



List of R&D projects completed through IRELTDC as on 31.03.2026

S. No.	Project Title	Institution	Current Technology status
1	Augmentation of PREE Solvent Extraction Test facility at RED	RED, IREL	TRL 2/3
2	Pilot Scale Production of Nano sized Rare Earth Phosphate and Development of Industrially Potential Application areas	RRL(T)	TRL 4
3	Design and Development of rare earth-based colorants	RRL (T)	TRL 2
4	Inflight Processing of Metallized Ilmenite in a DC Plasma Furnace for continuous production of Titania Rich Slag and Pig iron	RRL (B)	TRL 2
5	Development of Cerium Oxide based nano materials for application in chemical-mechanical planarisation/ polishing CMP slurry	RRL (T)	TRL 1
6	Recovery of heavy rare earths from phosphoric acid using Phosphorous based commercial extractants and their mixtures	IICT, Hyd.	TRL 1
7	Synthesis and Properties of electrodeposited Ni/Ceria Nano composite coatings	IIT Kharagpur	TRL 1
8	Catalysis by Nano Crystalline Ceria modified with transition metals	CUSAT Kochi	TRL 1
9	Processing of Monazite by sulphuric acid route for the recovery of uranium, thorium and rare earths	RERC, Kollam/ OSCOM	TRL 2
10	Preparation of Mullite and Zirconia toughened mullite from sillimanite	RRL (B)	TRL 2
11	Study of suitability of magnetic separators as replacement for air tables for recovery of monazite	IREL, MK	TRL 1
12	Versatile Nano Zirconia production facility at IREL, OSCOM	IIT, Kharagpur	TRL 6
13	Development of High Field Composite Varistors based on RE Oxide	RRL, Trivandrum	TRL 2
14	Development of Smart Magneto Rheological Elastomers based on RE magnets	CUSAT, Kochi	TRL 1
15	Pilot plant Production of Environmentally Secure Rare Earth Oxide Brown Pigment for Surface Coating Applications	IRERC, Kollam	TRL 3
16	Optimization of Processing parameters to produce high aspect ratio synthetic Wollastonite	IIT Kharagpur	TRL 1
17	Design, Fabrication of 1 t batch reactor and 1 t batch digestion of monazite with sulphuric acid	OSCOM, IREL	TRL 5
18	Development of efficient Ceria/Zirconia based catalysts using IREL chemicals for industrial applications including environmental catalysis	NCL, Pune	TRL 2
19	Studies for improving recovery of heavy minerals at IREL plants using spiral separators	IRERC, Kollam	TRL 4



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20	Study on suitability of Rare Earth Drum Magnetic Separator to increase plant efficiency at IREL, Chavara	IREL, Chavara	TRL 4
21	Development of self-cleaning coatings on glass using TiO ₂ Nano particles developed at Indian Rare Earths Ltd	IIT Madras	TRL 2
22	Processing of NIR reflective CeO ₂ nanoparticles for energy saving glaze coatings and cool textiles	NIIST, Trivandrum	TRL 2
23	Pilot Plant Production and Value Addition to Fully/Partially stabilized zirconia suitable for different advanced technology applications	OSCOM, IREL	TRL 5
24	Treatment of Wastewater containing primary amines using novel approach of combined hydrodynamic cavitation and oxidation processes	Mumbai	TRL 2
25	Extraction of Neodymium metal By Molten Salt Electrolytic Process	CECRI, Karaikudi	TRL 2
26	Development of flow sheet for production of 99.99 % Gadolinium oxide and 99.99% Europium oxide from Gadolinium concentrate by solvent extraction using P507	RED	TRL 2
27	Recovery of Sillimanite from the tails fraction of Heavy Up-gradation section (HUS) of Mineral Separation Plant (MSP) at IREL OSCOM	IRERC, Kollam	TRL 4
28	Eco-friendly Natural Dyeing of Cotton and Silk using Rare Earths Metal Salts as Mordants	BTRA, Mumbai	TRL 2
29	Development of process flowsheet for the recovery of individual heavy minerals from the mineral sand plant tailings	IMMT, Bhubaneswar	TRL 5
30	Study of sinterability and product development based on zirconia to be supplied by IREL	GCECT, Kolkata	
31	Development of Pilot plant facility for production of 99.99 % Yttrium Oxide from 92 % yttrium concentrate by solvent extraction using ionic solvent quaternary ammonium chloride (Aliquat-336).	RED, IREL	TRL 4
32	Development of New Electrode Using 92% Rutile Grade Flux with Improved Operability and Industrial Applicability	NIT - Tiruchirappalli	TRL 3
33	Exploring the potential of rare earth elements (REE) as inclusion modifier towards the production of inclusion-critical special-grade low carbon micro-alloyed steel.	IIT -Kharagpur	TRL 3
34	Reduction of surface contamination of Teri heavy mineral sand and dewatering studies on slimes.	CSIR-NML Madras	TRL 3
