New software helps improve diagnosis and intervention for cardiac health issues

Prague, June 29, 2023 – A project using advanced software to automatically and remotely monitor health patients in real-time is being implemented in the Czech Republic. Using an algorithm to analyze data from remote monitoring instruments, the software helps identify episodes associated with cardiac risk or deterioration, before recommending clinical responses.

Creation of the software was completed in 2022, and a research team comprising VDT Technology a.s., the General University Hospital in Prague, the Prague Advanced Technology Research and Innovation Center a.s. (PATRIC), and Emergency E-Health a.s., are now in the implementation stage. Project cooperation takes place under the Ministry of Industry and Trade's TREND programme to support industrial research and experimental development, with funding from the Technology Agency of the Czech Republic.

By aggregating data from different manufacturers, unifying data formats and creating a uniform structure, the software provides users with clear information about their health, conveyed through a user-friendly interface. Alerts are personalized based on users' individual condition, with diagnostic or therapeutic intervention prioritized based on these insights.

The Siemens MindSphere IoT platform is the basis for the development of the new system, providing the robust security standards needed for ensuring the safety of stored data.

"This new software will facilitate the remote monitoring of patients with implantable cardiac devices, enabling more efficient outpatient care," explains XXX, XXX at VDT Technology, who adds: "Using advanced technology to analyze patients' data and suggest responses has the potential to play a major role in mitigating and minimizing risks caused by heart problems and related health issues."

Pacemakers are becoming increasingly common, with the market for these implanted devices growing by 30 per cent worldwide between 2016 and 2023.

The project is being piloted in the Comprehensive Cardiovascular Center of the General University Hospital in Prague. After receiving a declaration of conformity certification, the software may be commercialized. The software is anticipated for

use by cardiovascular centers, hospitals, and implant centers, while health insurance companies may be secondary customers.

The software has been developed in two languages, Czech and English. Subject to successful implementation at the General University Hospital in Prague, it may be exported to hospitals and other healthcare institutions internationally.

"As more people use implanted cardiac devices, there is greater need to create and implement solutions facilitating efficient treatment," says Zdenka Fingrová, Head of Clinical and Biomedical Engineering at the General University Hospital in Prague, who adds: "This process will allow healthcare professionals to allocate their time where it is most needed while ensuring that patients receive optimal care."