# **Combustion Engine** as "Range Extender"?

### Dear Reader,

If, at some time in the future, someone writes about the history of vehicle powertrains based on the topics discussed at the Vienna Engine Symposium, the year 2008 may well be seen as a turning point. More than ever before, the speakers focused on electric and hybrid drive concepts. In some papers, the internal combustion engine was even degraded to the status of a mere "Range Extender". But beyond the impressive Powerpoint presentations it was clear that, in the foreseeable future, electric drive systems were still most likely to be used for niche applications that would appeal to customers only under certain political conditions, for example driving bans for internal combustion engines in inner city areas. However, no company can afford not to be part of this development - or even to give the impression that they are being left behind.

What customers really want, what they are buying today, was made clear on the afternoon of the first day, in the numerous papers on sustainable mobility that accompanied the presentation of a wide range of new engines. The first one to be introduced was the Audi twelve-cylinder TDI. After all, a new engine with 1,000 Nm of torque has a lot of "pulling power". This is precisely the crux of the matter, which we have to resolve if we want to achieve ecologically sustainable mobility without socialistic sanctions such as driving bans. We need to ensure that there are virtually no restrictions regarding dynamics and driving pleasure. In addition to torque, there are many other factors that influence a driver's perception: the engine sound, the vehicle's centre of gravity and the startability of the engine are just some of the challenges facing full hybrids.

Just to rule out any misunderstandings: MTZ takes a positive – although not euphoric – view of powertrain electrification and its opportunities. At the same time, our editorial reports will continue to focus on the optimisation of the internal combustion engine, for example through downsizing, an issue that our cover story systematically examines.

bhannes Winterhagen Vienna, 25 April 2008



Johannes Winterhagen Editor-in-Chief

## MTZ worldwide 0612008

Founded 1939 by Prof. Dr.-Ing. E. h. Heinrich Buschmann and Dr.-Ing. E. h. Prosper L'Orange

Organ of the Fachverband Motoren und Systeme im VDMA, Verband Deutscher Maschinen- und Anlagenbau e. V., Frankfurt/Main, for the areas combustion engines and gas turbines

Organ of the Forschungsvereinigung Verbrennungskraftmaschinen e. V. (FVV) Organ of the Wissenschaftliche Gesellschaft für Kraftfahrzeug- und Motorentechnik e. V. (WKM)

Organ of the Österreichischer Verein für Kraftfahrzeugtechnik (ÖVK)

Cooperation with the STG, Schiffbautechnische Gesellschaft e. V., Hamburg, in the area of ship drives by combustion engines

#### EDITORS-IN-CHARGE

Dr.-Ing. E. h. Richard van Basshuysen Wolfgang Siebenpfeiffer

### SCIENTIFIC ADVISORY BOARD

Prof. Dr.-Ing. Michael Bargende Universität Stuttgart Dipl.-Ing. Wolfgang Dürheimer

Dr. Ing. h. c. F. Porsche AG Dr. Klaus Egger

Dipl.-Ing. Dietmar Goericke Forschungsvereinigung Verbrennungskraftmaschinen e.V.

Prof. Dr.-Ing. Uwe-Dieter Grebe GM Powertrain

Dipl.-Ing. Thorsten Herdan VDMA-Fachverband Motoren und Systeme Prof. Dr.-Ing. habil. Günter Hohenberg TU Darmstadt

Prof. Dr.-Ing. Heinz K. Junker Mahle GmbH

Prof. Dr. Hans Peter Lenz ÖVK

Prof. Dr. h. c. Helmut List AVL List GmbH

Prof. Dr.-Ing. Stefan Pischinger FEV Motorentechnik GmbH

Prof. Dr.-Ing. Ulrich Seiffert TU Braunschweig

Prof. Dr.-Ing. Ulrich Spicher WKM

Dr.-Ing. Gerd-Michael Wolters MTU Friedrichshafen