# 5G.CRESCA Linguistic Commission of the Commissio









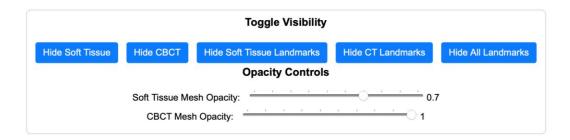




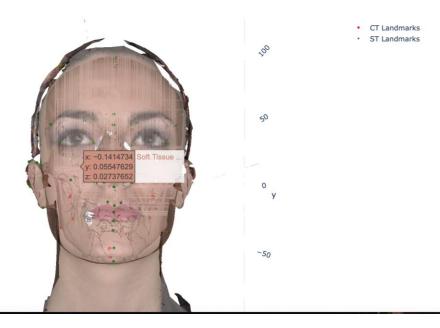


## 5G Holographic surgical simulation use case Purpose:

- Development of the holographic platform and integration in the university/clinic system
- At least 4 different teaching activities using the platform
- At least 30 students trained in the use of the platform



3D Mesh with Independent Toggles and Opacity Controls



The use cases to be developed will demonstrate the project's versatility in addressing complex scenarios beyond traditional education, such as the implementation of 5G holographic surgical simulation for medical students of the Università degli Studi di Milano....









UNIMI

Virtual Head

Planning

CBCT, MR, IOS, Facial Scan

**GSNET** 

Combining all data

**ILLUMETRY** 

- Visualization
- Hardware

## Holographic technology in clinical applications

- Visualizing Anatomical Structures,
- Medical Data
- Diagnostic Imaging





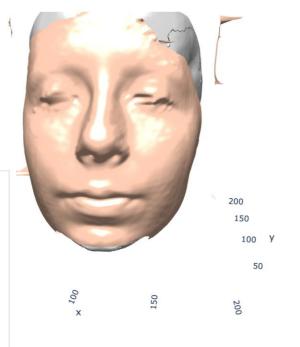
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150 Z <sub>100</sub>



Solutions for aspiring physicians and healthcare pros to gain practical knowledge via precise medical virtual holograms.

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### Goal:

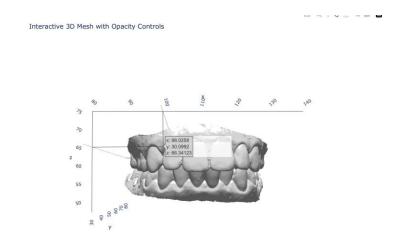
• Enhance medical training, surgical planning, and patient awareness through immersive and detailed 3D representations.

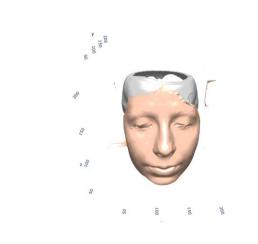
#### XR for K-12

Empower students with immersive learning experiences that stimulate curiosity and creativity while maintaining interaction with the teacher.



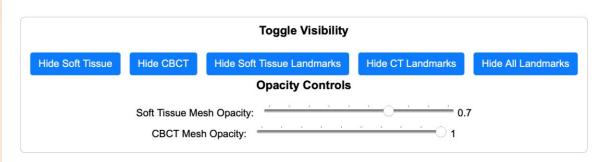




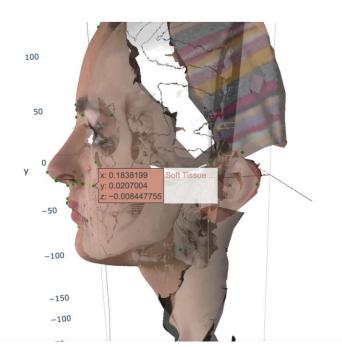


Interactive 3D Mesh with Opacity Controls

- Automatic segmentation and annotation tools crucial for dental and maxillofacial surgery workflows.
- These tools focus on identifying anatomical structures and will provide valuable insights for surgical planning.
- Leveraging 5G connectivity, these segmentations can be delivered in real-time to patients and clinicians.
- Using Mixed Reality (MR), clinicians can swiftly review and potentially modify results, expediting the data revision process. The high-speed, low-latency capabilities of 5G will enhance patient experiences by enabling remote visual assessments of their conditions and pathologies.



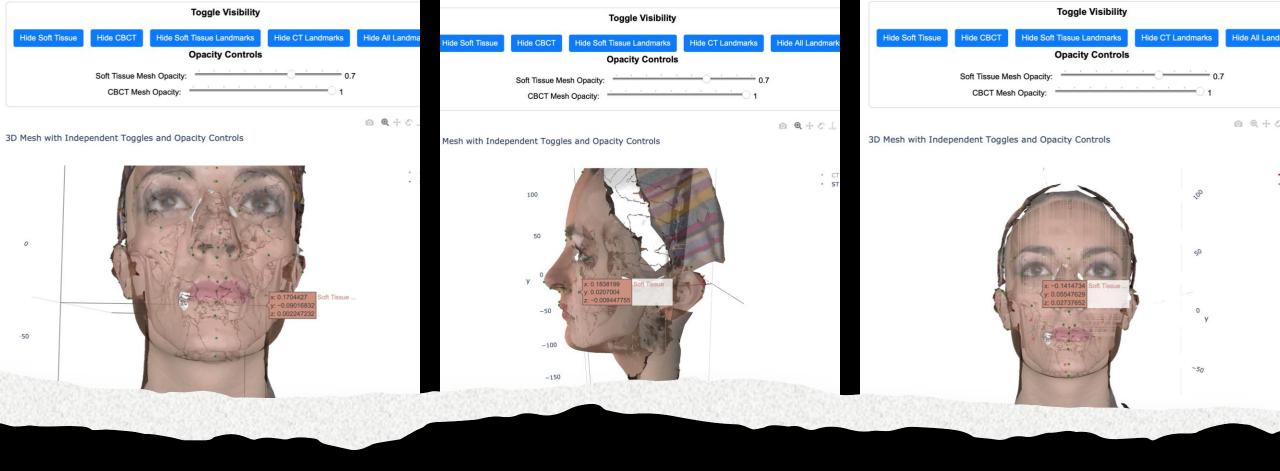
3D Mesh with Independent Toggles and Opacity Controls



CT Landmark

0 9 + 0 1 4 8 1

ST Landmarks



 However, performing such real-time remote evaluations with AI-models faces challenges due to heavy data transfer, particularly with standard connections. Here, the securing synergies between AI and 5G connectivity under this use case will become crucial to offer the potential of overcoming these limitations and facilitating seamless evaluations.

