



**Product
Stewardship
Centre of
Excellence**

**CASE
STUDY**



Self-repair with HMD

HMD, the maker of Nokia phones, has gained growing attention for its commitment to repairable smartphones. This case study delves into HMD's sustainability efforts and the introduction of the Nokia G22 and Nokia G42 5G smartphones. With an emphasis on durability, HMD is focused on reducing electronic waste and its environmental impact by enabling self-repair, ultimately supporting consumers to keep their devices in use longer.

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Product Stewardship in Action with

HMD

INTRODUCTION

E-waste is a growing issue in Australia and beyond. The Global E-Waste Monitor has reported that 53.6 million tonnes of e-waste were produced globally in 2019, predicted to rise to 74.7 million by 2030.¹ Mobile phones are a significant contributor to this waste stream. Out of the roughly 16 billion mobile phones owned worldwide, the Waste Electrical and Electronic Equipment (WEEE) Forum estimated that nearly one-third (or 5.3 billion) would be discarded as waste in 2022.²

In response, there are growing regulatory requirements³ and consumer expectations that handset producers take responsibility for their products across the product life-cycle. With consumers increasingly expecting to keep their phones longer⁴, businesses must respond by ensuring their devices are durable and repairable. In the Australian context, research conducted by IPSOS for MobileMuster has found that the average length of phone usage is up to 3.0 years (May 2023), up from 2.5 years in March 2020.

This case study explores HMD's recent efforts in this area. With its Nokia product range, HMD has been making headlines for its innovative approaches to sustainability and repairability in the smartphone industry.⁵ We focus on HMD's experiences launching the Nokia G22 and Nokia G42 5G smartphones with self-repair capabilities and its

collaborations with iFixit to increase consumer awareness and confidence in self-repair.

As well as contributing to collective product stewardship initiatives such as MobileMuster – a product stewardship scheme providing a free recycling service for mobile phones (as well as batteries, chargers and accessories) in Australia – HMD has built its reputation as a company committed to reducing electronic waste. In particular, the brand's push towards self-repair with the Nokia G22 smartphone has won numerous industry awards, including six "Best of Mobile World Congress (MWC)" awards, given by some of the most well-read consumer tech publications in the UK⁶ who attend the trade show. It also received the MWC Editor's Choice Award from the USA Today Network, recognising it as one of the best mobile techs of 2023.⁷

HMD's APPROACH TO THE CIRCULAR ECONOMY

HMD is dedicated to creating affordable, durable smartphones while upholding its commitment to the circular economy. In particular, HMD is working to embed the following four circular economy principles across its operations:

- **Reduce:** Incorporate recycled materials in devices and packaging.
- **Reuse:** Encourage and support trade-

phone longer and a nearly 10% decrease in the number of people planning on buying a new phone within a year.

⁵ The Guardian. (2023). Nokia G22 review: a budget Android phone you can repair yourself. Retrieved from <https://www.theguardian.com/technology/2023/mar/13/nokia-g22-review-a-budget-android-phone-you-can-repair-yourself>

⁶ This includes recognition from [Trusted Reviews](#), [Digital Trends](#), [Expert Reviews](#), [Android Police](#), [Tech Advisor](#), and [Stuff](#).

⁷ USA Today (2023). MWC 2023 Editors' Choice Awards: The best mobile tech coming this year. Retrieved from: <https://reviewed.usatoday.com/smartphones/features/mwc-2023-editors-choice-awards-best-mobile-tech-coming-year>

¹ E-waste Monitor. (2020). E-waste Monitor GEM 2020. Retrieved from <https://ewastemonitor.info/gem-2020/>

² WEEE Forum. (2022). International E-waste Day: Of ~16 Billion Mobile Phones Possessed Worldwide, ~5.3 Billion will Become Waste in 2022. Retrieved from https://weee-forum.org/ws_news/of-16-billion-mobile-phones-possessed-worldwide-5-3-billion-will-become-waste-in-2022/

³ DCCEEW Provides an Overview of E-Stewardship and Domestic Regulation for E-waste. Retrieved from: <https://www.dcceew.gov.au/environment/protection/waste/e-waste>

⁴ According to global survey data from [GWI](#) of internet users aged 16-64, over the past four years, there has been a marked increase in people holding onto their

ins for old devices.

- **Repair:** Enabling consumers to extend the life of their devices through self-repair.
- **Recycle:** Provide free end-of-life recycling in 32 countries with accredited partners.

Their [2022 Sustainability Report](#) highlights further progress in advancing these principles, including increasing the use of recyclable and recycled materials in their devices and packaging, prioritising repair services, and implementing a new Circular subscription model in the UK.⁸ For instance, HMD has redesigned part of its products with recycled aluminium and plastic. They are also increasing the amount of FSC® certified and recycled materials in their packaging.

As HMD Country Manager Brenden Folitarik put it at the Australian Repair Summit, “Our vision is to connect the world without costing the earth, and with that comes a commitment to, and passion for, repairability and sustainability. These are far more than simply buzzwords for us.”⁹

DESIGNING FOR REPAIRABILITY

The design team at HMD is dedicated to helping people keep their phones for as long as possible. To achieve this, they prioritise durability and repairability in their design philosophy.

The Nokia G22 is an example of this commitment in action. To determine where to direct their efforts towards self-repair, HMD first analysed the primary reasons why individuals purchase new phones, as well as

⁸ HMD (2023). Sustainability Report. Covering Fiscal Year 2022. Retrieved from: https://downloads.ctfassets.net/u4kpzn5cffwn/2t1j4oROxn7wGZLw0TPQPn/8af8ceec7352c8a6ba6b11cdc1785dd20/HMD_-_Sustainability_Progress_Report_2023.pdf

⁹ Bencic, E. (2023). HMD Global country manager addresses Australian Repair Summit. Retrieved from:

the phone components that are most frequently replaced. Poor battery life was consistently identified as the catalyst for upgrading, while the screen was the most commonly replaced component. Consequently, the design team focused on improving these components to be more durable and accessible for repair. For example, the Nokia G22 has long-lasting battery with up to 800 complete charging cycles at over 80% of original capacity.*

In February 2023, the Nokia G22 smartphone was launched, allowing consumers to replace these most commonly damaged phone parts independently. Critically, this self-repair program reduces the need for customers to replace their entire device if only one part is faulty.

HMD regularly releases software and security updates for its Nokia products to prolong the life of their phones, ensuring they run at optimal performance levels for longer periods. This level of service is uncommon in the smartphone industry at this price point.

For their G-series and X-series phones, HMD also offers an industry-leading three-year warranty in Australia, which includes mobile devices that have undergone self-repair, as long as iFixit guidance has been followed and the right tools have been used.¹⁰ This provides important reassurance for consumers wanting to repair their devices while knowing they are still under warranty.

ENCOURAGING SELF-REPAIR THROUGH EDUCATION

The goal of HMD is to promote long-term behavioural change and empower customers to feel confident and capable of repairing their

<https://www.applianceretailer.com.au/hmd-global-country-manager-addresses-australian-repair-summit/>

*Battery has been tested by HMD Global to maintain at least 80% of its original capacity after 800 full charging cycles.

¹⁰ Details available at https://www.nokia.com/phones/en_int/self-repair.

own devices. While having a phone that can be repaired is a great feature, it becomes less effective if people are too intimidated to attempt the repairs themselves. To address this challenge, the goal was to keep the process as straightforward as possible when introducing self-repair with the Nokia G22 device.

However, in engaging with self-repair, HMD faced several challenges in educating and communicating with customers about how to repair their devices. A lack of technical experience, confidence in one's ability to fix the device, and perceptions of the time and effort required to repair a smartphone are among the obstacles preventing consumers from self-repair.

In addressing these challenges, while HMD has product design expertise concerning repairability, they also realised the required assistance in effectively communicating how to repair a device to their customers. As a result, HMD reached out to iFixit, a well-known company specialising in repairing electronics, creating the DIY repair kit¹¹ to develop a partnership to support their customers in building confidence and reassurance around self-repair.

Together, they developed a Nokia G22 Repair Kits, which included replacement part(s) and all the necessary tools and step-by-step instructions to for the repair. Several different kits are available depending on what part needs replacing. A consumer can also purchase an individual part, such as a back cover, battery, charging port or screen.

The partnership with iFixit was immediately beneficial. While designing the DIY repair kits and instructions, the iFixit team suggested improving the instructions. They also partnered to offer a customer support service to assist customers in repairing their devices. iFixit instils confidence in consumers who know their services and may have tried their

¹¹ Fenech, S. (2023). Nokia's G22 smartphone has been designed for customers to do their repairs. Tech Guide. Retrieved from

guides.

IMPROVING REPAIRABILITY

Embedding repairability as a key pillar of product stewardship within the Nokia product line. Specifically, the Nokia G22 and Nokia G42 5G devices have been an iterative process. The design team is committed to making self-repair as accessible as possible.

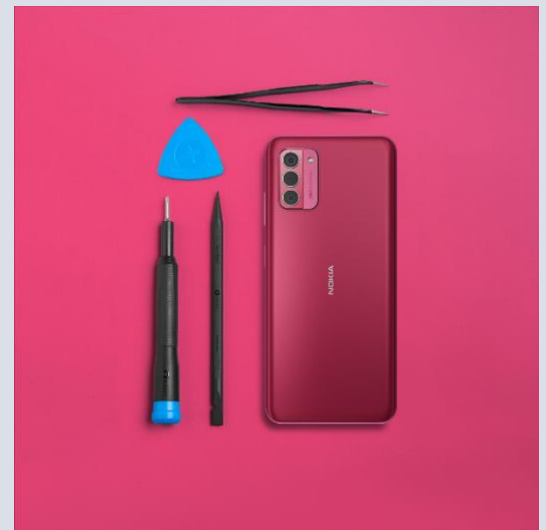


Image 1: An example of a G42 5G iFixit repair kit.

In the case of the Nokia G22, this included a noteworthy mid-production design change that supported ease of repair. The following is an example of this ethos in action:

“To their enormous credit — we’re still a bit gobsmacked by this — HMD took feedback and quickly ordered a mid-production change on the Nokia G22 with a revised pull tab design and less stubborn adhesive. Mid-production changes are unusual and costly, and this, more than anything, reassured us that HMD takes its commitment to repairability seriously.”

“In hindsight,” they told us, “decreasing the amount of glue and making sure the tab was tough enough to pull the battery out and

<https://www.techguide.com.au/news-old/nokias-g22-smartphone-has-been-designed-for-customers-to-do-their-own-repairs/>

*therefore making it easier to remove the battery, was the right decision ... We knew it was hindering the customer experience and made the decision it had to be done.*¹²

PARTNERING FOR PRODUCT STEWARDSHIP

HMD has recently undertaken several local, community-based sustainability initiatives in Australia. The first initiative was a donation campaign with Clean Up Australia from March 1st to June 7th, 2023. During this period, for every sale of the Nokia G60 5G, Nokia X30 5G, and Nokia G22, HMD donated \$20 to Clean Up Australia to support various environmental clean-up activities nationwide.

The second initiative was a recycling competition in partnership with MobileMuster, Clean Up Australia, Wander & Freely. According to IPSOS 2022 data, Australian households collectively hold onto more than 4.9 million broken phones, with an average of 2 unused mobile phones per household. The initiative encourages Australians to recycle their old mobile phones, keeping them out of landfills. Consumers could recycle their old devices through MobileMuster's free return service to participate in the competition, which ran over six months and had two prizes of a luxury eco-vacation.¹³

Additionally, through their "Used for Good" initiative, HMD donates devices to charity organisations and rewards customers with credits for supporting social and environmental causes. This extends the life of their devices and is an example of the social impact of their product stewardship efforts.

NEXT STEPS

Self-repair is an important development in the mobile phone industry. HMD is working to lead the way with their commitment to improving internal design processes for future devices.

For example, they recognise the challenges of maintaining water and dust resistance while ensuring self-repairability and are actively working on improving durability without sacrificing affordability. In response, they advocate for industry-wide collaboration on R&D that will further improve device durability and ease of self-repair, ultimately leading to better environmental outcomes.

KEY TAKEAWAY

HMD's self-repairable Nokia G22 and Nokia G42 5G smartphones are examples of innovative solutions to minimise the growing problem of electronic waste. The company has taken an important step towards self-repair in the smartphone industry and has set an example for other smartphone manufacturers. Collaboration with iFixit and DIY repair kits are significant steps towards empowering users and reducing the environmental impact of mobile devices.

NOTE

The content of this case study is information of a general nature sourced from public sources and investigations conducted by the Product Stewardship Centre of Excellence. It does not represent advice, direction or endorsement from the Product Stewardship Centre of Excellence, nor does it represent the only method or practice to address the topics laid out in this document. Individuals or organisations are encouraged to conduct their own analysis and consideration of strategic options relevant to their situation before taking action in regards to the matters covered.

HMD Global Oy is a licensee of the Nokia brand for phones & tablets. Nokia is a registered trademark of Nokia Corporation.

¹² Mokhtari, S. (2023). Just How Repairable is Nokia's G22? iFixit. Retrieved from

<https://www.ifixit.com/News/76105/just-how-repairable-is-nokias-g22>

¹³ More information about the competition and partnership can be found on the [Nokia landing page](#).

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