HOSMARTAI

AI for the smart hospital of the future

Innovative platform for the development and adoption of reliable AI-based solutions for healthcare

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MAPPING AND ABLATION OF CARDIAC ARRHYTHMIAS

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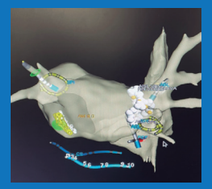
MAPPING AND ABLATION OF CARDIAC ARRHYTHMIAS

THE STARTING PROBLEM

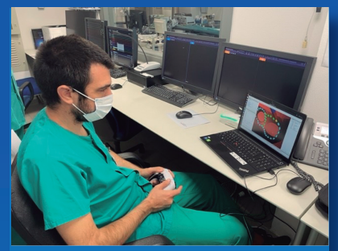


Considering the increasing numbers of patients with atrial fibrillation (Afib) we aim to help improving the efficiency for Afib ablation procedures

THE PILOT SOLUTION

In silico Robotic navigation for ablation and telesurgery using a cardiac chamber 3D model reconstructed through real data analysis

1

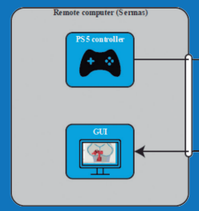


Real anonymized ablation data is sent for analysis: SERMAS (Madrid) - 91

GUI of left atrium anatomy and pulmonary veins

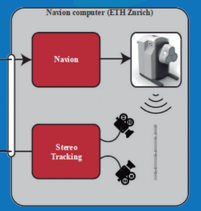
GUI is already developed and getting improved with new data (91)

2

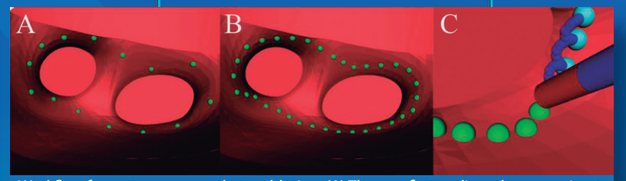


Remote robotic tests have been initiated: ETHZ and SERMAS

3



Active planning for final experiments: including telesurgery: SERMAS, ETHZ and 91



Workflow for autonomous catheter ablation. (A) The user first outlines the approximate contour of the pulmonary veins. (B) An A-algorithm then calculates equally spaced ablation targets to ensure a continuous ablation line. (C) Subsequently, the catheter tip (depicted by the red and blue cylinder) follows an autonomous trajectory (illustrated by the blue spheres), connecting the computed ablation targets.*

Robotic technology is fully developed (ETHZ)

Next step will be to put together the GUI in a 3D model with the robotics

RESULTS AND IMPROVEMENTS

We expect our solution to be a tool to improve efficiency in atrial fibrillation ablation procedures considering the increasing incidence of this health problem