




Università
degli Studi
di Palermo



FASTWEB +  **vodafone**



Cofinanziato
dall'Unione europea

5G 4 A Smart Sicilian Academic Campus

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University of Palermo, Italy

5GASSAC - Project Overview



SCOPE

5G4ASSAC implements a **5G MPN** to unlock innovative and unique services based on AI, ML, AR/VR technologies, allowing intense **Adaptive Learning** and **Higher Student Engagement** and **Telemedicine Services development**.

Supporting new functional approaches to education and training, the Project develops the **Mixed Reality (XR) Learning Platform** and the **eHealth Learning & Management System** that, running on the 5G MPN, will enable immersive education experiences in both universities and hospitals.

STAKEHOLDERS



Coordinator



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Beneficiary



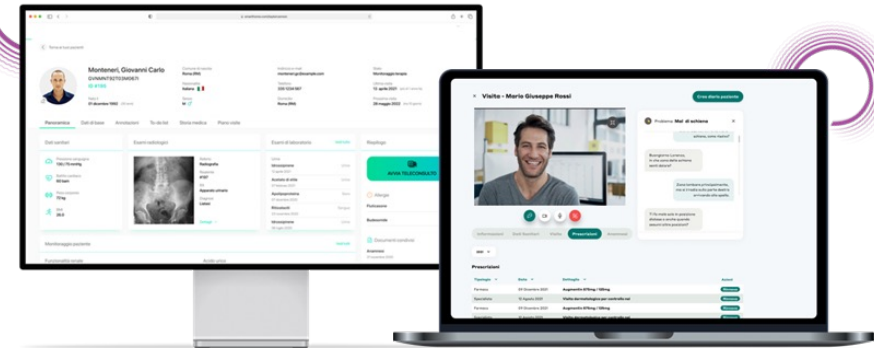
Project Use Cases

Education



Videowall Classroom
XR Learning Platform
Mannequin based Training System

eHealth



Medical Imaging
Clinical Decision Support Systems

5GASSAC - UC Education



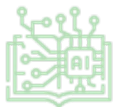
Immersive learning

Use Cases



Innovative solutions supporting **3D models and objects** generation and interactions using multiple 3D visor devices, VR/AR mixed reality, hardware and software platforms enabling teachers and students interaction with computer-generated 3D objects and augmented reality. Two applications: human anatomy, cultural heritage.

Benefits



- **Innovative** and **Interactive** Learning Process
- **Stimulating** creativity and design
- Higher Student's attention and motivation to study
- Student's involvement in learning processes
- Reporting and Analysis

Impact



- **Augmented Classrooms** installed in the University Campus
- New **Educational Models** using:
 - 3D models and objects for training activities
 - A/R fully immersive experience with virtual objects manipulation and movement: *'presence and agence'*

5G4ASSAC - DEMO

XR Learning Platform



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Mannequin based Training System

Use Case



Mannequin Training Systems.

Multiple solutions supporting (robotic) mannequin based hands-on. Patient-like mannequins and simulators for practical training, hands-on, clinical skills in the medical domain.

Benefits

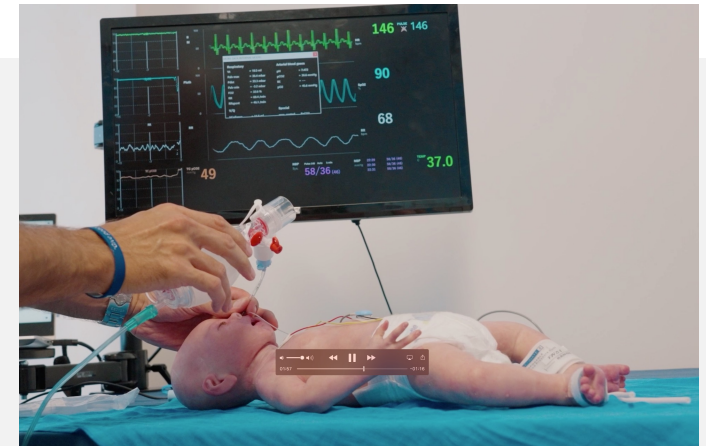


- Hands-on **creations**
- **In-lab** and **remote** lessons
- **Mannequin** based training
- Procedural and manual **abilities** development
- Reporting and Analysis

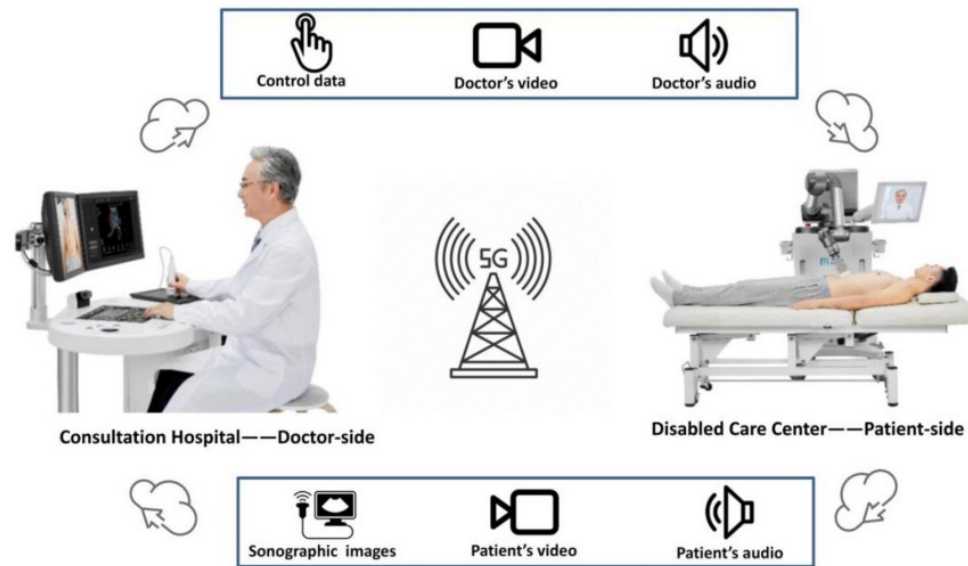
Impact



- High student **engagement** and **involvement**
- **Tasks driven** training environment
- **1 training building** installed in the University Hospital
- Clinical skills understanding
- Advanced and real training for physicians and nurses



5GASSAC - UC eHealth - Teleultrasound diagnostic system

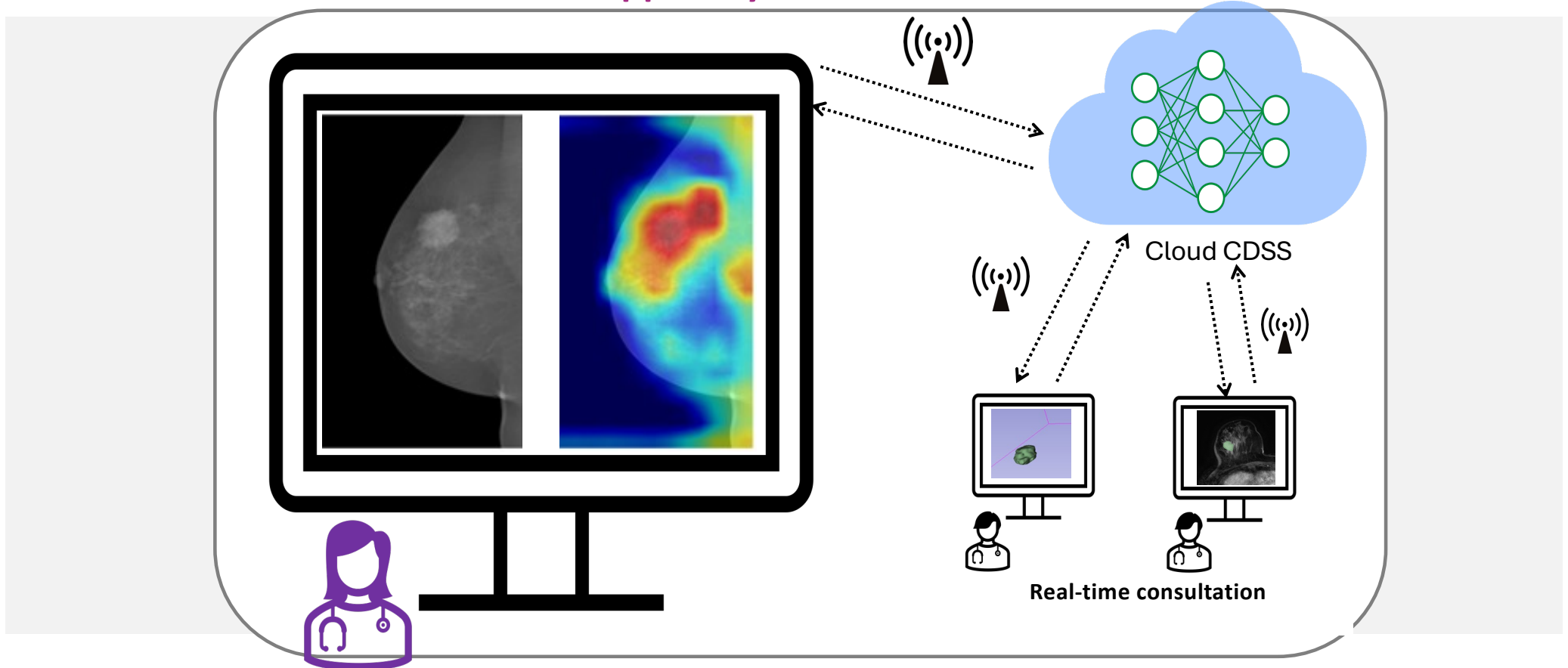


5G enabled 4K/8K streaming

5GASSAC - UC eHealth



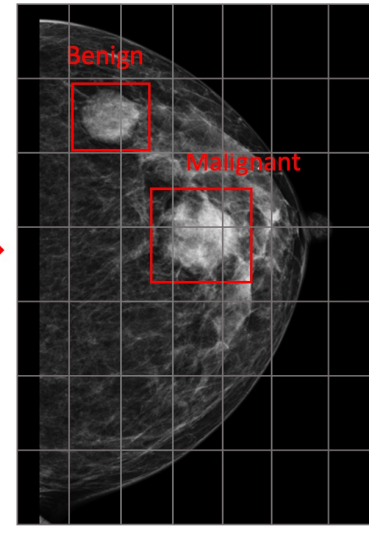
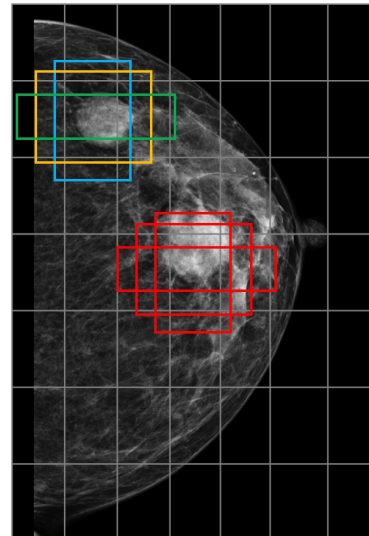
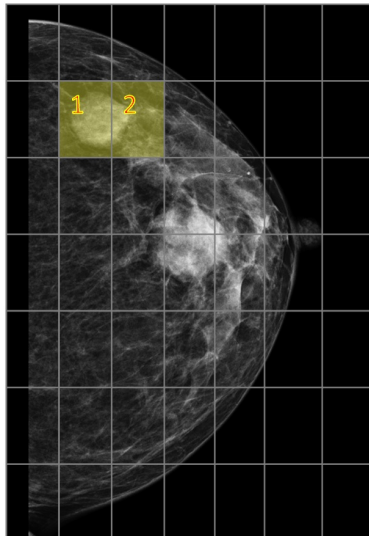
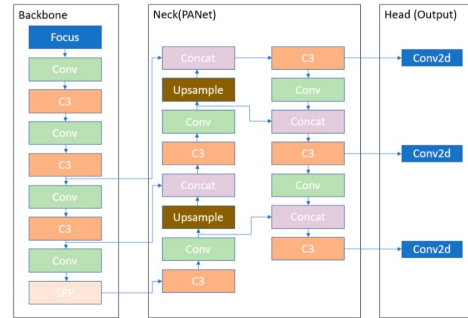
Clinical Decision Support System – Breast Cancer Detection



CDSS Deployment




Deep Learning Model





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Thank You