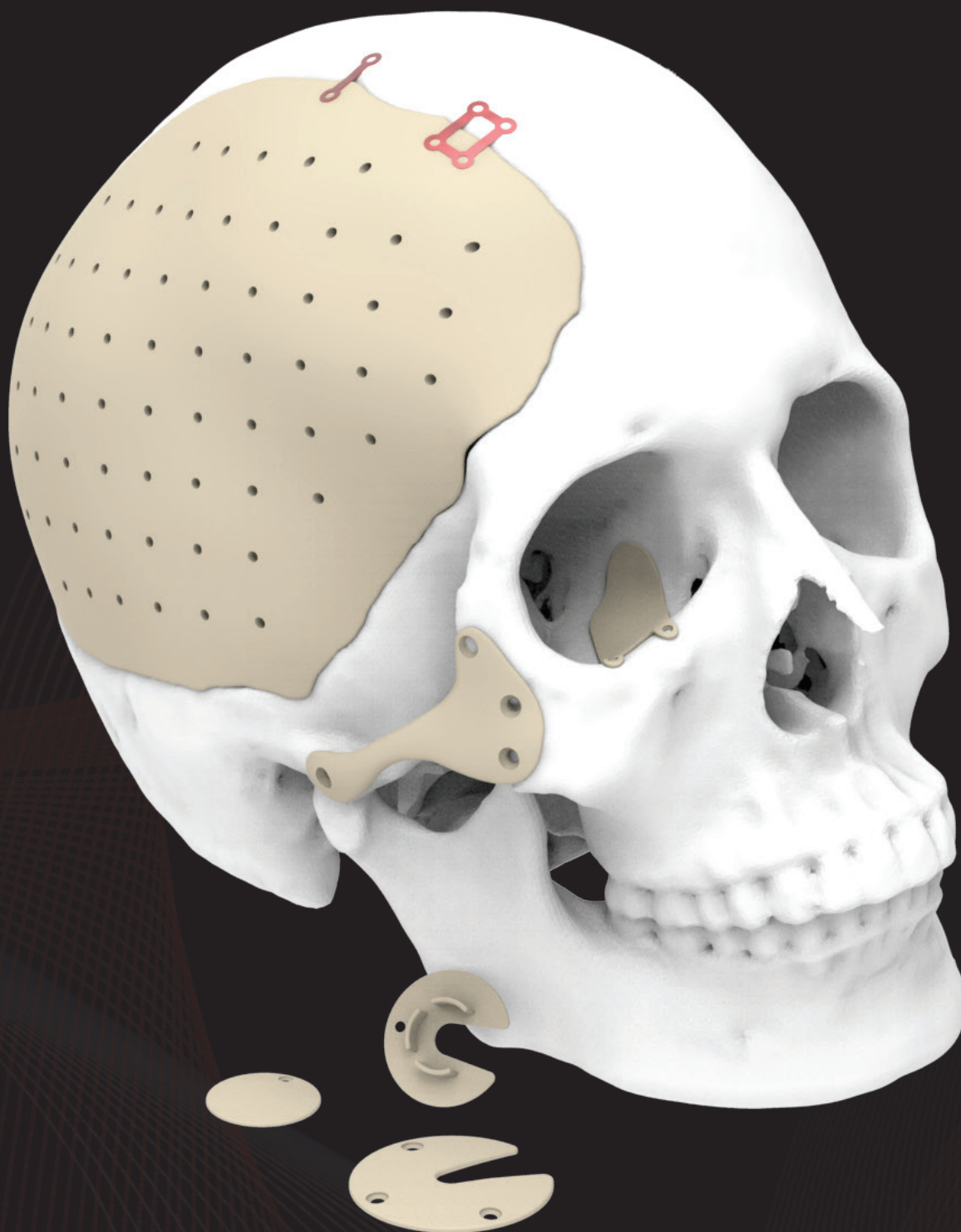
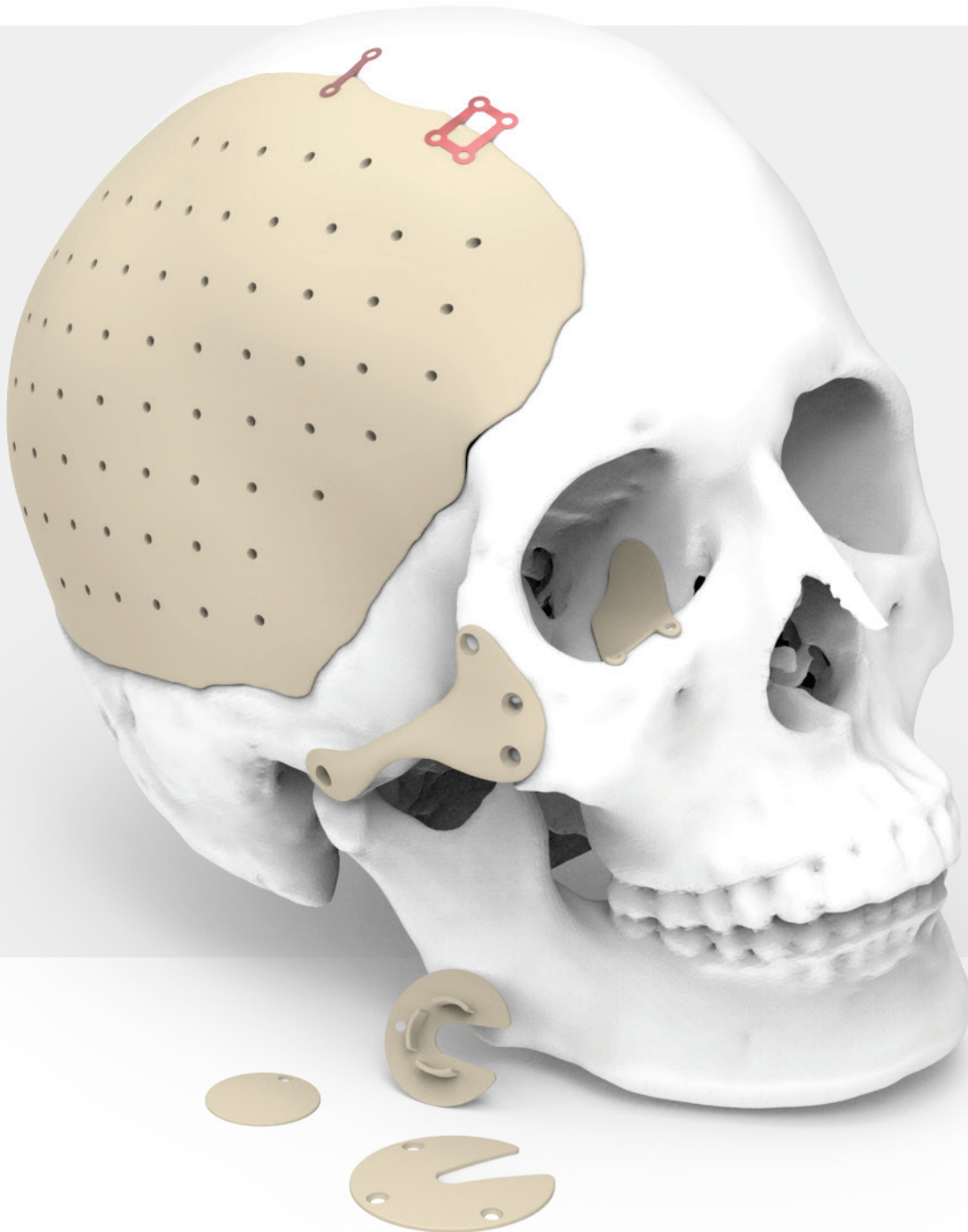


PRIMARY - P

PRIMARY SERIES - PSI
PATIENT-SPECIFIC IMPLANT



PEEK MILLED IMPLANTS



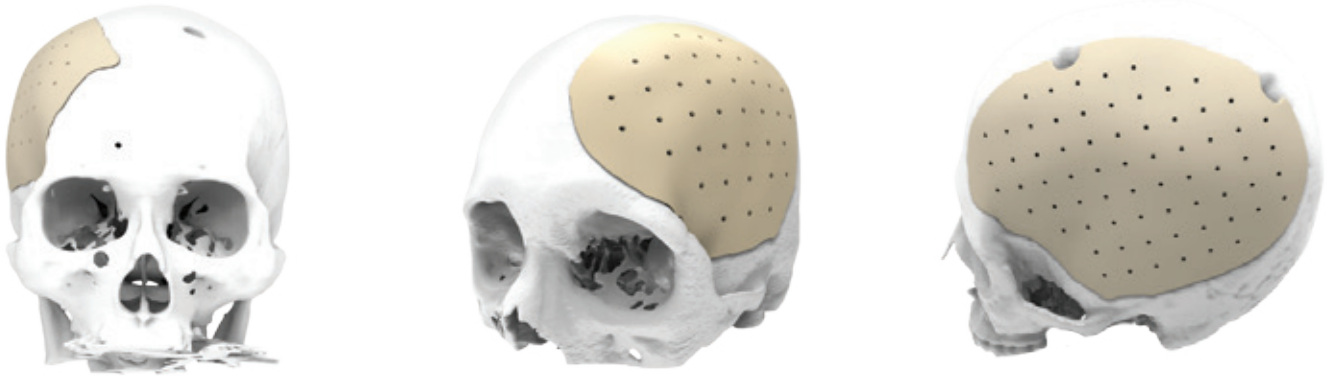
Using PEEK (ASTM F2026), a high-performance biomaterial with proven safety
Raw material with long-term safety guarantee
(PEEK OPTIMA™)

FEATURES

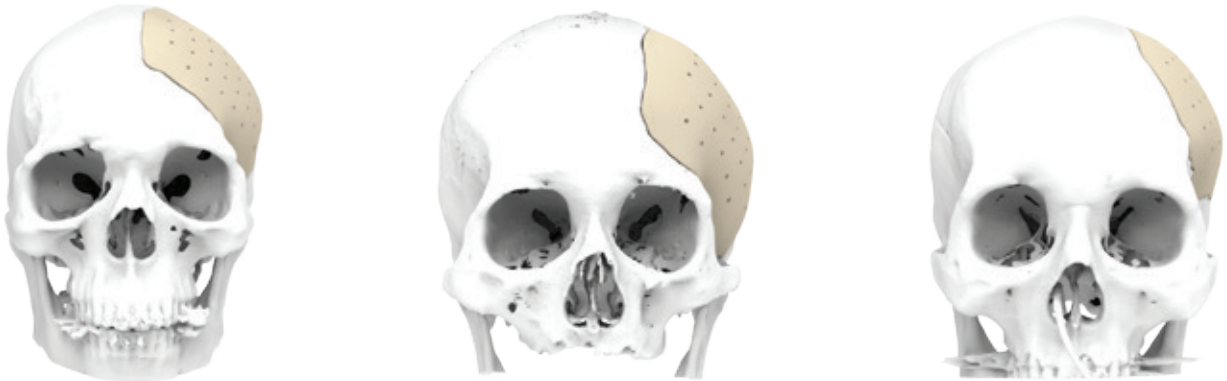
- Various application areas
- Radiation transmittance
- Modulus of elasticity similar to that of cortical bone
- Excellent physicochemical and performance safety certification

Cranial Reconstruction

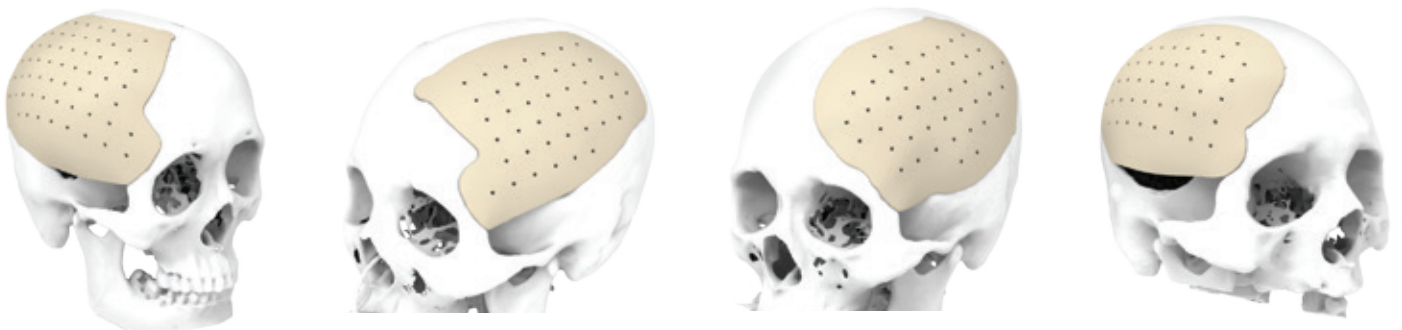
Basic Design :: Type 1

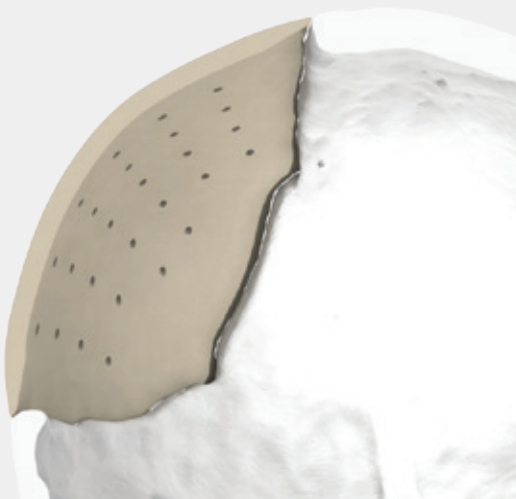
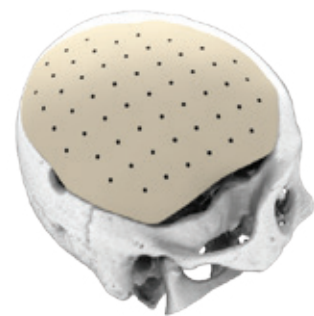
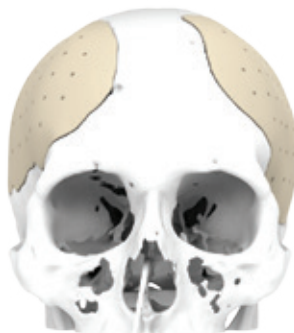
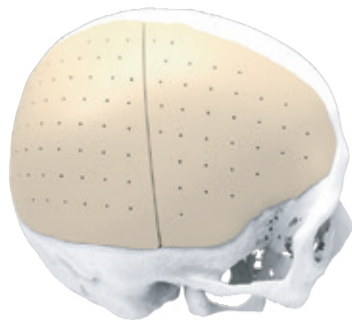
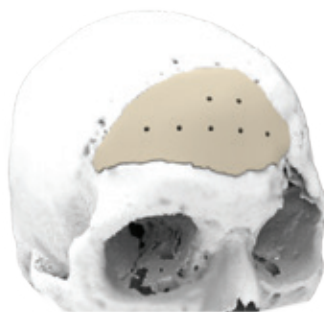


Muscle Reconstruction Design :: Type 2

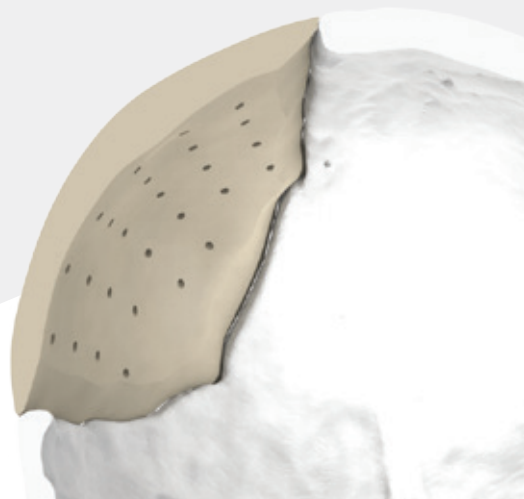


Frontal process + Muscle Reconstruction :: Type 3





Basic



Various thickness implementations

Zygomatic Reconstruction



Orbital Reconstruction



Burr Hole

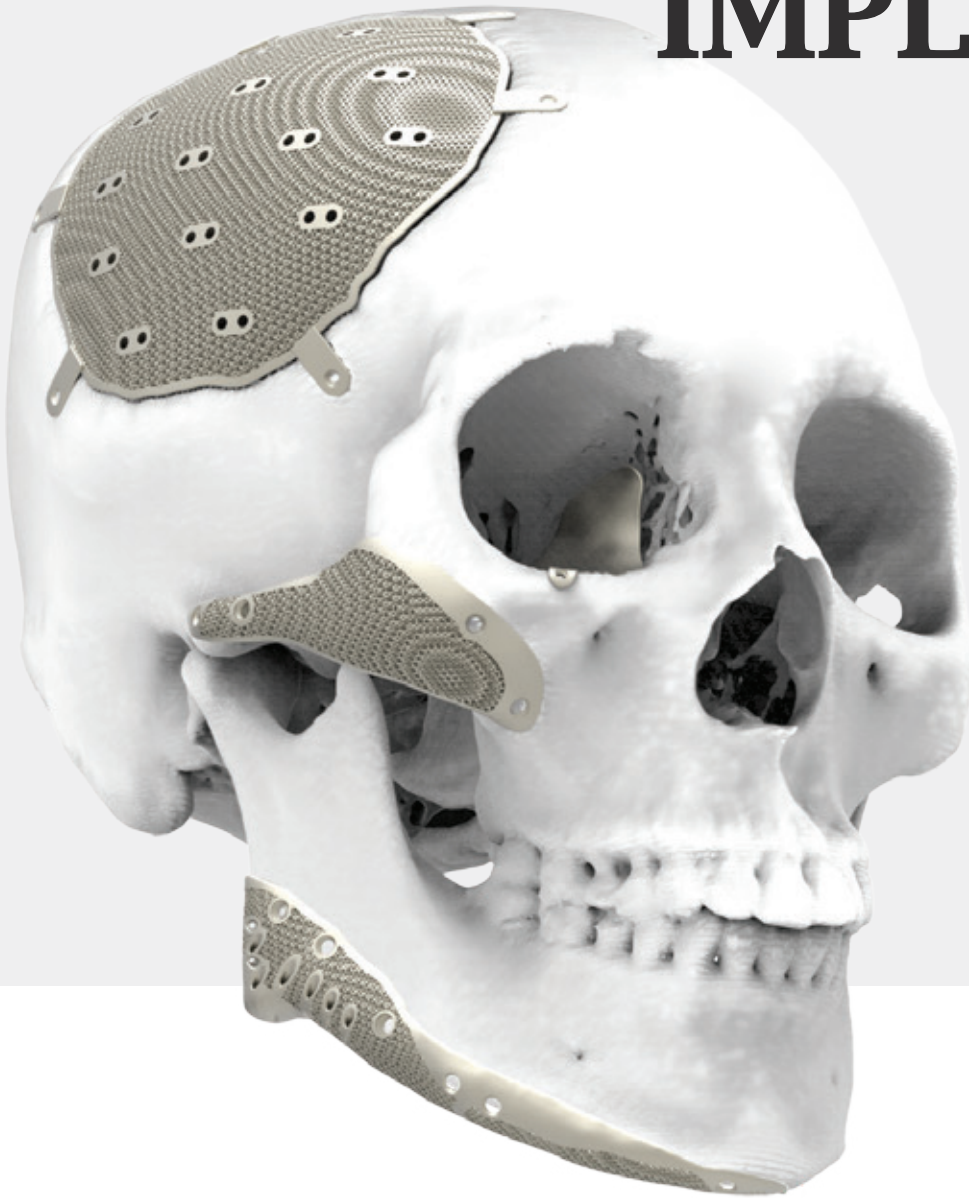


PRIMARY SYSTEM

PRIMARY SERIES - PSI
PATIENT-SPECIFIC IMPLANT



Titanium 3D PRINTED IMPLANTS



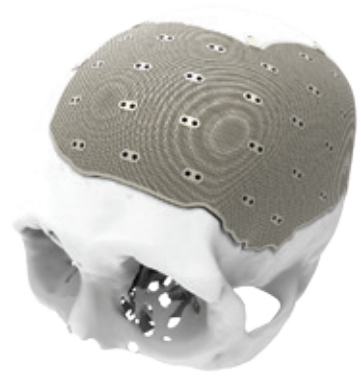
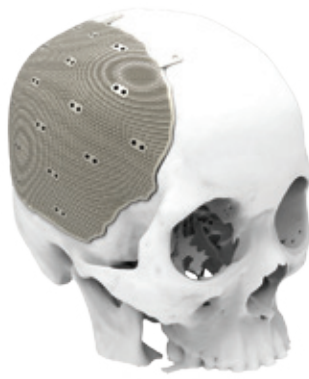
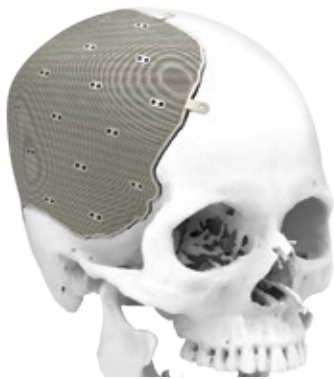
Customized manufacturing medical device
using Selective Laser Melting (SLM) 3D Printer.
Ti-6Al-4V ELI alloy (ASTM F136 & ASTM F3001-14)
Medical device with secured biocompatibility.

FEATURES

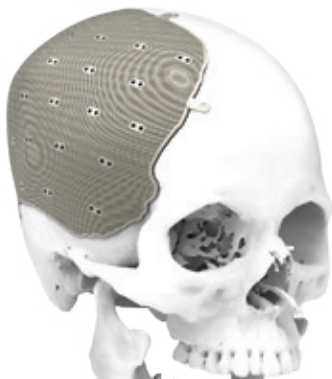
- Anatomical Design
- Porous structure
- Predetermined screw locations
- No additional fixation plates needed

Cranial Reconstruction

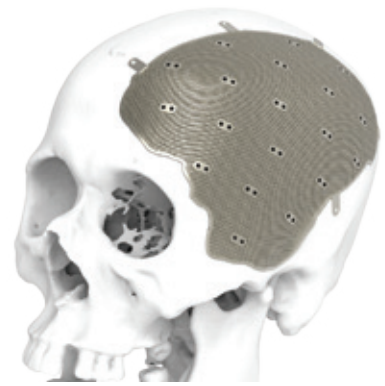
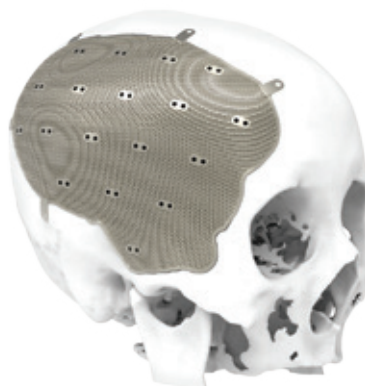
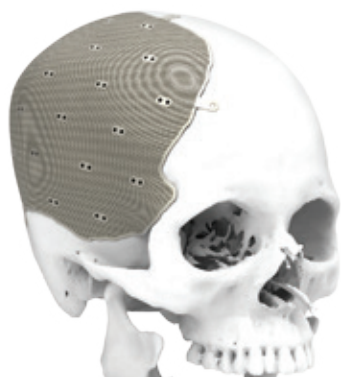
Basic Design :: Type A



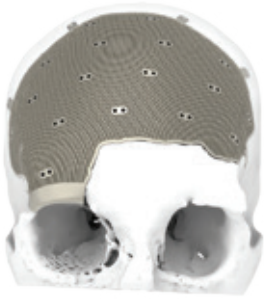
Volume up or down :: Type B



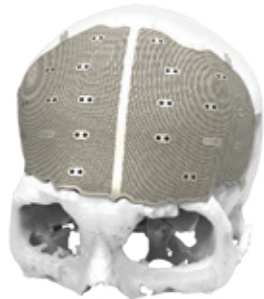
Frontal process Design :: Type C



Cranial Reconstruction



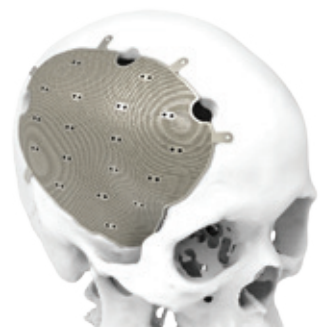
Hybrid



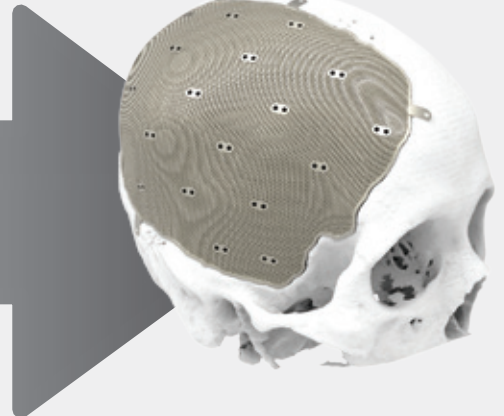
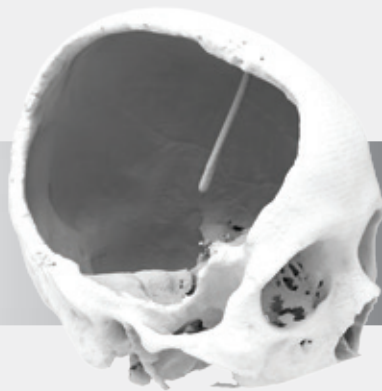
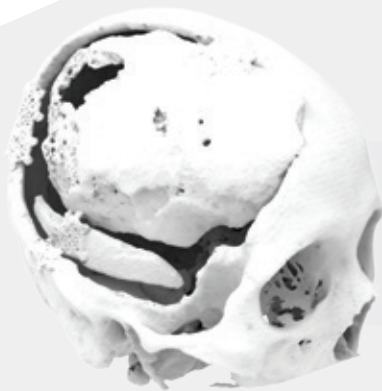
Split



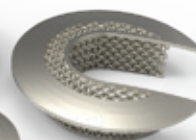
Both sides



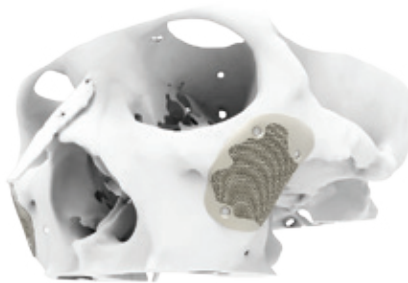
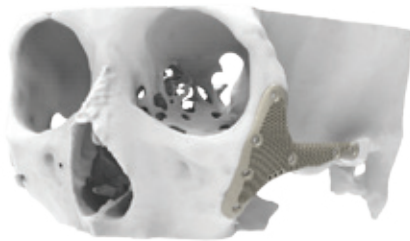
Drain hole



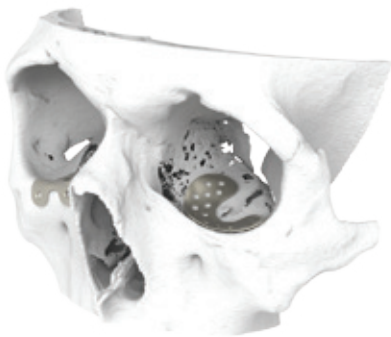
Burr Hole



Zygomatic Reconstruction



Orbital Reconstruction



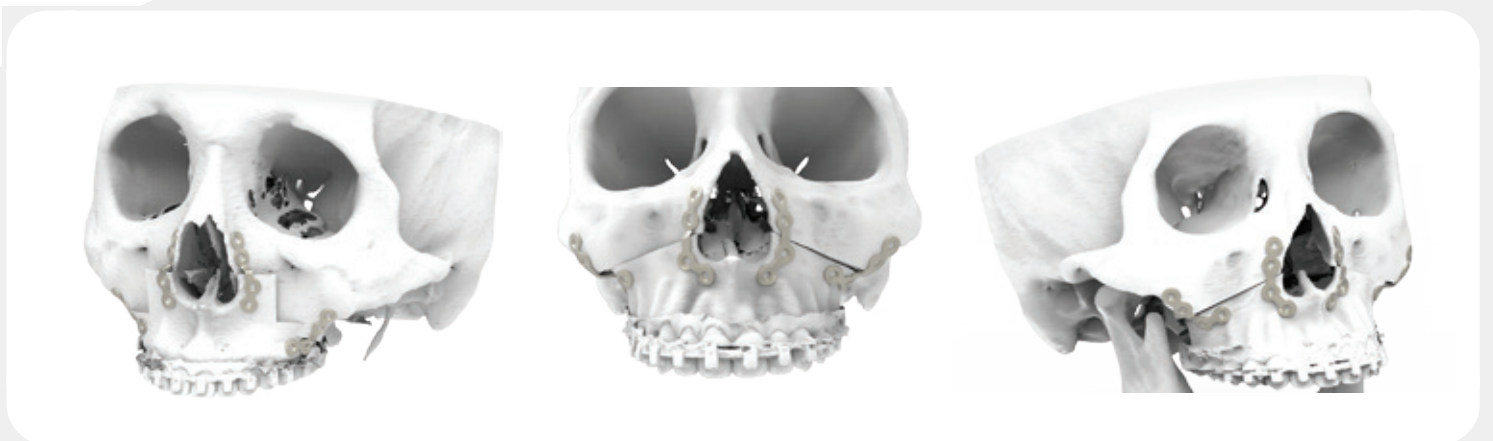
Specific Design Features

- Flanges for inserting screws
- Suture holes
- Drainage
- Variable thickness
- Combination of continuous and porous

Mandible Reconstruction



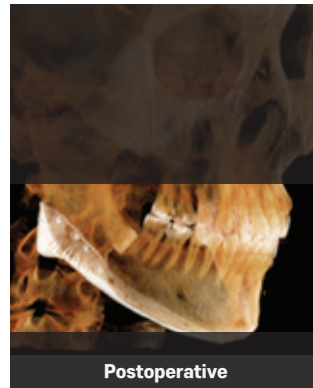
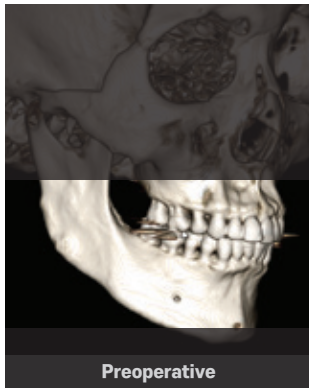
Maxillofacial Fixation



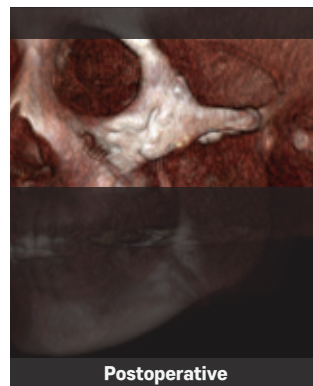
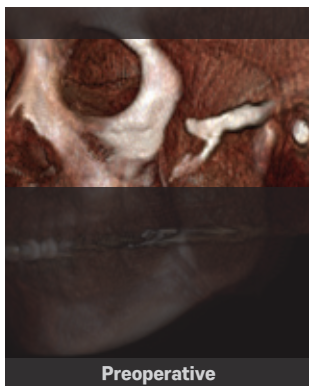
Surgical Guide



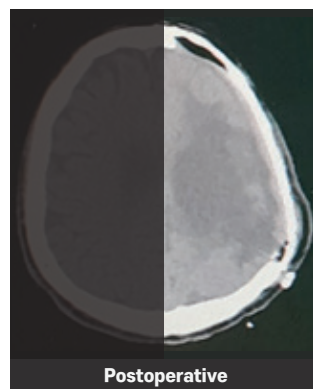
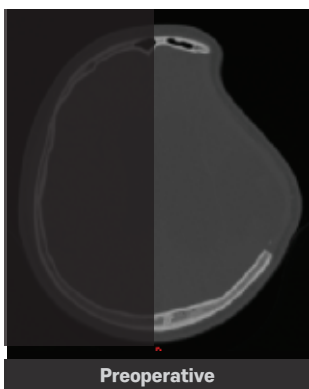
CLINICAL APPLICATION CASES



When it is necessary to reconstruct the mandible for trauma or cosmetic purposes, patient-specific implants can provide an optimal solution.

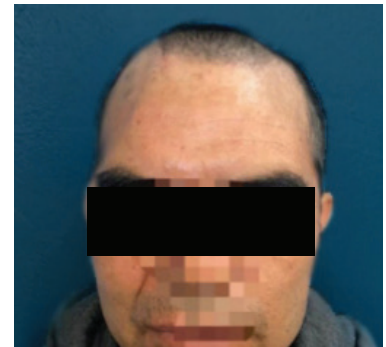
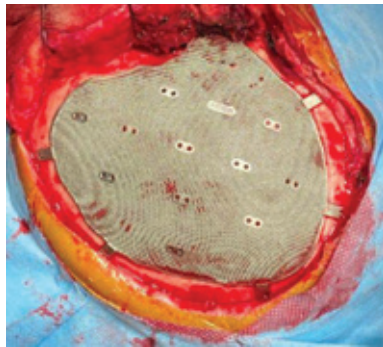


In the case of a defect in the zygoma due to trauma or cosmetic surgery, a customized solution may be the optimal solution.



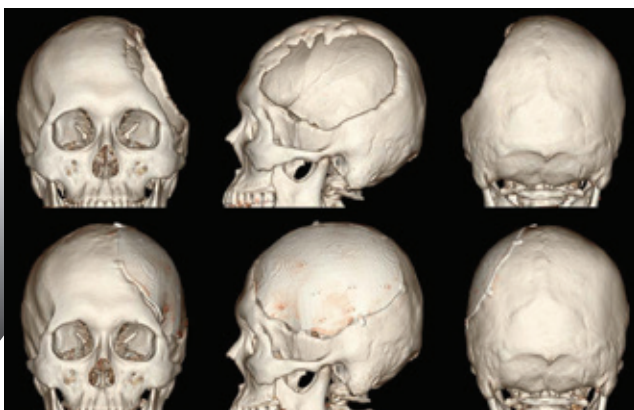
Defects of cranial bones caused by various causes provide accurate fit based on the patient's anatomical design.

CLINICAL APPLICATION CASES

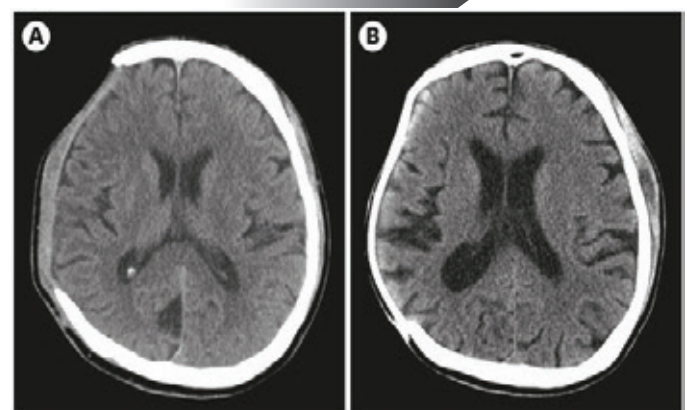


- The cranial defect was completely restored.
- The implant has flange holes for bonding with the surrounding bones, and suture holes are also provided.

• Preoperative



• Postoperative



(A) Preoperative

(B) 6 months after cranioplasty

The implant was fitted in the defect, not as an onlay graft, and showed a symmetric contour.

“Very satisfactory” cosmetic outcomes 6 months after cranioplasty surgery.

PRIMARY-PSI PROCESS

**CUSTOMER
DEPENDENT**



Upload CT Data of patient
with design request

1 DAY



3D rendering a model & designing
a implant of patient defect from CT Data

**CUSTOMER
DEPENDENT**



Anatomical design check or review
from surgeon

**CUSTOMER
DEPENDENT**



Approved from surgeon

3 ~ 5 DAY



Manufacturing & post processing

Communication Software - Dr.CHECK

Dr CHECK



Window



Android



iOS

Real-time inspection & Communication

In order to accommodate the needs of medical staffs, we have developed software that can perform all procedures; ordering - design - delivery confirmation.

Check design anytime, anywhere

Various devices can be used to provide convenient accessibility.
(PC/MOBILE/TABLET)

Easy-order & Request design modification

By providing easy-to-understand tools (buttons and edit pages), we provide an interface that can be easily accessed even by first-time users of Dr.Check.



CM Series

Powder Bed Fusion 3D Printer



“CM” Equipment for Medical Device Only

Specification

Lightweight & Simplification due to Precision Output

There is no limit to the realization of complex shapes by using the ultra-precision laser (5 - 30 microns).

The implementation of various lattice structures(mesh structures) reduces the weight of the product and helps adhesion with bones.

Item	MINI	CM150	CM250	CM-custom
Laser Wavelength	1,075 nm			
Laser Output Power	Yb-fiber laser 200 W (Option 400 w)			
Pulse Repetition	CW			
Output Power Tunability	10 ~ 100 %			
Beam Quality	M ² < 1.1			
Scanner Positioning Speed	11 mm/s			
Building Volume	70 x 130 mm	150 x 150 x 150 mm	250 x 250 x 300 mm	Custom production
Beam Spot	70 ~ 150 μm			
Build Room Z-axis Travel		200 mm	300 mm	Custom production
Z-axis Travel Accuracy	±3 μm			
Z-axis Speed	100 mm/s			
Build Chamber Temperature	40 ~ 80 °C Control			
Process Gas	Nitrogen / Argon			
Powder Feeder Stroke		170 mm	270 mm	Custom production
Weight	600 kg	600 kg	600 kg	Custom production
Powder	Co-Cr, Titanium64, TitaniumCP			
Blade	Silicone, Steel			
Software	CAD → CAM File Converting			
System Control	PC Base (Windows)			
System Max. Size (D x L x H)		750 x 1040 x 1930 (mm)	1100 x 1250 x 2000 (mm)	Custom production
Requirement Utility	Electricity : Single Phase, 220 V, 12 A			



CUSMEDI Co., Ltd.

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Tel : +82-31-732-1190

E-mail : world@cusmedi.com

<http://www.cusmedi.co.kr>