



**Product
Stewardship
Centre of
Excellence**

**CASE
STUDY**



Telstra Smart Modem 3

With e-waste growing three times faster than general waste streams,¹ there is a growing need for all tech companies to address their environmental impact - from resource use to recycling. In this case study, we look at the product stewardship strategies of Telstra, Australia's largest telecommunication company. We highlight examples of product stewardship taking place across the product lifecycle, with a particular emphasis on the importance of product redesign.

Product Stewardship in Action with



INTRODUCTION

In recent years, technological innovations, pandemic-related lockdowns and the need to work and study from home have all spurred growing demand for tablets, laptops, smartphones, & modems.² In response, Telstra has embarked on a wide range of product stewardship initiatives to reduce its contribution to e-waste and improve resource efficiency across the product lifecycle - including exploring product redesign, finding sustainable solutions for re-using and recycling devices, and transitioning to recycled and recyclable packaging.

This case study highlights how product stewardship extends beyond a focus on end-of-life management and aims to drive both environmentally and commercially beneficial outcomes through good design and clean manufacturing - including the use of components and materials that are easier to recover, reuse and recycle.

Here, the focus is on the product redesign of the new Telstra Smart Modem 3. In particular, we highlight the importance of building internal teams to bring eco-design to life. That is, for this product redesign a key success factor was in not only having a sustainability strategy for the organisation but in prioritising collaboration across the organisation to embed eco-design principles.

SMART MODEM PRODUCT REDESIGN

Building on the foundation of a Life Cycle Assessment (LCA) process, Telstra has been evolving product design, assessing its environmental impacts and improving environmental performance across the product life cycle. Telstra's Smart Modem has been the focus of a number of product redesign initiatives, including increasing the use of recycled materials, reducing the use of plastic accessories, and ensuring that packaging is recyclable by avoiding the use of inks or print finishes.

Building on this progress, Telstra has implemented several additional initiatives for the Smart Modem 3, including:

- **Using 85% recycled plastic:** Changing the modem colour from white to black allowed Telstra to use recycled plastics in the Smart Modem 3. As a result, the new modem enclosure is now made from 85% recycled plastics. The materials were fully validated in vendor laboratories to ensure the recycled plastics met the required technical and operational specifications for a modem (for heat resistance and durability, etc.).³
- **Expanding recycling options for consumers:** The Telstra eCycle program powered by MobileMuster helps customers reduce the number of unwanted devices in their homes and businesses by providing more convenient reuse and recycling options. This is all part of creating a more circular economy for materials by recovering the plastics and precious metals in phones, modems and other electronic devices. Old modems can be dropped off at any Telstra store, MobileMuster drop off point, or by using the free Telstra eParcel option.⁴
- **Using 100% recyclable, zero plastic packaging:** As part of the design process, packaging was optimised to minimise waste materials, while ensuring the product is sufficiently protected. This included removing plastic sleeves and inner plastic packaging and minimising the use of paper inserts. Even cable ties are paper based where possible.⁵ As a result, Smart Modem 3 packaging is 100% recyclable, plastic free and made from recycled content (see Figure 1 below). Telstra also made it easier for customers to know how each component can be recycled by adopting the Australasian Recycling Label.



Figure 1. An example of the packaging design.

KEY TO SUCCESS

A new product launch such as the Smart Modem 3 required expertise and input from several teams including product design and development, procurement, manufacturing and marketing. In a company as large as Telstra, collaboration across these various teams to enact and embed change within the organisation is fundamental to bringing the environment strategy to life.

In this instance, four key teams were brought together to achieve this objective:

- **Procurement team:** To embed environmental sustainability and performance targets in contractual agreements such as ensuring the recycled materials sourced met technical and operational specifications; requiring vendors to have a take-back program or participate in a voluntary product stewardship scheme; and work with vendors to achieve Telstra's environment strategy.
- **Product designers:** Here, the team used lifecycle assessment process to improve product design and optimise environmental performance by increasing the recycled content in the product and the packaging.
- **Sustainability Centre of Expertise team:** Providing subject matter

expertise, advising on eco-design principles, and ensuring alignment to Telstra's corporate strategy⁶ and environment goals.

- **Market researchers:** Switching modem colour from white to black also required market research, investigating consumer colour preference(s) and the impact of modem colour on modem placement.

Each of these examples highlight the importance and benefits of different teams coming together to support product redesign in line with circular economy principles.

NEXT STEPS

In addition to the Smart Modem 3 redesign, Telstra is also engaged in a range of broader sustainability and product stewardship initiatives. These include:

- The launch of the Telstra Responsible Business Strategy in 2021 to "reflect our most material sustainability topics, our sustainable development goals (SDG) priorities, our desire to build on our reputation as a trusted, sustainable business and draw on our tech expertise to play a leadership role in promoting digital inclusion and environmental action."⁷
- Becoming carbon neutral in its

operations from 2020. This was achieved in July 2020 through one of Australia's largest ever carbon neutral offset purchasing programs.

- Committing to reduce its absolute emissions by at least 50% by 2030.⁸
- This year, Telstra launched the Business Executive Forum which pursues company-wide aspirations and headline metrics agreed by the CEO Leadership Team. Telstra's Sustainability Centre of Expertise report on progress to achieve its sustainability targets in this Forum.⁹

In the resource efficiency space, Telstra is working to optimise its waste collection facilities to improve recycling, recover e-waste when networks are upgraded and identify reuse opportunities in the global telecommunications market for its legacy technology. They are working with suppliers to extend the life of network technology and explore alternatives to recycle industry-specific equipment. They also continue to be actively engaged in the MobileMuster product stewardship scheme.¹⁰

Telstra's stewardship efforts are also gaining attention. Their innovations in sustainable packaging design were recognised at the 2021 Pentawards with the Gold Award for Sustainable Design, the 2021 Good Design Awards for the Good Design Award Gold Accolade in recognition for outstanding design and innovation, and the Australian Financial Review's Sustainability Leaders for 2022, where they were awarded Category Winner, Technology, Media and Telecommunications.

¹ <https://www.theguardian.com/money/2021/feb/09/refurbished-smartphones-are-widely-available-so-should-you-buy-one>

² <https://www.telsyte.com.au/announcements/2021/11/16/australian-smartphone-sales-grow-as-5g-starts-to-take-over>

³ <https://exchange.telstra.com.au/telstra-smart-modem-3-everything-you-need-to-know/>

⁴ <https://www.telstra.com.au/climate/recycling>

⁵ <https://exchange.telstra.com.au/telstra-smart-modem-3-everything-you-need-to-know/>

⁶ <https://exchange.telstra.com.au/introducing-t25-our-plan-for-growth-and-enhanced-customer-experiences/>

⁷ <https://exchange.telstra.com.au/sustainability-2021/>

⁸ <https://exchange.telstra.com.au/telstra-scope-3-climate-target/>

⁹ <https://exchange.telstra.com.au/sustainability-2021/>

¹⁰ <https://www.mobilemuster.com.au/>

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