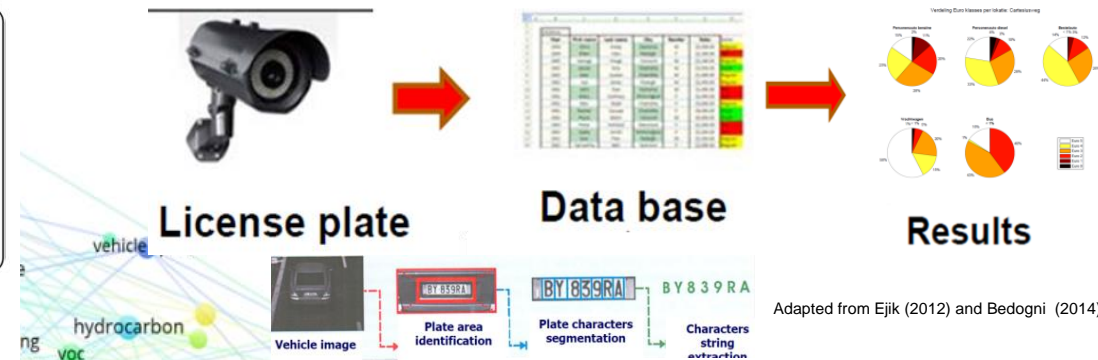
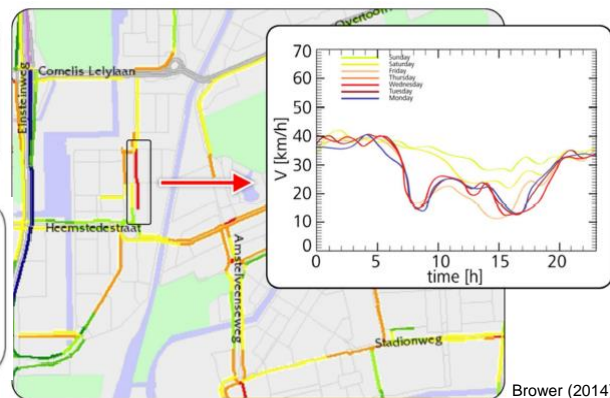


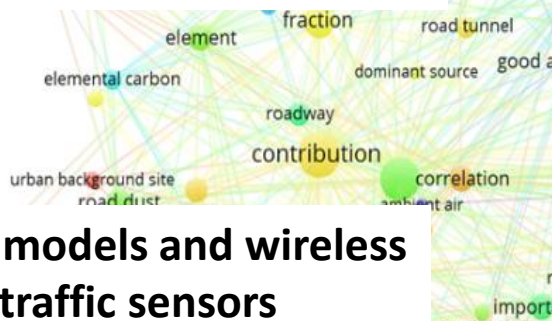
FAIRMODE WG2

Urban Emissions Working Group

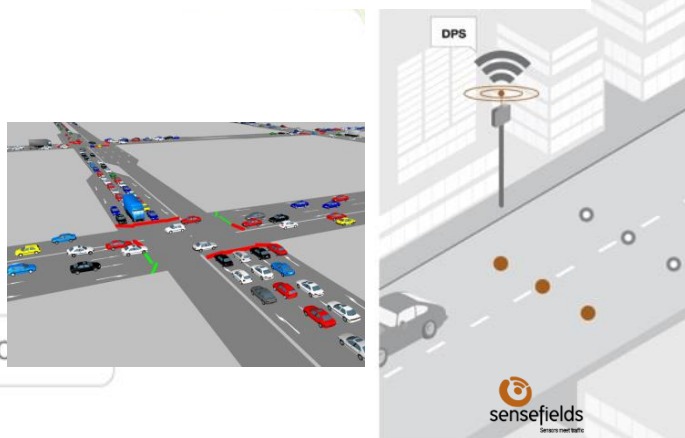
Leonor Tarrasón (NILU) and Marc Guevara (BSC)



Floating Car Data



Traffic models and wireless traffic sensors



Automatic Number Plate Recognition systems

Extended Floating Car Data



FAIRMODE Emission Benchmarking

Emission Delta Tool: contributes to close the gap between urban bottom-up emission estimates and top-down estimates

- ☐ Oslo, Bergen, Stavanger - Norway
- ☐ Stockholm - Sweden
- ☐ Havana- Cuba
- ☐ The country UK – UK
- ☐ Madrid – Spain
- ☐ Porto and Lisbon - Portugal



European Commission > JRC Science Hub

Δ DELTA Benchmarking
Fairmode Tools and Software

FAIRMODE

LOGOUT YOUR PROFILE CONTACT

HOME Δ - EMISSION

Δ-Emission Tool: Download Page

IMPORTANT: the datasets available on this page are restricted to the Fairmode WG2 (emission) participants. Any further use of these datasets should first be discussed within WG2 (contact: [L. Tarrason](#))

Tool Installation

Note: No prior installation of IDL is necessary to install the emission tool. There is no order in the installation of the various elements but at least the software and dataset 1 should be installed

Code	Date	Description
Version 1.0.1 (Windows ~25 Mb)	10-02-2015	Install all required software. An "emission tool" icon will be created on your desktop. If you previously installed V 1.0, simply run the V 1.0.1 setup
Dataset 2 (~0.3 Mb)	10-02-2015	Additional local datasets (details provided below)
Dataset 1 (~320 Mb)	29-01-2015	Install local and EU level datasets (details provided below)

Sensor capabilities for «bottom-up» urban emission development

(+34) 93 250 45 98 sales@sensefields.com EN | ES | FR



Company

Our Solutions »

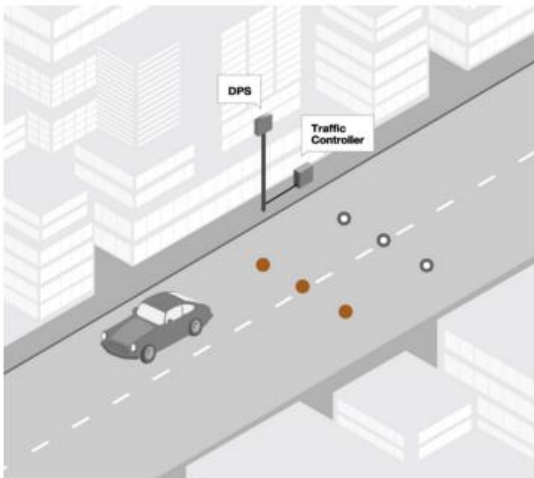
Success Stories

Technology

Blog

Contact

|| Data Collection



Traffic Gauging

Data collection station that provides accurate detection of vehicles for measuring traffic flow.

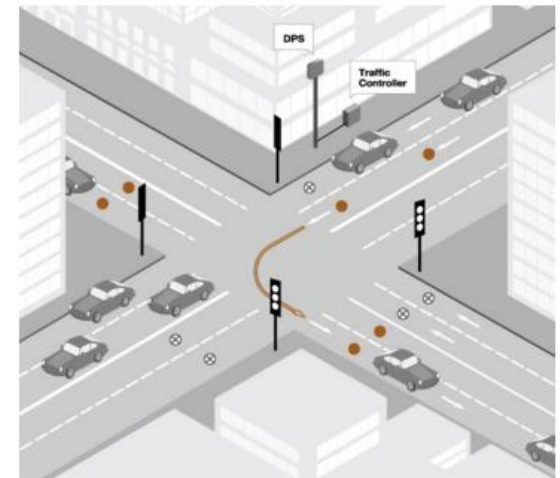
[More info](#)



Autonomous Traffic Gauging

Autonomous stations for collecting and integrating traffic information.

[More info](#)



Congestion Monitoring

Data collection station that provides accurate and timely information on lane occupation to optimize traffic lights, signal traffic congestion conditions and analyze and plan traffic.

[More info](#)

FAIRMODE
Forum for air quality modelling in Europe



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Sensor capabilities for «bottom-up» urban emission development

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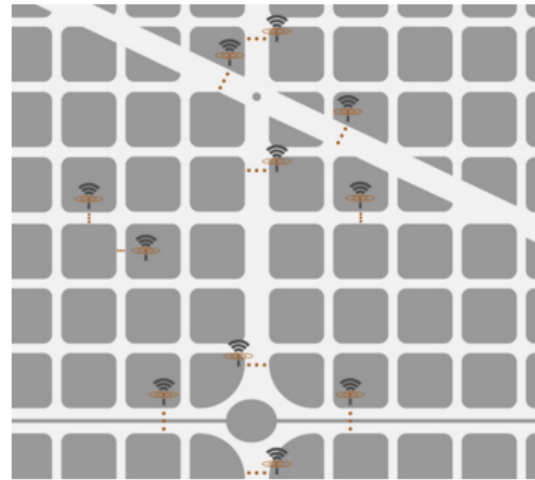
|| Data Analytics



Smart Infrastructure Management

Integrated solution for collecting, reporting and analyzing metrics for smart traffic management.

[More info](#)



Smart City Mobility

Integrated solution for collecting, reporting and analyzing metrics for smart traffic management for smart cities.

[More info](#)

WG2 proposal
Smart City
Emissions

[More info](#)

FAIRMODE
Forum for air quality modelling in Europe



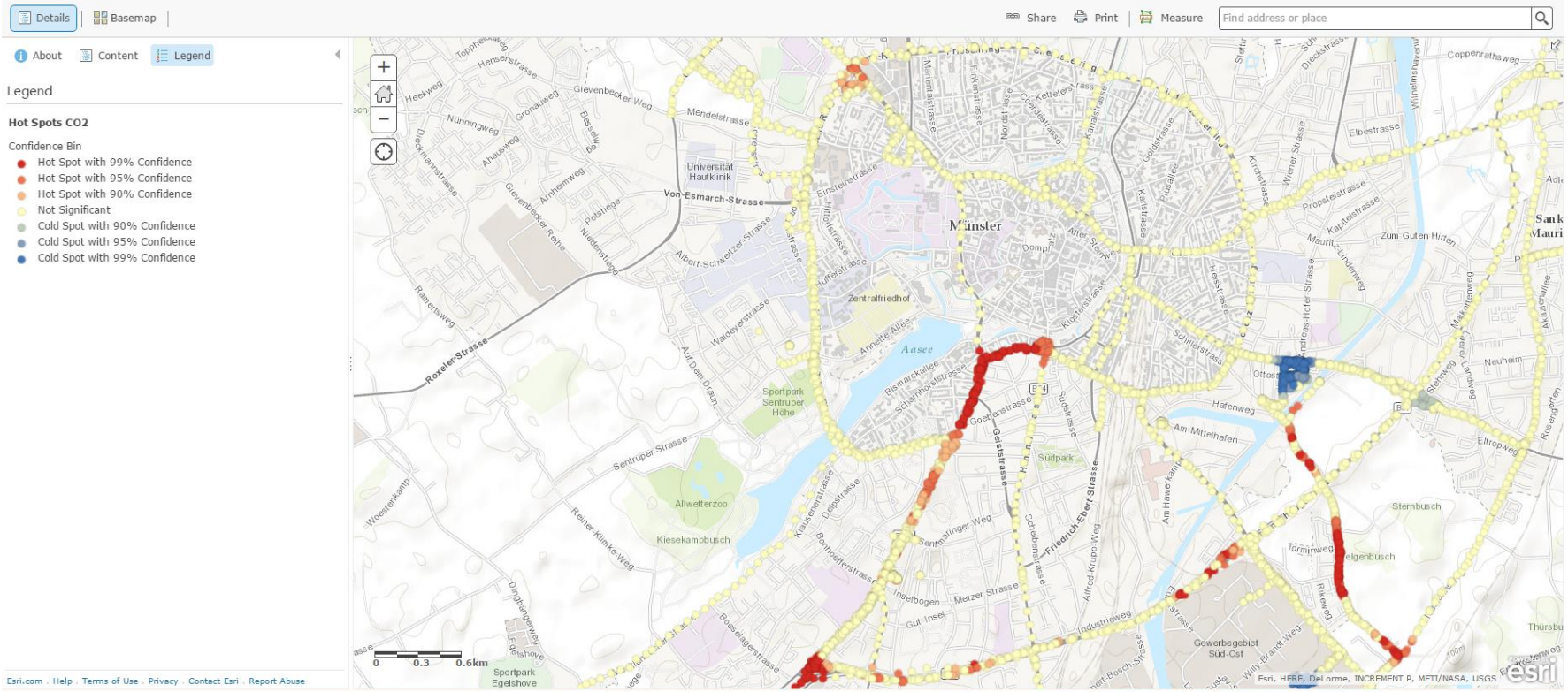
FAIRMODE
Forum for air quality modelling in Europe

Sensor capabilities for «bottom-up» urban emission development



ArcGIS ▾ CO2 Hot Spots Münster

Modify Map Sign In



Sensor capabilities for «bottom-up» urban emission development

GPS information on

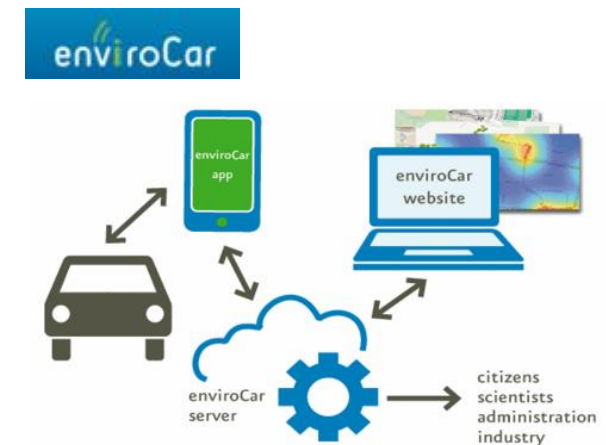
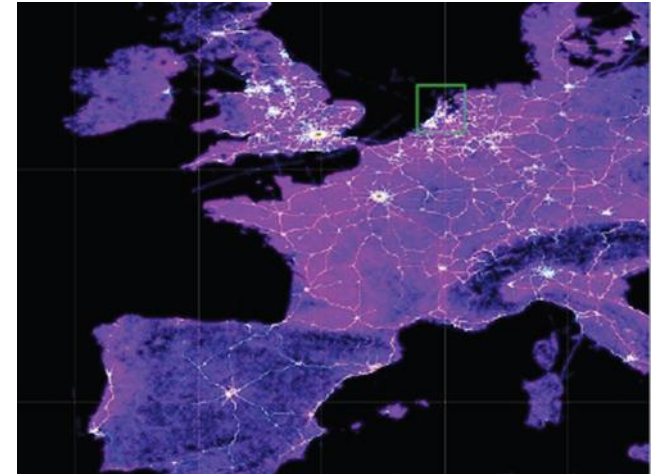
- Road segment
- Average time travel
- Average speed (+ standard deviation, percentiles)
- Time variation (year, month, week, day, hours)

Aggregated information from speed derives

- fuel consumption
- Driving patterns –congestion
- CO2 emissions
- Noise

Vehicle technology is not available –Taxi fleet in Oslo

Tom Tom, OBS



On-going NILU projects contributing to this emission work

ECLECTIC — *for healthier air*



On-going NILU projects innovating emission compilation work

ECLECTIC — *for healthier air*

”SMART AIR INLET”



ECLECTIC combines model and sensor data to provide a smart control of the air intake in the car coupe

- reduce air intake when airo outside is of poor quality
- increases the air ventilation when the quality of the air outside is good

On-going NILU projects innovating emission compilation work

ECLECTIC — *for healthier air*

"GREEN ZONES"



- Automatic recognition of green zones
- Green zones can be defined close to hospitals, schools ...
- As hybrid cars turn on electric drive
- As fossil fuel cars activate their eco-drive mode (ref VW dieselgate)

Urban Labs – the air quality where you are

CITI-SENSE



Raise awareness and increase public participation on air pollution issues using new sensor technologies



Citi-Sense-MOB



Combine new sensor technology, information and communication platforms and participatory methods to create personalized services



Get involved! Help to tackle air pollution in Oslo!

What do you think about air quality in Oslo? Answer our survey in <http://oslo.citi-sense.no> or scan the QR-code and answer using your mobile phone.



Make air pollution visible. Use the CityAir app and tell us how is the air quality where you are. You can download the app from Google Play in October 2015

Monitor the air pollution where you are. Borrow a sensor and help us to test new technology.

Contact Nuria at oslo_co@milu.no



Visit the Oslo Web-site: <http://oslo.citi-sense.no>
Send us an email to: oslo_co@milu.no
Follow us at Facebook: [oslocitizensobservatory](https://www.facebook.com/oslocitizensobservatory)

CITI-SENSE project. Grant agreement n° 318124
Urban Labs project. Urban Labs project n° 318125

CrowdAir

Collaboration project with Norwegian University to create a mobile app to report perception on air pollution and health.



Reduce your exposure to air pollution



On-going NILU projects innovating emission compilation work

iResponse Social Responsible Crowdsourcing on Water, Air and Urban Planning



Source www.caps2020.eu



ICT – enable participatory urban water design and management



Wood consumption/emissions from house heating



Urban Planning through public participation

DE
in Europe



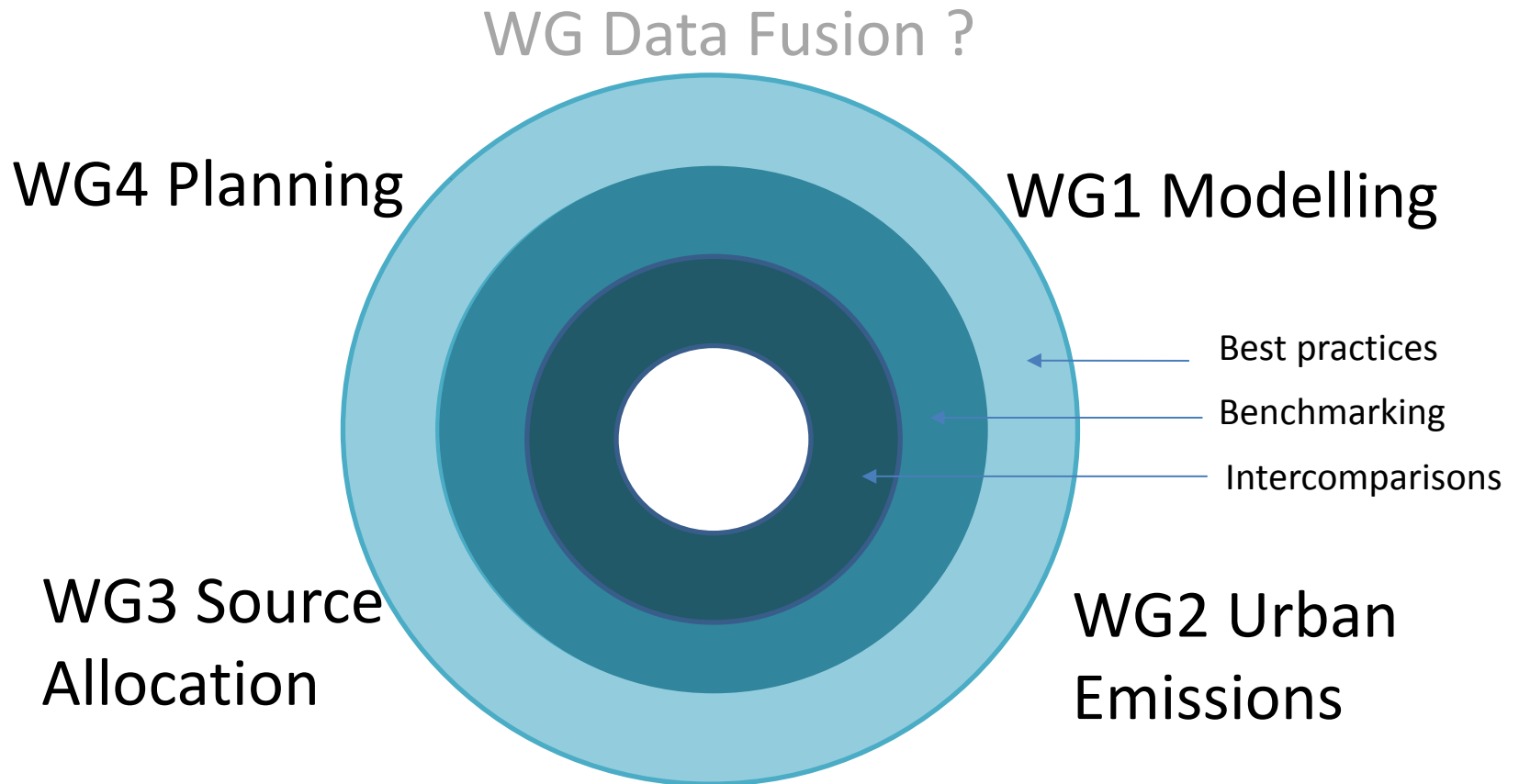
FAIRMOD
Forum for air quality modelling
Europe



Netlife
Research



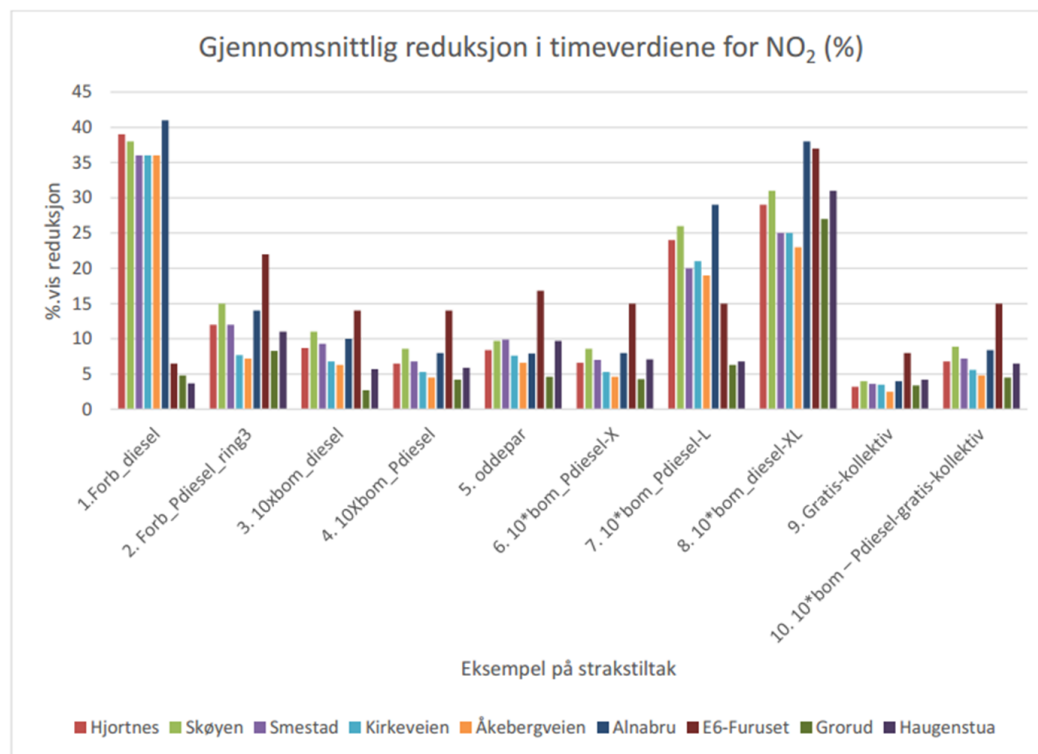
"THE FAIRMODE KNOWLEDGE WHEEL"



Relevance of emission improvements

- WG1: Understand emission driven differences in Composite maps
- WG3: Facilitate evaluation of source contributions
- WG4: Evaluation of urban scale measures – contribution to smart city planning
- CC1: Improve forecasting of AQ
- CC2: Support to evaluation of station representativeness
- CC3: Ancilliary information for data fusion activities

Evaluation of effect of short term measures in Oslo



Discussion

- ✓ Questionnaire on best practices on-going
- ✓ Evaluation of top down vs bottom up inventories – on going at regional scale
- ✓ Evaluation of top down vs bottom up inventories – on going at urban scale

The Δ -emission tool does not include have spatial information

- Would it be useful with a new inter-comparison study – A Composite Map for Emissions?
- Do we need to introduce a new WG on data fusion?