

Advanced On-Road Powertrain Systems – Trends and Outlook

Speaker: Dr. Peter Prenninger, AVL List GmbH



In the light of future further stringent emission limitations – both CO₂- and toxic emissions, the development of advanced on-road powertrain systems is of utmost importance. The foreseeable emissions limitations will be presented and long-term prospects given regarding the mix of powertrain technologies.

Improvement potentials of combustion engine technologies in combination with most advanced transmissions will be discussed followed by the wide span of hybrid systems. The limitations of pure battery electric powertrains will be analyzed and solutions presented which enable an extension of the driving and, thus, application range of electric propulsion systems. The outlook will end in an analysis of the potential of fuel cell systems as on-board electricity supply for electric vehicles.

About the speaker: After finishing the master degree in engine engineering at University of Technology Graz in 1984, Peter Prenninger joined the Institute of Mechanics at University Innsbruck where he received his PhD from University Innsbruck in 1987. In the following years Dr. Prenninger continued his research at Kyoto and Beijing University in the course of an Austrian Erwin Schrödinger scholarship. In 1989 he joined AVL List GmbH leading the applied thermodynamics team from 1996 to 1999 and subsequently until 2003 managing research and innovation of the passenger car powertrain systems business division. Since 2004, Dr. Prenninger is responsible for research future technologies of the entire powertrain development business division including AVL's fuel cell department. Dr. Prenninger is lecturer at the University Rostock and Tongji University Shanghai as well as author of two books and large number of publications and patents.

