

## **Paper offer for the FISITA Congress 2008, Sept. 14-19, 2008, Munich, D**

Ladies and Gentlemen,

For the next FISITA Congress 2008 we propose following paper informing about the last results of the Swiss scooter projects:

### **“Reduction Potentials of Particle Emissions of 2-S Scooters with Combinations of Technical Measures.”**

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#### **ABSTRACT**

2- and 3-wheelers with 2-S propulsion are still a very serious source of air pollution worldwide in many urban areas. Therefore every effort to reduce the emissions of those vehicles is an important contribution to improve the air quality.

In the present work detailed investigations of limited emission compounds and of particle emissions of 2-stroke scooters with direct injection and with carburetor were performed.

To demonstrate the emission reduction potentials some possibilities of emission improvements were combined in steps. These technical measures were:

- Higher tier lube oils
- Lower oil dosing
- Active oxidation catalyst
- Supplementary filtration & oxidation devise (WFC) \*\*).
- Special fuel.

The particle mass and nanoparticles, which are amply present in the 2-stroke exhaust gas and which contribute strongly to the toxicity level are still unlimited by the international exhaust gas legislation. They were extensively investigated in the present project series.

It was impressively demonstrated, that a strong reduction of particle emissions is possible by means of a combination of these technical measures.

There are also further possibilities of improvements, like total filtration, or use of alternative fuels.

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\*\* ) Abbreviations and References see at the end of paper

All those technical measures can be effective for the vehicles on the road only if the necessary market conditions will be created like: incentives for better products, production conformity control, in-use compliance control, public information and others.

Sincerely,

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