



**Success story**

# **Comprehensive support with teamplay**

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# Comprehensive support with teamplay

To efficiently monitor dose of their various systems, the radiology department of the Robert-Bosch-Krankenhaus in Stuttgart, Germany has chosen an innovative way: The cloud-based platform teamplay from Siemens Healthineers supports the hospital beyond dose monitoring, as it also helps streamline system utilization and offers numerous other helpful functions.

Text: Andrea Lutz | Photos: Uwe Niklas, Andreas Mährlein

**B**y the end of 2018, the new regulations according to the European radiation protection directive 2013/59/Euratom will come into effect. This is one of the reasons why many institutions ask themselves how to evaluate dose reports more efficiently – including the radiologists at the Robert-Bosch-Krankenhaus (RBK) in Stuttgart. “We were looking for a dose management solution that covers more than just one system. We had a central solution in mind that can integrate all systems in our entire institution”, explains

Prof. Dr. med. Angela Geissler, head physician of radiology and nuclear medicine at the RBK. “During our search, we came across teamplay from Siemens Healthineers and found the idea quite captivating to process data directly from the PACS via a cloud-based platform, which makes it unnecessary to separately connect every single modality. On top, teamplay offers additional possibilities that other solutions don’t have and which we found really appealing, for example, in the area of efficiency management.”



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## 2013/59/Euratom

The new EU guideline aims to ensure comprehensive protection against ionizing radiation. In a clinical environment, these guidelines also affect the implementation of suitable documentation and quality assurance systems. The new guideline was published on January 17, 2014 in the official journal of the European Union. In Germany, the according ordinances will come into effect by the end of 2018.

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The Robert-Bosch-Krankenhaus reacts to the megatrend digitalization with the Siemens Healthineers solution teamplay.



### Minimum effort for maximum information

Within the scope of a trial period, the radiologists could evaluate whether the platform suits their specific requirements and which concrete benefits the solution offers. The estimation after the test was clearly positive: “teamplay offers the interface we need to increase transparency between the different systems, even if they are from different manufacturers. This is crucial for us because it allows us to gain maximum information with minimum effort”, explains Anika Graser, managing MTRA at the RBK. And Geissler adds: “With teamplay, we got for the very first time an overview where it makes sense to tweak dose and where it doesn’t. And at the same time, we can easily fulfill our documentation obligation.” Other strong points for teamplay included the intuitive usability and user-friendly data processing. “You actually get an overview of the essential information and you can easily click through it if you’re looking for further information or want another presentation mode”, states Graser. “This is solved really well; the system is adaptable depending on the issue.” Consequently, the RBK decided for teamplay Dose and Usage in January 2018.

### Fast analysis, optimized dose

The extensive benefits teamplay offers the radiology department of the RBK include not only the central overview of the dose levels of the different systems, but in particular the individual analysis of striking dose occurrences, as Graser explains: “When we were investigating the reasons for strikingly high dose levels in the past, it led to a complicated chain of questions; and some questions couldn’t be answered in retrospect. With teamplay, we get a prompt overview of dose occurrences and can thus comprehend more easily why dose breaches occurred, for example, because the patient was extremely obese, because he had to be specially positioned or because the parameters of the system were disadvantageous. Where we can improve something, we can respond accordingly.” By comparing dose levels and settings of several systems, the department was able to reduce dose – for example in oncology by approx. 30 percent. “Generally, such optimizations would also have been possible without teamplay, but due to complicated data comparisons and delayed feedbacks, we weren’t able to do it so systematically”, explains Graser. Currently, teamplay is mainly used for the CT systems in

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**Prof. Dr. med. Angela Geissler**

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at the Robert-Bosch-Krankenhaus in Stuttgart



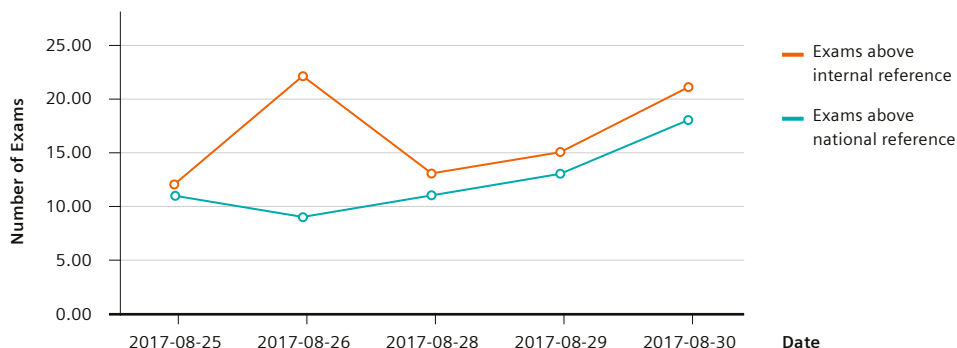
the radiology department and for the PET-CT in the department of nuclear medicine. But Prof. Geissler has much bigger plans: "We also have in mind to connect other modalities as well as to stronger integrate our second radiological site at the Klinik Schillerhöhe in Gerlingen. We aim to integrate all our in-house disciplines into dose monitoring, especially the surgical fields."

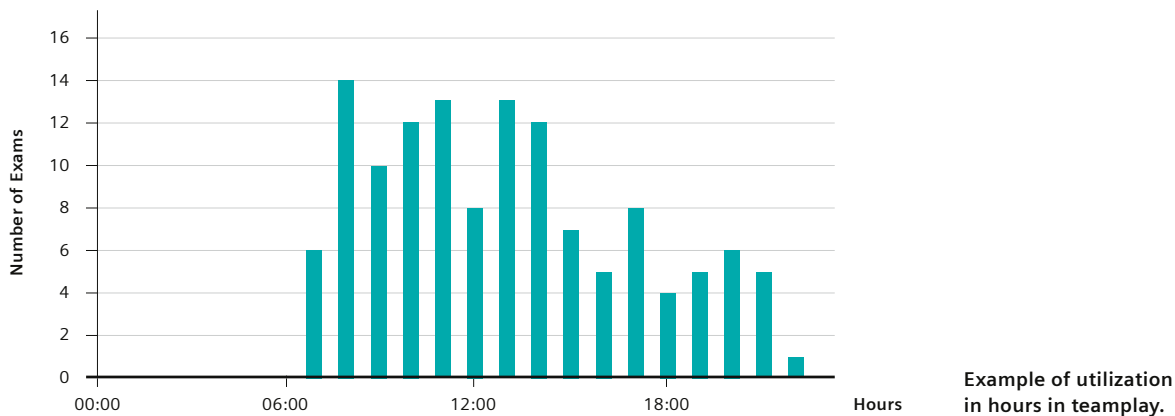
### More efficient processes

Additionally, Geissler wants to use the teamplay functions beyond dose monitoring: "Of course, working with the lowest possible amount of dose is generally an issue that is on all our minds, but we are also very process-oriented. We are very interested in optimizing workflows with the help of teamplay." The option of analyzing system utilization with teamplay Usage is already actively used at the RBK, also because questions of dose occurrences and utilization are often interlinked, as Graser emphasizes: "Of course it is easier to reach optimal dose, if you only have a small

number of patients. Therefore it is crucial to look at both simultaneously." In this case teamplay also reduces the workload of the managing MTRA and delivers a solid and highly diversified data basis that was not available before, for example, to-the-minute recordings of setup times or scheduling of examinations during the day. "In the past, when I had questions regarding system utilization, I had to run through the entire department, trying to find out in individual talks where staff was needed or if there were issues with the devices, states Graser. "Now I have exact figures. The colleagues, by the way, don't feel controlled because we use the analyses to help them with their difficulties" Graser uses the example of patient flow to explain which concrete challenges can be mastered: "As about 80 percent of our patients are transported to us in a bed, patient flow strongly depends on the availability of transport capacities in our institution. teamplay helps us to easily document variations, so that we can align our working schedules to them. On top we can estimate

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that more flexible and alternating working schedules create more efficient workflows without increasing workload.”

### Perspectives with teamplay

The next step that the team of the RBK intends to take with teamplay is the centralized optimization of the protocols, especially with regard to the second site of the department, as Graser emphasizes: “With the Klinik Schillerhöhe, we are facing a special situation, as they focus on lung conditions. In our clinical routine this means that certain examinations are only occasionally done and the matching protocols rarely looked at. For example, when I find irregular dose levels here, teamplay enables us to check whether the protocols are still up-to-date and to adapt them centrally, without a divisional manager having to be on-site.” Therefore, teamplay is an investment that will pay off well into the future for the radiologists at the RBK: “Dose monitoring is the issue that’s currently in the foreground, but once it is established, we can address further issues”,

says Geissler. “With teamplay, we have a platform that not only allows us to adapt protocols centrally but principally also to seamlessly exchange them internationally. That is a really exciting perspective for us. And we are really interested in benchmarking, especially regarding system utilization, and in exchanging images. At the moment, we are still busy sending and receiving tons of CDs.”

Especially connecting with external colleagues can be slowed down by technical barriers or cost issues. A cloud-based solution like teamplay can solve these problems easily, because there are no extra PACS-licenses or special installations needed. For example a resident doctor basically only needs to register at teamplay to download images that were taken for him or her at the RBK. “Especially for our main allocators, for example the oncology, this would be ideal”, states Geissler. “I think that this area will develop significantly. The inhibition of the colleagues, to make the next step towards interconnection, will definitely be lower than from an analog to a digital world.” ●



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**Anika Graser**

Managing MTRA at the radiology and nuclear medicine department at the Robert-Bosch-Krankenhaus in Stuttgart

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