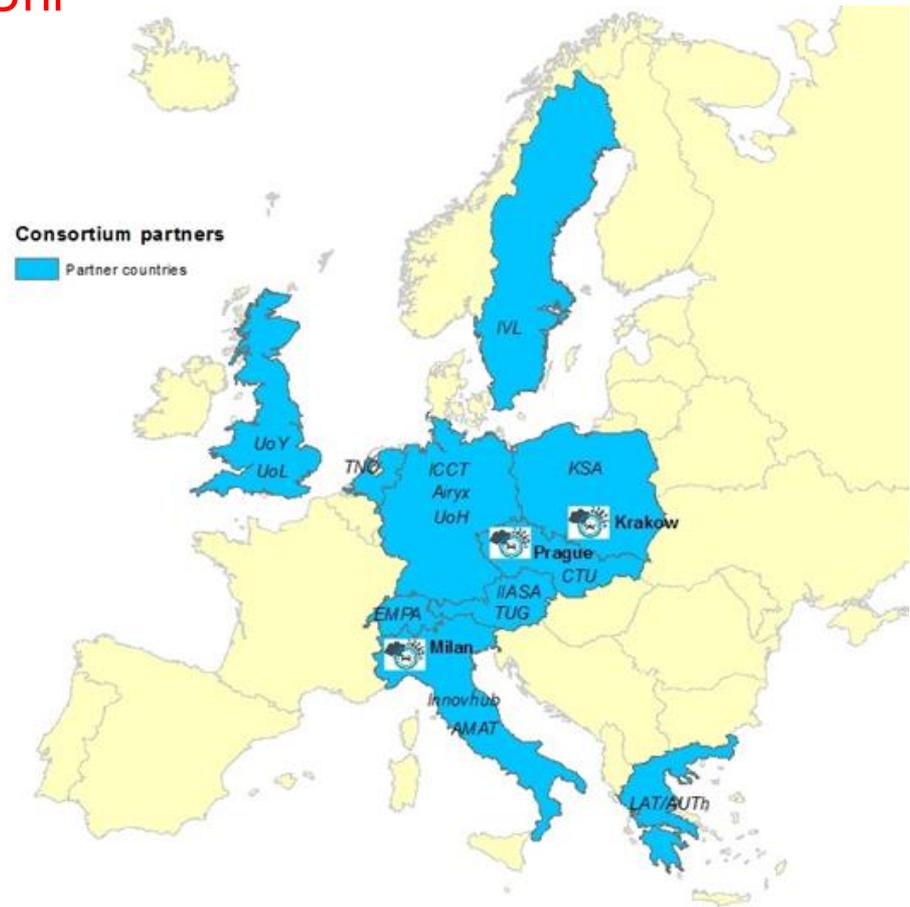


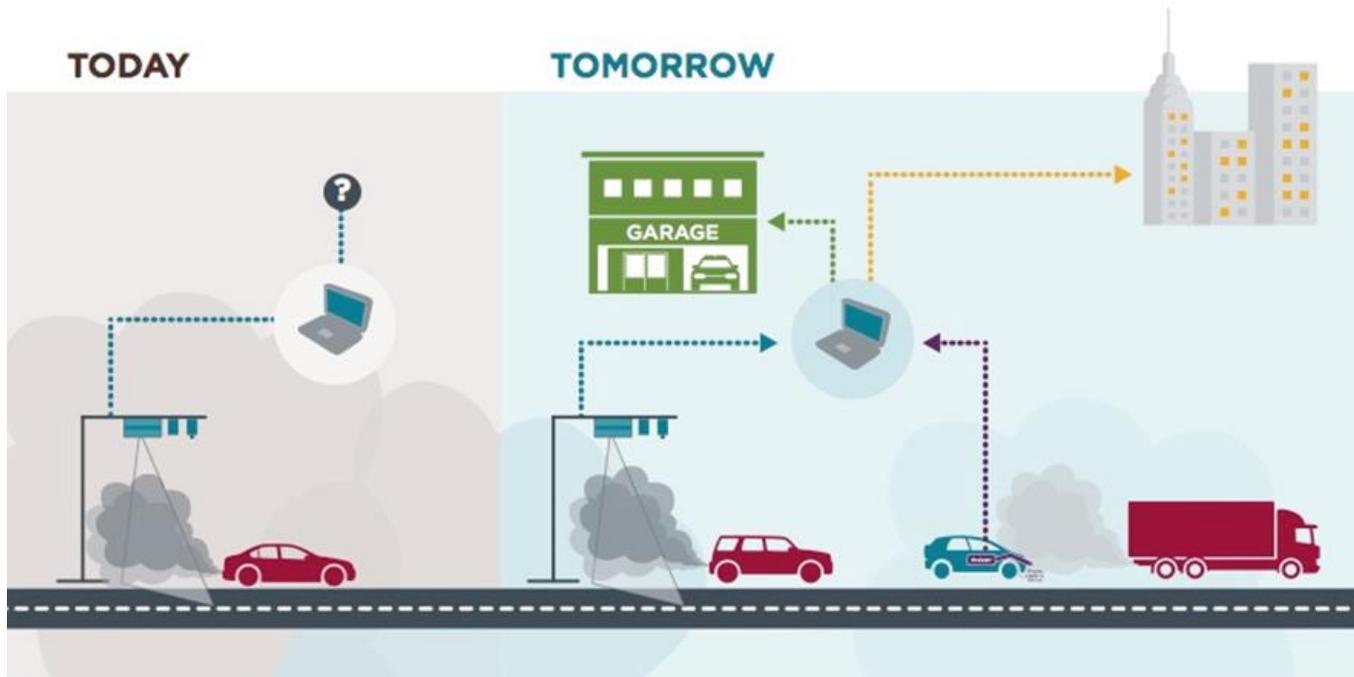
CARES – City Air Remote Emission Sensing

- IVL
 - Uni Leeds
 - Uni York
 - IIASA
 - ICCT
 - TNO
 - Techn Uni Graz
 - Uni Heidelberg
 - Airyx
 - Innovhub
 - City of Milan
 - Czech Techn Uni
 - Czech Uni Life Sc
 - Krakow Smog Alert
 - Uni Thessaloniki
 - EMPA
- CRAES
 - Tsinghua Uni
 - HKUST



Overarching objective

- to reduce the hurdles for the practical application of remote emission sensing and to make it a widespread means for the monitoring and enforcement of vehicle emissions, leading to improvements in air pollution



Specific objectives

- Develop and demonstrate:

- methodologies and practical guidance for contactless and non-intrusive **monitoring of vehicle fleet emissions under real-world driving conditions, and for utilizing the collected data for informing on and measuring the effectiveness of specific policies and measures;**
- methodologies and practical guidance for **detecting, with high accuracy, individual vehicles with either a malfunctioning or tampered emissions control system;**
- **two innovative non-commercialized non-intrusive remote emission sensing measurement techniques** that can be utilized in conjunction with commercialized remote emission sensing equipment, in order to widen the applications for remote emission sensing;
- **standardized data management processes and a framework linking database set**, including vehicle registration and air quality monitoring information, **as well as an EU-wide master database for remote emission sensing results;**

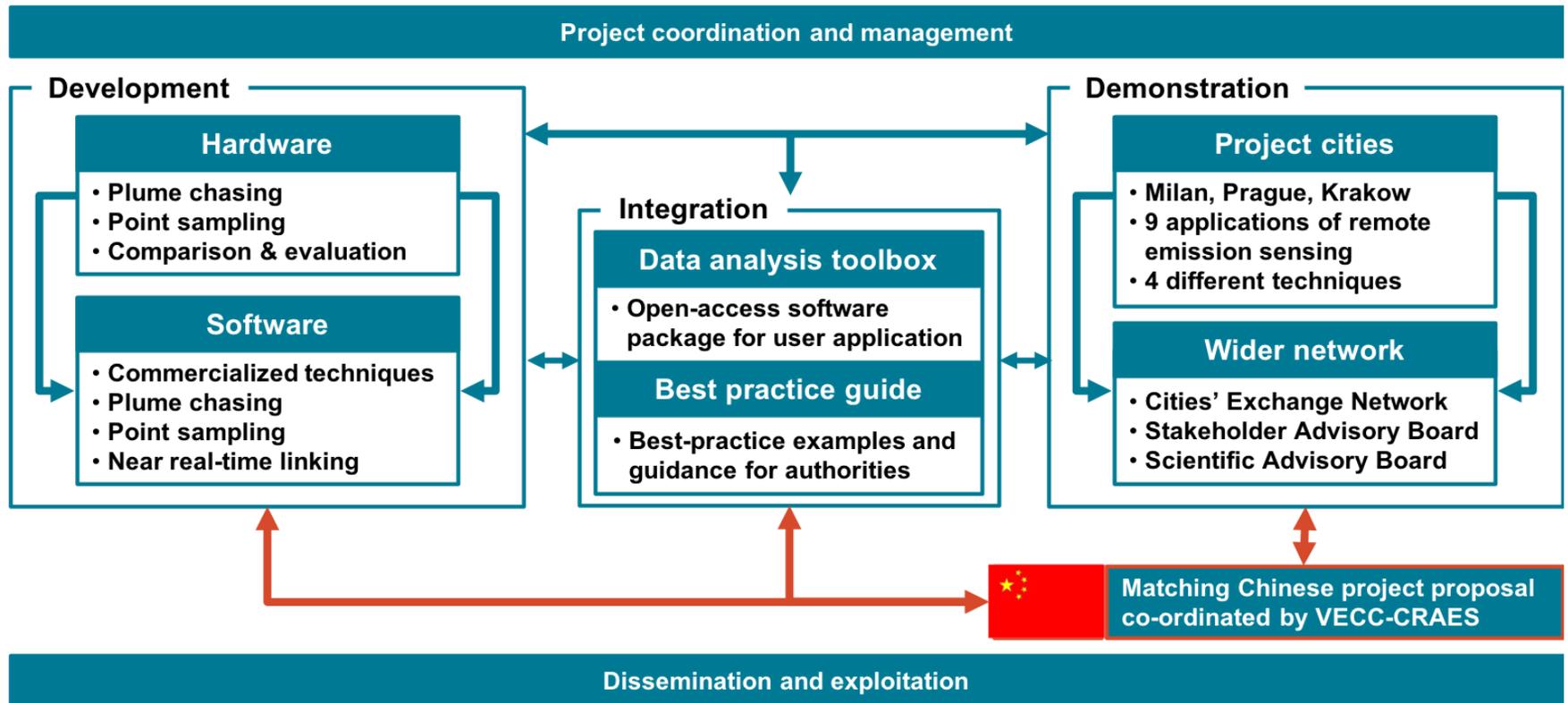
- Reduce barriers for deployment of:

- Remote emission sensing across the EU through **demonstration of the further developed measurement techniques and data infrastructure in three selected cities;**
- Remote emission sensing internationally, through **collaboration in particular with China**, exchanging knowledge and experience between researchers, cities and national authorities in the EU and China.

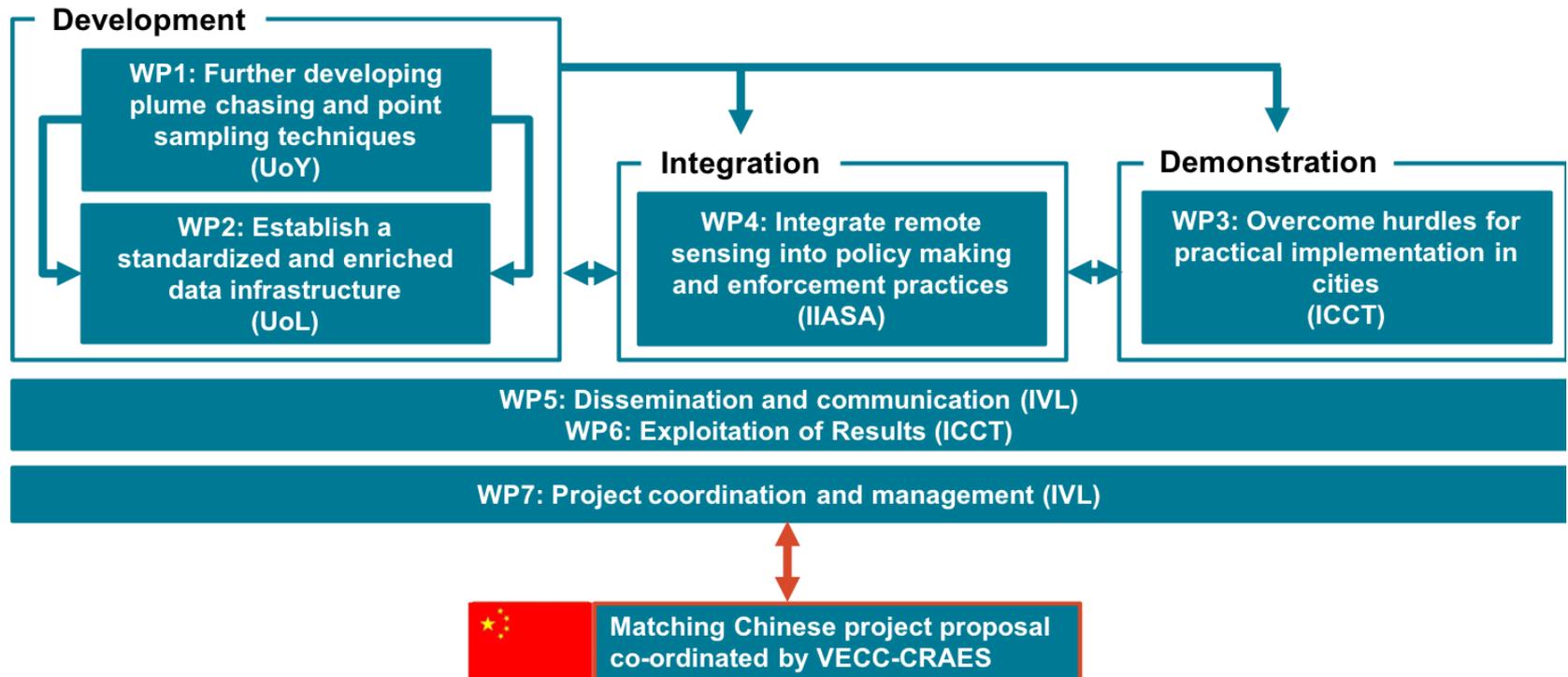
CARES applications

1. Identification of individual high (or low) emitters
2. Generation of real-world emissions factors
3. Steering new policies
4. Tracking policy effectiveness
5. Track technology effectiveness
6. Screen fleet for market surveillance
7. Monitor a single fleet
8. Understand the impact of driving and ambient conditions
9. Inform purchasing decisions

The CARES concept

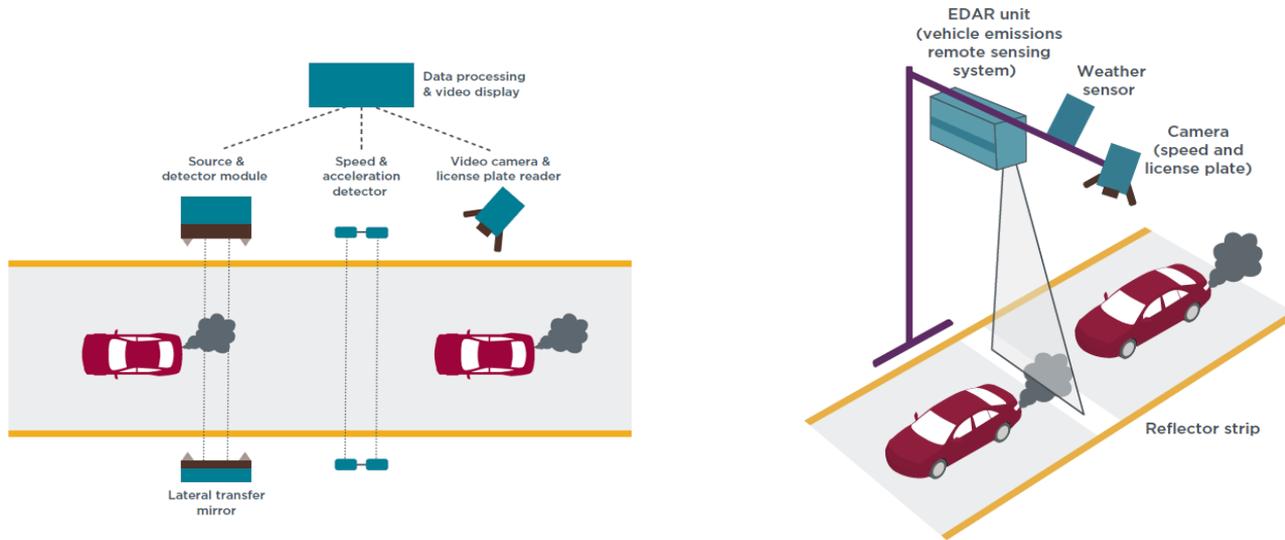


CARES Work package structure

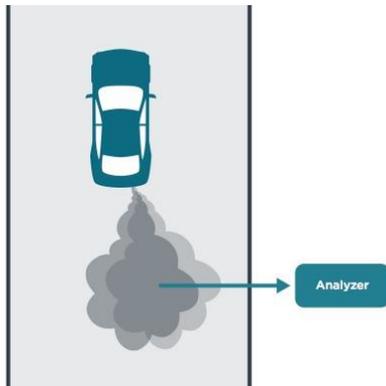


CARES hardware elements

1.



2.



3.



CARES outputs→outcomes→impact

