can give complementary information: the modification of a current signal is correlated to the electrogenic property of the biomediator (e.g. inhibition of Photosystem II electron transfer in the presence of a pesticide), while a modification of fluorescence is often correlated to a conformational modification (e.g. interaction of Photosystem II protein with ionizing radiation).

The specific proposed devices are: 1) MultiLights: modular optical transducer for autonomous measurements of bioluminescence/fluorescence of several biomediators assembled in series; 2) MultiAmps: modular electrochemical transducer for measurements of current and voltage variations; 3) MultiTasks: a
multitransduction biosensor based on simultaneous and autonomous measurement either of bioluminescence either of current variations.

**Field of Science**

/natural sciences/chemical sciences/organic chemistry

/natural sciences/biological sciences/biochemistry/biomolecules/proteins

/engineering and technology/environmental biotechnology/biosensing

**Programme(s)**

**FP7-SME - Specific Programme "Capacities": Research for the benefit of SMEs**

**Topic(s)**

**SME-1 - Research for SMEs**

**Call for proposal**

FP7-SME-2008-1

**See other projects for this call**

**Funding Scheme**

BSG-SME - Research for SMEs

**Coordinator**

BIOSENSOR SRL

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Italy

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU Contribution

€ 393 156

**Website**

**Contact the organisation**

Administrative Contact

Giovanni Basile (Dr.)

**Participants** (7)
<table>
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<th>Organisation</th>
<th>EU Contribution</th>
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<th>Activity type</th>
</tr>
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<td>METROHM DROPSSENS SL</td>
<td>€ 334 500</td>
<td>Parque Tecnologico De Asturias, 33428 Llanera Asturias</td>
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<td>BIO-LOGIC SCIENCE INSTRUMENTS LTD</td>
<td>€ 250 389</td>
<td>Pinewood Court Larkwood Way, Tytherington Business Sk10 2xr Macclesfield Cheshire</td>
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<td>€ 8 552</td>
<td>Piazzale Aldo Moro 7, 00185 Roma</td>
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<td>AIRBUS DEFENCE AND SPACE GMBH</td>
<td>€ 15 200</td>
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<td>Willy-Messerschmitt-Strasse 1 82024 Taufkirchen</td>
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<td>VITENS NV</td>
<td>€ 14 400</td>
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<td>Oude Veerweg 1 8019 Be Zwolle</td>
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Netherlands  

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<tr>
<th>EU Contribution</th>
<th>€ 19 040</th>
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Activity type  
Research Organisations  

Website  
Contact the organisation  

Administrative Contact  
Ben Tangena (Mr.)

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