



THE ASSOCIATION FOR  
**SUSTAINABLE MANUFACTURING**  
Remanufacturing | MRO | Refurbishing

## Sustainable Manufacturing and the Circular Economy

Sustainable manufacturing is the standardized process of producing high-quality goods – a second time – by reusing materials and conserving embodied energy in existing products. It is “manufacturing with re-use” – the tried-and-true process of an environmentally-friendly industry that has been around for decades. Going forward, sustainable manufacturing will play a more vital role in the circular economy.

Sustainable manufacturing takes place in a factory setting. It’s manufacturing that is sustainable by definition and responsible by design. Think of it as a higher form of recycling that focuses not on raw materials, but on the original finished product itself. In the automotive and commercial vehicle sectors, the accepted sustainable manufacturing term is remanufacturing. In aviation and aerospace, the process is called MRO – maintenance, repair and overhaul – and for consumer goods and electronics, refurbishing is the established reference.

No matter the industry, for generations to come, all manufacturing will be driven to reuse as much as possible. Today, as we drive towards a circular economy, remanufacturing and similar forms of sustainable manufacturing are already yielding products that are like new, but better. The finished goods from sustainable manufacturing have like-new quality, but they deliver better value for end-users and they’re better for the environment. These processes are known to use up to 85% less energy, water and raw materials. For example, the energy saved by remanufacturing just one heavy-duty lift-truck axle can power a single-family home for three years.

### A New Symbol for Sustainable Manufacturing



In 2018, MERA – The Association for Sustainable Manufacturing – unveiled a new symbol for sustainable manufacturing. It is the recycling symbol with one extra arrow. Everyone knows the 3 Rs of the environment: Reduce. Reuse. Recycle. MERA and its member companies added a 4th R (Reman) to the discussion. As with the other Rs, remanufacturing minimizes the impact on the environment, but it should occur before traditional recycling: Reduce. Reuse. Reman. Recycle. Visit us at [SustainableManufacturing.com](https://SustainableManufacturing.com)

### Manufactured Again Certification



MERA is the home of Manufactured Again Certification, where manufacturing and sustainable manufacturing are held to the same international quality standards. The program also promotes environmental stewardship and corporate social responsibility. Look for the Certification Mark on select product packaging... and show your support of the circular economy! Learn more at [ManufacturedAgain.com](https://ManufacturedAgain.com).