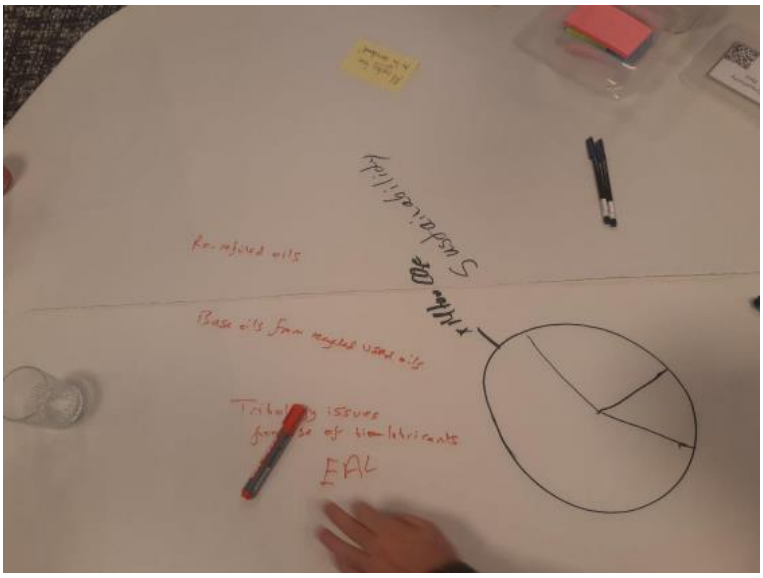
Editorial December 2021

# ELGI-STLE Tribology Exchange Workshop returned to meeting modus!

In 2018, ELGI & STLE combined their activities in Europe to conduct a Tribology Training Course. A year later, Hannes Grillenberger of Schaeffler and Manfred Jungk of MJ Tribology set up a first European Tribology Exchange Workshop in Amsterdam. The aim of the workshop is to allow as much interaction as possible between seasoned and early career individuals in the field of Tribology. The success of that first workshop is based on feedback that it is one of a kind and that experts could meet peers they had not previously encountered and received new ideas. For known reasons, the next Tribology Exchange workshop did not take place in autumn 2020 but was held virtual in April 2021 having been named one of the most interactive meetings in front of a computer screen. The 2021 Autumn Tribology Exchange Workshop took place on October 28th and 29th. Hannes and Manfred assembled the programme with regular (Vasilios Bakolas of Schaeffler, Dirk Drees of Falex, Marc Ingram of Ingram Tribology, Florian Rummel of Netzsch, Ian Taylor of University of Central Lancashire, Deepak Veeregowda of Ducom, Fabrice Ville of LaMCoS Insa Lyon, Mathias Woydt of Matrilub) and new (Ravindrakumar Bactavatchalou of Freundenberg, Stefanie Hanke of University Duisburg-Essen, Joe Kaperick of Afton Chemical, Arnaud Ruellan of SKF) speakers. Hannes kicked off prompting all participants to answer on “what they want to discuss/learn about” and “what would put a smile on their faces”.

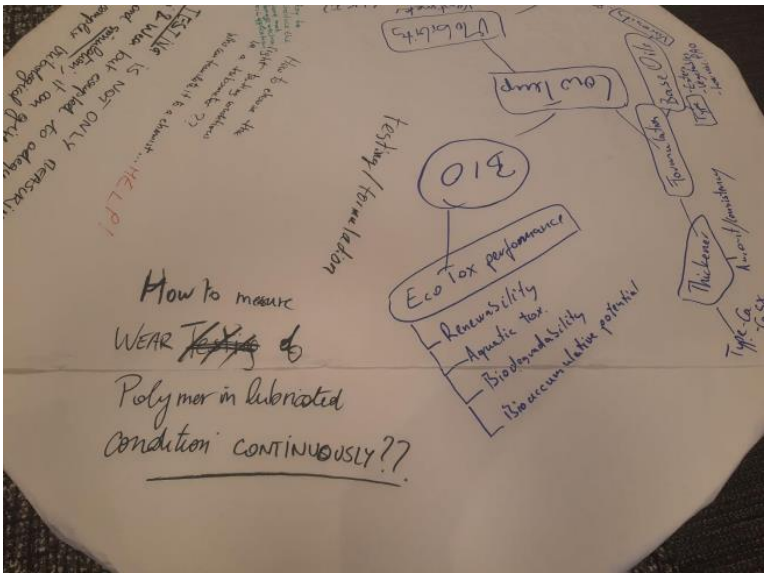
Manfred led through the programme topics with a focus on Tribology and Sustainability. “A First Approximation of the Global Energy Consumption of Ball Bearings” revealed that changing a component with lower friction has a lower carbon footprint compared to its manufacturing. The presentations on “ELT Test

Rigs for e-Grease and e-Fluids" and "Importance of Electrical Properties in Tribometry" showed that challenges ahead will require more research. The chemistry was covered by the topics "Review of Fuel-Lubricant Interactions" and "Possibilities of Base Oils and Additives to reduce Friction". The tribological aspects were presented with views on "Sealing and Tribology" and "Reconditioning Lubricating Oils: The Tribological Performance Perspective". "New Metrological Challenges Arising from Sustainability on Tribometry" and "A Simple Efficiency Test for Lubricants using a Tribometer" suggests that generating reliable data is eminent for the future. The importance of fundamental knowledge on friction and wear were emphasised with presentations on "Gear Tooth Friction Analyses" and "Effect of Microstructure and Surface State on Sliding Wear and Cavitation Erosion Resistance of Metals". The topic "How to attract and connect young tribologists in Europe?" sparked lively discussions. The overview on "Material Efficiency through Wear Protection – The Contribution of Tribology for Reducing $CO_2$ Emissions" mirrored the fact that reducing the carbon footprint of developed countries will not be enough to balance the demand of energy in the developing countries.



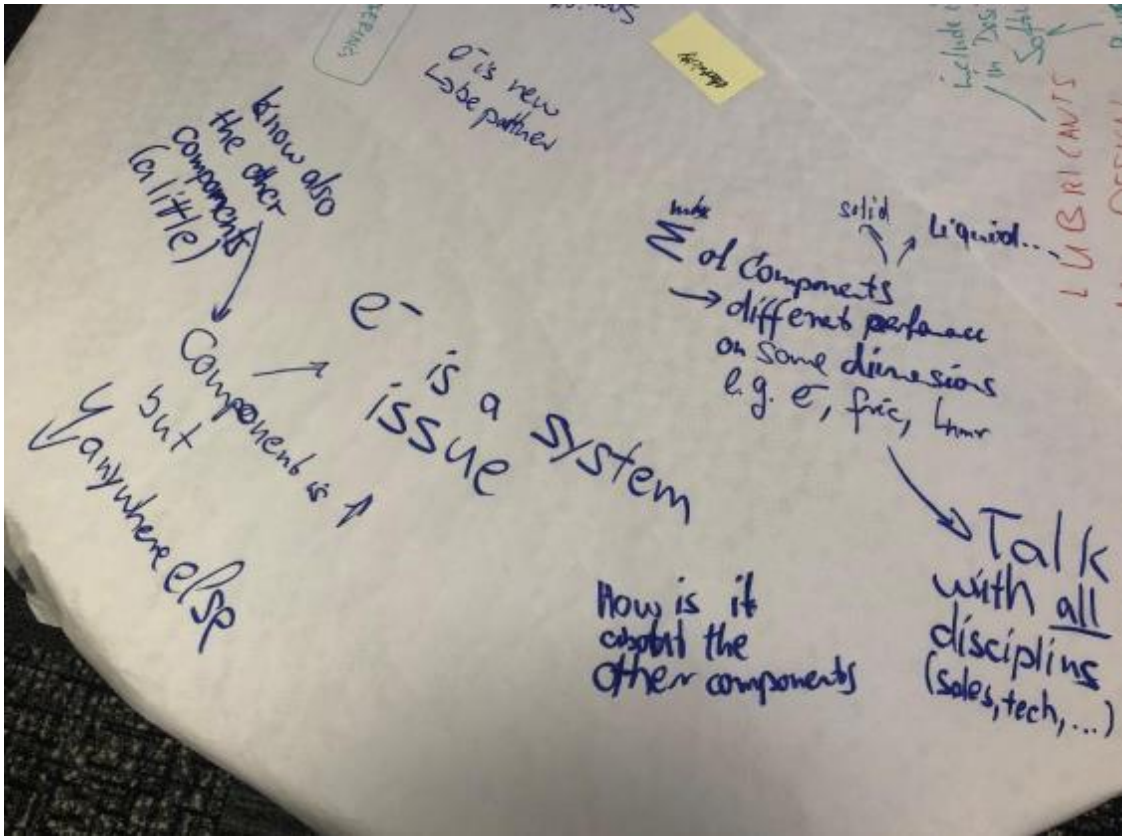
DRT topic "How to connect (young) Tribologists"

The presentations delivered food for thought to stimulate the discussion round tables (DRT's). The topics were debated thoroughly as can be seen in the 5 exemplary pictures below. Hannes's energisers throughout the 2 days were often much longer than the planned 5 minutes. For that livelihood, all presenters and attendees need to be congratulated.

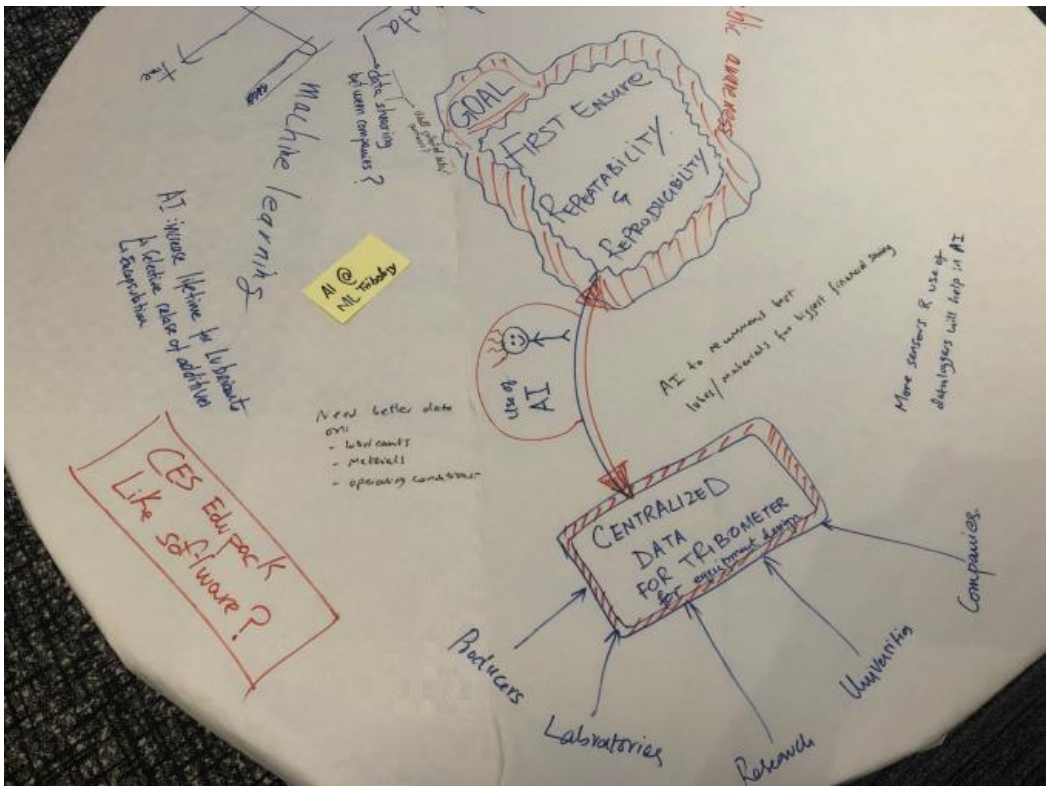



DRT topic "Sustainability"


DRT topic “Grease and Testing”




DRT topic “Electricity”



DRT topic “Machine Learning and AI”

As can be seen from the feedback flip chart below, we look forward to more Tribology Exchange Workshops to come and, by using the wishes, we all can make the next one even better. Such events can only be made possible through the tremendous logistical efforts of Carol Koopman from ELGI Amsterdam and the staff from STLE HQ Park Ridge, Illinois.