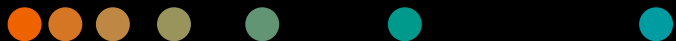


TubeGuard

Maximize Uptime with TubeGuard – Proactive Service and Monitoring for Less Downtime

A success story from Japan



Interview

Misato Central General Hospital is a core medical institution in Japan that provides comprehensive care ranging from acute treatment to rehabilitation. The hospital operates a SOMATOM Definition Edge CT system, where the X-ray tube was recently replaced proactively after TubeGuard had triggered a service action – before any issues could arise. We spoke with Dr. Katsumasa Nakayama, Director of the Department of Radiological Technology, about his experiences with TubeGuard and what he is expecting from a predictive service offering.

Could you tell us about the background of this X-ray tube replacement?

Nakayama: The Siemens Healthineers Customer Care Center (CCC) informed us of an early, predictive alert regarding the X-ray tube. At no point did the tube show any indications of malfunction, and imaging operations continued without interruption. Based on this forward-looking notification, we were able to plan and schedule the replacement proactively – before any failure occurred and without impacting clinical workflows.

What is your impression of the TubeGuard service?

Nakayama: With general radiography systems, there are often early warning signs of failure – such as the inability to generate high voltage – so radiologic technologists can often detect problems in advance. In contrast, with more complex systems like CT scanners, component failures tend to occur suddenly, and until recently, X-ray tubes were typically replaced only after a failure had already occurred. In this context, TubeGuard stands out as a truly predictive service – something I have rarely encountered with other providers.

In the past, X-ray tube replacements were typically carried out urgently after a malfunction occurred and the customer contacted us. This time, with TubeGuard, the CCC reached out proactively allowing the replacement to be scheduled before any disruption occurred. When comparing both approaches, what would you say are the key benefits of TubeGuard?

Nakayama: When conventional X-ray tube failures occur, they lead to sudden equipment downtime and complete system inoperability, directly affecting the patient scheduled for examination. While standard, non-contrast imaging procedures may be easier to reschedule, more complex examinations – such as contrast-enhanced scans – are significantly disrupted. If such a failure occurs during peak operating hours, it may require the cancellation of all scheduled appointments for the day.

In large hospitals with multiple CT scanners, downtime can be mitigated. But in our facility, where only one CT system is available, this represents a critical risk. TubeGuard allowed us to schedule the replacement in advance, avoiding any disruption to daily operations. To me, that is the service's greatest benefit.



“... Preventing downtime is a win-win for both the hospital and Siemens Healthineers, and we look forward to seeing more of this in the future.”

Dr. Nakayama Katsumasa
Director of the Department of Radiological Technology
Misato Central General Hospital, Japan

What other benefits have you experienced?

Nakayama: Unexpected malfunctions previously required considerable time to organize replacement parts, schedule engineers, and accommodate travel – on top of the replacement itself. The total downtime from failure to completed repair was therefore substantial. With advance scheduling, this process becomes much more efficient, significantly reducing the overall time required.

From your perspective as head of the department, how does this impact your staff?

Nakayama: Sudden equipment downtime is mentally exhausting for our staff. It's not just about apologizing to patients – it also complicates coordination with the reservation center, outpatient clinics, and hospital wards. Being able to schedule the X-ray tube replacement in advance greatly reduces this stress.

How does this impact the hospital's bottom line?

Nakayama: Downtime can have a direct financial impact. Proactively scheduling X-ray tube replacements clearly mitigates that risk, benefiting the hospital's efficiency and finances.

What are you hoping to achieve with Siemens Healthineers in the future?

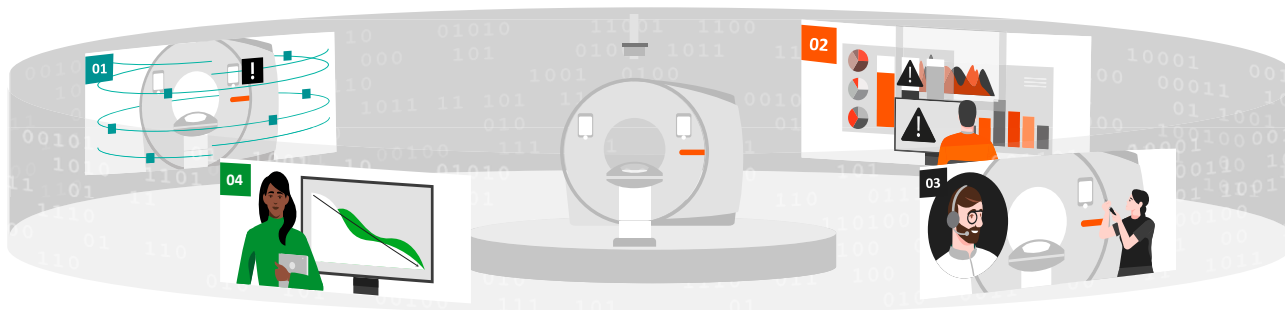
Nakayama: I've heard that TubeGuard is available not only for CT systems but also for angiography equipment. Predictive services like this truly address the needs of both users and patients, and I think that's a wonderful initiative.

While TubeGuard currently monitors X-ray tubes, other critical components can also cause downtime. If these parts could be monitored and potential failures detected in advance, it would provide even greater reassurance.

Downtime is one of the most stressful situations when managing a single CT system. We believe that preventing downtime benefits both the hospital and Siemens Healthineers – it's truly a win-win. We look forward to further developments in this area.

Four essential steps

Reduce unplanned interruptions and downtime with the TubeGuard as part of the Guardian Program.



01

Real-time monitoring

Constant monitoring of sensor information from X-ray tubes of operating equipment via Smart Remote Services

02

Data-driven prediction

Using sensor information and AI technology, it accurately predicts potential problems

03

Rapid repair response

Proposal and implementation of pre-replacement of X-ray tubes based on forecast data

04

Improved equipment performance

Avoid downtime by replacing in advance and contribute to maintaining and improving the uptime of operating equipment

The products/features and/or service offerings (here mentioned) are not commercially available in all countries and/or for all modalities. If the services are not marketed in countries due to regulatory or other reasons, the service offering cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

The results by customers of Siemens Healthineers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.

TubeGuard is available for selected CT, MI PET/CT, and interventional imaging equipment.

Connection to Smart Remote Services (SRS) infrastructure is required. SRS has advanced security measures in place and is compliant with the ISO 27001:2022 Standard for Information Security.

www.siemens-healthineers.com/services/customer-services/upspeed-services/guardian-program

Siemens Healthineers Headquarters

Siemens Healthineers AG
Siemensstr. 3
91301 Forchheim, Germany
Phone: +49 9191 180
[siemens-healthineers.com](https://www.siemens-healthineers.com)