



Ministero dello Sviluppo Economico



# CO<sub>2</sub> reduction and air quality improvement in urban areas



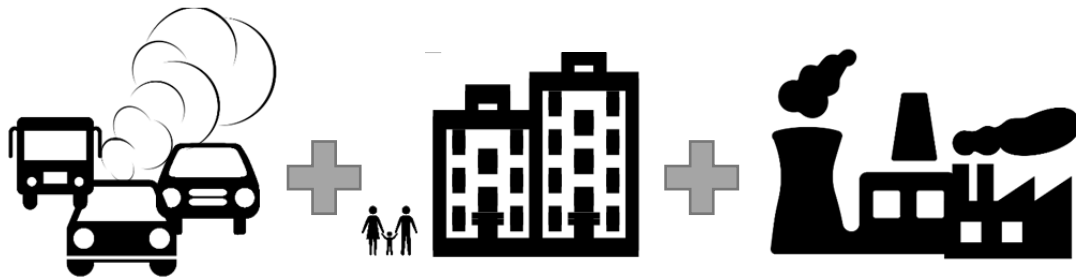
*«Air Quality at urban level should be a value for every single citizen»*

*«Stressing too much only one technology may be not beneficial to address the problem»*

*«A single field solution does not solve the problem»*



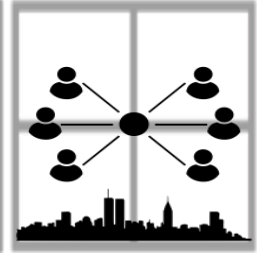
# The Problem



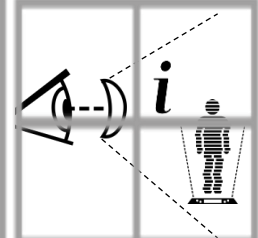
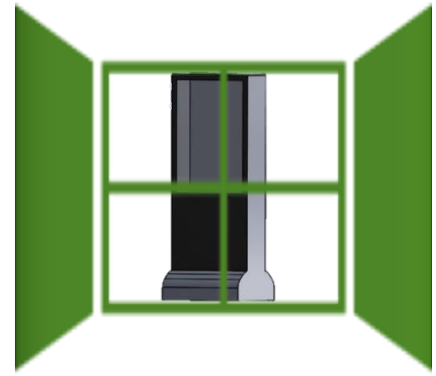
# Our vision



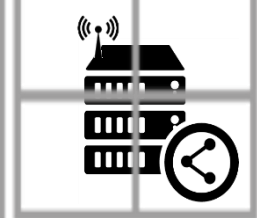
Super - system



System



Sub - systems







# The Product

InnovAir

Improving the quality of your life.



 **CSP**  
Innovazione nelle ICT


 **Traffic monitoring**


 **aGrisù**  
Innovazione nelle ICT


**Air quality data from aGrisù API or locally installed sensor**



 **Piazza Castello – ore 12:58**  
**Indice Qualità Aria: 7/10**  
inquinante principale: polveri sottili  
ultimo aggiornamento alle 12:45

 **Totale mezzi transitati oggi: 132**  
di cui 95 auto e 37 van/mezzi pesanti


 **Best: IQA 9/10 in data 15/08/2015**  
con 112 vetture transitate

**Visualizza mappa** 

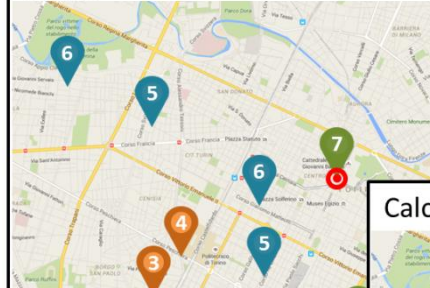
**Calcola percorso**

**Biglietteria GTT**

**Statistiche IQA**

SCARICA L'APP! 

**Torino**




**IQA**  
 **TO BIKE**  
 **STT**  
 **bluetorino**

**Calcola percorso** **Biglietteria**








HOME PAGE SCARICA L'APP!


**Calcola percorso**



**Calcola percorso**


**IMPATTO AMBIENTALE**

<input checked="" type="checkbox"/> 		25 min	0 €
<input type="checkbox"/> 		30 min	1,3 €
<input type="checkbox"/> 		15 min	3,5 €
<input type="checkbox"/> 		15 min	4,5 €

HOME PAGE SCARICA L'APP! 

Da:  CERCA

a:

HOME PAGE SCARICA L'APP! 

**A SERVICE TO CITIZENS TOWARDS SMART CITIES.**

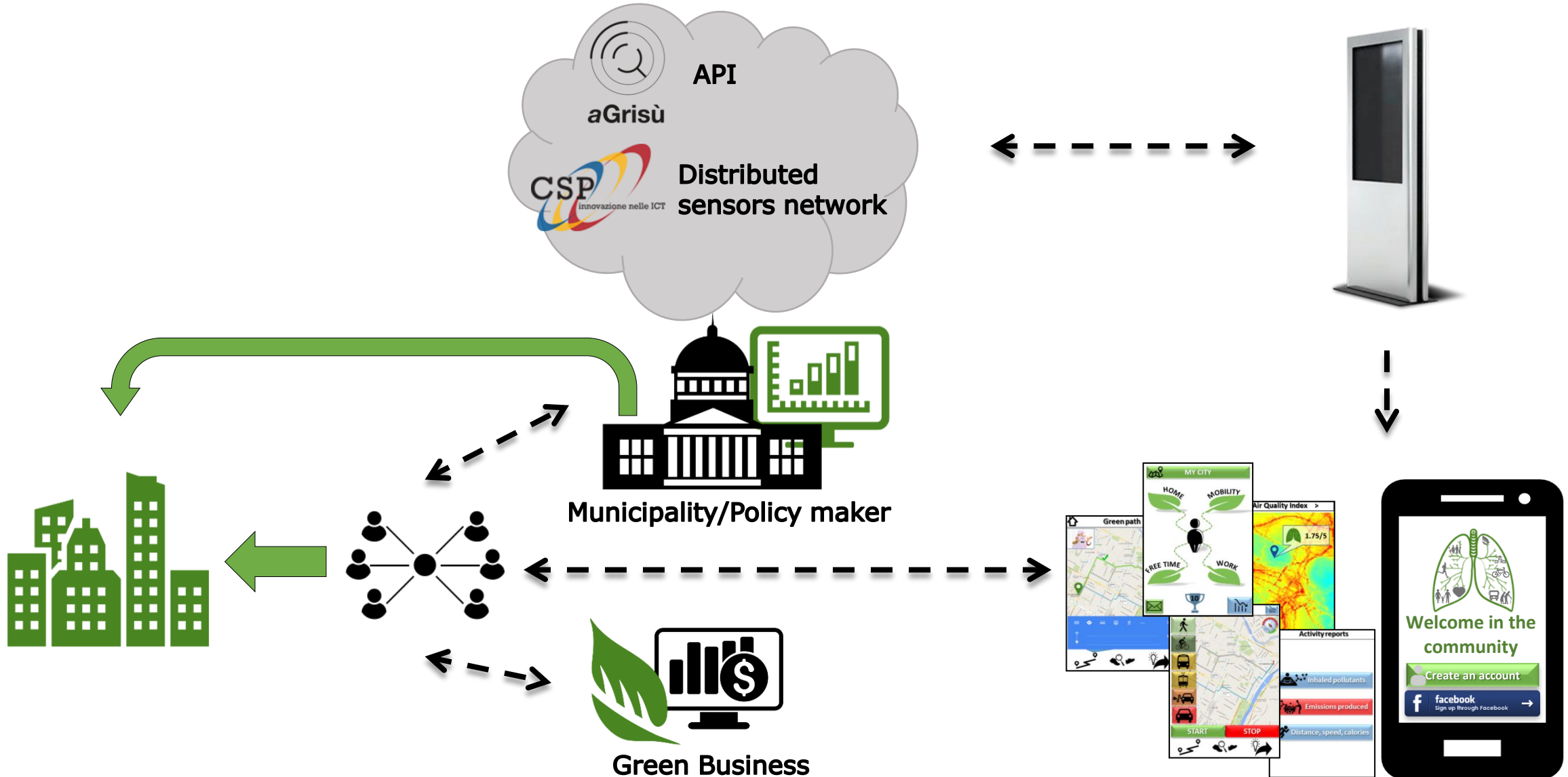


# The Solution

LONG-TERM CONCEPT

InnovAir

Improving the quality of your life.



# People's voice



## INTERVIEWS AND QUESTIONNAIRES

### Interviews & Survey

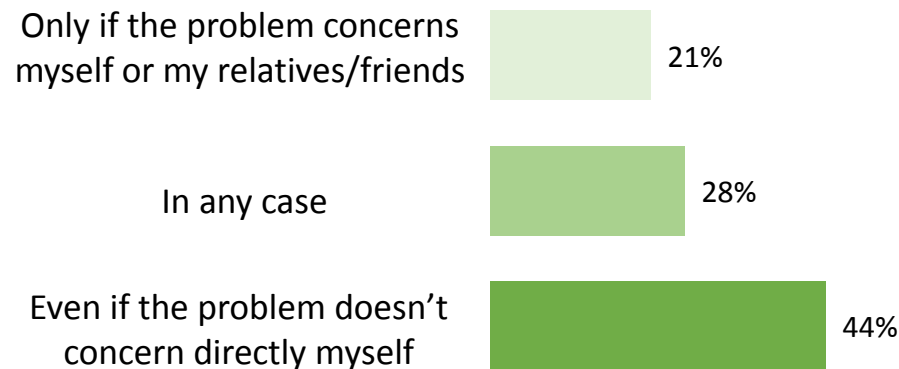
#### Key Evidence

---

- 30+ face2face interviews in Turin
- 100+ online questionnaires  
(Turin, Milan, London, Madrid..)

#### Could you reduce some personal comfort to solve common problems?

---



#### Key Evidence

---

90% value important to inform citizens about air quality issues

#### Key Evidence

---

82% citizens are not aware of the problem

#### Key Evidence

---

75% Government don't do enough to improve the air quality



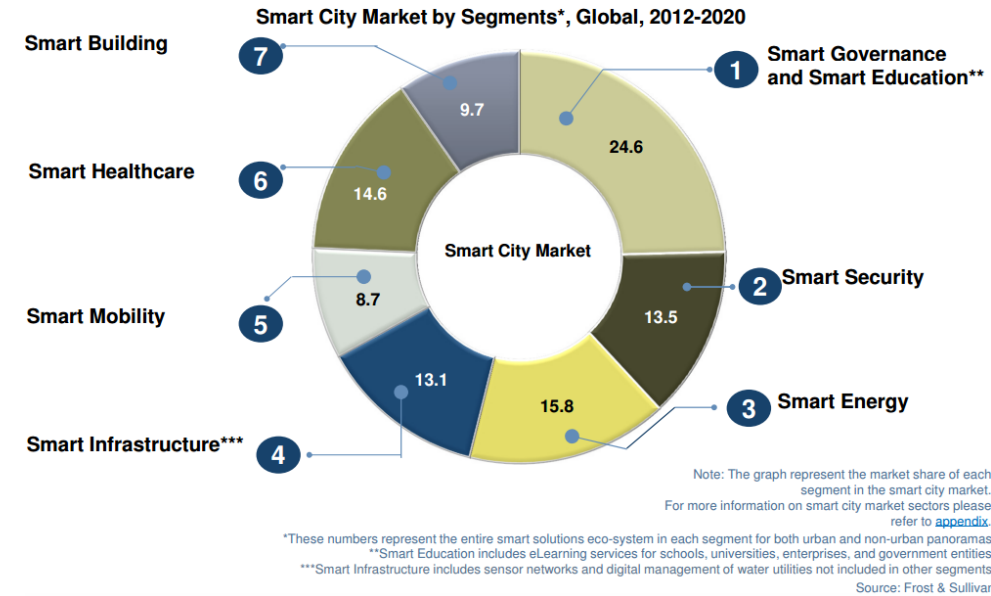
# Market size

## SMART CITIES

**Worldwide: \$1.565 Trillion by 2020** (FROST&SULLIVAN)  
**13.1% Smart Infrastructure → \$200 Billions**

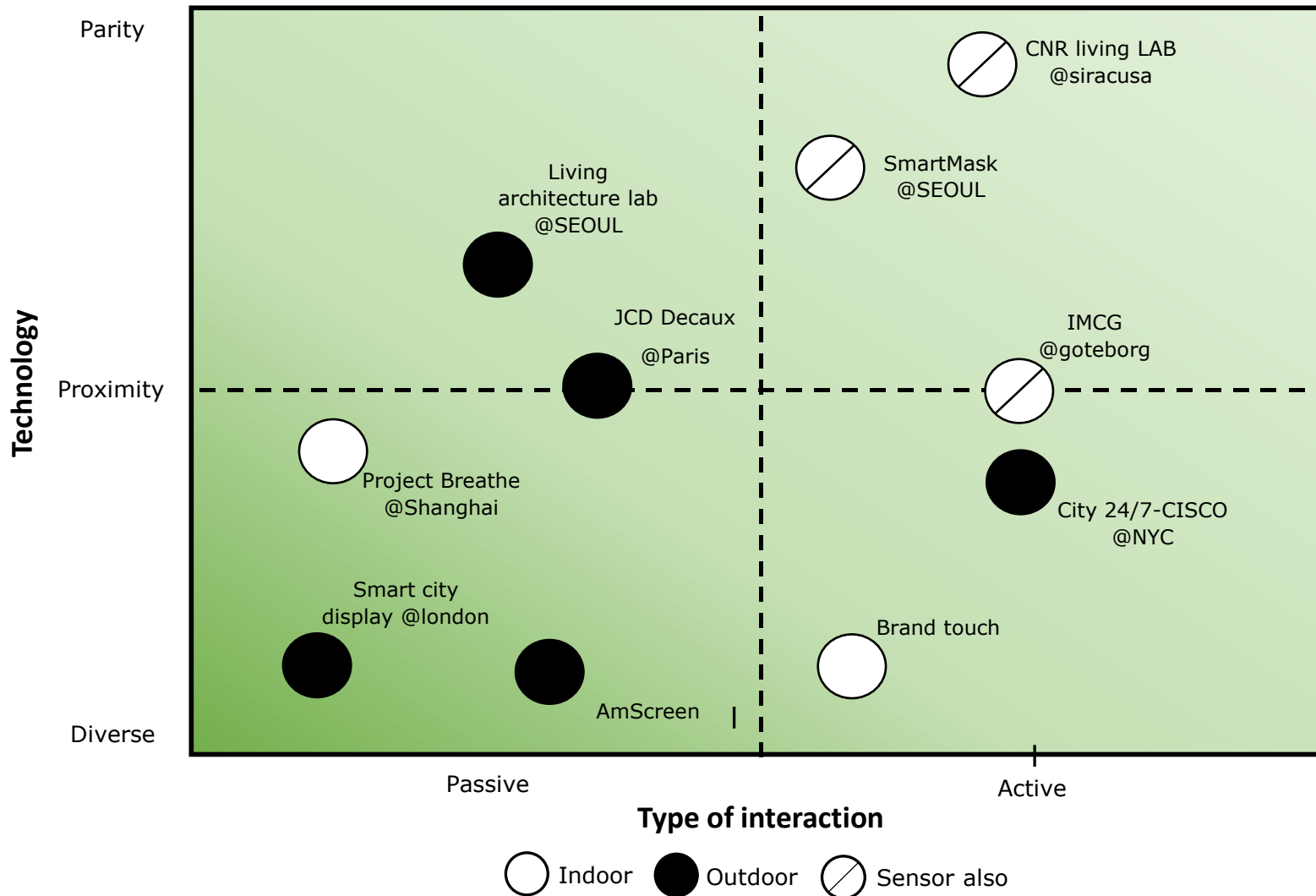
**Italy – local administrations: €65 Mln**  
 (MISE grants – March 30th, 2016)  
**€6.8 Mln worth market → 11% of MISE grants**

**Turin metropolitan area** (pilot project area)  
**13,1% smart infrastructure → €900k worth market**





# Competitors Assessment



- ✓ Lots of smart city projects are based on visual systems to raise awareness about air pollution
- ✓ Interest in air pollution monitoring and control systems is increasing worldwide, especially in China
- ✓ Projects on air pollution are often related to smart mobility programs
- ✓ Totems usage worldwide is increasing, both for indoor & outdoor
- ✓ Smart Bus stops are widely proposed in every smart city project



# Business model



## VALUE PROPOSITION

- Increase the number of users of public transport means (bus, bike sharing, ...) by enhancing citizens' awareness on air pollution issues.



## CUSTOMERS

- Municipalities on metropolitan cities



## KEY PARTNERS (possibly)





# Business model

## COST STRUCTURE



### VALUE DRIVEN BUSINESS MODEL

- Our business model is not focused on minimizing the totem features cost but on developing the best features in order to maximize the benefits that will involve all the citizens
- The costs are calculated one-year period



### GO TO MARKET COSTS

**26.000 €**

- ❖ Hardware/Software
- ❖ Starting Inventory
- ❖ Website Hosting
- ❖ Computer Hardware/Software
- ❖ Basic Website

# Business model

## COST STRUCTURE

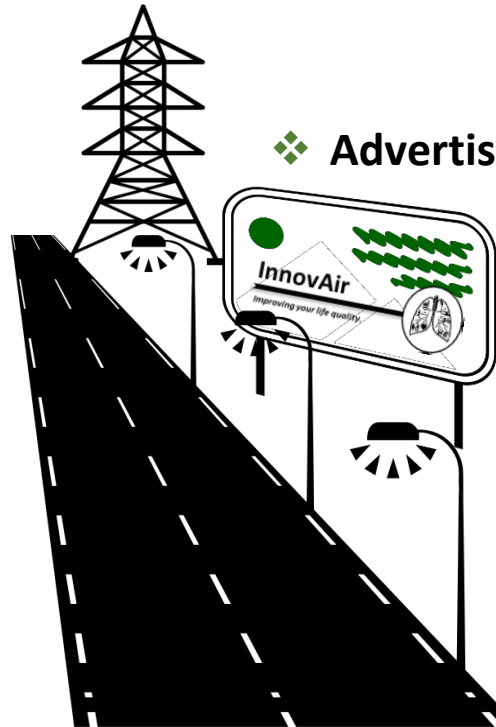
### FIXED COSTS

#### ❖ Rent



- ❖ Website Hosting
- ❖ Legal/Professional Fees
- ❖ Telephone
- ❖ Hardware/Software

#### ❖ Advertising



#### ❖ Starting Inventory (x2)



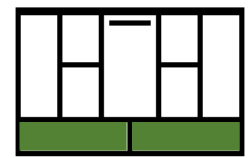
### VARIABLE COST FOR UNIT PRODUCTION



- ❖ Totem manufacturing
- ❖ Sensor systems
- ❖ Sensors assembly
- ❖ Installation costs (on-site)

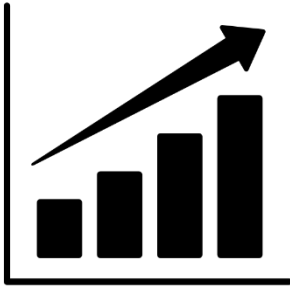
**TOTAL FIXED COST:**  
**26.000 €**

**TOTAL VARIABLE COST:**  
**5.600 €**



# Business model

## REVENUE STREAM: Totem



Totem selling price to local governments:

**7.000 €**

## REVENUE STREAM: APIs services

### Our Plans:

#### Private

- 30 days trial period
- Up to 1000 calls
- Price per call: 0,02 €

#### Business

- Up to 100k calls daily
- Price per call: 0,01 €

#### High Volume

- More than 100k calls daily
- Price per call: 0,006 €



# The Team

InnovAir

*Improving the quality of your life.*



C- & InnovAir Co-Founder  
MBA, SAFM & CDI  
M.Sc. Industrial Engineering  
M.A. Business



C- & InnovAir Co-Founder  
MBA, SAFM & CDI  
M.Sc. Material Engineering



C- & InnovAir Co-Founder  
PhD, PolitTO  
M.Sc. Automotive Engineering



C- & InnovAir Co-Founder  
MBA, SAFM & CDI  
M.Sc. Nuclear & Energy  
Engineering



C- & InnovAir Co-Founder  
PhD, PolitTO  
M.Sc. Nuclear & Energy Engineering



C- & InnovAir Co-Founder  
MBA, SAFM & CDI  
M.Sc. Civil Engineering



**JOIN THE  
COMMUNITY**

**BACKUP**



# Summary

**+ 50.000 €**

*....To manufacture 2 ready-to-use  
totemans & set-up the business*

**1 Years**

*Pay Back Time and Business in profit....*





Azienda	Tech	Revenue Mln €	Description	Website	Stato	Project Active
IMCG	Smart screen	Città di goteborg	Interactive screen that shows energy consumption of the city (Gothenburg)	<a href="http://imcg.se/en/project/inner-citys-energy/">http://imcg.se/en/project/inner-citys-energy/</a>	On the market	YES
Smart city displays	Passive screen	Solo le fermate di londra	Screen at bust stops that shows schedule	<a href="http://smartcitydisplays.co.uk/">http://smartcitydisplays.co.uk/</a>	In the market from Jan 16 at bus stops in London	YES
City Lights - steles LED	Passive screen		Non uno schermo ma un semplice espositore	<a href="https://www.architonic.com/it/product/burri-city-lights-steles-led/1027353">https://www.architonic.com/it/product/burri-city-lights-steles-led/1027353</a>	On the market	YES
JCDecaux	Active Screen	2463	DigitalTotem: cultural activites&municipal Green bus stop – greenrooftop + wifi + charging	<a href="http://www.jcdecaux.com/en/Newsroom/Press-Releases/2012/JCDecaux-tests-six-Intelligent-Street-Furniture-items-following-the-invitation-to-submit-projects-by-the-Paris-City-Authorities">http://www.jcdecaux.com/en/Newsroom/Press-Releases/2012/JCDecaux-tests-six-Intelligent-Street-Furniture-items-following-the-invitation-to-submit-projects-by-the-Paris-City-Authorities</a>	On the market (2012 in Paris)	Yes in 2012
Amscreen	Screen for adverst		Screen for adveristing with CLEARCHANNEL	<a href="http://www.clearchannel.it/it/home.aspx">http://www.clearchannel.it/it/home.aspx</a>	On the market	YES
City 24/7	Interactive screen wtih CISCO		Smart screen that shows latest local news	<a href="http://www.cisco.com/c/dam/en_us/about/ac79/docs/ps/motm/City-24x7_PoV.pdf">http://www.cisco.com/c/dam/en_us/about/ac79/docs/ps/motm/City-24x7_PoV.pdf</a>	Out of the market	NO from 2012
KateSpade	Screen out of shops where you can buy from			<a href="http://laughingsquid.com/kate-spade-in-new-york-city-introduces-several-24-hour-interactive-window-shops/">http://laughingsquid.com/kate-spade-in-new-york-city-introduces-several-24-hour-interactive-window-shops/</a>		
Smartmask	Mask filter and measure air quality + app		Filter+ air quality measure goes to app	<a href="http://www.bbc.com/future/story/20130307-smart-mask-maps-polluted-streets">http://www.bbc.com/future/story/20130307-smart-mask-maps-polluted-streets</a>	On the market	YES



Azienda	Tech	Revenue Mln €	Description	Website	Stato	Project Active
Project BREATHE	Totem with filtration system for Indoor		Totem for INDOOR AIR QUALITY that shows level of quality	<a href="http://www.purelivingchina.com/2014/11/project-breathe-makes-waves-and-clean-air-at-workplace-fm-asia-summit-shanghai/">http://www.purelivingchina.com/2014/11/project-breathe-makes-waves-and-clean-air-at-workplace-fm-asia-summit-shanghai/</a>		
Unitech	Air quality measure with sensors (also PM)		Air quality sensor system (all)	<a href="http://www.unitec-srl.com/site/products/etlone/">http://www.unitec-srl.com/site/products/etlone/</a>		
CNR	Sensori fissi (installati sui totem turistici) e mobili+app		Sistema integrato sulla città per monitoraggio e app qualità aria a siracusa	<a href="http://www.sensorwebhub.org/?p=11911">http://www.sensorwebhub.org/?p=11911</a>		
Living architecture lab	Facade that shows pollution in the different neigh.		The air quality is measured in real time and used to light up in different ways facade	<a href="http://www.livinglightseoul.net/">http://www.livinglightseoul.net/</a>		

## TOTEM PROVIDER

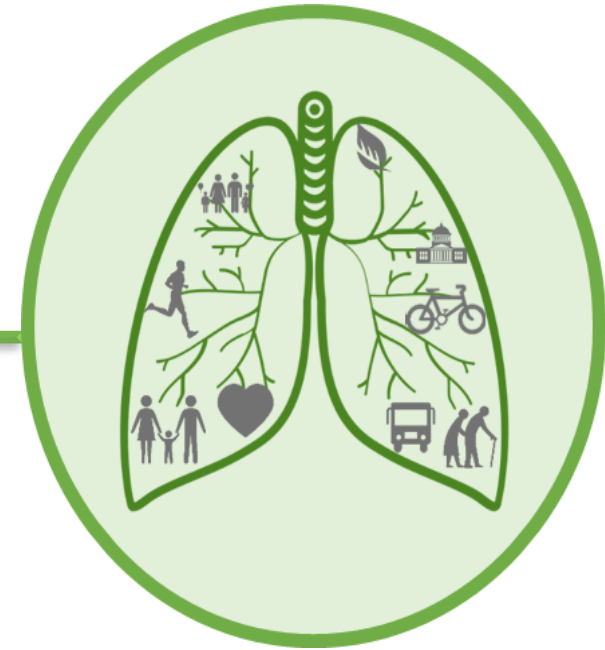


Azienda	Tech	Revenue Mln €	Description	Website	Stato	Project Active
ARACAST			DS Totem Air Bilateral totem	<a href="http://aracast.com/totem-landscape-seriea/">http://aracast.com/totem-landscape-seriea/</a>		
IPMASD	Totem provider		Retual totem	<a href="http://www.ipmasd.com/en/totems/198-retual-digital-totem-crk-147-47.html">http://www.ipmasd.com/en/totems/198-retual-digital-totem-crk-147-47.html</a>		
Infinity solutions	Interactive totem provider		Provide mobility+restaurant	<a href="http://infinitysolutions.ch/PRODOTTI/index.html">http://infinitysolutions.ch/PRODOTTI/index.html</a>		
Pandora philisophy	Totem provider		Totem and software solutions	<a href="http://www.pandoraphilosophy.it/it/Totem_Interattivo/">http://www.pandoraphilosophy.it/it/Totem_Interattivo/</a>		
Temas	Totem provider			<a href="http://www.temasteknoloji.com.tr/en/terra-touch-totems/">http://www.temasteknoloji.com.tr/en/terra-touch-totems/</a>		
Totem Touch- Screen Kiosks			Car dealer			
Brand touch	Totem provider		Mall applications: mall, museum, hotel welcome point	<a href="http://brand-touch.com/">http://brand-touch.com/</a>		



# InnovAir

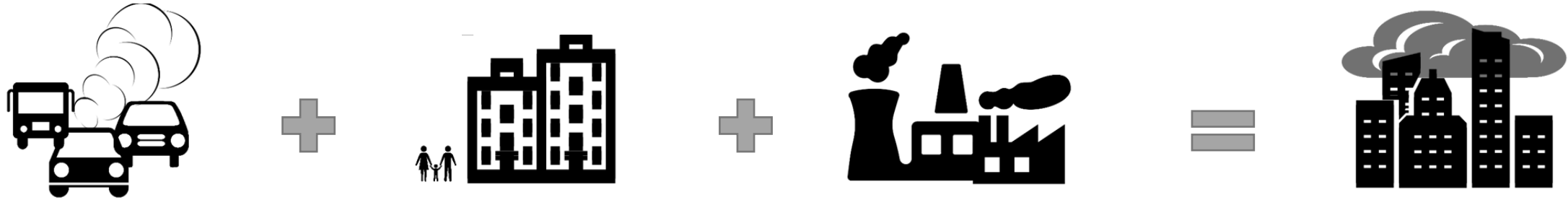
*Improving the quality of your life.*





# The Problem

## AIR QUALITY IN THE CITIES



400'000+ premature deaths in Europe every year

(EEA, 2015)

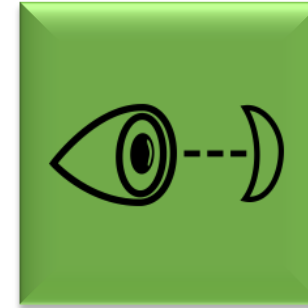
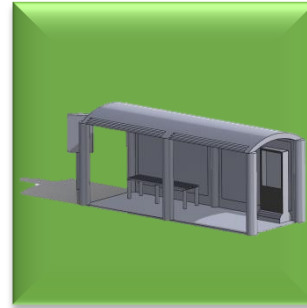
A **10-40%** reduction of key air pollutants is estimated to bring a net welfare gain of **34 to 48 billion euro** for 2020

(Nam et al, 2010)

**Lack of information and awareness by end users** as to the efficacy of abatement technologies is a major barrier to exploitation of market ready technologies.

(EPEC, 2011)

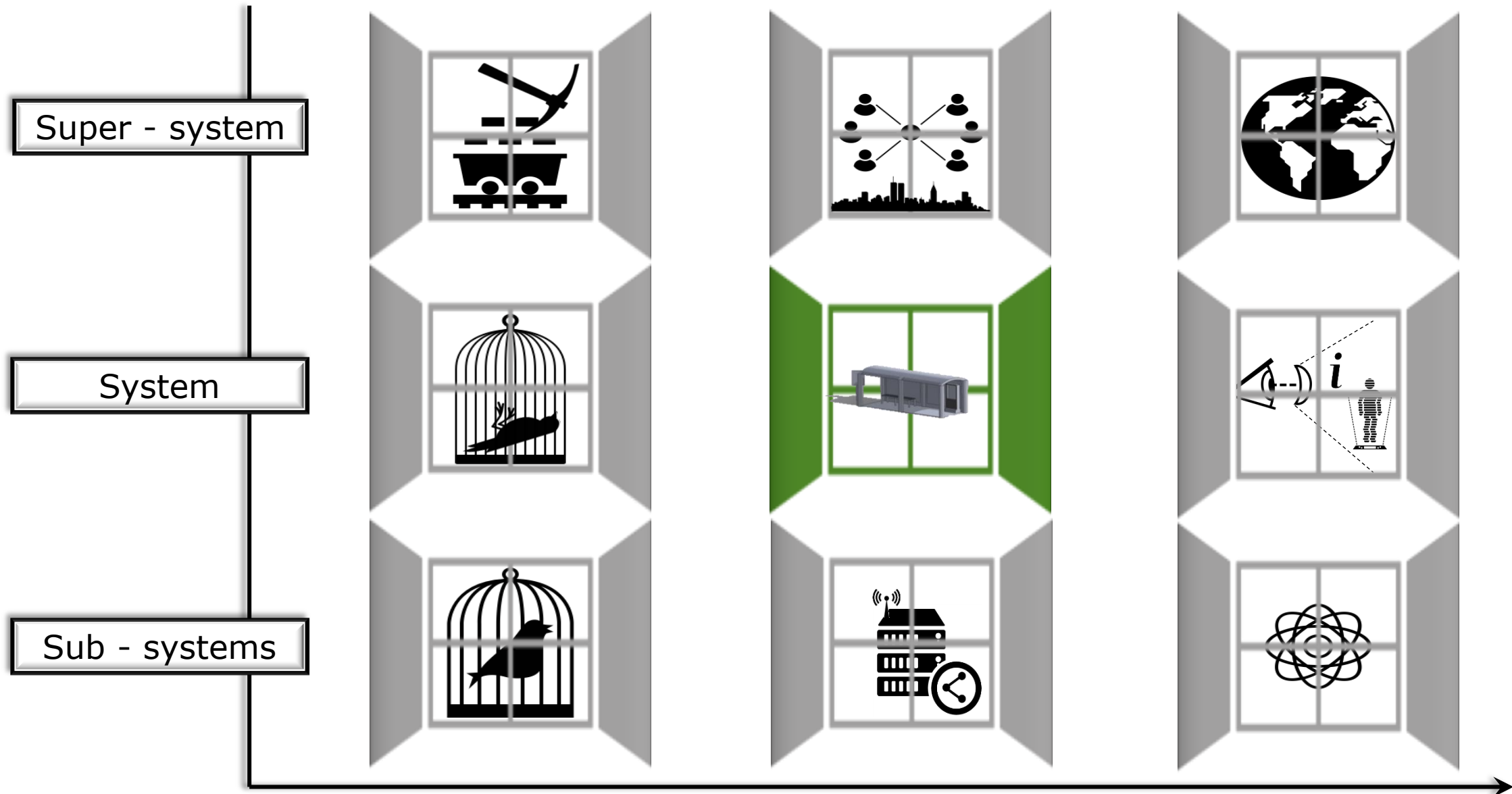
# Our vision



## **Provide citizens with a new public service aimed at increasing air pollution awareness**

- Improve Government/local administrations' visibility about air quality issues
- Providing urban contests with smart technology towards «smart city»
- Reduce air pollution in urban areas

# Our vision





# Municipalities Business case

~~900000000~~ €

..Total Government Budget in Switzerland for projects  
the next X years





# Contacts



[Contact@innovair.com](mailto:Contact@innovair.com)



<https://plus.google.com/InnovAir>



<https://twitter.com/InnovAir>



<https://www.facebook.com/InnovAir>

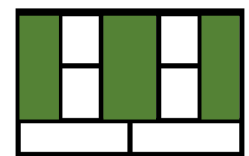


<https://www.linkedin.com/InnovAir>



# How to pitch steps

1. Introduction: Field of interest/market ✘ (Smart city slide??)
2. Highlights market/field problems ✓
3. Show idea ✓
4. Highlights proposed solution/s ✓
5. Show Market possibilities: Competitors, market value, facts and idea's numbers (make benchmark with competitors) ✓
6. Show revenue model ✓
7. Present the team and its roles ✓
8. Show ask (what do we need?!) ✓ (Pending..)
9. Close with contacts ✓



# Business model canvas



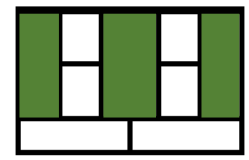
## KEY ACTIVITIES

- Sell totem completed with sensors and communication module
- Suggest alternatives to Air pollution generation sources (e.g. increase the use of public transportation, bike and car sharing usage)
- Sell API calls package to: municipalities, private app developers, others (educational)
- Educate people to check on Air pollution level



## CUSTOMERS RELATIONSHIP

- Detailed real-time info about local air pollution
- Daily tracking of the exposure to pollutant agents ("which are the effect of pollution on me") and of the emitted pollutants ("which are the effect of my habits on pollution")
- Providing users with tools through which they can be active in improving the environment quality.

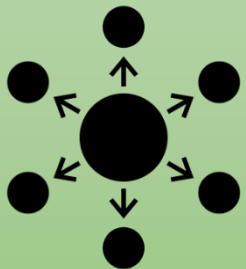


# Business model canvas



## KEY RESOURCES

- Physical Assets: Sensors, Digital Interface, GPS system, Traffic Monitoring System
- Human: Maintenance people, IT specialist (develop the software), Air quality consultant
- Finance: Public Funding
- Non Physical: Information stream of other applications and means of transport (bike sharing, GTT, Car2go...)



## CHANNELS

- Direct contact with the city council
- Articles in newspapers/magazines...
- University events
- Street advertisement