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eNtsa**

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Subject: Longest friction stir weld attempt in Africa

eNtsa will be attempting the longest weld in Africa using the Friction Stir Welding technique. This event will take place 06 October 2011, 15:00 at the Motive Tooling warehouse. The weld is envisaged to be eight meters (8m) long using five millimeter (5mm) aluminium plates on a newly developed platform by the NMMU for GRW.

During October 2009 the group was commissioned by GRW, a road tanker manufacturer based in the Western Cape, to design, develop and manufacture a FSW platform, this platform will be used in this attempt as part of the pre-commission evaluation phase. GRW, under the leadership of the CEO and CFO Gerard and Wentzel van der Merwe, established themselves as one of South Africa's biggest and most trusted suppliers of road tankers to the chemical transport industry. Furthermore GRW is well-known within Southern Africa and United Kingdom for their exceptional services and delivery of high quality products. The development of the FSW Platform for GRW is currently one of the larger eNtsa's projects and is envisaged to continue into the near future as part of the process of transferring FSW technology to industry.

eNtsa is a technology station within the Technology Innovation Agency (TIA), an initiative of DST to accelerate innovation and technology transfer. eNtsa, in accordance with the Nelson Mandela University (NMMU) and TIA, has received various awards and recognition for developing unique and innovative engineering solutions. After ten (10) years of existence, this group is recognized as a prominent research, design and technology support centre. Services and engineering support in the field of Advance Manufacturing are provided to enterprises in the first, second and emerging economy in South Africa. The team of highly skilled engineers and researchers provides the foundation for supporting innovative process and technology development.

As the expertise of the group expanded the project scope increased and became more reflective of the broader engineering and manufacturing sector. This expansion in scope enabled opportunities for transfer of innovative technologies and applications, proudly developed within the NMMU.

This NMMU research within the field of friction processing are internationally recognized and has developed a number of new applications with industrial partners. Friction Stir Welding, one of the first technologies to be researched by the group is seen as an attractive alternative joining technology for the manufacturing industry. This welding technique uses a rotating non-consumable tool to generate frictional heat and form a weld along the joint line during traversing. The frictional heating results in a plasticized region (soft material) beneath the tool shoulder and around the pin. The joint line temperature however never exceeds the melting point of the material being welded and therefore the process is characterized as a solid state welding process. Nevertheless, the forces generated by the rotation and the translation of the tool on the material are large enough to transport some material around the tool from either side of the joint line to be forged together creating a permanent joint.

The success of the longest welding attempt event will be the stepping stone to transfer the technology for South Africa and the first commercial roll-out of Friction Stir Welding for Africa.

End.