*air*TEXT: Air Quality Forecasts for London

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On behalf of the *air*TEXT consortium

European Space Solutions
Environmental Monitoring
London, 5th December 2012

CERC — Cambridge Environmental Research Consultants
Environmental Software and Services

What is *air*TEXT?

- *air*TEXT is the **air quality forecasting service for London**, operated by CERC on behalf of the *air*TEXT consortium, a group of organisations including UK Environment Agency, Health Protection Agency, Greater London Authority (GLA) and all Greater London local authorities
- *air*TEXT provides free air quality alerts direct to over 7000 subscribers
- *air*TEXT was initially developed in 2007 under ESA-funded PROMOTE, and supported by further funding from FP7 PASODOBLE, UK National Government (DEFRA), the GLA and all the Greater London Local Authorities
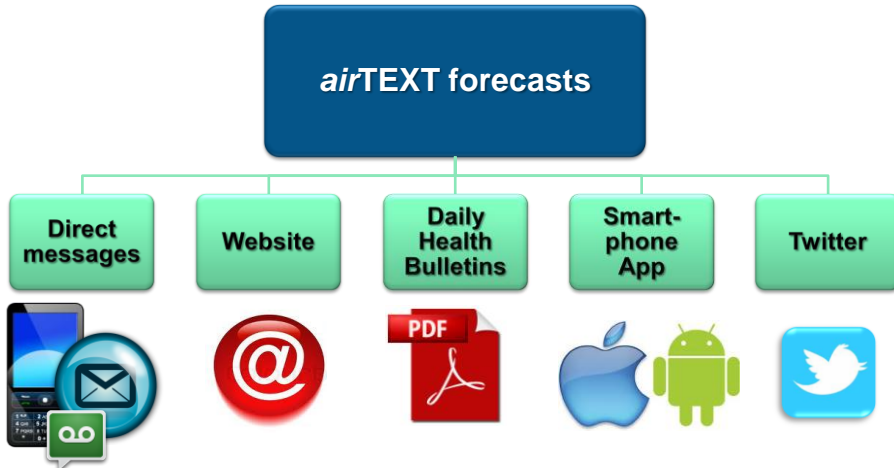
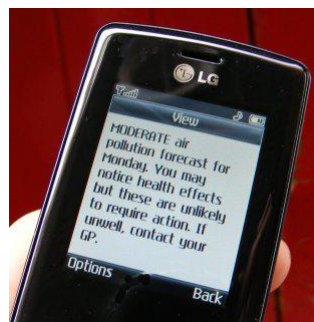**CERC**

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Overview of *air*TEXT products

air TEXT forecasts

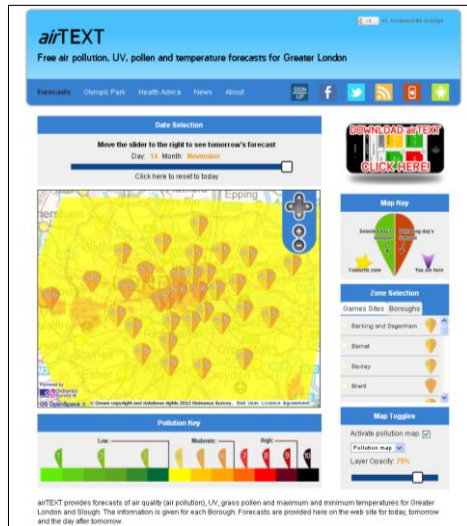| Direct messages | Website | Daily Health Bulletins | Smart-phone App | Twitter |

Direct alert messages

- Alert messages sent direct to subscribers
- SMS text, email or voicemail – subscriber chooses
- Currently over 7000 subscribers

*air*TEXT website

- 3-day forecast
- One pin per London borough
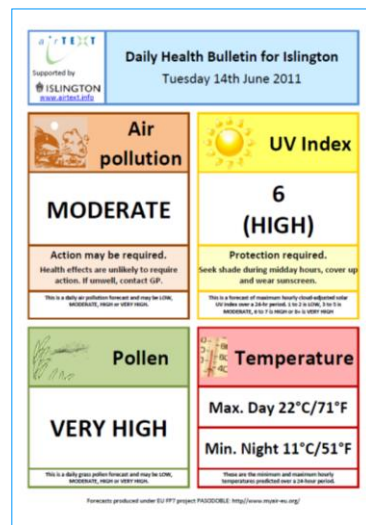- Optional pollution map, with variable opacity

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Daily Health Bulletins

- One bulletin per London borough
- Emailed daily to one email address per borough, for onward dissemination
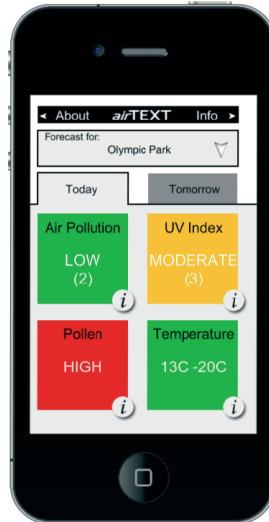- Designed to be printed out in black and white or colour and pinned up in public spaces

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Smartphone App (iPhone and Android)

- Launched in July 2012 ahead of the Olympic Games
- 2-day forecast
- Select London borough or Games site
- Air pollution, UV, pollen and temperature

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Twitter

- One Twitter account for each London borough
- Text 'follow airtext_hackney' to 86444 and any airtext_hackney tweets will be texted to you
- *air*TEXT only tweets a forecast when the predicted level is moderate or above, so the tweet acts as an alert
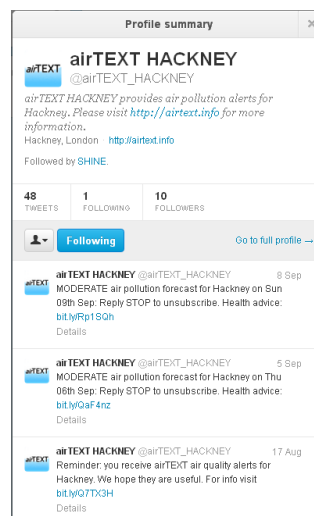
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Leaflet to describe the *air*TEXT services

How does *air*TEXT use satellite data?

*air*TEXT system
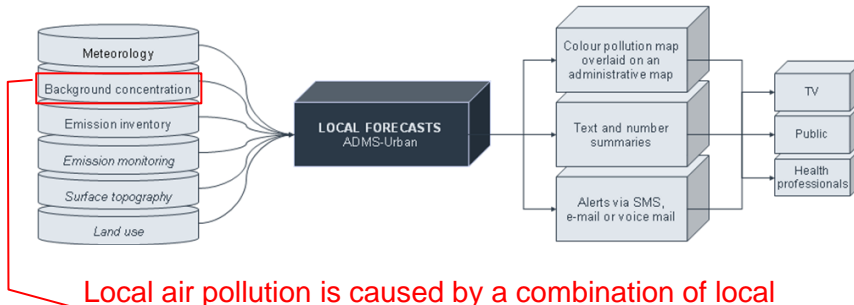
Local air pollution is caused by a combination of local emissions and material transported from outside the local area; the latter is not modelled explicitly by the local model

Need a <u>regional</u> forecast for the "background"

Regional air pollution forecast

- Regional air pollution forecasts predict **trans-boundary transport** of pollutants
- Currently use Prev'Air CHIMERE forecasts, which contribute to regional ensemble forecast of GMES Atmosphere Service (MACC and MACC-II)
- Planning to migrate to either GMES regional ensemble or higher resolution PASODOBLE forecast for north-western airshed, depending on validation results
- These regional models **assimilate satellite observations to improve their forecast**
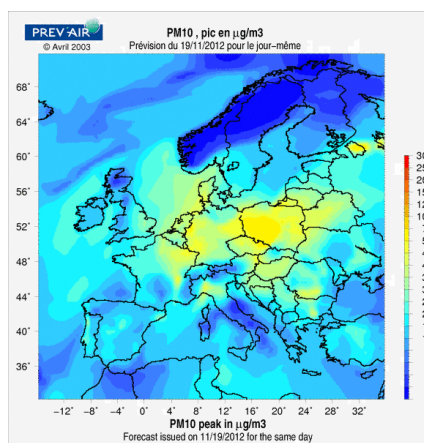
ADMS-Urban nested in a regional model

Regional model domain

ADMS-Urban nested domain

NO$_2$ µg/m³

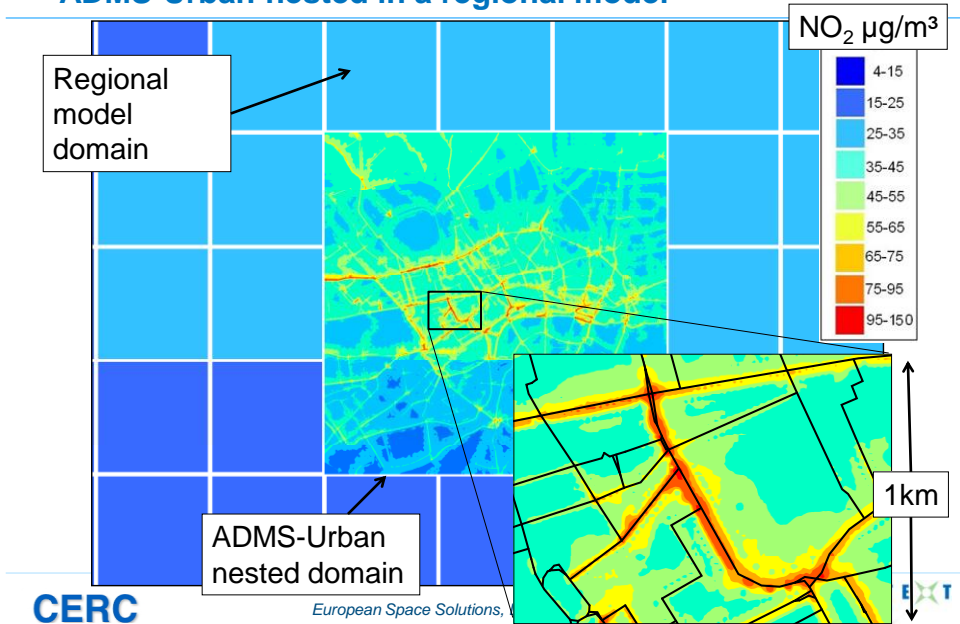|	
	4-15
	15-25
	25-35
	35-45
	45-55
	55-65
	65-75
	75-95
	95-150

1km

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Summary

- *air*TEXT is the air quality forecasting service for London
- *air*TEXT products include
  - alerts sent direct to subscribers via text, email and voicemail
  - a website showing high-resolution zoomable pollution maps
  - a smartphone application
  - daily health bulletins sent by email
  - Twitter alerts
- The *air*TEXT system uses a combination of regional and street-scale pollution forecasts; the regional models assimilate satellite data to improve their forecasts

Thank you for your attention

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