Sustainable mobility | Connected Mobility

# CONNECTED MOBILITY

## OUR SOLUTIONS

IFPEN is contributing to the decarbonization of day-to-day mobility through the development, on behalf of the French State, territories, the general public and road professionals, of connected services and applications capable of measuring the environmental footprint of transport ($CO_2$, energy and pollutants) and thus encouraging improvements in behavior.

- The Geco air app : changing behavior at the wheel
- DriveQuant, a measurement tool for insurance companies
- Real-e, to measure emissions in real usage conditions
- Geovélo : promoting the use of the bicycle day-to-day
- xDash™: a platform to enable users to create their own mobility apps

Mobility data, as well as a raft of algorithms and digital tools relating to air quality and connected mobility, are accessible via around thirty web services made available to IFPEN's partners on the mobicloud.ifpen.com platform developed by IFPEN.

## GECOAIR: AN APPLICATION TO ENCOURAGE MORE SUSTAINABLE MOBILITY

**Help drivers reduce the environmental footprint associated with their journeys: that is the aim of Gecoair™**, the free mobile application developed by IFPEN with the support of Ademe. A veritable barometer of clean mobility, Gecoair ™ encourages users to drive in an eco-responsible manner by:

- estimating emissions relating to their journeys ($CO_2$, NOx, fine particles, carbon monoxide),
- indicating the practices they should adopt at the wheel,
- encouraging them to favor soft transport modes wherever possible.
- available free on iTunes and GooglePlay
  > 40,000 downloads
  > 80 million km traveled

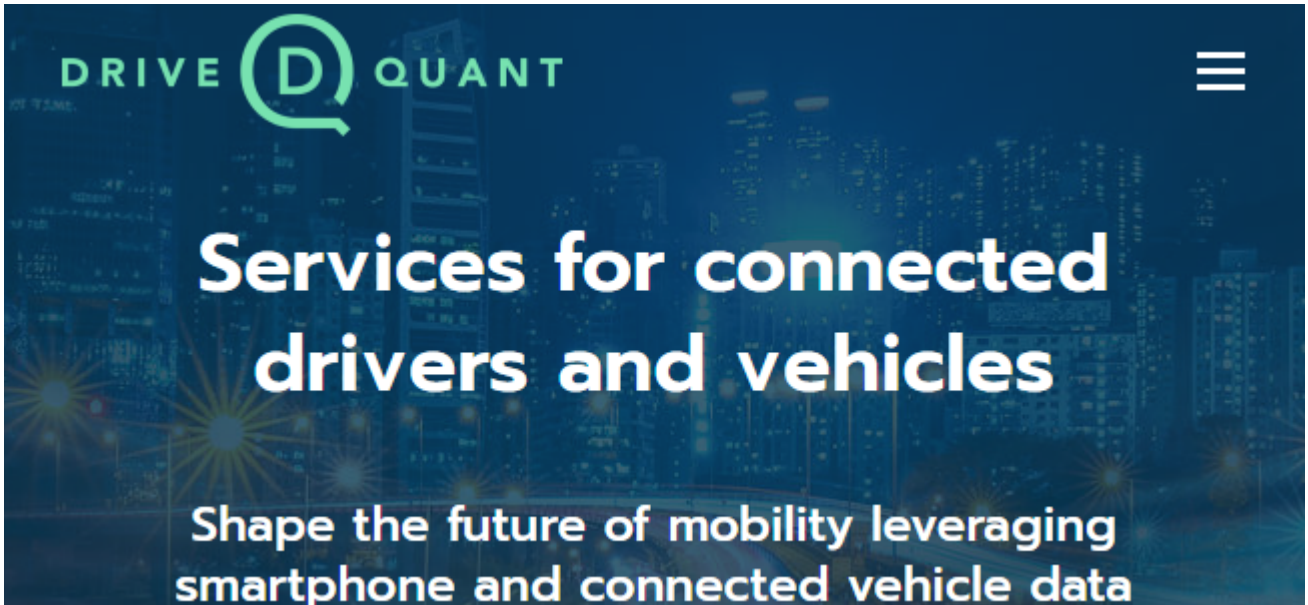
**± 20 %** = variation in $CO_2$ emissions depending on the individual driver for the same urban journey

## DRIVEQUANT: A MEASUREMENT TOOL FOR INSURANCE COMPANIES

In March 2017, IFPEN launched start-up DriveQuant, a company that proposes v**arious types of web services in the field of connected mobility**:

- energy analysis,
- eco-driving,
- safety,
- coaching.

**These services are primarily aimed at insurance companies,** to help them optimize risk management: DriveQuant's services make it possible to better assess the driver's behavior in order to reinforce usage analysis and provide data for risk calculation models. A mobile application that can be used as a white-label service also exists to collect information, interact with policy holders and undertake prevention and coaching measures.



## Towards a sustainable city from a transport point of view: mapping regional emissions

By consolidating anonymized usage data, generated by the Geco™ air app, IFPEN's teams are capable of drawing up a real-time map of pollutant emissions across a region. Local authorities can thus:

- understand phenomena associated with traffic emissions and acquire knowledge of critical zones,
- identify the impact of existing road infrastructures,
- prioritize decisions for future planning and development (speed bumps, traffic circles, on-ramps/off-ramps, etc.).

Thanks to its partnership with Geovelo (see below), IFPEN is also integrating into its air quality monitoring solutions data relating to how cycling-friendly a particular area is, to promote the safe use of bicycles in urban zones.

## REAL-E, THE MOBILE AND CONNECTED, REAL-WORLD VEHICLE EMISSION ANALYZER

Teams from the Transports Energie Carnot Institute and SME Capelec have developed **Real-e (Real emissions), an innovative connected tool that measures pollutant emissions in a vehicle's exhaust gases in real driving condition**s. It is the first system to provide such a rapid, exhaustive and reliable evaluation of real emissions. Real-e is the result of the synergy between the numerical pollutant emission models developed by IFPEN and the gas analysis expertise of SME Capelec, the leading provider of automotive testing equipment. In concrete terms, the analysis system sends measurements to the Cloud in order to automatically recalibrate numerical models, thus supplying a conformity factor with respect to the vehicle's pollutant standard.

> Find out more about the REAL-E onboard diagnostic kit (in French):

## GEOVELO: AN APP TO FACILITATE URBAN BICYCLE USAGE

With Geovelo and the provision of a connected mobility solution developed in partnership and used in several towns and cities across France, IFPEN is supporting the development and use of bicycles in the urban setting. In addition to route planning, the Geovelo app can be used to rate a region's cycle routes via the cyclists' smartphone.

**Points to remember**

The eco-mobility tools developed by IFPEN are aimed at both vehicle fleet managers and heavy haulage truck operators: they enable them to identify the best route in terms of fuel consumption, duration and cost for each journey

## XDASH™ : A PLATFORM TO ENABLE USERS TO CREATE THEIR OWN MOBILITY APPS

**xDash™ is an open-access software platform** developed by teams from the IFPEN TE Carnot Institute enabling researchers who are not specialists in web technologies to easily build their own web applications. Originally designed for the development of web applications related to mobility, xDash™ has now been adapted to meet any type of need. Users have access to algorithms developed by IFPEN or other research bodies relating to weather, road traffic, Covid, etc. In order to meet the needs of engineers and scientists, it is possible to write or directly import Python code in xDash™. Python code is widely used in data science. Moreover, hosted in SaaS mode on Microsoft's Azure servers, it can be deployed in accordance with the security rules demanded by SaaS-type software and interfaced with customer web services.

## CONTACT

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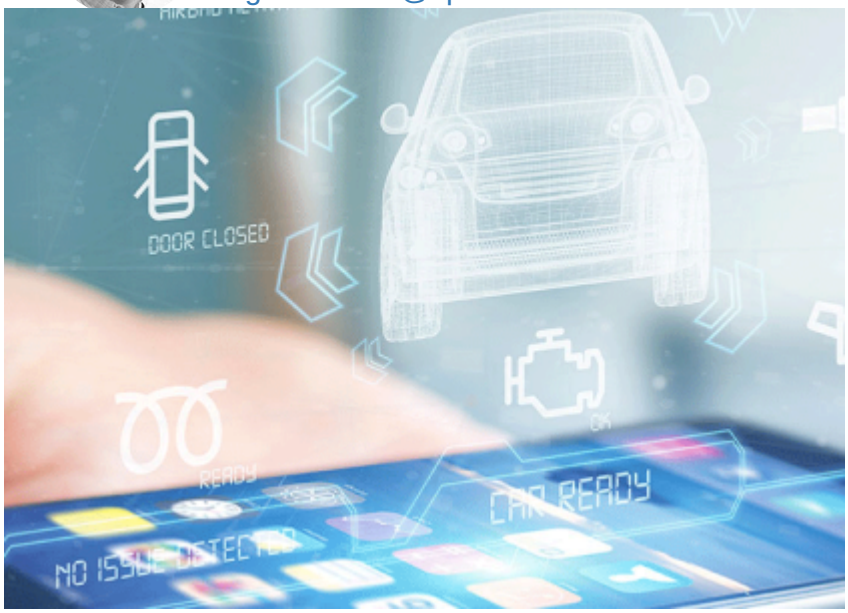


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Events 11 - 15 October 2021

## IFPEN at ITS WORLD CONGRESS 2021 in Hamburg, Germany

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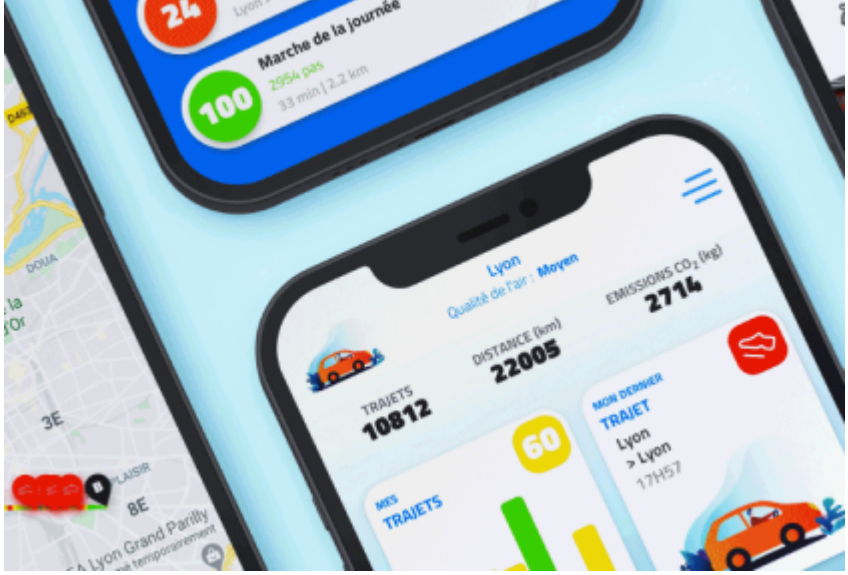


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News June 2021

## Air quality: the Geco air clean mobility barometer adapt ours journeys to the weather

Press release

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Our solutions

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