



Unlocking hidden value

Electronics Reuse and
Recycling Strategy (2016–2020)



The four community and stakeholder barriers to improved electronics stewardship identified by Telstra:



Cost, privacy and data security

Perceived cost of collection and recycling, and concerns regarding loss of data security and privacy.



Awareness and education

Not knowing how to securely and responsibly reuse or recycle e-waste.



Convenience

People's ability and willingness to find a local e-waste collection and recycling service.



Attitudes and behaviour

People's desire to hold onto electronic equipment for spares, reuse, donation or other purposes.

Why the time to act is now

The rapid evolution in technology is driving a significant growth in electronic waste globally. A number of drivers are also creating unique opportunities to adopt more resource-efficient approaches to managing retired technology. The need for action has never been more important than now.

Information and communications technology (ICT) delivers a wide range of economic, environmental and social benefits. A more connected digital world presents opportunities to live, work and play more efficiently, thereby improving productivity, saving resources and connecting more people.

However, as technology opens doors, the use of more devices creates more electronic waste – called e-waste. This, and other drivers suggest that the time for stronger stewardship of retired electronics is now.

What is e-waste?

E-waste is a term used to cover specific items of electrical and electronic equipment, and their parts, that have been discarded by the owner as waste without the intention of reuse. Telstra's e-waste includes: information technology and telecommunications equipment; telecommunication carrier and commercial equipment; consumer communications devices and lighting equipment.

Mounting pressure on resources

The manufacture of electronic equipment requires the extraction and processing of precious metals. Reusing these materials has not been a priority for global manufacturers: obtaining them has traditionally been easy and affordable. However, over the last decade there have been sustained rises in the price of resources and unparalleled resource price volatility.

A new opportunity to unlock value now exists by striving to keep resources in use for as long as possible, extracting the maximum value from them while in use, then recovering and remanufacturing products at the end of each service life.

Governments and regulators are mobilising

Governments are increasingly adopting regulatory approaches for the stewardship of electronic equipment at end-of-life. Disposal of e-waste to landfill is banned in some states of Australia.

Given ICT equipment makes up about 30 per cent of all e-waste, a renewed focus on this product category is expected.

At the same time, consumers and businesses are better informed and more engaged about the environmental and ethical impacts of resource production and use.

Taking a proactive approach and demonstrating voluntary action to reduce e-waste will therefore become an increasingly important part of doing business.

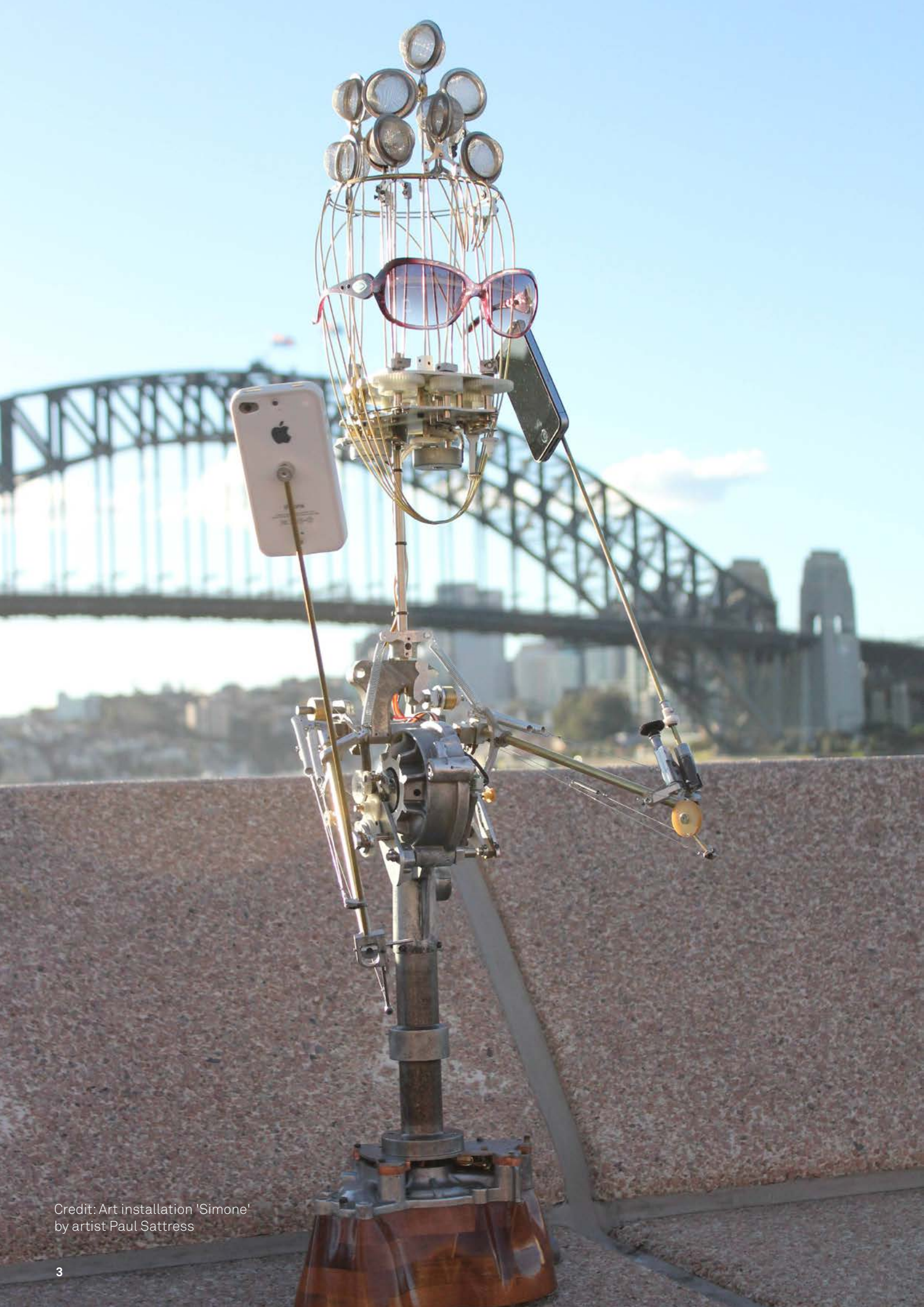
Protecting health and the environment

The environmental issues associated with e-waste arise because of low collection rates at the end of a products service life. Equipment owners store retired electronics in drawers, cabinets and offices or dispose of them through normal waste collection channels, where they end up in landfill. Materials contained in electronic equipment can become hazardous to both the environment and humans when they end up in landfill.

Unlocking hidden value sets out the first Electronics Reuse and Recycling Strategy for Telstra. The strategy aims to bring focus to the importance of applying integrated and collaborative approaches to realise business and community value through increased electronics recovery, reuse and recycling. We've supported mobile phone recycling through MobileMuster for nearly 20 years and we've made good progress – but we have a long way to go. Implementation of this strategy is an important step to achieving a transition to world class product stewardship performance. This strategy was published by Telstra Corporation Limited, November 2016.

The information in this strategy is for general information purposes only.

Telstra has prepared this strategy with all due diligence and care, and endeavours to keep the information up to date and correct. Telstra makes no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability or availability with respect to the strategy or the information, products, services, or related graphics contained in the strategy for any purpose. Any reliance you place on such information is therefore strictly at your own risk. In no event will Telstra be liable for any loss or damage including but not limited to, indirect or consequential loss or damage, or any loss or damage whatsoever arising from loss of data or profits arising out of, or in connection with, the use of this strategy.



Credit: Art installation 'Simone'
by artist Paul Sattress

Towards electronics product stewardship

Our ambition is to harness the benefits of electronics reuse and recycling, while ensuring secure and responsible disposal practices.

Over the longer-term, we will participate in a wider product stewardship approach that recognises that manufacturers, importers, retailers, governments and consumers have a shared responsibility for the environmental impacts of products throughout their full life cycles, not just at end-of-life.

Telstra has supported responsible recycling programs for nearly 20 years. We are a founding member of MobileMuster – the only not-for-profit, government accredited, mobile phone recycling scheme in Australia. We know that when it comes to e-waste, doing nothing is not an option. We have been a leader in many e-waste programs but it is timely to take a fresh approach.

It's imperative that Australia has business leaders advocating for the secure and responsible management of retired electronics. Telstra recognises this leadership opportunity, and to that end, we have established a new Electronics Reuse and Recycling Strategy detailing goals and specific actions through to 2020.

Along with global thought leaders we want to accelerate change. We want to treat e-waste as not only an “end of pipe” problem - where we manage e-waste the best we can – but as a product stewardship and circular economy opportunity.

This approach will need to be adopted throughout every phase of a products lifecycle. A core focus on influencing product design and manufacturing is required so that whole products or components are more able to be re-used and / or recycled.

Among a range of actions, Telstra will identify new ‘circular’ opportunities and work with designers and manufacturers. We will provide customers with take back, re-use and recycling opportunities for a wide range of their e-waste. We will securely and responsibly manage retired equipment from Australia's best telecommunication network.

Better managing e-waste, and ultimately reducing the generation of e-waste, will take time. We've got a long way to go. Current costs, data security, complex supply chains and consumer attitudes and behavior are all barriers to overcome.

The Electronics Reuse and Recycling Strategy establishes Telstra's plan to meet these challenges, and establish a foundation for future action across the full supply chain.

Since 2013, Telstra e-waste clean up events

Across

80⁺



Corporate offices
and exchange buildings

46



Tonnes of e-waste
collected and recycled

The strategy at a glance



Product recovery, reuse and recycling

Transition to electronics product stewardship



Responsible end-of-life management

Reduce environmental impacts and protect Telstra's reputation

Goal

Increase the recovery rates of retired electronics through convenient product collection opportunities

Flagship action

Offer employees and customers easy, convenient and rewarding collection opportunities that reuse or recycle retired electronics

Key actions

Introduce product offers underpinned by repair, refurbishment, reuse, leasing, remarketing and donation initiatives

Review our existing industrial supply chain recovery, repair and reuse program for potential expansion to new product categories

Investigate the use of advanced technology and new incentives to recover and manage retired technology

Continue Telstra's leading role and funding of MobileMuster

Join FluoroCycle™, committing Telstra to the responsible recycling of hazardous fluorescent light bulbs

Goal

Ensure responsible and secure reuse and recycling of Telstra's retired electronics

Flagship action

Establish a panel of prequalified e-waste recycling vendors that meet Telstra's minimum environment and social performance criteria

Key actions

Voluntarily reduce disposal of e-waste direct to landfill from our major facilities

Establish employee e-waste collection hubs at over 40 of Telstra's major workplaces

Regularly assess ongoing environmental compliance requirements in a changing regulatory landscape

Promote programs that facilitate responsible remarketing and recycling



Outreach and education

Enable consumers and businesses to take action



Simplification and reporting

Strengthen the way we work and report our performance

Goal

Become a trusted and influential voice on e-waste management in the community

Flagship action

Deliver awareness and education campaigns on how to securely and responsibly manage retired electronics

Key actions

Host community e-waste collection events encouraging employee and customer participation

Embed our electronics stewardship brand across priority products and services

Develop tactical product offers built upon an electronics stewardship value proposition (trade-in, leasing, recycling, donation)

Promote community awareness and understanding of the social and environment benefits of electronics reuse and recycling

Goal

Simplify arrangements for responsibly managing retired electronics

Key actions

Simplify existing internal disposal and asset management guidelines

Monitor community recycling attitudes and behaviours to understand major barriers

Monitor and report publically on our progress

Establish close links with product stewardship specialists, organisations and institutions for sharing knowledge and resources

Our commitments and targets

The actions and commitments in this strategy are all directly supported by key Telstra business units.



Over 10 years, the number of mobiles in storage has increased from 12 million to 25.5 million

This strategy builds on the historical efforts of many business units across Telstra.

While facilitation of the strategy will be led by the Chief Sustainability Office, execution of our commitments and actions will be led by identified business units.

The strategy must contribute to Telstra's stewardship of electronics meaningfully and tangibly. For each action, we have identified action leads, support partners and where required initial funding sources.

Over 34 discrete actions and commitments have been outlined in detailed implementation plans. Three flagship actions have been prioritised: offering new product collection opportunities; delivering mass market awareness and education campaigns; and ensuring our vendors meet acceptable social and environment performance criteria.

The strategy is comprised of eight key targets. These targets are specific and measurable and enable us to track our progress towards achieving the strategies objectives and goals.

Priority area	Targets	FY17	FY18	FY19
Product recovery and recycling	Increase mobile collection rate (available phones) to 33% by 2020	29%	32%	33%
	Increase handset reuse / recycling 31% to 20t by 2020, from a 2015 baseline	17t	19t	20t
Responsible end-of-life management	Sustain our reuse/recycling rate of collected electronics	98%	98%	98%
	Priority network sites with permanent e-waste collection infrastructure	50%	75%	100%
	E-waste recycling vendors are certified by end 2018	75%	100%	100%
Outreach and education	Community awareness increased to 90% by 2020	80%	85%	90%
Simplification and reporting	Asset disposal / management guidelines simplified	-	Yes	-
	Internal and external performance reports delivered on time	100%	100%	100%

Telstra's stores already collect 60% of all phones recycled by mobile phone retailers in Australia



60%

of old mobiles returned to
Australia's retailers are
collected by Telstra for recycling

But there is still more Telstra can do:



Recycling

Increase mobile
recycling 31% by 2020,
from 2015 levels



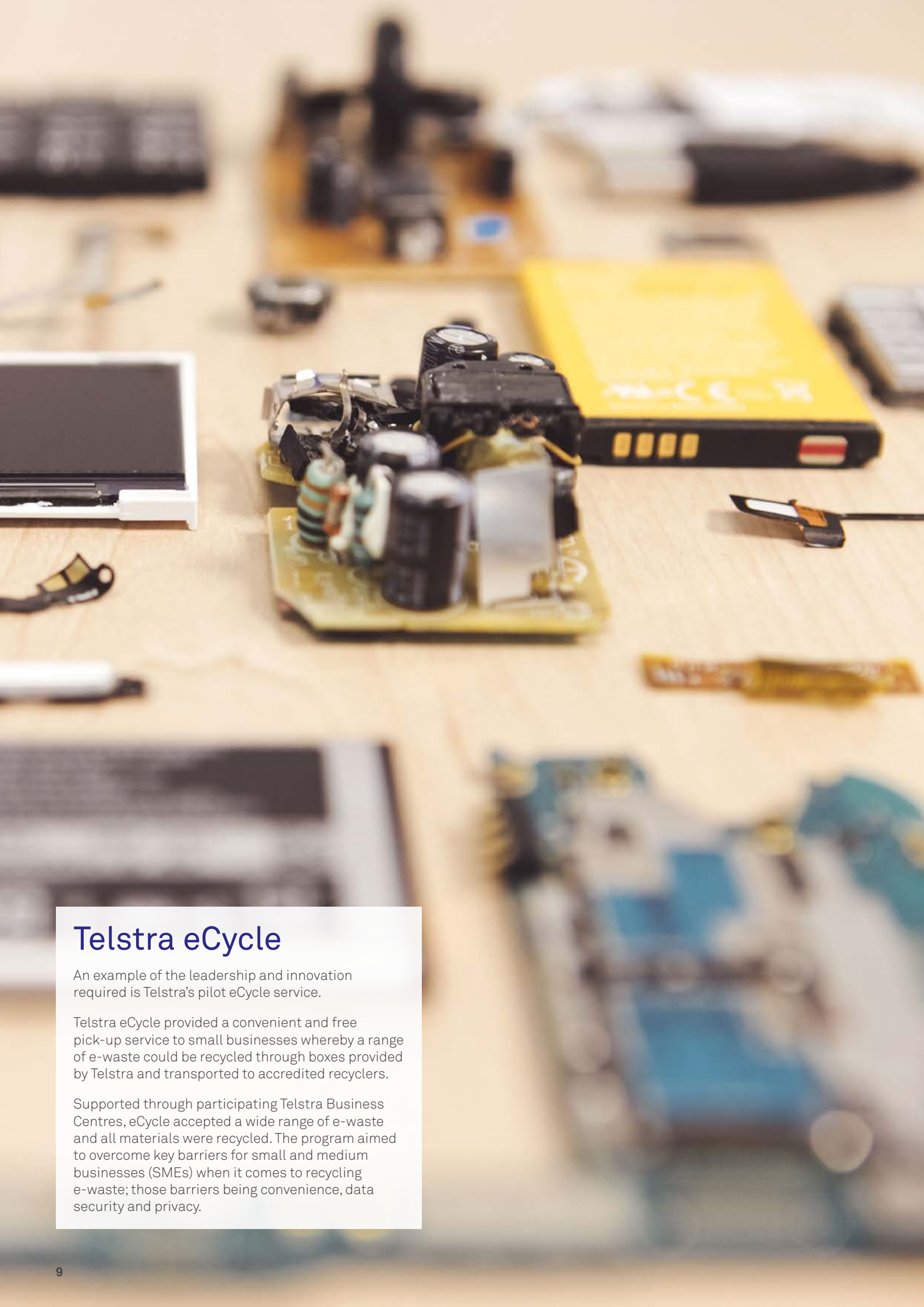
Certification

Certify 100% of Telstra's
electronics recycling
vendors by end of 2018



Collection

Establish e-waste
collection hubs at over 40
major Telstra workplaces



Telstra eCycle

An example of the leadership and innovation required is Telstra's pilot eCycle service.

Telstra eCycle provided a convenient and free pick-up service to small businesses whereby a range of e-waste could be recycled through boxes provided by Telstra and transported to accredited recyclers.

Supported through participating Telstra Business Centres, eCycle accepted a wide range of e-waste and all materials were recycled. The program aimed to overcome key barriers for small and medium businesses (SMEs) when it comes to recycling e-waste; those barriers being convenience, data security and privacy.

Accelerating our transition to electronics stewardship

We have identified three flagship actions. These have the potential to move us significantly towards achieving our electronics stewardship ambitions, today and for the long term.



Flagship action 1

Offer employees and customers easy, convenient and rewarding collection opportunities that reuse or recycle retired electronics.

The challenge

One of the unintended consequences of the rapid evolution in technology is the significant growth in e-waste. And it shows no sign of abating. E-waste in Australia is growing three times faster than any other waste stream¹. The volume of end-of-life electronics worldwide is expected to jump 33% to 65.4 million tonnes annually by 2017².

As Australia's leading telecommunications company and a major retailer of consumer electronics, Telstra has long been providing solutions to tackle e-waste. In FY16, Telstra recycled over 5,000 tonnes of e-waste, of which mobile handsets and accessories comprised 16 tonnes.

We previously launched Telstra eCycle to trial a nationwide e-waste collection service for SMEs. Telstra eCycle helped over 600 small businesses securely recycle more than 60 tonnes of old technology, freeing up valuable office space for more productive uses.

There is a pressing need to continue to evolve our approach to electronics stewardship, and address hoarding, privacy and data security barriers through new incentives and innovative business models.

The action

Building on our experience and learnings, Telstra now seeks to:

- Develop new products, campaigns and host local community events to encourage e-waste recovery, reuse and recycling, community awareness and participation
- Launch new product offers built upon an electronics stewardship value proposition
- Implement a national recovery and reuse program for Telstra internal communications devices.

¹Australian Bureau of Statistics (ABS), 2013, Waste Accounts

²The Economic Intelligence Unit, 2014, Global e-waste systems, Insights for Australia from other developed countries

Telstra eCycle helped over 600 small businesses securely recycle more than 60 tonnes of old technology



Flagship action 2

Vendors used for asset management, including remarketing, remanufacturing and recycling, meet acceptable industry environmental and social criteria.

The challenge

Telstra is a major purchaser of electronic and electrical equipment, especially ICT. To date, being able to efficiently recover, reuse, redeploy and recycle equipment has been difficult and has led to end-of-life equipment being stockpiled or poorly managed.

Managing e-waste can also pose a serious and often unmanaged environmental and data security threat.

Technologies to safely refurbish or recycle used electronics is available, but e-waste can end up in developing countries where it is often disposed of in a manner that damages human health and the environment.

Internal and customer information can be stored on electronic equipment. Failure to maintain data security and privacy risks Telstra's compliance and reputation performance.

The action

A panel of pre-qualified vendors meeting Telstra's environmental and social standards will be established.

At a minimum, Telstra will require:

- independent certification to ISO 14001: 2004 Environmental Management Systems; and
- AS/NZS 5377: 2013 Collection, storage, transport and treatment of end-of-life electrical and electronic equipment (or a two-year action plan demonstrating a commitment and progress towards achieving certification).

These standards set out principles and minimum requirements for the safe and environmentally sound management of e-waste.

Telstra holds independent certification to ISO14001 for key part of our business, and we expect our e-waste recycling vendors to do the same.

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Flagship action 3

Deliver awareness and education campaigns on how to securely and responsibly manage retired electronic equipment.

The challenge

Action on electronics stewardship in Australia is increasing and evolving.

There are a range of existing and new electronic stewardship programs in Australia. Product coverage is currently limited to televisions, computers, fluorescent light bulbs and some batteries (e.g. batteries in power tools). Many of these programs are at risk of closing due to insufficient community awareness and acceptance.

MobileMuster, however, is a unique program. Unlike many schemes across the globe it is not governed by regulation or mandatory laws. It is a voluntary initiative of manufacturers and telecommunication carriers like Telstra who have chosen to work together and share responsibility for the product category.

Consumer awareness and engagement in mobile phone recycling has improved significantly over the past decade. The telecommunications industry has invested over \$17 million in marketing and communications, lifting consumer awareness of mobile phone recycling from 46% in 2005 to nearly 80% in 2015.

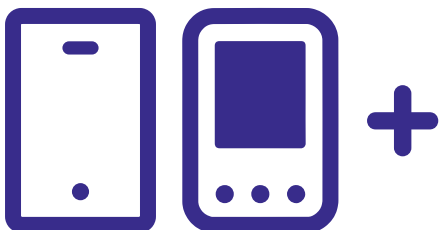
However, consumer desire to hoard mobile phones has not changed. The percentage of consumers with two or more handsets at home is 37%, despite 80% of those people being aware of mobile phone recycling through MobileMuster.

The action

Telstra will assume an ambassadorial role and use our brand and marketing capabilities to further entice and encourage consumers and businesses to become more active players in the management and reuse/recycling of their retired electronics.

Specifically, we will:

- Build on existing campaigns and use of traditional/social media to overcome data security and privacy barriers
- Publically promote the need to address environmental impacts of products across the full lifecycle, not just at end-of-life
- Promote community awareness and understanding of the social and environment benefits of electronics reuse and recycling.



**42% of consumers have
two or more handsets at
home, despite most being
aware of the availability of
mobile phone recycling**

Why is Telstra doing this?

This strategy is the next step in an ongoing approach that builds on the tremendous efforts and achievements of many Telstra people.

Three pillars underpin our strategy and its role in managing and reducing e-waste:

1. Telstra is one of Australia's most recognisable brands and is in a position to take a lead in facilitating convenient, accessible and effective e-waste collection and take back systems.
2. Telstra is ideally positioned to undertake broad community awareness and education programs.
3. Telstra has a shared responsibility with our suppliers, product manufacturers, logistics partners and reuse/recycling vendors to address the e-waste being generated now, and to work to design and produce electronic products that have less environmental impact.

To date, Telstra has supported many take back and recycling schemes, however existing schemes are limited in that they focus on recovery and recycling.

An enhanced focus on e-waste is required that pursues increased action across the entire value chain. Consistent with Telstra's Environment Strategy, our approach focusses on strong integration within our company and enhanced customer experiences.

Telstra's Electronics Reuse and Recycling Strategy has been developed with the support of internal business units, leading industry and academic stakeholders. It is a new integrated approach consistent with similar strategies being employed in other countries by some of the world's leading technology companies.



**Since 2013, we've recycled
nearly 10,000 tonnes of
retired electronics**



We see tonnes of opportunities

Australia is one of the highest per capita producers of e-waste in the world. As a population, we generate more than 25 kilograms of e-waste per person each year.

Telstra has already put a number of initiatives in place that responds to the e-waste challenge. These include our support for MobileMuster, holding internal e-waste events, and offering business and retail customers mobile device reuse, trade-in and recycling programs.

Over the past three years, Telstra has diverted over 45 tonnes of mobile phones and accessories from landfill through the MobileMuster program. Through this activity, we have avoided 362 tonnes of carbon emissions, or the equivalent of planting 2,194 trees.

We have also sought to engage our employees in electronics recovery and recycling through our annual e-waste collection campaign. Since 2013, we have collected over 46 tonnes of e-waste across more than 80 corporate offices and telephone exchange buildings.

Acknowledgements

This strategy is the result of the work of more than 30 teams across Telstra, Institute of Sustainable Futures at University Technology Sydney, Victorian Eco-Innovation Lab (VEIL) - University of Melbourne, Australian Mobile and Telecommunications Association (AMTA) incorporating MobileMuster, and many prominent industry stewardship specialists. We thank everyone involved for their commitment to this collaboration.

Find out more

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