SCHEMA

Project ID: 614002

Gefördert unter: FP7-ENVIRONMENT

INTEGRATED IN SITU CHEMICAL MAPPING PROBES

Von 2013-10-01 bis 2017-09-30, Abgeschlossenes Projekt | SCHEMA Website

Projektdetails

<table>
<thead>
<tr>
<th>Gesamtkosten:</th>
<th>Thema(en):</th>
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<tbody>
<tr>
<td>EUR 6 741 554,30</td>
<td>OCEAN 2013.2 - Innovative multifunctional sensors for in-situ monitoring of marine environment and related maritime activities</td>
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<tr>
<th>EU-Beitrag:</th>
<th>Aufruf zur Vorschlageinreichung:</th>
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<tbody>
<tr>
<td>EUR 5 200 489</td>
<td>FP7-OCEAN-2013</td>
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<th>Koordiniert in:</th>
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<tr>
<td>Switzerland</td>
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Finanzierungsprogramm:

CP - Collaborative project (generic)

Ziel

SCHeMA is a multi-disciplinary collaborative project aiming to provide an open and modular sensing solution for in situ high resolution mapping of a range of anthropogenic and natural chemical compounds. Key targets are chemicals that may adversely affect marine ecosystems, living resources and ultimately human health. The SCHeMa tools will enhance ocean observing system capabilities to evaluate the impact of these compounds on marine water quality trends, thereby allowing one to rapidly localise problems and alert targeted groups.

To achieve this, SCHeMA will develop: 1) chemical solid state miniaturized sensors functionalized using innovative analytical procedures to insure reliable and selective electrochemical and optical measurements of inorganic (micro-)nutrients/pollutants, VOCs, biotoxins, HABs, species relevant to the carbon cycle, as well as effective minimisation of chemical and physical interferences; 2) micro- and mini-analytical and mechanical fluidic systems; 3) miniaturized multichannel probes, incorporating the new sensors and fluidic systems, based on advanced hardware, firmware and wired/wireless interfaces allowing their plug-and-play integration to moored or free floating devices; 4) ad-hoc ICT solutions allowing remote control of data transfer and mapping system reconfiguration according to the OGC standard; 5) Web-based data information system for data storage, standardization, modelling and user-friendly accessibility by public authorities, scientists and existing observation/monitoring systems.

The SCHeMA sensing tools will be optimised throughout their development via short field tests and inter-comparison with data obtained using established laboratory techniques. Long-term field applications in estuary and coastal systems will also be performed to (i) evaluate their ruggedness and reliability for high resolution spatial and temporal monitoring, and (ii) define their suitability for different applications and commercial production.

Verwandte Informationen

<table>
<thead>
<tr>
<th>Ergebnis in Kürze</th>
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<tr>
<td>New sensors to track the health of our oceans</td>
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<th>Berichtszusammenfassungen</th>
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<tr>
<td>Exploitable results – Antifouling membrane integrated renewable gold microelectrode for in situ detection of Arsenic (III)</td>
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<tr>
<td>Exploitable results – Chronopotentiometric carbonate detection with all-solid state ionophore-based electrodes</td>
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<tr>
<td>Exploitable results – Counter electrode based on an ion-exchanger Donnan exclusion membrane for bioelectroanalysis</td>
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</table>
**Koordinator**

UNIVERSITE DE GENEVE
RUE DU GENERAL DUFOR 24
1211 GENEVE
Switzerland

**EU-Beitrag:** EUR 1 238 413

**Activity type:** Higher or Secondary Education Establishments

Contact the organisation

**Teilnehmer**

**IMS bordeaux**

351 Cours de la Liberation
33405 TALENCE
France

**EU-Beitrag:** EUR 453 080

**Activity type:** Higher or Secondary Education Establishments

Contact the organisation

Exploitable results – Custom made galvanostat/potentiostat and high impedance potentiometer for decentralized measurements of ionophore-based electrodes

Exploitable results – Development and deployment of chemical sensor probes for environmental sensing in aquatic environments

Exploitable results – Direct salinity detection with ion-selective chronopotentiometry

Exploitable results – Exhaustive thin layer cyclic voltammetry for absolute multianalyte halide detection

Exploitable results – Microelectrode capable of quantifying Arsenic(III) in fresh water samples.

Exploitable results – Nitrite-selective electrode based on cobalt(II) tert-butyl salophen ionophore

Exploitable results – Paper-Based Thin Layer Coulometric Sensors for Halide Detection

Exploitable results – Thin Layer Coulometry of Nitrite with Ion-Selective Membranes

Final Report Summary - SCHEMA (INTEGRATED IN SITU CHEMICAL MAPPING PROBES)
IDRONAUT SRL
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**Activity type:** Private for-profit entities (excluding Higher or Secondary Education Establishments)

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**EU-Beitrag:** EUR 596 666

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**Activity type:** Higher or Secondary Education Establishments

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**EU-Beitrag:** EUR 451 118

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**Activity type:** Higher or Secondary Education Establishments

Contact the organisation

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BATIMENT CE 3316 STATION 1
1015 LAUSANNE
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**EU-Beitrag:** EUR 436 833

See on map

**Activity type:** Higher or Secondary Education Establishments

Contact the organisation

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18230 ATARFE GRANADA
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**EU-Beitrag:** EUR 251 667

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**Activity type:** Private for-profit entities (excluding Higher or Secondary Education Establishments)

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**Activity type:** Higher or Secondary Education Establishments

Contact the organisation

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**Activity type:** Higher or Secondary Education Establishments

Contact the organisation

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**Activity type:** Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation

**Fachgebiete**

Environmental Protection

Zuletzt geändert am 2016-05-31
Abgerufen am 2019-08-20


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