Remanufacturing and the Renewable Energy Ecosystem

Harnessing Nature's Waves: Designing a Renewable Energy System for the Long Term

Thursday, October 22, 2026 | 3:30pm – 5:00pm

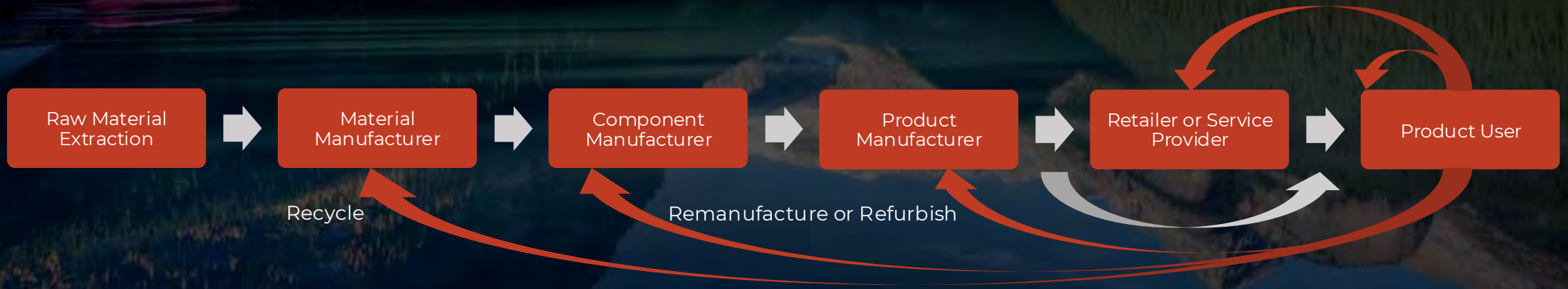
Rajiv Ramchandra
Founder & Director
Re:CREATe

Remanufacturing: Definition

A standardized industrial process by which cores are returned to **same-as-new, or better, condition and performance**.

The process is in line with **specific technical specifications**, including engineering, quality and testing standards.

The process yields **fully warranted products**.



Remanufacturing is **NOT** the same as Recycling, Reusing, Repurposing, Repairing, Refurbishing, or Reconditioning. However, it may encompass many of these activities. In certain industries, some of these terms are used interchangeably with 'remanufacturing'.

Definition Source: CLEPA

Remanufacturing: Process



A core is a previously sold, worn or non-functional product or part, intended for the remanufacturing process. During reverse logistics, a core is protected, handled and identified for remanufacturing to avoid damage and to preserve its value. A core is not waste or scrap and is not intended to be reused before remanufacturing

Source: CLEPA

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Remanufacturing: Criteria

- **Technology exists** to restore the product
- The product is made up of **standard interchangeable parts**
- **Cost of the core is low relative to the cost savings** achieved through core reuse
- The **product technology is stable** over more than one life cycle
- **Sufficient market demand exists** to sustain remanufacturing operations/enterprises



Source: Boston University

Autocraft Solutions: EV Battery Remanufacturing

- **Autocraft EV Solutions uses REVIVE®** to repair and remanufacture EV battery packs for vehicle manufacturers.
- **OptEVizer® testing identifies cell-level faults** to guide targeted work on the battery pack.
- **Replacing affected cells or modules** keeps healthy components in service and avoids unnecessary pack replacement.
- **ARIA® guides repair and assembly** with augmented reality and process controls that prevent faults moving forward.
- **Warranty-backed remanufacturing** restores performance relative to battery age and extends usable life.



Sources: Autocraft Solutions Group, EV Solutions and REVIVE®; Charged EVs, 1 October 2026

Siemens Gamesa: Remanufacturing

- **Gamesa Gearbox remanufactures** wind turbine gearboxes and mainshafts.
- **Re-engineering improves designs** to extend the useful life of components.
- **Siemens Gamesa offers** refurbished spares and main component exchange.
- **Keeping components in service** preserves resources and reduces the impact of new manufacturing.



Sources: Siemens Gamesa, Spares and Repairs; Gamesa Gearbox, Repairs and EuAReman 2026

Key Takeaways



Remanufacturing preserves product value. It restores used products through an industrial process with defined quality standards and warranty protection.



Batteries and wind turbines already offer practical examples. Autocraft Solutions and Siemens Gamesa extend component life while retaining usable materials.



Technical feasibility must align with a viable business case. Restoration capability, suitable product design and sustained demand make remanufacturing possible.