

How imaging can support healthcare's circular economy

By Kees Wesdorp

Faced with rising costs, increasing patient volumes, staff shortages, and the pressures of value-based care, healthcare organizations often feel they must 'do more with less.' Rather than framing our approach to care as one that feels stretched beyond its means, what if we flipped our mindset to 'do better with what we have?'

This is the perspective of the circular economy, an evolution from today's linear model of production and consumption of 'make, use, and dispose' to a circular model of 'make, use, return.' In this model, healthcare organizations effectively partner with vendors for a mutually beneficial exchange of solutions, including reimbursable trade-ins, structured upgrades and same-as-new refurbished products at a lower cost. The circular economy is part of a groundswell of new business models taking root in healthcare purchasing. Instead of business models marked by massive capital investments in expensive medical equipment, such as brand-new MRI or CT machines, healthcare organizations are moving towards more predictable, flexible models that avoid huge cost spikes, and help mitigate risk by shifting some responsibility to their technology partners.

In the name of sustainability, a cyclical approach to imaging

innovation redefines our traditional sense of 'ownership.' It helps to future-proof a healthcare organization's operations by driving high-quality care with advanced medical equipment at a lower total-cost-of-ownership – and ultimately makes what is the right business decision the right choice for the planet as well.

CIRCULAR ECONOMY IN PRACTICE

In addition to tackling the economic pressures of value-based care to maintain profitability, healthcare organizations must also address the environmental pressures that stem from our planet's limitations. A growing demand for healthcare from an expanding population and overconsumption of resources have played a role in placing unsustainable burdens on our ecosystems. For the health of both our environment and healthcare's financial bottom line, the transition to a circular economy is essential. We need different ways of looking at the global business model of healthcare to find sustainable solutions that meet clinical, operational and financial concerns, while providing patient value and business efficiency in tandem.

This means we need to rethink what 'new' means. In other industries such as automotive or retail, there could be natural skepticism when buying refurbished products,



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with preconceived notions about its performance or worth. However, there is value in repurposing. The vendors who meticulously restore their solutions and make them nearly indistinguishable from new – at a more accessible cost for buyers – will prove to be worthwhile partners in the age of the circular economy. To fulfill the promises of the circular economy, healthcare organizations need to identify a seasoned vendor partner that professionally and stringently refurbishes solutions to maintain the highest utility throughout its lifespan.

For example, at Philips, we actively 'close the loop' with customers who have made that capital expenditure years ago; they no longer have to hold onto an older machine that they may be ready to replace. We pursue trade-ins of equipment such as MRI, CT, ultrasound, and interventional and diagnostic X-ray systems, taking full control to ensure that all materials are repurposed or recycled in a responsible way. Through our

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Kees Wesdorp joined Philips in 2017 to lead Philips' largest business group, Diagnostic Imaging (DI).

DI includes:

Magnetic Resonance Imaging (MRI); Computed Tomography (CT);
Advanced Molecular Imaging (AMI); Diagnostic X-ray;
Circular Equipment.





Diamond Select refurbished systems program, traded-in imaging systems undergo a stringent refurbishment process, and are brought back to full performance, or its parts are otherwise reused or fully recycled. Using Philips' Technology Maximizer service, healthcare organizations can also receive regular upgrades to ensure they have the latest software and hardware updates, while maintaining cost efficiency through a predictable fee.

At Philips, 'used' does not equate to 'worse.' Through this integrated ecosystem, customers gain access to the same advanced technology that offers high-quality clinical and operational performance at a lower cost.

RISK MANAGEMENT IN THE NAME OF SUSTAINABILITY

The balancing act of cost and value is playing an increasing role in purchasing decisions of imaging technology. With the shift to value-based care, radiology departments often operate more like a business within a hospital, with efficiency-driven performance metrics that they are measured against. From a business standpoint, healthcare organizations must remain competitive and profitable to survive with increasing consolidation in the market. This creates greater focus on increasing patient volumes and referrals to bring in revenue while, at the same time, lowering operating costs.

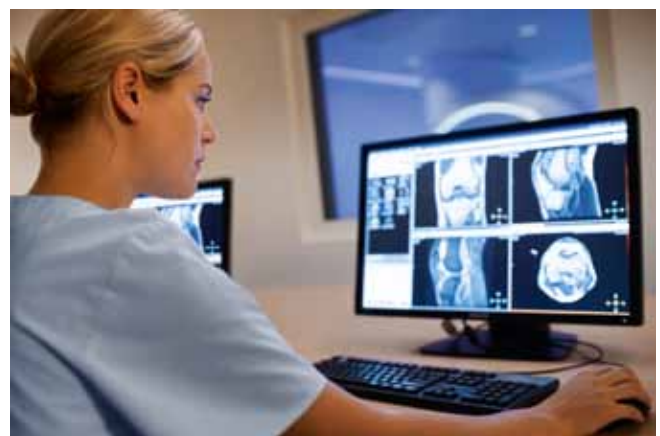
Consequently, imaging technology purchases are becoming more strategic decisions with increased attention on how these solutions can improve clinical decision-making and patient outcomes, and less on their functionality or technical claims. Beyond finding the right technology for your specific needs, it is now arguably equally as important to identify a forward-thinking partner who is invested in your operational strategy long-term.

For example, Philips *recently replaced* an old Philips digital radiography system at Reinier de Graaf Ziekenhuis in the Netherlands with the latest ceiling-mounted system, the *DigitalDiagnost C90*, while refurbishing some of the system. The hospital was under pressure to keep operational costs as low as possible while keeping diagnostic confidence high, so this was an ideal solution. Reza Karimzadeh, head of the

hospital's radiology department said, "Our hospital supports and encourages the transition to a circular economy, so we are pleased that Philips shares this objective of sustainability."

When considering a significant investment, such as a CT scanner, customers increasingly vet the value of a purchase versus the cost, not only in terms of acquisition costs but also integration, personnel, maintenance and replacement costs. With *Philips Incisive CT*, for example, hospitals can keep control of operational replacement costs such as tube life that can then be reinvested into patient care. Incisive CT also offers upgradeable systems technology so that hospitals can purchase what they need now with an easy path to add up-to-date features as their clinical needs evolve. In this way, vendors can provide reliable, scalable solutions, while proving their ability to reduce total cost of ownership end-to-end for healthcare systems.

Similarly, other imaging innovations, such as Philips' *Compressed SENSE*, enable health systems to get the most value out of existing imaging equipment in terms of productivity and streamlining workflows. With Compressed SENSE, a breakthrough acceleration technique, imaging departments can shorten MRI sequences and full MRI exams by up to 50 percent without compromising imaging quality [1]. This gives imaging departments the flexibility to use this time to advance patient care in a multitude of ways such as managing a higher patient volume, spending more time with patients prior to their exam, reducing staff overtime or even scanning at significantly higher spatial resolution. The time gained with Compressed SENSE allows health systems to increase productivity and diagnostic confidence while enhancing patient comfort without buying a new MRI scanner.



INNOVATION ALIGNED WITH THE QUADRUPLE AIM

The circular economy allows healthcare organizations to profit from and contribute to a cyclical, sustainable business model that helps them achieve the Quadruple Aim of better health outcomes, improved patient and staff experience, and lower cost of care. With the cost savings that comes with a circular approach to healthcare



innovation, quality care becomes more accessible to a large patient population that might not otherwise have access to such exceptional levels of clinical performance.

For example, Philips recently supported the Advanced Cardiac and Vascular Amputation Prevention Centers (ACV), an independent endovascular center in Grand Rapids, Michigan, USA, which aims to support underserved patients with critical limb ischemia (CLI). The independent center was concerned it would not have access to the same advanced technology found in a hospital environment. Working with Philips as a partner, ACV was able to receive a refurbished, high-performance interventional x-ray system via Philips' Diamond Select program that was tailored to fit the budgetary and clinical needs of AVC's office-based labs.



ACV's CEO and Co-founder, Dr. Jihad A. Mustapha, FACC, said, "What really matters is that critical components inside the system have been completely refurbished. We're pretty much getting a like-new device for less cost, but yet the highest quality imaging, which in the end is what we want. The Diamond Select system has lived up to its promise—100%."

Staff also reap the benefits of same-as-new advanced technology that allows for custom configurations and workflow optimization. For example, at ACV, clinicians have access to the superior imaging needed for the complex nature of its CLI patients with technology that is indistinguishable from a brand-new system. This partnership with Philips helped provide access to high-quality care for their patient population's needs in an environment that is equivalent or superior to a hospital while reducing any risk associated with their investment.

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Dr JA Mustapha, CEO of AVC

RETHINKING OWNERSHIP TO UNCOVER OPPORTUNITIES

The circular economy enables hospitals to stay clinically advanced while maximizing their imaging investment with a right-sized solution. On average, Philips' Diamond Select customers achieve 25% cost savings on technology with the same clinical capabilities and upgradable software to add the latest features as their clinical needs evolve, future-proofing their investment. By adopting innovative business models and maximizing the lifetime value of our products and solutions, we open up new opportunities for providers, including growth and cost savings, reducing resource risk, and facilitating smart asset management. By participating in such integrated, closed-loop ecosystems, healthcare organizations can safeguard their investments, while contributing to a sustainable economy. When we rethink ownership, we expand our ability to 'do better with what we have.'

FOOTNOTE

1. Compared to Philips scans without Compressed SENSE.