



## SUSTAINABILITY STRATEGIES FOR TELECOM NETWORK EQUIPMENT

**The asset decommissioning process may be the most critical aspect in the advancement of sustainability commitments.**

Whichever phrase you chose – sustainability, ecology management, environmental stewardship, or simply green – there can be little doubt that the Telecom industry is acutely aware of the issue’s growing economic and social prominence. A quick look around the industry reveals signs of progress emanating from nearly every aspect of equipment design and manufacturing, service delivery and logistics. In fact, by 2021 telecom analysts expect green telecom gear to represent nearly 50% of the total network infrastructure market (\$162 billion).

But while various energy-reduction programs and broader initiatives dedicated to fostering collaborative, cross-industry innovation are both exciting and long overdue, it’s becoming increasingly clear that the continued emphasis on product development and manufacturing processes casts a long shadow over the need for more comprehensive, end-to-end strategies for sustainability. Developing a more end-to-end approach demands closer examination of how to best address a single question: What happens when a piece of equipment – energy efficient or not for that matter – is decommissioned?

## A New Point of Emphasis

After a period of time in-service or sitting in wait as excess inventory, every asset is inevitably decommissioned. In either case, that asset is susceptible to a reverse logistics process that could see it abandoned in a large warehouse consuming energy, shipped without a plan from one location to the next, melted down or worse. If not managed properly, this scenario has the very real potential to undo a lot of the great work being done in product development and manufacturing to address environmental concerns.

Unfortunately, today's telecom service and supply chains aren't sophisticated enough to differentiate equipment based on its capacity for profitable reuse within an organization. As a result, excess or decommissioned assets are viewed within the construct of a standard reverse logistics model, where only a small amount of assets are actually reused, a slightly larger number are sold and the vast majority sent to recyclers as scrap (Figure 1).

Inverting the emphasis toward reuse through consolidated visibility into material flows, however, enables organizations to (a) make more informed business decisions regarding the disposition of existing, unused material, (b) promote business model innovation and new profit structures, and (c) significantly reduce carbon emissions related to recycling, transport and warehousing of idle network assets (Figure 2).

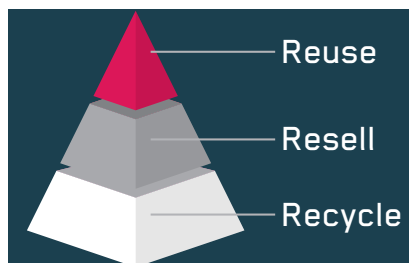


Figure 1 - Traditional service and supply chains lack the sophistication necessary to extend the lifecycle of network assets.

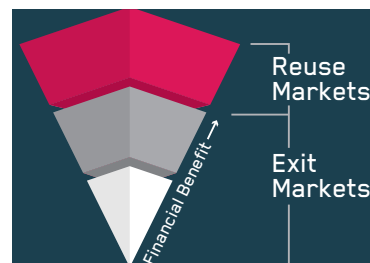


Figure 2 - Placing a greater emphasis on reuse provides new opportunities to minimize the environmental impact of excess material while

## Factoring Sustainability into the Decision-Making Process

While the reasons may vary – e.g. silo'd organizations or complex systems – accurately tracking network assets such as cell sites, antennas, routers and switches once they have come out of service is not an easy task. Today, the de-installation of an average sized wireless network could involve tens of thousands (if not hundreds of thousands) of individual assets. Given the rate with which networks are being upgraded across the globe, the challenge is increasingly more difficult for carriers and equipment manufacturers to get in front of. Turnover is so fast that many assets haven't even fully depreciated in value. Therefore, knowing what you have, where it's located, what condition it's in and its value (either for reuse or resale), becomes a critical component for advancing sustainability commitments and improving cash flow.

If more was known about the location, condition and value of excess and decommissioned equipment telecom executives could drive environmental and business gains by:

- Dictating transportation events to ensure equipment always travels the shortest distance from point of storage to point of need, thereby dramatically reducing CO<sub>2</sub> emissions and logistics costs;
- Identifying immediate need for surplus equipment in other regions or countries to reduce storage and other physical and plant costs;
- Reducing waste streams and optimizing investment recovery by choosing to resell excess equipment on the open market as opposed to automatically sending material to a recycler as scrap; and
- Establishing cradle-to-grave accountability for equipment disposal to guarantee compliance with existing corporate and government mandates and regulations (i.e. WEEE in Europe).

### Generating Business and Environmental Value

A network upgrade – and the subsequent decommissioning of infrastructure assets – isn’t an event typically associated with environmental stewardship. But one global carrier is applying the principles of a reuse strategy to minimize the environmental impact of material being removed from service as part of a series of wireless upgrades across the Nordics.

As one of the industry’s largest mobile operators, corporate responsibility and sustainability are central focal points of its business philosophy. Rather than allow surplus material from these upgrades to sit idle in warehouses or be sold off by weight, this operator’s leveraging a sophisticated reuse strategy to simultaneously mitigate environmental risk and transform service chain efficiency. Through the combination of asset visibility, real-time market intelligence and prescriptive dispositioning, this carrier is able to quickly assess whether material can be resold to generate revenue and reduce warehousing requirements, recycled locally to recoup precious metal costs and limit transportation events, or optimally reused in one of the carrier’s mobile networks (Figure 3). Possessing full visibility into material flows has netted greater control over transportation events and long-term storage of items to reduce associated carbon emissions, and is expected to generate a savings of several million Euros.

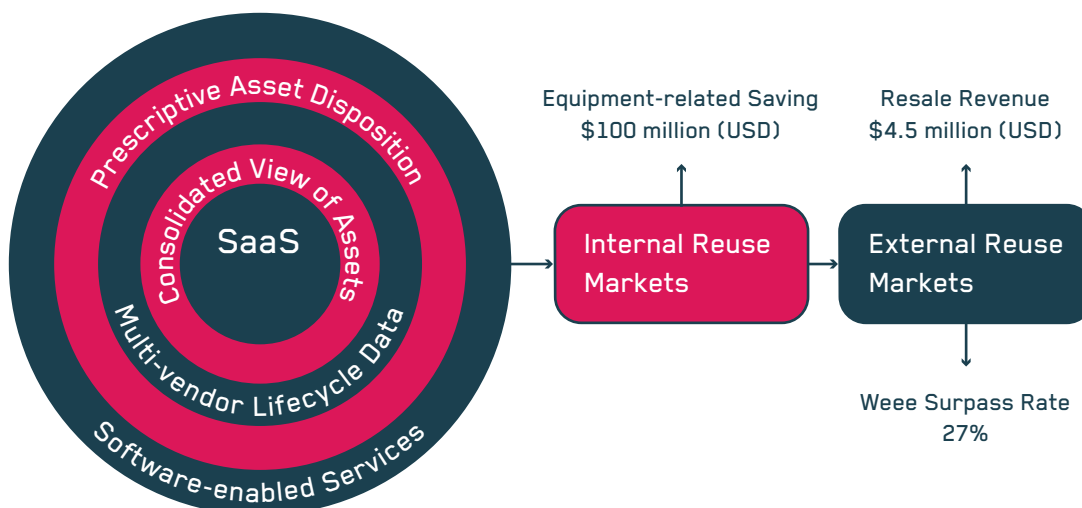


Figure 3 - Internal and external Reuse Markets enable one of the largest mobile carriers to support sustainable sourcing programs by extending the lifecycle of assets which have not yet reached the end of their useful life.

## Building a Better Business Case

Telecom companies build financial models to prove out cost and process efficiency. When it comes to environmental stewardship, and in particular developing end-to-end sustainability strategies, those in a position to influence decision-makers need to begin applying that level of due diligence to creating models that not only illustrate measurable environmental benefits but significant financial savings as well. When developing the business case for advancing sustainability commitments, consider the impact to (1) revenue growth, (2) shareholder value, (3) cost reduction and (4) innovation.

## Energy Efficiency is Just the Beginning

It's important to remember that sustainability is a complex objective, and as various initiatives and programs progress, the industry as a whole must be conscious of pitfalls that could prevent maximum environmental gain. A well thought-out reuse strategy can build upon the gains of developing energy-efficient equipment and help ensure those assets are put to their highest potential throughout their useful life, and when necessary, disposed of in an environmentally friendly manner and in full compliance with government mandates.

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