Iceland
Liechtenstein
Norway grants

Norway grants

I D E A R

PREOPERATIVE DATA (CT, MRI)

ENDORO robot

Robotic Control + Navigation Software

NAVIGATION/INVESTIGATION DATA

HYBRID IMAGING

TRACKING DATA
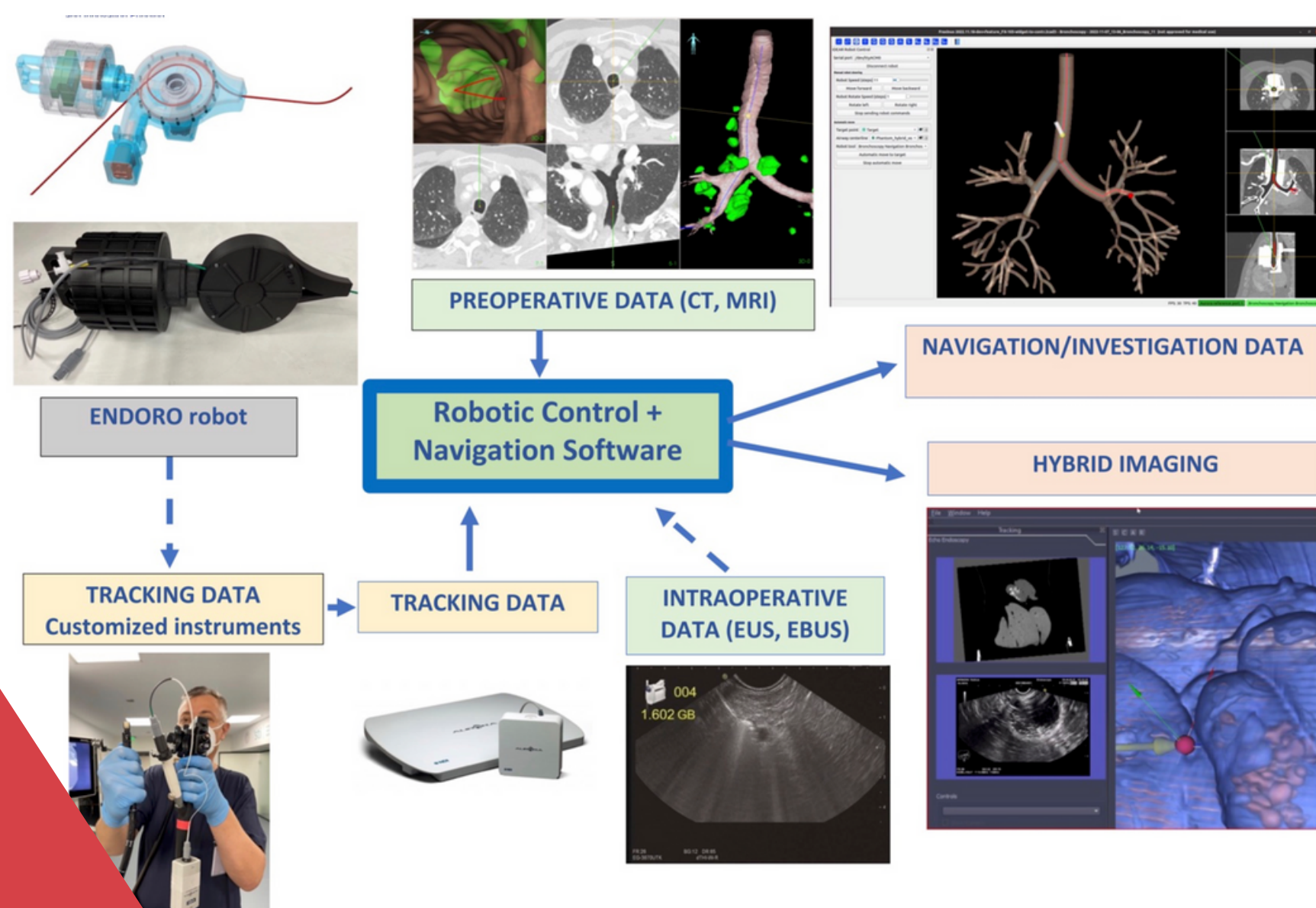Customized instruments

TRACKING DATA

INTRAOPERATIVE DATA (EUS, EBUS)

Improving Cancer Diagnostics in Flexible Endoscopy Using Artificial Intelligence and Medical Robotics

Principal Investigator: Lucian Gruionu
Project Promoter: University of Craiova, Romania
Project Partners: Politehnica University of Bucharest, Ponderas Academic Hospital, SINTEF AS, St. Olavs Hospital & Ceetron AS Norway

SCAN ME

The main objective of the IDEAR project is to develop an advanced prototype of a medical software and robotic platform for Improving cancer Diagnostics in flexible Endoscopy using AI and Medical Robotics (IDEAR) to increase procedure success rate, decrease the patient's radiation exposure, and reduce procedure cost for early detection and treatment of malignant tumors. The platform will contain two components with many technical innovations: (1) a software part for instrument and robot control and navigation using dual electromagnetic/optical tracking and machine learning; and (2) a hardware part with a novel smart robotic (SAR) system which will assist the surgeon in directing several novel flexible instruments also developed by us (i.e. biopsy catheter).

The main impact of the project consist in an improved diagnostic procedure for patients in bronchoscopy/gastroenterology with fewer attempts (repeat procedures) to reach the lesion and acquire a tissue sample. The doctors will have an improved method for endoscopy enabling them to perform endoscopy procedures rather than CT-guided biopsies for more patients. Determining the spread of potential disease at the earliest opportunity (first biopsy successful) is crucial to the correct treatment decision and patient survival.