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MKANGO ANNOUNCES LAUNCH OF INNOVATIVE PROJECT TO USE RECYCLED RARE EARTH MAGNETS IN ELECTRIC VEHICLES

London / Vancouver: May 28, 2020 - Mkango Resources Ltd. (AIM/TSX-V: MKA) (the "Company" or "Mkango") is pleased to announce the launch and provide further details of the Innovate UK grant funded project, “Rare-Earth Recycling for E-Machines” (“RaRE” or the “Project”) in which HyProMag Limited (“HyProMag”) is a partner. Mkango’s subsidiary, Maginito Limited (“Maginito”), holds a 25% equity interest in HyProMag.

RaRE will for the first time establish an end to end supply chain to incorporate recycled rare earth magnets into electric vehicles, whereby recycled magnets will be built into an ancillary electric motor to ultimately support the development of a commercial ancillary motor suite.

Fundamental to the Project is a patented process for extracting and demagnetising neodymium iron boron (“NdFeB”) alloy powders from magnets embedded in scrap and redundant equipment named HPMS (Hydrogen Processing of Magnet Scrap), originally developed within the Magnetic Materials Group (“MMG”) at the University of Birmingham (“UoB”) and subsequently licenced to HyProMag. In addition to HyProMag and UoB, the Project features a strong set of partners with complementary expertise:

- Advanced Electric Machines Research Limited - extensive experience in designing motors for customers including Airbus and Tevva Motors
- Bentley Motors Limited - an iconic automotive brand and part of the VW Group, one of the world’s largest car manufacturers
- Intelligent Lifecycle Solutions Limited - a global leader in the processing of electronics waste working with Fortune 500 companies and UK government agencies
- Unipart Powertrain Applications Limited - one of the largest UK based Tier 1 automotive partners and a recognised volume automotive supplier able to supply globally

The total budget for RaRE is £2.6 million, of which Innovate UK will fund £1.9 million with Project partners funding the £0.7 million balance. HyProMag’s contribution will be fully funded from the £300,000 investment made by Maginito in January 2020.

William Dawes, Chief Executive of Mkango stated: “We are very excited about this innovative project and the opportunity to scale up and commercialise the HPMS technology. We envisage that recycling of rare earth magnets will play a key role in the development of robust supply chains to catalyse and support growth in the electric vehicle sector and in other clean technologies. Further building on our platform within the circular economy and downstream markets is a key component of our strategy, underpinned by the sustainable development of the Songwe Hill rare earths project in Malawi.”

Daniel Mamadou, Executive Director of Talaxis stated: “We are excited to see this project progress to its next phase and welcome the support of all partners involved. With the increasing need for sustainably sourced..."
commodities, RaRE highlights the role that closed loops chains can play in rare earths supply, to meet the environmental and economic demands of the growing electric vehicle market. As an early participant in this project, we look forward to continuing to support the development of the rare earth recycling industry going forward, in parallel with the Songwe Hill rare earths project in Malawi.”

Nick Mann, Operations General Manager of HyProMag stated: “RaRE is an exciting project and a fantastic opportunity to prove the importance and worth of short loop recycled magnetic material. NdFeB magnets are essential for many future technologies, and the emerging electric vehicle market is of increasing importance. Being involved at this level means we not only get to work with and supply recycled magnets to some of the most innovative and globally recognised companies, but also allows us to influence the design of products with the aim of making recycling a better option in the future. I believe this is industry, technology, recycling and innovation working together at its impressive best.”

RaRE Project

Building on work completed at the UoB to devise a method to extract magnets from waste electronics, HyProMag will scale up the HPMS process and re-process the product back into new magnetic materials at pilot scale to demonstrate the quality of material which can be produced in terms of its magnetic behaviour, mechanical performance and corrosion resistance, all of which are key to the end user application. Intelligent Lifecycle Solutions will establish the scrap sorting process to maximise process efficiency and rare earth material volumes.

The recycled magnets will be built into an ancillary electric motor designed by Advanced Electric Machines Research to a Bentley Motors specification and focused on reducing the overall complexity of electrical systems in electric vehicles and designed with recycling in mind. This will be the first time that such a recycled motor will have been demonstrated. Unipart will take this motor design and use it as the core focus for the design of a flexible volume motor assembly line suitable for production volumes of 100,000 units per year.

Innovate UK will fund £1.9 million of the £2.6 million total Project costs with the balance funded by the Project partners. In the case of HyProMag, Innovate UK will contribute £657,717 and HyProMag will contribute £281,879. HyProMag’s contribution will be fully funded from the investment by Maginito in HyProMag announced on January 10, 2020, whereby Maginito invested £300,000 for a 25% equity interest in HyProMag and provided a £200,000 convertible loan facility, now fully drawn.

Maginito has an option to increase its interest to up to 49% in HyProMag and the first right to supply primary production from Songwe Hill, if required, for blending with recycled production from HyProMag, as well as product offtake and marketing rights.

Maginito is 75.5% owned by Mkango, which is completing a Feasibility Study for the Songwe Hill rare earths project in Malawi, and 24.5% owned by Talaxis Limited (“Talaxis”), a wholly-owned subsidiary of Noble Group Holdings Limited (“Noble”), which is focused on investment in and development of technology metal opportunities.

About HyProMag

The Magnetic Materials Group within the School of Metallurgy at the University of Birmingham has been active in the field of rare earth alloys and processing of permanent magnets using hydrogen for over 40 years. Originated by Professor Rex Harris, the hydrogen decrepitation method, which is used to reduce NdFeB alloys to a powder, is now ubiquitously employed in worldwide magnet processing.

In a further development, the MMG patented a process for extracting and demagnetising NdFeB powders from magnets embedded in redundant equipment using hydrogen in a process called HPMS (Hydrogen Processing of Magnet Scrap). This patent and related intellectual property is at the core of HyProMag’s business. The MMG continues to develop new research and development opportunities, cooperates widely in Europe, including a major EU project, SusMagPro, which is also focused on recycling of magnets. The directors of HyProMag all provide their expertise to the MMG and there is potential for HyProMag to gain possible future access to new intellectual property.
HyProMag’s strategy is to establish a recycling facility for NdFeB magnets at Tyseley in Birmingham to provide a sustainable solution for the supply of NdFeB magnets and alloy powders for a wide range of markets including, for example, automotive and electronics. A number of product options are being evaluated including hydrogen decrepitated (HD) demagnetised powders suitable for magnet producers, alloy ingot remelted from HD powders suitable for alloy feed or magnet production, anisotropic alloy powders (HDDR) for bonded magnets and sintered NdFeB magnets as required by the RaRE project for automotive applications.

The founding directors of HyProMag, comprising Professor Emeritus Rex Harris, former Head of the MMG, Professor Allan Walton, current Head of the MMG, and two Honorary Fellows, Dr John Speight and Mr David Kennedy, are leading world experts in the field of rare earth magnetic materials, alloys and hydrogen technology, and have significant industry experience. Following the investment by Maginito, HyProMag appointed William Dawes, a Director of Maginito and Chief Executive Officer of Mkango, to the Board of HyProMag.

For more information, please visit https://hypromag.com/

About Mkango

Mkango’s primary business is exploration for rare earth elements and associated minerals in the Republic of Malawi, a country whose hospitable people have earned it a reputation as “the warm heart of Africa”. The Company holds interests in four exclusive prospecting licenses in Malawi: the Phalombe licence, the Thambani licence, the Chimimbe Hill licence and the Mchinji licence.

The main exploration target in the 51% held Phalombe licence is the Songwe Hill rare earths deposit. This features carbonatite-hosted rare earth mineralisation and was subject to previous exploration in the late 1980s. Mkango completed an updated Pre-Feasibility Study for the project in November 2015 and a Feasibility Study is currently underway, the initial phases of which included a 10,900 metre drilling programme and an updated mineral resource estimate, announced in February 2019. In March 2019, the Company announced receipt of a £7 million (C$12.3 million) investment from Talaxis to fund completion of the Feasibility Study. Following completion of the Feasibility Study, Talaxis has an option to acquire a further 26% interest in Songwe by arranging financing for project development including funding the equity component thereof.

The main exploration targets in Mkango’s remaining three 100% held licences are, in the Thambani licence, uranium, niobium, tantalum and zircon, in the Chimimbe Hill licence, nickel and cobalt, and in the Mchinji licence, rutile, nickel, cobalt, base metals and graphite.

Mkango also holds a 75.5% interest in Maginito with the balance owned by Talaxis. Maginito is focused on downstream opportunities relating to the rare earths supply chain, in particular, recycling and other innovative technologies for the production of neodymium alloy powders and magnets used in electric vehicles, wind turbines and other industries geared to decarbonisation of the economy.

For more information, please visit www.mkango.ca.

About Talaxis

Founded in 2016, Talaxis is a wholly-owned subsidiary of Noble Group Holdings Limited and invests in and develops projects that are related to technology metals, with a special focus on rare earth elements. Talaxis focuses on battery and electric vehicle materials such as nickel, lithium, graphite and vanadium. Talaxis has supply chain partners in the upstream and midstream segments, and also focuses on research and development solutions for industrial consumers in the downstream segment. Talaxis prioritises sustainable ventures with a strong emphasis on corporate social responsibility. These include projects that contribute to the decarbonisation of the economy and that are aligned with the United Nations Sustainable Development Goals.

For more information, please visit www.talaxis.com.

Market Abuse Regulation (MAR) Disclosure
Certain information contained in this announcement may have been deemed inside information for the purposes of Article 7 of Regulation (EU) No 596/2014 until the release of this announcement.

Cautionary Note Regarding Forward-Looking Statements

This news release contains forward-looking statements (within the meaning of that term under applicable securities laws) with respect to Mkango, its business and the Project. Generally, forward looking statements can be identified by the use of words such as “plans”, “expects” or “is expected”, “scheduled”, “estimates” “intends”, “anticipates”, “believes”, or variations of such words and phrases, or statements that certain actions, events or results “can”, “may”, “could”, “would”, “should”, “might” or “will”, occur or be achieved, or the negative connotations thereof. Forward looking statements in this news release include statements with respect to the global market for rare earth metals the Company is exploring for, completion of the feasibility study for Songwe, investments by Maginito in Hypromag contemplated in the agreement between Maginito and HyProMag and of the plans and results with respect to the Project, as well as plans for Tyseley and first commercial sales from Tyseley. Readers are cautioned not to place undue reliance on forward-looking statements, as there can be no assurance that the plans, intentions or expectations upon which they are based will occur. By their nature, forward-looking statements involve numerous assumptions, known and unknown risks and uncertainties, both general and specific, that contribute to the possibility that the predictions, forecasts, projections and other forward-looking statements will not occur, which may cause actual performance and results in future periods to differ materially from any estimates or projections of future performance or results expressed or implied by such forward-looking statements. Such factors and risks include, without limiting the foregoing, governmental action relating to COVID-19, COVID-19 and other market effects on global demand for the metals and associated downstream products for which Mkango is exploring, researching and developing, the positive results of a feasibility study on the Project and delays in obtaining financing or governmental or stock exchange approvals. The forward-looking statements contained in this news release are made as of the date of this news release. Except as required by law, the Company disclaims any intention and assumes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. Additionally, the Company undertakes no obligation to comment on the expectations of, or statements made by, third parties in respect of the matters discussed above.

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