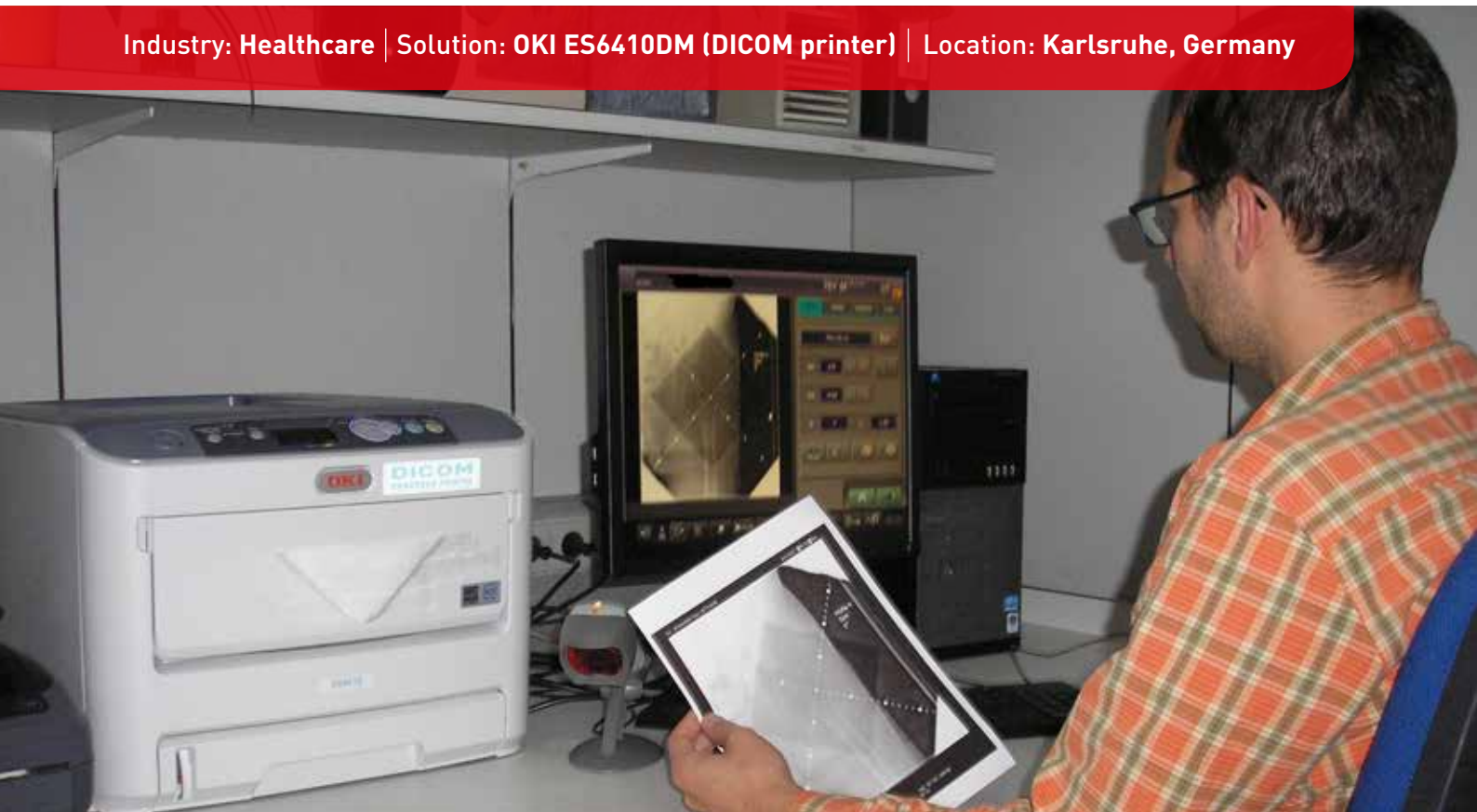


OKI case study

Industry: Healthcare | Solution: OKI ES6410DM (DICOM printer) | Location: Karlsruhe, Germany



Optimised work processes within a radiotherapy clinic: ViDia Christliche Kliniken Karlsruhe uses OKI for direct print-outs of X-ray images in DICOM format



About the customer

ViDia Christliche Kliniken Karlsruhe formed in 2016 following the merger of St. Vincentius-Kliniken and the Diakonissenkrankenhaus. With over 3000 employees, ViDia Christliche Kliniken Karlsruhe is one of the largest employers in the Karlsruhe region. Both establishments were founded in 1851 to promote the Christian faith, and hold Christian charity to be one of their guiding principles. ViDia Christliche Kliniken Karlsruhe provides a comprehensive range of emergency care services for the Mittlerer Oberrhein/Nordschwarzwald region, and serves as a teaching hospital for the University of Freiburg. The two establishments care for around 50,000 inpatients and 150,000 outpatients in total each year.

The challenge

Medical images such as X-rays play an extremely important role in radiation therapy. A vital prerequisite for successful radiation treatment is identification of the exact location of a tumour in the body in order to allow precise targeting of the radiation. This can be checked by means of X-ray imaging. These X-ray images are subsequently printed out and archived for the purpose of documenting the treatment. The printing process can however be problematic, since only very few printers can directly handle the DICOM format (the healthcare sector's preferred image data communication

INTEGRATED WITHIN

1
day



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Martin Schmidt, employee in the Department of Medical Technology, ViDia Christliche Kliniken Karlsruhe

The benefits at a glance

- High-quality and cost-effective printing of images in DICOM format
- No additional software
- End-to-end documentation of disease history
- Optimised work processes

standard). "Extra software or hardware is needed before images in this format can be printed out on normal office printers", explains Martin Schmidt from the Department of Medical Technology at ViDia Kliniken. "Conversion of the images into other printer languages can also lead to information loss, which is something we want to avoid", he continues.

Modern radiotherapy devices feature integrated imaging technologies for printing out X-ray images in DICOM format. This technology was however not functioning correctly in one of the irradiation devices at ViDia Kliniken. An external imaging plate system which used the DICOM format, i.e.

digital X-ray films, was therefore used for imaging. The team needed a printer that could handle the DICOM format directly and print out X-ray images with as little distortion as possible for documentation purposes.

The approach

"We did some research on the Internet, and discovered that there are very few devices on the market that offer this feature", recalls Schmidt. The Radiotherapy Department finally found what they were looking for in OKI's range; the ES6410DM printer was specifically designed for the medical image processing market, and has a fully fledged internal DICOM print server. ViDia Kliniken requested a quote from

The ROG Corporation GmbH, OKI Deutschland's qualified retail and integration partner for the DICOM format. "We were won over immediately by the fact that the printer could print our images directly in DICOM format – and by the superb price/performance ratio", explains Schmidt.

The solution

"Thanks to the ES6410DM, we can easily replace the documentation function which is missing from our irradiation unit and print the images out directly using our imaging plate system." Integration of the OKI ES6410DM into the technical landscape was a straightforward matter which was completed within a single day thanks to the

joint efforts of The ROG Corporation and the in-house IT department. The ES6410DM uses OKI's LED colour printing technology to produce high-quality print-outs of X-ray images. LED printers offer major advantages, including a printed dot size which is around 50% smaller than laser devices. The high LPI produces particularly clear text and graphics. A single light source per pixel which can be controlled separately also means that the entire width of the paper can be accurately illuminated.

The benefits

OKI helped ViDia Kliniken to continue making optimum use of their existing medical devices in order to achieve the

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Irradiation unit with storage table.

required level of cost-effectiveness. St. Vincentius-Kliniken incurred no extra costs, since no additional hardware or software needed to be bought. The high image quality of the print-outs means that the treatment received by cancer patients at the clinic can be documented comprehensively. The OKI ES6410DM also meets high standards in terms of IT security; "No extra software or devices are needed to print the images out", explains Schmidt. "This eliminates increased security risks caused by additional interfaces."

A glance into the future

Employees at ViDia Kliniken can easily see how the OKI ES6410DM could be used for other tasks. For example, Schmidt believes that it could also be used for brachytherapy – a special method of irradiating tumours from very close proximity. "The OKI ES6410DM has now been in use within the department for a year, and we have only positive things to report", confirms Schmidt. "If we ever need another device for printing out images in DICOM format, there's a good chance that we'll purchase another OKI printer."

DICOM is the leading international standard for processing, storing, printing and transmitting medical imaging and other associated information. OKI was the first company to present LED-based print solutions, which are significantly faster, more flexible and more cost-effective than existing DICOM solutions which use film or solid-ink technologies.

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