TRIBOLOGY GOLD MEDAL AWARD 2017

Kenneth Holmberg from VTT Technical Research Centre of Finland Ltd won the highest international award in the tribology field.

The Institution of Mechanical Engineers, London, has announced the winner of the 2017 Gold Medal for Tribology is **Professor Kenneth Holmberg** of VTT Technical Research Centre of Finland Ltd, one of the leading research and technology organisations in Europe.

On 20 December, the Tribology Trust presented VTT's Kenneth Holmberg with the most highly prized award in the field, the Tribology Gold Medal Award, for his long-standing, major achievements in material and friction research. The award was presented by Her Majesty's Ambassador to Finland in a ceremony at the British Embassy in Helsinki on 20 December 2017.

Professor Holmberg's scholarship, research and innovative applications have resulted in major economic advances for industrialised nations. Tribology is a multidisciplinary research area which involves the study of friction, wear and lubrication-related phenomena on contact surfaces. The impacts of Holmberg's research can be seen, for example, in lower energy consumption by machinery. "Friction accounts for 20% of all energy consumption in the world. When friction is reduced, less energy is consumed. This is an excellent way of combating climate change," says professor Holmberg.

Professor Holmberg, a Vice-President of the International Tribology Council, has made outstanding contributions in three main areas of the field. Firstly, he has been foremost in the development of coatings to structural materials to improve their tribological properties and hence economic performance. His book, "Coatings Tribology", with Allan Matthews, has become the classic in the field. Secondly, he has devoted much time and study and has developed invaluable insights in the field of engineering maintenance. He has been a leader in the new field of E-maintenance, publishing a book with this title in 2010 and continuing to conceive and lead projects on dynamic maintenance. Thirdly, he has made major contribution to the field of energy conservation in passenger vehicles, publishing a seminal paper "Global energy consumption due to friction in passenger cars" in 2012.

Holmberg has also contributed to the development of modelling and digital design. Digitalisation is transforming the development of materials and enabling precise customisation. A computer can be used to design a digital model of the mechanical component and its material to which intelligent features such as sensors are added. These will detect cracks that appear in the machine and repair them automatically. Optimal surface shaping and thin coatings can reduce friction

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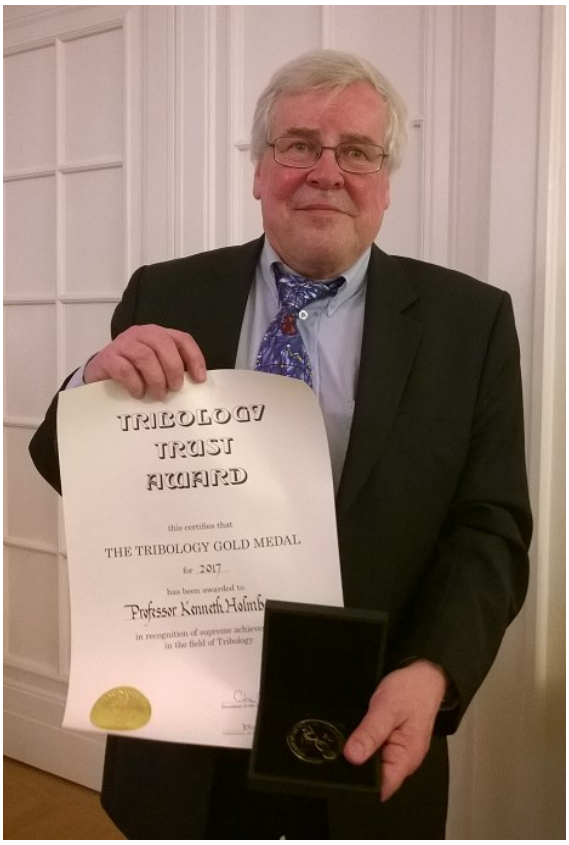
by 50%. "We have now achieved surfaces that are one hundred times more slippery than 20 years ago", says Holmberg. VTT's ProperTune material design tool accelerates various design stages, shortening time-to-market. In addition, machines last longer and expensive downtime is avoided. Artificial intelligence is being applied increasingly often, due to the large data quantities needed for digital design.

The Tribology Gold Medal is the supreme international award in tribology - the study, understanding and application of problems in friction, wear and lubrication that are of enormous economic significance in an industrial society. It is awarded for contributions to tribology that are considered to have been outstandingly meritorious. The Tribology Gold Medal Award is also known as the "Tribology Nobel prize", because it is awarded in a manner similar to the Nobel prize procedure. The prize was presented for the first time in 1972 and has been awarded to 38 people from 12 countries. Holmberg is the first Finn to be awarded the prize.

The Medal is award by the Tribology Trust, an independently-funded trust administered by the Institution of Mechanical Engineers, London. The association has a total of 115 000 members in 140 countries. The Awards Committee consists of nominees from the Institution of Mechanical Engineers, the Royal Aeronautical Society, the Institution of Engineering and Technology, the Institute of Materials, Minerals and Mining. The Chair is chosen to be a Fellow of both the Royal Academy of Engineering and the Royal Society. The achievements of the candidate on the science and technology of tribology and on his or her influence on education and industry are all taken into consideration.



Kenneth Holmberg was awarded with the Tribology Gold Medal Award.

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