

## **The novel PNA and SCR exhaust gas after treatment systems for diesel passenger cars**

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### **ABSTRACT**

The future emission legislations for diesel passenger cars are likely to include more dynamic test cycles than we have today, such as the WLTP and RDE cycles in the EU and very challenging SULEV legislations in the USA. In order to meet these emission legislations more complex exhaust gas after treatment systems are needed.

The aim of this paper is to describe a novel exhaust gas after treatment system that consists of a passive NO<sub>x</sub> adsorber (PNA) combined with the uf-SCR (Underfloor Selective Catalytic Reduction) or closed coupled SCR on DPF (Selective Catalytic Reduction on Diesel Particulate Filter). The novel PNA stores NO<sub>x</sub> at low temperature and self-releases it at high temperature without the need for a rich engine operation purge.

The experimental results from a D segment vehicle using different PNA and SCR configurations will be presented and the potentials and limitations of each configuration will be discussed. Furthermore the trade-off between fuel consumption and NO<sub>x</sub> emissions will be presented.