R2v3 *The Next Evolution of the R2 Standard*

The original intent of the R2 Standard remains unchanged — to maintain best practices for the safe, secure and sustainable reuse and recycling of electronics. R2v3 was developed based on the requirements of the R2:2013 Standard, so many of the requirements will be familiar, although strengthened, clarified and reorganized to ensure the same consistent application and intended results. And, becuase of the diversity of businesses in the electronics reuse-recycling industries, R2v3 takes on a revised structure with additional requirements for certain specialty operations. The R2v3 Core Requirements form the basis of the R2 Certification and are applicable to all R2 facilities. The R2 Process Requirements address specific operations that require specialized skills and processes to undertake, and are applicable only to those facilities that undertake the related R2 activities.

Summary of CORE Requirement Changes

1 Scope *(in R2:2013, covered by Provision 1)*

- Added scope requirements to ensure transparency and that all R2-related activities performed by a facility are audited and included on the R2 Certificate.
- Revised the definition of "scope" to clarify included and excluded operations/activities.

2 Hierarchy of Responsible Management Strategies
(In R2:2013, covered by Provisions 2 & 5)

- Focus remains on reuse before other management strategies. This core principle of R2 is aligned with the global trend towards a more circular economy.
- Disposal is not permitted as a management strategy for Focus Materials, and is only permitted for NON-FMs when other opportunities have been exhauseted.

3 EH&S Management System
(in R2:2013, covered under Provisions 1, 4, 13)

- Includes all of the core EH&S related requirements in the same section for greater clarity and efficiency. Removed redundant requirements.
- Increased emphasis on risk assessment, inspection, and monitoring activities to ensure potential hazards are being identified and managed.
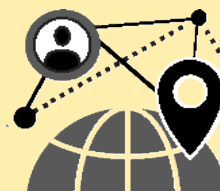
4 Legal and Other Requirements
(in R2:2013, covered under Provision 3)

- Separated compliance monitoring into individual requirements to ensure adequate coverage of each.
- New requirements: prohibition on the use of child and forced labor; and developing and maintaining a non-discrimination policy.

5 Tracking Throughput
(In R2:2013, covered by Provision 7)

- Requires detailed tracking and records of inbound, in-process and outbound equipment, components and materials.
- Requires a summary report of all inbound and outbound transactions.
- Prohibits the storage of R2 Controlled and negative value streams for longer than 1 year.

6 Sorting, Categorization and Processing
(Clarifies & strengthens R2:2013 Provisions 2 & 6)

- New section that provides the framework for:
  - Identifying the status of any equipment, components or materials at any point in the R2 process, and
  - Determining the next appropriate R2 process.
- Uses the R2 Equipment Categorization (REC) to determine the R2 Applicability and Data Sanitization Status.corresponding categories in the REC.

7 Data Security
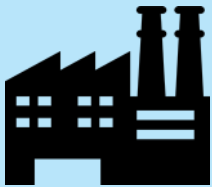*(in R2:2013, covered under Provisions 8 & 10)*

- Requires all R2 Facilities to develop a detailed Data Sanitization Plan.
- Includes enhanced requirements for securing the facility and any data containing equipment.
- Defines the approved methods for sanitizing equipment in a timely & effective manner.

8 Focus Materials
(in R2:2013, covered by Provision 5)

- Requires a detailed FM Management Plan to define the methods for processing FMs, including the necessary capabilities and capacity.
- Requires a flowchart of the downstream recycling chain.
- Requires non-FMs to also be managed in accordance with the Hierarchy of Responsible Management Strategies.

9 Facility Requirements
(in R2:2013, covered under Provisions 9 & 11)

- Defines requirements for processing and storage areas.
- Requires an evaluation of risk and insurance for injury/illness.
- Requires closure plan and financial assurance.
- Pollution liability insurance moved to PROCESS Requirements.

10 Transport
(in R2:2013, covered under Provision 12)

- Proper packing of equipment, components, and materials during transport to prevent environmental, health, or safety hazards; and to secure data containing items.
- Clear and accurate labeling and shipping documents.
- Requires that transporters meet applicable requirements as identified in the legal compliance plan.

Please note:

Core Requirements 1-10 are applicable to *all* R2 facilities.

Process Requirements (Appendices A - F) listed on the following page are *additional* requirements that apply *only* to R2 facilities that perform those specific processes. R2 Facilities are not required to perform all R2-related processes in order to be certified. It is important to note, however, that all R2-related processes managed by a facility *must be audited* and cannot be excluded from R2 Certification. Certified specialty processes will be included on the R2 Certificate to provide customers/suppliers more information about the expertise and capabilities of each R2 Certified facility.

# Summary of **PROCESS** Requirement Changes

A — Downstream Recycling Chain
(Consolidates R2:2013 Due Diligence requirements covered in Provisions 3, 5, 6, 7, 8 & 11)

- Defines requirements for selecting and verifying the downstream recycling chain.
- Allows downstream tracking to stop at the first R2 Certified DSV.
- Requires pollution liability insurance for R2 Facilities that manage negative value streams.
- Defines detailed requirements for verification of non-R2 DSVs.
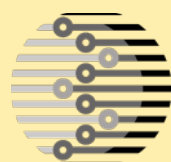
B — Data Sanitization *(Replaces R2:2013 8)*

- Core Requirements for Data Security (R2v3 Prov. 7) apply to ALL R2 Certified facilities. Appendix B-Data Sanitiazation provides an enhanced level of security, sanitization practices, verification, and tracking.
- Covers all logical sanitization activities, as well as any physical destruction where additional tracking and verification of sanitization is required.
- Additional quality controls to confirm successful sanitization or identify any discrepancies.

C — Test and Repair *(Replaces or enhances R2:2013 Provision 6)*

- Applies to facilities performing test & repair in-house.
- Must be certified to Quality Management System standard ISO 9001 or RIOS.
- Data must be sanitized in accordance with the requirements of Appendix B.
- Requires detailed R2 Reuse Plan for test and repair by equipment type; test results recorded for each function tested; and product safety evaluation.
- 1 year limit to process equipment and components.
- Technical competency requirements for workers.

D — Specialty Electronics *(in R2:2013, covered under Provision 6)*

- New requirements for R2 Facilities concentrating on specialty equipment markets such as medical and commercial telecom equipment.
- Requires certification to Appendix C as well, and full test and repair of equipment where capable. Allows specific verifications where full testing is not possible.
- This Process Requirement will not eliminate the ability for most R2 facilities to sell Specialty Equipment for Reuse under the 1% rule.

E — Materials Recovery *(in R2:2013, primarily covered by Provisions 4 & 5)*

- Applies to all R2 Facilities that perform destructive dismantling or separation processes, including chemical processing, thermal treatment, shredding, crushing, and destructive manual dismantling
- Requires Environmental Pollution Liability Insurance.
- Requires an additional level of hazards identification and assessment by a trained individual.
- Includes specific EHS control measures that must be considered through the assessment and implemented accordingly.

F — Brokering *(in R2:2013, covered under Provision 5)*

- Defines requirements for facilities that source equipment, component and materials, and control their delivery direct to a DSV.
- Requires QMS Certification (ISO 9001 or RIOS).
- For some R2 facilities, brokering may be the only activity. Where all items are brokered and no items pass through the R2 Facility certain exemptions apply.
- All DSV must be selected, verified and included in the Downstream Recycling Chain.