SIEMENS
Healthineers

Driving the Digitalization of Healthcare
How the Siemens Healthineers Digital Ecosystem will benefit healthcare providers and patients

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Digitalization has a lot in store for healthcare providers – and it presents them with possibilities that were either unthinkable or at least very visionary just a few years back: For one, it means, that their global peers will always be just a click away. Furthermore, healthcare providers will be able to monitor clinical and operational performance in real-time, access real-time data and gain actionable insights from that.

Plus, through a combination of product know-how, process expertise and data analytics, healthcare providers will be able reduce unplanned downtimes and improve operational efficiency. This creates transparency and enables better decision-making.

But let's take a step back to assess how all this comes together. How to connect the pieces of the puzzle?

The strengths of Siemens Healthineers

To date, the lack of interoperability of healthcare systems proved to be a big challenge in leveraging data.

To overcome this challenge and to foster collaboration and innovation, Siemens Healthineers was and is providing network integration services – applying IHE standards – to allow for the cross-institutional communication and implementation of e.g. electronic health records (from an institutional to a national level), physician and patient portals, or teleradiology solutions.

On top of this, Siemens Healthineers has now opened – and is continuously expanding – its own Digital Ecosystem. Imagine the sheer amount of available data: Siemens Healthineers imaging equipment, in vitro solutions, and associated software and services globally cover more than 200,000 patients per hour. By utilizing the information in this Digital Ecosystem, healthcare providers could benefit immensely. All of a sudden, they will not only benefit from insights derived from 500, but millions of cases. This can be efficient for example when it comes to the diagnosis of rare diseases – where it is crucial to amass a lot of data to identify the best way to diagnose and treat the patient.

A solid sharing foundation

Every Ecosystem needs a strong backbone. And in the case of Siemens Healthineers, the cloud-based network teamplay qualifies for just that. With currently more than 1,000 hospitals sending statistical and anonymized clinical data into the cloud, teamplay is a solid technical platform that aggregates data, does analytics and enables collaboration and sharing of insights. Data from imaging modalities, laboratory diagnostics and medical documentation can be combined and assessed, and empowers healthcare professionals to identify improvement potential. The platform currently contains several million data records, providing, for example, insight into the level of utilization of imaging devices in a clinic or the associated radiation doses.

Use cases are abundant

What other actual use cases are we looking at? The aggregated data enables different evaluations. Tools for predictive analysis for example could enable users to discern new correlations and trends to help improve diagnoses and guide therapy choices. And global knowledge exchange is a very important instrument in medicine to improve patient care. The data can also be utilized for benchmarking purposes. The Digital Ecosystem will allow experts to link and communicate with their peers worldwide, and healthcare providers can benefit from Siemens Healthineers' extensive expertise in nearly all clinical areas, including experience in data security in the healthcare market.

Collaboration is key

Since the ecosystem is naturally designed as an open space, it allows for application, service and solution providers, device manufacturers, platform developers or data providers to create, market and offer services efficiently, which are seamlessly integrated into the platform, so that new services and applications reach the market faster. Arterys, MediCAD Hectec, Viewics, Stroll Health, SyntheticMR and Pie Medical already agreed to provide applications and technologies for the Siemens Healthineers Digital Ecosystem. The goal is to attract the best solutions and technology developers worldwide, in cloud or on-premise deployments.

The future of healthcare is out there – and it's digital. Leveraging on big data and turning them into actionable insights will be crucial. With the Digital Ecosystem, Siemens Healthineers aims to set new trends in healthcare together with its customers and partners. This will enable healthcare providers around the world to meet their current challenges and to excel in their respective environments.
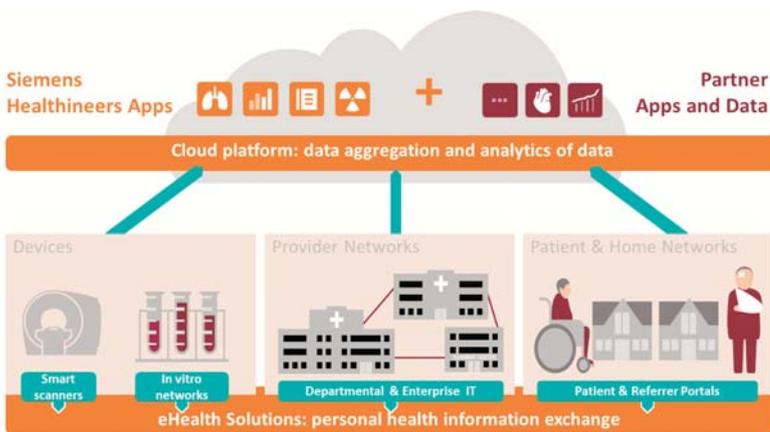

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Safety first

When handling sensitive data, security is of the essence. The Siemens Healthineers Digital Ecosystem is based on the cloud-based network teamplay, which meets the United States (US) standards of HIPAA, as well as the requirements of the European Data Protection Directive. It is built on the cutting-edge Microsoft Azure cloud platform and transmissions are protected by state-of-the-art cryptographic means. Furthermore, teamplay (CORE applications: Dose, Usage and Protocols) has been awarded with the European Privacy Seal and the German "Seal of Privacy for IT products" of the ULD. teamplay brings together a number of additional platforms such as the Remote Services platform LifeNet or the Point of Care Informatics solution. Because data security and privacy are taken very seriously, the cloud-based network offers different data privacy profiles which give users robust transparency and control over personal data and protected health information (PHI). Patient privacy is protected at any time by not uploading identifying details.

Reference:
Institute for Healthcare Improvement. IHI Triple Aim Initiative. 2017. Available at: http://www.ihi.org/Engage/Initiatives/TripleAim/Pages/default.aspx

The Siemens Healthineers Digital Ecosystem is designed as an open space and enables partners to have their services seamlessly integrated to ultimately benefit healthcare providers and patients.

Siemens Healthineers commands a huge database, generated by installed in-vivo and in-vitro systems.

About the author: In his role, Dr Thomas Friese leads efforts to introduce novel digital services into the portfolio of Siemens Healthineers. His work focuses on using state-of-the-art software technology, particularly cloud computing, big data, and image and data analytics technology, to enhance and strengthen the core competencies of Siemens Healthcare in medical imaging, diagnostics and therapy. Dr. Friese earned his PhD in computer science from the University of Marburg, Germany. Prior to his current role, he held a variety of technical and engineering leadership positions at Siemens Corporate Technology and Siemens Healthcare.

Join Dr. Thomas Friese at HIMSS AsiaPac17 for an informative session on the Healthineers
Digital Ecosystem on September 13 at 2pm in the Collaborative Care track.