

Implant solutions

3M™ True Definition Scanner



Precise  
implant impressions  
with incredible speed



**3M** ESPE



You know in advance  
that it will be as desired

**3M**  
True Definition Scanner

The desired impression – fast.  
The precise result – predictable.

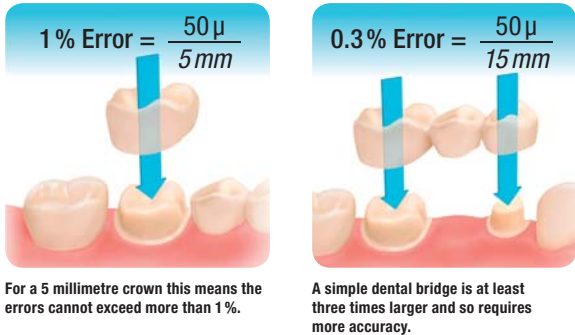
Compared to the conventional procedure, digital impressioning provides numerous benefits: potential errors are dramatically reduced; fewer repetitions are necessary; digital data sharing with the lab saves additional time and eliminates further sources of errors. For the patient, on the other hand, comfort is enhanced – and that's not all. The benefits of digital impressioning include a 100% customized solution for your patient, producing functional and aesthetic properties that clearly outshine conventional techniques – at cost not necessarily higher than with standard solutions.



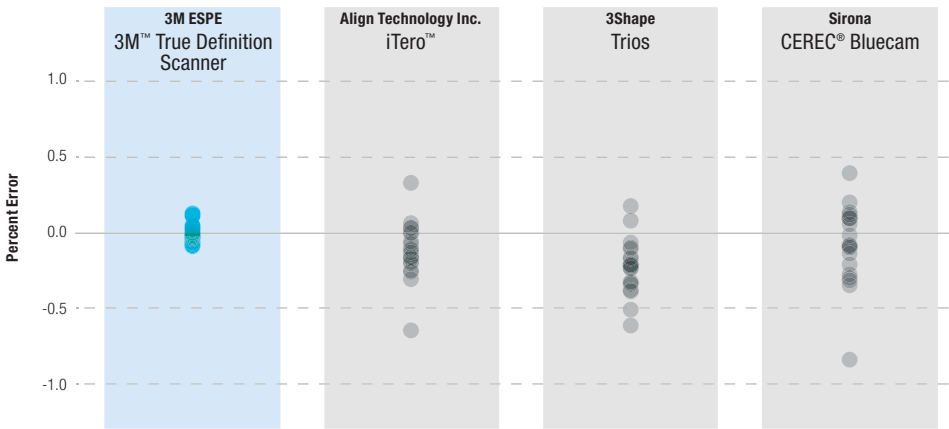
# Maximum accuracy – the basis for implant prosthodontics

## Only 0.3 per cent deviation.

The unique precision of the 3M™ True Definition Scanner provides the opportunity to make implant impressions with a fully digital procedure. Implants are rigidly fixed in bone, not the periodontium and inaccuracies in the fit of the prosthetic restoration cannot be compensated for.



### Accuracy Measurements of Intraoral Scanners\*



Study showed 3M™ True Definition Scanner digital impressions are more accurate – and more consistently accurate – than leading scanners on the market. Source: Data on file.

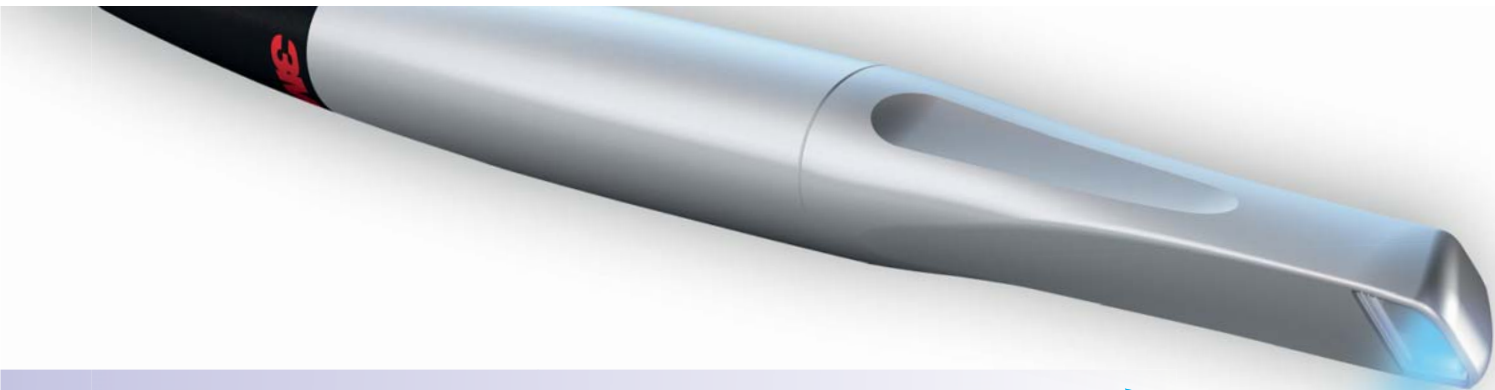
\*Data acquired by van der Meer WJ, et. al. at the Academic Center for Dentistry Amsterdam.

## Verifiable accuracy of fit.

Even a microscopic marginal gap can result in bacterial invasion, inflammation and disease. Impressions made with the 3M™ True Definition Scanner virtually eliminate this risk: they are sufficiently precise for even the most demanding cases – especially implant impressions, in which tolerance for inaccuracy is close to zero. Impressions made with the 3M™ True Definition Scanner have already been processed for thousands of cases and have a fitting accuracy rate of 99.7%.\*\*

**99.7%**  
**FITTING ACCURACY RATE\*\***

\*\*99.7% of restorations manufactured with the aid of a digital impression with the 3M™ True Definition Scanner are successfully seated with no need of rework. Based on the evaluation of all clinical cases by the 3M customer service during the period from March 2012 to September 2013.



Once the field is prepared, an adept user can scan a full diagnostic arch in as little as 60 seconds.

Convenient handling: thanks to its small, ergonomically shaped handpiece, the 3M™ True Definition Scanner allows for a particularly fast and simple scanning procedure. An adept user can scan a complete jaw in 60 seconds after the scanning area has been prepared.



## Integrable into existing practice workflows.

For seamless cooperation with your lab.

Unlike many closed systems, the 3M™ True Definition Scanner offers full flexibility: the lab can work with any CAD/CAM system that accepts STL (Standard Triangulation Language) data. Hence, you can order your implant work at the lab you have always relied on.

## Direct data transfer and fast communication with the lab.

An STL data set can be generated from each scan. The dentist and the lab can access the data set simultaneously after the digital data transfer – a process that eliminates any loss of quality and simplifies communication.

## It’s not conventional implant impressioning.

Time-consuming, complicated working steps, such as pick-up impressions, are a thing of the past. With a scan body, which is available for most implant systems, the implant position and soft tissue situation can be scanned simply and accurately – the best prerequisite for precise red aesthetics.



Pick-up impression post.



Straumann® scan body.



Scan body for digital implant impression, BIOMET 3i™ example.





# Flexibility thanks to freedom of choice

## Trusted and open workflows.

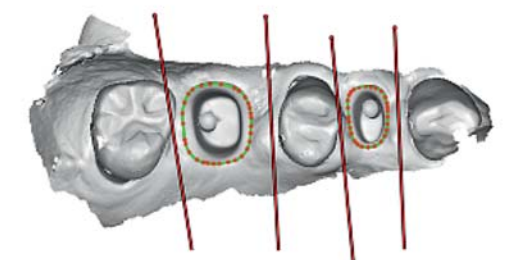
The 3M™ True Definition Scanner offers you total flexibility. On the one hand, you have access to trusted workflows – validated workflows that have been developed in cooperation with leading implant manufacturers. On the other hand, you can create open workflows with your existing system components, thanks to the availability of unencrypted STL data.

## Trusted workflows – high quality assurance through validated workflows.

3M cooperates with leading manufacturers to seamlessly integrate the digital impression into your implant workflow. Trusted Connections with these partners mean gapless technical and clinical validation plus seamless procedures to ensure quality and performance that meet your high demands. These partnerships offer all advantages of an integrated workflow – without the disadvantages of a closed system. Additional partnerships with dental product manufacturers are constantly being tested and validated for future integration.

## Trouble-free cooperation with your familiar dental lab.

Your dental lab is your first validated workflow. For further processing of the scan data, highly precise SLA working models for the lab are available. 3M Margin Marking software, specially developed for the 3M™ True Definition Scanner, provides a unique depiction of the oral anatomy and enables the technician to precisely mark the preparation margin. In addition, it ensures that the accuracy of the scan can be maintained in the on-going process as well.



View of an implant case (BIOMET 3i™) after it has been edited in 3M Margin Marking software by the lab.



BIOMET 3i™ implant, abutments (Cr-Co, Ti and zirconia).

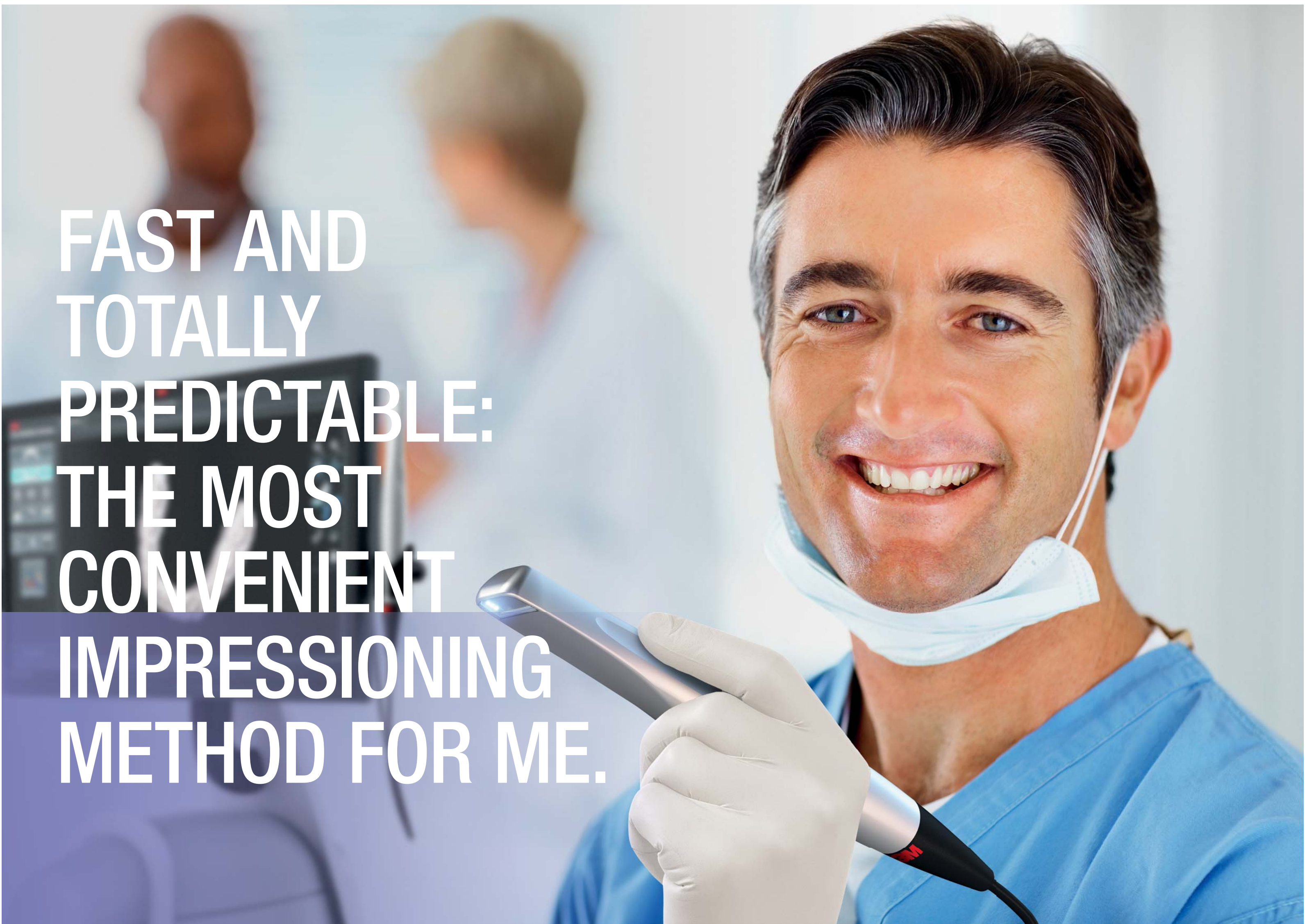


Straumann® Cares®, components.

## Trusted workflows with BIOMET 3i™ and Straumann®.

3M founded the first successful partnerships for accurate digital implant impressions with leading implant manufacturers BIOMET 3i and Straumann. Both sides have conducted a comprehensive technical and clinical validation of the workflow, resulting in seamlessly integrated, well-matched procedures.





**FAST AND  
TOTALLY  
PREDICTABLE:  
THE MOST  
CONVENIENT  
IMPRESSIONING  
METHOD FOR ME.**



# Trusted workflow with BIOMET 3i™

## A perfectly coordinated workflow for the 3M™ True Definition Scanner.

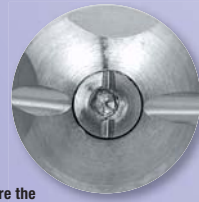
As partners, 3M and BIOMET 3i work well together to enhance your digital implant solution. The BIOMET 3i™ BellaTek™ Encode® system, in combination with the True Definition Scanner, reduces the number of working steps required in implant impression. This saves time and protects the peri-implant tissue. Thanks to the validated workflow, each step leads seamlessly to the next one – from data transfer after the scan, to abutment and model manufacturing, to the creation of the crown by your partner lab.

1



### IMPLANT PLACEMENT

The BIOMET 3i™ BellaTek™ Encode® Healing Abutment is placed. It also acts as a gingiva former and reference body for the scanner, eliminating the need for an additional impression cap. The special codings on the occlusal surface provide information on the implant position and are the basis for the digital abutment design.



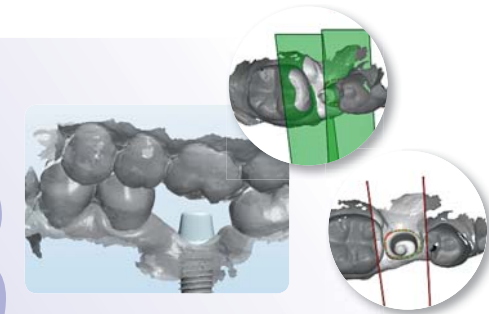
2



### DIGITAL IMPRESSION

The healing abutment is precisely scanned with the 3M™ True Definition Scanner. There is no need to screw the impression cap or post in and out, which has a positive effect on the peri-implant tissue.

3



### CUSTOM ABUTMENT

The BIOMET 3i™ technician will design an anatomically customized abutment. Thanks to this digital abutment design, the abutment need not be placed in the mouth and scanned again. BIOMET 3i™ will then send the digital design, which already contains the abutment, to your partner lab so the die can be sectioned.



### SIMULTANEOUS MANUFACTURING

The digital process enables simultaneous manufacturing – BIOMET 3i™ produces and mills the final BellaTek™ abutment, while validated model partner Dreve (Unna) creates the SLA model. The geometry of the abutment is directly implemented in synthetic material in model manufacturing. The completed BellaTek™ abutment and model are sent to your partner lab.



### FINISHING

While the model and the abutment are being manufactured, the crown is digitally designed by your partner lab. Having received the BellaTek™ abutment and the SLA model, your partner lab can complete the final restoration (milled or manually produced).



### SEATING OF ABUTMENT

You receive the model, abutment and restoration directly from the lab. You can then seat the digitally created custom abutment and the final restoration.



### CEMENTATION

The final restoration is cemented.

Source: Clinical case study, courtesy of Christopher Ramsey, DMD, Accredited Member AACD.

## Case example: crown on BIOMET 3i implant in region 46.



Implant seated in position 46.



Clinical situation with Encode healing abutment.



Scan of Encode healing abutment.



SLA model with individually designed abutment in synthetic material.



Crown manufactured by the dental lab on the basis of scan data.



Try-in on the SLA model.



Individually manufactured abutment by BIOMET 3i™.



Clinical situation after removing the Encode healing abutment.



Seated abutment.



Finally seated crown.

Source: Courtesy of Dr. Markus Engelschalk, Munich.

## Benefits of the workflow with BIOMET 3i™ and the 3M™ True Definition Scanner:

**Only one part for gingiva former and scan body**  
means fewer screwing procedures on the implant.

**All-digital solution** instead of conventional impression and plaster models.

**Enhanced comfort** for the patient.

**Shorter processing times** thanks to simultaneous manufacturing of abutment and final restoration.

**Use your regular lab** to create final restoration.



# Trusted workflow with Straumann®

## Standardized, accurate and fast – the Straumann® CARES® digital workflow.

With the 3M™ True Definition Scanner and the trusted workflow with Straumann® CARES®, you can take advantage of an all-digital process for high-quality implant-borne and tooth-borne restorations.

The workflow jointly developed by 3M and Straumann enables a seamless interaction between the 3M™ True Definition Scanner and further processing in a Straumann CARES lab. All relevant data are transmitted fast and simply.

The partnership's consistently standardized and automatized processes ensure maximum precision in the entire procedure – from the scan to the model to the final piece of work.

# 1



### SCAN AND SEND

Capture the Straumann® CARES® Mono scan body with the 3M™ True Definition Scanner. Select the Straumann® implant type, abutment and restoration material. Once your order is complete, send the digital impression to a Straumann® CARES® lab via the validated workflow.



# 2

### DESIGN AND ORDER

With the Straumann® CARES® Visual Software, dental labs use the digital impression to design and order implant-borne restorations. For implant cases, Straumann® CARES® X-STREAM™ provides a seamless process for designing the abutment and final restoration in a single design step. The model builder module allows the lab to design and order a printed SLA model with a socket for the repositionable Straumann® lab analogue.



# 3

### CENTRALIZED MILLING

The restoration design is then sent to Straumann's central milling facility. The facility features 4.2 and 6.7 tonne milling machines to eliminate nearly all vibration. The four or five simultaneously operating shafts ensure sharp margins and smooth surfaces. The milling centre was specifically designed to achieve the highest possible precision in the manufacture of dental restorations.



# 4

### SELECT THE MATERIAL

Straumann® employs high-speed cutting (HSC) milling technology to manufacture high-quality restorations in the validated workflow. Straumann® offers a comprehensive range of materials, including Lava™ Ultimate Restorative, allowing you to choose the appropriate restoration for every case.



### MODEL DESIGN

The Straumann® CARES® lab can order a high-precision working model from Innovation Meditech, a Dreve company. The model features a specially designed socket for the repositionable Straumann® lab analogue. The SLA model is delivered directly to your lab for final finishing of the restoration.



### DELIVERY

Using the Straumann® CARES® network, the individual components come together at your Straumann® CARES® lab for final production and finishing. The lab then delivers the final restoration in a single shipment to the dental practice.

## Case example: crown on Straumann implant in region 46.



1 Initial situation: Straumann® implant seated in region 46.

2 Straumann® Mono scan body seated.

3 Scan preparation: application of 3M™ High Resolution Scanning Spray.

4 Scan of the jaw where the restoration is to be inserted with 3M™ True Definition Scanner.

5 Scan of the maxillomandibular relationship record.



6 Design of abutment and crown in the partner lab with Straumann® CARES® Visual Software.

7 SLA model manufactured on the basis of scan data (Dreve, Unna) with notch for lab analogue.

8 Lab analogue with abutment seated in model.

9 Abutment in situ.

10 Definitely seated crown.

Source: Courtesy of Dr. Markus Engelschalk, Munich.

## Benefits of the workflow with Straumann® and the 3M™ True Definition Scanner:

Efficient, automated digital implant workflow.

Highly accurate scans provide precisely fitting Straumann® CARES® customized abutments and restorations.

Fewer steps and faster turnaround times than in traditional workflow.

Cooperation with existing partner lab is possible – after inclusion in Straumann CARES network.



# Open system enables additional individual workflows

## Unlimited freedom of choice.

Unlike closed systems for digital impressions that impose restrictions on you in respect of material, design or manufacturing, the 3M™ True Definition Scanner is open to all systems that accept STL files. Thus, you can decide, flexibly and freely, how you want to work in each case. Dentists and dental labs have the option to access and download the STL data via the 3M™ Connection Centre.

# Your platform for the digital workflow: 3M™ Connection Centre

With our data flat rate, you will get:

**Regular software updates included.** You always work with the latest version.

**Use of all trusted workflows** — today and in future.

**Unlimited number of scans** with full cost control.

**Unlimited data storage.**

**Compliance with European privacy regulations.**

**Access to STL data at any time.** Simple data sharing with partners.

# OPEN SYSTEM



## It's easy to store, connect and share: how the 3M Connection Centre works.

The 3M Connection Centre allows you unlimited storing and sharing of patient scans – backups included. From the order sheet to the final restoration, it integrates your digital workflow seamlessly and safely. With your personal access data, you can access the scans safely at any time: just log in, select the patient and case and download the STL file.





# True Definition Scanner

## Technical Specifications

### General Specifications and Classifications

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| View                                  | ~10 mm × 13 mm at nominal depth            |
| Working Depth                         | 0 mm to 17 mm from wand tip                |
| Video Capture Rate/Flash Rate         | 20 captures/second (60 images/second)      |
| Touch Screen Size                     | 546.1 mm (21.5 in.) diagonal               |
| Dimensions of Cart Base (footprint)   | 48.77 cm × 73.41 cm (19.2 in. × 28.9 in.)  |
| System Height (floor to top of bezel) | 108.20 cm (42.6 in.)                       |
| Monitor Tilt Adjust                   | -30° to 45°                                |
| Power Input                           | 100 – 120/200 – 240 V ac,<br>50/60 Hz, 8 A |

### Weights

|                       |                    |
|-----------------------|--------------------|
| Total Shipping Weight | 70.8 kg (156 lbs.) |
| Cart with Monitor     | 34 kg (75 lbs.)    |
| Wand with Cable       | 233 g (8.2 oz.)    |

### Wand Dimensions

|                   |                               |
|-------------------|-------------------------------|
| Length            | 254 mm (10 in.)               |
| Wand Tip Width    | 16.2 mm (0.64 in.)            |
| Wand Tip Height   | 14.4 mm (0.57 in.)            |
| Maximum Diameter  | 24.3 mm (0.96 in.)            |
| Wand Cable Length | 2 m (6.6 ft.)                 |
| Calibration       | No field calibration required |



[www.3M.com/TrueDef](http://www.3M.com/TrueDef)



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