





Special Issue Reprint

# **Tribology in Vehicles**

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With the requirement on all forms of transport to become faster, quieter and generally more efficient the contribution that best practice tribology can make is becoming increasingly evident. Although great achievements have been made on the energy efficiency and performance of batteries and electric powertrains there is still much work to do on the design of novel brakes, bearings, transmissions, lubricants and lubrication systems in hybrid or pure electric road vehicles. In addition, the friction and wear problems associated with both road and rail vehicles—for example between the tyre and the pavement or wheel and rail—continue to demand attention from tribologists and vehicle manufactures. Vehicle pollution is closely related to tribology, not only engine emissions but vehicle noise at both low and high frequencies, and braking and tyre particle generation: all of these problems will require innovative solutions involving elements of tribology. While pure electric vehicles no doubt will become mainstream in the future, it is still the case that by 2040 autos equipped with internal combustion engines may well account for a significant proportion of the global annual sales of passenger vehicles so that further work on the efficiencies of IC engines is still relevant.





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