



## MEDIA RELEASE

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### **NEF & IDC to lead the development of Titanium & Zirconium Mineral Beneficiation Complex**

**RSA Led Venture Plans a US\$1.2 billion Titanium Venture for South Africa**

Leading development funders, the National Empowerment Fund (“NEF”) and the Industrial Development Corporation (“IDC”), have joined hands with Magnesium and Metals Ltd, an American and Russian consortium, as well as TJTI (Pty) Ltd, a South African company, which together have invested at least R40 million into a project developed by a consortium of angel investors called Rare Metals Industry (“RMI”) Ltd to conclude a pre-feasibility study that is aimed at constructing an unprecedented and world-first integrated pure metals refinery plant producing Titanium, Zirconium, Magnesium and Silicon with the respective derivative products.

Depending on the final outcomes of the feasibility studies, the full capital cost of the project is estimated to be over US\$1.2 billion, in what is a groundbreaking venture from a South African and global perspective.

“Titanium, which is one of the major products of this venture, is renowned as the *new millennium metal* because of its highly sought-after qualities that include its exceptional strength-to-weight ratio, low density, high thermal conductivity, biocompatibility and natural corrosion resistance. Titanium became popular in the late 1950’s with the commercialisation of the extraction technology. Its rise to prominence was through its use in aerospace and the defence industry, which is how it has earned the name ‘*space age metal*’. It was instrumental to the technological improvement in the jet engine and airframe material designs”, explains Donovan Chimhandamba, RMI’s Project Chairman and Head of Strategic Projects Fund at the National Empowerment Fund.





The Pre-feasibility Study (“PFS”) for the project, which is currently underway and is valued at R40 million, has been funded equally by the NEF, IDC, Magnesium and Metals Ltd, and TJTI. SMWE Engineering of Russia, who have more than 15 years’ experience in the beneficiation of Titanium, have been contracted to conduct the technical PFS on behalf of the investors in the project. The project gained momentum when RMI secured a technology and licence agreement with SMWE and other Russian Technology institutes in 2009, adds Chimhandamba.

South Africa has an abundance of mineral resources and is the world’s second largest producer of Titanium slag, which is a non beneficiated mineral. Titanium, a rare metal which is difficult and expensive to produce, is used in high-technology industries such as aerospace, nuclear and chemical processes.

Thus far, in South Africa, the bulk of these specialist minerals have been mined and shipped to international markets primarily in their raw form, before further value is added during refinement. International companies mainly in Russia, China, Australia and USA then beneficiate the minerals, produce various metal components and sell them back to global markets, including South Africa, at higher prices. The ability to extract these metals in their pure form is capital intensive, and thus holds enormous international demand. Access to the pure minerals furthermore creates the potential for local finished goods industries to emerge, such as production of micro-chips for computers and mobile phones, lightweight alloys for aerospace, semiconductors, and various products for the pharmaceuticals industry.

“This is a major step forward in terms of developing a strong Titanium metal beneficiation cluster which will be underpinned not only by its natural abundance in South Africa, but as a metal that is increasingly becoming a resource of choice due to its high strength-to-weight ratio, thermal conductivity, bio-compatibility and resistance to corrosion. A downstream industry is likely to emerge as a result of the RMI project which could lead to an improvement in global competitiveness through economies of scale and an increase in net value of export earnings,” says the RMI Chairman.





Part of the activities to be conducted by the PFS is site modelling with investigation at this point encompassing various sites situated within the Industrial Development Zones, simulating the various process plant integration capabilities considering that it will be the first integrated metals plant producing Titanium, Zirconium, Magnesium and Silicon, in the country. It is envisaged that at full operational capacity, the plant will produce 50 000 tons of magnesium, 15 000 tons of titanium, 8 000 tons of silicon and 2 000 tons of zirconium annually, coupled with some derivative products.

“We expect that the project will generate at least 2,800 skilled jobs during the construction phase and in excess of 5 000 permanent jobs once the plant is fully operational in 2014. Additionally, much needed skills transfer is likely to occur through our Russian partnership, further strengthening South African’s mining know-how and long term sustainability,” adds Chimhandamba.

The NEF & IDC’s participation in the project highlights the commitment to supporting government policy, namely the National Industrial Policy Framework (“NIPF”), the Competitive Supplier Development Program (“CSDP”), Mineral Beneficiation and Technology Enhancement and Industrial Innovation as lead by the Department of Trade and Industry (“DTI”), the Department of Public Enterprise (“DPE”), the Department of Minerals and Energy (“DME”) and the Department of Science and Technology (“DST”), respectively. Additionally, the participation in an early stage project, in one of the key ‘priority sectors’, ensures that government policy is mobilised at a primary level.

### For Media Enquiries

NEF	IDC
<p><b>Moemise Motsepe</b>            (Communications Manager)            083 533 4114 / 011 305-8127  <a href="mailto:motsepem@necorp.co.za">motsepem@necorp.co.za</a> / <a href="http://www.necorp.co.za">www.necorp.co.za</a></p>	
<p><b>Emmanuel Mohlamme</b>            (Communications Officer)            071 671 9560/011 305 8191  <a href="mailto:mohlamme@necorp.co.za">mohlamme@necorp.co.za</a></p>	

