Tribology Project 2010

For several years SAIT has been trying to initiate a study of the cost of non conformance with the basics of tribology in South Africa. We are now exceptionally proud to announce that a study is being sponsored by the Department of Science and Technology.

Patrick Swan

The objective of this study is to determine the cost and energy saving potential of tribology to South Africa. Since tribology is about the understanding and control of friction, and friction consumes energy and generates wear, the objective is to determine the extra cost of energy lost due to friction, and the cost of wear that could otherwise be reduced or eliminated, since wear consumes machinery.

Because tribology is universal it covers all of industry, both government and private sector, and all forms of mechanisation. The objectives of this study will be to establish both the costs and potential savings by industry type and by application, considering the following cost areas:

- Energy, consumption and savings potential
- Environment
- Maintenance
- Replacement costs
- Breakdowns
- Potential to increase component life
- Potential to increase equipment and machinery utilisation from greater mechanical efficiency.

The outcome of this study will then be to benchmark the country and highlight areas of concern where greater effort is required, for example in certain industries or applications, in general education, specific education, or research and development.

Methodology

Because data for this tribology project must come from so many diverse industries and applications, the initial approach will be by questionnaires circulated through the membership of appropriate bodies, such as the SAIT, the South African Institution of Mechanical Engineering (SAIMechE), the Engineering Council of South Africa (ECSA), and the Institute of Road Transport Engineers (IRTE).

After processing the data generated from these questionnaires, further studies will be conducted in specific industries that may be highlighted, and questionnaires will be followed up with personal interviews where possible or required.

Tertiary education standards

A team will be established to evaluate the current levels of teaching and curricula of secondary technical and tertiary institutions. Based on the data developed by this project, shortcomings in the current curricula will be highlighted and appropriate recommendations to overcome these shortcomings will be tabled.

Timeline

The agreed deadline for this project is July 2010.

The SAIT Tribology Project 2010 is an ambitious project that will probably ultimately affect more people in more ways than we realise. To complete this project will take a great effort by many people; if anyone feels that they have any experience or specialist knowledge to contribute to this project, or would like to volunteer their help in any way please contact our secretary at secretary@sait.org.za.

Patrick Swan
President, SAIT