Dose management
All the questions
All the answers

Qaelum

dose

WHO

Who is Qaelum?

From an academic project at the University Hospital Leuven (Belgium), to a European leader in quality control. This is our success story, underlined by several awards and distinctions.

Our software solutions, in particular the innovative dose management system, DOSE, are used all over the world. Through the international and interdisciplinary composition of our team, with medical physicists from different countries, Qaelum achieves a unique spirit, which is reflected in the innovation and performance of our products.

Highest quality is of vital importance to us! Qaelum is certified according to ISO 27001 and ISO 13485. Furthermore we develop our software tools according to the principles of ISO 62304 and IEC 62366, and we assess the risks according to ISO 14971. Our medical products are also CE 1639 - certified (Class IIb) and FDA cleared.

WHY

Why DOSE?

The dose management software, DOSE, developed by Qaelum, is one of the most powerful and flexible systems of its kind. Since its inception in 2013 the software has continuously improved. DOSE is the core product of our company, into which all the know-how and energy of our employees flows! The quality is also reflected in the product classification of a class IIb medical device. To our knowledge, DOSE is the only product of its type on the market that has achieved this high classification.

DOSE collects important data automatically, calculates important parameters and compares patient dose values, not only with national and local limits, but also with similar examinations, devices or even clinic locations.

In addition to product quality, flawless implementation and smooth project management is also of pivotal importance. For this reason, we have our own project management and medical physics teams with decades of experience in this field. Close partnerships with global players in the medical technology sector further enhance our flexibility.

WHAT

What is the value?

DOSE offers all customers a vast range of functions without any additional costs. Of course, DOSE is kept up to date with national legislation ensuring conformity at all times. Should any changes occur, they will be implemented without incurring additional costs.

For those customers with specific interests, we can offer some additional functionality and optional modules that will suit their needs. In addition, the automation of routine tasks that are otherwise difficult to manage, can save users a great deal of time and therefore reduce related costs, thereby giving a favorable return on investment. The initial outlay is therefore based on the number of modalities or studies, as well as the additional licenses.

Whether you have a small radiology practice or a group of hospitals with multiple locations, we will always find an appropriate solution, tailored to your requirements. This includes the software configuration, as well as a range of services, including extensive education and training. You will not be left alone, but optimally prepared for the daily work with a dose management system!

WHAT

What does DOSE offer?

LEGAL CONFORMITY

TEAM AND ROLE MANAGEMENT

PACS, HIS AND RIS INTEGRATION

DATA PROTECTION

ADVANCED CT ANALYSIS

VIRTUAL DOSE CT AND IR

PEAK SKIN DOSE

NUCLEAR MEDICINE

CONTRAST MEDIA MANAGEMENT

IMAGE QUALITY ANALYSIS

ANALYSIS OF REJECTED IMAGES

US & MRI INTEGRATION

dose

LEGAL CONFORMITY

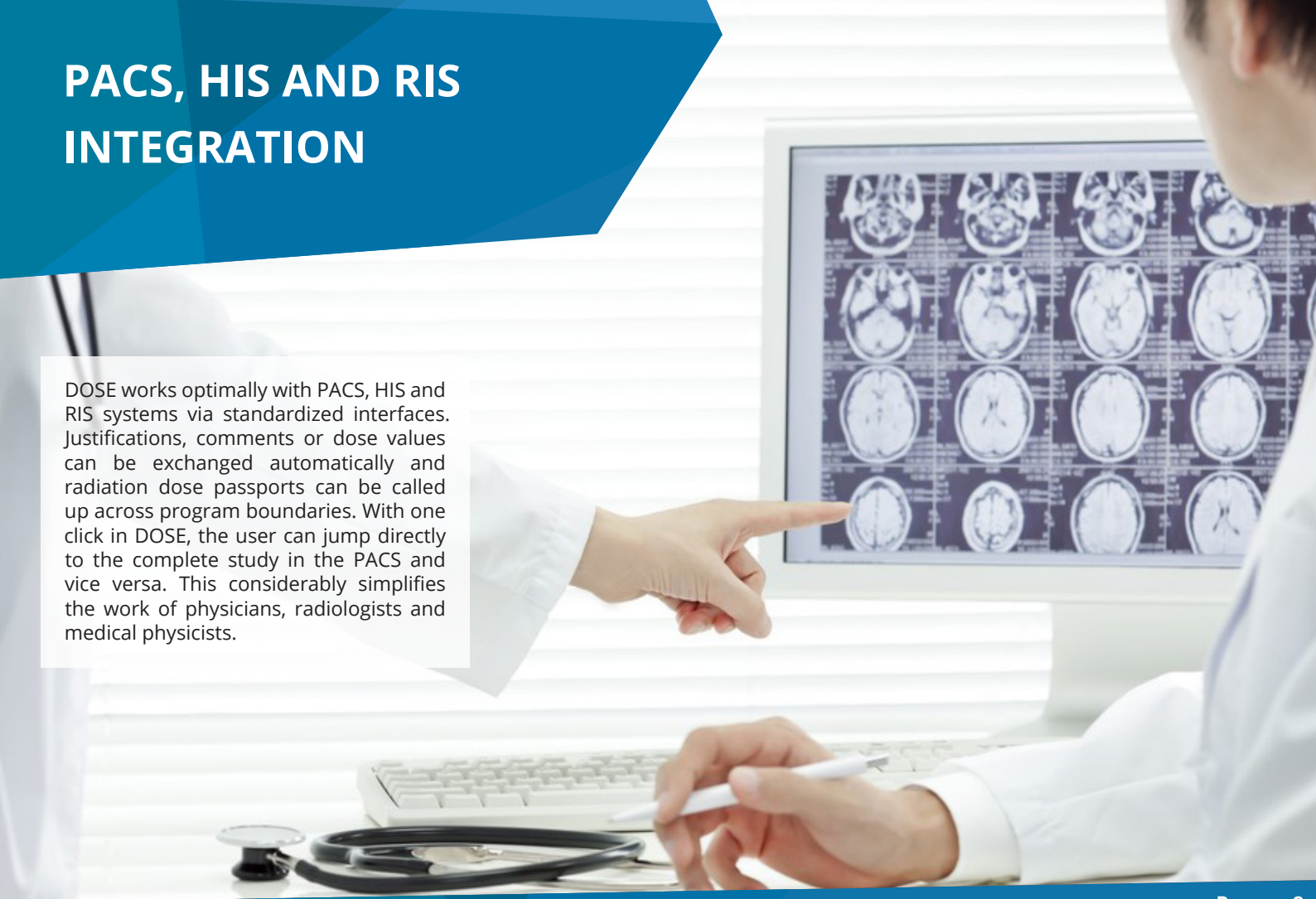
With DOSE you will always be on the safe side, conforming to local legislation. Special consideration is given to the best possible implementation of national regulations. It is very important to us that the daily work is not burdened by additional tasks, so DOSE informs the users automatically of any adverse events, e.g. via pop-up window, E-mail or SMS. Subsequently it's possible to directly enter pre-prepared or individual reasons or justifications for an event.

TEAM AND ROLE MANAGEMENT

DOSE has an extensive, but easy to use team and role management system. This allows the operators to use the dose management system effectively, letting them concentrate on their respective core tasks. In addition, user access can be limited to specific data and devices by an administrator.

PACS, HIS AND RIS INTEGRATION

DOSE works optimally with PACS, HIS and RIS systems via standardized interfaces. Justifications, comments or dose values can be exchanged automatically and radiation dose passports can be called up across program boundaries. With one click in DOSE, the user can jump directly to the complete study in the PACS and vice versa. This considerably simplifies the work of physicians, radiologists and medical physicists.

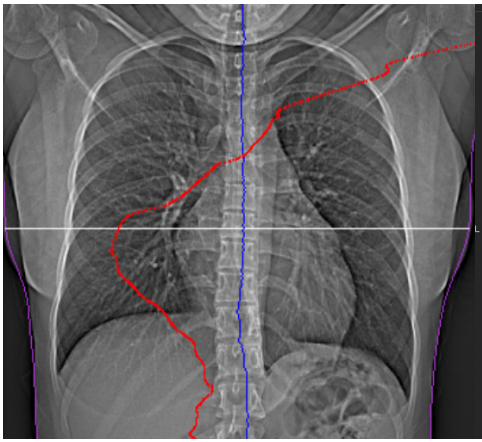


DATA PROTECTION

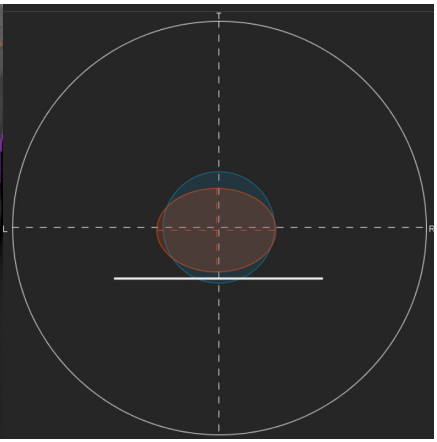
Data protection and compliance with international regulations, as well as your internal IT guidelines, are top priorities for Qaelum. DOSE will be installed centrally, within the hospital IT environment. Every authorized user can then simply log in and work via their web browser. All data remains within the hospital network. As a cost-effective alternative, we offer a cloud solution, where the highest level of encrypted data security also applies.

ADVANCED CT ANALYSIS

Even advanced CT analysis becomes child's play with DOSE. The software calculates and extracts important parameters such as SSDE and CTDIvol from available data. Other parameters that can have a great influence on the patient dose are visualized by means of clearly arranged graphics, for example, the tube current modulation or the patient positioning.



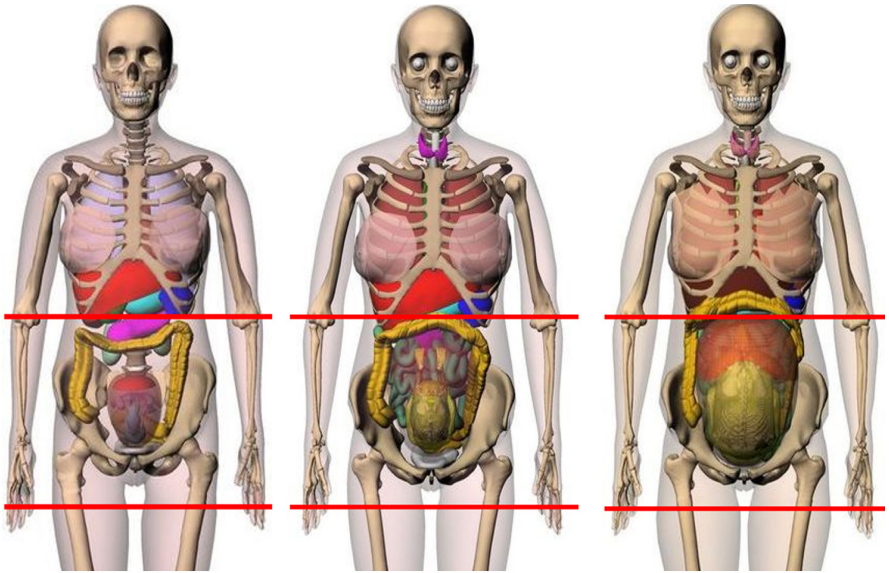
Tube current modulation



Patient positioning

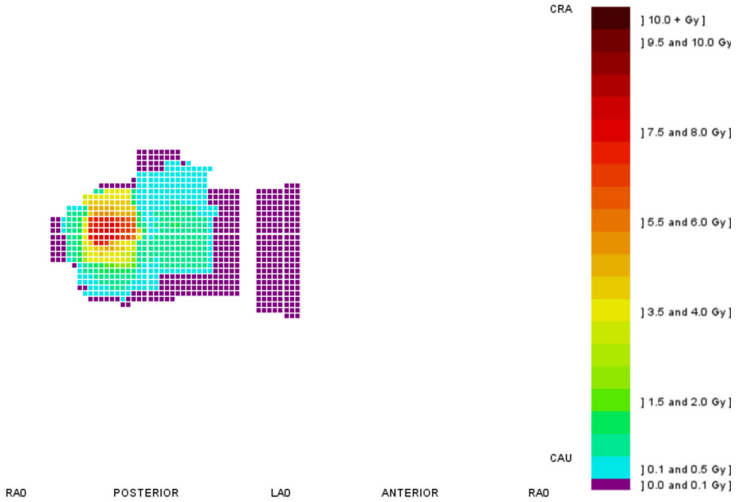
VIRTUAL DOSE CT AND VIRTUAL DOSE IR

DOSE has an in-house algorithm for calculating organ doses and effective dose. For an even more detailed analysis, very powerful tools are optionally available with Virtual Dose CT and Virtual Dose IR. The study parameters can be adjusted directly and different scenarios can be simulated using different phantoms (from infants to adults, as well as various stages of pregnancy).



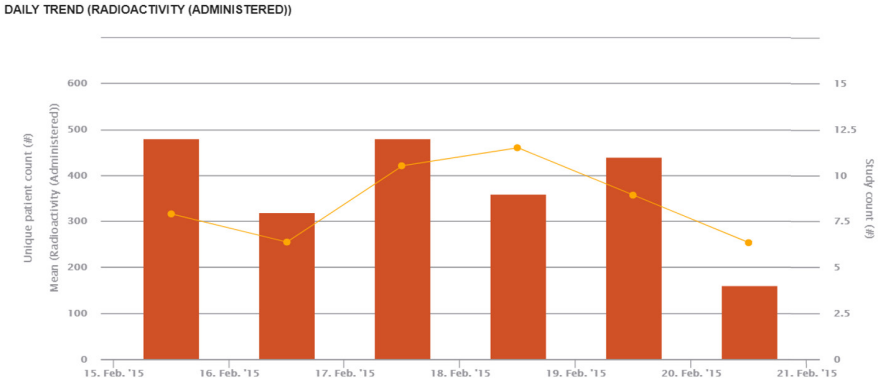
PEAK SKIN DOSE

DOSE enables the calculation of the Peak Skin Dose for each exposure event and displays this clearly on a stylized body phantom. Based on these values, the system automatically provides information on which deterministic follow-up effects can be anticipated and recommendations can be communicated to both patient and clinician.



NUCLEAR MEDICINE

We have a lot of experience in the field of nuclear medicine and we offer extensive functionality and tools in this area, including logbook management (contamination, waste, purity of pharmaceuticals, etc.), as well as numerous live dashboards. Data sources can be the hot lab management system, the NIS or RIS or even the PACS. The effective dose and the organ doses are calculated based of the conversion factors made available by the International Commission on Radiological Protection (ICRP).



CONTRAST MEDIA MANAGEMENT

Do you want to get a quick overview of the consumption and costs of the contrast media used in your organization? DOSE's contrast media management makes it very easy to perform in-depth analysis and obtain detailed information on the contrast media quantities used at various levels. Qaelum works directly with various manufacturers.

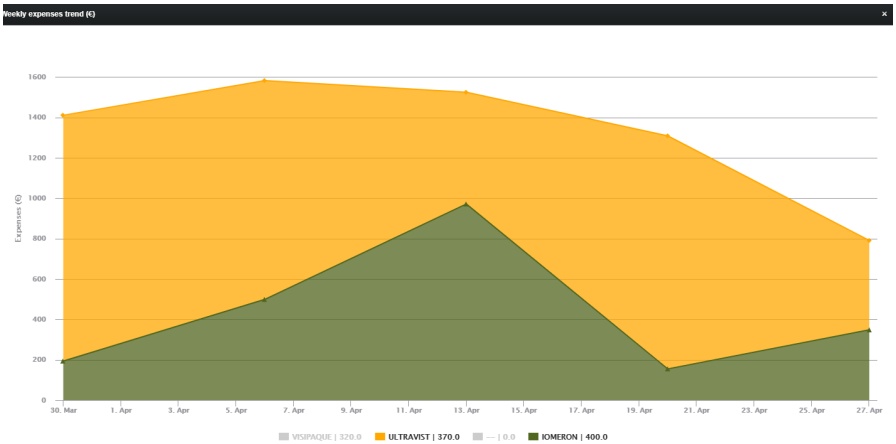
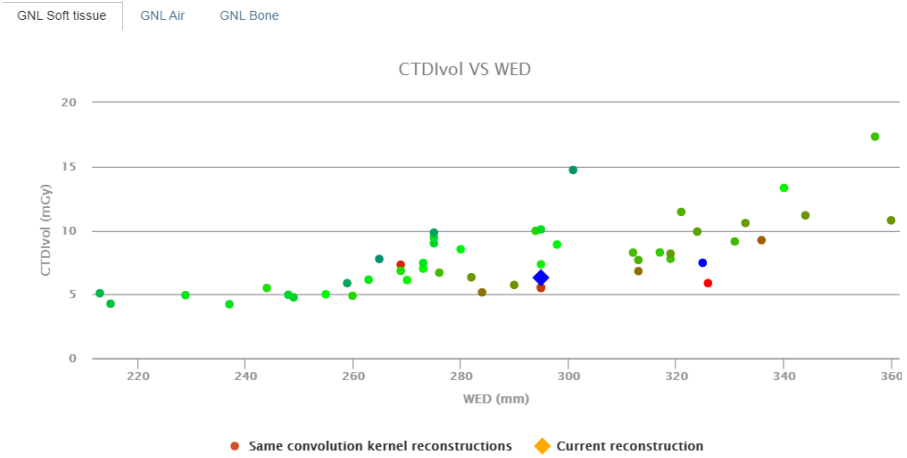


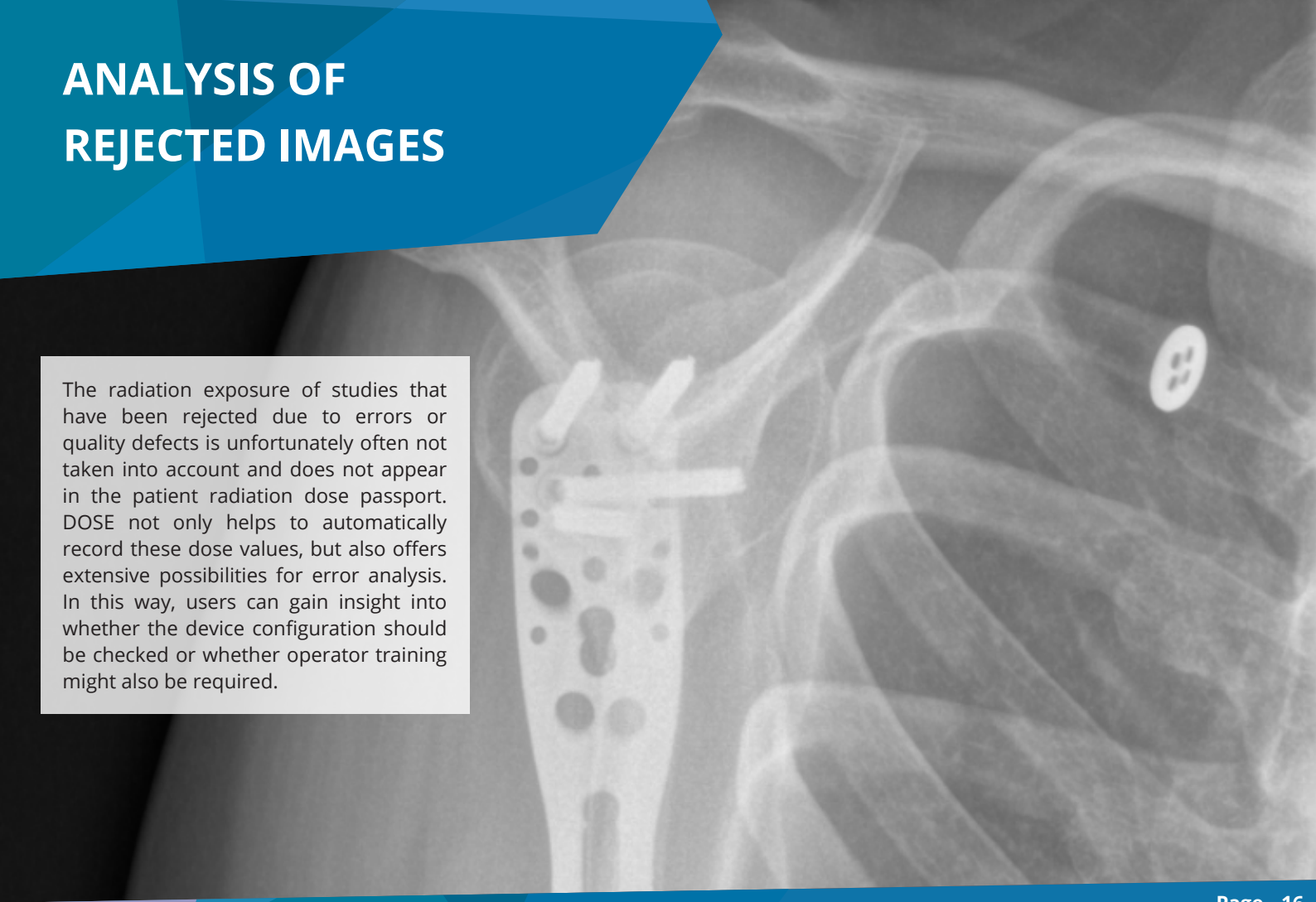
IMAGE QUALITY ANALYSIS

An applied radiation dose must always be perceived in relation to the image quality. Therefore, Qaelum is constantly working to include helpful tools to analyze image quality. With the Global Noise Level (GNL) we offer a scientifically described image quality index, which allows a simple evaluation and the detection of outliers by using all available data.



ANALYSIS OF REJECTED IMAGES

The radiation exposure of studies that have been rejected due to errors or quality defects is unfortunately often not taken into account and does not appear in the patient radiation dose passport. DOSE not only helps to automatically record these dose values, but also offers extensive possibilities for error analysis. In this way, users can gain insight into whether the device configuration should be checked or whether operator training might also be required.



US & MRI INTEGRATION

Even modalities without ionizing radiation, such as ultrasound and magnetic resonance imaging, can be easily implemented and extensively analyzed by DOSE. Room utilization and workflow analysis can be carried out in seconds, providing valuable information, e.g. whether it really makes sense to purchase a new modality and with which equipment manufacturers the hospital staff work most efficiently. Numerous graphs and dashboards are available for this purpose.