

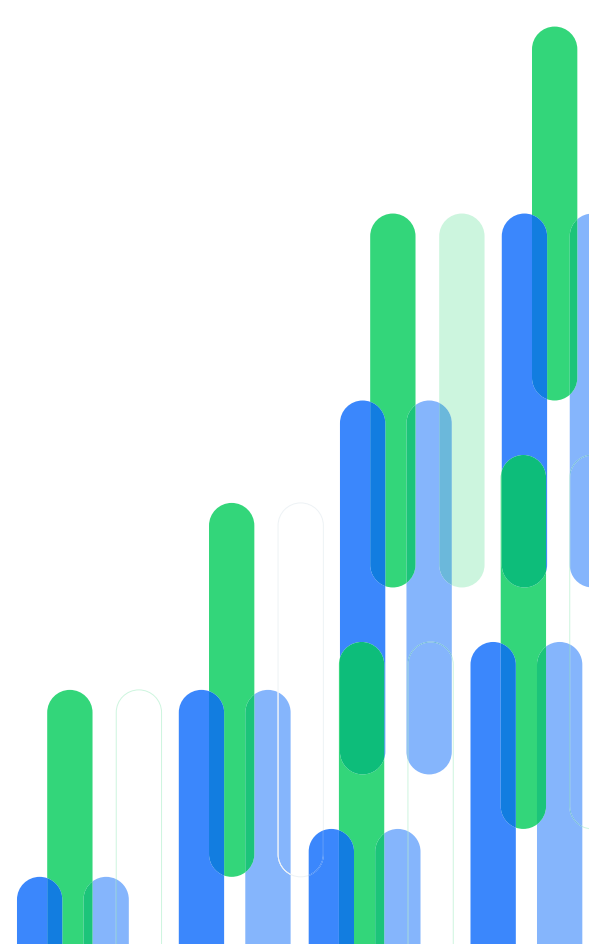
CarnaLifeHolo

**Support of the diagnostic process during
orthopedic procedures.**

Case study.



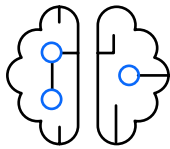
EMPOWER PEOPLE FOR BETTER HEALTH





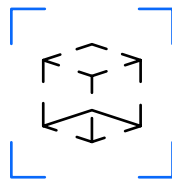
EMPOWER PEOPLE FOR BETTER HEALTH.

Medapp is a medical technology company. Our innovative software solutions revolutionise the way people are treated.



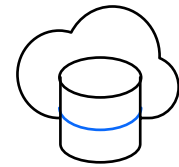
ARTIFICIAL INTELLIGENCE

Constant improvement in the quality of disease diagnosis and continues development through the use of state-of-the-art IT tools



3D IMAGING

Mixed Reality (MR) and Augmented Reality (AR) technologies for the improvement of diagnostics and treatment



BIG DATA ANALYTICS

The analysis of aggregated data with the use of multiple peripheral devices and innovative telemedical system

CarnaLifeHolo

3D imaging system enhancing precision, comfort and safety of medical procedures.



CarnaLife Holo is a groundbreaking technology of three-dimensional medical data imaging, facilitating planning and performance of medical procedures. With the use of special goggles Microsoft HoloLens, it creates a real-space three-dimensional hologram reflecting the true structure of anatomical area being imaged.



VIRTUAL REALITY (VR)

- ✓ Fully virtual, closed environment
- ✓ No interaction with the outside world



AUGMENTED REALITY (AR)

- ✓ Virtual elements integrated into a real environment



MIXED REALITY (MR)

- ✓ Full interaction and the ability to manipulate both the real and virtual environment elements

Main and additional features:

- ✓ DICOM standard support
- ✓ Holographic visualization of 3D datasets
- ✓ Interaction with holograms using gestures and voice commands
- ✓ Cooperation with hospital PACS systems
- ✓ Tools for defining area of interest (virtual scissors)
- ✓ Presets optimized for different modalities, dedicated filters
- ✓ Possibility of real time data display from GE Vivid E95



Innovative treatment with CarnaLife Holo

Carolina Medical Center is one of the largest and most modern private orthopedic and sports medicine hospitals in Europe. It provides services to patients who require specialist care with the use of state-of-the-art medical solutions.

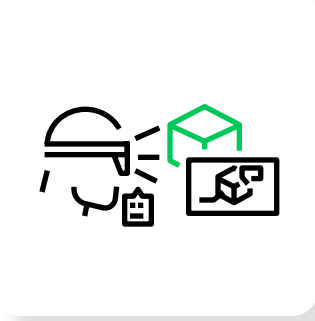
The leading orthopaedist of the clinic, Andrzej Komor, has performed the procedure of foot reconstruction and ankle endoprosthesis insertions. A prerequisite for a good result of the surgery was the design and manufacture of a bone implant that would perfectly fit the patient's bone.



Due to advanced lesions, high precision was necessary. That's why the doctor chose to use CarnaLife Holo, which allowed him to accurately represent the patient's ankle joint and access lesions on either side of the visualized bone.

Benefits.

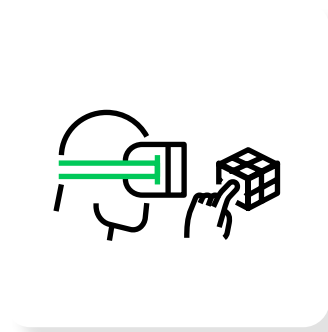
Before the procedure:



- ✓ CarnaLife Holo allows the doctor to look at an accurate 3D image of the patient's bones, customize the hologram to suit their needs and visualize them in a way that is natural for humans (in 3D)
- ✓ The doctor can safely and quickly verify the position of anatomical structures
- ✓ They can plan the course of the surgery to optimize the time spent in the operating room

During the procedure:

- ✓ CarnaLife Holo system helps to prepare the bone for the insertion of an endoprosthesis
- ✓ The doctor is able to interact with the holographic image in mixed reality while maintaining sterility and not losing sight of the operating field
- ✓ Sensors register the position of the hand in space and read the image with high accuracy, which enables the doctor to adjust the view to their needs and to the current course of the operation
- ✓ The doctor can see the image from all sides, resize it and manipulate it in almost any possible way





„CarnaLife Holo is a helpful technology that allows reducing the time of surgery.”



**Andrzej Komor,
MD, Carolina Medical Center**

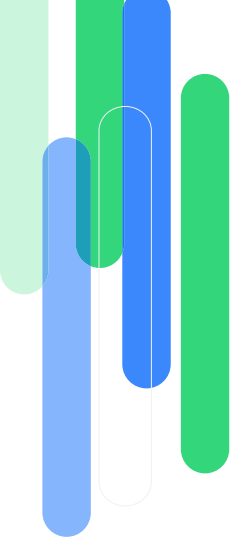
Prior to the procedure, the patients were unable to move unassisted and took pain medication daily. After surgery with the CarnaLife Holo system, they regained lost function in the treated limb.



„We are proud to bring to market innovative solutions that can positively impact the health and lives of patients. We offer the highest security standards in medical data processing and visualization in the form of 3D holograms with the use of HoloLens 2 from Microsoft. With our solution, the patient can receive medical services of better quality. At the same time, the CarnaLife Holo system helps the hospital reduce medical costs.”

||| MedApp **Krzysztof Mędrala,
CEO of MedApp S.A.**

This publication is for informational purposes only. CarnaLife Holo software is intended for use by professionals, including medical professionals, with appropriate knowledge and training. CarnaLife Holo is not intended for direct use by consumers (patients). Proper use of CarnaLife Holo requires both medical knowledge and proper training. Any procedure of a medical nature is associated with risks.



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