

Improved SCR and optimized SCR heating methods

Challenges and solutions:

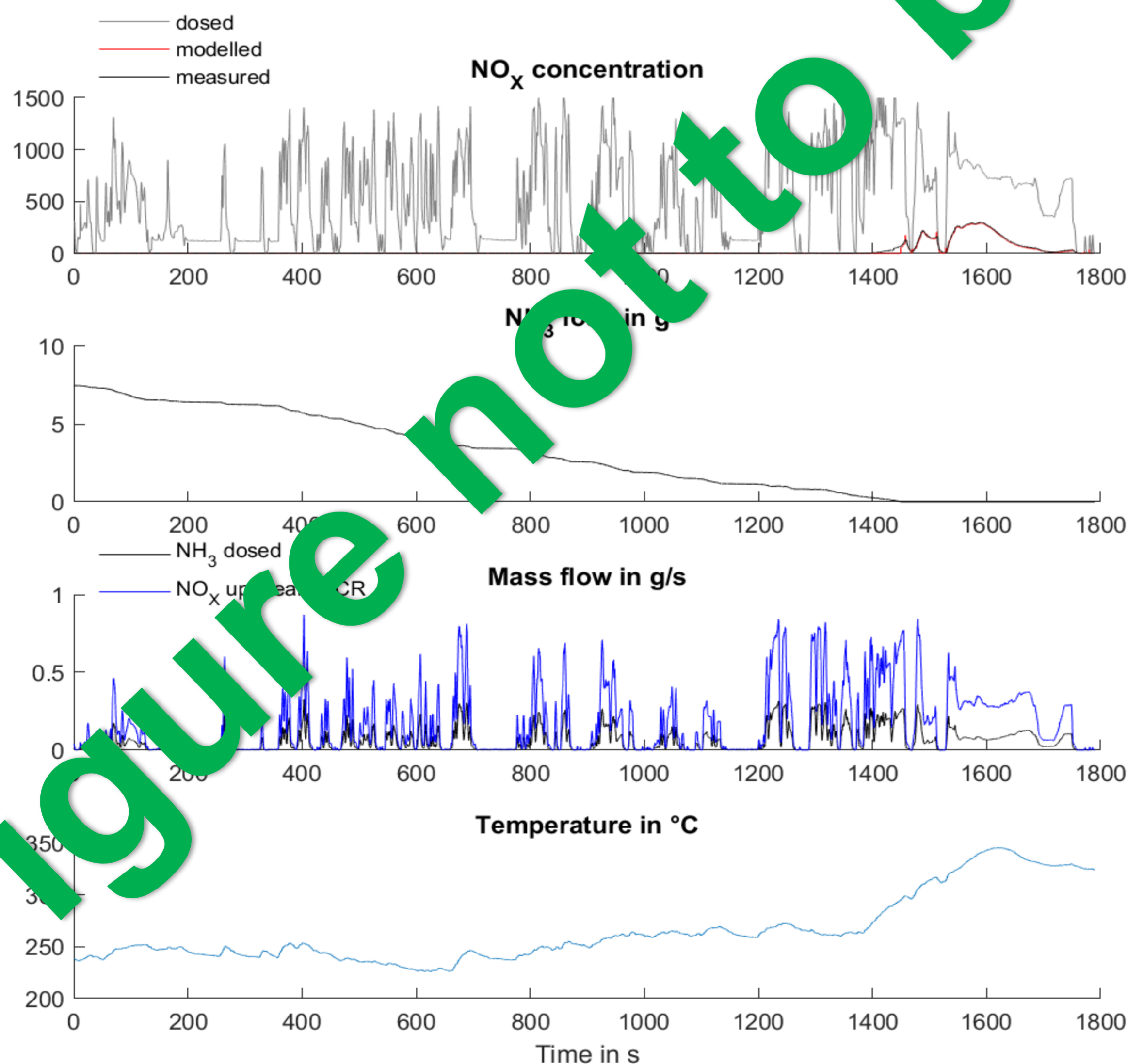
The goal of the controller's strategy is to reduce the urea slip and oxidation as much as possible to keep the consumption at a minimum.

IMPERIUM's contributions:

Based on the trajectories of the engine operation, an emission and temperature profile is estimated, from which the future condition and activity of the after treatment system will be determined. Based on this predictive information, the target load of the SCR ammonia storage will be set, considering mainly thermal events and high efficiency areas of operation. The goal of the controller's strategy is to reduce the urea slip and oxidation as much as possible to keep the consumption at a minimum. A current state-of-the-art after-treatment layout for heavy-duty application is used as baseline. The directive of the dosing controller is to get the SCR at the highest possible conversion rate while keeping the ammonia slip downstream of the catalyst to a minimum.

Impact / what's next:

Further development is carried out in the product development within FEV and Volvo.



The research leading to these results has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 608988