



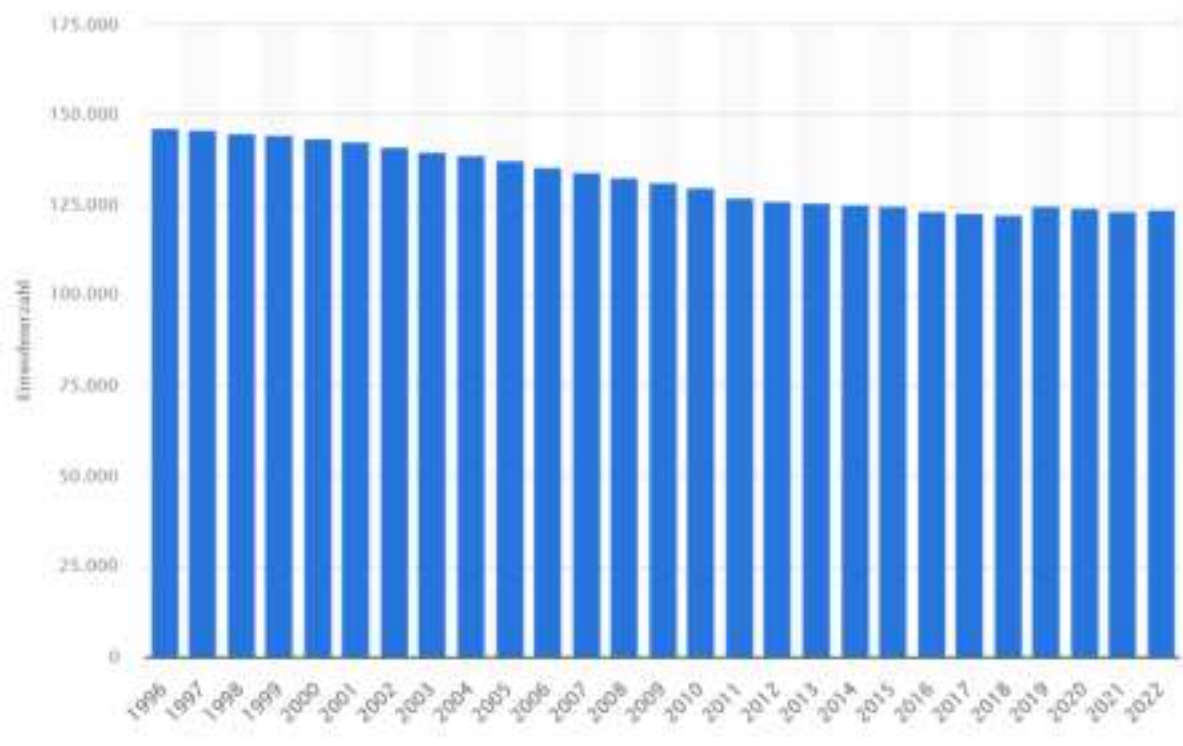
MARTA - Medizinischer Assistenzroboter für tägliche Aufgaben
Ensuring medical care in rural area

-Prof. Dr.-Ing. Frank Schrödel, Niranjan K R

Automated Doctor's Assistant: Problem Statement

- The older Demograph in rural areas requires sufficient medical care
- Rural areas are threatened by a severe shortage of staff
- The aim is to develop the automatied clinical practice in rural areas
- Project phase 1: Take over tasks from reception (appointment management, patient admission, printing forms), incl. facial recognition and greeting
- Project phase 2: Take over tasks from the medical assistant (cleaning, restocking, preparing labs)

- Located in the center of Germany, not far from Erfurt and Jena.
- Population growth in the district of Schmalkalden-Meiningen from 1996 to 2022



- Cities and districts with the highest average age in Germany in 2021

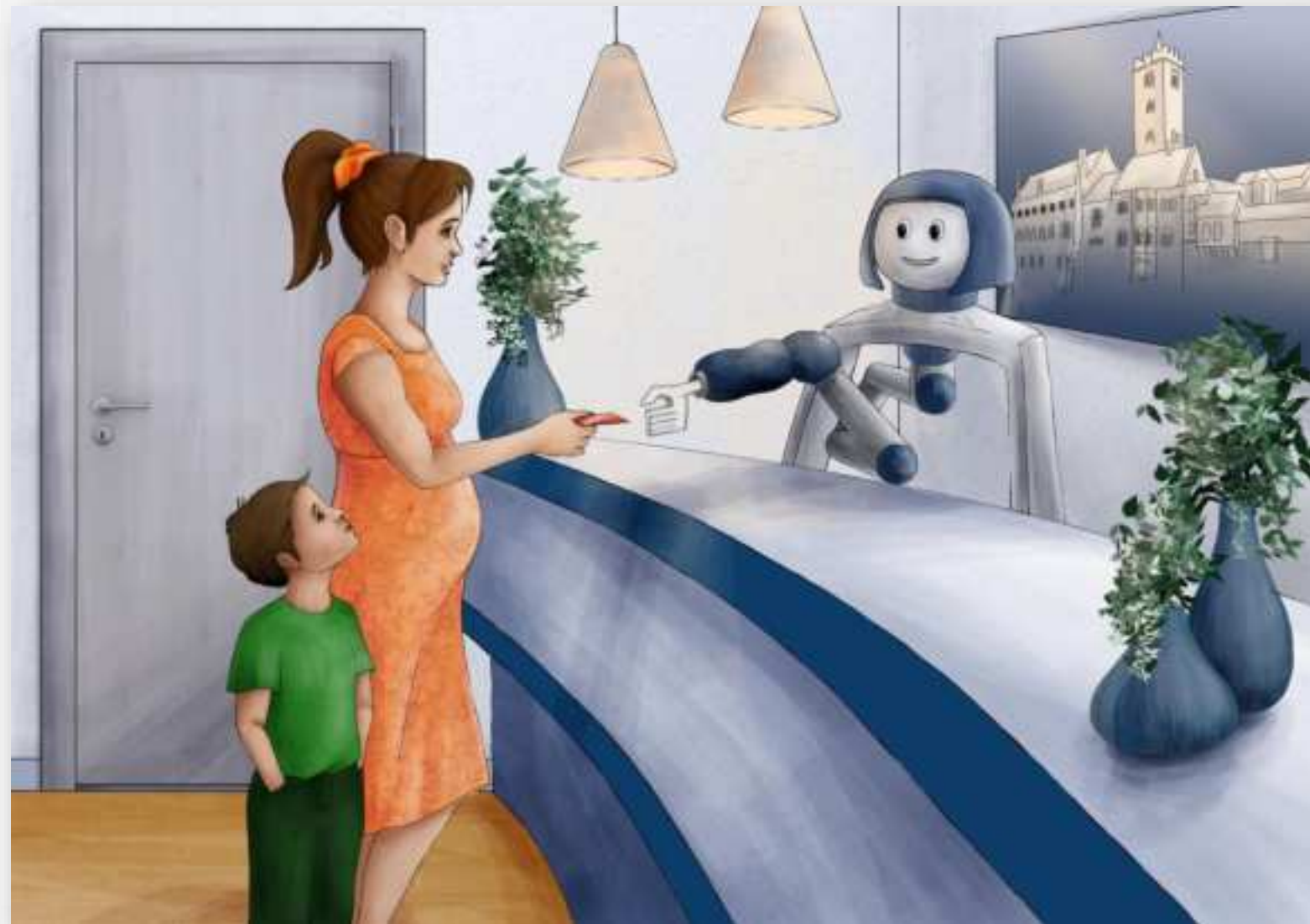


- Our today is Germany's tomorrow!, In 25 years Demograph of Germany is similar to Schmalkalden
- What works here has the chance to work throughout Germany!

- Dr. Ottmar Heller is opening his doors for this project and making his Clinic Vita Gynaecology Praxis, fully available.
- His goal is to be the first doctor with an automated Clinic in Germany and wishes to add value to our region (Thüringen/ Südthüringen/ Schmalkalden).



- Setting up virtual and physical robots, putting them into operation, expanding and improving the software and hardware in terms of user acceptance
- Prove the feasibility of the developed solutions

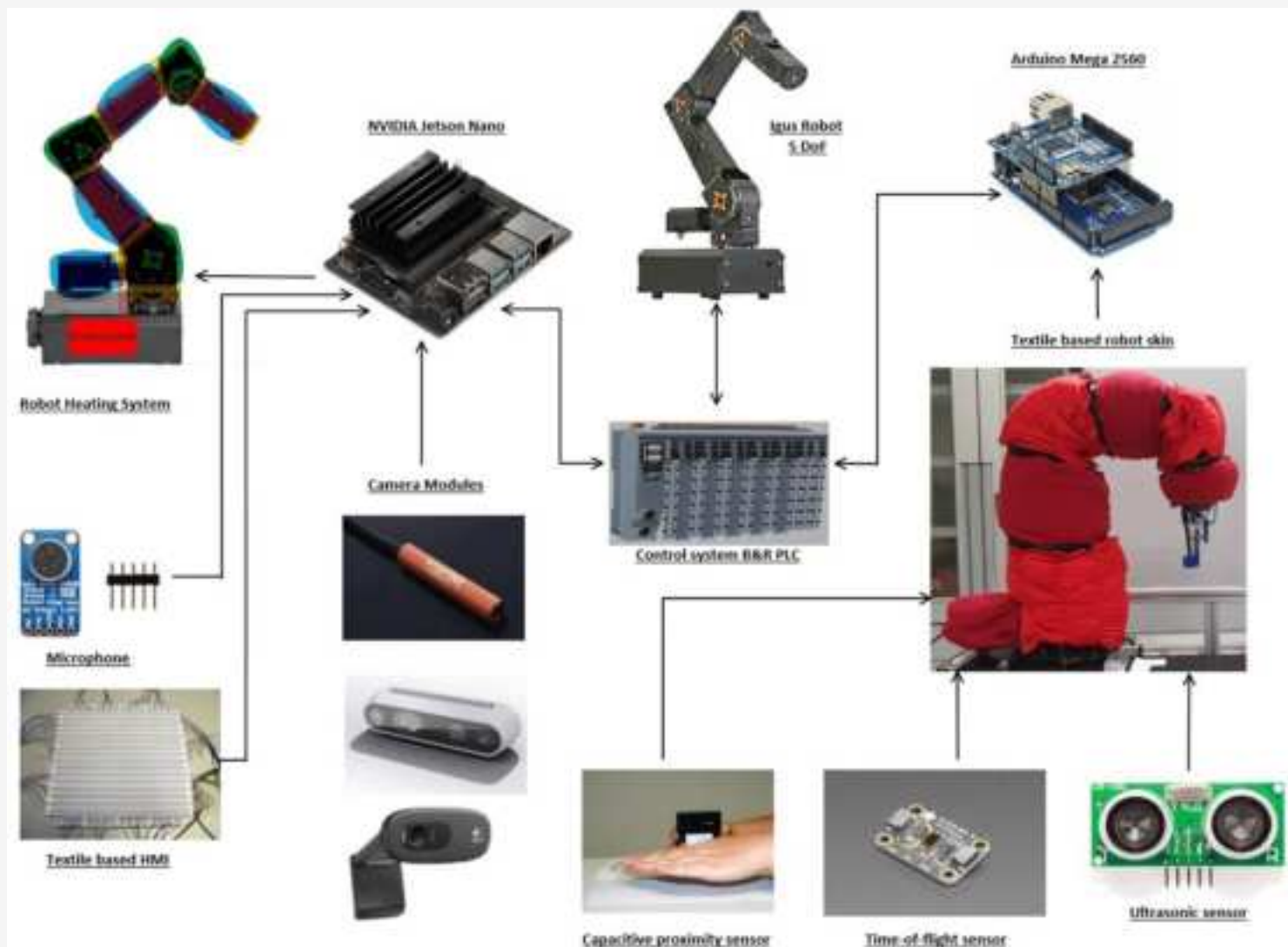


Project Concept: The Intelligent Robot Skin

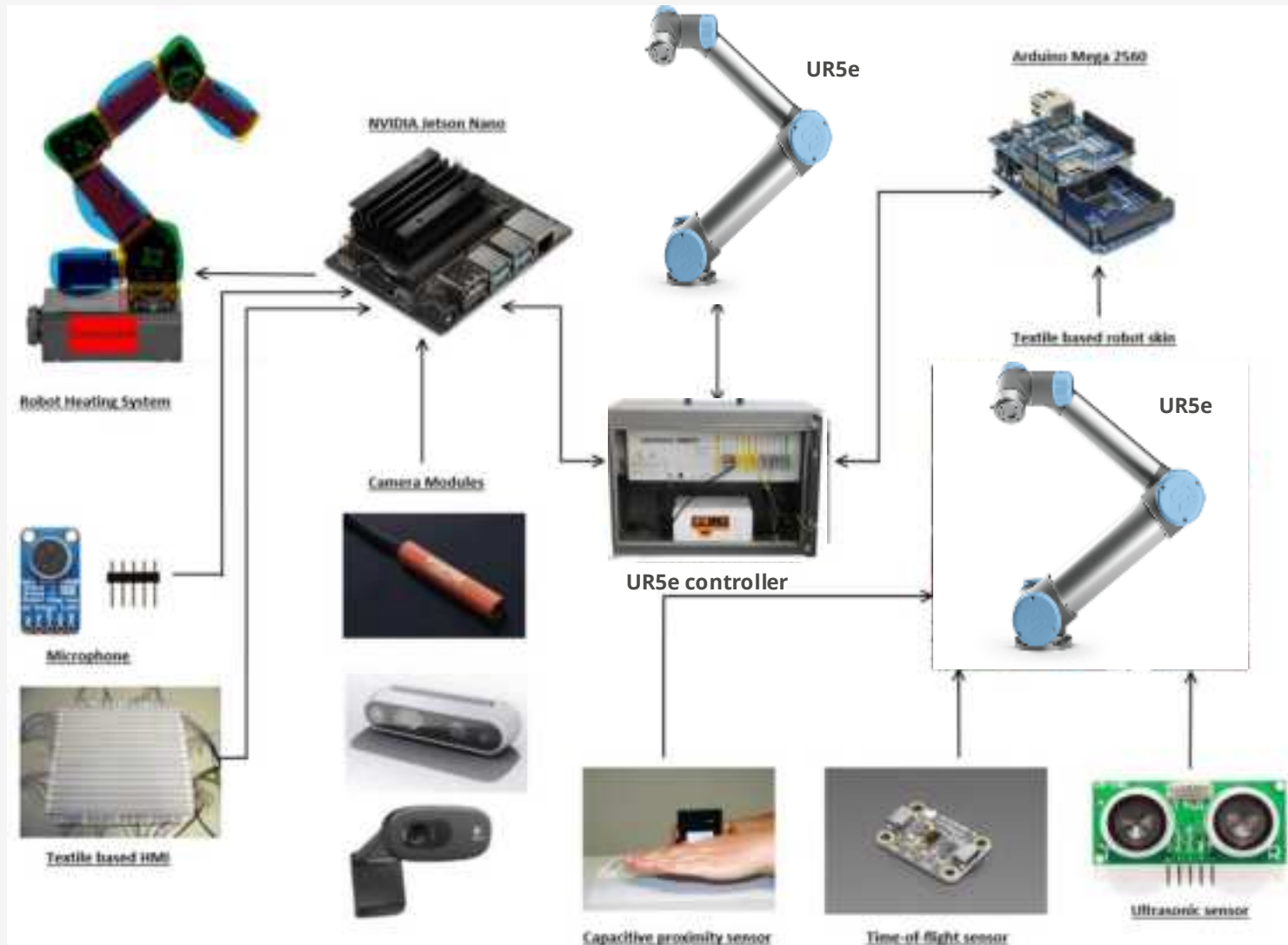
- Human-robot collaboration by detecting human presence in the environment using various sensors.
- Textile-based cladding for industrial robots
- Adaptive speed control with reference to distance information
- Stopping the robot with aid of capacitive proximity sensors



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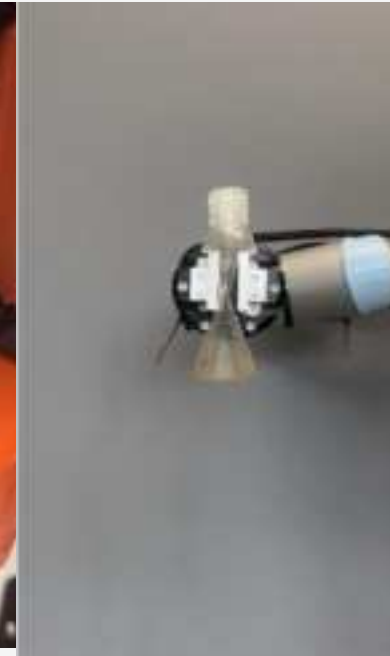


Project Concept: The Intelligent Robot Skin

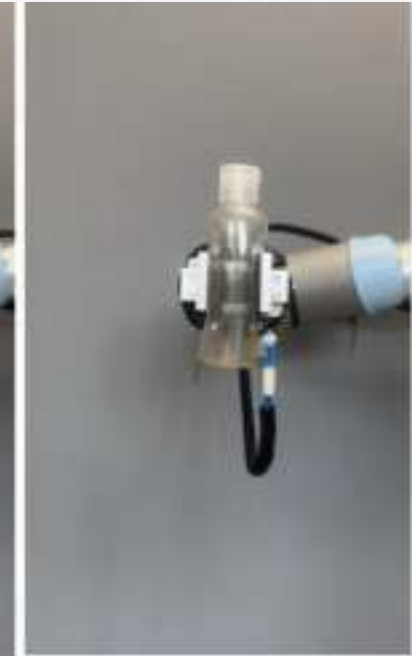




Tactile Sensor



(a) Without sensitive gripping



(b) With sensitive gripping

- Further humanoid resemblance
- Tactile feed back ensuring optimum grip force

Automated Doctor's Assistant: We are advancing Thuringia together!



Thank You!