



ORDINE PROVINCIALE  
DEI MEDICI CHIRURGI E  
DEGLI ODONTOIATRI  
DI VENEZIA

**SABATO 17 MAGGIO 2025**

Sala Convegni Caterina Boscolo  
OMCeO Venezia | Via Mestrina 86 Mestre

**IL PAZIENTE DIGITALE  
NELLO STUDIO DENTISTICO**





- NESSUN INTERESSE COMMERCIALE
- SOLO ESEMPI DI PRATICITA' CLINICA!!!



INTELLIGENZA ARTIFICIALE meglio descritta come  
STATISTICA AVANZATA perché impara tramite modelli statistici

ELABORA UNA IMMAGINE DI:

- UNO STUDIO DENTISTICO
- AMBIENTE MODERNO E LUMINOSO
- IL DENTISTA STA USANDO LO SCANNER I. O.
- SUL MONITOR SI VEDE IL FILE STL ELABORATO

REALISTICO MA...

- Lo scanner è poco realistico
- Il filo è un RENDER DA DICOM e non un STL
- Il lavandino è un accessorio da bagno
- Il mobile è più simile ad una cucina

L' A.I. può aiutarci tanto nel VELOCIZZARE e SEMPLIFICARE le procedure ma serve cmq un controllo



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

## 3. Dimensioni dello scanner

Leggerezza e maneggevolezza sono legate alla dimensione del manipolo

## 4. Cablato o wireless

Il cavo può limitare lo spostamento dal pc o dalla alimentazione però il wireless può scaricarsi nel momento meno opportuno

## 5. Costo di investimento

Non solo costo di acquisto ma anche presenza o meno di abbonamento annuale

## 6. Assistenza

Velocità di intervento e riparazione o possibilità di avere un muletto sostitutivo possono fare la differenza in un flusso di lavoro ormai consolidato



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

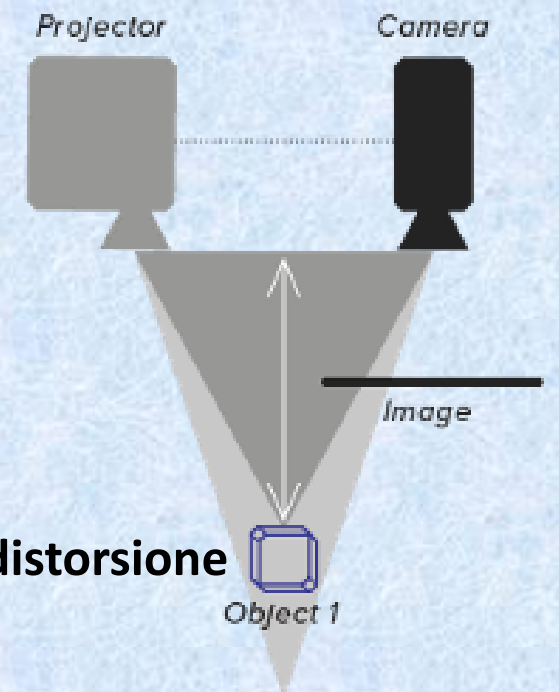
Lo scanner intra orale emette un **fascio di luminoso (luce strutturata o laser)** proiettato sulla superfici orali

Il fascio luminoso emesso dallo strumento colpisce le varie strutture subisce **una distorsione** che viene registrata dalle telecamere

Tale distorsione elaborata tramite appositi software evidenziata all'interno del modello 3D:

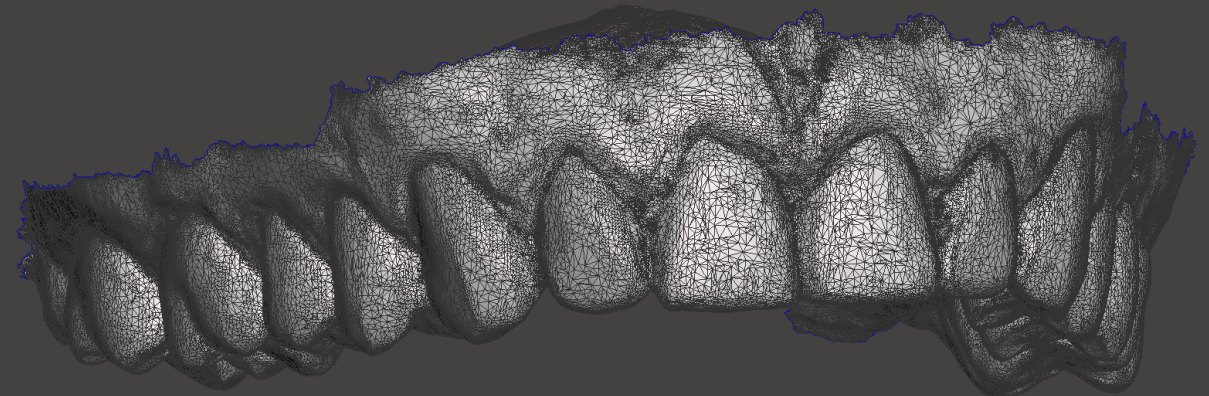
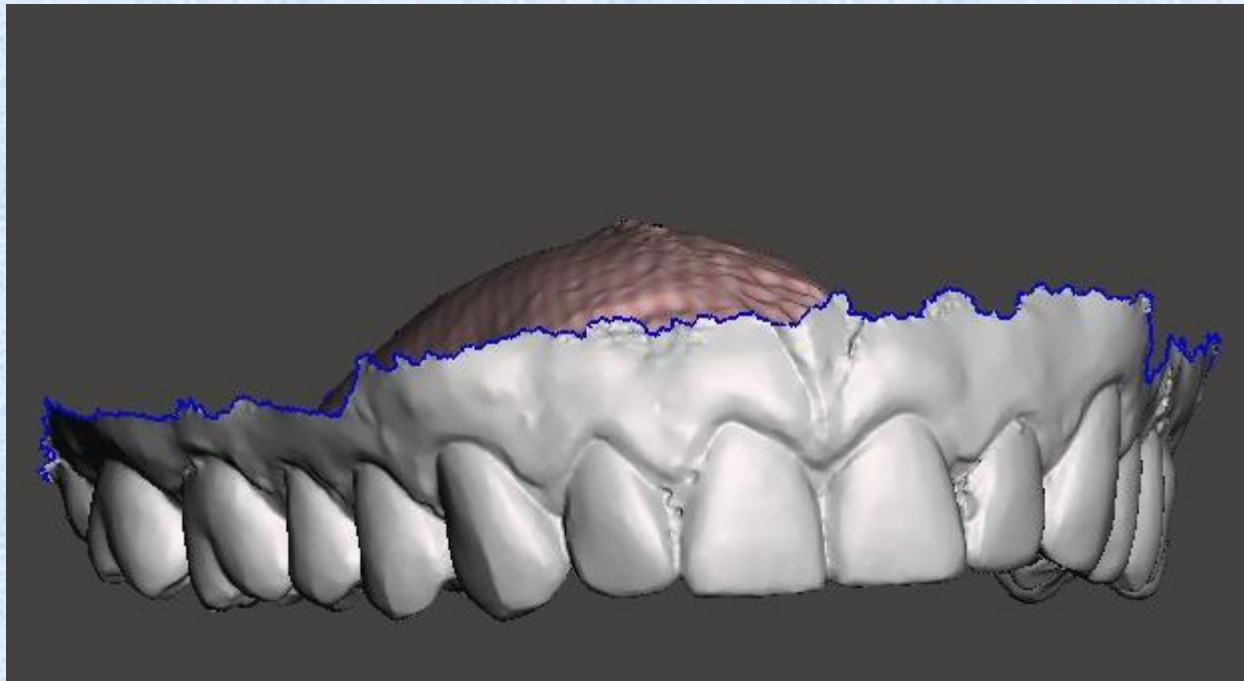
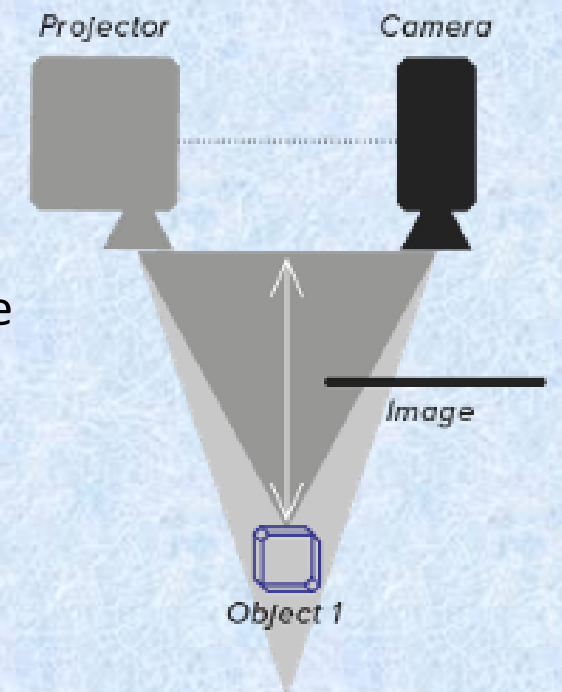
Prima una **nuvola di punti** da cui poi verrà originata **una triangolazione tra questi**, o mesh (maglia)

Il modello STL (STANDARD TRIANGLE LANGUAGE) definitivo che si andrà a formare rappresenterà la struttura virtuale del cavo orale del paziente **sia nelle forme che nelle dimensioni**.



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

Il modello STL (STANDARD TRIANGLE LANGUAGE) definitivo che si andrà a formare rappresenterà la **struttura virtuale** del cavo orale del paziente **sia nelle forme che nelle dimensioni.**

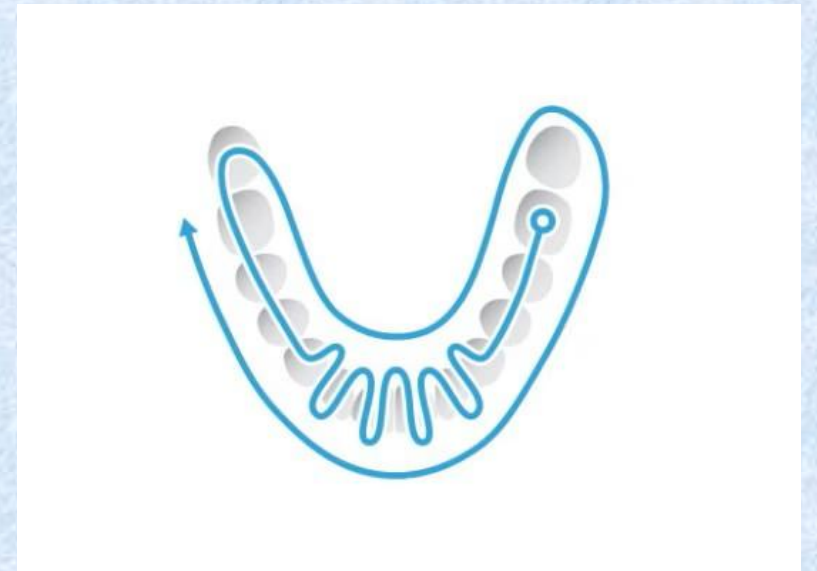


# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

COME SI UTILIZZA?



- Iniziare dalla superficie occlusale del molare
- Far oscillare lo scanner quando si passa sui denti centrali
- Continuare fino a che si raggiunge l'ultimo molare
- Scansionare il lato buccale e linguale \ palatale



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

The effect of different scanning protocols on precision and trueness of intraoral scanning: A pilot trial

[Mustafa Ali Yahya](#)<sup>1</sup>, [Mathias Selléus](#)<sup>2</sup>, [Deyar Jallal Hadi Deyar Jallal Hadi](#)<sup>3</sup>, [Michael Braian](#)<sup>4</sup>, [Christel Larsson](#)<sup>5</sup>

•PMID: [39544207](#) PMCID: [PMC11559108](#) DOI: [10.4317/jced.62158](#)

## Abstract

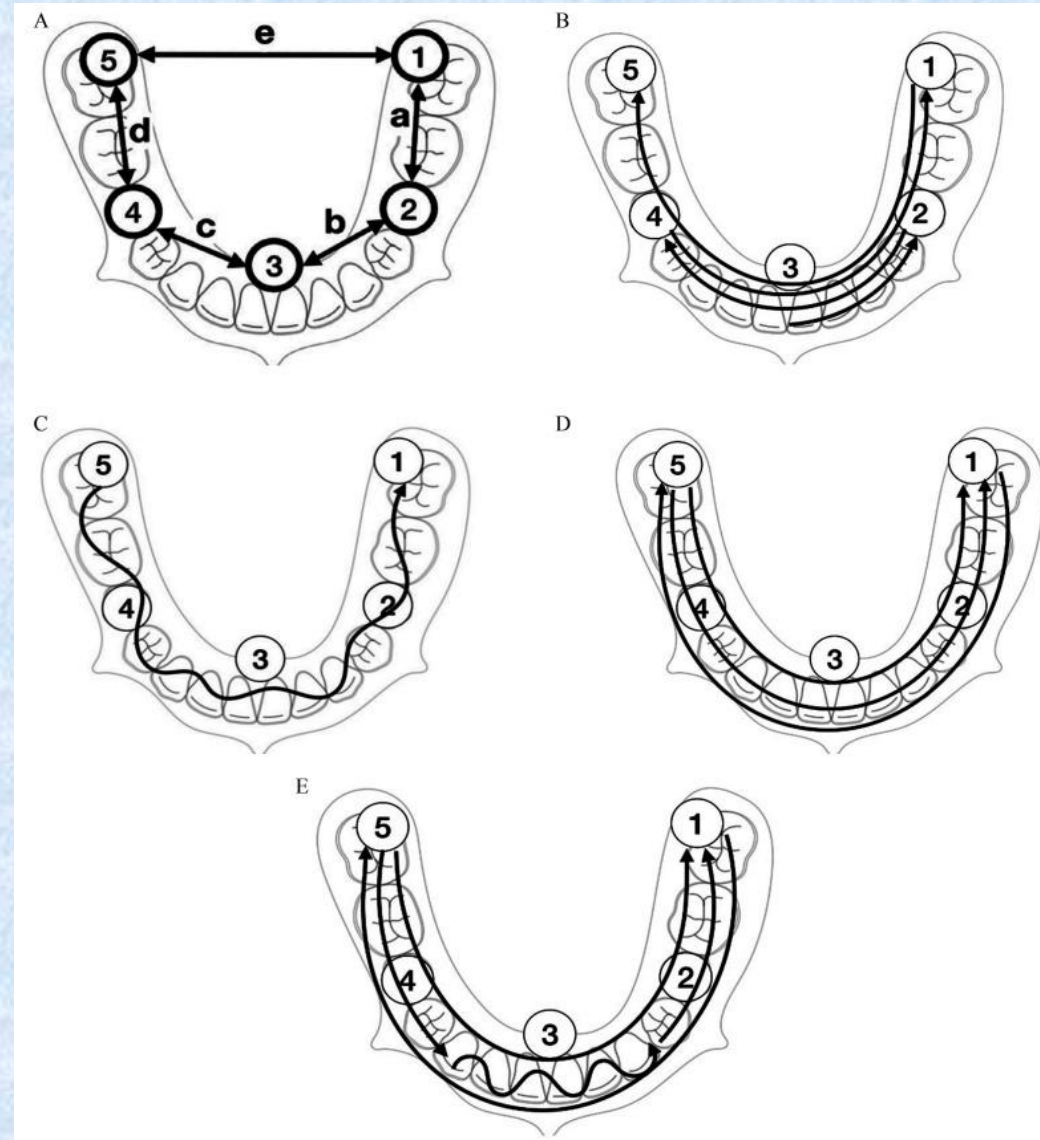
**Background:** The aim of this study was to investigate how **different scanning protocols** affect the accuracy (trueness and precision) of intraoral scanning of complete arches with implant cylinders.

**Material and methods:** A master model was designed **with five cylinders**.

**One scanner, A total of 30 scans** were performed using each of the four protocols.

The master model was digitized with an **industrial ISO-certified scanner**.

A. Illustration of the master model showing the location of the five different cylinders. B. Protocol ROCK. C. Protocol ZIGZAG. D. Protocol OBP. E. Protocol OWBP



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

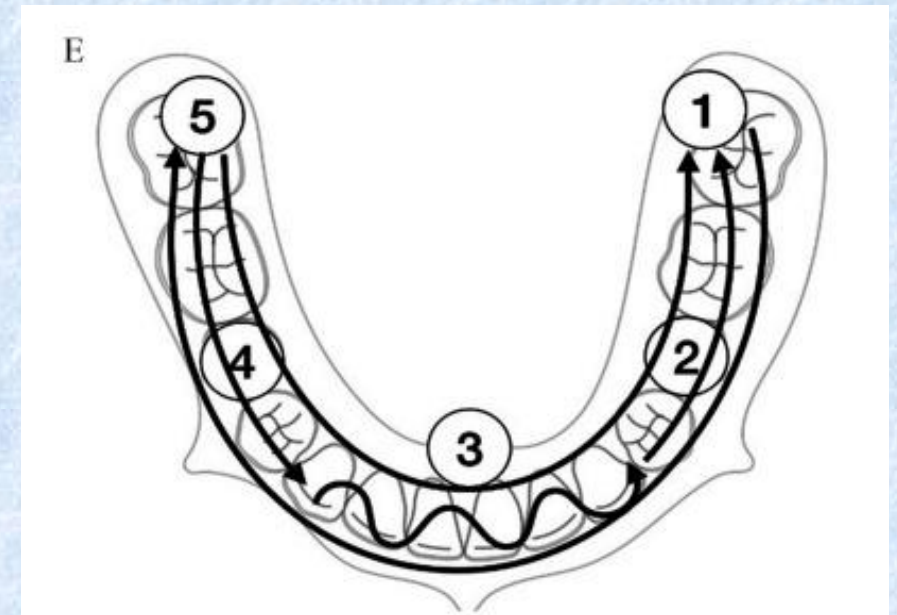
**The effect of different scanning protocols on precision and trueness of intraoral scanning: A pilot trial**

[Mustafa Ali Yahya](#)<sup>1</sup>, [Mathias Selléus](#)<sup>2</sup>, [Deyar Jallal Hadi Deyar Jallal Hadi](#)<sup>3</sup>, [Michael Braian](#)<sup>4</sup>, [Christel Larsson](#)<sup>5</sup>

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**Conclusions:** Protocol OWBP has a higher trueness than other tested protocols. All tested protocols have higher trueness and precision when scanning smaller distances than inter-arch measurement.

The protocol OWBP (**lettera E**), that is recommended by the manufacturer, has the least deviating trueness in comparison to the master model.



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

**A guide for maximizing the accuracy of intraoral digital scans. Part 1: Operator factors**

[Marta Revilla-León](#) <sup>1 2 3</sup>, [Dean E Kois](#) <sup>2 4</sup>, [John C Kois](#) <sup>2 4 5</sup>

•PMID: **36479807** DOI: 10.1111/jerd.12985

## **Abstract**

**Objectives:** To describe the factors related to the operator skills and decisions that influence the scanning accuracy of intraoral scanners (IOSs).

**Overview:** Each IOS system is limited by the hardware and software characteristics of the selected device. The operator decisions that can influence the accuracy of IOSs include:

- the scanning technology and system selection
- scanning head size
- calibration
- scanning distance
- exposure of the IOS to ambient temperature changes, ambient humidity, ambient lighting conditions
- operator experience, scanning pattern, extension of the scan, cutting off, rescanning, and overlapping procedures.



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**Conclusions:** The knowledge and understanding of the **operator factors that impact** scanning accuracy of IOSs is a fundamental element for maximizing the accuracy of IOSs and for successfully integrating IOSs in daily practices.

**Clinical significance:** Operator skills and clinical decisions **significantly impact** intraoral scanning accuracy.

Dental professionals must know and understand these influencing **operator factors** for maximizing the accuracy of IOSs.



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

## A guide for maximizing the accuracy of intraoral digital scans: Part 2-Patient factors

[Marta Revilla-León](#) <sup>1 2 3</sup>, [Dean E Kois](#) <sup>4 5</sup>, [John C Kois](#) <sup>4 5 6</sup>

•PMID: **36639916** DOI: [10.1111/jerd.12993](https://doi.org/10.1111/jerd.12993)

### Abstract

**Objectives:** To describe the factors related to patient intraoral conditions that impact the scanning accuracy of intraoral scanners (IOSs).

**Overview:** Variables related to intraoral conditions of the patient that can influence the scanning accuracy of IOSs include

- tooth type
- presence of interdental spaces (BRIDGING)
- arch width variations, palate characteristics
- wetness and bleeding (SOLCO PREPARAZIONE)
- existing restorations (AMALGAM as MIRROR EFFECT)
- edentulous areas
- interimplant distance, position, angulation and depth of existing implants
- implant scan body type



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

**A guide for maximizing the accuracy of intraoral digital scans: Part 2-Patient factors**

[Marta Revilla-León](#) <sup>1 2 3</sup>, [Dean E Kois](#) <sup>4 5</sup>, [John C Kois](#) <sup>4 5 6</sup>

•PMID: **36639916** DOI: [10.1111/jerd.12993](https://doi.org/10.1111/jerd.12993)

**Conclusions:** The knowledge and understanding of the **patient's intraoral conditions** that can impact the scanning accuracy of IOSs is a fundamental element for maximizing the accuracy of IOSs.

**Clinical significance:** The patient's intraoral conditions, or patient factors, **can significantly impact** intraoral scanning accuracy.

Dental professionals must know and understand these influencing patient factors to maximize the accuracy of IOSs.



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

QUINDI UNA SCANSIONE INTRAORALE:

- PUO' GIOVARE DI OPZIONI DI SCANSIONE COME
  - I.A.
  - METALLO (EFFETTO SPECCHIO)

MIGLIORA **VELOCITA'** E **PRECISIONE**  
**ELIMINA** GUANCIA E LABBRA



NO I.A.



SI I.A.



Intraorale



> Vai alla fase di progettazione



> Vai alla fase di progettazione

# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

QUINDI IN PROTESI FISSA:

- PER L'ELEMENTO SINGOLO
  - INLAY ONLAY MONCONE PROTESICO

FARE ATTENZIONE ALLA **POSIZIONE** DEL MARGINE DI PREPARAZIONE  
SOPRA IUXTA SOTTO GENGIVALE – PIÙ È PROFONDO  
MAGGIORE È LA DIFFICOLTÀ DI SCANSIONE

**SALIVA E SANGUINAMENTO** – PROBLEMA DI SCANSIONE

- PERÒ
  - POSSIBILITÀ DI CONTROLLO IMMEDIATA DELLA QUALITÀ DEL STL – RI SCANSIONE
    - MARGINE
    - SOTTOSQUADRI
    - SPAZIO PROTESICO OCCLUSALE

# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

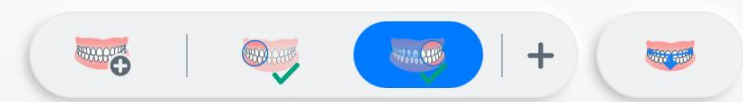
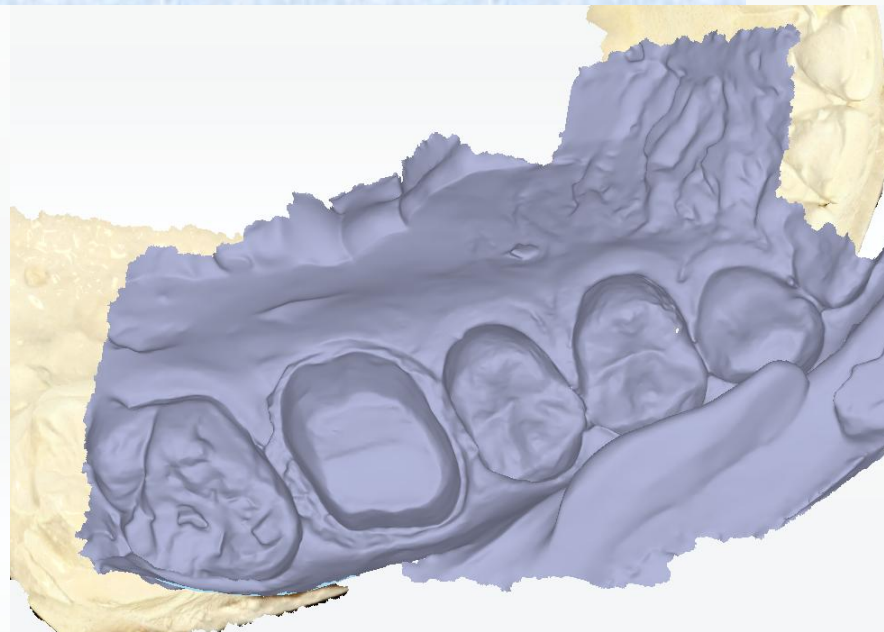
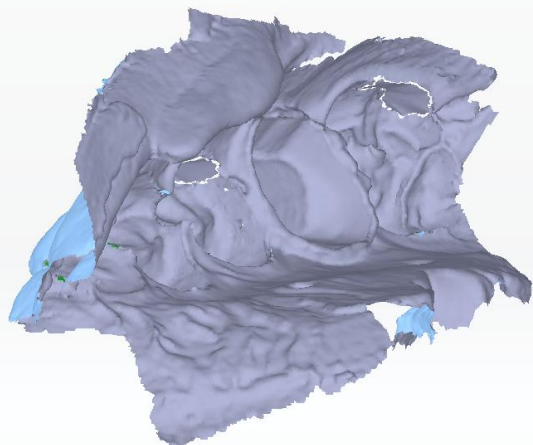
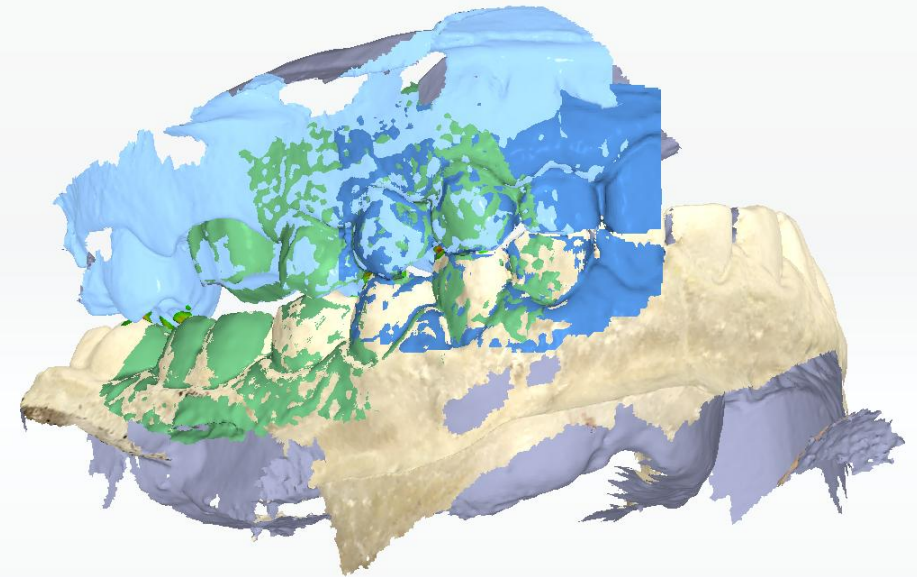
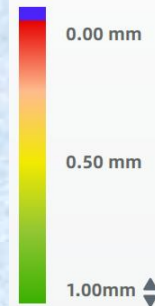
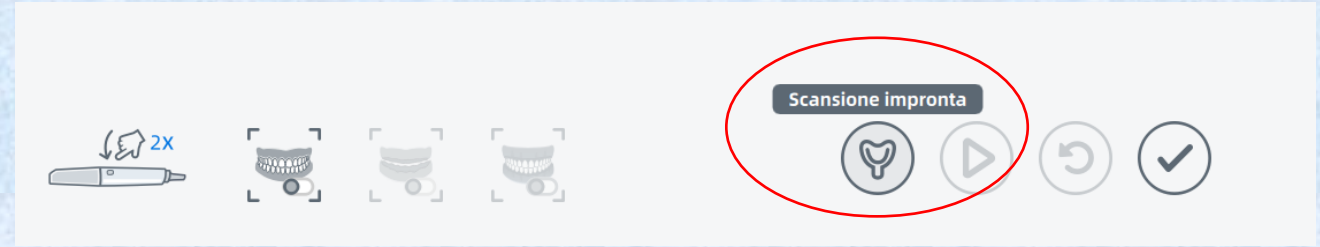
QUINDI IN PROTESI FISSA:

- PER L'ELEMENTO SINGOLO
  - INLAY ONLAY MONCONE PROTESICO

TECNICA **DIRETTA** IN BOCCA

TECNICA **INDIRETTA** IN MANO SILICONE – FLIP STL

FILO PER RETRAZIONE GENGIVALE OBBLIGATORIO!!!



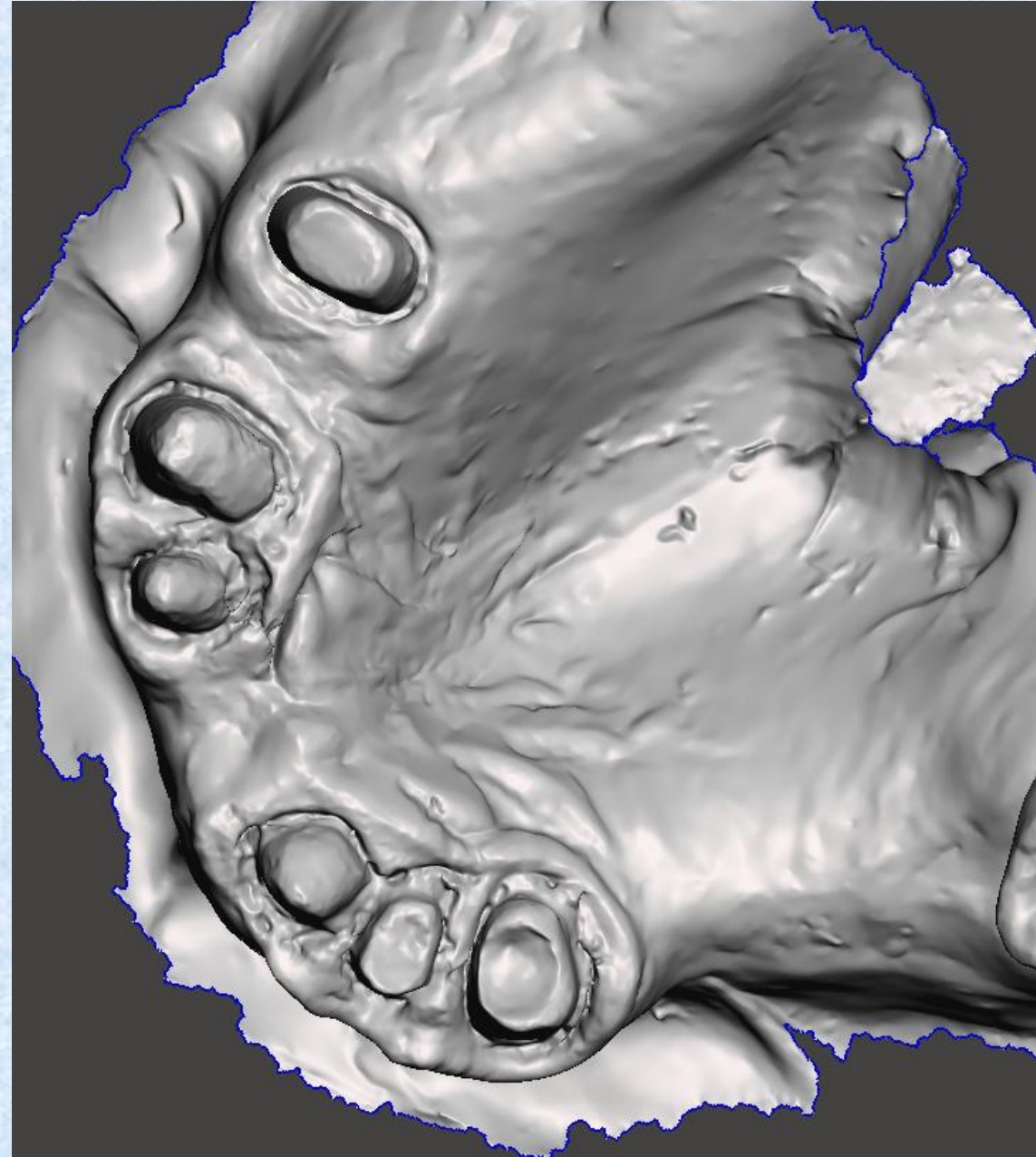
# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

QUINDI IN PROTESI FISSA:

- PER I PONTI
  - MAGGIORE È LA DISTANZA TRA I MONCONI  
MAGGIORE PUÒ ESSERE LA CONTRAZIONE DI SCANSIONE

PERÒ

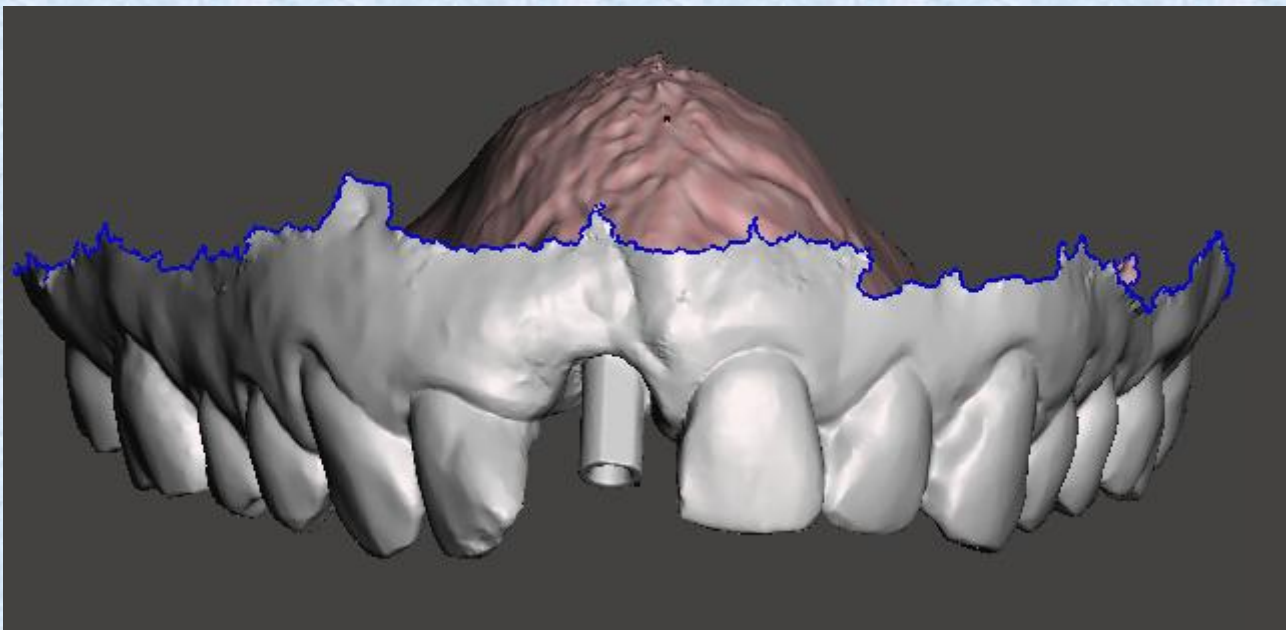
- POSSIBILITÀ DI CONTROLLO IMMEDIATO  
DI SOTTOSQUADRO TRA I MONCONI



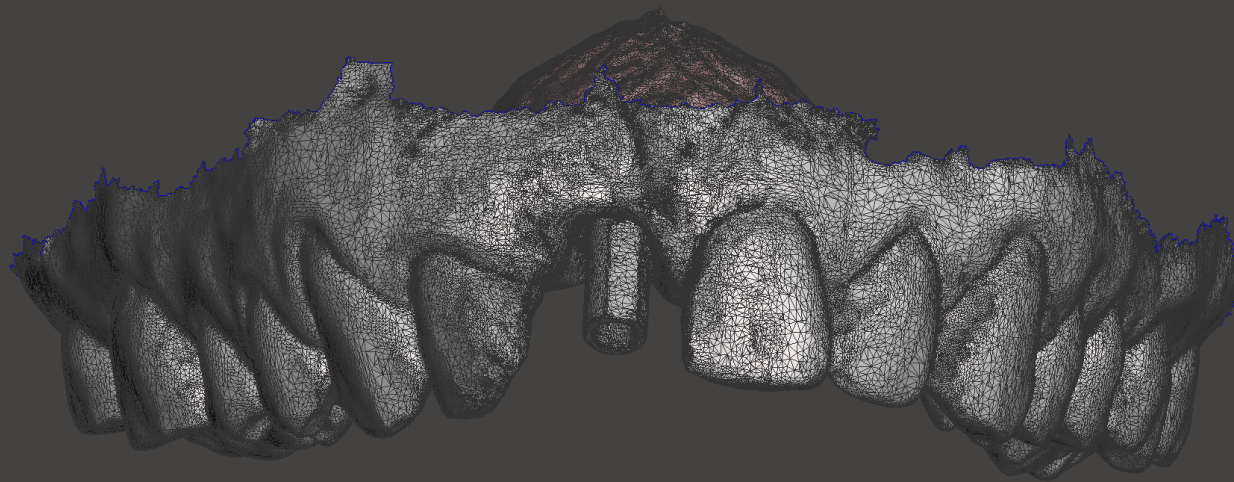
# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

IN PROTESI FISSA PER GLI IMPIANTI:

- SI USANO GLI SCAN BODY



- CON LA SUPERFICIE **PARTICOLARE** BEN VISILE



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI - SCAN BODY PROFONDITÀ DI POSIZIONAMENTO E DESIGN

**Accuracy of single-implant digital impression with various scanbody exposure levels at anterior and posterior regions**

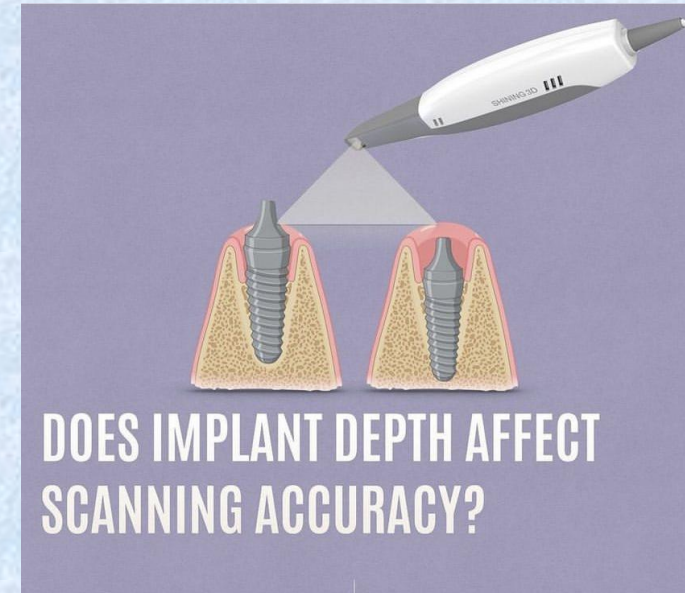
[Hio Kuan Wu](#)<sup>1</sup>, [Guanhui Chen](#)<sup>2</sup>, [Xiaoqiong Huang](#)<sup>1</sup>, [Feilong Deng](#)<sup>3</sup>, [Yiming Li](#)<sup>4</sup>

PMID: **37516339** DOI: [10.1016/j.jdent.2023.104641](https://doi.org/10.1016/j.jdent.2023.104641)

## Abstract

**Objectives:** This in vitro study aimed to evaluate the effect of the exposure heights of the scanbody on the accuracy of digital implant impressions at different positions.

**Methods:** Four maxillary master models with one analog at the anterior and posterior region were fabricated by a 3-dimensional (3D) printer. The analogs were submerged from the gingival margin to ensure **four exposure heights of the scanbody**: 10, 8, 6, and 4 mm.



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI - SCAN BODY PROFONDITÀ DI POSIZIONAMENTO E DESIGN

**Accuracy of single-implant digital impression with various scanbody exposure levels at anterior and posterior regions**

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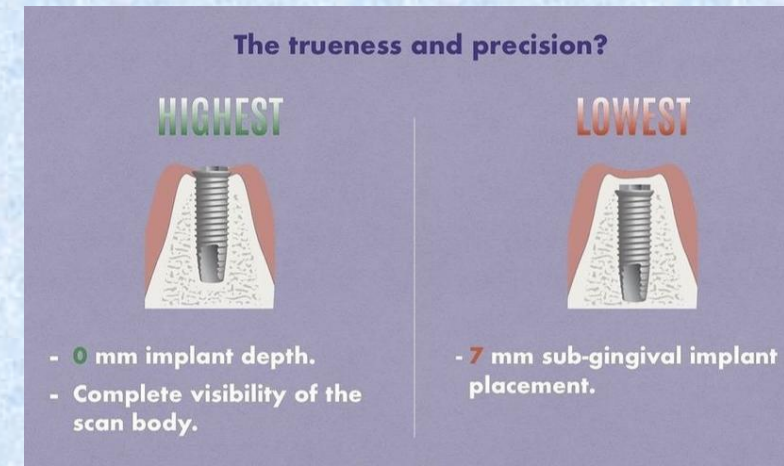
**Abstract**

**Results:** 3D trueness was significantly decreased at **6 and 4 mm scanbody exposure at the anterior** region.

In comparison, a significant decrease was only seen at **4 mm scanbody exposure at the posterior** region.

**Conclusion:** The exposure height of the scanbody influenced the accuracy of the digital implant impression, according to the implant positions.

Scanbody exposure of **less than 6 mm** at the **anterior** region and **4 mm** scanbody exposure at the **posterior** region could lead to increased deviations, but still in the tolerance range.



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

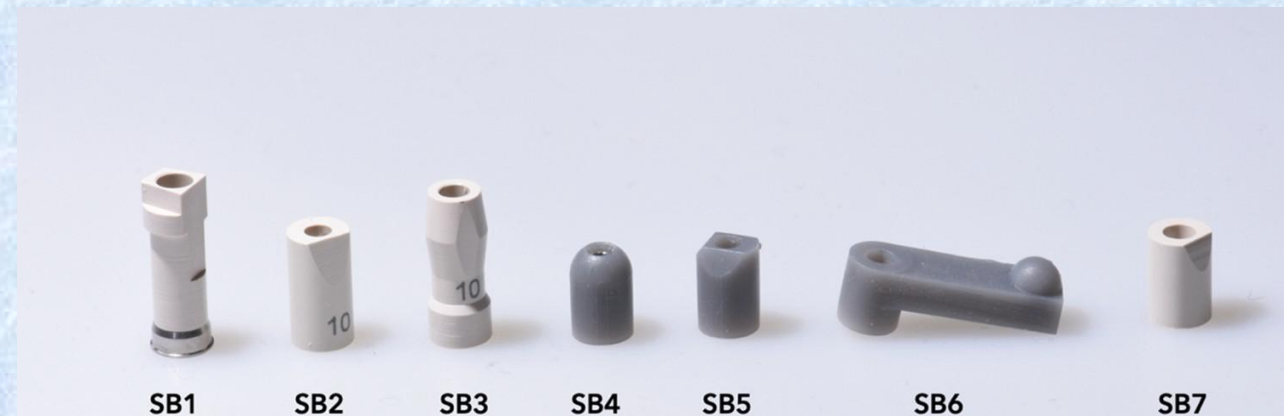
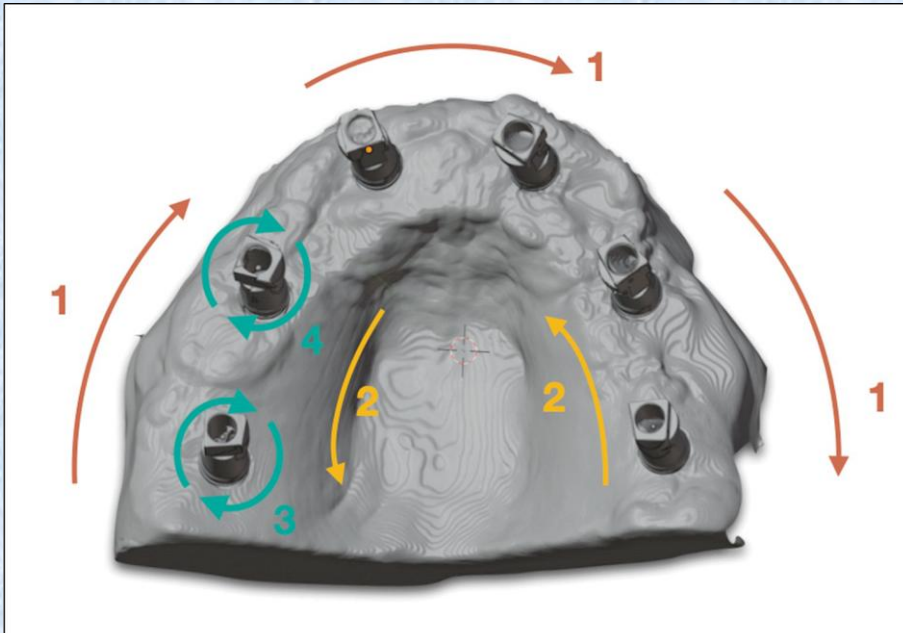
PROTESI SU IMPIANTI - SCAN BODY PROFONDITÀ DI POSIZIONAMENTO E DESIGN

**Influence of scanbody design and intraoral scanner on the trueness of complete arch implant digital impressions: An in vitro study**

[Priscila Ceolin Meneghetti](#)<sup>1,2</sup>, [Junying Li](#)<sup>2</sup>, [Paulo Sérgio Borella](#)<sup>3,4</sup>, [Gustavo Mendonça](#)<sup>3</sup>, [Luiz Henrique Burnett Jr](#)<sup>1</sup> PMID: [38113200](#) PMCID: [PMC10729975](#) DOI: [10.1371/journal.pone.0295790](#)

## Abstract

A 3D-printed maxillary model with six implants and their respective multi-unit abutments was used for this study. **Seven scanbodies** (SB1, SB2, SB3, SB4, SB5, SB6, and SB7) and **four intraoral scanners** (Primescan<sup>®</sup>, Omnican<sup>®</sup>, Trios 3<sup>®</sup>, and Trios 4<sup>®</sup>) were assessed. Each combination group was scanned ten times and a **dental lab scanner** (D2000, 3Shape) was used as a reference.  $\alpha = .05$ ).

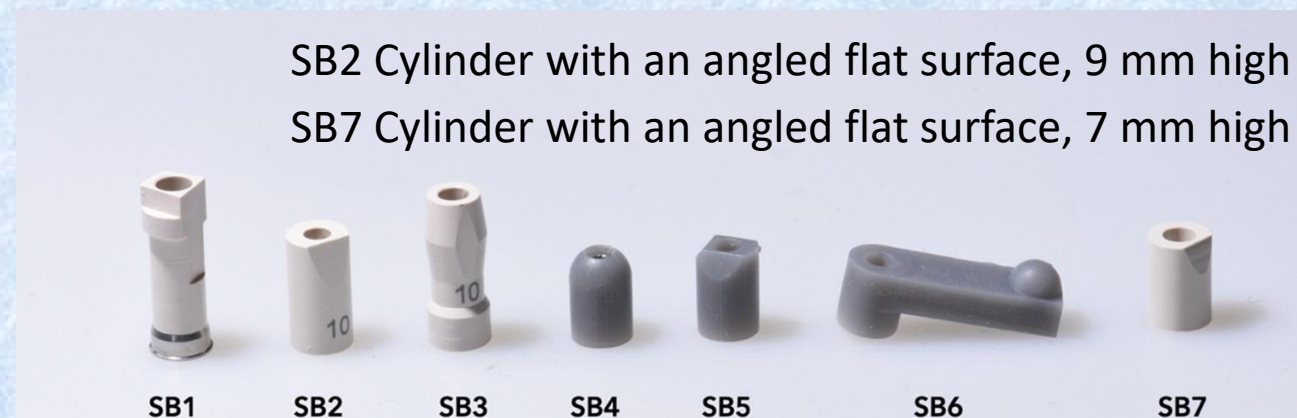
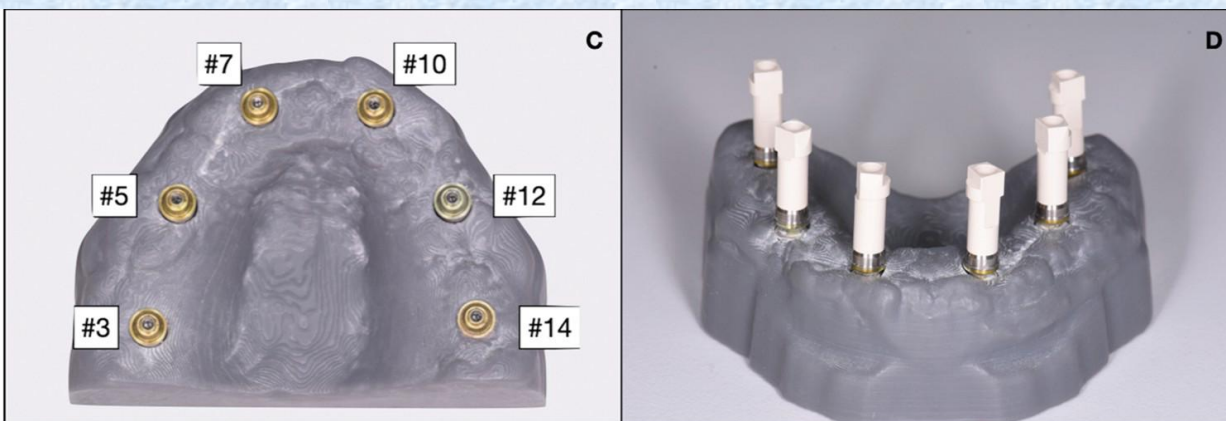


# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI - SCAN BODY PROFONDITÀ DI POSIZIONAMENTO E DESIGN

## Influence of scanbody design and intraoral scanner on the trueness of complete arch implant digital impressions: An in vitro study

When comparing different intraoral scanners, the **Primescan** system showed the smallest 3D deviation (median 110.59  $\mu\text{m}$ ) and differed statistically from the others, while Trios 4 (median 122.35  $\mu\text{m}$ ) and Trios 3 (median 130.62  $\mu\text{m}$ ) did not differ from each other ( $p = .284$ ). **No differences** were found in the linear distance between implants #3 and #14 between Trios 4, Primescan, and Trios 3 systems. When comparing different scanbodies, the lowest median values for 3D deviation were obtained by **SB2** (72.27 $\mu\text{m}$ ) and **SB7** (93.31 $\mu\text{m}$ ), and they did not differ from each other ( $p = .116$ ).

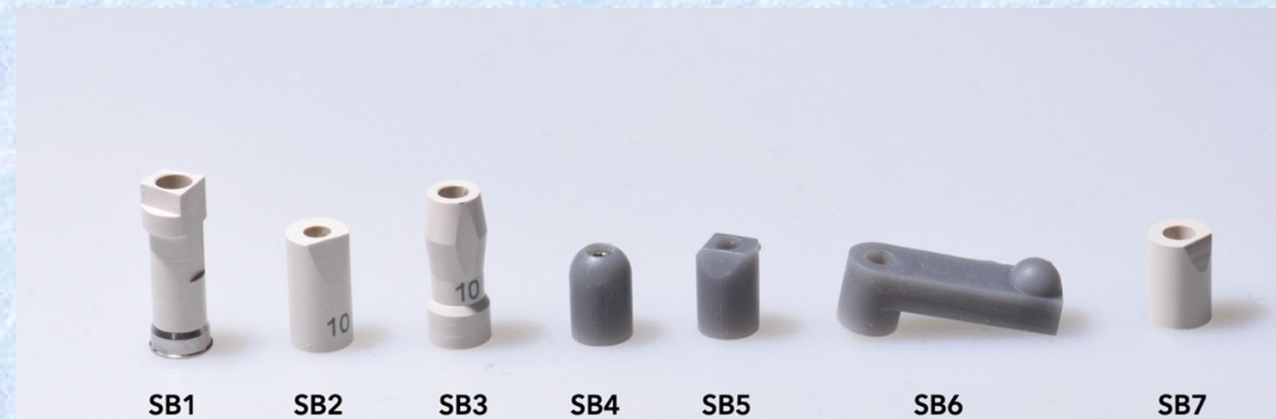
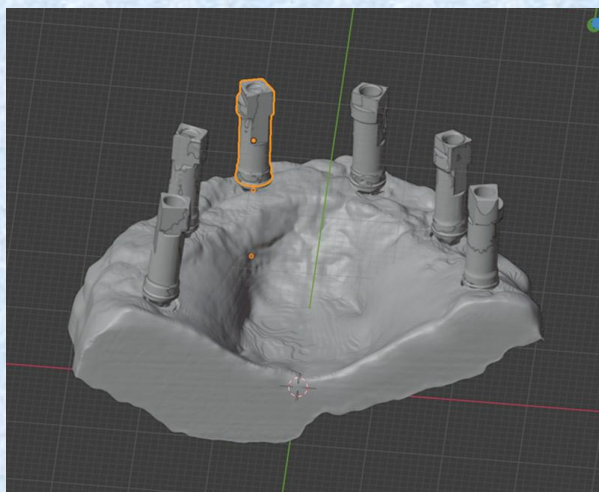
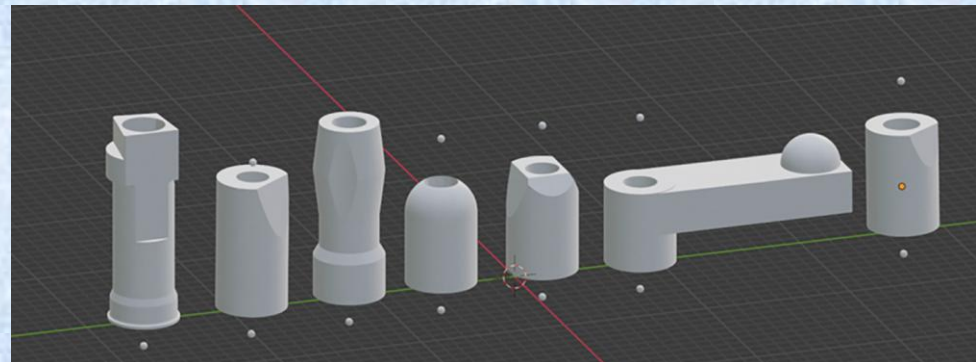
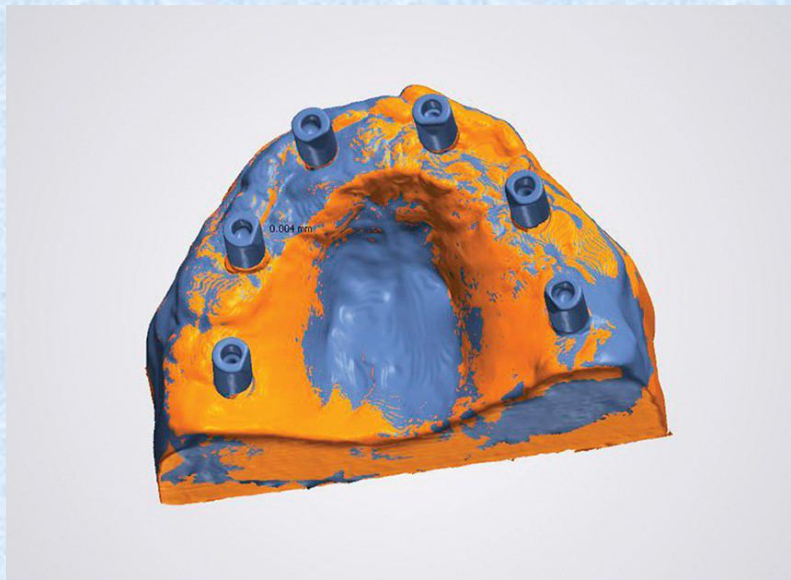


# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI

- SCAN BODY

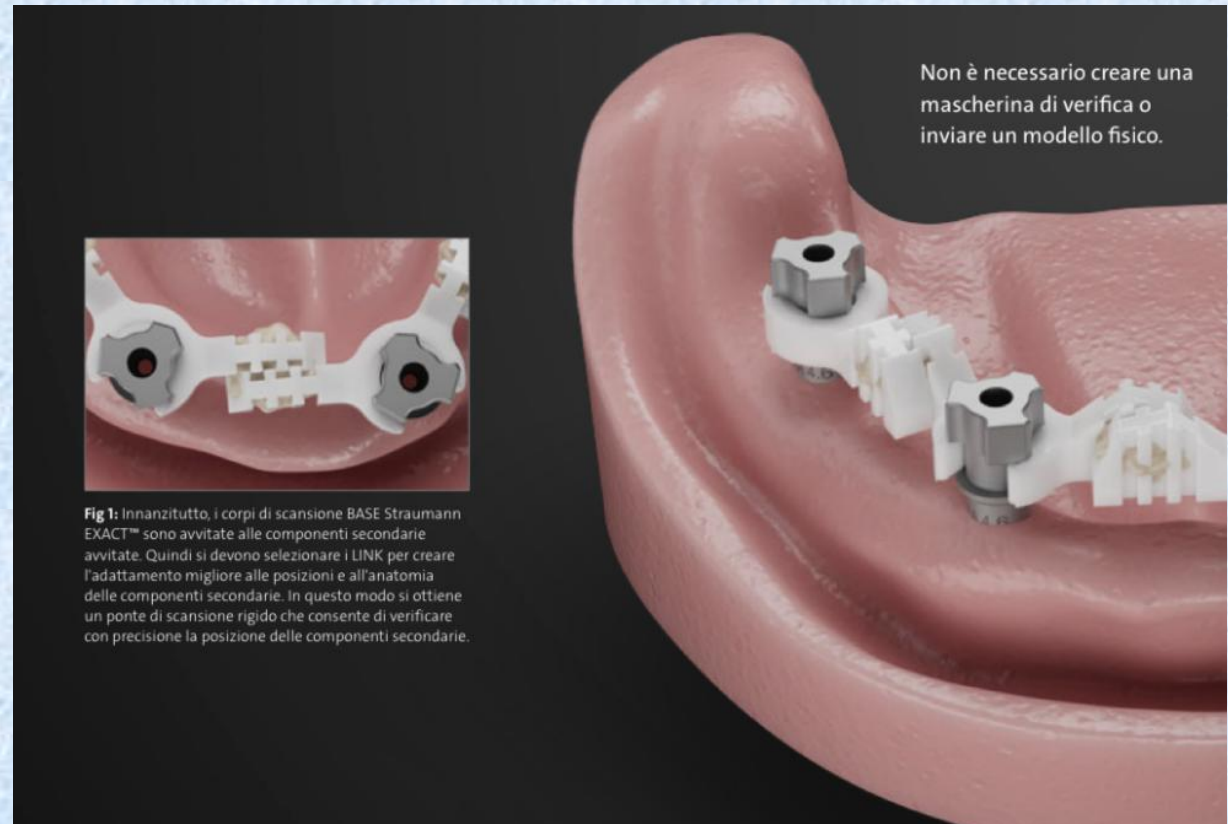
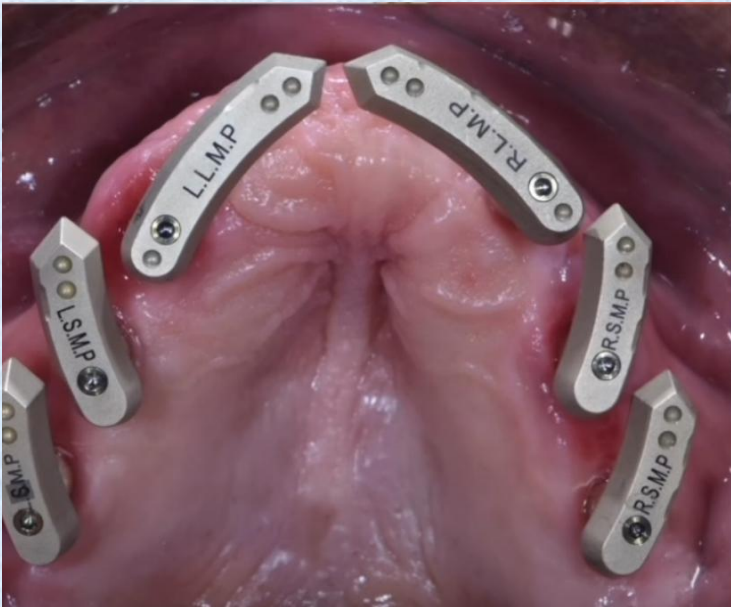
PROFONDITÀ DI POSIZIONAMENTO E DESIGN



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI - SCAN BODY PROFONDITÀ DI POSIZIONAMENTO E DESIGN

FULL ARC – CONTRAZIONE DIMENSIONALE



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI - SCAN BODY PROFONDITÀ DI POSIZIONAMENTO E DESIGN

FULL ARC – CONTRAZIONE DIMENSIONALE

**Comparison between stereophotogrammetric, digital, and conventional impression techniques in implant-supported fixed complete arch prostheses: An in vitro study**

[Hani Tohme](#) , [Ghida Lawand](#), [Maja Chmielewska](#) , [Joseph Makhzoume](#) PMID:**34112521** DOI:[10.1016/j.prosdent.2021.05.006](#)

**Statement of problem:** Conventional impressions and digital intraoral scanning for implant-supported fixed complete arch prostheses still have **many problems that influence accuracy**

**Purpose:** The purpose of this in vitro study was to measure and compare the **intraoral scan body deviations** of the reference cast with the intraoral scan body distortions obtained by conventional, digital, and stereophotogrammetric techniques.

**Materials and methods:** An edentulous maxillary "all-on-four" cast was prepared with 2 straight and two 17-degree angled screw-retained abutments screwed on the implant.

**Three capture techniques** were compared: the conventional impression technique (**CI** group) using impression plaster (**IP**), the digital intraoral scanning (**DIS** group) technique, and the stereophotogrammetry (**SPG** group) technique.

A calibrated extraoral scanner was used to digitize the definitive cast to compare its intraoral scan body positions with those of the other techniques in terms of global angular distortion and 3D deviations of the whole scan body and flat angled surface alone by using an inspection and metrology software program and the best fit alignment technique.

# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI - SCAN BODY PROFONDITÀ DI POSIZIONAMENTO E DESIGN

FULL ARC – CONTRAZIONE DIMENSIONALE

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**Statement of problem:** Conventional impressions and digital intraoral scanning for implant-supported fixed complete arch prostheses still have **many problems that influence accuracy**

**Results:** Significant global angular discrepancies and 3D deviations of the whole scan body and flat angled surface were found among the CI, DI, and SPG groups for both trueness ( $P < .001$ ) and precision ( $P < .001$ ).

**Conclusions:** The **stereophotogrammetry** capture technique reported the **highest accuracy** in terms of trueness and precision for the intraoral scan bodies of all the techniques evaluated.

However, at the flat angled surface region of the scan body, higher trueness was detected with the digital technique. Conventional impressions showed better trueness results than the digital ones, but the opposite was true of precision.

# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI - SCAN BODY PROFONDITÀ DI POSIZIONAMENTO E DESIGN  
FULL ARC – CONTRAZIONE DIMENSIONALE – STEREOFOTOGRAMMETRIA - **INTRAORALE O EXTRAORALE**

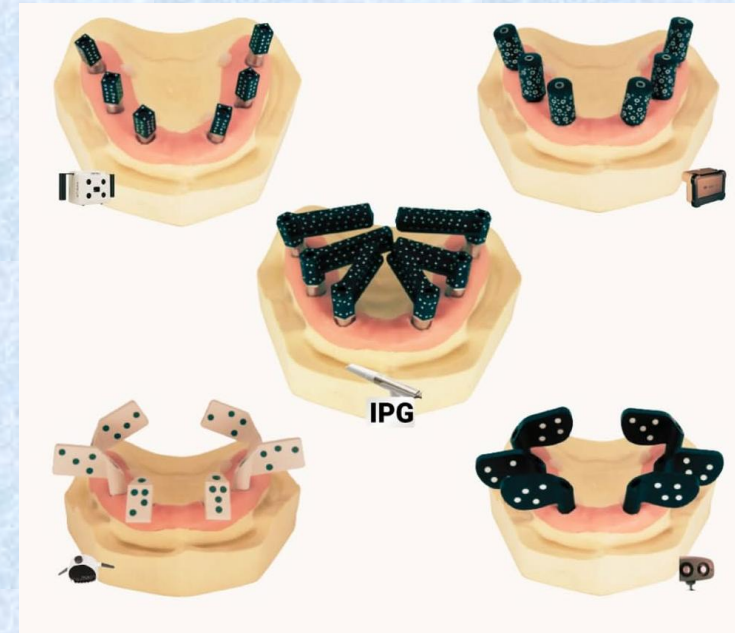
LA FOTOGRAMMETRIA È UNA TECNICA DI RILIEVO CHE PERMETTE DI OTTENERE INFORMAZIONI METRICHE

- LA FORMA
- LA POSIZIONE
- LE DIMENSIONI, UTILIZZANDO IMMAGINI FOTOGRAFICHE.

SI BASA SULL'ANALISI DI UNA **SERIE DI FOTOGRAFIE** SCATTATE DA **DIVERSE ANGOLAZIONI** PER RICOSTRUIRE UN **MODELLO TRIDIMENSIONALE**.

ELEMENTI GEOMETRICI **A CONTRASTO** SULLA SUPERFICE PER IL RICONOSCIMENTO

- MATEMATICHE INCLUSE NEL PROGRAMMA DI LETTURA
- CORPI DI SCANSIONE **SOLO** PER MUA



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI - SCAN BODY PROFONDITÀ DI POSIZIONAMENTO E DESIGN  
FULL ARC – CONTRAZIONE DIMENSIONALE – STEREOFOTOGRAMMETRIA - INTRAORALE O EXTRAORALE

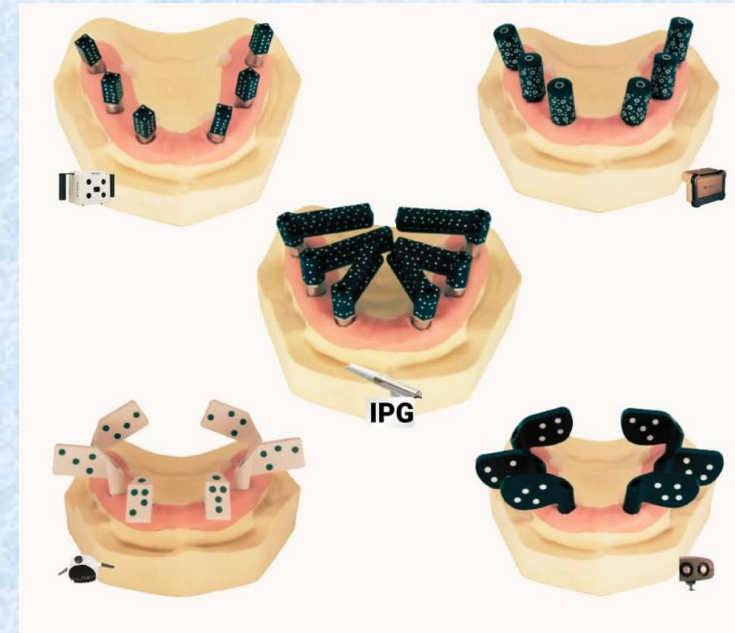
**Accuracy of complete arch implant scans recorded by using intraoral and extraoral photogrammetry systems**

[Marta Revilla-León<sup>1</sup>](#), [Miguel Gómez-Polo<sup>2</sup>](#), [Michael Drone<sup>3</sup>](#), [Abdul B Barmak<sup>4</sup>](#), [John C Kois<sup>5</sup>](#), [Jorge Alonso Pérez-Barquero<sup>6</sup>](#) PMID: **40021377** DOI:[10.1016/j.prosdent.2025.01.041](#)

**Statement of problem:** Extraoral photogrammetry (PG) systems provide a **reliable method** for recording implant positions

**Purpose:** The purpose of this in vitro study was to compare the accuracy of complete arch implant scans captured by using **4 extraoral and 1 intraoral** PG system.

**Material and methods:** An edentulous cast with **6 Implant** abutment analogs (MultiUnit Abutment Plus Replica) was digitized (T710). Five groups were created depending on the PG system used to capture complete arch implant scans: 4 extraoral PG systems, PIC (PIC System), Icam4D (Imetric), Grammee (BlueSkyBio), OxoFit (Oxo), and 1 intraoral PG device, Elite (Shining 3D) (n=30). In each group, the corresponding optical markers were placed on the implant abutment analogs of the reference cast, and **30 consecutive scans**



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**Results:** Significant linear trueness ( $P < .001$ ) and precision ( $P < .001$ ) **discrepancies** were found among the groups.

PIC and Icam4D groups obtained significantly better linear trueness than the other PG systems, and PIC obtained the best linear precision.

The linear discrepancies ranged from 17 to 30  $\mu\text{m}$ . Significant angular trueness ( $P < .001$ ) and precision ( $P < .001$ ) differences were revealed among the groups.

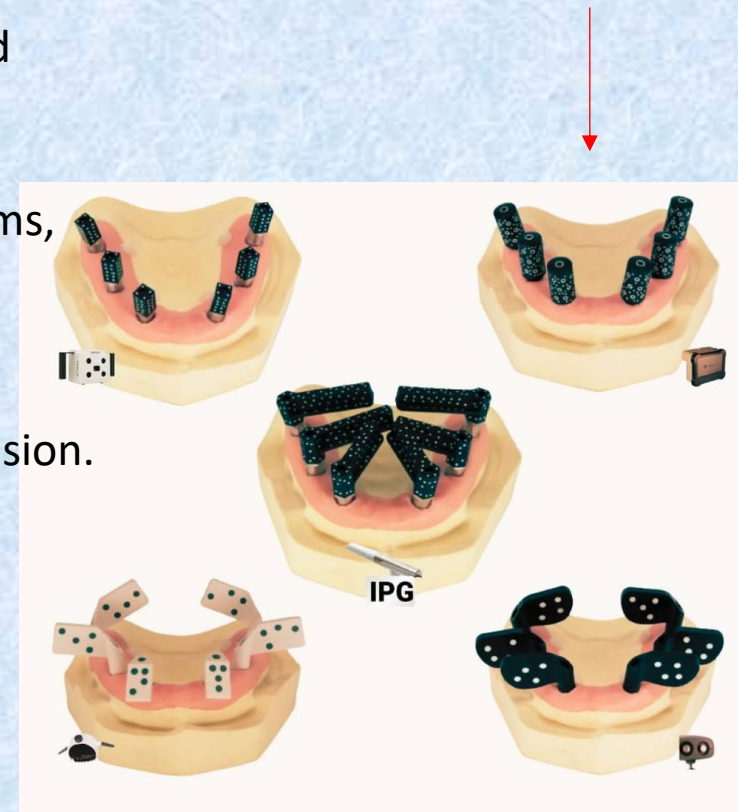
The Grammee obtained the best angular trueness, while PIC obtained the best angular precision.

The angular discrepancies ranged from 0.17 to 0.34 degrees.

**Conclusions:** The PG system influenced the trueness and precision of complete arch scans.

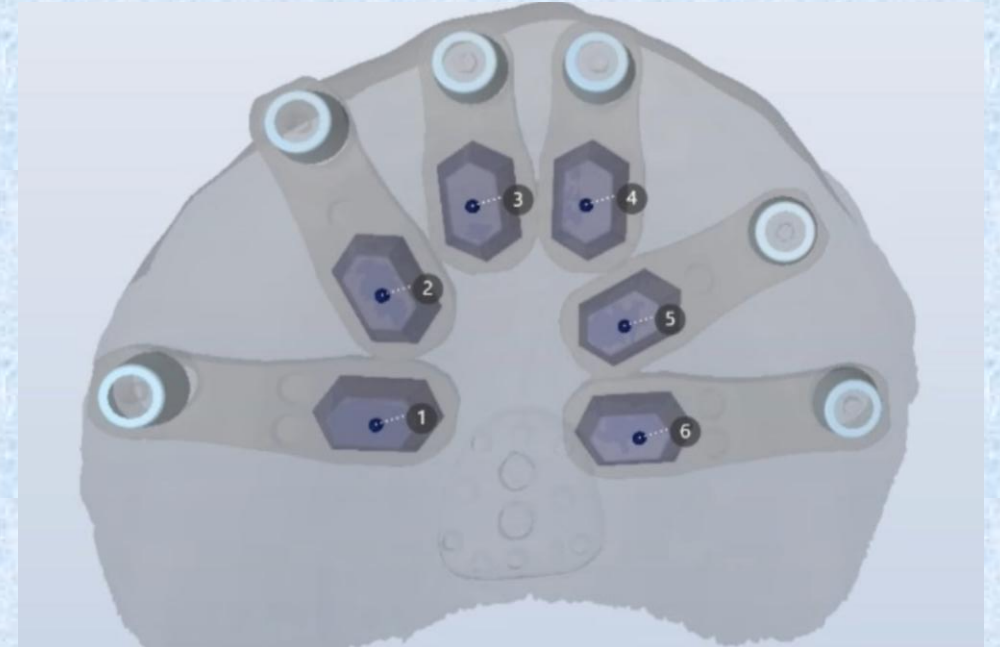
The intraoral PG obtained accuracy values similar to those of the 2 extraoral PGs (Grammee and OxoFit).

The discrepancies measured among the systems **may not be** clinically significant.



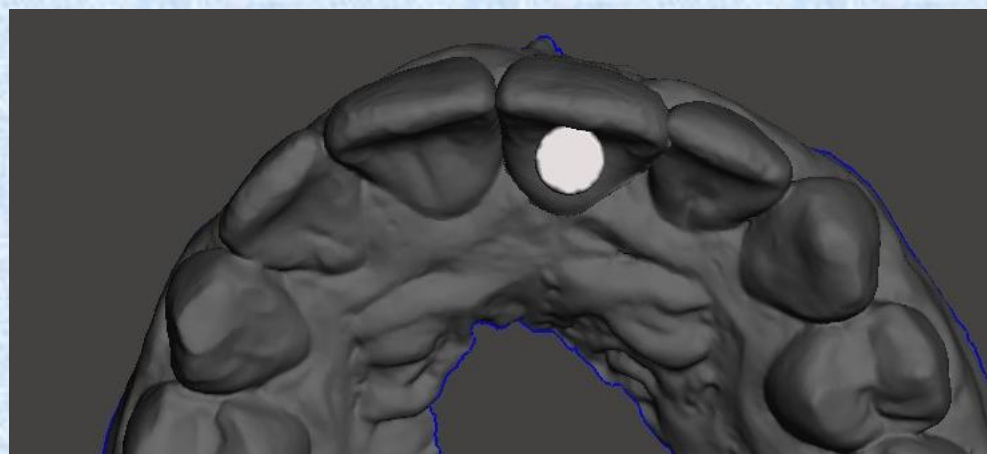
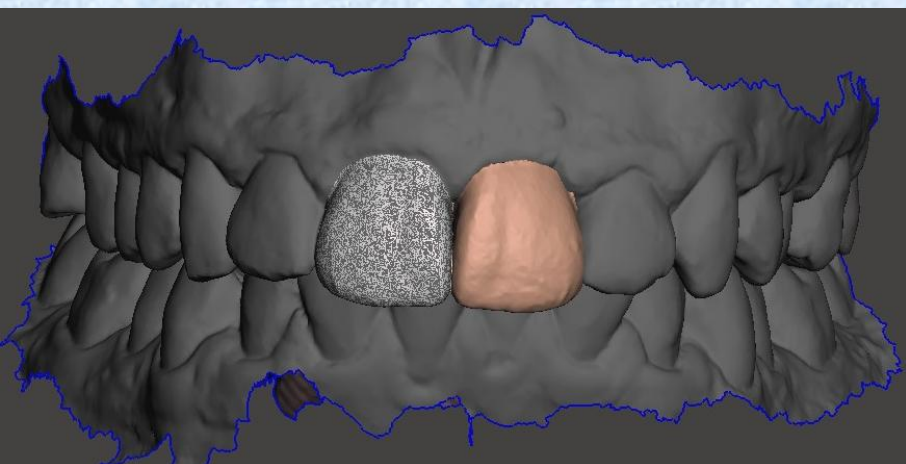
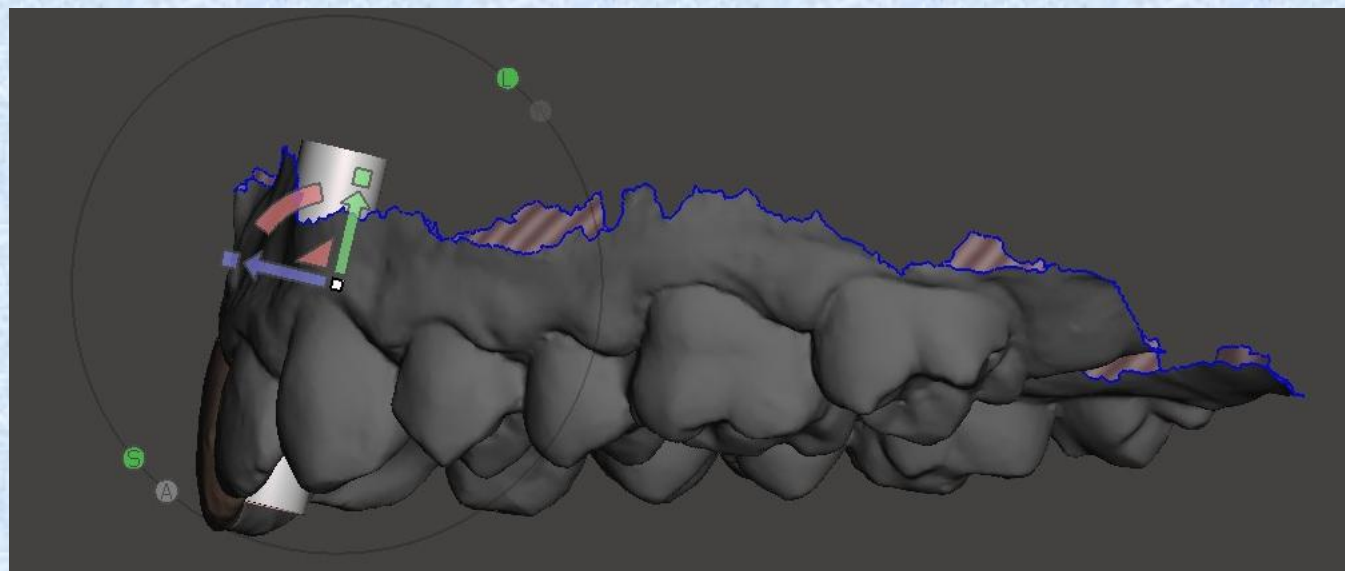
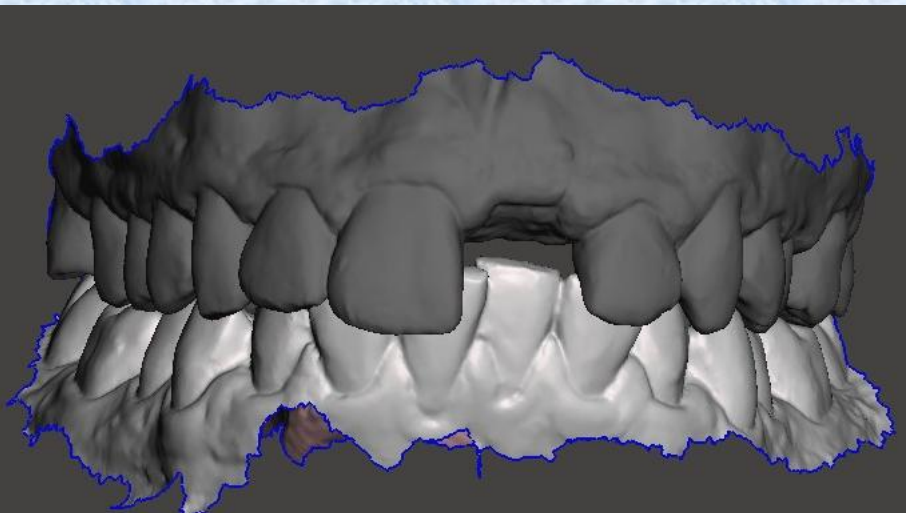
# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI SU IMPIANTI - FOTOGRAMMETRIA E SCAN FLAG

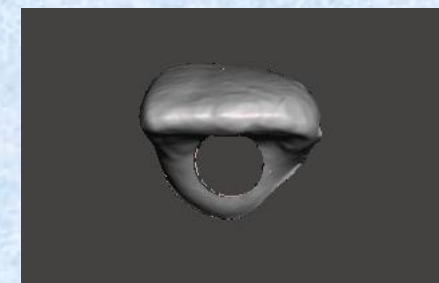


# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

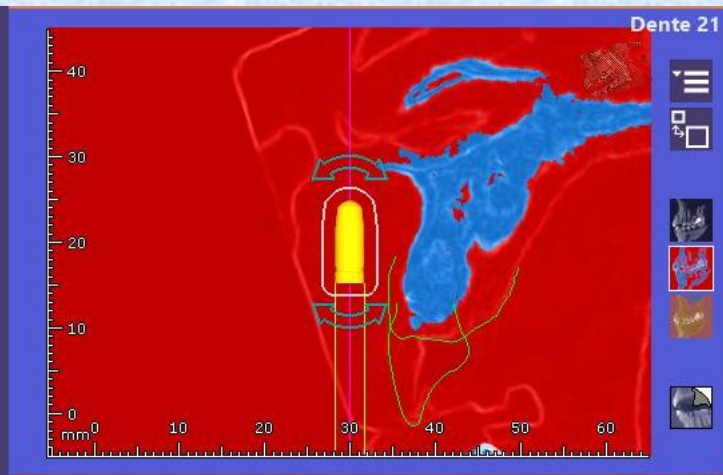
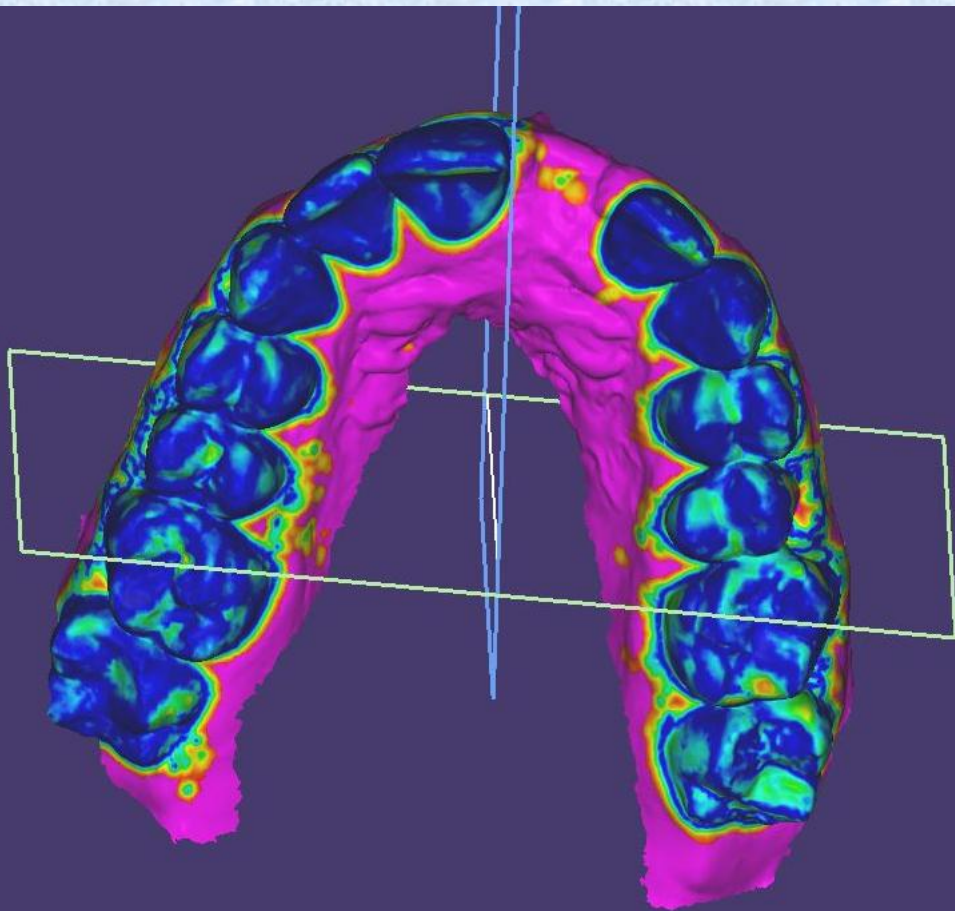
PROGRAMMAZIONE IMPLANTARE: STL + DICOM



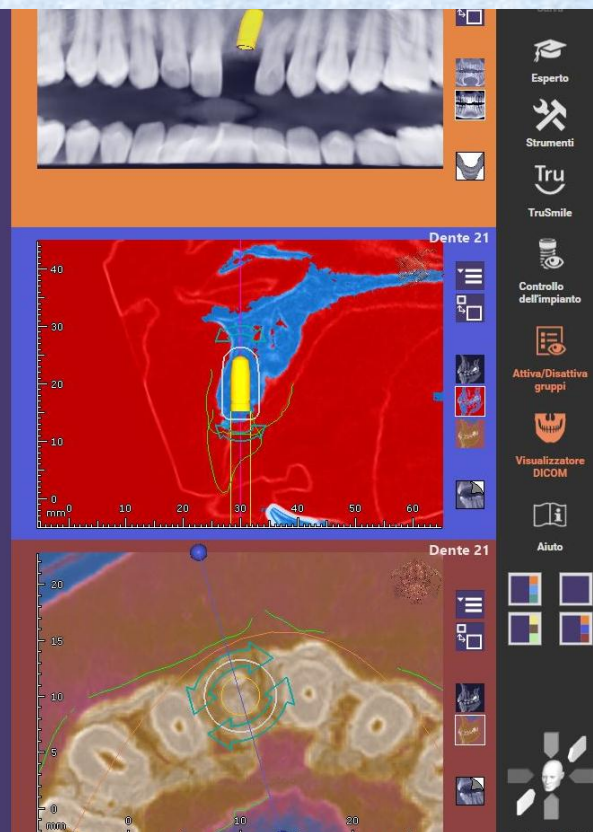
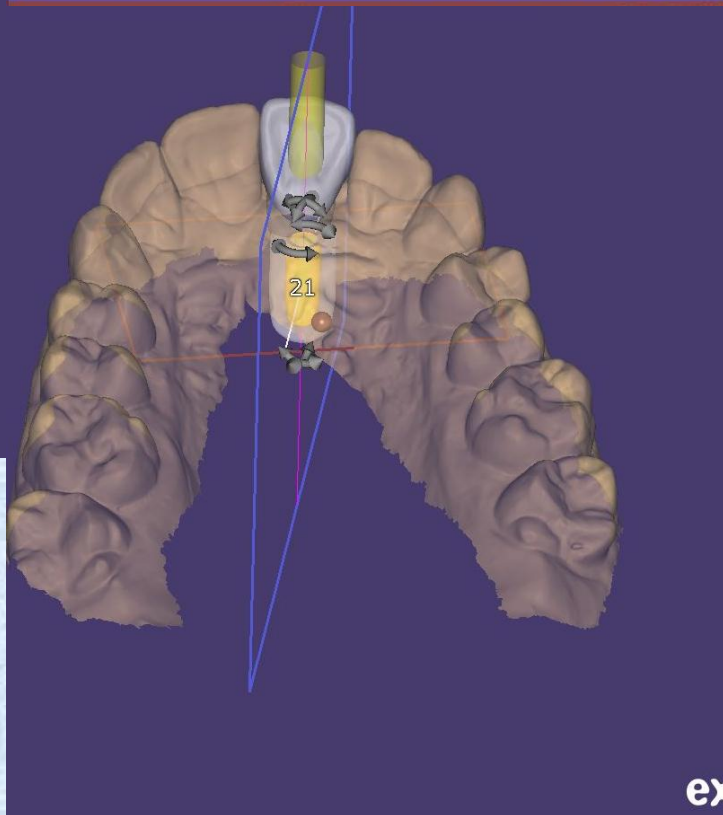
Provvisorio forato



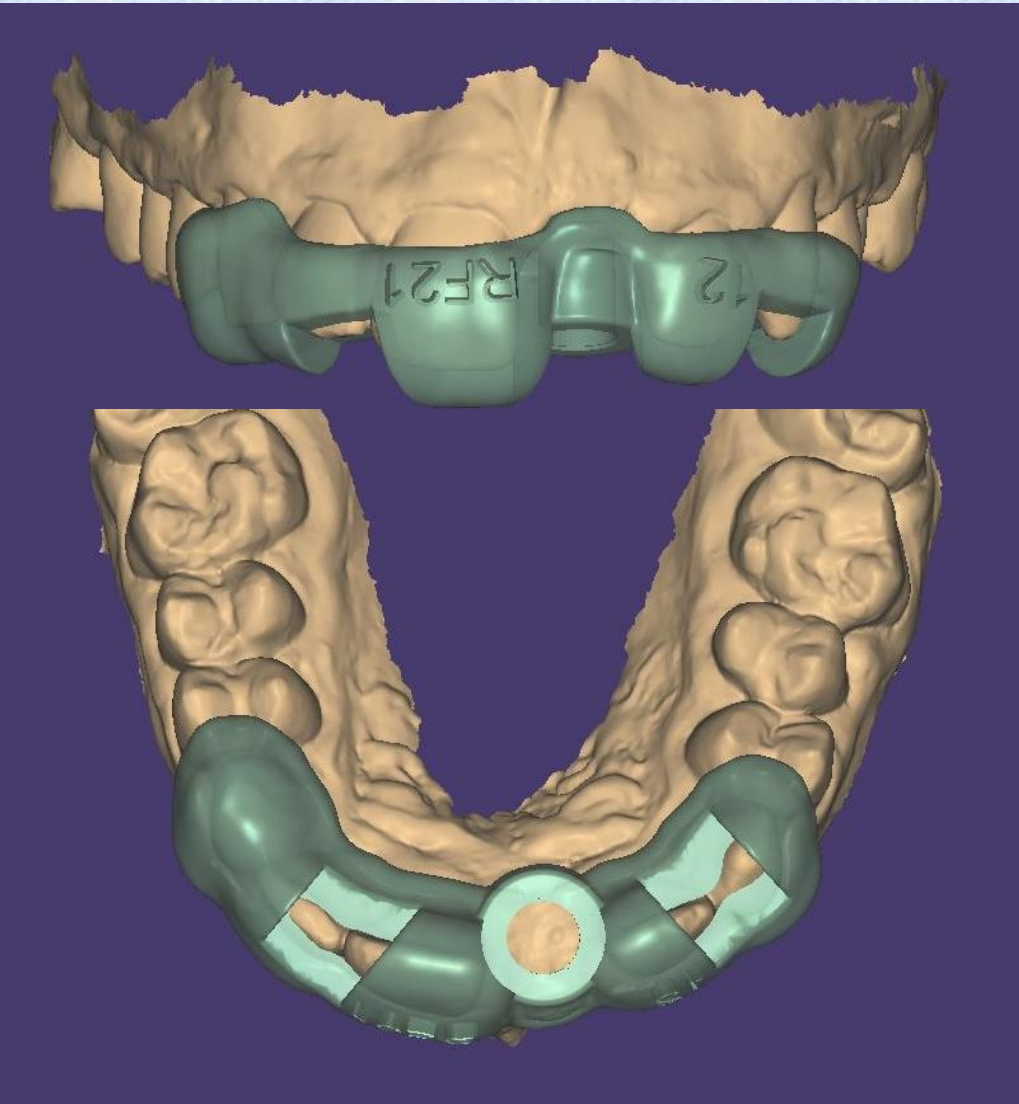
# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?



3,4\*11,5 internal



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

5 min post op



7 gg post op



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

40gg post op



7 gg post op



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

40gg post op

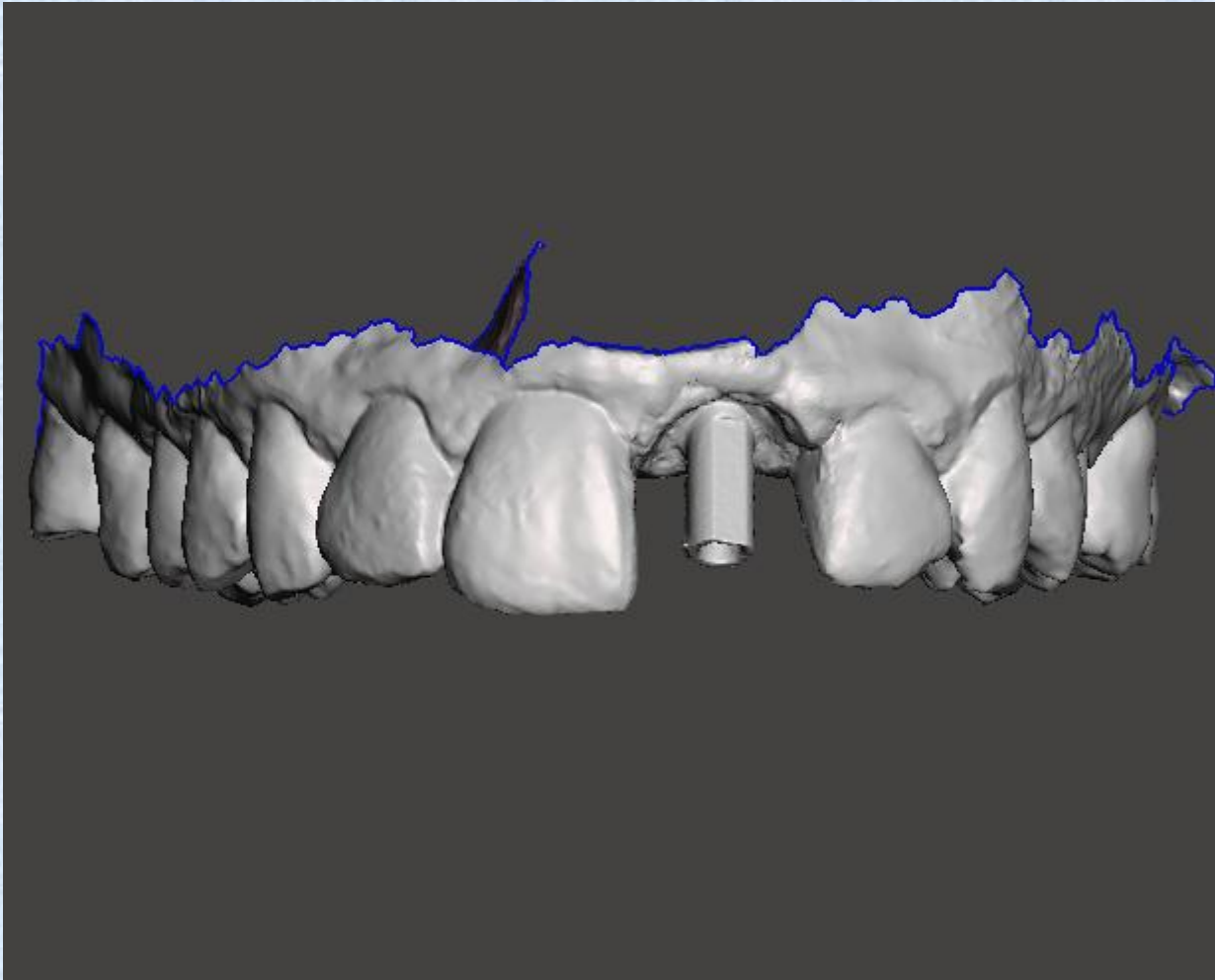


5,5 mesi post op



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

I.O CON SCANBODY



IMPRONTA DEL PROFILO DI EMERGENZA



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

Consegna definitivo



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

Cntr a 10 gg



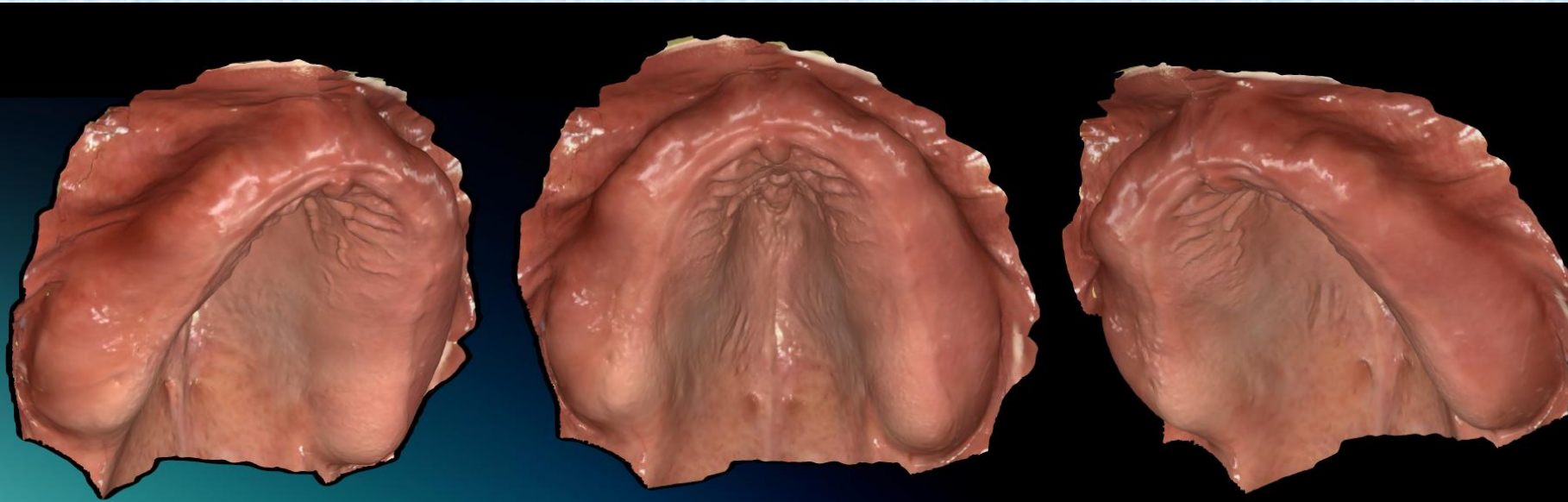
# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

Cntr a 1 mese



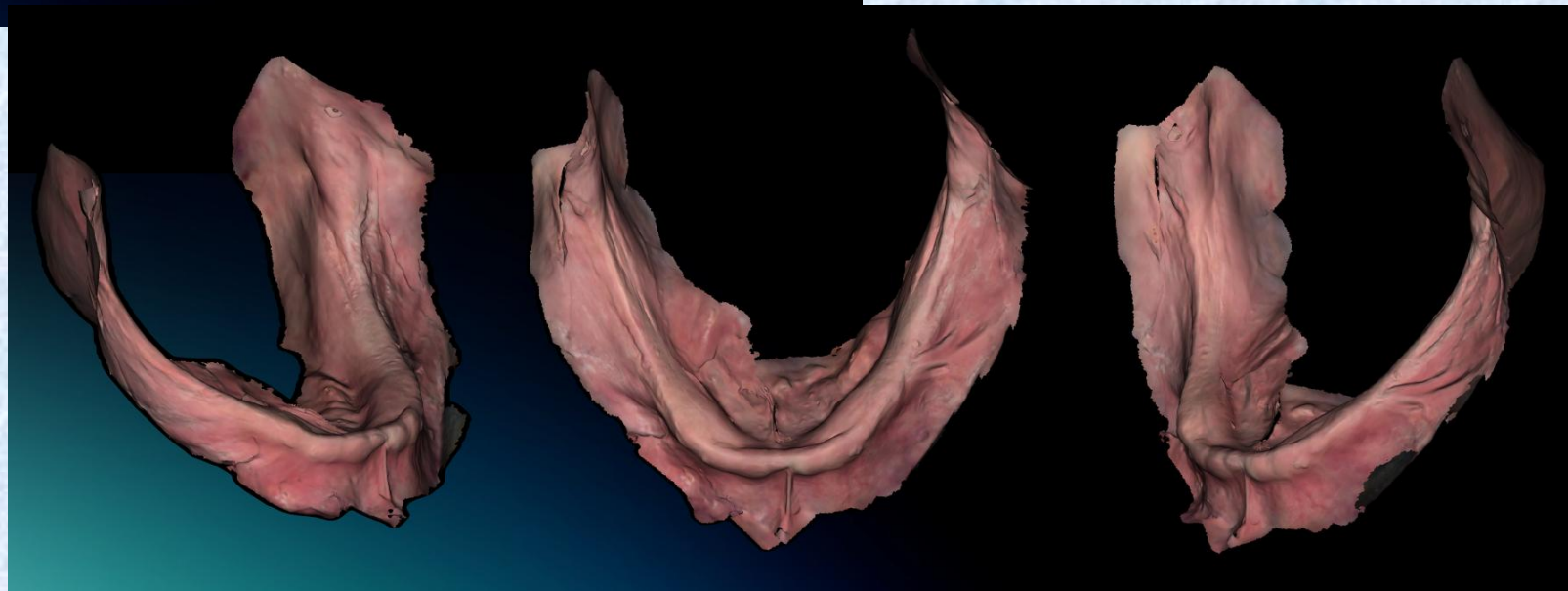
# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI RIMOVIBILE... POSSIBILITÀ O ATTUALITÀ?



## ATTENZIONE

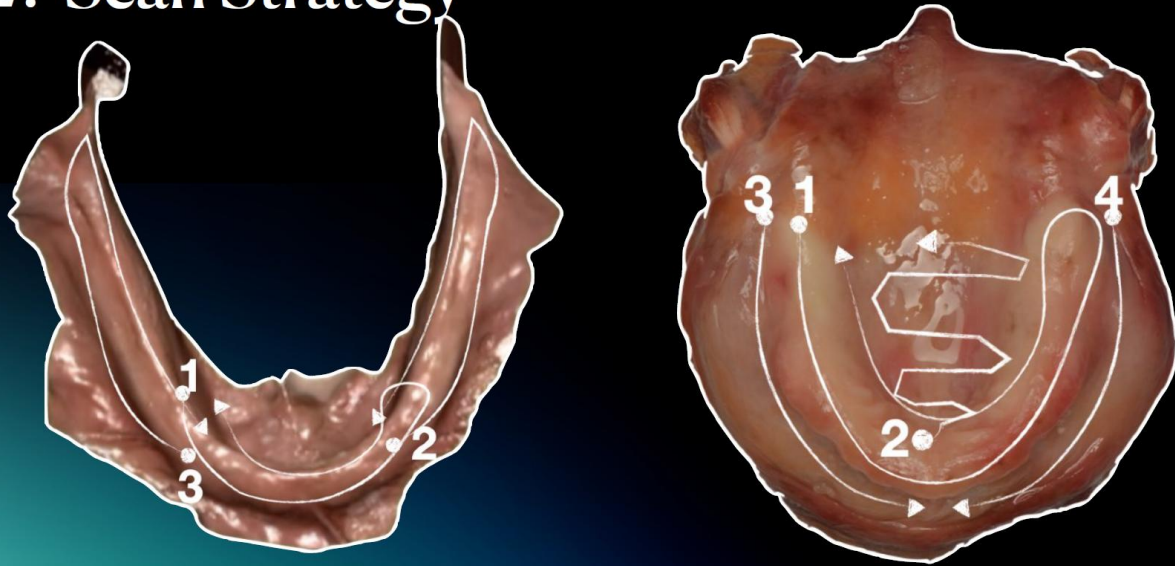
- CORRETTA DISTENSIONE TESSUTI
- I.O. NON COMPRIME LA MUCOSA



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

PROTESI RIMOVIBILE... POSSIBILITÀ O ATTUALITÀ?

## 12. Scan Strategy



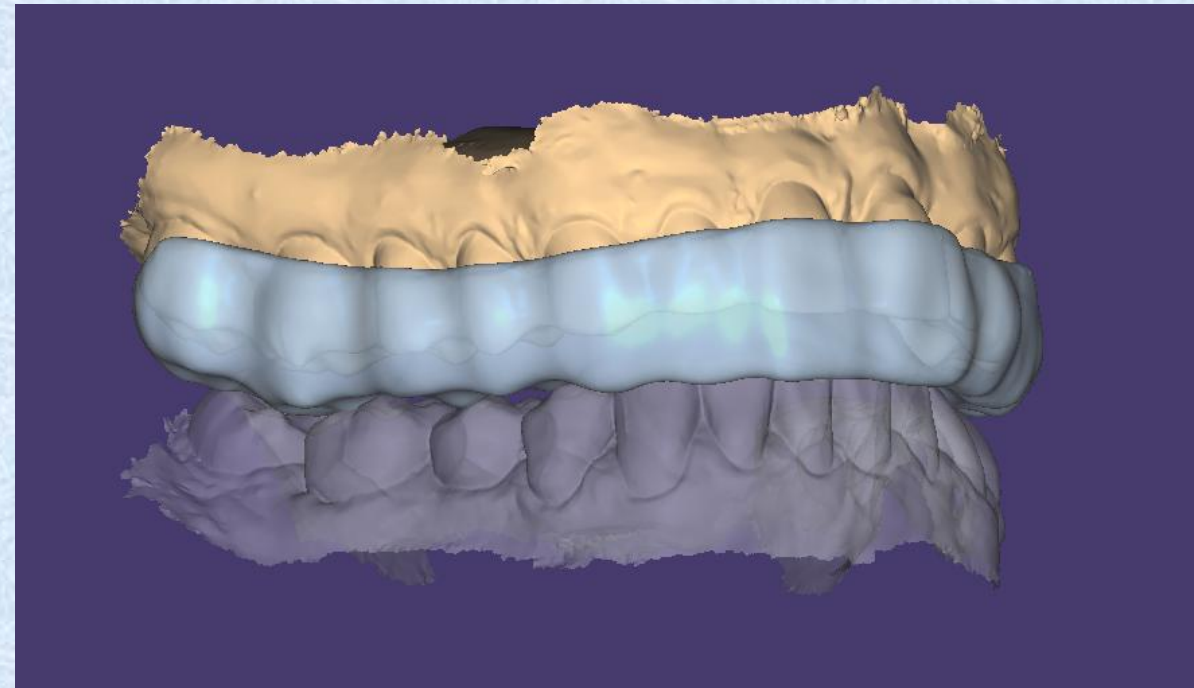
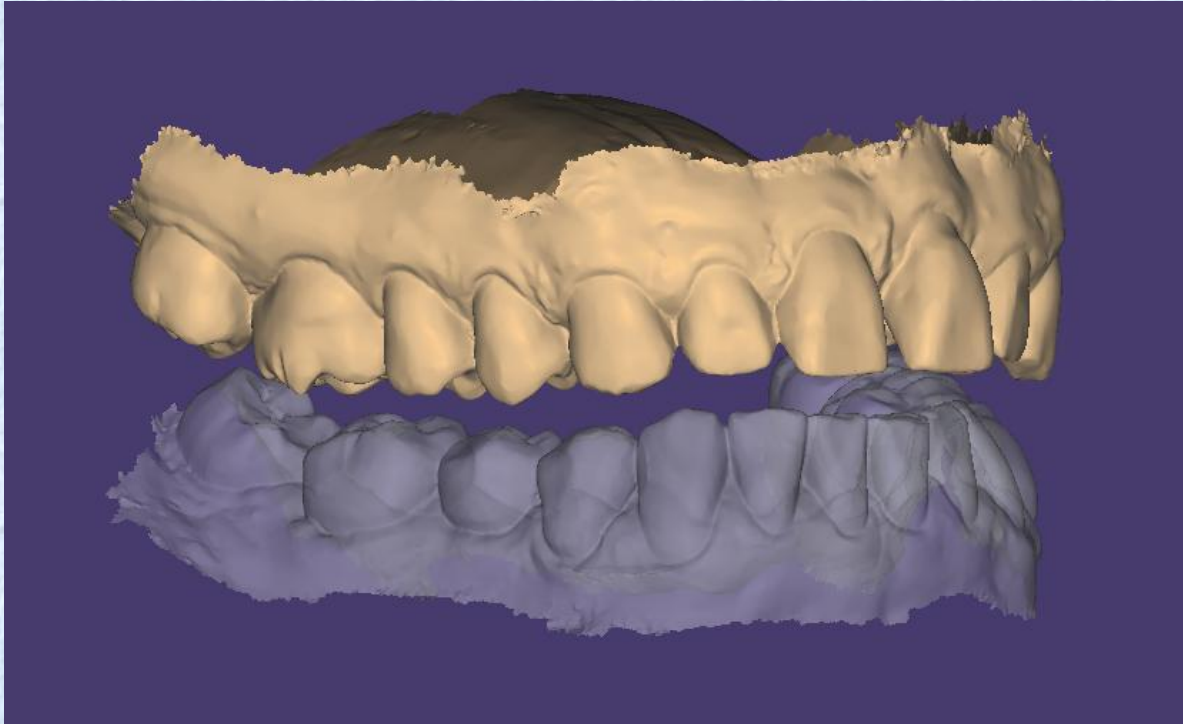
REMOVABLES

# Renewed Copy Denture



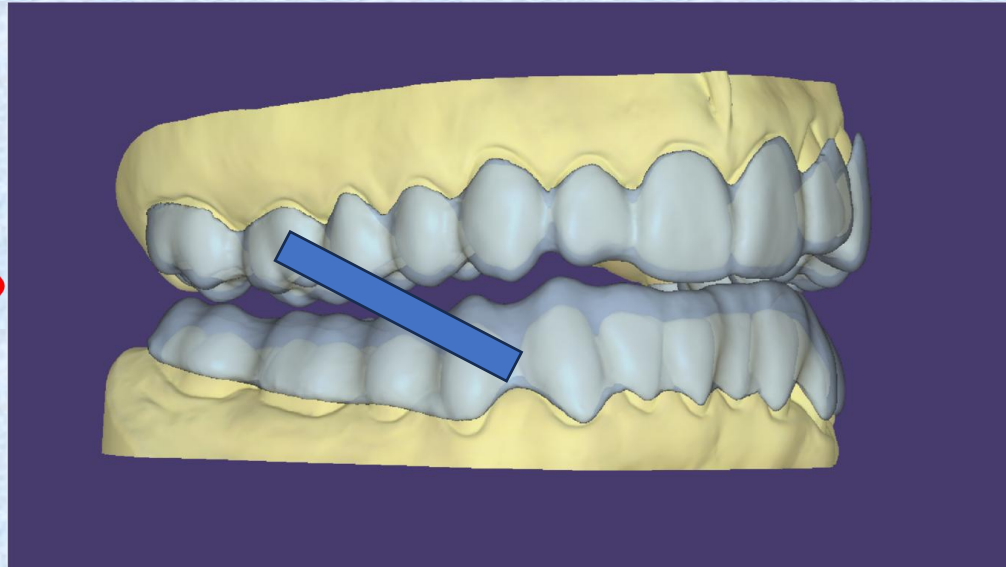
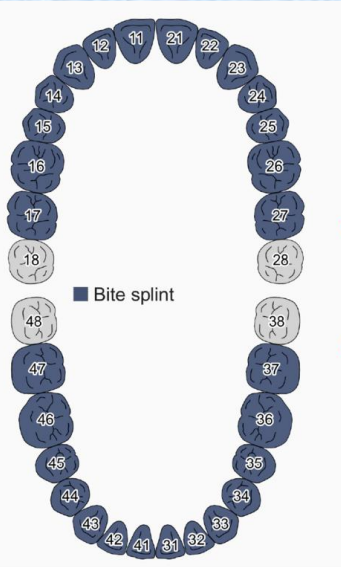
# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

BYTE – UNIVOCA REGISTRAZIONE DELLA DV – FULL DIGITAL



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

BYTE – UNIVOCA REGISTRAZIONE DELLA DV – FULL DIGITAL



POSSIBILITÀ DI COSTRUIRE UN **MAD** SE SI AGGIUNGONO I MECCANISMI DI PROTRUSIONE

MODELLAZIONE PIATTA O ANATOMICA



# LO SCANNER INTRAORALE: POSSIBILITA' O NECESSITA'?

## ALIGNER

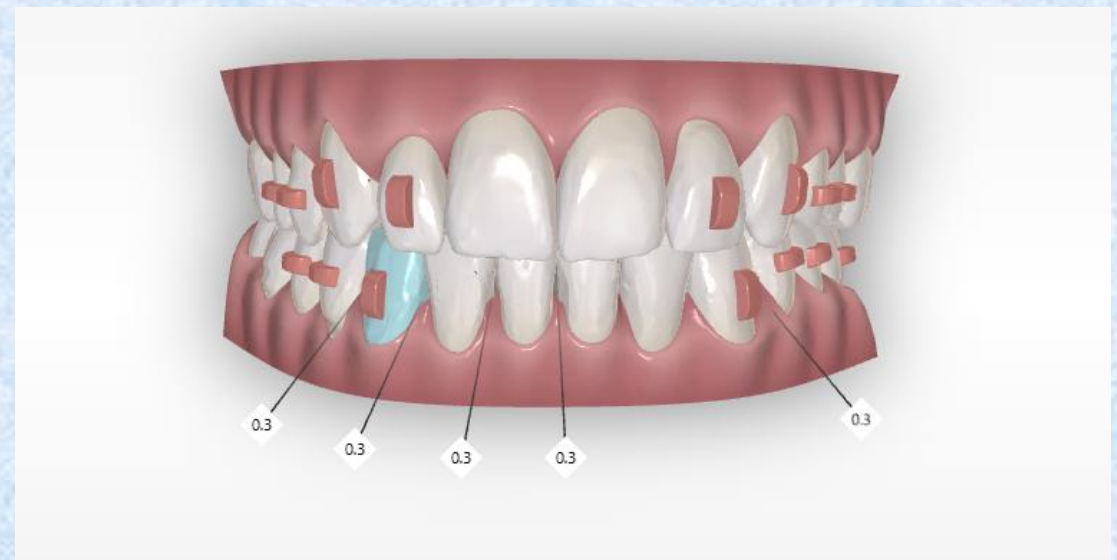
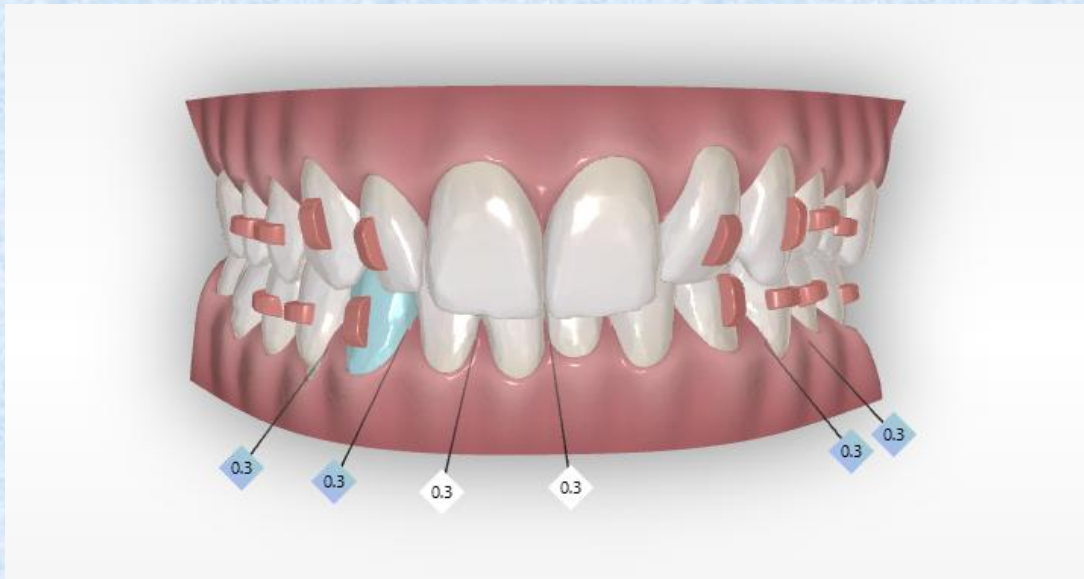
– STL + FOTO + RADIOLOGIA PER PROGRAMAZIONE

INVIO TRAMITE CLOUD

VS

– DOPPIA IMPRONTA CON SILICONE

INVIO POSTALE

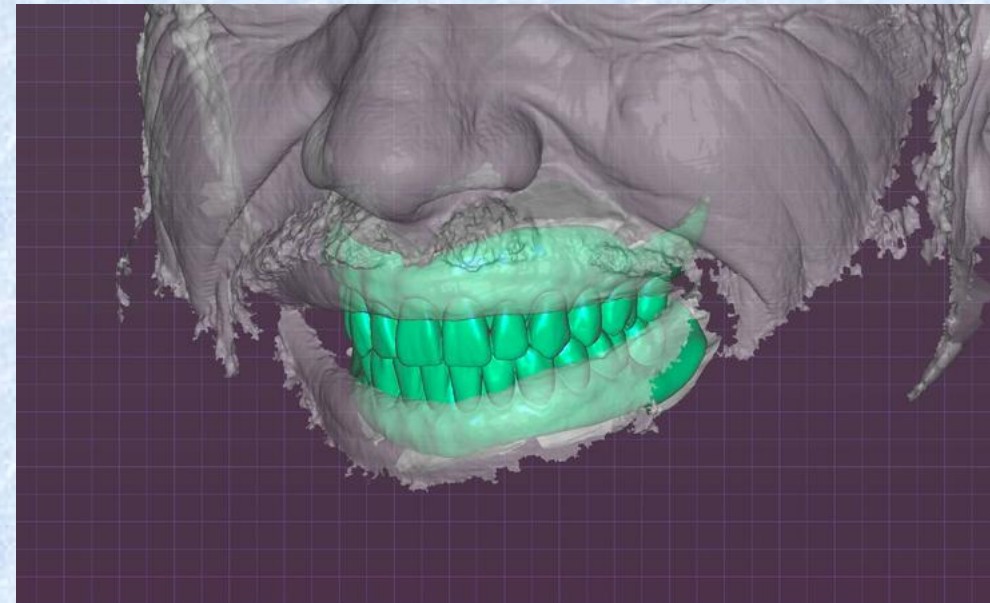


# LO SCANNER FACCIALE: MAI PIU' ARCO FACCIALE ANALOGICO?

IL POSIZIONAMENTO **STATICO** DEL MASCELLARE NEL SOFTWARE CAD

FUNZIONA PROIETTANDO MODELLI DI LUCE (**STRUCTURED LIGHT SCANNING**) E UTILIZZANDO **TELECAMERE STEREOSCOPICHE**

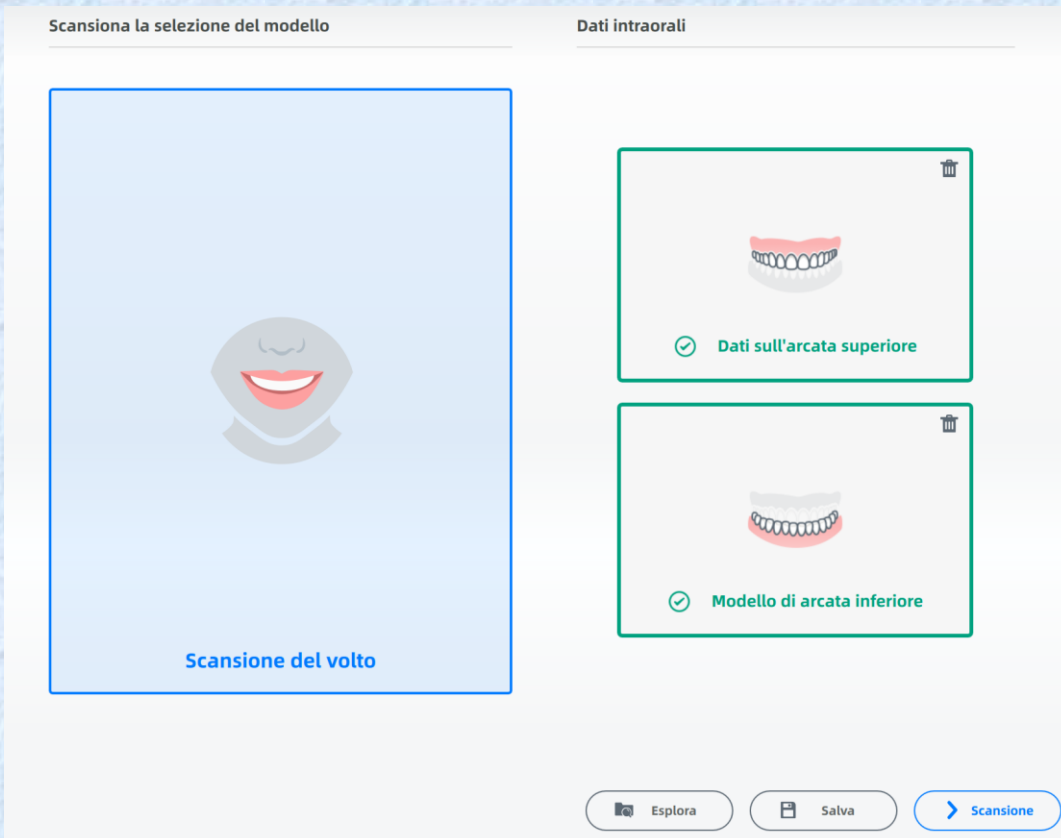
ANALIZZANDO LE INFORMAZIONI PER CREARE UN **MODELLO 3D** DEL VISO.



# LO SCANNER FACCIALE: MAI PIU' ARCO FACCIALE ANALOGICO?

## IL POSIZIONAMENTO **STATICO** DEL MASCELLARE NEL SOFTWARE CAD

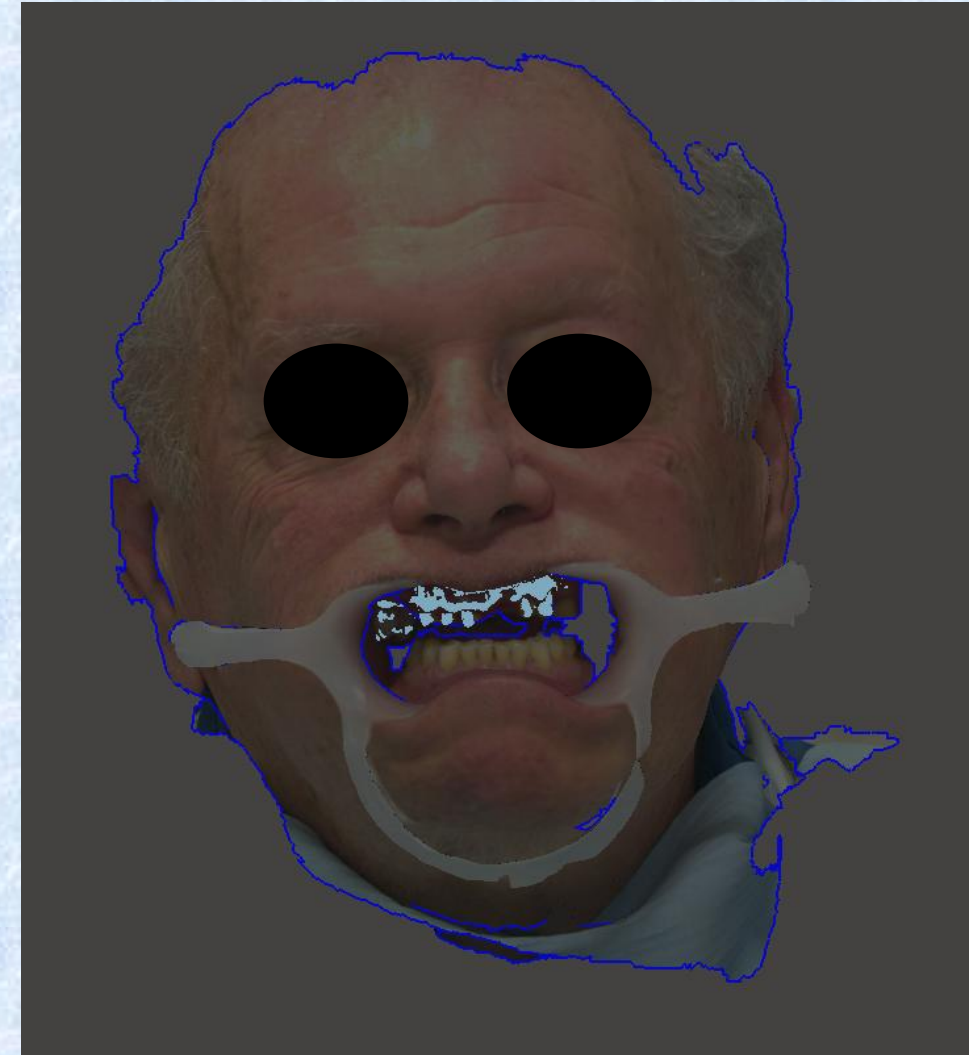
- Scansione I.O.
- Scansione facciale SORRISO
- Scansione facciale APRIBOCCA



# LO SCANNER FACCIALE: MAI PIU' ARCO FACCIALE ANALOGICO?

IL POSIZIONAMENTO **STATICO** DEL MASCELLARE NEL SOFTWARE CAD

- Scansione I.O.
- Scansione facciale **SORRISO**
- Scansione facciale **APRIBOCCA**



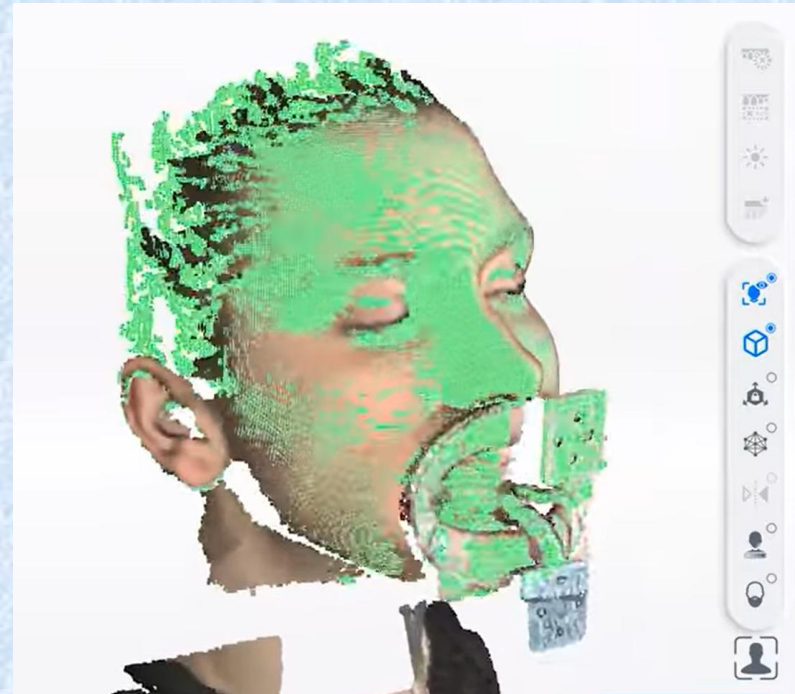
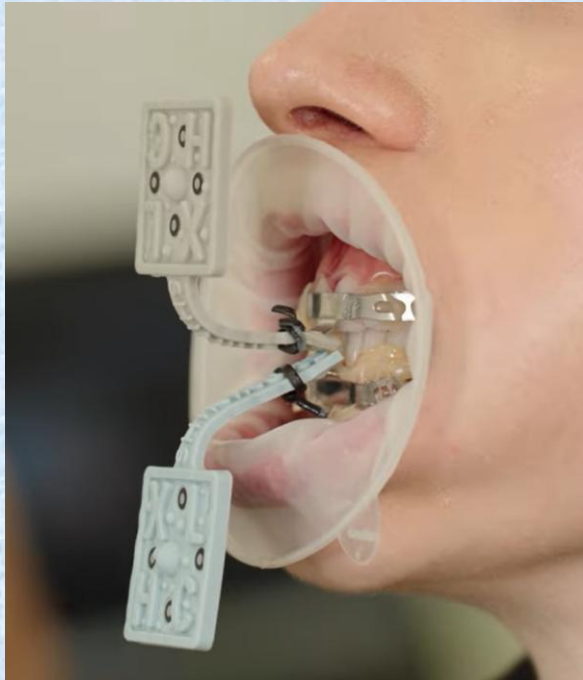
# LO SCANNER FACCIALE: MAI PIU' ARCO FACCIALE ANALOGICO?

IL POSIZIONAMENTO **STATICO** DEL MASCELLARE NEL SOFTWARE CAD,

**MA** CON LO SVILUPPO SOFTWARE SI POSSONO REGISTRARE I TRACCIATI DI MOVIMENTO MD



**CON TRACCIATORI EXTRAORALI**

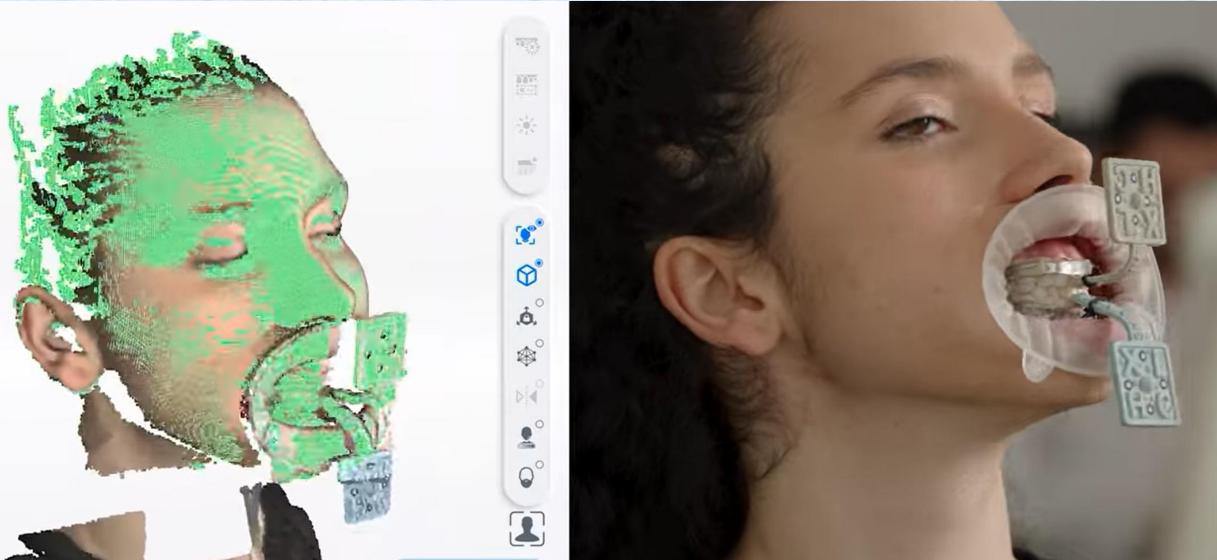


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IL POSIZIONAMENTO **STATICO** DEL MASCELLARE NEL SOFTWARE CAD,

**MA** CON LO SVILUPPO SOFTWARE SI POSSONO REGISTRARE I TRACCIATI DI MOVIMENTO MD

**CON TRACCIATORI EXTRAORALI**



Work Harder

Work Smarter

Grazie per l'attenzione!

Per domande e chiarimenti [I.donolato@gmail.com](mailto:I.donolato@gmail.com)