

materials nexus

Name: Materials Nexus

Country: UK

Incorporated: 2020

Fund: Katapult Seed Fund 1



Problem:

Wind energy is often touted as a key source of renewable energy but each wind turbine contains ~650 kg of rare earth magnets which results in 60 tonnes of CO₂. It is estimated that an additional ~1M wind turbines are required to get to net-zero resulting in 60M (1% of all CO₂ emissions) tonnes of CO₂ (and ~\$50bn in materials sales) from the magnets alone.

Solution:

Materials Nexus is using AI and quantum to super rapidly develop the next generation of permanent magnets to replace rare earth materials for wind turbines and electric motors (another huge market), these magnets are expected to both deliver higher efficiency and reduced CO₂ emissions from manufacture and decommissioning.

Impact:

“While permanent magnets are our focus, our technology could be applied to other areas such as to replace iridium a key material for the creation of green hydrogen (\$100bn/yr) and copper (\$300bn/yr) which is required to power world, both of which are running out. In a similar way to the drug discovery industry we can develop novel formulations then license these back to manufacturers resulting in an asset light model.”



Jonathan Bean
CEO, Materials Nexus

