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NIIST to offer technological solutions to State's titanium industry

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In a move aimed at better utilisation of the vast mineral resources in Kerala and helping the State grab a greater share of the growing international market for synthetic rutile and titanium, the CSIR (Council of Scientific & Industrial Research) National Institute for Interdisciplinary Science and Technology (NIIST) here is joining hands with industry to modernise the production process and control effluents.

Synthetic rutile is the base material for the production of titanium metal and titanium dioxide, critical products which find use in aerospace, automotive, medical and sports, cosmetics, and paint industries. It is manufactured from ilmenite, a natural mineral abundantly present in the beach sands of Kerala.

Director, CSIR-NIIST, A. Ajayaghosh says the institute is working closely with public sector industries such as Kerala Minerals and Metals Limited (KMML), Indian Rare Earths Limited (IREL), and Travancore Titanium Products (TTP) as well as the private sector Cochin Minerals and Rutile Limited (CMRL) to resolve technological issues. "These industrial units have access to technology for production of synthetic rutile and titanium sponge, but they face a host of issues related to process, effluent control, and management of by-products."

Rich resources

"Thanks to the rich mineral sand resources, Kerala has the potential to become an active player in the manufacture of value-added products if the existing issues are addressed through technological intervention," says Dr. Ajayaghosh. The KMML unit at Chavara in Kollam has faced public ire for polluting water sources and posing a pubic health hazard. The absence of technology for disposal and utilisation of by-products such as iron oxide and recovery of magnesium from magnesium chloride is another issue that plagues the titanium industry in Kerala.

Several technologies developed by the NIIST for mineral processing industry over the years have failed to make it beyond the pilot phase for various reasons. "These technologies are still valid. If the problems relating to raw material supply are also sorted out, it can lead to sustainable utilisation of mineral resources and earn revenue for the State," says Harikrishna Bhat, Chief Scientist, Material Science and Technology division, NIIST.
