The Smart Cities Platform

Open Innovation en Libelium

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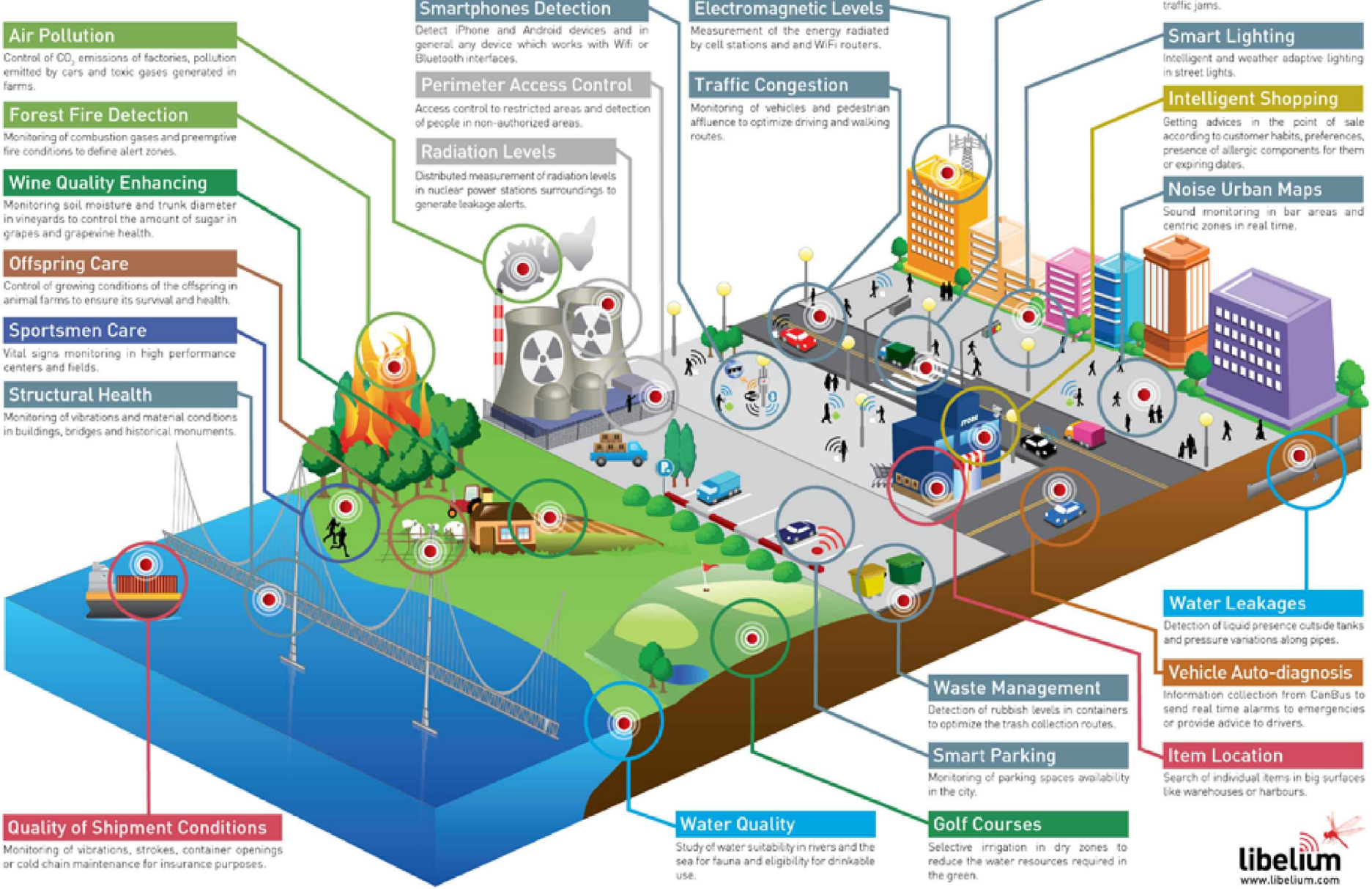
Libelium Smart World



Air Pollution
Control of CO_2 emissions of factories, pollution emitted by cars and toxic gases generated in farms.

Forest Fire Detection
Monitoring of combustion gases and preemptive fire conditions to define alert zones.

Wine Quality Enhancing
Monitoring soil moisture and trunk diameter in vineyards to control the amount of sugar in grapes and grapevine health.

Offspring Care
Control of growing conditions of the offspring in animal farms to ensure its survival and health.

Sportsmen Care
Vital signs monitoring in high performance centers and fields.

Structural Health
Monitoring of vibrations and material conditions in buildings, bridges and historical monuments.

Quality of Shipment Conditions
Monitoring of vibrations, strokes, container openings or cold chain maintenance for insurance purposes.

Smartphones Detection
Detect iPhone and Android devices and in general any device which works with Wifi or Bluetooth interfaces.

Perimeter Access Control
Access control to restricted areas and detection of people in non-authorized areas.

Radiation Levels
Distributed measurement of radiation levels in nuclear power stations surroundings to generate leakage alerts.

Electromagnetic Levels
Measurement of the energy radiated by cell stations and and WiFi routers.

Traffic Congestion
Monitoring of vehicles and pedestrian affluence to optimize driving and walking routes.

Water Quality
Study of water suitability in rivers and the sea for fauna and eligibility for drinkable use.

Smart Roads
Warning messages and diversions according to climate conditions and unexpected events like accidents or traffic jams.

Smart Lighting
Intelligent and weather adaptive lighting in street lights.

Intelligent Shopping
Getting advices in the point of sale according to customer habits, preferences, presence of allergic components for them or expiring dates.

Noise Urban Maps
Sound monitoring in bar areas and centric zones in real time.

Water Leakages
Detection of liquid presence outside tanks and pressure variations along pipes.

Vehicle Auto-diagnosis
Information collection from CanBus to send real time alarms to emergencies or provide advice to drivers.

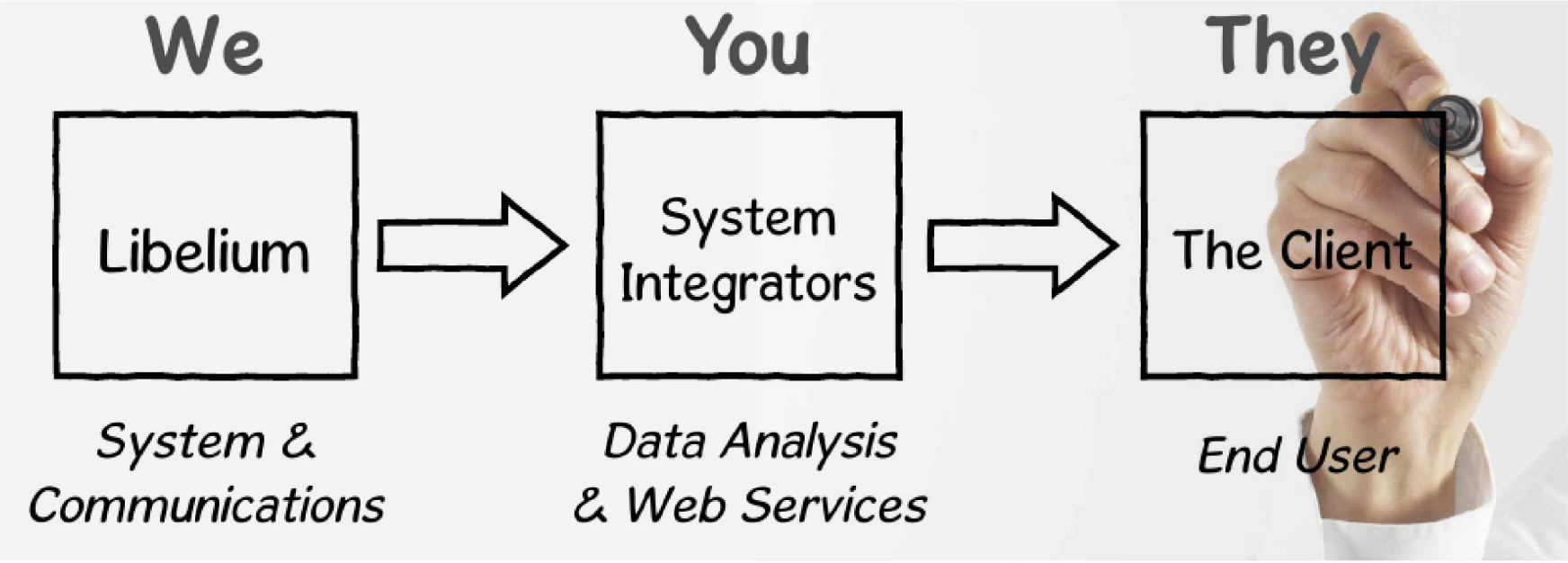
Item Location
Search of individual items in big surfaces like warehouses or harbours.

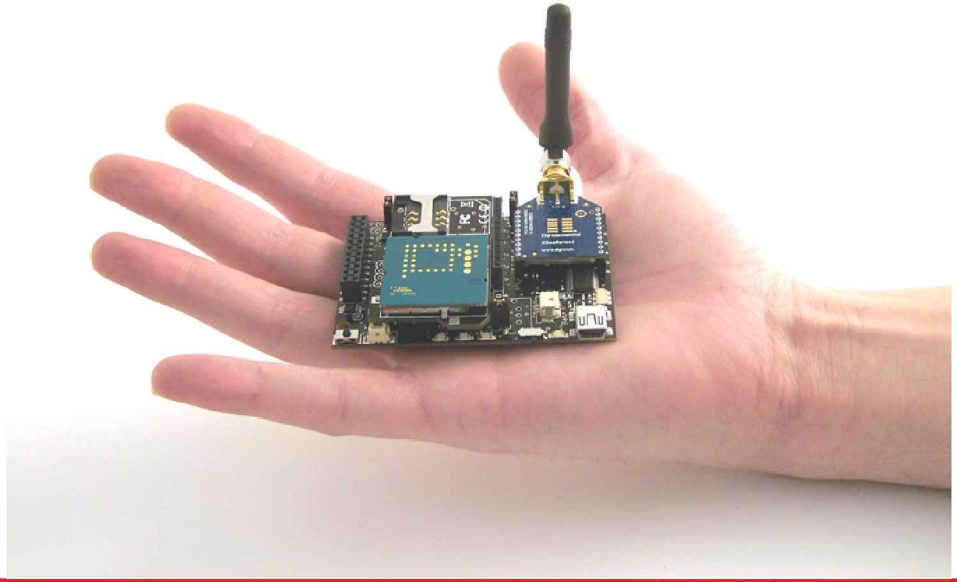
Waste Management
Detection of rubbish levels in containers to optimize the trash collection routes.

Smart Parking
Monitoring of parking spaces availability in the city.

Golf Courses
Selective irrigation in dry zones to reduce the water resources required in the green.

libelium
www.libelium.com

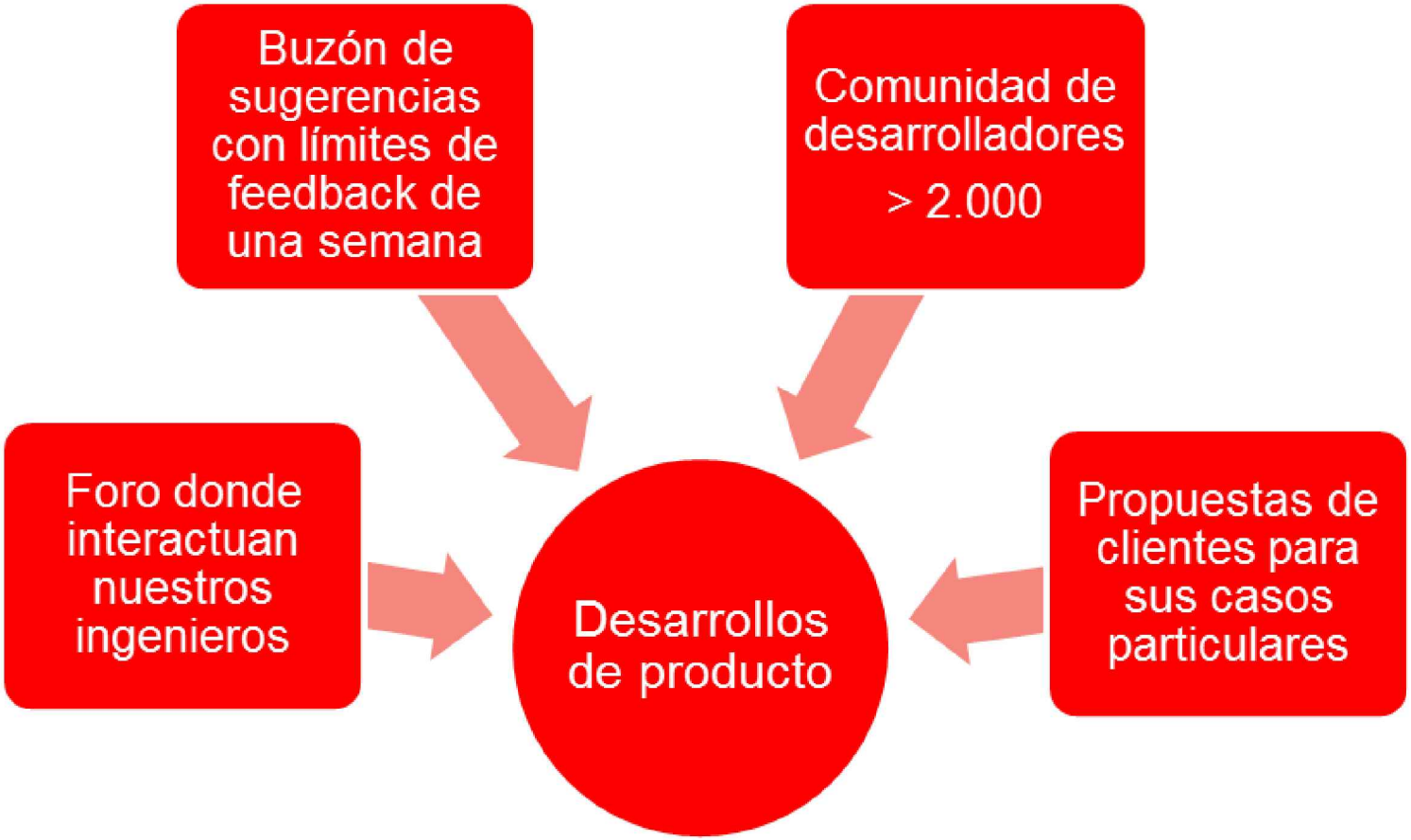

We
You
They
Libelium
System Integrators
The Client
System & Communications
Data Analysis & Web Services
End User



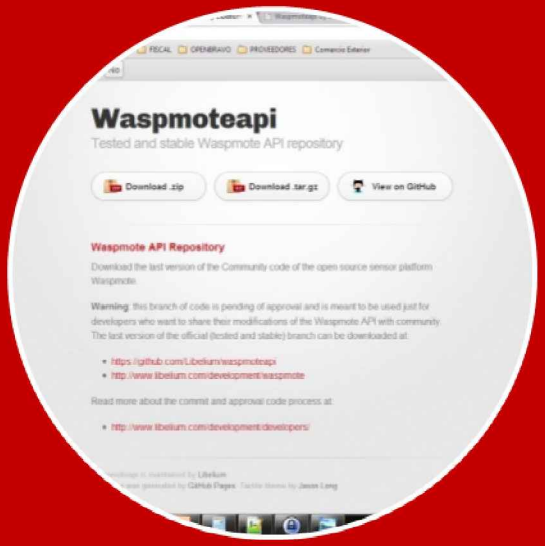
Open Innovation = comunicación

* Libelium → mercado
  - Dar la mayor información de nuestros productos
  - Apostar por el Open Source → otros pueden mejorar tu producto
* Libelium → Libelium
  - ¡No perder las ideas internas!
* Mercado → Libelium
  - Incorporar las mejoras sugeridas por nuestros clientes

Canales de comunicación



Información pública y accesible



Librerías de Open Source colgadas en la web

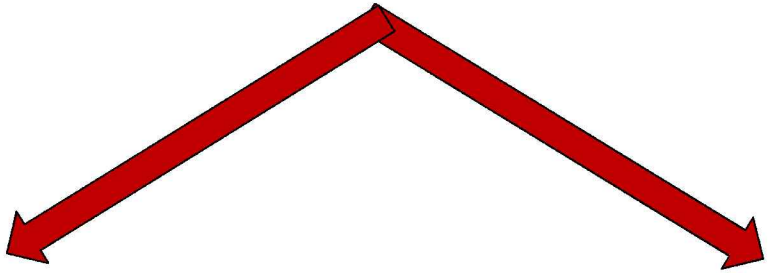
Vídeos tutoriales didácticos

Guías técnicas de todas las salidas

* Comunicar la estrategia a TODOS

* Fomentar relación entre departamentos

No sólo somos nosotros los que compartimos información, también es el cliente el que comparte con nosotros.



Suggestion Box

Your feedback is important for us

▸ Contact

Code for Developers

Share your code with Community through the GitHub Code Repository

▸ Enter

Forum

Share your questions with our Developers Community

▸ Forum

› Últimos Casos de Éxito:

» Detecting Radiation Levels in Fukushima: an example of crowdsourcing

Objetivo: *fast design of a radiation detection sensor board for Waspmote in response to the accident in Fukushima.*

The creation of the Radiation Sensor Board was motivated by the nuclear disaster in Fukushima after the unfortunate earthquake and tsunami that struck Japan in March 2011. We wanted to help authorities to measure the levels of radiation of the affected zones without compromising the life of the security and rescue teams. For this reason we designed in just 3 weeks a Geiger Counter sensor board for Waspmote, which could read the radiation levels automatically and send the information in real time using wireless technologies like ZigBee and 3G/GPRS to the control point without human intervention.

▸ Leer Más

Publicación rápida:

» Smart Parking and environmental monitoring in one of the world's largest WSN

Objetivo: *use the mesh capabilities of ZigBee and other adhoc protocols in a massive deployment of more than 1000 nodes located under the ground in order to enable the car detection in the streets of the city.*

SmartSantander is an ambitious project leaded by Telefonica that proposes a unique in the world city-scale experimental research facility sufficiently large, open, flexible and horizontal to stimulate the development of new applications by researchers, companies and citizens. At the same time, the network must provide services to Santander inhabitants such as helping them to find free parking spots and monitoring pollution levels. In this case, Waspmote modularity and flexibility has allowed to incorporate a second communication radio enabling experimentation while ensuring high availability services.

▸ Leer Más

Publicación rápida:

Fukushima: un ejemplo de Crowdsourcing

Wireless Sensor Networks Blog

Sensor Networks to help Japan detect radiation

March 18th, 2011

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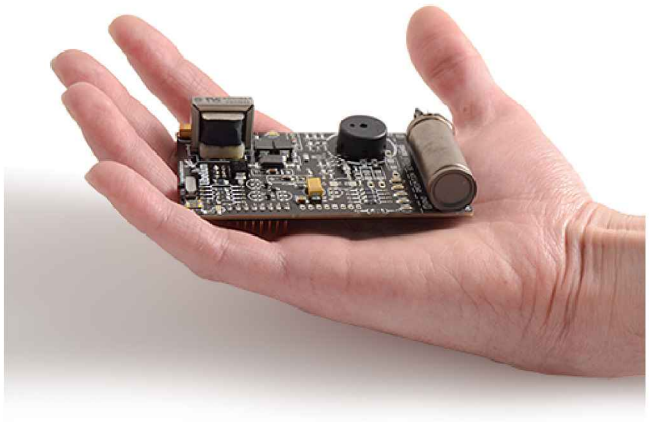
A new sensor board including a Geiger tube to detect alpha, beta and gamma radiation is currently being developed by Libelium. Once the first prototype is finished it will be sent and tested in the Hackerspace at Tokyo. This new sensor board will be compatible with both Waspmote and Arduino platforms. The idea is double, on the one hand, [...]

wsn-general | Comments (2)

cooking hacks
tasty electronics by libelium



tokyo hackerspace

Abril 2011

cooking hacks
tasty electronics by libelium Forum

sergios Joined: Fri Apr 15, 2011 5:11 pm Posts: 1	Post subject: Re: Radiation Sensor Board for Arduino Posted: Fri Apr 15, 2011 5:34 pm Hi, we would like to donate a lot (up to 500 pcs) LCD 16x2 to Libelium to participate with the efforts done with this Radiation Sensor for Japan. it is a standard display should be compatible with your shield, here is the datasheet: http://goo.gl/jykbs Hope this is useful, Pls contact me. Sergio Sorrenti http://www.simplemachines.it sergio.sorrenti at gmail.com
bacterium Joined: Mon Apr 18, 2011 3:55 pm Posts: 1	Post subject: Re: Radiation Sensor Board for Arduino Posted: Mon Apr 18, 2011 4:15 pm Hi! Nice quick job on this :) A couple of points though, based on a similar piece of gear that I've built: 1) You might be able to save a bit of money (and space on the board) by looking into transformers like this (http://www.bourns.com /data/global/pdfs/ ... series.pdf). 2) Based on what I saw looking at your schematic, you are not really concerned with the shape and spectral content of the resultant output

pachube

LIVE Updated on Thu, 25 Aug 2011 12:41:03 +0000 | Published by lbergeret

Mejiro Radiation Meter

The tube used is a J305βγ provided with the cooking-hacks Radiation Sensor Board for Arduino.

Conversion factor based on γ sensibility of GM tube J305βγ for Co60: 65cps/(uR/s)
Details in http://goo.gl/j6WR9

http://www.cooking-hacks.com/index.php/documentation/tutorials/geiger-counter-arduino-radiation-sensor-board

TAGS

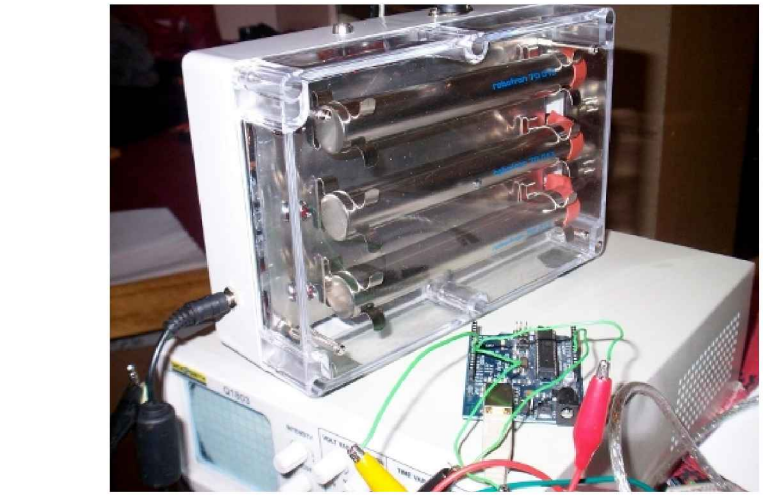
CPM | Geiger Counter | J305betagamma | Mejiro | microSievert | sensor:covered= | sensor:detectab | sensor:model=J | sensor:type=rad | Tokyo

LOCATION NAME

Mejiro

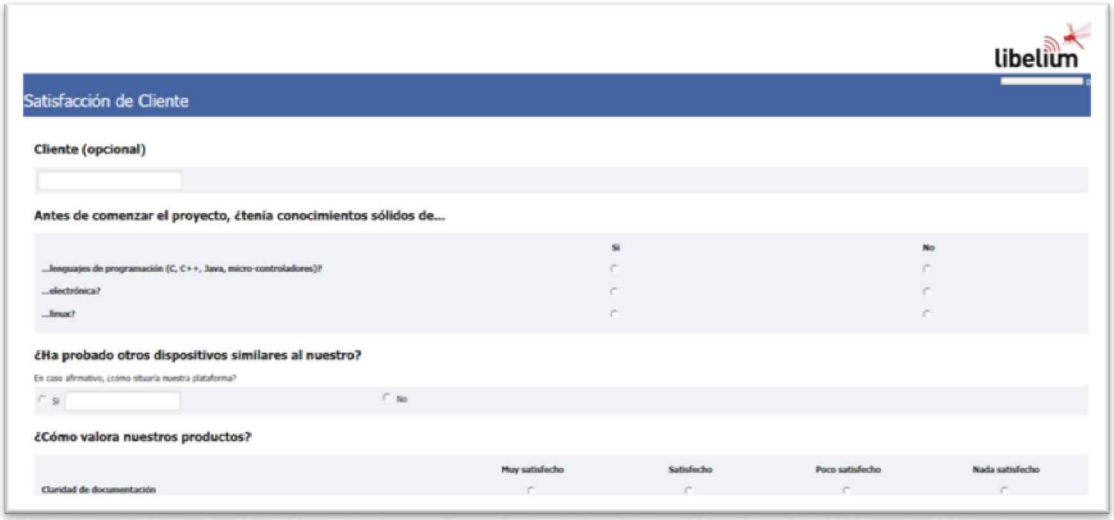
LOCATION MAP

LATITUDE | LONGITUDE | ELEVATION



*Mejorar los canales de comunicación vía Encuestas de producto

- Product Manager responsable de su análisis

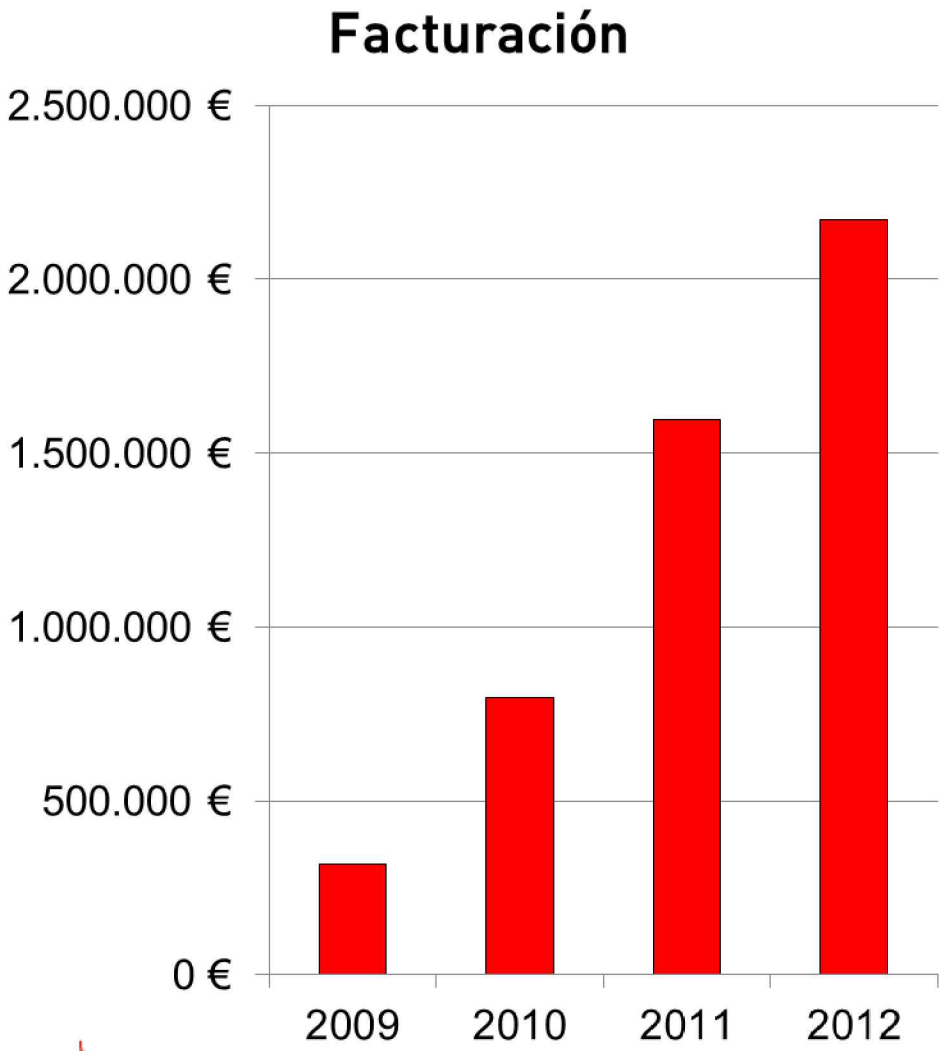


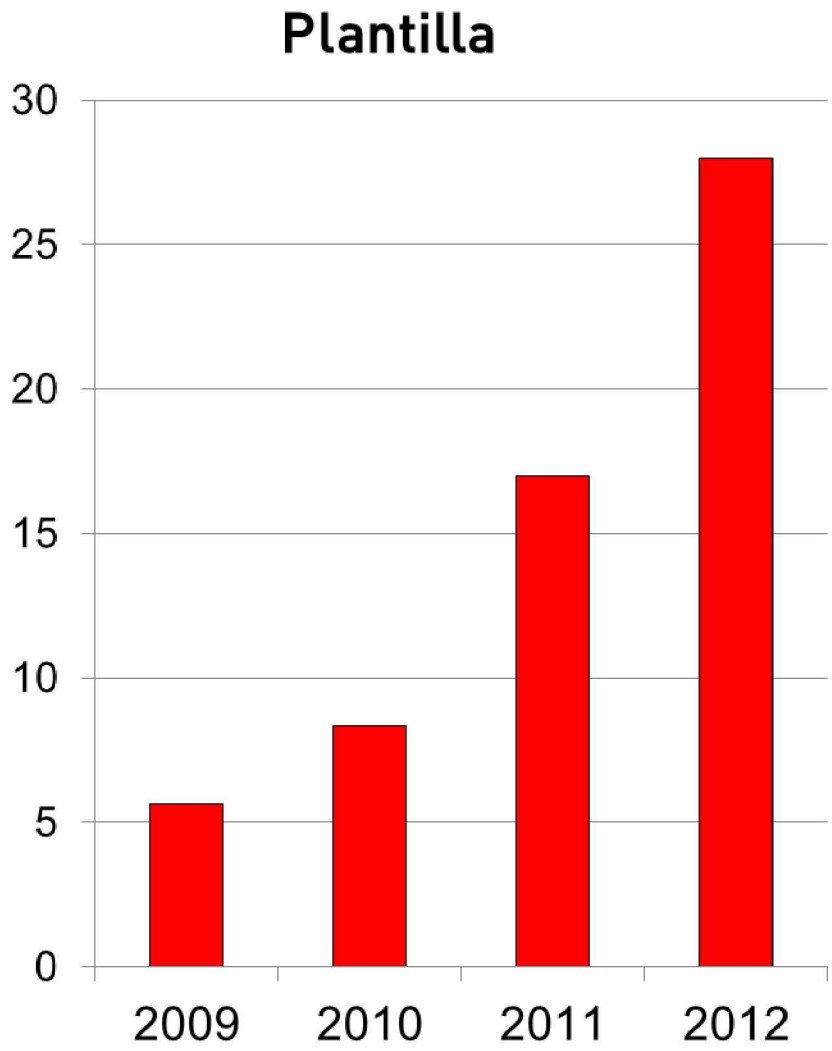
*Mejorar información departamento comercial – I+D

- Nuevas propuestas, nuevos proyectos para Waspmote.

Conclusiones

- En 2012, un 57,5% de la facturación total fue en este producto. 1.254.000€
- Se consiguieron solucionar más de 1.000 casos distintos gracias a la cooperación entre desarrolladores
- Forma de desarrollo Open, todo el mundo tiene algo que aportar y a cualquier persona le puede servir
- Creación de una nueva web mucho más participativa


Facturación
2.500.000 €
2.000.000 €
1.500.000 €
1.000.000 €
500.000 €
0 €
2009
2010
2011
2012


Plantilla
30
25
20
15
10
5
0
2009
2010
2011
2012

* Poner al cliente en el centro del proceso de I+D
* “Simular clientes” → nuevo dpto. Calidad de producto
* “Si supiéramos todo lo que sabe nuestra empresa, seríamos 3 veces más productivos”, Lew Platt, ex-CEO HP.

¡Gracias!