Tech Check Newsletter: The State of the EoL Tech Stack - June 2026

Published: 4 June 2026 | Author: David Daoud

The technology stack surrounding end-of-life electronics is being impacted from varioust directions at once, and for the first time in a long while, the influence is coming from inside the industry's own operating assumptions. The devices flowing into downstream streams are evolving faster than in the past, and so is every layer of the infrastructure built to handle them. New hardware architectures are expected to affect what enters downstream streams.

Click here to access the June 2026 Tech Check newsletter

Plant-floor technologies are advancing in parallel, influencing what operators can extract from those streams once they arrive. A fundamentally different approach to metals recovery is challenging the economic logic of the global smelting network. And a new class of computing infrastructure - sealed, remote, and increasingly inaccessible - is raising new questions.

None of these developments is fully mature. Ionometallurgy has moved to a Cisco-backed demonstration facility in the same period. Sealed data center deployments are already operating commercially offshore China. Operators tracking these shifts now - building the data, relationships, and operational flexibility to act on them - are seeking competitive advantage and we thing they are well positioned ahead of most competitors.

What follows is Compliance Standards' read on the four technology stories that we've observed over the past months, likely to influence most to the EoL electronics sector right in the months and years ahead. Our full analysis, ratings, and strategic recommendations are available to clients by following this link.

Click here to access the June 2026 Tech Check newsletter

DEVICES

AI PCs and Neo-Class Laptops Are Expanding the Form Factors that Enter Your Streams

OEMs are shipping new classes of systems and form factors in 2026 that together signal a structural shift in how mainstream hardware is designed for downstream handling. For instance, the MacBook Neo, Apple's first sub-$600 laptop, carries the highest recycled-material content the company has ever reported, earns the best repairability score iFixit has given a MacBook in 14 years, and is priced directly against the Chromebooks and Windows entry-level devices that dominate school and cost-sensitive procurement. HP's EliteBoard G1a puts a full AMD Ryzen AI PC inside a keyboard chassis with plug-in memory, swappable storage, and a replaceable battery - a form factor that has no real precedent in mainstream enterprise hardware.

The design philosophy behind both devices, and many others, is what downstream operators should register. Both devices reflect OEM pressure - regulatory, procurement-driven, and reputational - to build hardware that can be serviced, documented, and reported against circularity and carbon metrics. That pressure is now showing up in the hardware itself. The devices entering your streams over the next two to three years will increasingly carry higher recycled-material fractions, better repairability at the battery and port level, and richer carbon and lifecycle documentation. They will also, for now, retain soldered storage and memory, a deliberate OEM choice that sets a hard ceiling on refurbishment configurations regardless of how good the rest of the repairability story gets.

PLANT TECHNOLOGY

AI Vision Sorting and Wearable Copilots Are Moving Off the Drawing Board

Two AI technologies are reaching the ITAD and electronics recycling plant floor, each at a different stage of deployment readiness. On the sorting side, recent work by Apple's machine-learning group demonstrates a camera-plus-AI sorter built almost entirely from commodity hardware - industrial RGB cameras, an edge computing device, and a repurposed agricultural pneumatic paddle system - that classifies shredded e-waste fragments in real time and achieves commercially meaningful purity levels on metals and circuit boards at line speed. The system demonstrates that AI-driven post-shred sorting no longer requires bespoke multi-sensor equipment or research-lab conditions to deliver results.

On the demanufacturing side, Siemens has integrated its industrial AI platform with Meta Ray-Ban smart glasses to create a wearable copilot that can guide technicians through triage and extraction workflows, overlay hazard and component data in real time, and automatically capture compliance documentation without interrupting the work. The hardware carries real constraints - ruggedization, supply availability, and the maturity of the digital twin tools behind it. The architecture and roadmap, assessed separately, are credible. Both technologies, across sorting and demanufacturing, point toward a plant floor that is more automated, more consistent, and more data-rich than what most operators are running today. The operators building data readiness now will have a structural head start when deployment becomes straightforward.

WEARABLES

600 Million Shipped Last Year. No EoL Infrastructure for Them.

Over 600 million wearables shipped in 2025 - smartphone-scale volume, with refresh cycles that are shorter and compliance exposure that is higher than anything the ITAD sector currently processes at scale. Smartwatches and fitness bands turn over every two to four years. Clinical-grade monitors deployed in hospital fleets cycle faster, every one to three years. That volume is already moving through its first refresh cycle, and it will reach end-of-life intake streams in material quantities within 24 to 36 months. The processing and compliance infrastructure to handle it does not yet exist.

The more immediate issue for ITAD operators serving healthcare clients is data, not hardware. Camera-equipped wearables add a separate compliance layer. Meta has sold over 9 million Ray-Ban smart glasses since late 2023, with production capacity scaling to 10 million units per year. Apple is targeting a 2027 launch. Google has re-entered the category with Warby Parker. Every wearable category presents the same physical challenge: embedded lithium-ion batteries, bonded screens, and glued cases that require disassembly protocols and battery chemistry management across form factors that vary widely by OEM and product generation. The volume will be massive but the intake and processing workflows of most EoL operators are not built for it yet.

METALS RECOVERY

A Distributed Recovery Model Is Challenging the Logic of Centralized Smelting

The global smelting network has been the endpoint for high-value e-scrap fractions for decades - a system defined by massive capital requirements, long payment cycles, and the commingling of material from across the world before any value is returned upstream. A UK startup called DEScycle is commissioning a demonstration facility this July built around a recovery process that bypasses conventional smelting entirely. Its process uses deep eutectic solvents to selectively dissolve and recover precious and critical metals from printed circuit boards at low temperatures, without the energy intensity or scale requirements of conventional smelting. A new copper smelter requires billions of dollars in capital; DEScycle’s footprint costs tens of millions.

The technology is still at demonstration scale, and the jump from lab performance to consistent industrial throughput is never guaranteed. Chinese overcapacity has driven copper smelter treatment and refining charges to near zero as DEScycle prepares its July trials, contributing to shutdowns and financial distress across the incumbent industry. Cisco has made an equity investment in DEScycle and is supplying circuit boards for the July trials. Mitsubishi signed a preferred-partner agreement for Japan in March 2026. If the model proves out at industrial scale, metals recovery could happen closer to the source, with shorter payment cycles and better traceability - a structural shift in how value flows through the e-scrap chain that ITAD operators and recyclers should be watching closely.

INFRASTRUCTURE

New Computing Architectures Are Creating Hardware Categories Nobody Has Planned For

Two infrastructure developments, separated by time horizon, carry the same implication: the hardware categories that will define the next generation of decommissioning work do not look like the ones the industry built its capabilities around. China's recently commissioned offshore underwater data center near Shanghai - approximately 2,000 servers in sealed subsea modules, cooled by seawater, achieving a reported PUE near 1.15 - is the first commercial-scale example of a broader shift toward placing compute where energy is abundant, with physical accessibility treated as a secondary constraint. Sealed, remote, and engineered for multi-year no-touch operation, these systems are designed for operational continuity - not for retrieval or end-of-life processing. When they do come offline, the flows will arrive in pulses rather than staggered refresh cycles, and the logistics will resemble marine operations more than traditional facility teardowns.

Further out, IBM's announcement of a quantum chip foundry - backed by a proposed $1 billion CHIPS Act award and a matching IBM contribution - adds another hardware category to the long-range planning map. Quantum computing remains early-stage commercially. The infrastructure surrounding it - cryogenic cooling systems, custom processors, precision fabrication equipment, specialty alloys - will eventually generate its own decommissioning and recovery stream. The pattern has repeated with every major computing transition. This transition is being announced, funded, and built in public, giving downstream operators an unusually long runway to develop the knowledge and relationships needed to be part of it.

WHERE THIS ALL LANDS

Five big stories, one conclusion: the EoL electronics industry is being asked to process categories it was not designed for, under compliance regimes that are still being written, using infrastructure most operators have not yet built. Wearables are arriving in smartphone-scale volumes with healthcare-grade data obligations. Sealed and remote data centers are being engineered with no decommissioning pathway in mind. Quantum and CHIPS-era hardware is moving from announcement to construction. AI sorting and wearable copilots are the tools emerging to help operators keep pace, but tool availability is running ahead of adoption. And the metals recovery model anchoring the downstream end of the chain is under its own structural pressure, with smelter economics deteriorating at the same moment a credible alternative is commissioning its first industrial-scale demonstration.

If you are in the EoL sector, your focus is to also prepare for the horizons when these technologies and constraints are active. To be well positioned, four things are worth doing now, before the volume arrives and the standards are set.

1. **Track OEM product roadmaps as operational intelligence.** The MacBook Neo and EliteBoard G1a are not isolated product launches, they are validations of where mainstream device design is heading under regulatory and procurement pressure. OEMs are moving, at different speeds, toward higher recycled-material content, modular components, and richer lifecycle documentation. Each of those shifts changes intake value, harvest yield, refurbishment options, and scope-3 reporting for your clients. The form factors entering your streams in three years are being designed now, and the operators building familiarity with those roadmaps today will price and process them more accurately than those who wait for the devices to arrive.
2. **Start building data infrastructure.** Every technology event in this issue runs on facility-specific data, from labeled images for AI sorting and chain-of-custody records for wearable compliance, to material-stream mapping for alternative recovery partnerships. That data needs time to build and has to be accumulated before the need is acute: plan ahead.
3. **Get ahead of the compliance curve on wearables.** Healthcare clients managing wearable fleets will expect certified erasure protocols and compliance documentation comparable to enterprise IT assets before they issue disposition contracts, not after. Operators must develop that capability now to capture the recurring volume when the refresh cycles peak.
4. **Watch the demonstration plants and pilot lines in the next twelve months.** For instance DEScycle’s Teesside facility commissions in July. AI vision sorting pilots are moving from controlled trials to live lines. Wearable processing protocols are being developed without industry-wide standards. The gap between emerging and viable closes faster than planning cycles typically account for. What looks optional today tends to look overdue eighteen months later.
5. **This is a long-term play, but put sealed and remote infrastructure on your strategic radar.** Underwater data centers, desert deployments, and other sealed modular facilities are not a 2030 problem. But with the fast evolution of AI, these technologies could reach us sooner than we are predicting. The design decisions

being made today determine whether recovery is possible at all when these systems come offline. Engage with clients and partners who are debating and talking about these deployments, and engage with industry associations before the retrieval and recovery standards are written without your input.

Click here to access the June 2026 Tech Check newsletter

Subscribe to Compliance Standards' Sector Pulse Research

Contact us at 754.229.0095 or inquiries@Compliance-Standards.com

Our Offices: Boston, MA | 2361 Walnut Court, Pembroke Pines, FL 33026