

We aim at improving the quality of our Earth
by understanding the nature of its changes

isardSAT[®]



isardSAT counts with a team of 27 international experts in Earth Observation and remote sensing.

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Our headquarters are in Barcelona, and filials in Guilford (UK) and Gdynia (PL)



Earth Observation Service Provider

**Disaster Risk
Reduction**

**Floods and
droughts**

Storms

**Support to
Legislation**

**Atmospheric
Pollution**

Climate Change

**Hydrology and
Agriculture**

Crop Suitability

Water Level



AirQast.

Breathe in knowledge.

Air quality knowledge for informed sustainable decisions.

Driven by science and technology and delivered by the lead providers.

1. Introduction

2. Markets

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4. About us

Let's talk about Air Quality

- Globally, 92% of the population breathes air that breaches WHO limits.
- The UN agency has previously warned that tiny particulates from cars, power plants and other sources are killing 3 million people worldwide each year.
- More than 1 million people died from dirty air in China in 2012, at least 600,000 in India and more than 140,000 in Russia

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Discover what's possible

Smart Cities

Manage emission sources to reduce the economic and societal impact of pollution.

Our Decision Supporting Tool simulates air quality scenarios to evaluate the impact of the actions helping to develop a smart city plan.

Customers

[Ayuntamiento de Madrid /](#)

[Ajuntament de Barcelona](#)

[Valluri Technology Accelerators](#)

Environmental Regulation & Planning

Strategic planning for a higher resilience.

A monthly detailed estimate of air emissions, hourly high resolution maps of urban air pollution, a 3 days in advance hourly forecast in a high quality performance and our decision supporting tool for simulating air quality scenarios to evaluate the impact of the actions.

Customers

[China National Environmental Monitoring Center](#)

[Environmental Pollution Weather Forewarning Center](#)

Discover what's possible

Mobile apps

High quality and globally available Air Quality datasets to make your app stand out from the crowd.

A 3 days in advance hourly forecast in a high quality performance among other products will distinguish your Air Quality, Weather and fitness Mobile Application.

Customers

[Plume Labs](#)

[AirMatters](#)

Green supply chain

Track pollution created by supply chains. Identifying all actors along the supply chain whose activities contribute to emission hotspots can open the door to new solutions to fight pollution.

Databases can be used to identify key flows and industries in supply networks that contribute to the air pollution footprint.

Customers

[PwC](#)

[The Institute of Public & Environmental Affairs \(IPE\)](#)

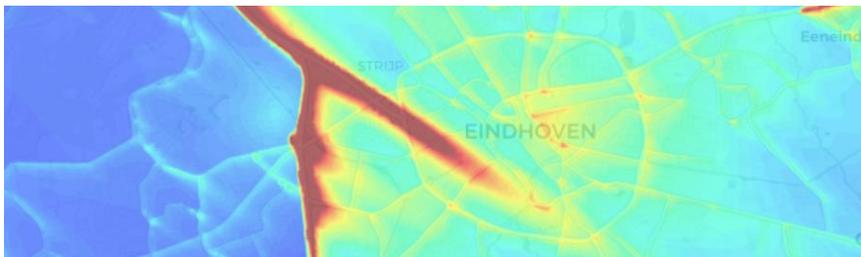
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Mapping concentrations at street level

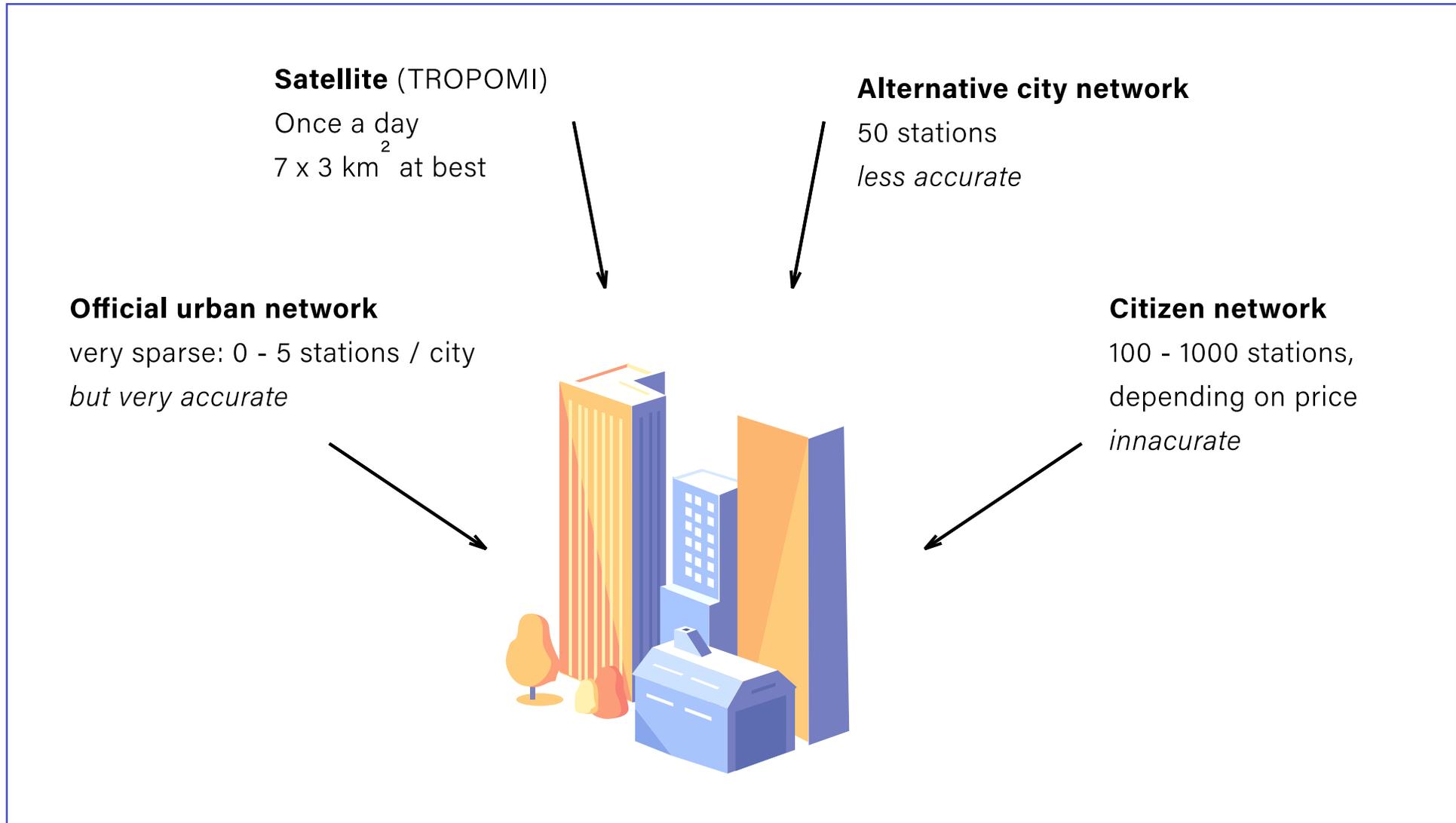
Fill the gaps where you don't have stations.

New trends in air quality monitoring ask for smart systems to make optimal use of the heterogeneous data sources!

- **Hourly maps of NO2 and Particulate Matter (PM)**
- **Street level resolution (~ 25-50 meter)**
- **Historic data, now-casting, 48h forecast**

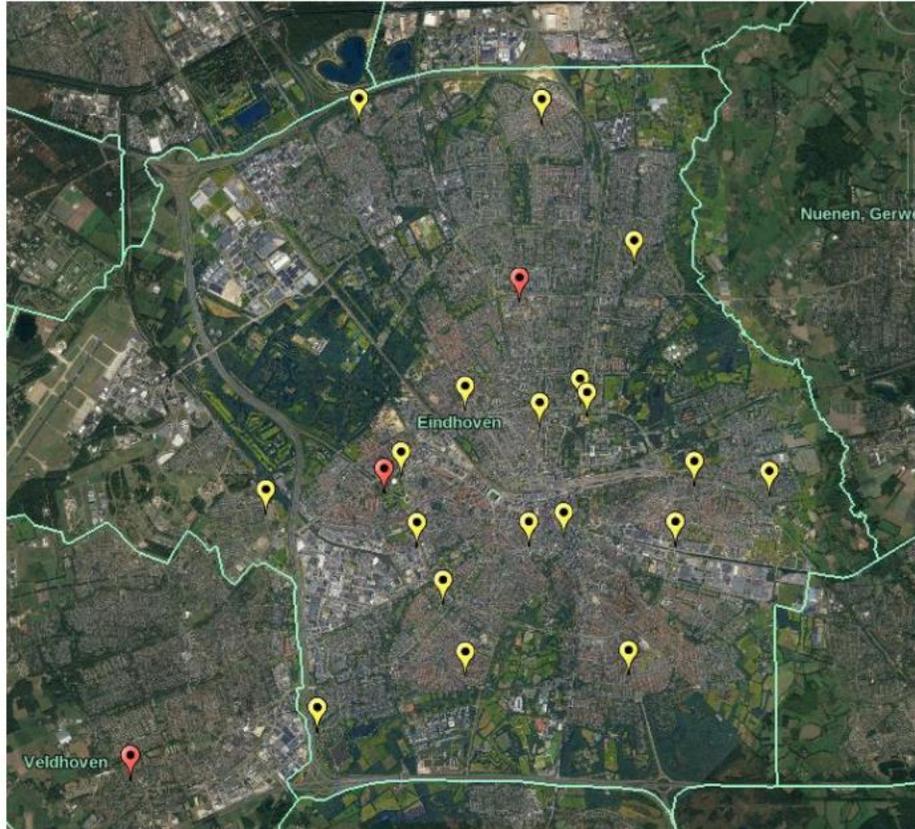


Air Pollutants	NO2, PM2.5 and PM10
Spatial Resolution	Street level (about 50m resolution)
Temporal Range	Historic periods (as long as data is available), near-real time analysis, and 48h forecast.
Temporal Resolution	Hourly. Aggregation to e.g. daily or yearly averages also possible.
Update frequency	For near-real time analysis and forecast: asynchronous, whenever new or updated data becomes available.



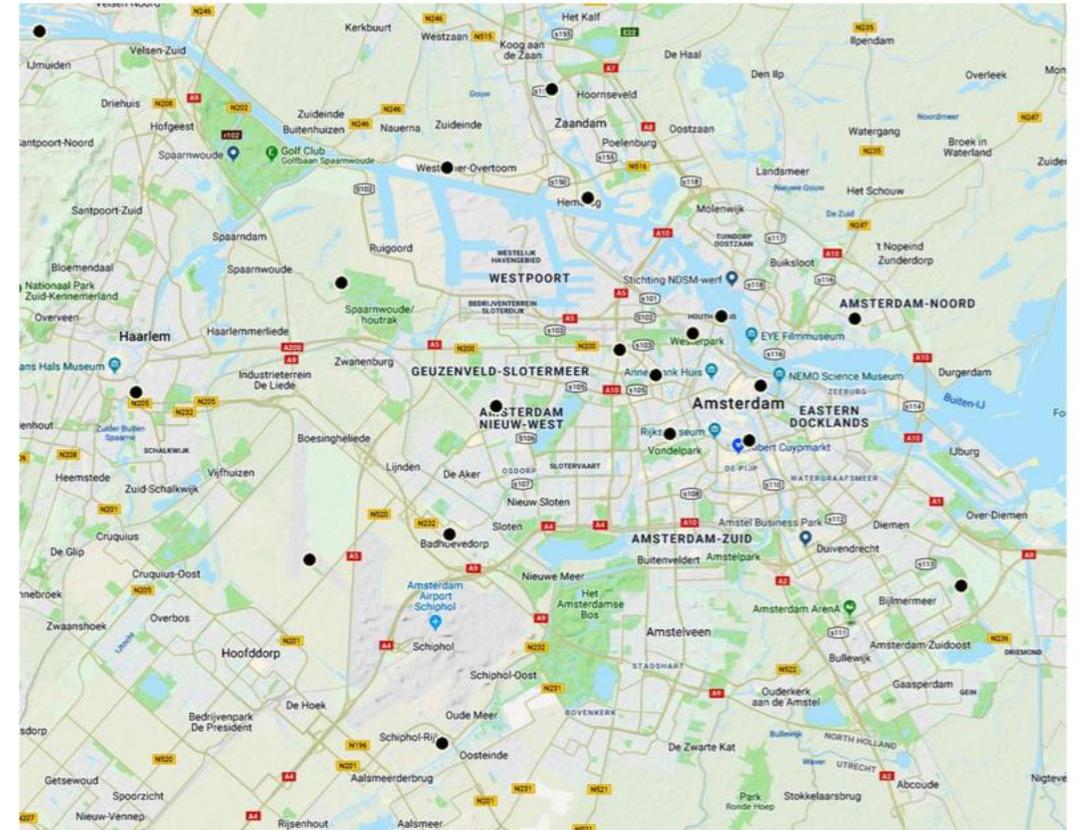
Eindhoven

- 3 official measurement stations
- 19 experimental AiREAS stations

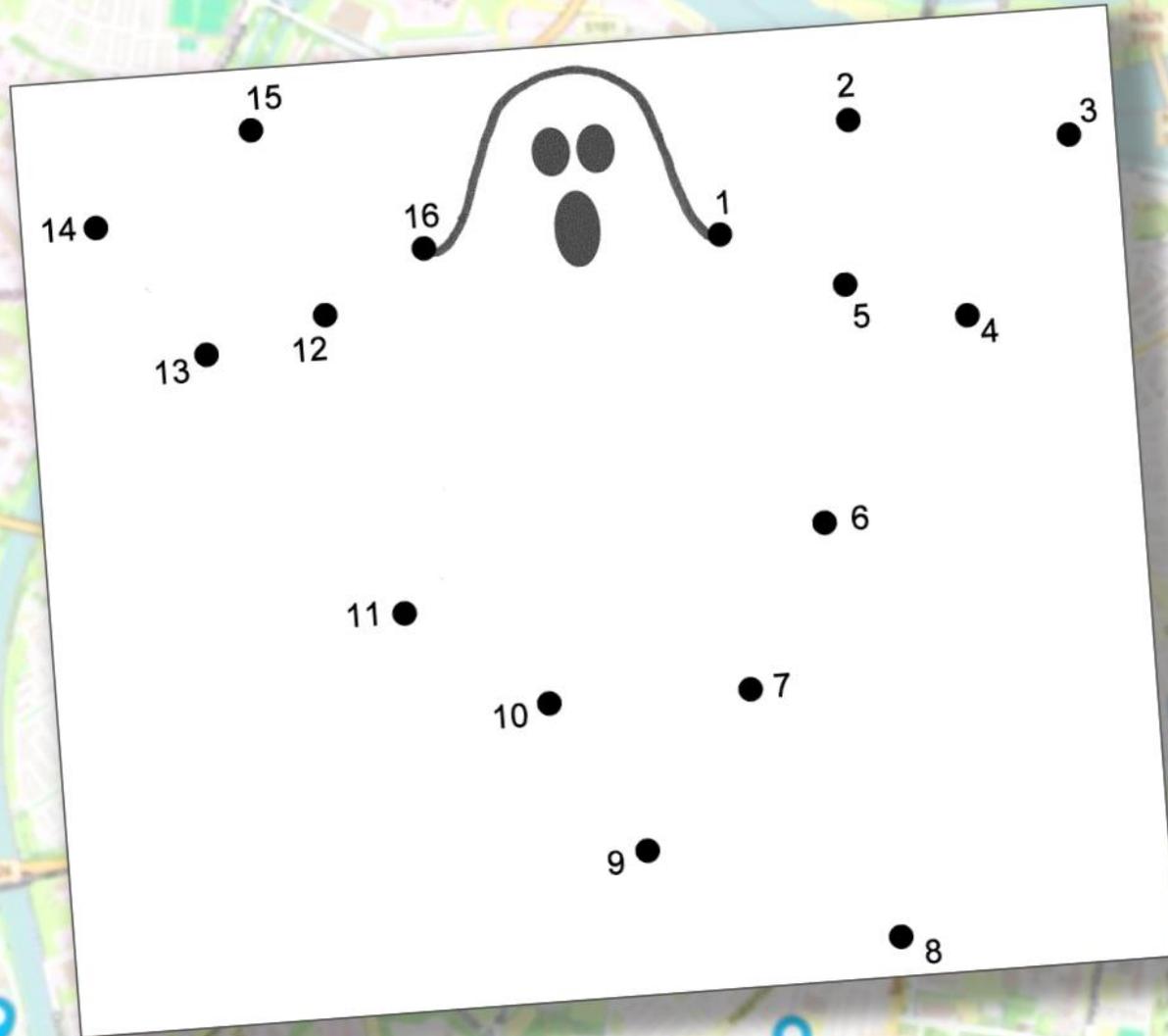


Amsterdam

- 19 official measurement stations for NO₂
- Occasional experimental measurement campaigns
- >120 Palmes diffusion tubes



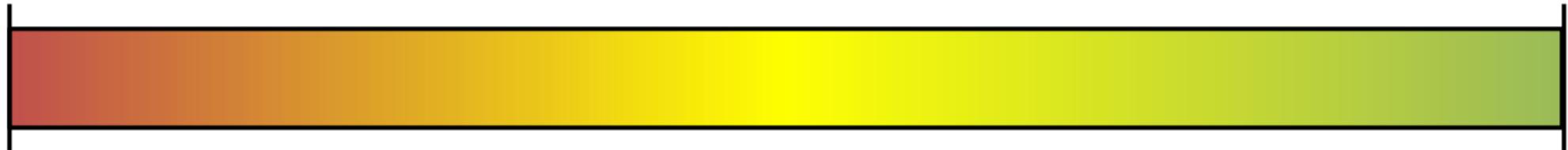
Goal: connecting the dots



Spatial interpolation of observations

Few observations

Many observations



Difficult

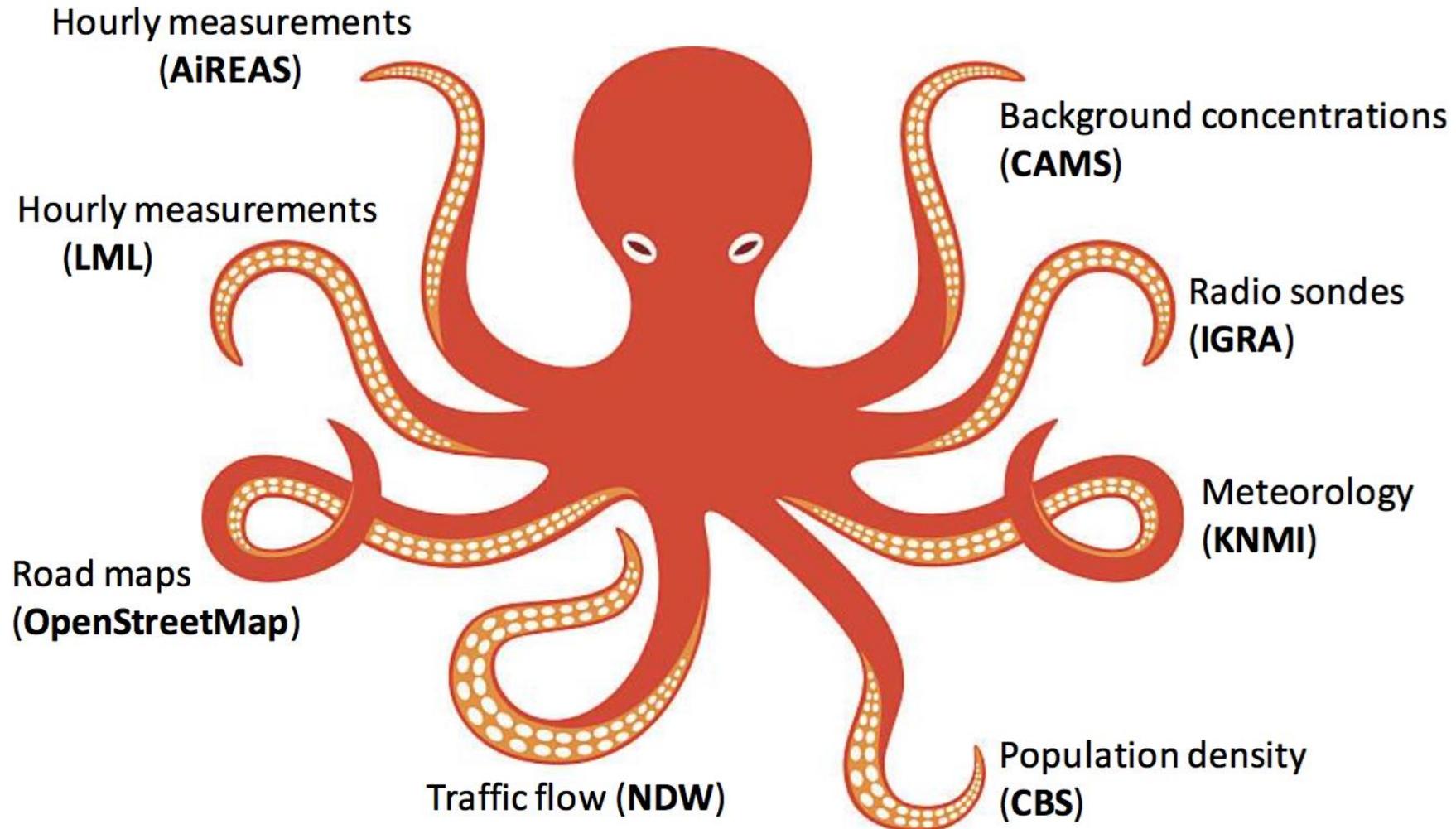
a good model is needed

Easy

a sloppy model suffices

- Most important unknowns at the urban resolution are the air pollutant emissions.
- Approximate these by proxies, such as traffic and population density.

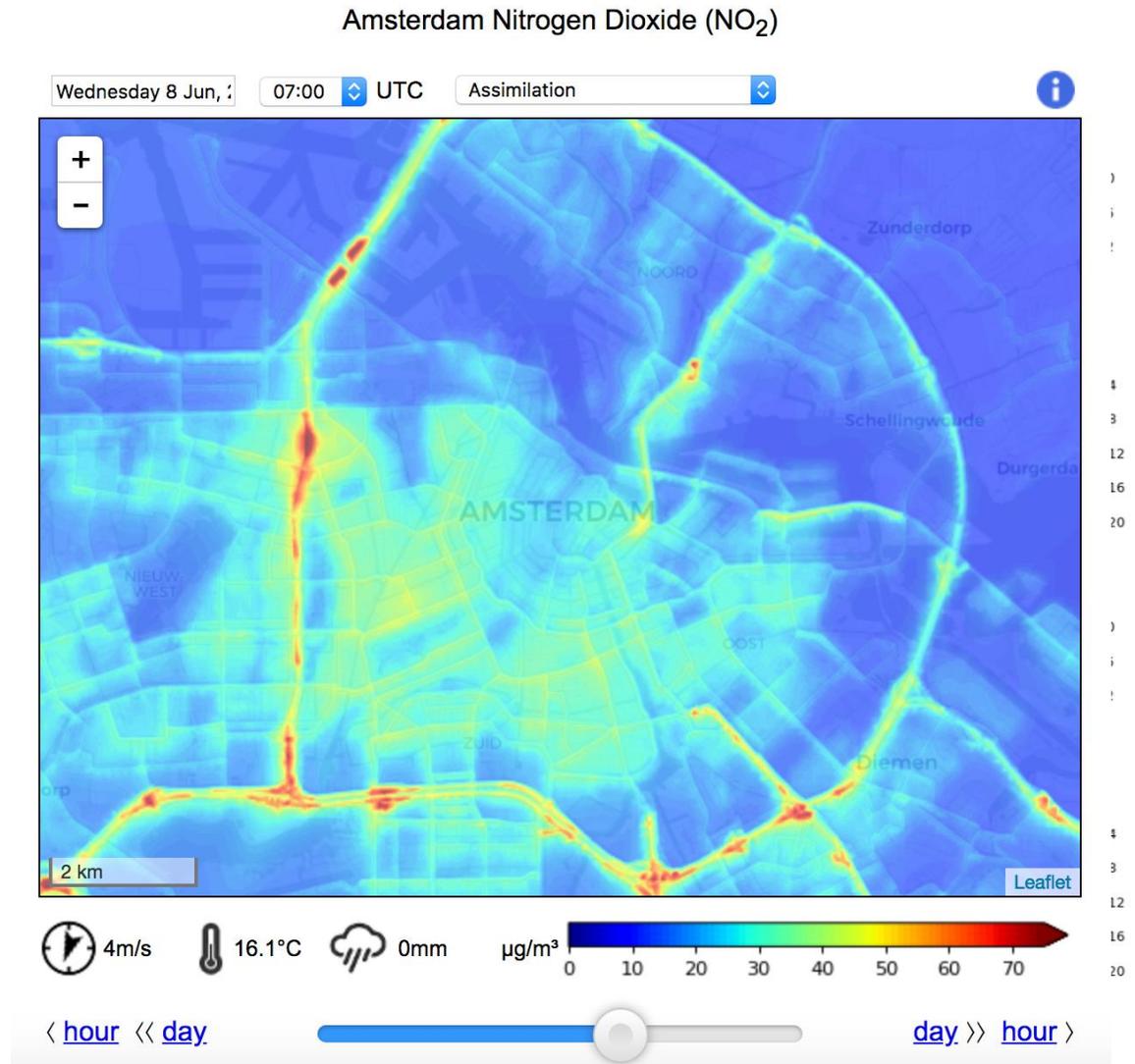
Data sources



Combination of model simulation with meteorological situation and local emissions

Real-time information of air pollution, an analysis of the past period, and a 48-hour forecast.

Added value for areas lacking a strong official network and depending on measurements of lesser quality.



AirQast.

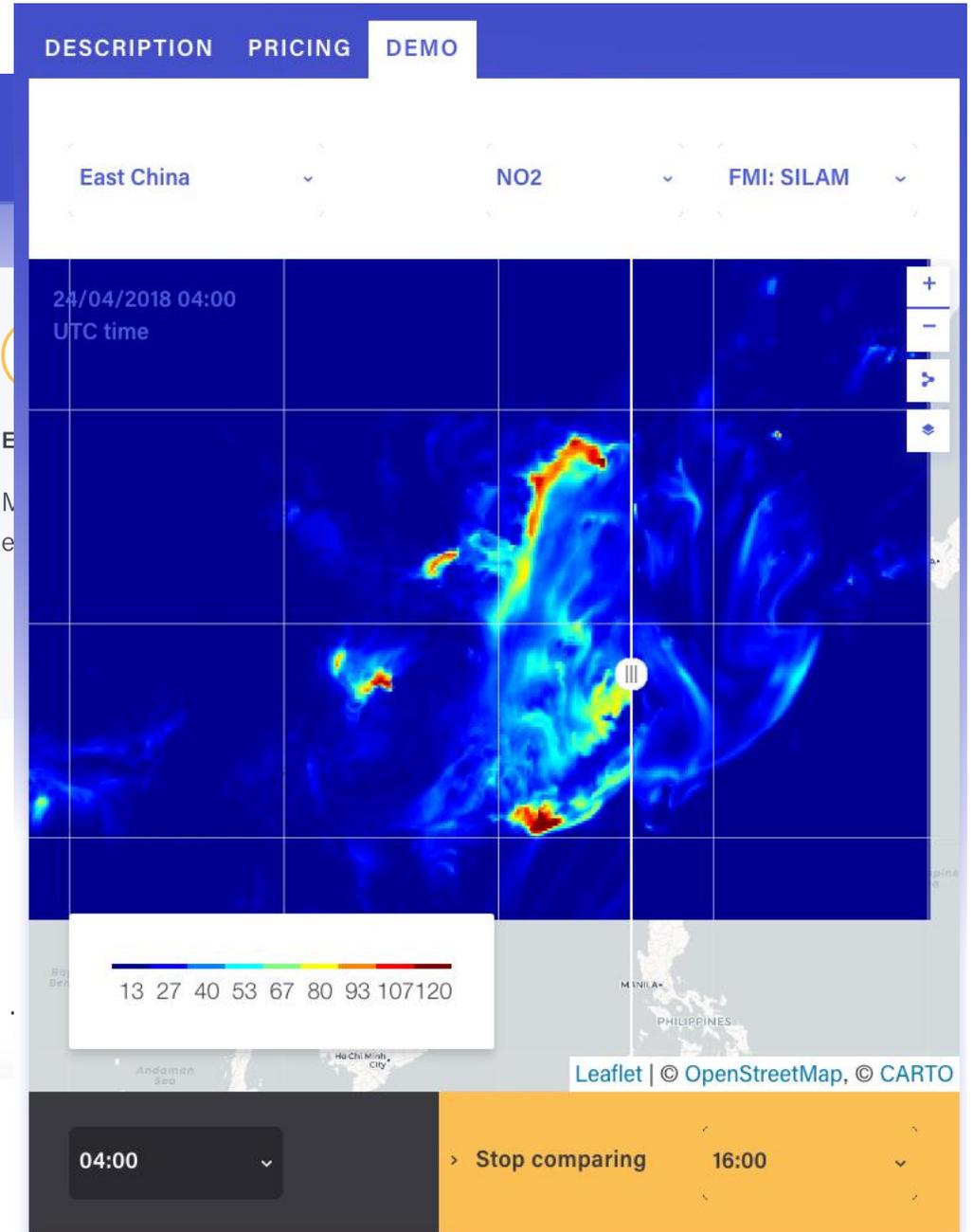
Our products



FORECAST

3 days in advance hourly forecast in a high quality performance.

Let's talk about.



Qué nos aporta Copernicus?

- En nuestra predicción ensemble, utilizamos el pronóstico de la calidad del aire para Asia oriental de CAMS
- Utilizamos CAMS para estimar concentraciones horarias de NO₂ y ozono a nivel de calle en ciudades, a partir de los datos de CAMS a 0.1 grado.
- Utilizamos condiciones de contorno globales de CAMS en modelos de forecast y reanalysis de AirQast, como SILAM.
- Los datos de reanálisis europeo de CAMS proporcionar datos de background en ciudades / regiones de la UE que no tienen acceso a la información de calidad del aire regional.
- Estamos usando el archivo global de CAMS para configurar un modelo de alta resolución for Bangalore, como parte de un piloto para Smart Cities en India
- Sentinel-5P: Ozono, NO₂, SO₂, CH₄, CO, AOD, HCHO

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We care about the air we breathe

Air Quality information based on satellite data delivered by the lead worldwide providers.

We are a multidisciplinary team including business developers, social scientists, engineers, satellite experts, software & tools developers, forecast modellers and communication and design specialists.

The organizations which are members of AirQast are:

isardSAT®



vizzuality.

Thanks .

airqast.com

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