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THE ARCTIC – GLOBAL IMPORTANCE, COMMERCIAL OPPORTUNITIES AND A HIGH LATITUDE STEPPING STONE INTO SPACE

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The Arctic has recently been designated by the U.S. Administration as one of the three most vital geopolitical regions in the World; alongside the Indo-Pacific and Eurasia. It is the critical region for global climate research as its rate of climate change is four times greater than anywhere else on Earth. Secondly, its geographical position is strategically vital to both the U.S. and Russia, as well as China; this includes its high latitude location for crucial up/down links to/from the space domain, and its associated suitability as a platform for dual-use (commercial/military) technology assets. Thirdly, it is the site of a new global maritime trade route - Russia's Northern Sea Route (NSR), which spans Eurasia, linking the EU with Asia/China. Finally, it is a vital commercial region for fisheries, rare earths, freshwater collection, infrastructure (e.g. NSR's port upgrades, under-sea optic fibre cable routing, weather satellite positioning, etc), and hydrocarbons. Further investment requirements are for: shipping insurance for the NSR as a new global trade route; legal advice associated with the UNCLOS guidelines for maritime activity; and major infrastructure activity, as well as Consultancy/Financial services (e.g. training in maritime health & safety, commercial sustainability, and environmental protection, financial institution building, etc).

With the arrival of China/ Asia in the Arctic, the European region is steadily being reclassified as the Eurasian Arctic, reflecting these strategic and commercial developments and the particular importance of the growing Asian/Pacific Arctic region(s). Most recently Russia has been working closely with BRICS' countries in the Arctic, such as China, for a Beidou (GPS equivalent) system installation covering the region. Dubai's DP World is now operating in a JV with ROSATOM for the refurbishment of NSR ports, and India is expanding its scientific R&D via collaboration with Arctic nations, alongside commercial interests in technology, infrastructure, space monitoring, and ship building. Other existing Asian nations already working in the region include Japan and South Korea, mainly focused latterly on oil & gas operations, ship building, and technology applications. Russia itself has just operationalized a new weather-monitoring satellite system (Arkteka), covering the entirety of the Arctic - and which has the added benefit of giving total geographical coverage of the entire northern hemisphere too. Intimately connected to the Arctic, the space domain is becoming strategically and commercially integrated with many Arctic activities.

Space's predicted market value is at \$1 Trillion by 2024. The Arctic's unique high latitude location is useful for developments such as rocket launch sites (to the Moon/Mars), the monitoring and command & control of spacecraft activity especially in LEO, Polar and geosynchronous orbits. It is also a key arena (along with the Arctic) for geostrategic competition, military, commercial, and geopolitical between Russia, the U.S. and China. ***"If we can gain ownership of space above the Arctic, we can control two Oceans and three Continents"*** (quote from Chinese PLA(N) Admiral). The commercial opportunities for technology investment in the space domain (and its linkage with the Arctic region) are virtually unlimited; especially as both the U.S., China and the EU are actively now also recruiting the private (technology) industry into long-term, strategic government projects. These technological categories include Big Data, AI, ML, Robotics, IoT, and social media - to name but a few.

In summary, Swans5's leadership is well versed in all matters Arctic (commercial, political, and strategic), and maintains an international Arctic network - from governments, policy makers and academia, through to commercial players and entrepreneurs. This institutional Arctic knowledge and the Swans5's network includes those also directly involved in related space matters and the associated enormous field of dual-use technologies, also emerging in both the Arctic and space. Commercial opportunities in the Arctic and in the related space domain are government-backed, international in composition, strategic in nature, financially scale-able, and commercially sustainable and stable.

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