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VALUE-BASED SCIENCE: WHAT WE CAN LEARN FROM MICRO- AND NANOTRIBOLOGY

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Generally, scientists state they are researching facts that are independent from values. This is only partly true. Our values influence where we turn our attention to, and in which depth, also in science. Previously, progress and technology were mainly seen as a means towards greater comfort, wealth and ease of living. This has changed. Increasingly people, amongst them many scientists, realize that the Earth is not a provider of endless resources, and that we deal with a fragile planetary system that has limited boundaries. Not everything that can be done for the sake of progress and financial gain should be done. Global ethics is not a field of some remote philosophical circles, but indeed identified by the Millennium Project as one of the major global challenges for humankind. The establishment of a system of global ethics is not easy. Different values, religions, ethnicities, motivations, goals and driving forces need to be integrated into one system if we are to successfully tackle this global challenge. Tribology is inherently application oriented, bridging from research and development to applications in the real world, guided by policies and international standards. Specifically micro- and nanotribology, being located at the important region of the converging science and technology "of the small", can give

valuable inputs and best practice examples on how to integrate values in science, and how to do research and development that is good, for the wellbeing of all. One further question that will be addressed in the presentation is the social influence of scientific values, namely the idea that science itself is a model for all problem solving. Science cannot solve all problems we are currently facing, and we have to critically evaluate the values that enter the general public’s view on what science and engineering can and should do – and what not.