

Invited Talk: The Operating Room of the Future

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The increasing networking of data systems in medicine leads not only to a modern interdisciplinarity in the sense of a cooperation of different medical disciplines, but also poses new challenges to the concept of the operating room as building infrastructure. The surgical operating room of the future augments its reality, away from pure space characteristics, to an intelligent and communicative interactive platform. In analogy to a smart phone which becomes more a platform for different application beyond the function as a pure telephone device, the operating room of the future serves as sensor and actuator at the same time. A modular architecture with open interfaces for image acquisition and analysis, interaction and visualization, supports the integration and combination of heterogeneous data that are generated in a hospital and operating room environment. Based on this, we aim to describe surgical evolution not only in the context of minimal invasiveness (smaller incisions) but more as “smart surgery” with expandable software applications as ready-to-use applications (apps) especially in the field of image guided surgery and surgical decision support, which are integral part of the infrastructure of a new operating room concept.