

Tuesday Morning, April 24, 2018

Exhibitors Keynote Lecture

Room Grand Hall - Session EX

Exhibition Keynote Lecture

11:00am **EX-1 Enabling Tomorrow's Transportation Mobility with Surface Technology**, *Nazlim Bagcivan*, Schaeffler AG, Germany **INVITED**

Among the focus areas of future transportation needs are the development of environmentally-friendly vehicle drive components including the engine, transmission, and axels. Environmentally-friendly vehicle drive systems are one of the major factors determining energy efficiency and the environmental compatibility of transportation. Therefore, development of energy-efficient drive systems is a high priority. In addition to other measures, improvement of tribological conditions along the entire drive systems of passenger cars and commercial vehicles will provide longer component lifetimes and decreased vehicle emissions.

With modern surface technology, the properties of vehicle drive system components can be adjusted in order to minimize friction losses and meet more stringent environmental requirements. Innovative vacuum coating technology has the ability to reduce vehicle CO₂ emissions by lightweight design, reduce friction losses in all drive system components, and therefore provide improved fuel efficiency.

A sustainable reduction of CO₂ emission can only be achieved if friction reduction is ensured during the entire lifetime of the coated product. Therefore, the goal can be summarized as "minimum friction at highest wear resistance." For innovative products, it is extremely important to consider coatings as design elements and integrate them into the product development process at a very early stage. Development of tribological coatings has to be accomplished within a holistic and design-oriented context.

Close collaboration between research and production teams, industry, and academia is required to achieve such a challenging goal. In the future, the role of coatings as a vital design element will also increase in many other technical applications.

Author Index

Bold page numbers indicate presenter

— B —

Bagcivan, N: EX-1, **1**