

Lomiko and Graphene 3D Labs gain a foothold on the future 'ink' of 3D Printing

☒ **Lomiko Metals** (TSX.V: LMR; PINKSHEETS: LMRMF; FRANKFURT: DH8B) announced that its partner 'Graphene 3D Labs' (3D Labs), based in New York, has filed a provisional patent application to use graphene-enhanced material in 3D printing, a company whose main activity is to develop and produce graphene-enhanced materials for 3D printing. The patent specifically involves the creation of reasonably priced graphene-infused filaments. 3D Labs 'exclusive relationship with Lomiko gives it a reliable and easy access to the graphite miner's 'Quatre Milles' property in Quebec. The graphite is then used to produce consistent quality graphene nanoplatelets. The development of Graphene is one of the main factors accounting for the global interest in natural flake graphite. Graphite demand is expected to top 1.6 million tons at the end of the decade; more significantly, that demand will feature an increasing share of flake graphite because of the numerous future technology applications that require it.

Graphene is an allotrope of carbon having a honeycomb shape. It is thin, flexible and resilient and it is extremely light. While, 3D Labs has been very pleased by its research to date, the company expects far more significant results in the near future and given the stakes involved with such a revolutionary material, the impact of its research will be felt worldwide. 3D Printing is another revolutionary technology involving "the creation of three-dimensional, solid objects from a digital file, of virtually any shape." 3D printing requires the use of polymers; however, when these polymers are combined with graphene, they acquire far superior properties in mechanical strength and conductivity. 3D Labs' technology is especially practical in this sense because it allows for the direct use

of graphene infused, or enhanced, polymers in a single printing (manufacturing) allowing for the production of ready to use, functional electronic devices using 3D printing.

Why should investors care about this? 3D printing is finding an ever longer list of applications; one of the most promising and wide scale is the printing of electronic circuits, sensors or batteries (themselves being enhanced by graphite and graphene). Meanwhile, the possibilities for 3D printing seem endless and range from the aforementioned sensors to pasta, sweets, bras, Lego bricks , dentures and even weapons. 3D printing made headlines in 2013 but the technology is still quite expensive, so efforts such as those made by 3D Labs to enhance the technology by expanding its range of use in very high-value added applications is very significant. A few years ago 3D printing was a tool a few enthusiasts. Now, the technology has started to make its way into everyday life.

3D printing will play an important role in the future; the question is really how long it will take to make a breakthrough in the mass market. While 3D Labs is focusing on the materials for the printers, the actual 'printer' technology itself is advancing. One of the pioneers is MakerBot, which relies on relatively cheap models for consumers. Stratasy, a former competitor, bought the company last year for several hundred million dollars. Worldwide, there are a growing number of specialized stores that can print items to order. A start-up, 'Zeus', wants to bring a kind of 3D fax machine to the market and in 2013 printed parts were assembled together to produce an actual working gun.

The big box machines draw at trade fairs and at hacker conference curious glances.

In Italy, one of the largest pasta manufacturers, Barilla, wants to use 3D printing to make pasta noodles. Gartner, a major printer manufacturer, expects a rapid growth of 3D printing. In 2014, market researchers expect that some 98,000 3D printers will be sold with the number rising to 430,000

units by 2016.

3D printing cannot be said to have matured yet, but it is like the personal computer in its early days, which means that it should see a very sharp rise in demand as the technology become more available and cheaper through competition. The partnership between 3D Labs and Lomiko is strategic in the sense that it focuses on materials that will become ever more sought after regardless of how the actual 3D printing technology develops. Consider, in common 2D printing, where manufacturers make their money these days: is it the actual machine or the ink? It is the ink and by a huge margin. 3D Labs and Lomiko, then, have secured a foothold on what will be one of the most important 'inks' and applications for 3D printing.

As for Lomiko, and the Quatre Milles graphite Property, it is located in the Grenville region of Quebec. This region is well known for being one of the most prolific graphite terrains in North America. The Timcal owned Lac des Iles mine, the largest Canadian graphite producer, is in this region. The historic record shows graphite mineralization in various areas of the property, and at least three flat lying graphite beds. Notably, one assay showed a compact flake graphite sample at 15.9% carbon. The property has access to good roads, transportation and electricity, which will accelerate the drill program. Lomiko says one of the main advantages at Quatre Milles is that graphite interceptions begin close to the surface and that the drill holes are shallow.

Lomiko targeted the Quatre Milles property to take advantage of the demand for large flake, crystalline graphite which is experiencing increased demand from Li-ion battery manufacturers as the technology for electric cars, fuel cells and pebble-bed nuclear reactors – as well as structural and weight saving applications – increases. While demand for graphite is expected to grow considerably as driven by increased demand for Lithium-ion batteries, Lomiko stands to

benefit 'twice' from this trend, as it also owns a lithium property, the Salar des Aguas Caliente property in business friendly Chile, a salt lake containing lithium and sulphate. Notably, the adjacent property is run by Chile's biggest lithium producer, Sociedad Quimica y Minera de Chile, which offers good historical prospects.