emisia
CONSCIOUS OF TRANSPORT'S IMPACT

Transport conscious

IntelAir is brought to you on the back of years of research and software development of utilities such as Copert, which has become the industry standard emissions calculator, and Sibyl, a utility that allows you to make basic environmental impact assessments yourself.

Should you prefer a more comprehensive solution, you can have us conduct transport impact assessments for you ourselves. We are regularly commissioned for such assessments by the European Union, and more recently by the Hong Kong and Australian governments because of our comprehensive understanding and experience in the field. So we are well placed to assist you by analysing the changes both in population, performance and the environmental impact expected across all transport means, not just road vehicles, but agricultural, maritime and air transport too. Technology, requirements and their costs are constantly changing which affect the combined footprint that transport leaves on the environment.

Our expertise can also be applied to individual vehicles, whose performance and emissions levels we have been testing in the Lab for decades and more recently through our PEMS (Portable Emissions Measurement System) for accurate RDE (Real Driving Emissions) levels. Our experience in the emissions world well places us to give you an independent evaluation.

Look no further than our website to get full details of how our utilities suite, assessments and testing facilities can serve you.

Our staff consists of mechanical, electrical, chemical and software engineers, with a strong background in environmental studies. We are closely connected to the Laboratory of Applied Thermodynamics at the Aristotle University of Thessaloniki. Our strong academic ties make us an active participant in an ongoing expert research network that continues to improve in modelling, technological and analytical abilities.

› Colibri

Know and predict the environmental weather wherever you want.

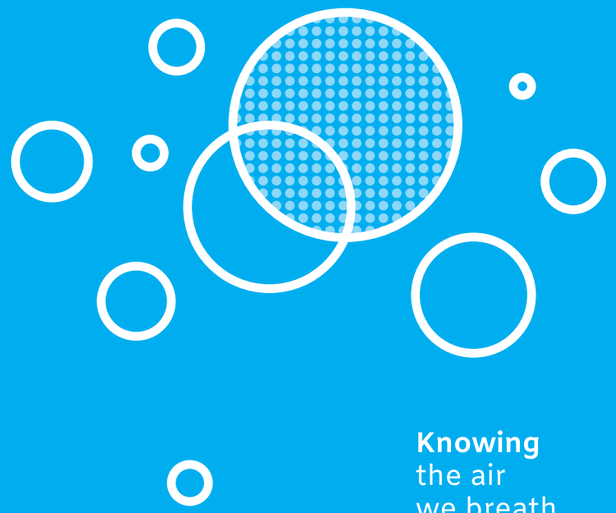
Measure the impact of environmental policies before they have even been implemented.

It is now possible to ensure a healthy environment

IntelAir is developed by Emisia and the Laboratory of Heat Transfer and Environmental Engineering at Aristotle University of Thessaloniki Greece

10 YEARS
emisia
CONSCIOUS OF TRANSPORT'S IMPACT

21 Antoni Tritsi str.
PO Box 8138 I GR 57001
Thessaloniki, Greece
T: +30 2310 473374
F: +30 2310 804110
E: info@emisia.com
www.emisia.com

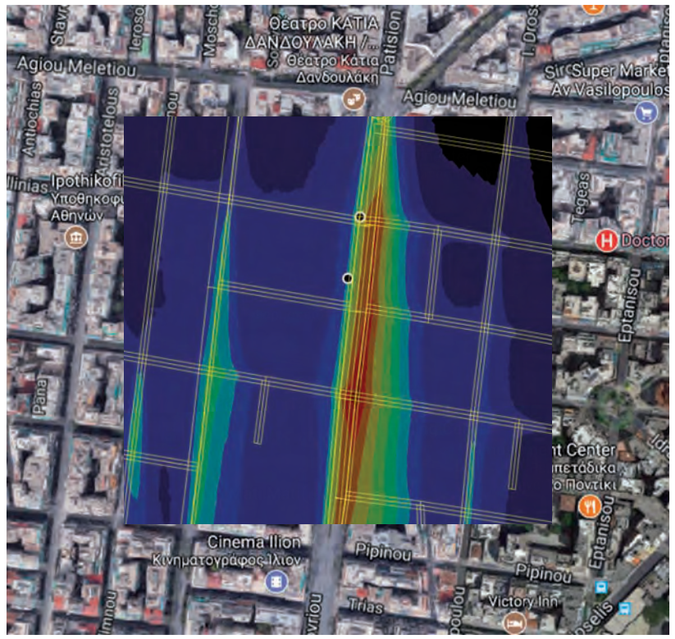


Knowing
the air
we breath

intelair

Environmental and emissions policies under the microscope will allow for the development of more clean air solutions

Intelair is able to map air quality over the area it has been set up in, as in this part of downtown Athens. When policy makers see for themselves where and when “red zones” and reasonable health limits are approached, the environmental and emissions policies that have allowed these limits will come under scrutiny.



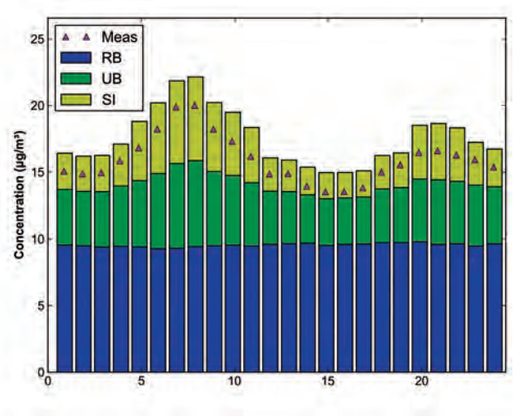
The flip side for policy makers though, is that the effects of any regulations they implement can now be tangibly measured and evaluated, and, before they have even been implemented. Intelair also paves the way for innovative new emissions solutions because each one can easily be evaluated.

A look under the lid of intelair, a self-improving innovative algorithm

Normally, in order to deal with air pollution problems and abatement strategies you would need complicated computer models that take a lot of time and processing power to simulate the combined pollutants and their motion through the air because there is a vast amount of data to process. This would be so costly in time and money that using current modelling methods would be unfeasible.

While Intelair applies a traditional model, it only needs to do it once, after which the model is simplified, using an innovative algorithm. This algorithm trains and calibrates the model using more sophisticated approaches.

Additional concentration measurements can be used to check and align the model and, therefore, improve the algorithms in a repeatable self-improving feedback process. In this way, the amount of data that needs to be processed is significantly reduced, while maintaining accurate forecasts.

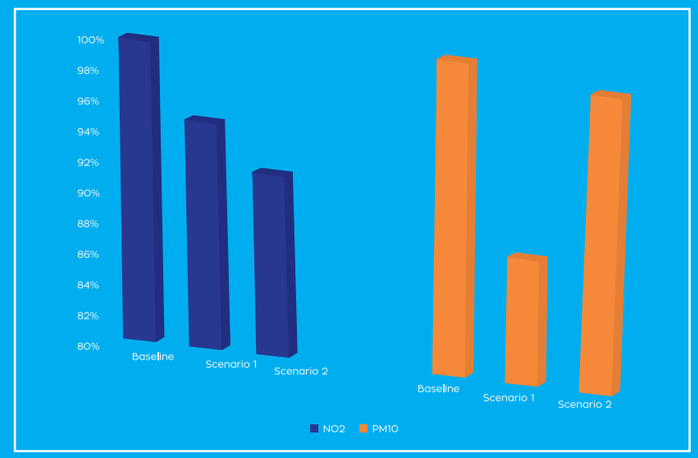


The diagram shows comparative concentration levels at a train station in Namur, Belgium. Added to the rural background (RB) is the urban contribution/background (UB) and street increment (SI) at this specific location. It can be observed how the levels peak at corresponding peak traffic times. Using only a minimal set of input data, Intelair is accurately able to reproduce the hour-to-hour measured levels of pollution.

Thanks to its innovative dynamical modelling core, Intelair has a consistent accuracy advantage, compared to other existing air quality models which exclusively depend on statistical projections or oversimplified plume models.

An Intelair case study

Intelair can provide rapid assessment of local intervention and policy scenarios, including -but not limited to- traffic restrictions, fleet composition change and fuel substitution. Comparative assessment of various proposed interventions can be easily obtained for specific locations in a city or at the level of average urban background, as illustrated in the image below: the effect of three different mitigation measures is quantified in terms of the reduction in NO2 and PM10 annual average concentrations."



Baseline		Scenario 1		Scenario 2	
NO2	PM10	NO2	PM10	NO2	PM10
100%	100%	95%	88%	92%	98%

NO2			PM10		
Baseline	Scenario1	Scenario2	Baseline	Scenario1	Scenario2
100%	95%	92%	100%	88%	98%