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Canon launches first domestic X-ray CT system with photon-counting detector

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First domestically produced X-ray CT system with photon-counting detector installed at National Cancer Center Japan Exploratory Oncology Research & Clinical Trial Center



Canon Medical Systems Corporation (Canon Medical), a group company of Canon Inc., has developed the first domestically produced photon-counting CT (PCCT) system incorporating Redlen's advanced technologies. This system has been installed at the National Cancer Center (NCC) Exploratory Oncology Research & Clinical Trial Center in Japan, where it is currently used to conduct research exploring the clinical applications of PCCT.

Last year, Canon Inc. acquired Redlen Technologies Inc., one of the world's leading companies in creating new technologies related to the development and manufacture of semiconductor detector modules.

An advanced modular photon-counting detector based on the latest crystal production/processing technologies developed by Redlen Technologies Inc. is incorporated in the PCCT system. The modular design of the photon-counting detector allows the size of the detector to be increased while reducing manufacturing and service costs. The modular detector supports a wide range of examinations and is expected to satisfy the most demanding requirements of advanced clinical practice.

Unlike conventional CT, in which X-rays are detected indirectly by a scintillator-type detector, PCCT detects X-rays directly using a photon-counting detector, resulting in substantially improved basic performance.