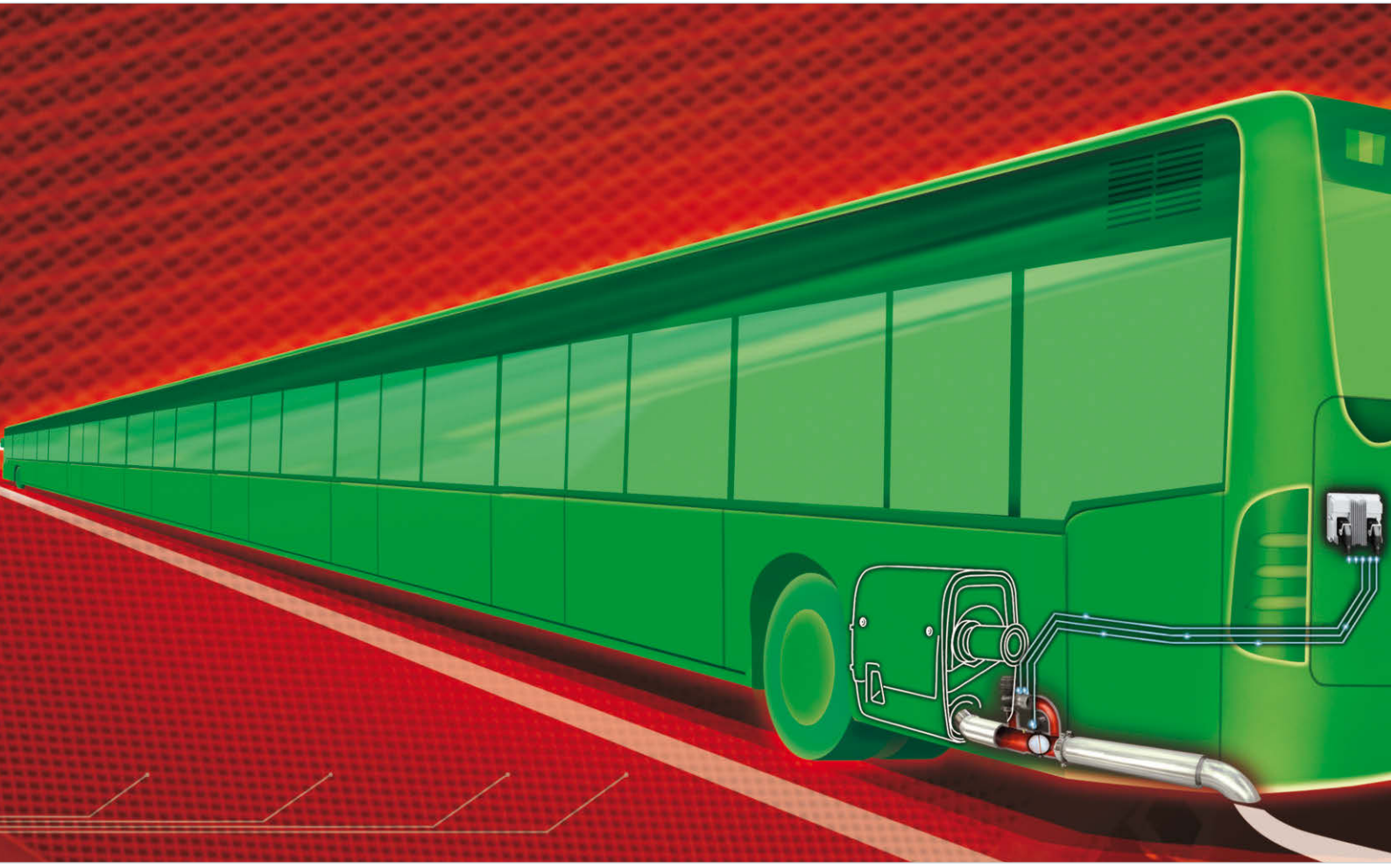
MOBILE CLEAN
TMT – Thermo Management Technology



Euro IV / V / EEV City Buses with SCR System

www.hjs.com

HJS Emission Technology

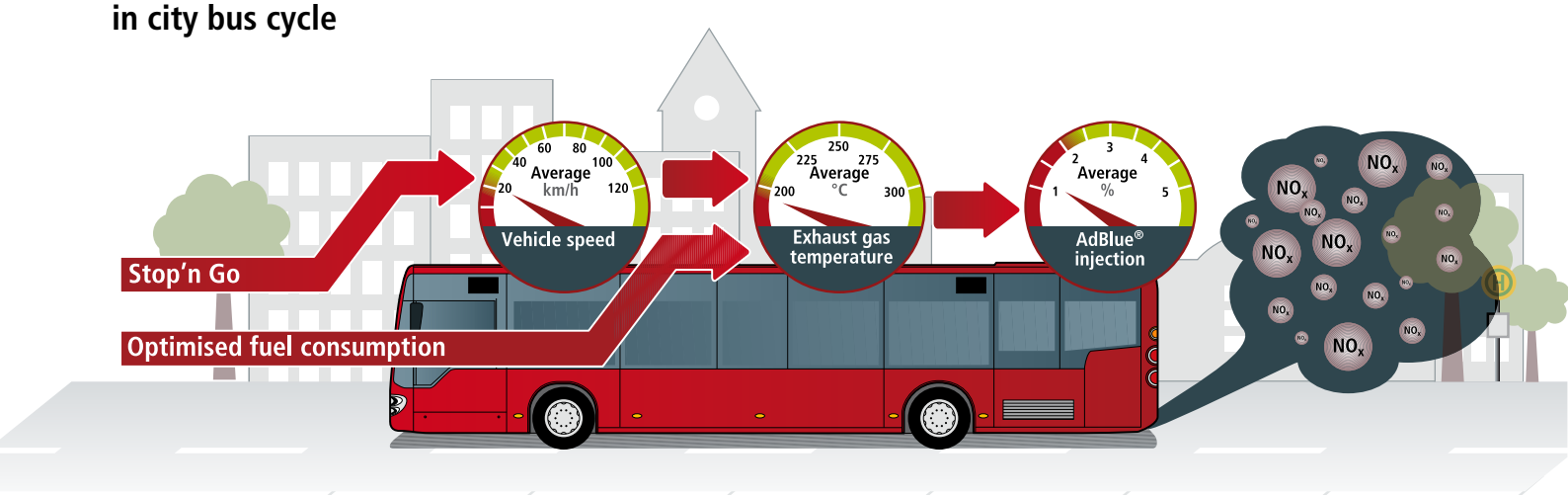
Background

Today's buses excel with their highly optimised, low fuel consumption figures.
A basic rule is the lower the fuel consumption, the colder the temperature of the exhaust gases emitted.

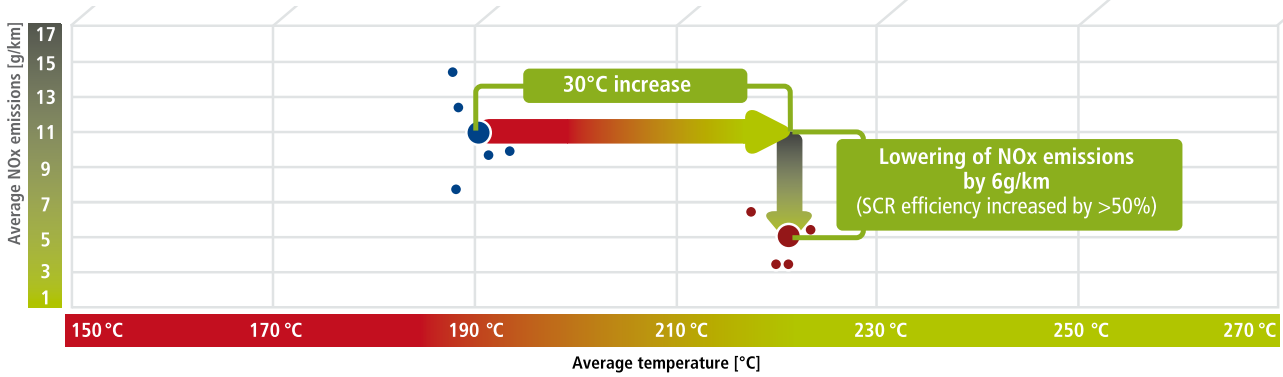
To reduce their pollutant emissions, buses are kitted out with SCR technology. Among other things, buses, especially those deployed in the inner-city environment, make umpteen halts at bus stops and frequently get stuck in traffic jams. As a result, they don't reach the levels of exhaust temperature required and NOx emissions increase.
The reason for this is the limited efficiency of the SCR system due to the low exhaust temperatures and the associated low AdBlue® injection rate.

High NOx emissions are already a problem in many of today's cities.

State-of-the-art city bus with SCR system that meets Euro IV / V / EEV requirements in city bus cycle



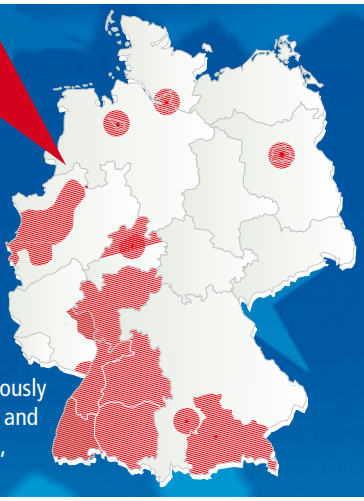
The solution – HJS TMT Thermo Management Technology



EU reprimand – "List 33" and non-compliance with NO_2 limits

Decision of the EU Commission on 20 February 2013

Greater Berlin • Freiburg metropolitan area • Mannheim / Heidelberg metropolitan area • Stuttgart metropolitan area • Karlsruhe administrative area • Tübingen administrative area • Stuttgart administrative area • Greater Munich • Augsburg area • Nuremberg/Fürth/Erlangen area • Upper Bavaria excl. Munich • Lower Saxony/Bremen area • Metropolitan area I: Rhine-Main • Metropolitan area II: Kassel • District III: Central & Northern Hesse • Greater Hamburg • Thüringen 1 district • Koblenz/Neuwied • Mainz • Worms/Frankenthal/Ludwigshafen • Wuppertal • Münster • Cologne • Hagen • Essen • Dortmund • Düsseldorf • Bielefeld • Aachen • Mönchengladbach • Rhenish lignite mining region • Duisburg • Krefeld • Urban and rural areas in North Rhine-Westphalia



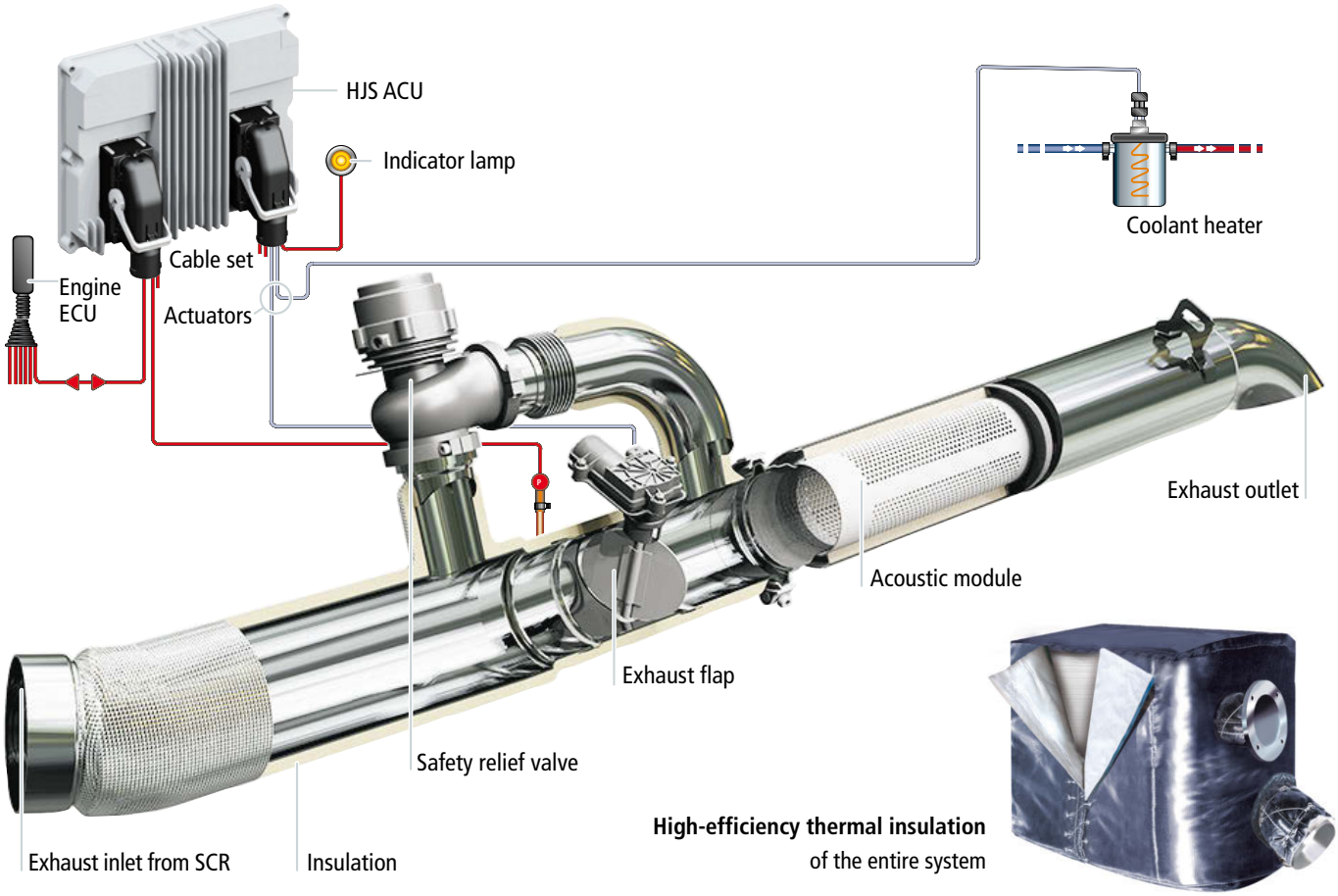
Diesel exhausts a definite cause of cancer

According to the World Health Organization (WHO), diesel fumes are more dangerous than was previously thought and they have recently been reassigned to the same class of hazardous materials as asbestos, arsenic and mustard gas. Diesel exhausts now no longer count 'merely' as "probably carcinogenic to humans" (Group 2A), but as an actual cause of the disease.

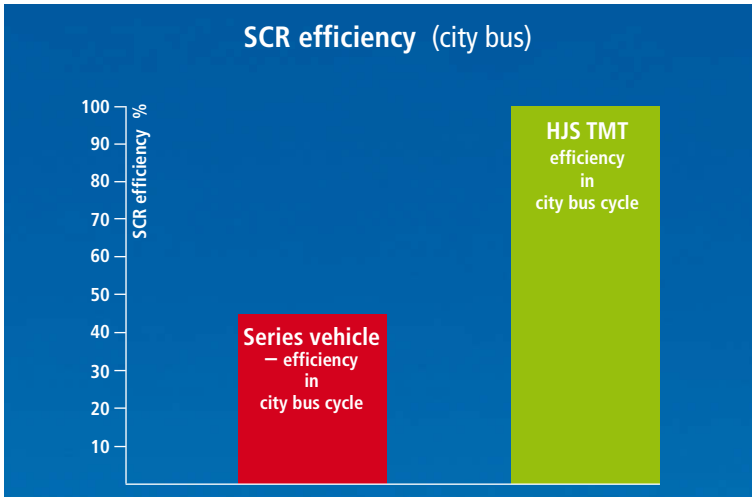
HJS TMT Thermo Management Technology

HJS's solution for achieving the best-possible reduction in urban NOx emissions is its active and passive TMT Thermo Management Technology. With this technology, exhaust-gas temperatures can be raised by up to 50°C. This in turn improves the efficiency of the SCR system and the NOx conversion rate significantly without impacting the OE's AdBlue® dosing strategy.

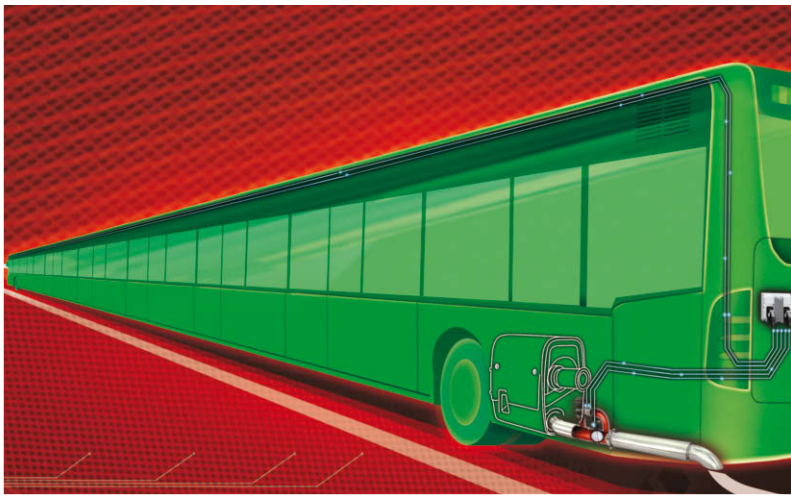
System setup – key components



High-efficiency thermal insulation of the entire system



Made in Germany



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