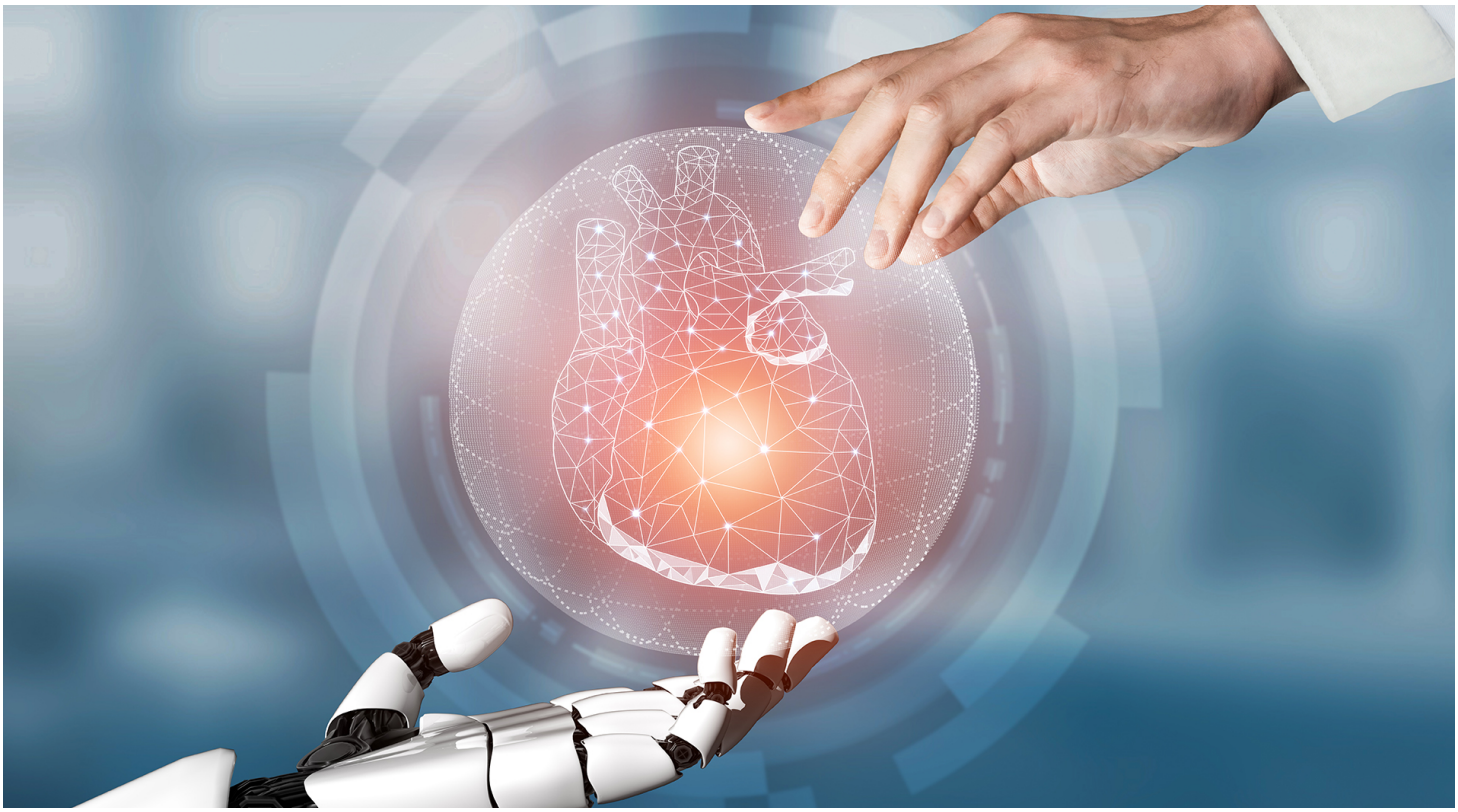
AI and Robotics in the Future of Healthcare



Evolving and Innovating

The functions of cleaning, catering, reception and maintenance might seem like basic services but they are critical in ensuring a good quality of life, especially against the backdrop of the recent pandemic. And it's clear that in a healthcare setting, they become even more significant. At Sodexo, we are constantly evolving and innovating our delivery of these services and in doing so, living up to our mission of improving quality of life. Embracing new technology to improve services and finding new solutions for our clients are some of the many ways we are innovating. Exciting new technologies with huge potential applications such as artificial intelligence (AI) and robotics are here to stay and offer huge benefits to a healthcare sector that is fighting hard in the current health crisis. Let's take a look at how AI and robotics are driving a reconfiguration of many aspects of FM services in healthcare across the globe and in the region.

In the wake of the fourth industrial revolution, governments and businesses across the Middle East are beginning to harness the global shift towards AI and advanced technologies. The UAE, Saudi Arabia and Qatar, in particular, have demonstrated a strong commitment towards the development and implementation of AI technologies. Indeed the Qatar Computing Research Institute (QCRI) believes that AI is indispensable in achieving the four pillars of sustainable development (economic, social, human, and environmental) as outlined in the Qatar National Vision 2030.

AI in Facility Management in Healthcare

The logistics of running a hospital can be extremely challenging. In particular, when there is intense pressure to release beds as soon as possible, especially since the cost of a hospital stay may be comparable to that of the most expensive hotels. AI systems can be used to help make these aspects of hospital management run more smoothly.

Healthcare firms worldwide are now busy building AI-powered analytics platforms that can help manage healthcare facilities by using machine learning techniques to predict patient flow and demand in hospitals. These systems can accurately predict how long patients will remain in a bed and will analyse the factors underlying their continued stay. Potentially, such AI systems can save thousands of dollars per patient per day. Such systems are already in use in over 60 public and private hospitals across the UK, US, and Australia. According to reports, they deliver significant cost savings for clients and significantly boost operational efficiencies.

Similar quality and efficiency gains in admissions have been experienced after the implementation of other AI-powered platforms. The AI system at a large hospital in Sao Paulo, Brazil determines the most appropriate and efficient bed placement using data obtained from current and previous cases. After implementation of this system, time for patient placement was reduced to 7 min, and bed placement accuracy increased to 94%.

At Sodexo, we have been actively using AI in our catering operations with our Waste Watch programme which is being successfully rolled out across Qatar and the Middle East throughout 2021. This programme harnesses the power of AI to more accurately predict demand for food and therefore eliminate unnecessary stockpiling.

The Rise of the Robots

Even before the recent pandemic overtook all our priorities, robotics in FM in healthcare was seen as a logical step forward where repetitive yet specialistic tasks could more effectively be carried out by robots. Since the appearance of Covid 19, things have accelerated and robot cleaners, for example, have taken a step into the mainstream of healthcare FM.

Sodexo's pioneering use of the Xenex Germ-Zapping Robots in the US and around the world is a case in point. These robots can clean hospital rooms quickly and efficiently. Using pulses of UV light, they can eliminate known pathogens and deactivate bacteria, spores and viruses. Used in connection with a hospital's normal cleaning regime, these robots have been seen to reduce infections by almost 50%* and are sure to become a more and more common sight in the region's hospitals.

A Promising Outlook for the Future of Healthcare

Although the technologies we mention can often represent a significant investment, the long-term savings and benefits are expected to outweigh the initial investment costs. AI technologies and robotics have the potential to provide significant savings in many aspects of healthcare services, including facilities management, bed occupancy, and cleaning services.

- https://sanantonioreport.org/xenex-hopes-disinfecting-robots-light-way-to-fewer-hospital-infections/
- Source: Hospital Israelita Albert Einstein, São Paulo, Brazil; Advisory Board interviews and analysis.
- https://www.beckershospitalreview.com/quality/ochsner-medical-center-cuts-infection-rate-by-49-in-90-days.html