5GMedCamp

Development and testing of continuous vital signs data transmission and processing using local 5G networks in cardiovascular and cerebrovascular risk patients.

Motivation 5G campus networks meet the highest requirements for security, reliability and availability of communication and are therefore particularly attractive for applications in a clinical setting. For example, 5G campus networks enable continuous data transmission for patients implanted with a permanent left ventricular assist device (LVAD). In addition, uninterrupted integration of public and home networks can significantly improve telemedical care and detect medical complications of the procedure (e.g. pump thrombosis, infections, strokes) or technical problems at an early stage. The collected data can also be pre-processed using artificial intelligence (AI) methods, thereby supporting medical decision-making.

Goal Deteriorations in implanted patients, especially in the postoperative follow-up, are intended to be detected and identified earlier and better through continuous monitoring. For the patients, this should lead to a higher quality of treatment, while the executing clinic can still perform a larger number of implantations with qualitatively higher follow-up care.

Intended outcomes 1) Development and testing of the usability of 5G campus networks in a medical context and data management in the context of a clinical trial (demonstrator).
2) AI model building of the aggregated data (in-vitro circuit model and retrospective data) using state-of-the-art Deep and Machine Learning technologies.
3) Identification of market barriers from a medical, privacy and technical perspective and development of proposed solutions.

Expected impact Pioneering role of Germany as a business location in the use of digital technologies, especially in the linking of 5G technology and AI-based applications in healthcare, and subsequent international marketing

Tags 5G Campus network, Health, AI, LVAD

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5 PARTNERS

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Deutsches Herzzentrum Berlin,
SectorCon GmbH,
Synios GmbH

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