

AirSensEUR. Qualità dell'aria e Internet of Things



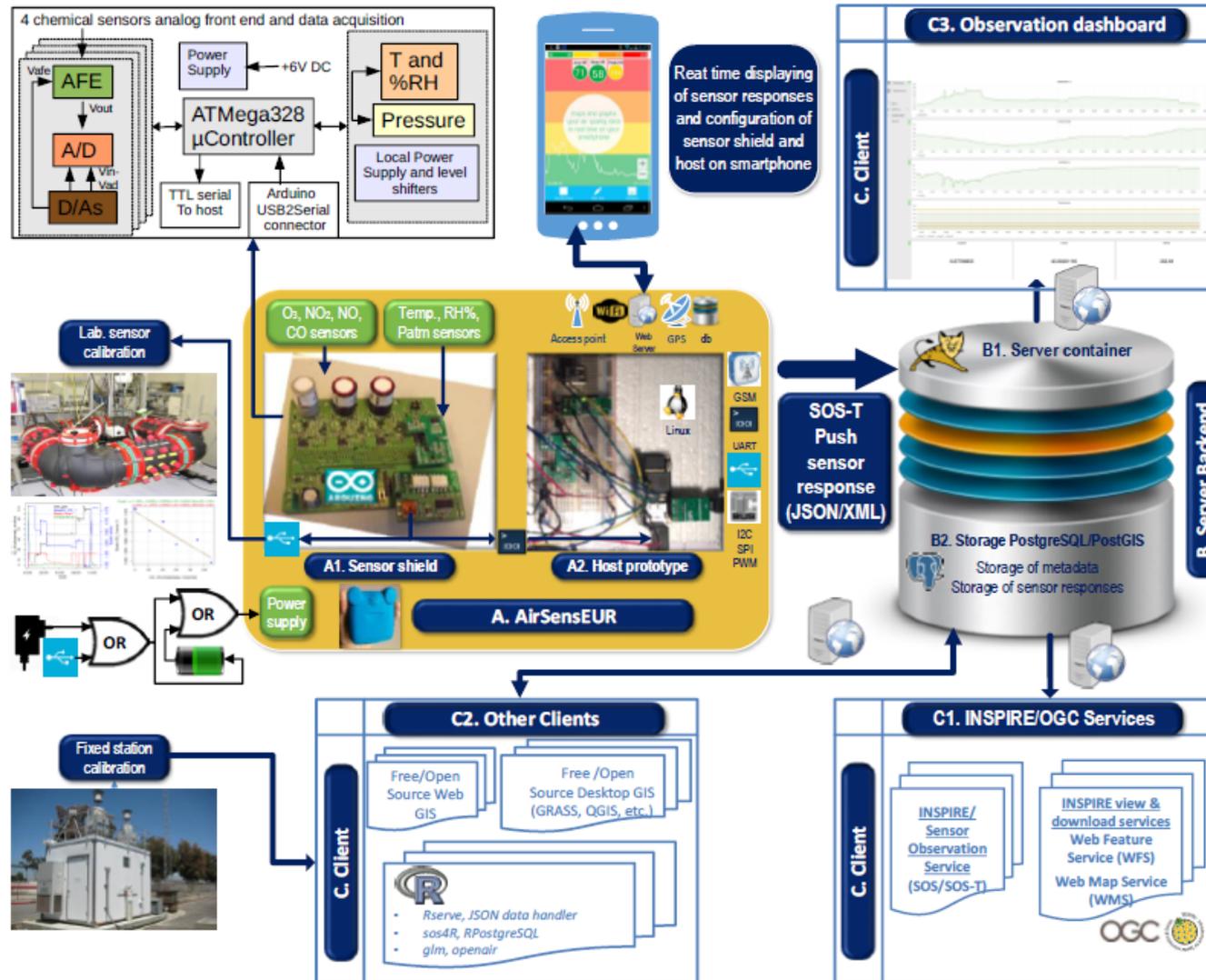
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*Serving society
Stimulating innovation
Supporting legislation*

AirSenseEUR - Obiettivi

- CCR & Liberaintentio srl
- Inizio: 2015
- **Gestione dei dati:** Unità di Economia Digitale (Sven Schade, Max Craglia, Alexander Kotsev)
- **La qualità dei dati e la calibrazione:** Laboratorio europeo di riferimento per l'inquinamento dell'aria (Michel Gerboles, Laurent Spinelle)
- **Creazione dei Sensori:** Liberaintentio srl (Marco Signorini)
- **Obiettivo:** creare una scheda multi-sensore compresa di open software/hardware capace di produrre dati con una buona qualità, e soddisfare le esigenze di
 - A) Direttiva INSPIRE
 - B) Direttiva AQ

Architettura



Risultati

- 20 milioni di osservazioni
- Serie di relazioni scientifiche
- Scatole stampabili 3D

Properties	Statistics	Dependencies	Dependents	Tuples inserted	Tuples upd...	Tuples dele...	Tuples HOT...	Live tuples
blobvalue	0			0	0	0	0	0
booleanvalue	0			0	0	0	0	0
categoryvalue	0			0	0	0	0	0
codespace	2			2	0	0	0	2
compostphenomenon	0			0	0	0	0	0
countvalue	0			0	0	0	0	0
featureofinterest	20			24	5	16	18	18
featureofinteresttype	4			0	0	0	4	4
featurerelation	14			0	0	0	12	12
geometryvalue	0			0	0	0	0	0
i18nfeatureofinterest	0			0	0	0	0	0
i18nobservableproperty	0			0	0	0	0	0
i18noffering	0			0	0	0	0	0
i18nprocedure	0			0	0	0	0	0
numericvalue	16509248			10	1	9	16501027	16501027
observableproperty	79			76	0	66	72	72
observation	16511351			11	3	10	16563694	16563694
observationconstellation	119			172	0	170	112	112
observationhasoffering	16509248			0	1	0	16499893	16499893
observantype	12			0	0	0	12	12
offering	15			19	0	19	15	15
offeringallowedfeaturetype	21			0	6	0	15	15
offeringallowedobservantype	126			0	36	0	84	84
offeringhasrelatedfeature	0			0	0	0	0	0
parameter	0			0	0	0	0	0
procedure	15			15	0	15	15	15
proceduredescriptionformat	2			0	0	0	2	2
relatedfeature	0			0	0	0	0	0
relatedfeaturehasrole	0			0	0	0	0	0
relatedfeaturerole	0			0	0	0	0	0
resulttemplate	0			0	0	0	0	0
sensorsystem	0			0	0	0	0	0
series	93			16511244	0	16313493	90	90
spatial_ref_sys	0			0	0	0	0	0
swedataarrayvalue	0			0	0	0	0	0
textvalue	0			0	0	0	0	0



JRC TECHNICAL REPORT



AirSensEUR: an open data/software /hardware multi-sensor platform for air quality monitoring. Part A: sensor shield

Michel Gerbolas, Laurent Spinelle and Marco Signorini
2016



Health and Environment



JRC TECHNICAL REPORTS

AirSensEUR: an open data/software /hardware multi-sensor platform for air quality monitoring.

Part B: Host, influx datapush and assembling of AirSensEUR

Michel Gerbolas, Laurent Spinelle, Marco Signorini and Alexander Kobler
2016



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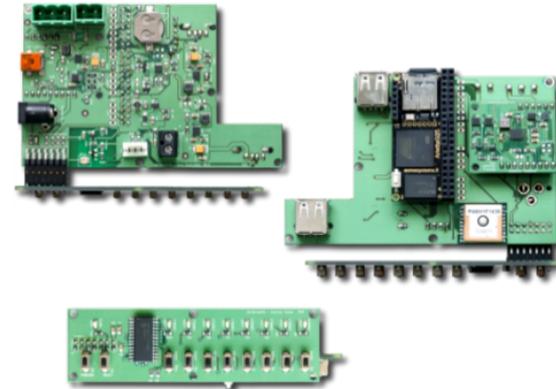
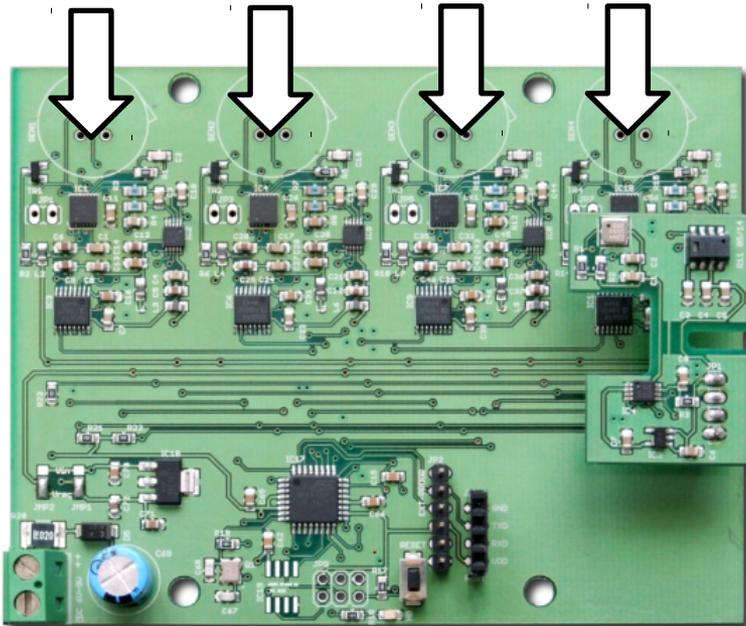
Part C: Interoperable Data Management

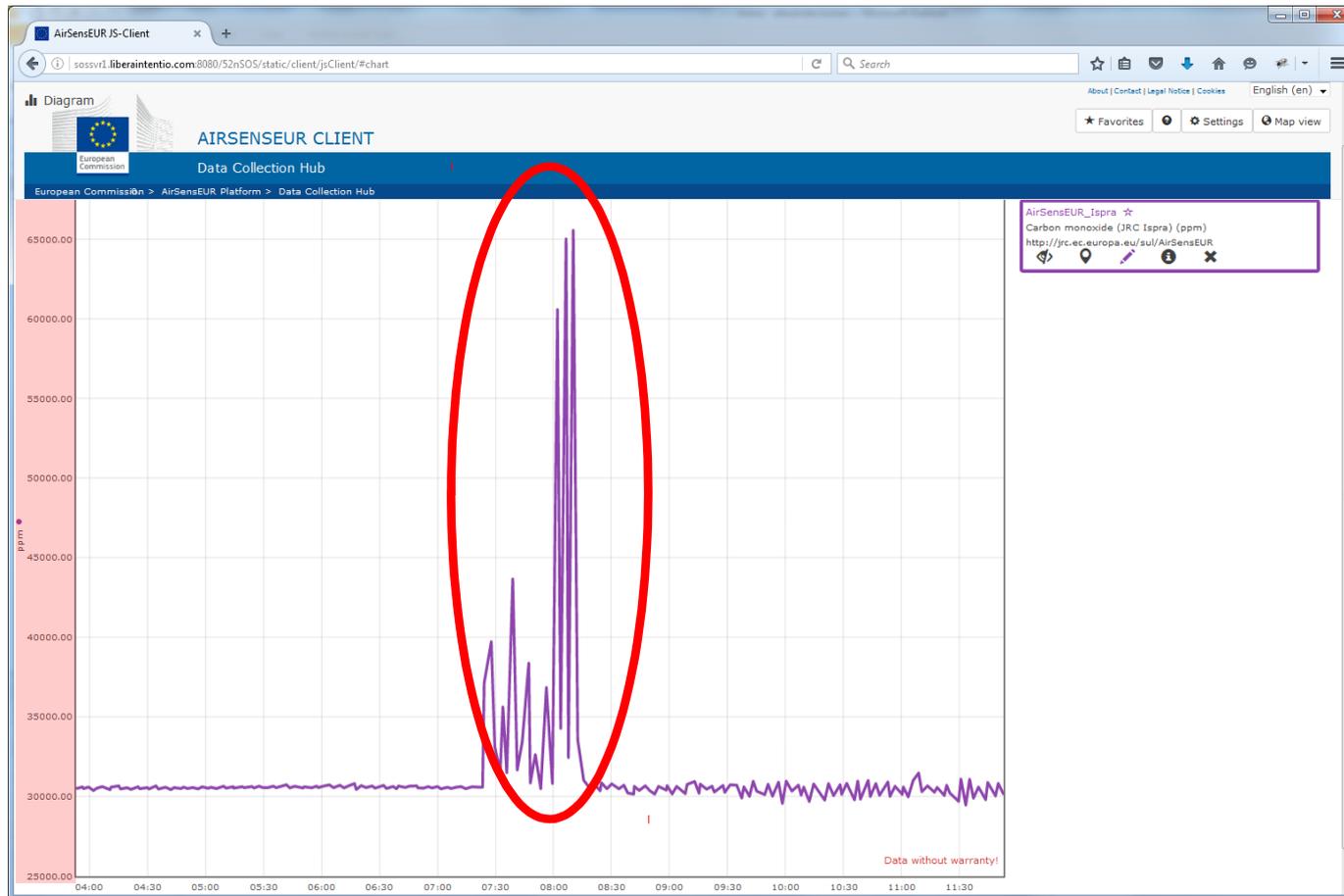
Alexander Kobler, Sven Schade, Massimo Criglis, Michel Gerbolas, Laurent Spinelle, Marco Signorini
2016



Risultati

- Open by design (EURL)
- Hardware
- Software
- Scatola





Un errore???



AirSensEUR Formazione

- 23-25 Maggio 2016
- Principali istituti / laboratori europei
 - AirParif, RIVM, 52N, IfGi, IRCELINE, Geonovum, Nilu, VITO, KNMI, Ricardo



Prodotti riutilizzabili

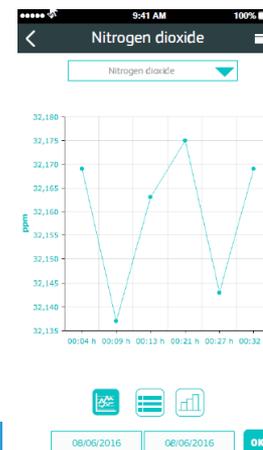
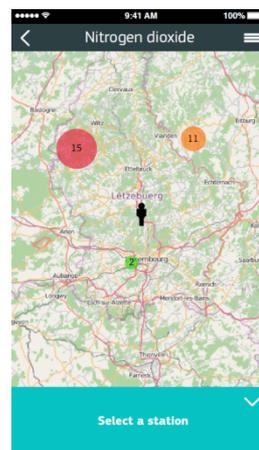
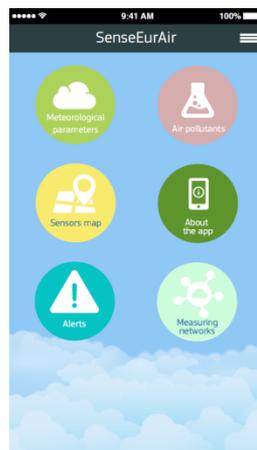
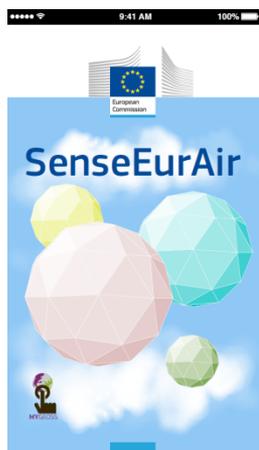
- Data Push tool (SOS-T)

```
#java -jar airsenseurdatapush.jar ../../etc/datapushsosdb.properties
```

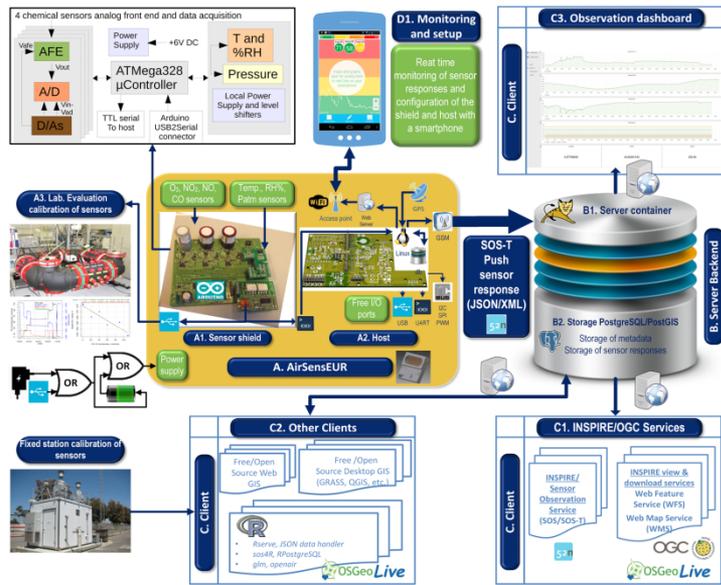
1. Reads local SQLite DB
2. Creates JSON objects from SQLite records
3. Starts GPRS
4. Pushes content to SOS server (SOS-T)

Prodotti riutilizzabili

- SenseEurAir app (MyGEOSS)
 - MyGEOSS
 - Develop GEOSS-based apps
 - Informare i cittadini europei sui cambiamenti nel loro ambiente locale
 - Data from 52N REST API.
 - Sottoscrizione

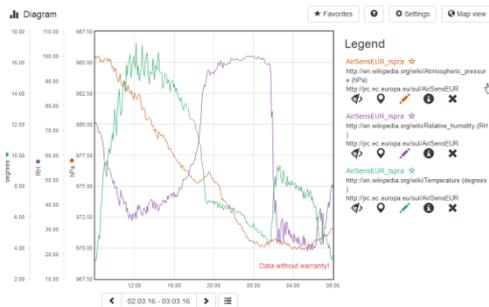
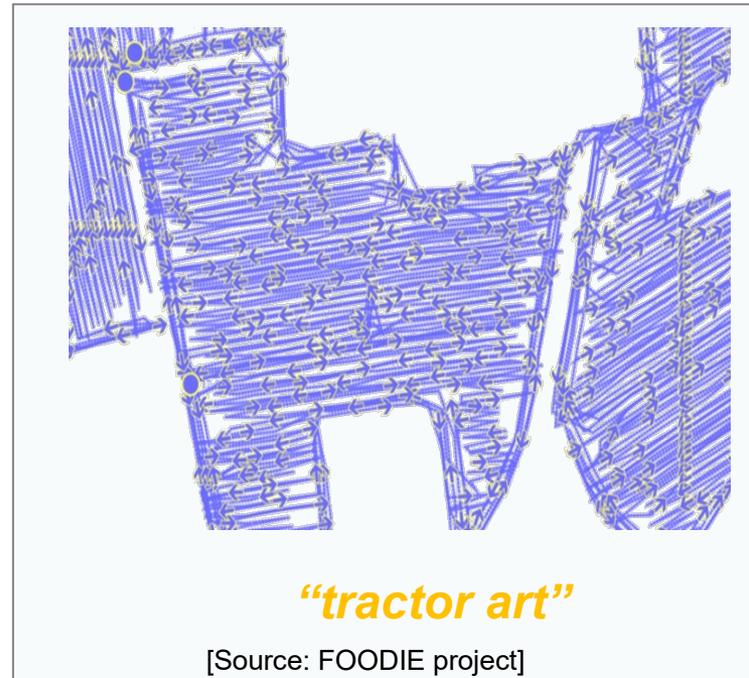


Architettura riutilizzabile



Il monitoraggio di pesticidi / fertilizzanti

- Tempo reale
- Interoperabile con i dati ufficiali



Le sfide

1. Standardizzato JSON encoding di O&M
2. Sottoscrizioni
3. Movimento vs GPS precisione



La via da seguire

1. Calibrazione

- SOS4R (in corso)
- JRC Report (Part "D")

2. Distribuzioni (in MS)

Scenari per l'uso:

- Municipi
- Scuole
- Risposta veloce

3. test pilota in diversi settori

- Smart agricoltura
- perdite di idrogeno





Volete saperne di più

www.AirSensEUR.org



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Michael Gerbacia, Laurent Spensels and Marco Sghignesi
2016

Enriching Authoritative Environmental Observations: Findings from AirSensEUR

Alexander Krieger, Sven Schödl, Marlene Crabb, Michael Gerbacia, Laurent Spensels, Marco Sghignesi
2016

AirSensEUR, the first project, provides an overview of and...
The historical background is...
The AirSensEUR project is designed as an open platform based on...
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