



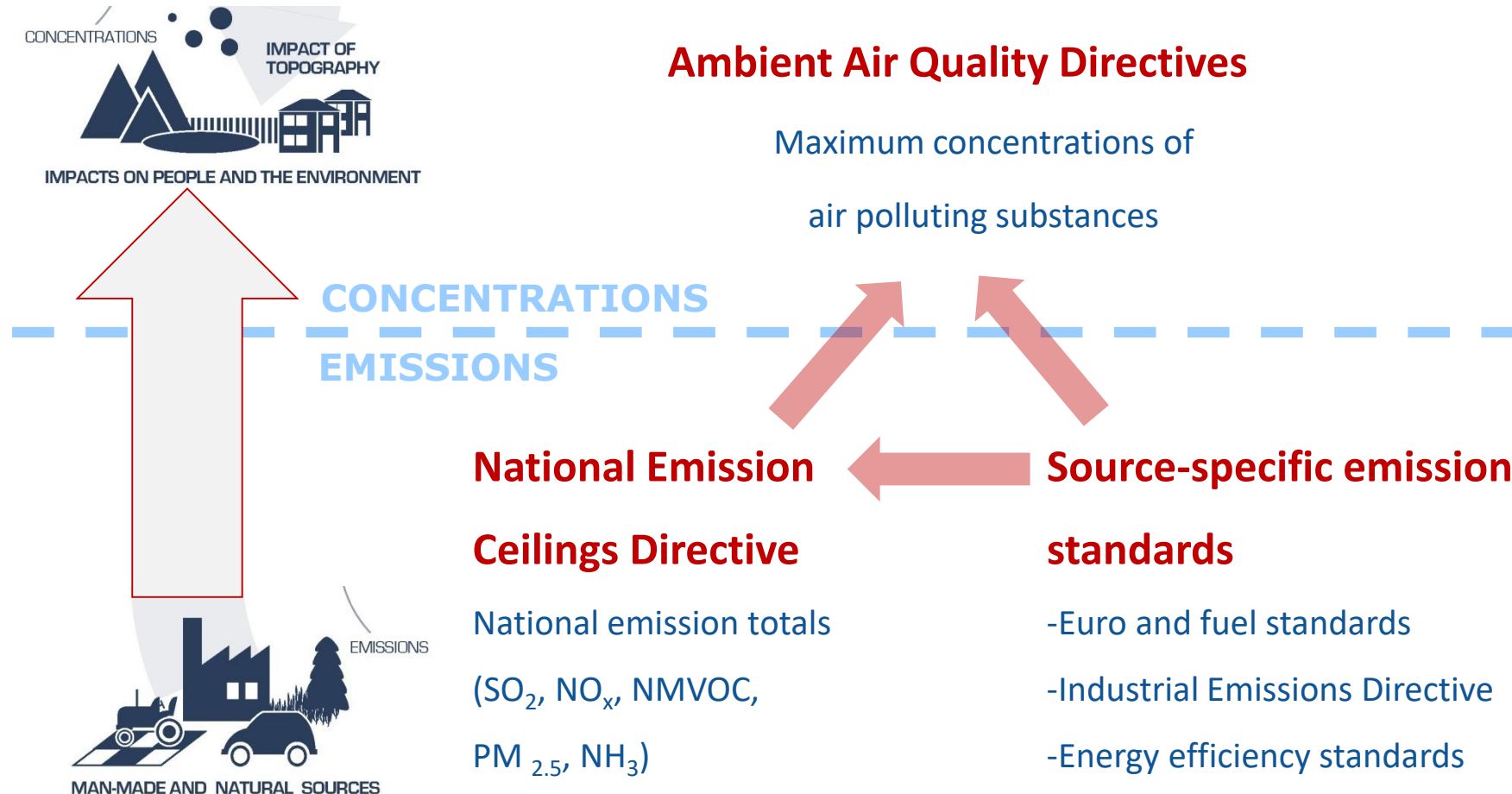
FAIRMODE

P. Thunis

EC-JRC

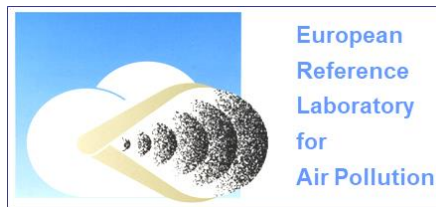
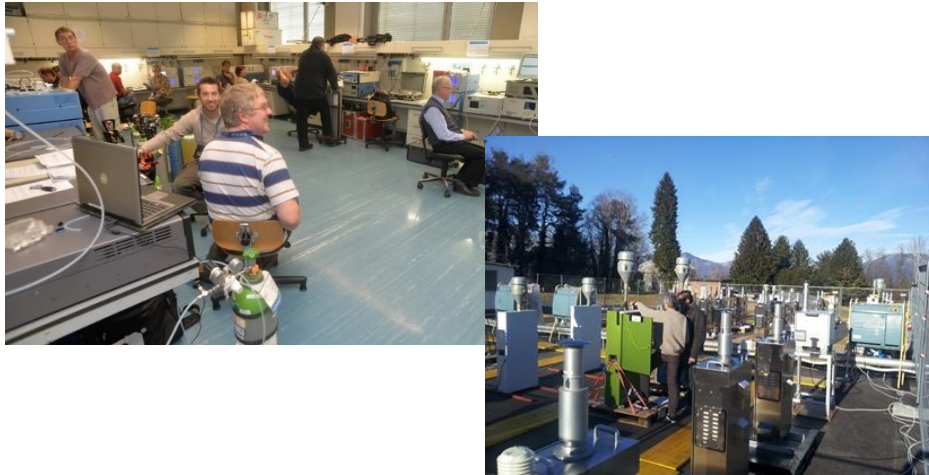
EDORA, June 17th 2022

Clean Air Policies in Europe – An Overview



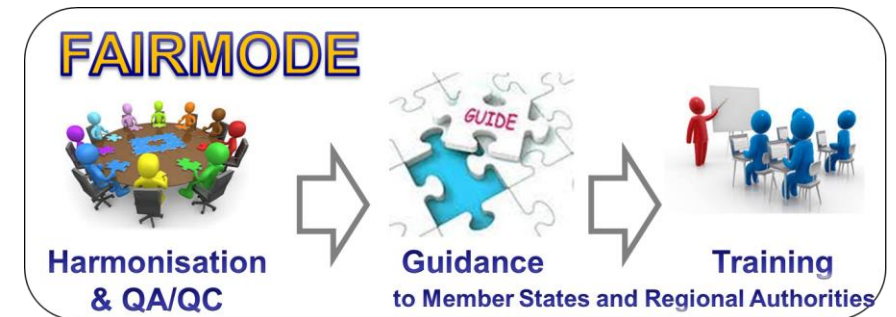
Two main technical networks in support to AAQDs

Monitoring: AQUILA



Network Members: National Reference Laboratories from EU Member States

Modelling: FAIRMODE (2007)



Network Members: National Contact Points from EU Member States + Modelling community

FAIRMODE: terms of reference

FAIRMODE is a Forum for **Air Quality Modeling** chaired by the JRC created for **exchanging experience** and results from air quality modeling in the context of the **Air Quality Directive** and for promoting the use of modeling for regulatory purposes in a **harmonized** manner between Member States.

- ❑ To provide a permanent European Forum for air quality modelers, to address modelling issues
- ❑ To set-up a system (protocols and tools) on the quality assurance at different spatial scales from national to urban and local.
- ❑ To provide guidance, support the standardization and evaluate the fitness-for-purpose of air quality models within the framework of implementing the EU's Air Quality Directives.

Priorities follow 5 main pillars, closely related to AAQD modelling applications
Assessment, Emissions, Source apportionment, Planning and Management practices



Work is structured around cross-cutting tasks

CT1 - Source apportionment to support AQ management

CT2 - Development of an overall QA/QC protocol for AQ assessment

CT3 - Quality control indicators for AQ forecast

CT4 - Microscale air quality modelling

CT5 - Best practices for local and regional AQ management

CT6 - Near real-time assessment with low-cost sensors

CT7 - High resolution emission inventories

CT8 Exposure and exceedance model indicators and network optimization

CT9 - Effectiveness and robustness of air quality projections



Each task follows a three-step process

Benchmarking

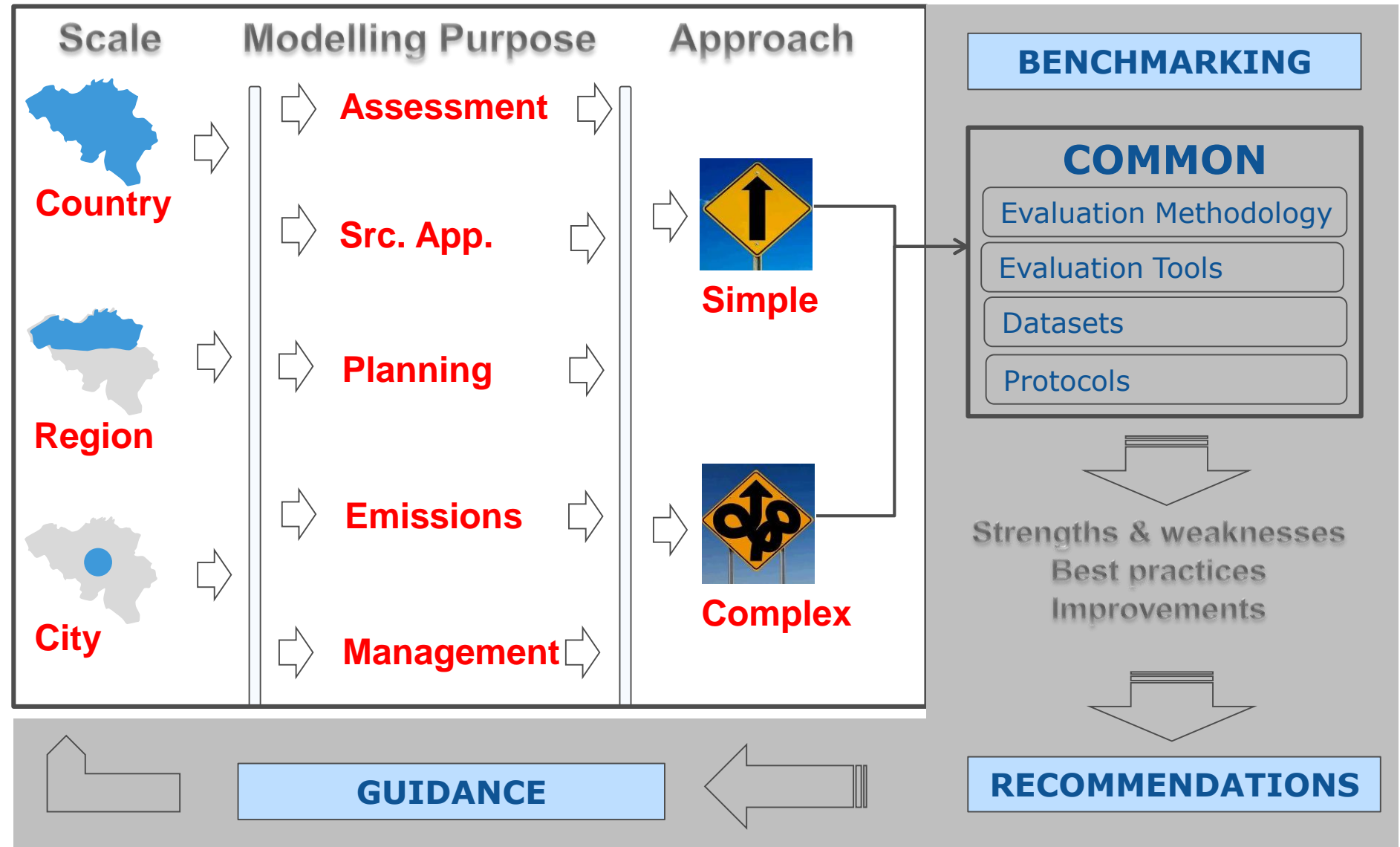


Recommendations



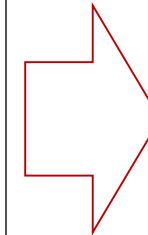
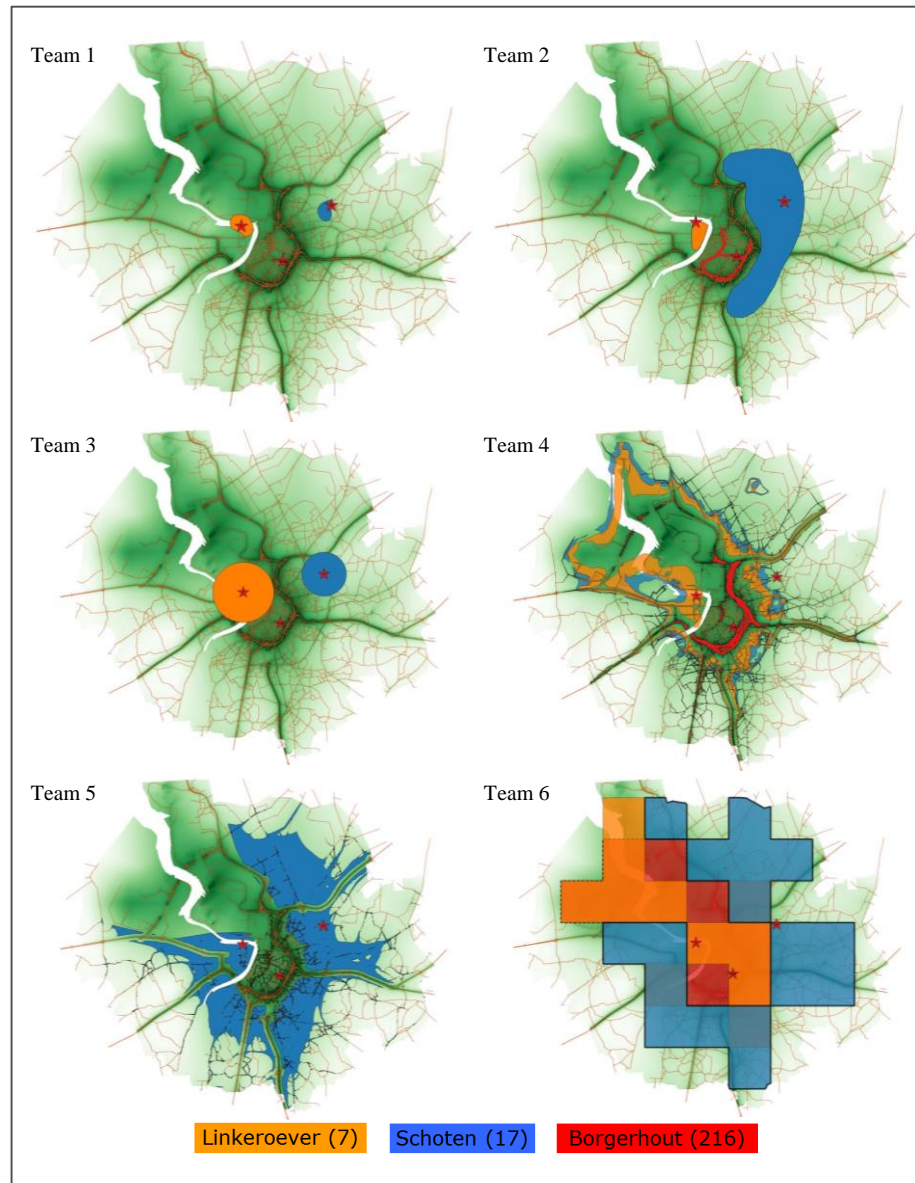
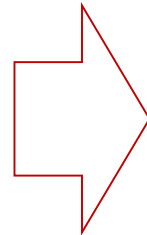
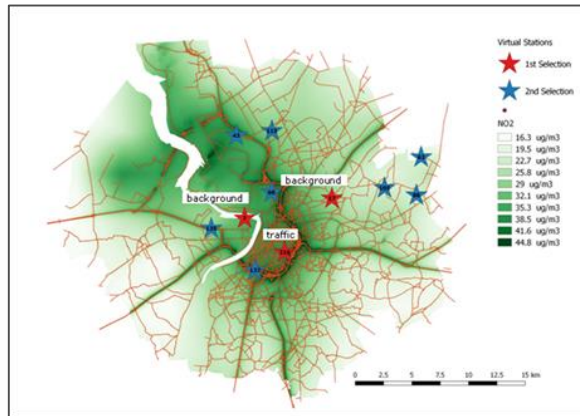
Guidance

FAIRMODE: overall approach



Intercomparison: spatial representativeness

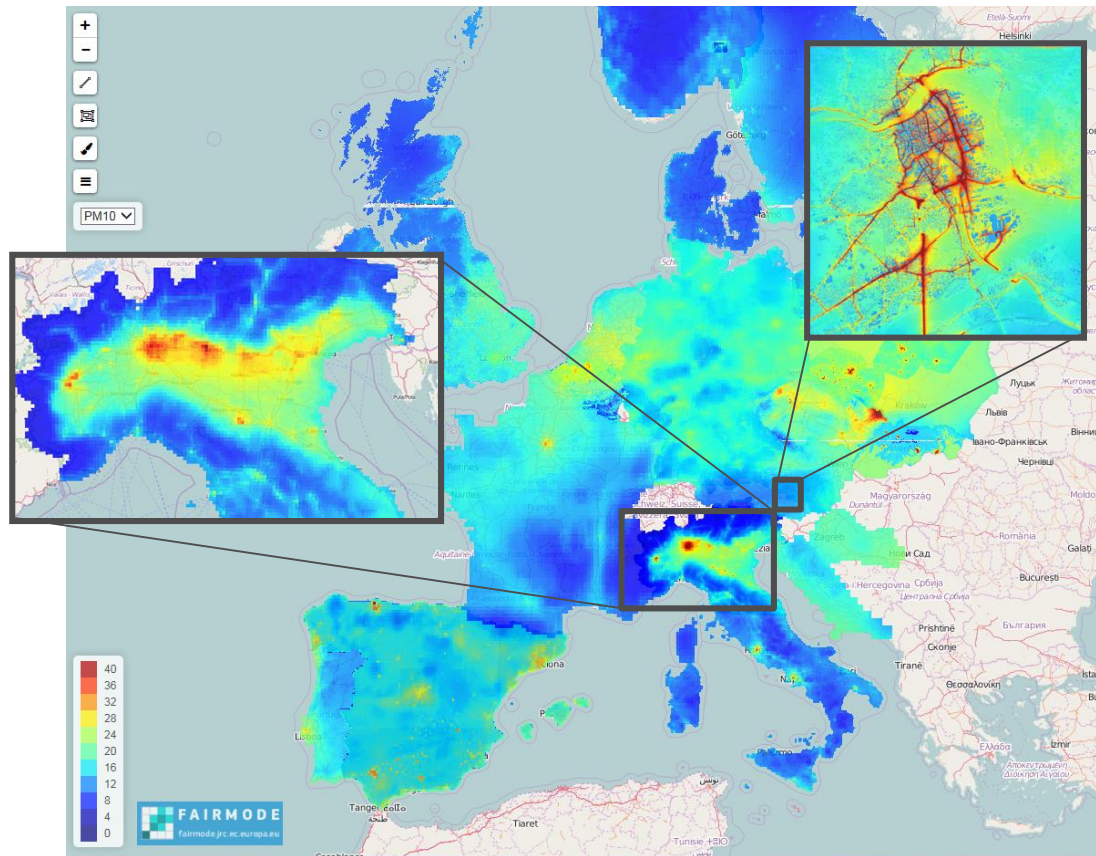
The Antwerp dataset



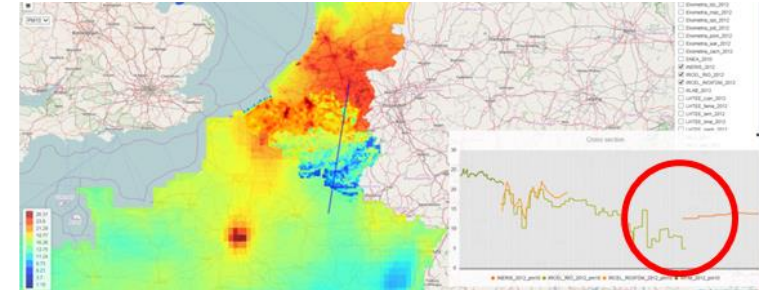
At start:

- ❑ No common definition of spatial representativeness
- ❑ A large variety of methods (from CFD to simple LUR approaches)

Intercomparison: Composite mapping



Border effects
Resolution issue
Data assimilation...

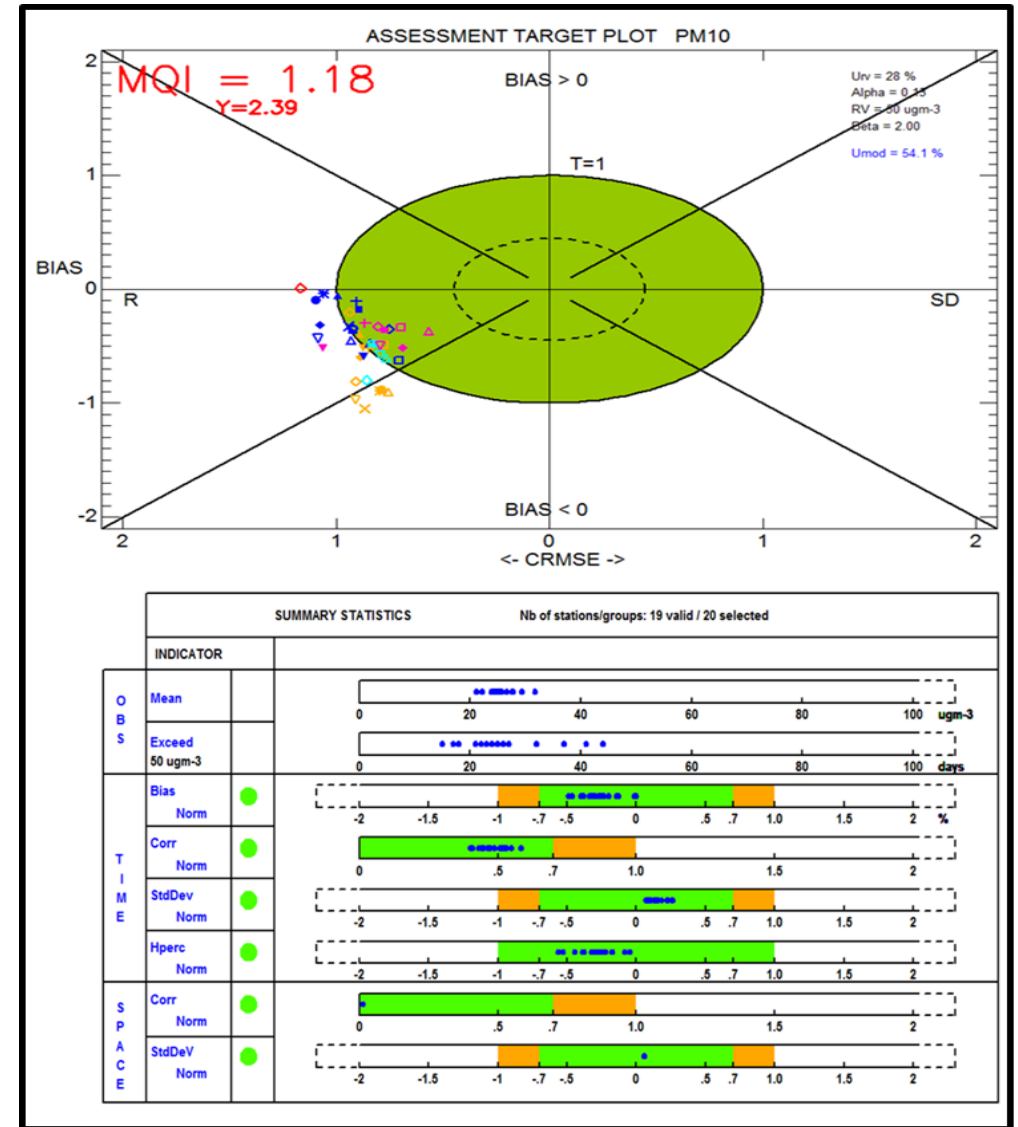


- Currently 54 maps
- Link to measurements
- Extended to emissions

Composite Mapping exercise → catalyst to model improvements

QA/QC: Modelling quality objectives

When do we reach sufficient quality?

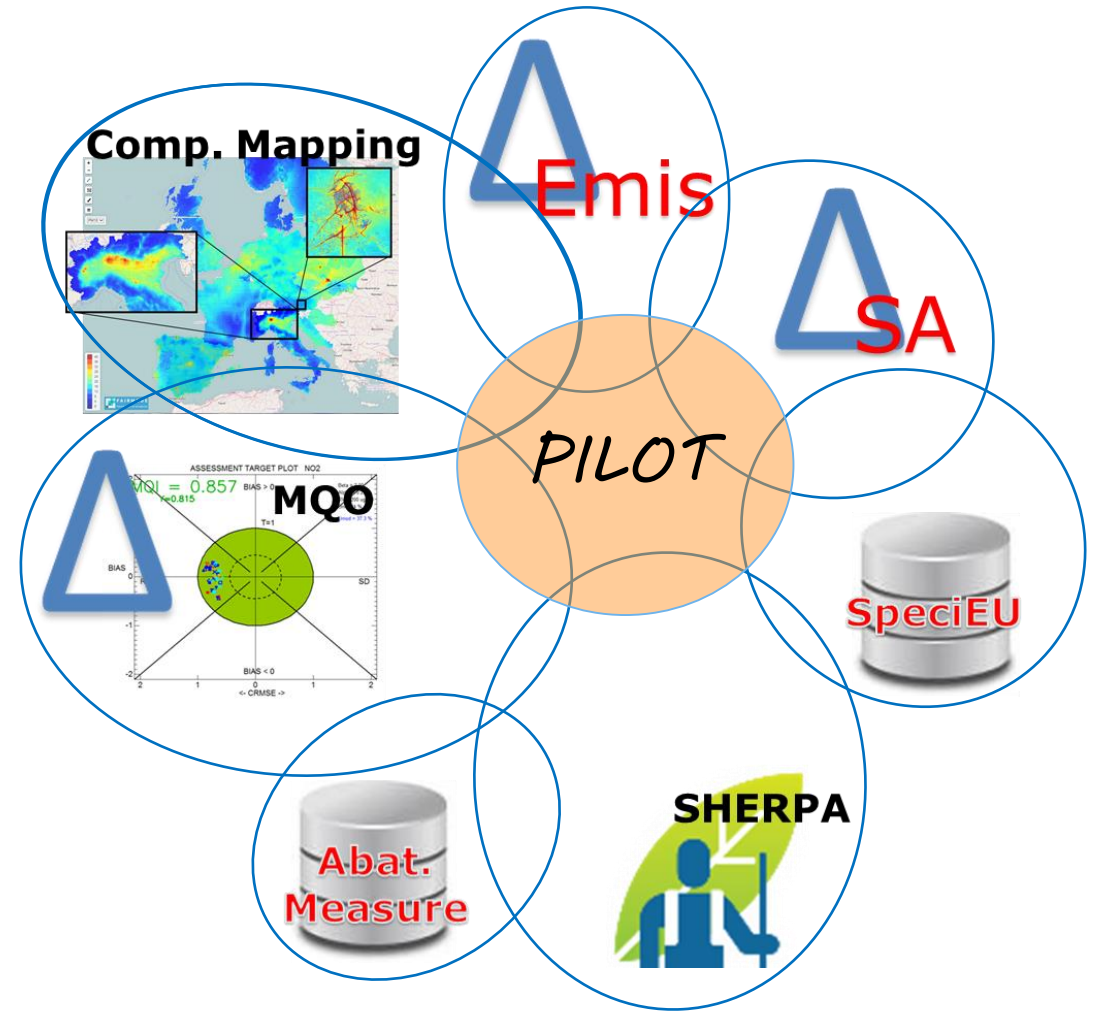


Pilot study:

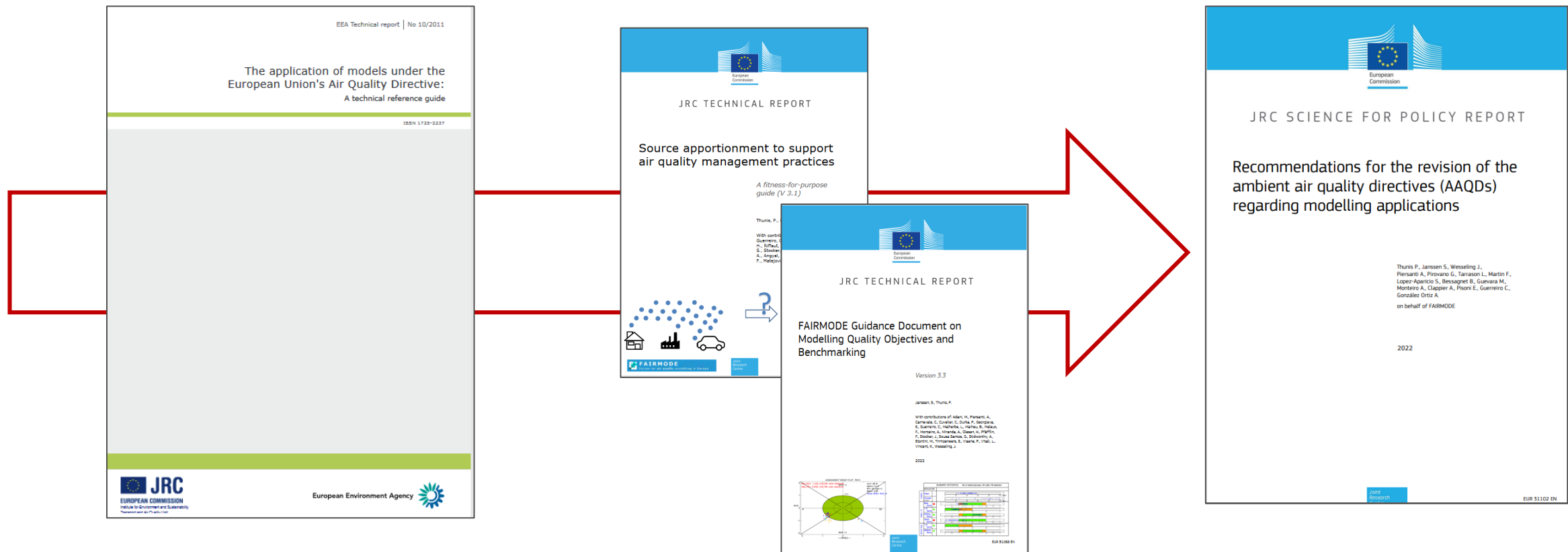
Guidance, methodologies and supporting tools have been developed and are now available for many applications.

Each of these tools/methodologies is supported by a group of users/participants

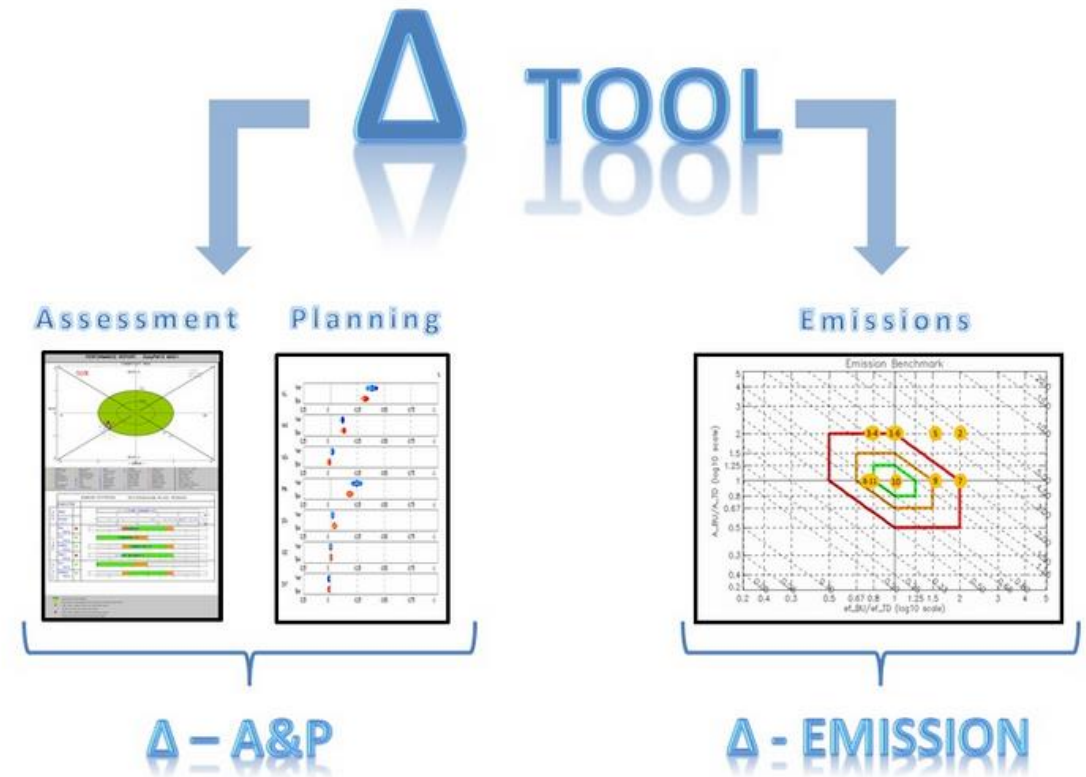
Pilot interacts with most WG topics in a consistent way



Deliverables (Reports and guidance)



Deliverables (Tools)



SHERPA

Screening for High Emission Reduction Potential on Air

Organisation: two yearly open meetings

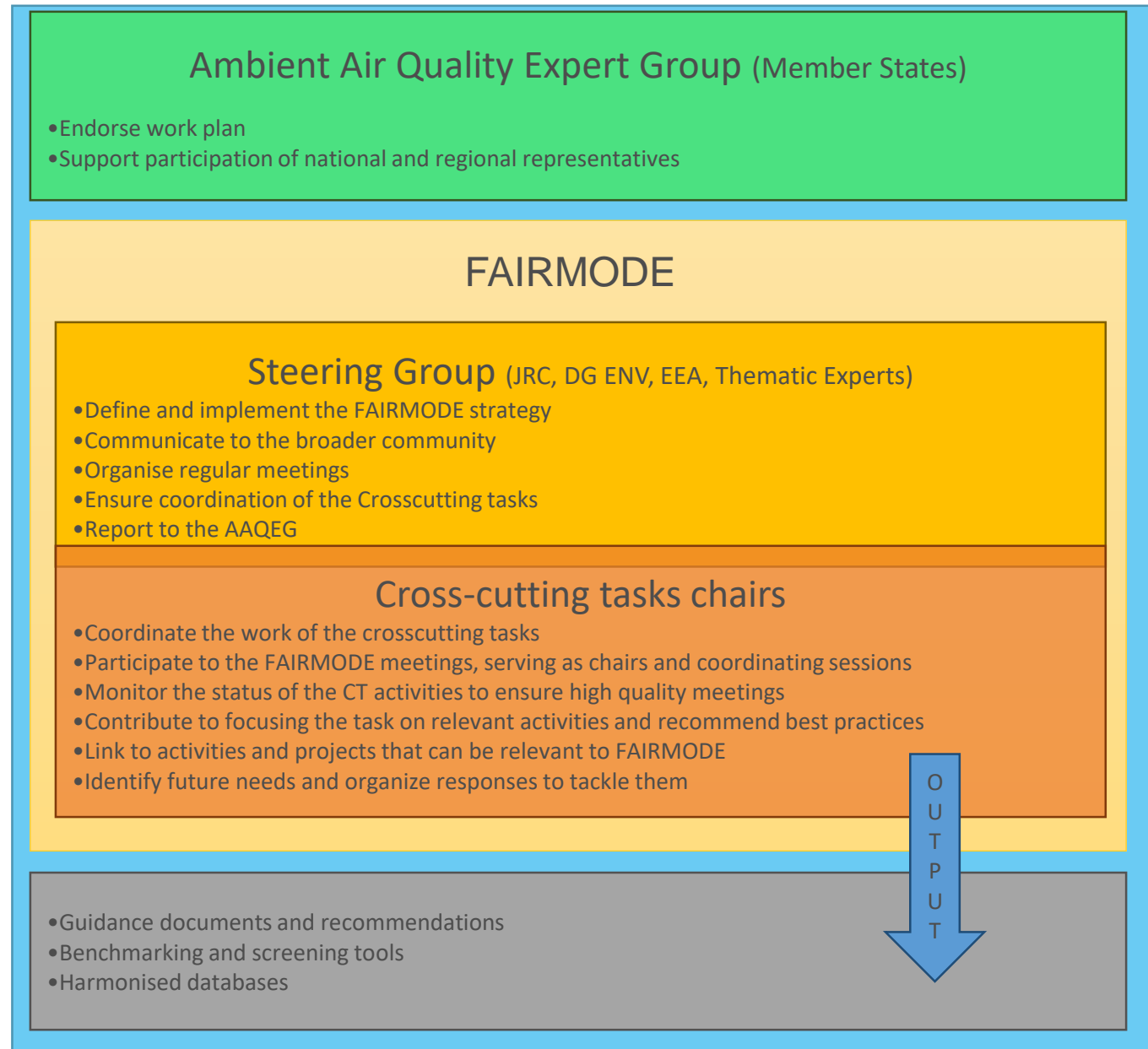


- Review status
- Gather info from related projects
- Discussion on Work-plan



- Identify existing approaches
- Develop benchmarking methods
- Carry out benchmarking activities
- Formulate good practices
- Prepare guidance

Governance



News

05/2019 Check out the Fairmode [RECOMMENDATIONS REGARDING MODELLING APPLICATIONS](#)

< Previous | Next >

Meetings

6-8 OCT
2021
September

The next "FAIRMODE PLENARY MEETING" will take place in OSLO, NORWAY. Further details will be forthcoming soon

Agenda | Logistics | **Register >**

View all the past meetings from 2008 with agendas, presentations and minutes

Past meetings >

- Recent Activities & Revised Approaches
- Recommendations >
- About FAIRMODE
- Terms of Reference >
- Steering committee >
- National Experts >
- Roadmap >
- Strategy >
- Forum >
- Tools

Activities

- | | | |
|---|--|--|
| <p>CT1 Source Apportionment</p> <p> A.Clappier
 G.Pirovano</p> | <p>CT2 QA/QC Protocol for assessment</p> <p> P.Thunis
 L.Tarrason</p> | <p>CT3 Forecast indicators</p> <p> P.Durka
 A.Piersanti</p> |
| <p>CT4 Microscale modelling</p> <p> F.Martin
 S.Janssen</p> | <p>CT5 Best practices for AQ management</p> <p> E.Pisoni
 C.Guerreiro</p> | <p>CT6 Low-cost sensors</p> <p> J.Wesseling</p> |
| <p>CT7 High-resolution Emissions</p> <p> M.Guevara
 S.Lopez-Aparicio</p> | <p>CT8 Exposure & exceedance indicators</p> <p> S.Janssen
 L.Tarrason</p> | <p>CT9 Robustness of AQ projections</p> <p> A.Monteiro
 B.Bessagnet</p> |

fairmode.jrc.ec.europa.eu

Thank-you