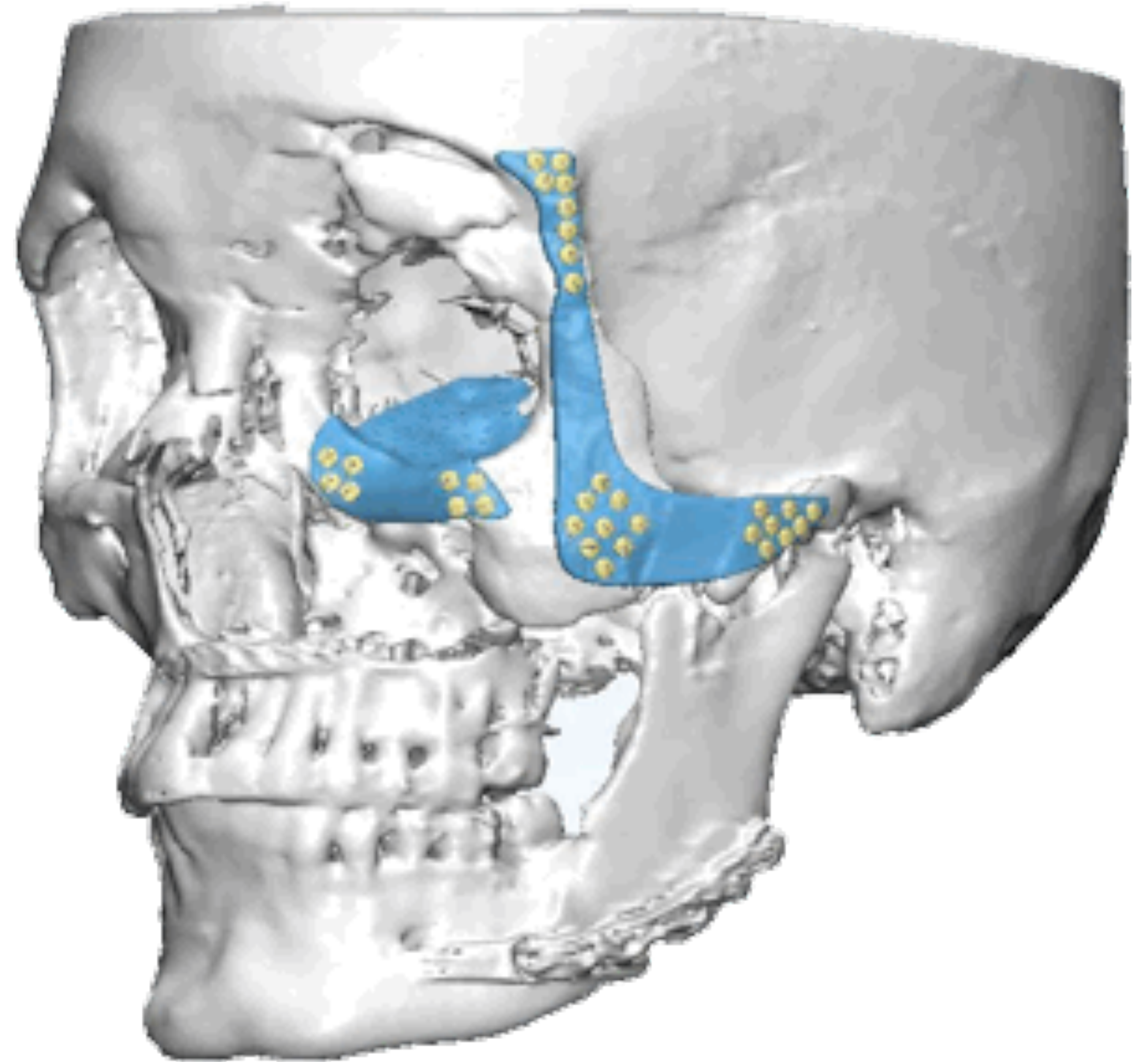


# PSI

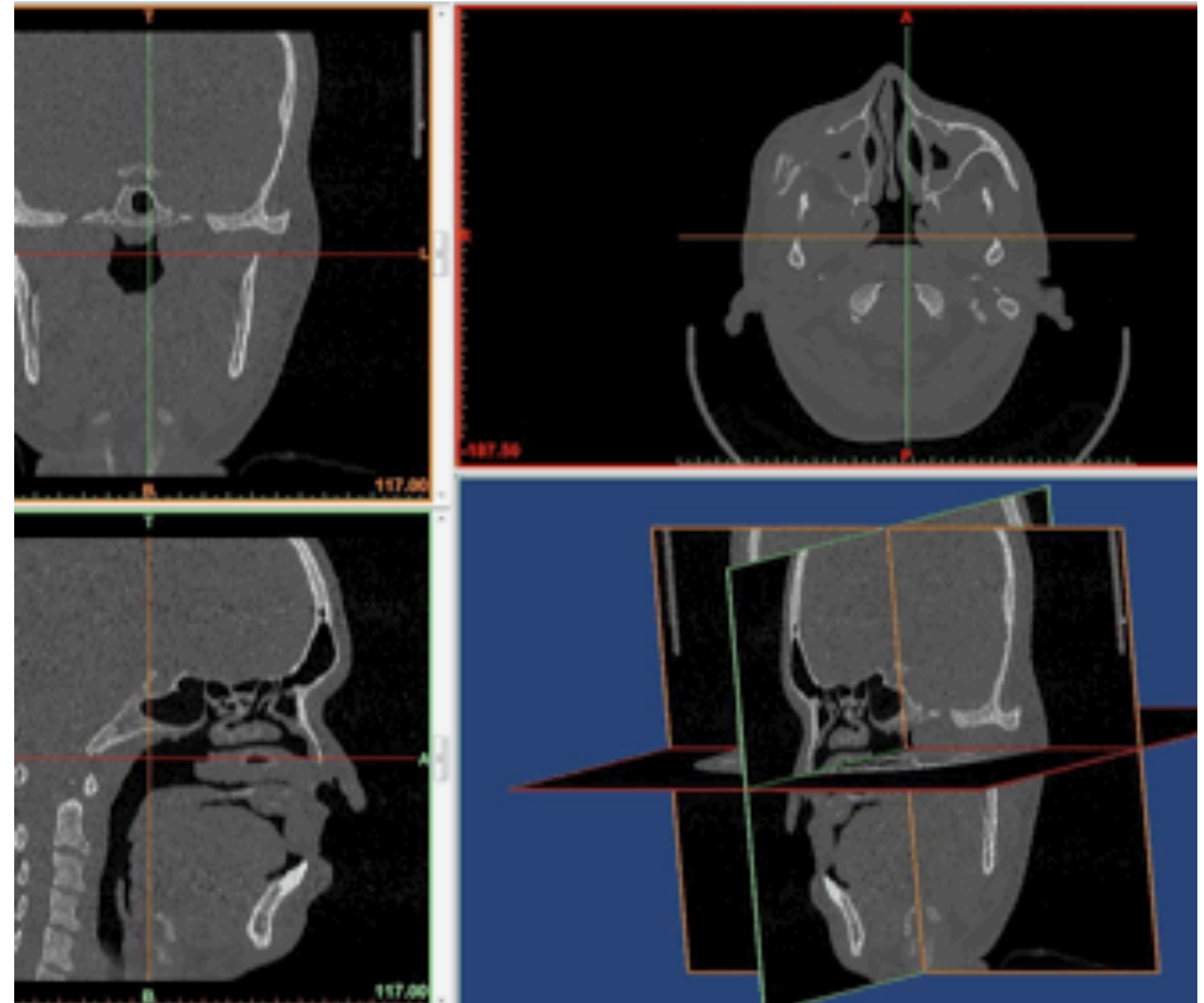
## PATIENT SPECIFIC IMPLANTS

- Better anatomic fit
- Reduced operation time
- Satisfying aesthetic needs
- Reduced complexity of surgery



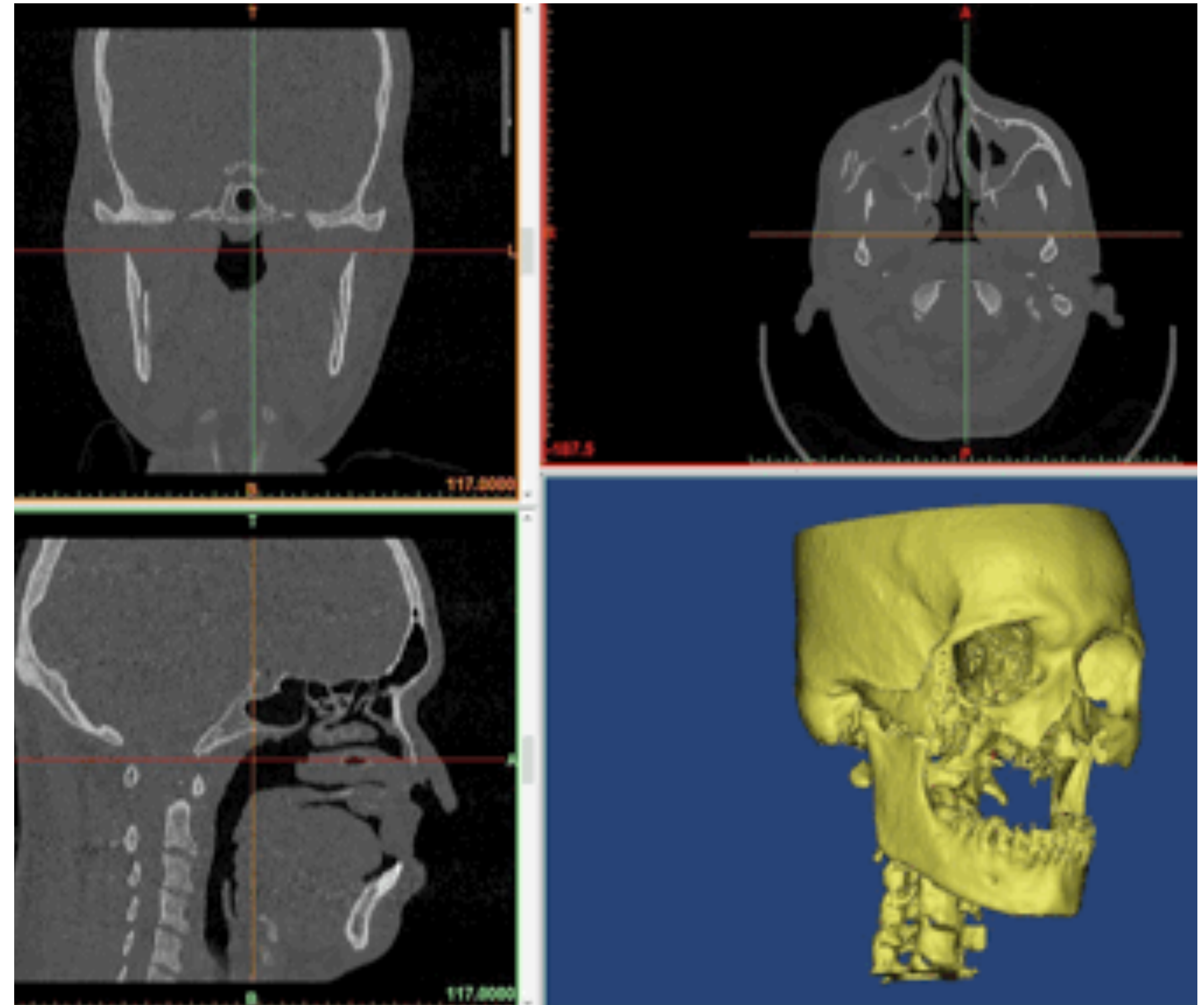
# METHODOLOGY

Auxein Patient Specific Implants are derived from 1mm slice DICOM CT data, which is obtained from the hospital radiology department.



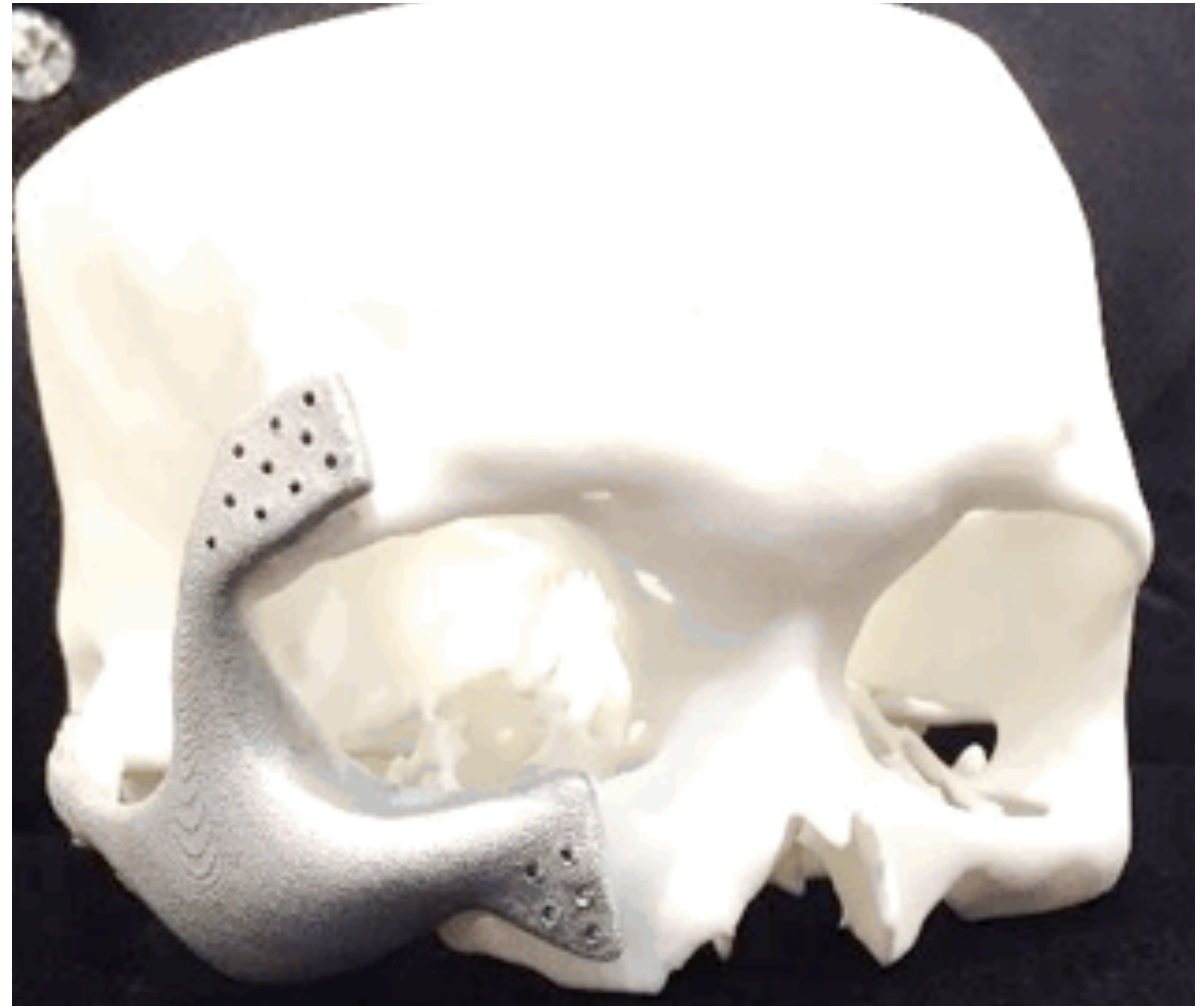
# SEGMENTATION

Medical imaging software is used to visualize the CT data and create an anatomically correct skull model and implant design.



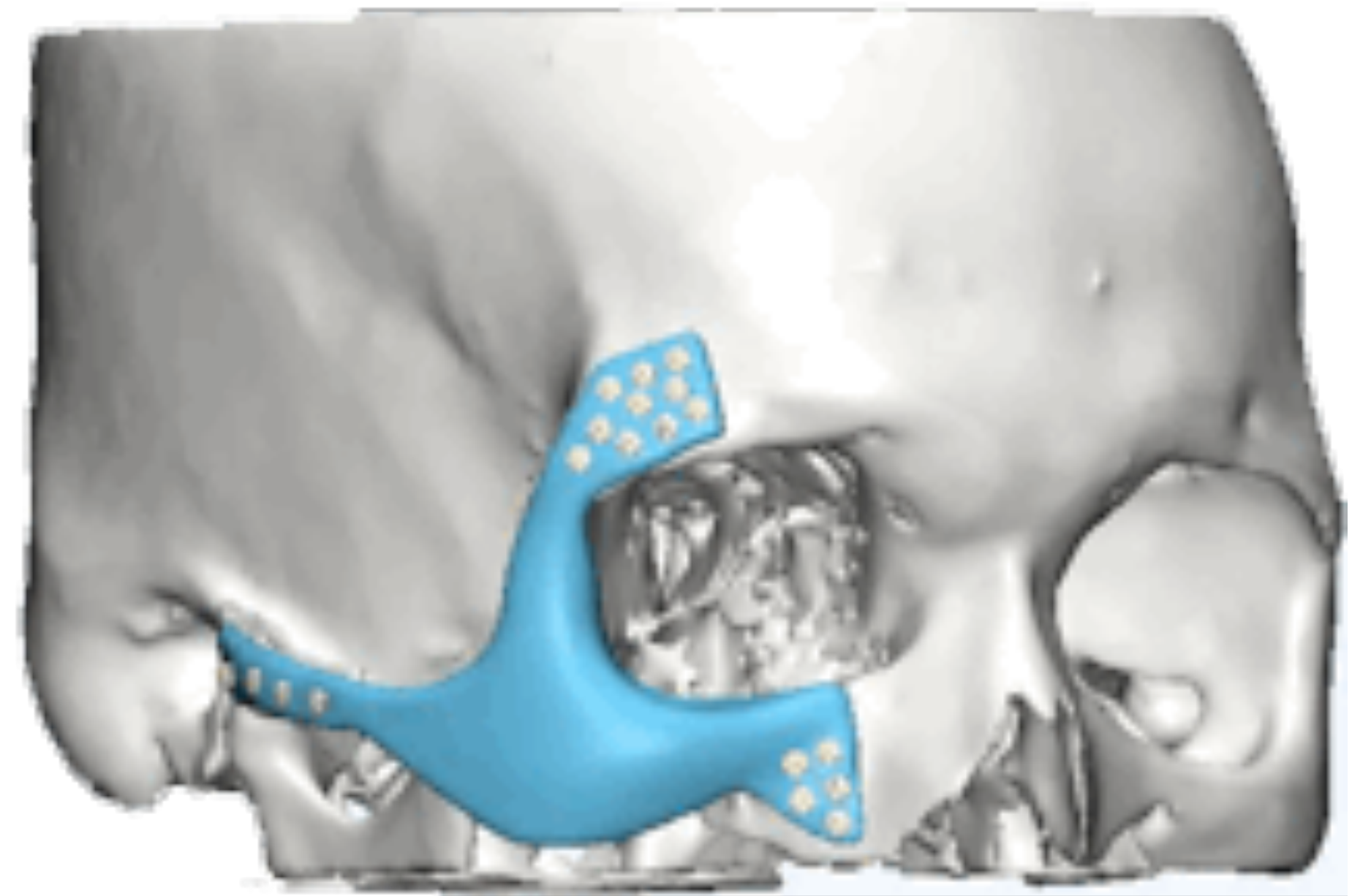
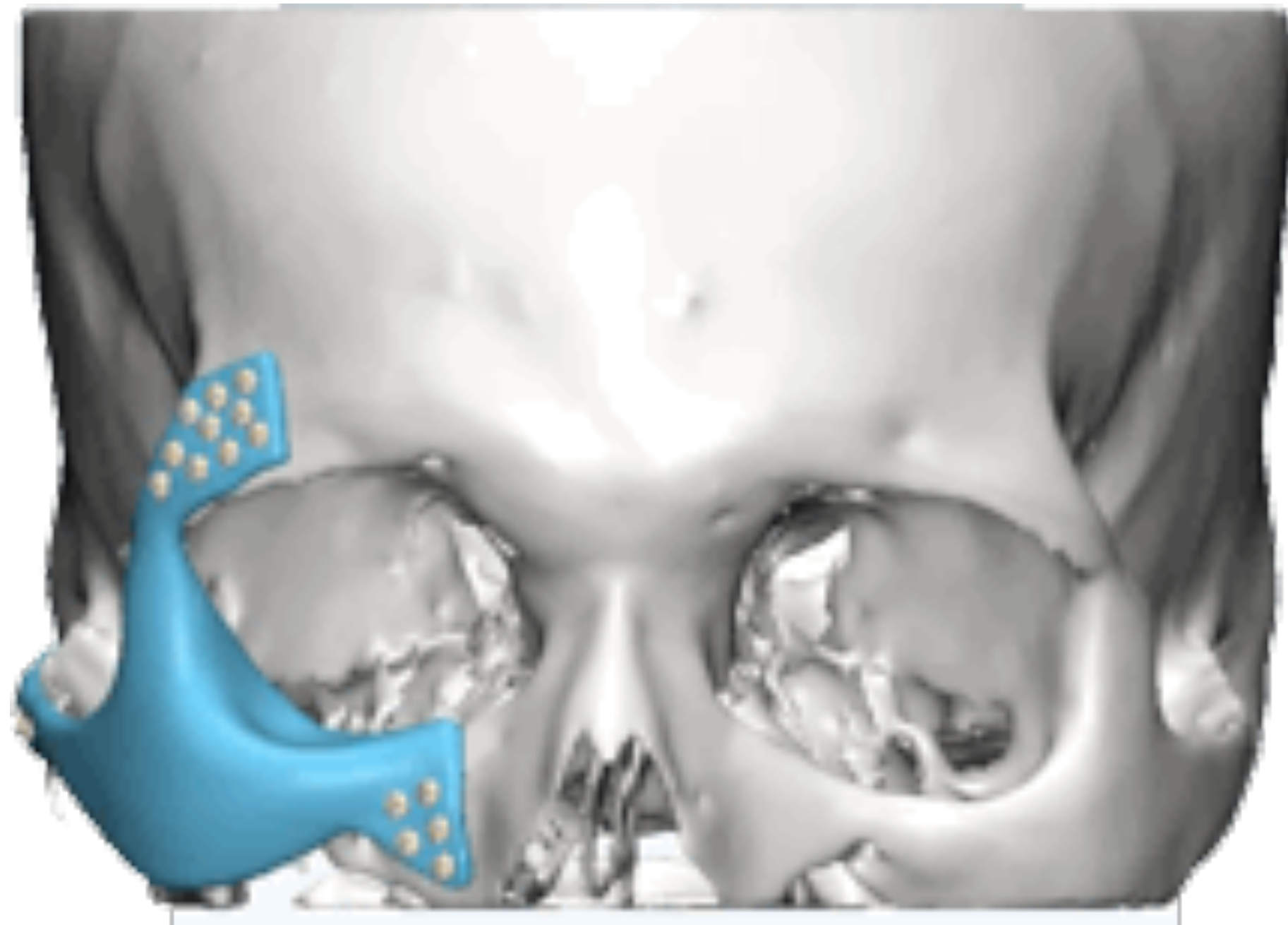
# PROTOTYPING

Prototyping using FDM process with plastic material can be done to reduce the surgery time.



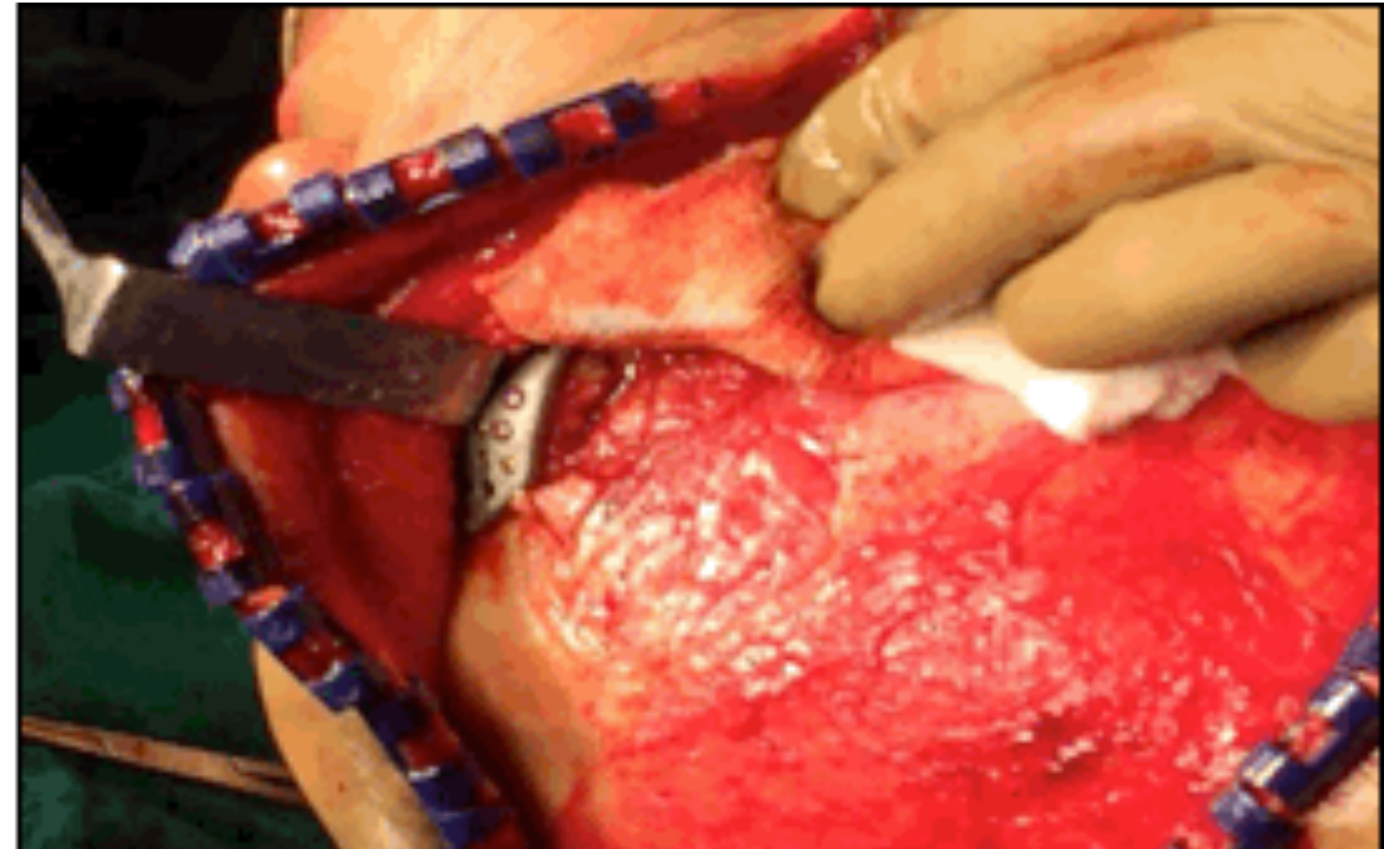
# CASE STUDY

Design and Development of Patient Specific Implant for zygomatic area of a patient suffering from mucormycosis (fungal infection). Development of implant for zygomatic area is a complex task as it not only involves accurate restoration to normal anatomy but also aesthetics like proper facial projections and width are involved.



# SURGERY

According to Doctor, the surgery, which normally takes up to six hours, was performed in three. Better yet, the 3D printed implant has numerous advantages that will help to improve patient quality of life.



# SURGERY



# POST OPERATION RESULTS



**Before Surgery**



**After Surgery**



# MATERIAL CHOICE

## TITANIUM ELI GRADE



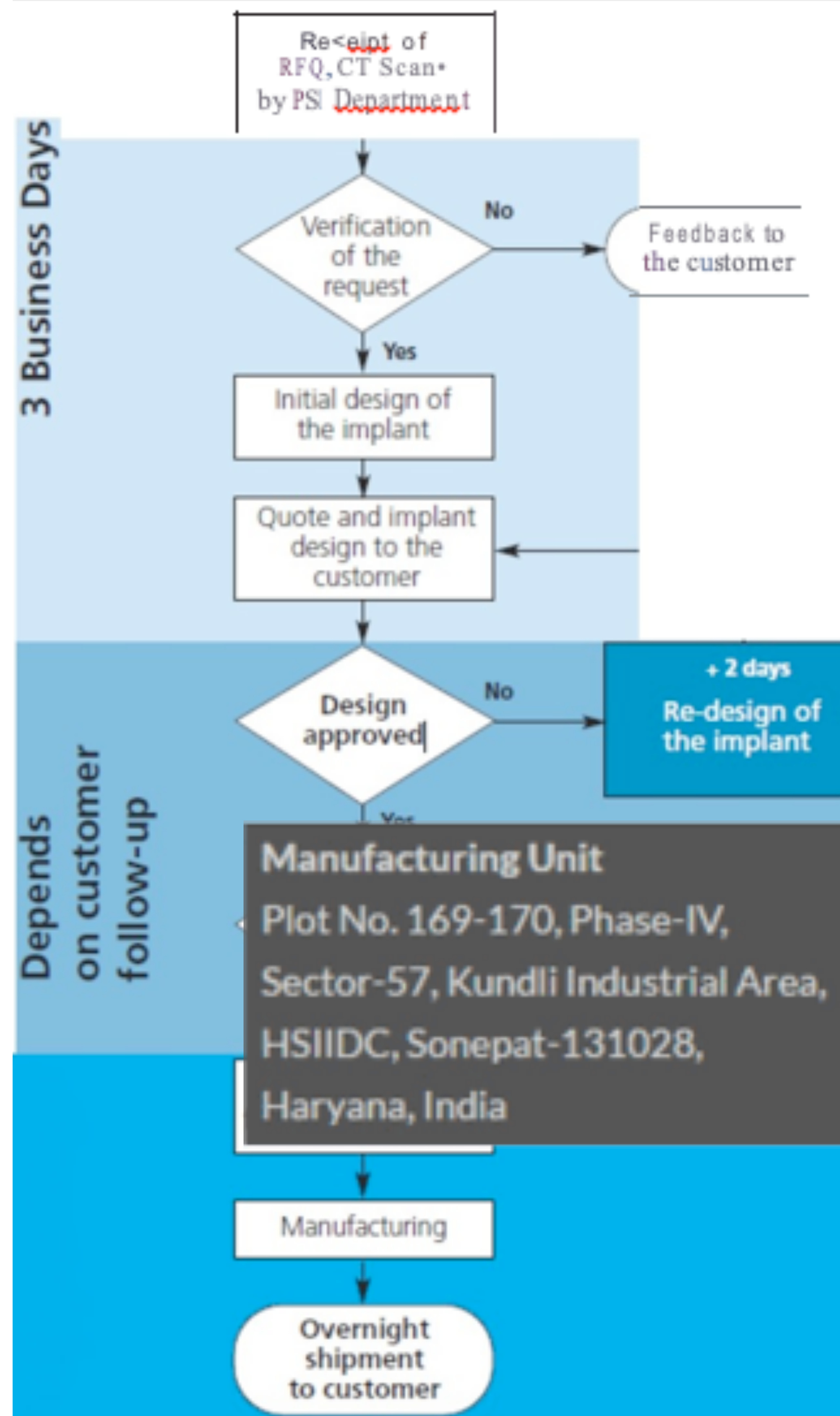
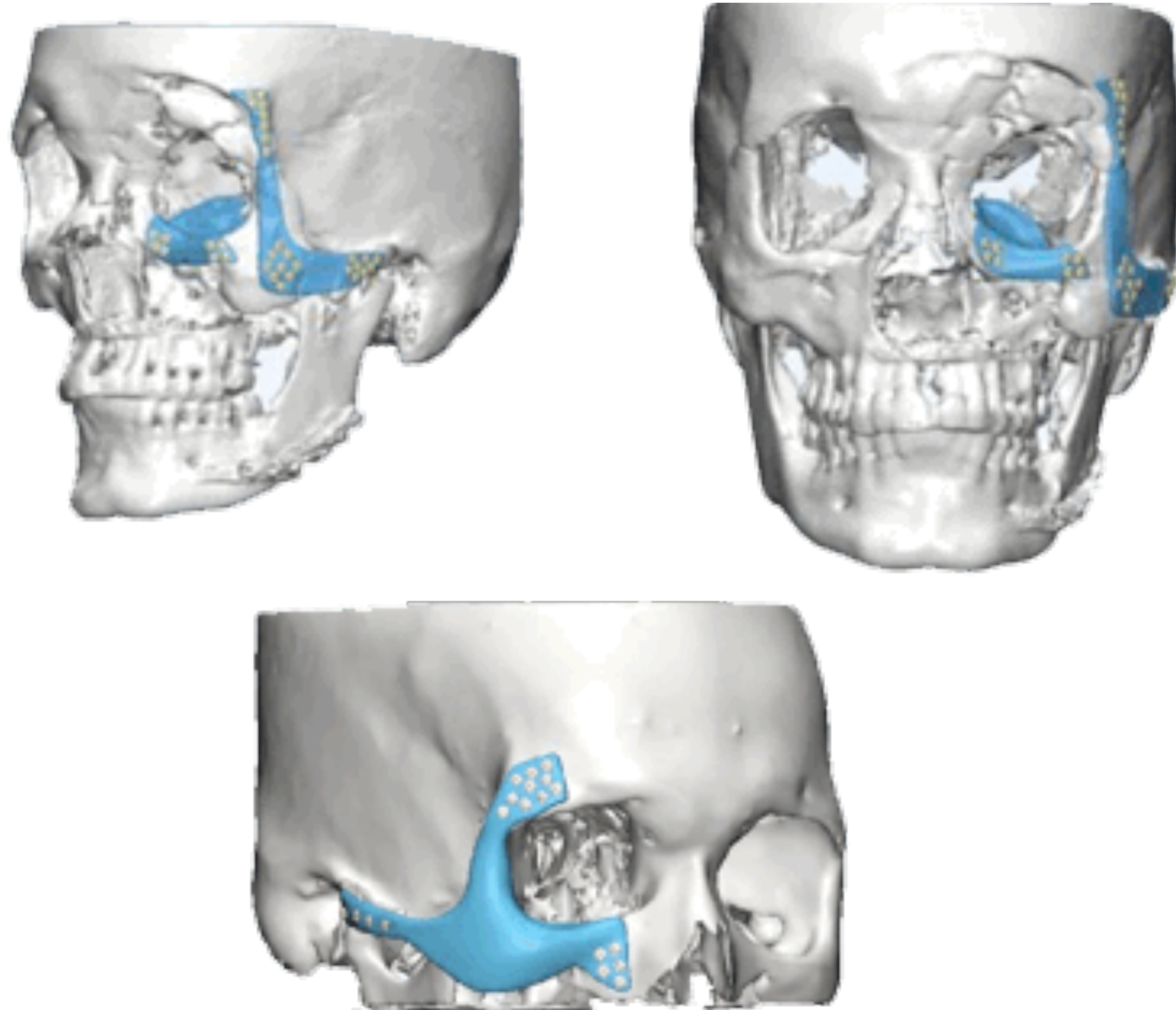
# MECHANICAL PROPERTIES

## Titanium Mechanical Properties

	Cortical Bone	Titanium
Modulus of Elasticity (stiffness) (GPa)	8-24	103
Yield Strength (MPa)	115	230 (minimum)

**Notes regarding the use of Titanium Patient Specific Implants:** Titanium patient specific implants cannot be modified. If there are any minor fit modifications required, the surgeon must modify the patient's bone.

# ORDERING PROCESS



**INDIA**  
**Auxein Medical Pvt. Ltd.**  
 Plot No. 168-169-170,  
 Phase-4, Kundli  
 Industrial Area,  
 HSI IDC, Sector-57,  
 Sonapat - 131028,  
 Haryana

**USA**  
**Auxein Inc**  
 1500 Nw 89th Court,  
 Suite 205, Doral, Florida  
 33172

