Why leading global experts and policy makers support the R2 Standard...

The R2 Standard provides the most comprehensive solution for safe and sustainable electronics recycling and repair. Its emphasis on reuse, and on resource management over “waste” management, has become increasingly important as electronic use around the world continues to rapidly increase and deplete limited supplies of natural resources.

Efforts of the past decade to ban exports of used electronics have not been sufficient to respond to these developments. It is essential to prevent illegal transactions, while improving reuse and recycling practices around the world with training, technology sharing and accountability.

In this area, the R2 program is leading the way.

Dr. Katharina Kummer Peiry served 5 years as head of the Basel Convention for the United Nations Environmental Program, and 2 years on SERI’s Board of Directors. She is an internationally recognized expert in e-waste issues.

Changing how the world reuses & recycles electronics

To learn more, please visit www.SustainableElectronics.org or contact Info@SustainableElectronics.org | +1 651-438-3608
Why so many companies & government agencies require R2 Certification

700 R2 certified facilities operating in 30 countries

Protects People
The R2 Standard requires certification to OSHAS 18001 or RIOS, which are comprehensive worker health and safety standards.

Protects the Planet
The R2 Standard requires certification to ISO 14001 or RIOS, which are comprehensive environmental safety standards.

Protects Data
The R2 Standard requires use of best industry practices to eradicate all personal and confidential residual data from electronics.

Reduces Risk of Liability
Rigorous third party audits of R2 certified facilities, tracking materials throughout the recycling chain, and strong due diligence requirements for qualifying downstream recycling vendors means better performance and adherence to industry best practices. This reduces the risk of environmental and data liability for customers of R2 certified companies.

Requires Compliance with all International Import / Export Laws
R2 requires compliance with all applicable laws and regulations. When legally permitted by importing and exporting countries, R2 allows reusable electronics to be exported to refurbishers that meet strict R2 due diligence requirements, and are qualified to repair and resell equipment in accordance with R2 requirements. This is verified through a combination of audits, detailed material tracking, permits, records, and other evidence.

This type of legal exporting puts affordable and working devices in the hands of people who need them, and has helped to bridge the digital divide and improve the lives of hundreds of millions of people around the world.

Preserves Resources
The R2 Standard prohibits landfilling or incineration for energy recovery when reuse or recycling options exist.* R2 requires refurbishing, testing and reuse of working devices whenever feasible, and requires maximizing material recovery for end-of-life electronics. Almost 70% of the total energy used during the life-cycle of a laptop is consumed during manufacturing. Extending the life of electronic devices in this way preserves resources by reducing the need to manufacture new products.

Fosters Innovation & New Technology
The R2 Standard is written in a way that encourages innovations. R2 recognizes there can be multiple, yet equally effective ways to achieve the same outcomes. Flexibility regarding the methods used to meet R2 requirements is permitted, but that flexibility never relaxes the requirements. Overly prescriptive standards do not easily adapt to changes in products and technology, and can stifle innovation and development of better recycling methods.

Multi-Stakeholder Development Process
The R2 Standard was created by consensus of a multi-stakeholder group that included representatives from the EPA, NGOs, leading industry experts, recyclers, and users of reuse/recycling services. Participation of many voices during the development process results in a better end product, and ultimately, better outcomes.

SERI's mission is to create a world where electronic products are reused and recycled in a way that promotes resource preservation; the well-being of the natural environment; and the health and safety of workers and communities.

SERI is actively engaged in accomplishing this through education, global partnerships, technology sharing and R2 certification. More than 700 R2 certified facilities operating in 30 countries are improving how the world reuses and recycles electronics.

Raising the Industry Bar
While no law, regulation or standard will ever achieve 100% compliance, 100% of the time, they are still effective tools for raising the overall performance bar. Since the introduction of the R2 Standard in 2008, the number of recyclers and refurbishers implementing safe and sustainable standards continues to increase. And because of greater awareness and accountability, R2 certified recyclers are holding their downstream partners to higher levels of scrutiny. Certification has been, and will continue to be, an effective means for increasing awareness in the marketplace, and changing the collective mindset regarding the importance of safer and more sustainable practices for electronics reuse and recycling.

R2 & the Circular Economy: Sharing a common approach

The move towards a “Circular Economy” calls for a more responsible and advantageous way to manage the products and materials we use. As the world’s population continues to rise and deplete limited supplies of resources, it is increasingly important to replace the “Take-Make-Throw” practices of the past century with more sustainable alternatives. SERI and the R2 Standard have been leading the way for more sustainable management of used electronics by emphasizing reuse, and “resource” management over “waste” management - both of which are fundamental principles of the Circular Economy.

REUSE...the first (and most beneficial) choice
In the circular economy, reuse takes center stage because it has the most environmental and economic benefits. Almost 70% of the total energy used during the life-cycle of a laptop is used during its manufacturing. With faster and more feature rich devices being released with ever growing frequency, it is increasingly important to extend the life of and reduce the environmental footprint of electronic products.

When reuse of the device is no longer practical, parts and components can be harvested for reuse in other electronic products. This emphasis on reuse is reflected in the reuse/recycle hierarchy requirements in Provision 2 of the R2 Standard. The benefits of reuse vs. recycling can be demonstrated using the EPA’s carbon footprint calculator:

Benefits from Reusing vs. Recycling 1000 laptops

- Energy Savings - number of U.S. households that could be powered by electricity for a year
- Reduction in air emissions (in metric tons)
- Reduction in water emissions (in metric tons)

The Social Benefits of Reuse
With mobile broadband networks now reaching 84% of the global population, and more than 50% of the world’s population using the internet, the demand for affordable devices is great. Devices considered obsolete in one market, or that have cosmetic defects or non-essential features that may not work (such as a non-functioning DVD drive), still have great reuse value in many regions of the world.

Making affordable, used electronics more available worldwide has provided hundreds of millions of people with unprecedented access to information, healthcare, education, and banking and financial services. R2 recognizes the environmental and social benefits of responsible reuse, and permits exporting of reusable devices when it is legally permitted by the importing and exporting countries.

RESPONSIBLE RECYCLING...maximizing materials recovery
When devices and components can no longer be reused, the valuable materials contained in end-of-life electronics can be recovered. A United Nations report found that used electronics are a 40 to 50 times richer source of precious metals than newly mined ore. “Urban Mining” of materials from used electronics preserves limited supplies of natural resources, and reduces the environmental impact of mining raw materials. The environmental benefits are significant:

- Copper 63% vs. 65%
- Nickel 90% vs. 90%
- Lead 98% vs. 99%
- Aluminum 95% vs. 97%

SERI and the R2 Standard are leading the way in helping electronics recyclers implement safer and more sustainable strategies for managing used electronics - strategies that are fundamental to a Circular Economy.

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