

# PALOS

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## Weekly Commentary

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## NanoXplore: A Green Light for the Battery Business (VoltaXplore)

**NanoXplore (GRA:TSX)** is a Montreal-based graphene manufacturer that accounts for roughly 40% of the world's graphene production. Discovered in 2004 and described as a "wonder material", graphene has applications in transportation (lightweighting of electric vehicles), drilling fluids (faster, extended tool life), foam insulation (flame retardancy, improved thermal performance), concrete (cheaper, stronger and a reduced carbon footprint), geotextiles (durability) and plastics recycling (improved recyclability). The addressable market for these applications alone is expected to surpass consumption of 6,500 ktpa (kilo tons per annum).

On March 1, NanoXplore received patent approval for its silicone/graphene material solution (SiG™). Using GrapheneBlack™ as a coating agent around a battery's silicone component, "swelling and dislodgement" of particles is alleviated which makes a battery safer and more reliable. This translates to an 8% to 10% improvement in driving distance capability, improved charging times that could go as low as 10 minutes, and improved safety given the batteries are cooler and less susceptible to flammability compared to current lithium-ion technology.

On March 27, NanoXplore announced that it had acquired the 50% of VoltaXplore shares held by its joint venture partner, **Martinrea (MRE:TSX)**. To acquire the rights to 100% ownership, NanoXplore issued 3.42 million GRA shares to Martinrea at a price of \$2.92 per share. NanoXplore now holds 100% of the equity, proprietary technology and patents while Martinrea will remain Nano's largest shareholder having increased its stake from 21.1% to 22.7% (38.4 million shares). The companies also agreed to extend their long-standing graphene commercial agreement to ten years from five.

Last Thursday (March 30), NanoXplore announced that its 100% owned subsidiary VoltaXplore (non-public) would benefit from the Government of Canada's clean technology initiative. As a key part of its 2023 budget, Ottawa announced a 30% refundable investment tax credit for clean technology manufacturing. In conjunction with previously announced provincial support, NanoXplore announced its decision to move forward with a 2GWh gigafactory to be located in Quebec. The facility will have an annual production capability of approximately 130 million batteries.

The VoltaXplore announcement is the "battery news" that investors have been anxiously waiting for. The company anticipates that construction of the battery gigafactory will commence next year (2024) with commissioning in 2026. The battery cell technology has already been validated by way of Volta's 1GW demonstration facility which has been

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producing '18650' sized cells since 2022. The 2GW factory will produce a larger '21700' cell which charges faster and holds its charge for longer. The '21700' is better suited for military and larger vehicles like tractor-trucks.

The “kicker” is the Nano’s “vertical” which will align the graphene production business with the battery business. The graphene materials business should also be eligible for an investment tax credit and ultimately, in a mutually beneficial arrangement, Volta could become Nano’s largest customer. As announced in Nano’s 5-year strategic plan, production of graphene is expected to ramp up from 4,000 tons-per-year (tpa) currently, to 16,000 tpa by 2025. There is a logistical benefit as well; materials can be produced, transported and consumed within proximity given both companies operate in Quebec, therefore a positive from a cost perspective.

NanoXplore is led by Dr. Soroush Nazarpour, Ph.D., who many regard as the world’s preeminent expert in graphene development. Dr. Nazarpour is also CEO of VoltaXplore. The Chief Operating Officer position is held Rocco Marinaccio, a seasoned, 20-year veteran who has managed similar projects at Nano partner Martinrea. The company has a market cap approaching \$550 million, a strong balance sheet with only \$10 million in debt and about \$40 million in cash. The company turned EBITDA positive in 2022 and revenues, new applications, and customer commitments continue to accelerate. The total addressable markets are massive given the trend to sustainability and reduced carbon footprints.

We view the VoltaXplore announcement as the “icing on the cake”. The Palos Equity Income Fund, Palos Income Fund LP, WP Growth Fund and Palos-Mitchell Alpha Fund are invested in NanoXplore. We are excited about the go ahead for the battery business which enhances the prospects for significant growth.

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Chart 1: Palos Domestic Funds versus Benchmarks (Total Returns) <sup>1</sup>	FundServ	NAVPS	YTD Returns
Palos Income Fund L.P.	PAL100	\$8.49	5.38%
Palos Equity Income Fund - RRSP	PAL101	\$6.76	4.24%
Palos WP Growth Fund - RRSP	PAL213	\$13.11	5.20%
Palos-Mitchell Alpha Fund <sup>3</sup>	PAL300	\$8.89	11.61%
S&P TSX Composite (Total Return with dividends reinvested)			4.56%
S&P 500 (Total Return with dividends reinvested)			7.49%
S&P TSX Venture (Total Return with dividends reinvested)			11.27%
Chart 2: Market Data <sup>1</sup>			Value
US Government 10-Year			3.47%
Canadian Government 10-Year			2.90%
Crude Oil Spot			US \$75.67
Gold Spot			US \$1,969.00
US Gov't10-Year/Moody BAA Corp. Spread			211 bps
USD/CAD Exchange Rate Spot			US \$0.7398

<sup>1</sup> Period ending March 31st, 2023. Data extracted from Bloomberg

<sup>2</sup> Fund is priced annually

<sup>3</sup> Fund is priced weekly on Tuesdays

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