How One Company Is Helping to Solve the E-Waste Problem by Recycling Steel and Other Metals From IT Assets

Editor

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Kent Taggart, co-founder and chief executive officer of U.S.-based global IT asset disposal company, Mender, explains the challenges and opportunities around recycling steel from e-waste.

Electronic waste (e-waste), the waste from discarded electronic devices, is rising by 2 million metric tons a year and it's forecast to exceed 70 million metric tons by 2030, according to the American Chemical Society. The main problem here is that the global generation of e-waste is rising five times faster than documented e-waste recycling, reports the UN's fourth Global E-Waste Monitor. Kent Taggart explains how he has built an economic success story from this huge global environmental challenge and is helping improve e-waste recycling rates in the process.

Taggart is the co-founder and chief executive officer of U.S.-based global IT e-waste disposal company, Mender, which specializes in secure IT asset disposal. "We are focused on electronics reuse. We work primarily with large companies, enterprise-type clients that have at least 3,000 employees, and also with state governments," he explains. "All of those organizations buy IT equipment, which depreciates over a period of time, and then they replace it. Generally, they're good at deploying the new equipment, but getting the old equipment back is trickier. So we build programs that go out and collect all that equipment and take it to a location where data erasure can occur. Then we either refurbish or recycle all of those devices."

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The World Steel Association (worldsteel), headquartered in Brussels, Belgium, is one of the largest industry associations in the world, with members in every major steel-producing country. Its members represent around 85% of global steel production.

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Steel Server Racks Are Frequently Found in E-Waste

Older electronic devices contain much more steel than those manufactured today, but there is still a significant volume of steel that Mender is left to recycle or reuse. "We do see a considerable amount of steel coming in, mostly in racks that hold servers and networking equipment in data centers. When they arrive at our facility, we pull all the servers out and reuse them, either as complete units or as parts and components. Then that steel server rack, in almost all instances, ends up going to a steel recycling yard, because there are so many of them and it's not a desirable product from a logistics standpoint in the secondary market."

Taggart says that there is no reason why the data center racks can't get reused, but typically, the servers for data centers are delivered in new steel racks. "They are actually putting them into the racks, so that those racks can be loaded on a truck and then easily delivered to that data center to speed up the turnaround time associated with the redeployment. There's a reuse potential for steel racks, but it's not something that's been largely embraced by our industry or the front-end buyers of the equipment."

Expanding the Secondary Market for Electronic Devices

Taggart sees a lot of opportunities to make the secondary market more efficient. "We're heavily focused right now on working with hyperscalers, like Amazon Web Services (AWS) or Meta, who are about to replace large-scale applications. Alongside this, we work with smaller partners that are building data centers that want to leverage from that same technology to extend its life cycle by another three years or so. We're building out those relationships with those secondary market end users."

A lot of the multinational tech players are keen to prove that they can contribute to the circular economy, which makes them very receptive to recycling facilities like Mender. "AWS has developed its own reverse logistics division, which is servicing other parts of the business and it's also starting to look at supporting its clients as they're undergoing cloud transitions and that sort of thing," says Taggart. "Microsoft is another good example where they've actually developed reverse logistics hubs throughout the world, but largely in North America, where they're pulling all of that old equipment back and they're doing some work to it themselves and harvesting components and re-utilizing what they can."

Mender is now operating through its partner network in 37 countries worldwide, helping to extend the life of IT assets and, where that's not possible, recycling their component parts made from steel and other precious metals. "There are multinational companies that are in our space, but none of them are nearly as regionalized as our partnership network. So there ends up being a significant logistical savings. There's also a carbon impact improvement as a result of that, because you're not pulling stuff hundreds of miles to get it recycled, it's a much more local solution." ◆