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## Kerala: NIIST tech for titanium plants

DECCAN CHRONICLE.

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The CSIR-NIIST process removes iron oxide using a rotary kiln.



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CSIR-NIIST

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**Thiruvananthapuram:** As many of the titanium dioxide plants turn into toxic hotspots polluting environment with acid effluents, CSIR-NIIST here offers an environment-friendly alternative. On Thursday, the institute signed an MoU with a Chennai-based mining company to demonstrate the process in pilot plant scale.

Normally, companies resort to acid leaching to remove iron oxide from ilmenite to make it richer in titanium dioxide. However, the iron oxide will be acidic, and in some processes, there will be chloride contamination.

There have been cases where companies have created pits to dump the acidic byproduct, but the slurry would leak into nearby water bodies. They are finding it increasingly difficult to dispose of iron oxide, as more of it is produced every year.

The CSIR-NIIST process removes iron oxide using a rotary kiln. It is only to remove the last traces of iron oxide that a small quantity of acid is used.

Harikrishna Bhat, the scientist who led the team which developed the technology, says, "The cost of production is estimated to reduce by 60%. But more than the cost factor, its most important aspect is environment friendliness." The agreement was signed in the presence of CSIR-NIIST director A. Ajayghosh and VV Minerals director V. Subramanian.

"The technology has a lot of potential in Kerala itself," says Mr Ajayaghosh.

The process in laboratory scale and semi-pilot plant scale has produced titanium feedstock with 92% titanium dioxide. Now CSIR-NIIST will partner with VV Minerals in the demonstration of the process on a plant scale.

When the pilot plant of a suitable capacity, say 400 tonnes, produces the required quantity of synthetic rutile it will be sent for test marketing and customer feedback. If the process is successful, the institute will assist the company in demonstrating the process in a larger commercial plant scale

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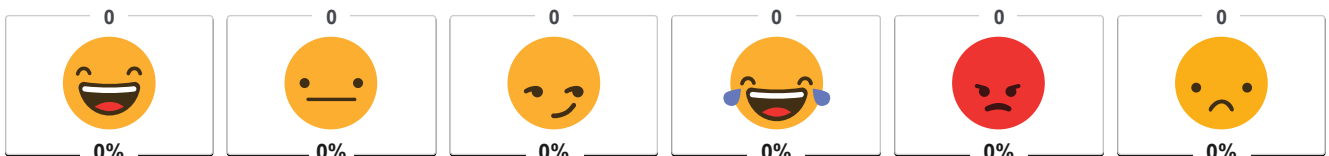
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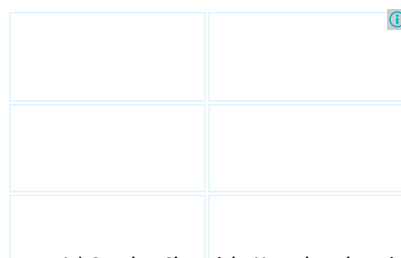
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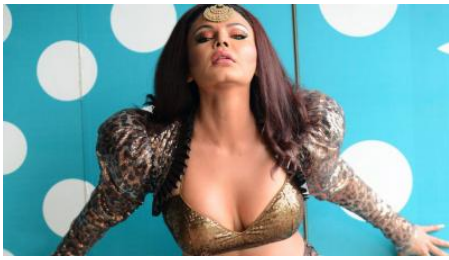
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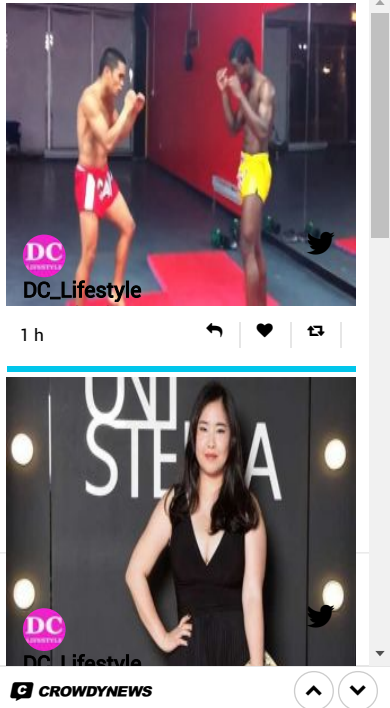
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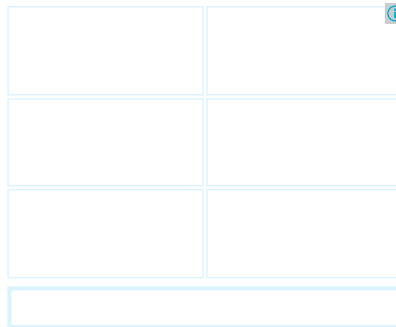


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