

An aerial photograph of a multi-lane highway with heavy traffic. A large concrete mixer truck is prominent in the left lane, moving away from the camera. Other vehicles, including cars and a red truck, are visible in the right lanes. The text is overlaid on the image.

# **SWISS RESEARCH COLLABORATION WITH JRC**

J. Czerwinski / AFHB

**VERT FORUM, EMPA, 20.03.2015**



European  
Commission

## Joint Research Centre

The European Commission's  
in-house science service

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Serving society  
Stimulating innovation  
Supporting legislation

[www.jrc.ec.europa.eu](http://www.jrc.ec.europa.eu)

## Visit of Swiss delegation

JRC Ispra - 29-30 January 2015

## Collaboration Agreement BAFU-JRC

## Annual Meeting

Room Tintoretto ( Building 44)

since  
2007

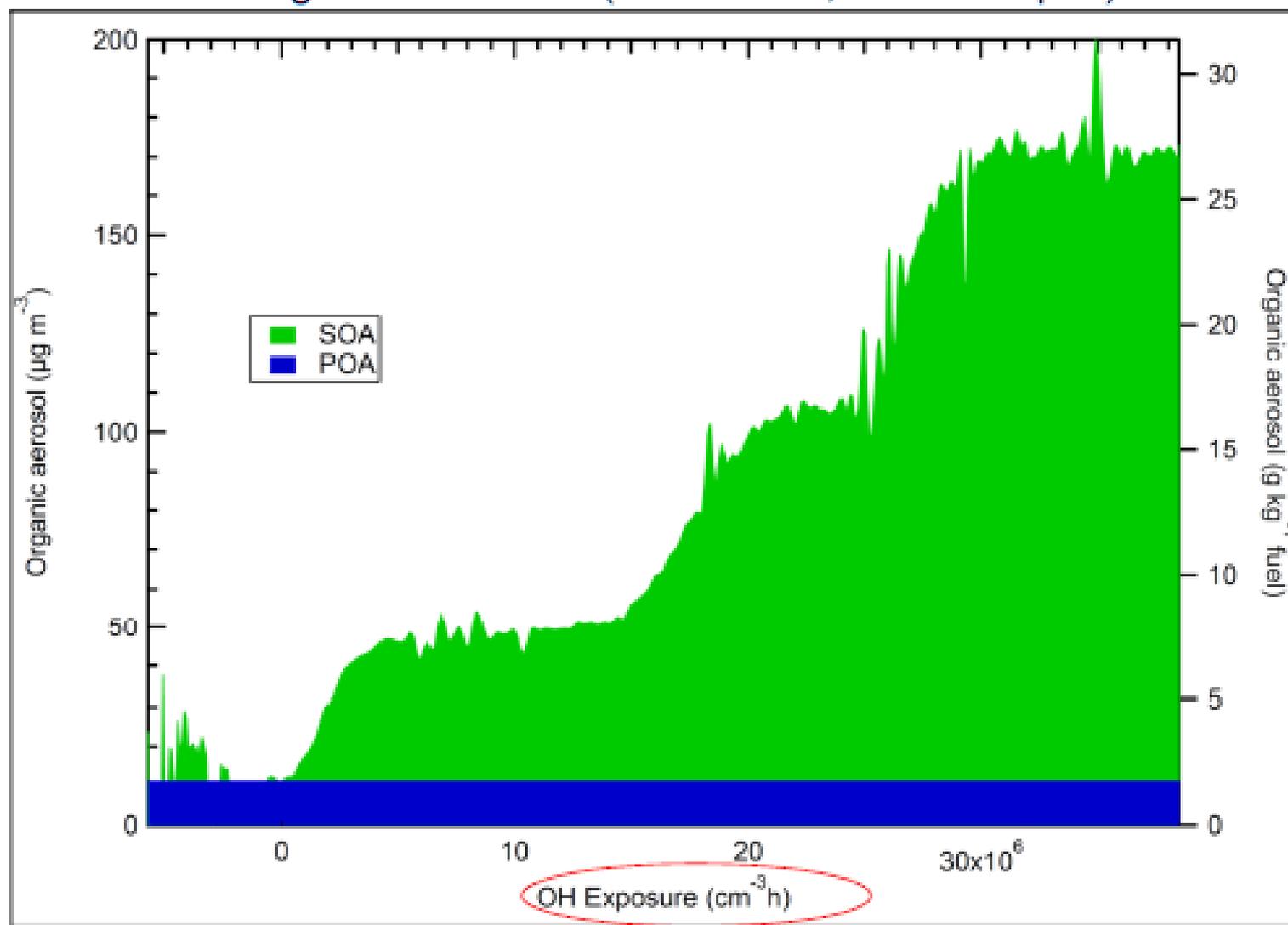
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# Swiss Projects & Presentations

- TTM: - OEM-responsibility for upgrading  
- Exhaust Throttling for DPF retrofitting  
- EPA UFP Workshop February 2015
- PSI: - SOA – Mobile Smog Chamber
- AFHB: - EngToxDI / EngToxGas  
- HaMaNet / HaMaEm  
- NO<sub>2</sub> / NH<sub>3</sub>

AMS Organic Time trace (PSI 111019, Euro 2 Moped)



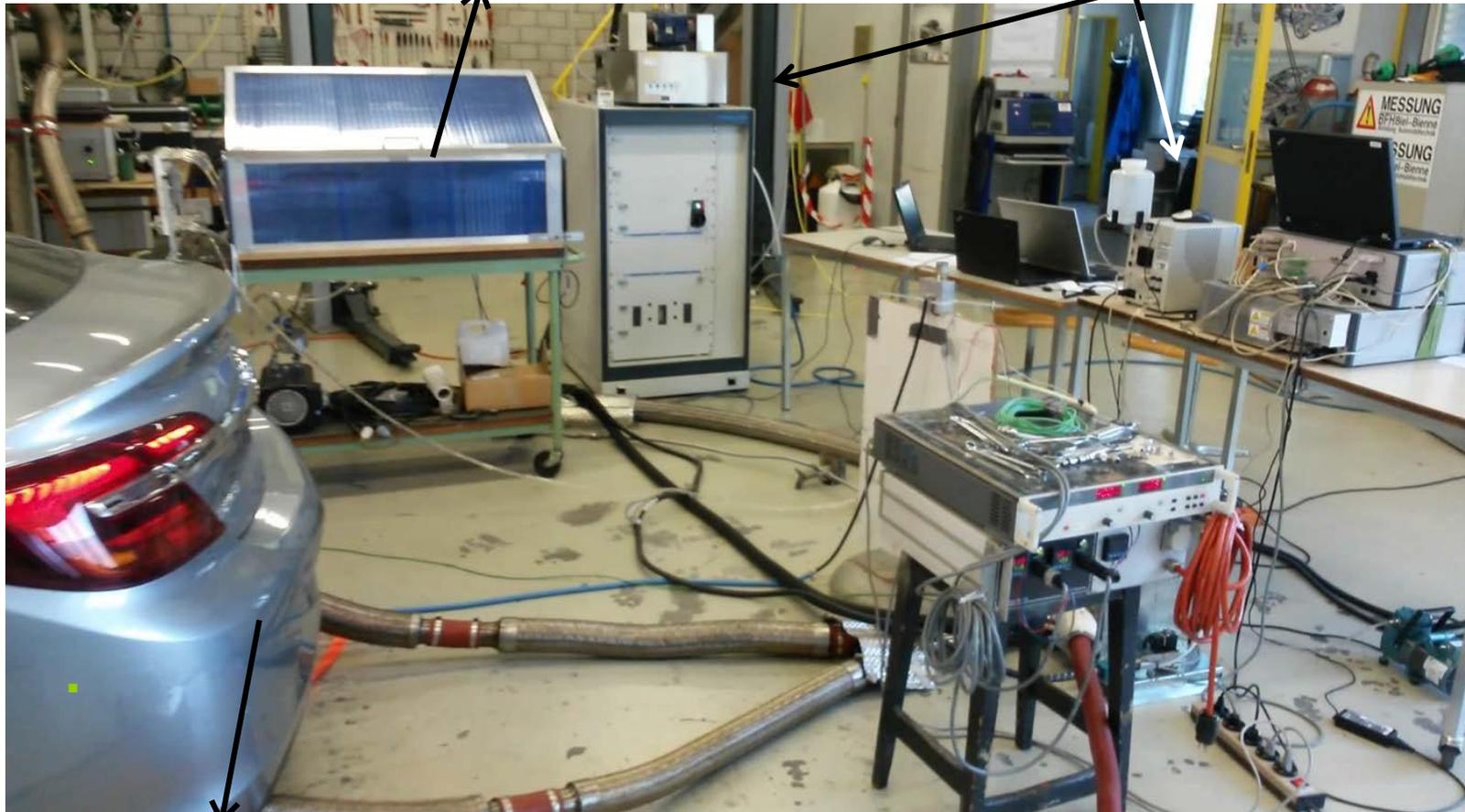


# Exposure tests on gasoline passenger car

ULSD      ultra low sulfur Diesel

Biological test system,  
*i.e.* lung cell cultures

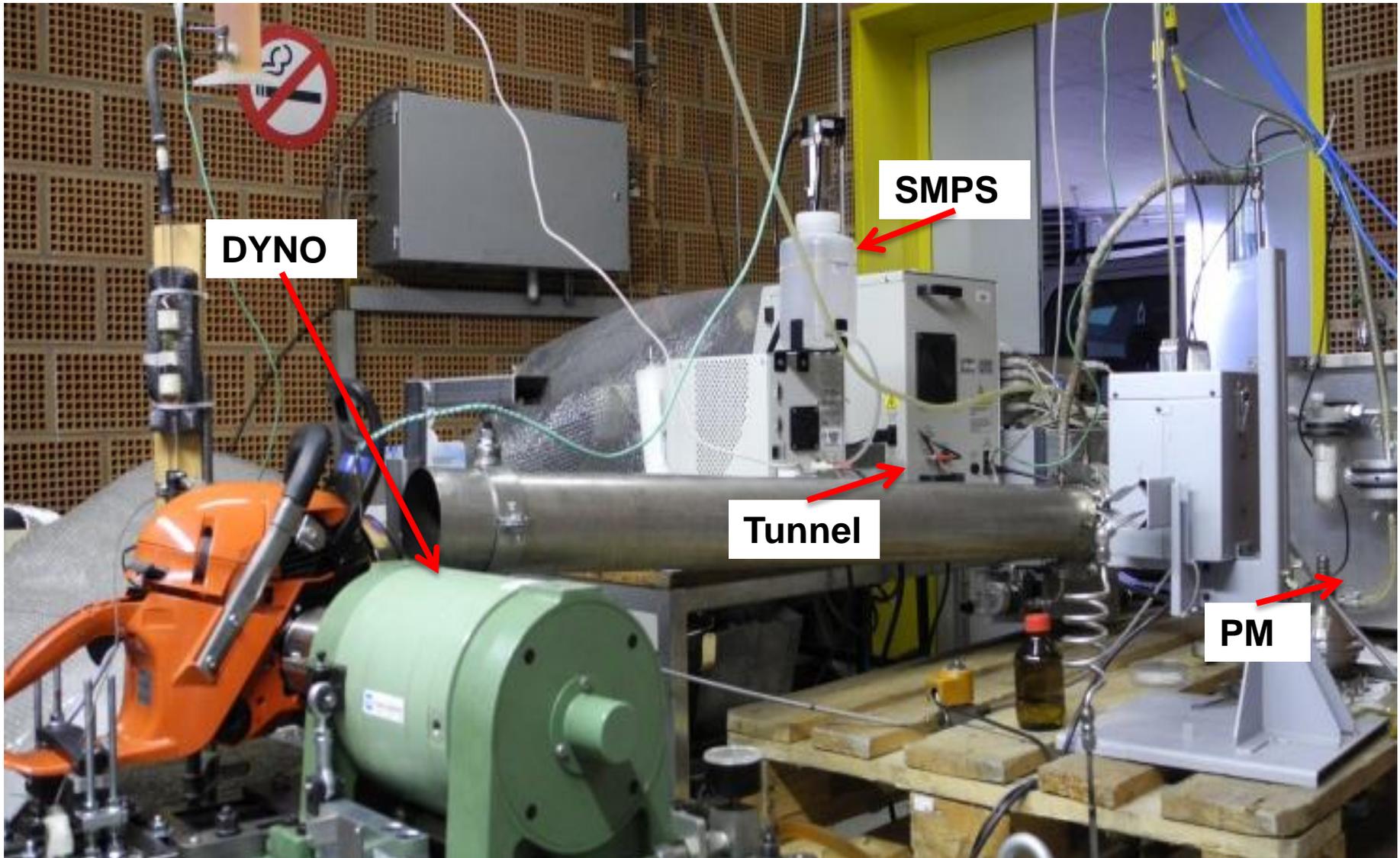
On-line exhaust  
characterization



Test vehicle

Exhaust sampling

# HaMaEm



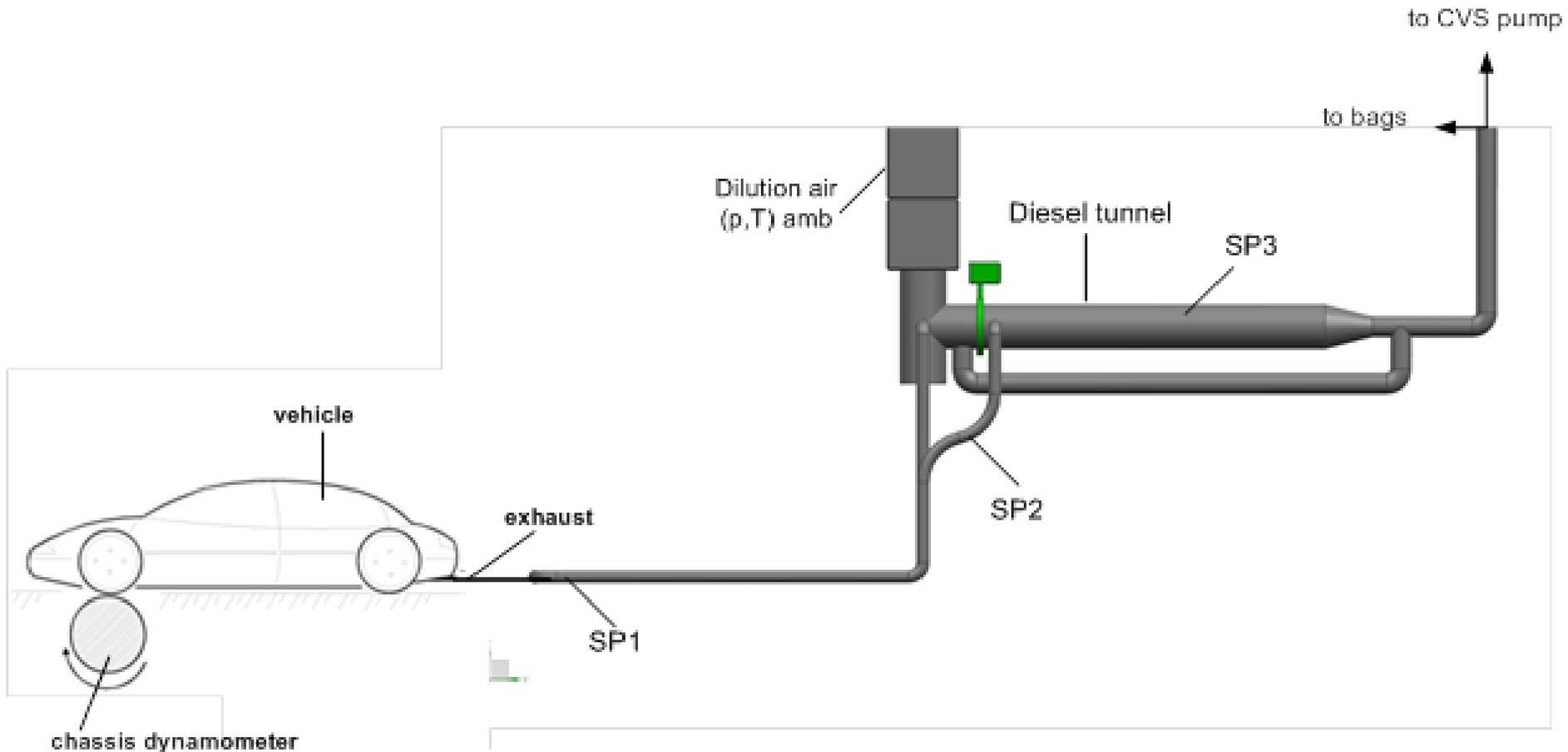
DYNO

SMPS

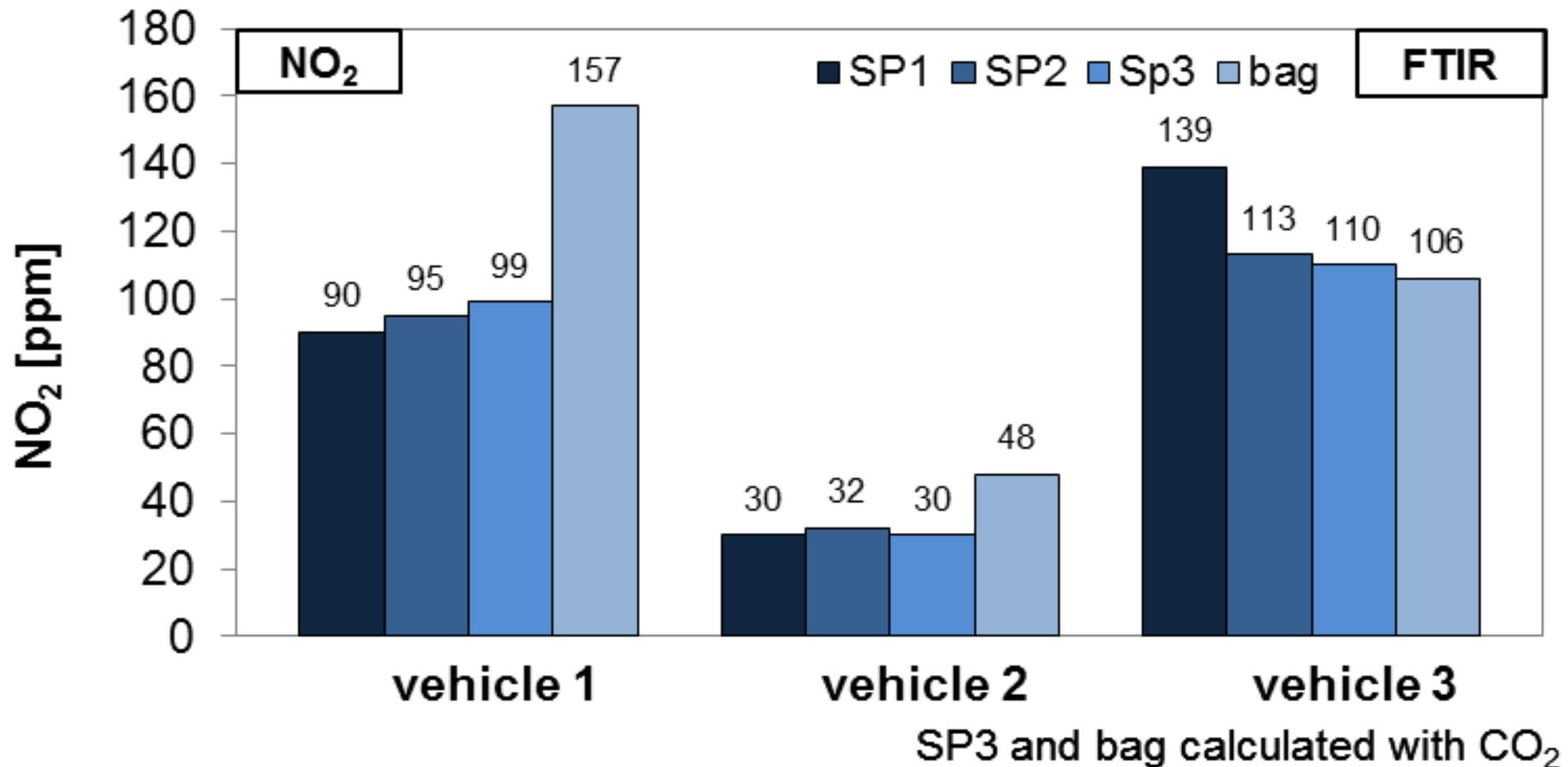
Tunnel

PM

## Sampling positions SP for Diesel vehicles – testing NO<sub>2</sub>



# Comparison of NO<sub>2</sub>-Results in WLTC at Different SP's





# JRC Projects & Presentations

- E-mobility, monitoring Firenze / Modena, smart grids
- ERMES European Research Group on Mobile Emissions Sources (inventories)
- RDE-test procedures (objective limits Sept. 2017)
- other activities: WLTP, PN-PEMS, Biofuels, Eco-innovations



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# VELA

## Vehicle Emissions Laboratories

### VELA

The Ispra, Italy-based Vehicle Emissions Laboratory (VELA) comprises two well-equipped chemical and physical analysis labs, and seven major testing facilities capable of conducting emissions tests (including the measurement of evaporative emissions) on a variety of vehicles. These range from motorbikes to passenger cars and even large heavy-duty engines. Findings made at these facilities have provided scientific support for the development of new EU Directives and the revision of older ones, as well as for the assessment of new measurement techniques and procedures. They have also provided answers to other scientific challenges, such as the toxicity of emissions from motorcycles.





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# The Energy Challenge

## Institute for Energy & Transport

### JRC-IET mission

The mission of the JRC-IET is to provide support to Community policies and technology innovation to ensure sustainable, safe, secure and efficient energy production, distribution and use and to foster sustainable and efficient transport in Europe.





# **Support of BAFU for DPF Retrofit Projects on the research level**

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**Nanoparticle Conference  
Tel Aviv  
September 3rd, 2015**



**Thank you  
for your  
attention!**