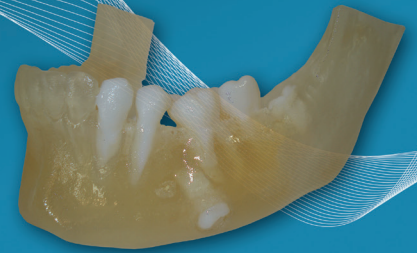
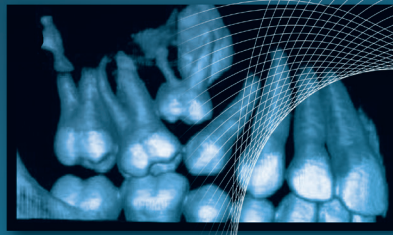


*"In cases where complex, multi-faceted dental surgical procedures are required, the ability to predetermine the best possible outcome is the key."*

**Mr. David Keynan,**  
CEO of DentalCare



## Case Study

### About DentalCare



DentalCare was established in 1992 and is considered among the largest national dental CT and X-ray institute networks. Using advanced CT technologies, such as ICAT, digital panoramic (16-bit) and complete digital CT devices with low radiation and high resolution CT results - DentalCare is providing dental and orthodontic services for dental labs with top of the art images and CT data throughout the complete treatment.

**DentalCare** became pioneers of digital technology in their field when they integrated their CT and 3D printing solutions. That single forward-looking decision to employ cutting edge technologies has enabled DentalCare to move into lead position in their market and fulfill dentists' orders of any type or complexity without compromising the high quality of their products.

[www.dental-care.co.il](http://www.dental-care.co.il)

### Their choice

Objet Eden 260V™ 3D printing system. Since then, DentalCare has taken the leading business position over its competitors – now able to deliver even higher quality, and with greater speed.

## Digital dentistry expand to dental institutes

Digital Dentistry is rapidly becoming the standard production tool for state of the art dental institutes. Using 3D printing technology - dental institutes passed the point of no return from traditional toward all-digital solutions.

### The Challenge

DentalCare provides a wide variety of both dental and orthodontic services, such as CT images, ICAT and digital panoramic (16-bit), complete digital 3D printed models and more. A major part of their services includes provision of dental printed models to clinics for treatment planning and assessment. With such a broad spectrum of services and positive signs from the market, DentalCare found itself in an optimal position for initiating growth.

Nevertheless, in order to expand, DentalCare needed to streamline its business. DentalCare required a system that could enable faster throughput without compromising its high standards and without costly expansion of their technician staff and facilities.

In cases where complex, multi-faceted surgical procedures are required, the ability to predetermine the best possible outcome is key. Dental modeling – made possible through the use of advanced 3D printing systems, allows dentists to evaluate several different treatment scenarios before deciding on a plan that ensures these needs are met. Usages provided by DentalCare can correlate to oral and maxillofacial surgery, patient care concentrates on dental trauma, oral pathology, dental reconstruction, correction of dental deformity and dental implants.

DentalCare needed a solution that would let them optimize the outcome of comprehensive reconstructive oral procedures, while at the same time minimizing invasiveness and discomfort for the patient.

Based on long-term experience by DentalCare, the 3D printed models are widely used in many dental modeling solutions due of their high accuracy, fast build time, and ease of model sterilization. The models are also highly resilient, enabling drilling and fixing of screws and model plates in a similar way to human bone tissue. Additionally, the support removal that preserves thin and delicate structures, as well as the lack of an after-production step that can degrade the model surface, make it possible to build complex dental models of anatomical structures.

The fine-detail printing, adequate layer thickness and smooth surface output make Objet's 3D Printing systems highly suitable for all dental solutions provided by DentalCare.



## ROI Benefits for DentalCare

- Dental solutions for a newly growing market
- Competitive pricing through economically rationalized production
- Significant increase of daily production output per technician
- New profitable business segments enabled
- Business growth without expanding staff or facilities

## Key selection criteria

- Ensure high quality of manufactured appliance and model
- Objet Eden260V 3D printing system with high resolutions and fine detail output
- Efficient case archiving for appliance replacements
- Fast and robust 3D printing system for high productivity
- Economical production to enable competitive pricing
- Streamlined workflow from CT scan to 3D model manufacturing
- Compatibility between system components

## The Solution

The Objet Eden260V™ 3D Printing System provided an ideal solution, as it enabled DentalCare to quickly create multiple, real-scale dental models that would help to identify the most suitable solutions for each dental case. Surgical positioning templates, fabricated on the dental models, surgical simulation, assisted with pre-surgical planning and provided the desired interoperate positioning verification. While using the Objet's 3D printed models, DentalCare have the benefit of an easy to use, fast and clean solution for the precise building of dental models. Models produced on the Objet Eden260V are durable, with exceptionally fine details and an outstanding surface finish – all necessary for ensuring the high degree of accuracy required by the high standards of DentalCare team and dentists, nationwide.

## The Results

With variety of in-house CT scanning and user-friendly conversion tools, DentalCare technicians could turn a traditional CT images into a digital manufacture-ready dental model in very short time. DentalCare could then prepare and trigger case-manufacturing orders on their Objet Eden260V™ 3D printing system while moving on to the next case-orders. The technicians quickly realized their job had become much easier, yet their daily production yield skyrocketed.

Going digital enabled DentalCare to increase the quality and precision of their products, The new technology also allowed DentalCare to become modern dental solution providers. Their designs could now include customized oral and maxillofacial surgery models; patient care concentrates on dental trauma, oral pathology, dental reconstruction, correction of dental deformity and dental implants.

DentalCare investment has been returned rapidly through increased business, dental models processing, rationalized production and reduced operation costs. The system capabilities continue to create new business opportunities and power growth to outstrip their competitors

The 3D printing models yield per technician leapfrogged dramatically in a very short time, and DentalCare could offer its dental customers appliances and models within short delivery times and at competitive prices. DentalCare's investment was rapidly returned through more business, faster throughput, rationalized 3D modeling and reduced operation costs. The system gave DentalCare the freedom to continuously regulate their prices and stay ahead of their competitors.

## ABOUT OBJET GEOMETRIES

**Objet Geometries Ltd.**, the innovation leader in 3D printing for rapid prototyping and additive manufacturing, provides 3D printing systems that enable manufacturers and industrial designers to reduce cost of product development and dramatically shorten time-to-market of new products.

Objet's ultra-thin-layer, high-resolution 3D printing systems and materials utilize PolyJet™ polymer jetting technology, to print ultra-thin 16-micron layers. The market-proven Objet Eden™ line of 3D Printing Systems and the Objet Alaris™30 3D desktop printer are based on Objet's patented office-friendly PolyJet™ Technology. The Objet Connex™ family is based on Objet's PolyJet Matrix™ Technology, which jets multiple model materials simultaneously and creates

composite Digital Materials™ on the fly. All Objet systems use Objet's FullCure® materials to create accurate, clean, smooth, and highly detailed 3D parts.

Objet systems are in use by world leaders in many industries, such as Education, Medical/Medical Devices & Dental, Consumer Electronics, Automotive, toys, consumer goods, and footwear industries in North America, Europe, Asia, Australia, and Japan.

Founded in 1998, Objet serves its growing worldwide customer base through offices in USA, Mexico, Europe, Japan, China and Hong Kong, and a global network of distribution partners. Objet owns more than 50 patents and patent pending inventions. For more information, visit us at [www.objet.com](http://www.objet.com).

Objet Geometries Ltd.  
Headquarters  
2 Holtzman st.,  
Science Park,  
P.O Box 2496,  
Rehovot 76124, Israel  
T: +972-8-931-4314  
F: +972-8-931-4315

Objet Geometries Inc.  
North America  
5 Fortune Drive  
Billerica,  
MA 01821  
USA  
T: +1-877-489-9449  
F: +1-866-676-1533

Objet Geometries GmbH  
Europe  
  
Airport Boulevard B 210  
77836 Rheinmünster  
Germany  
T: +49-7229-7772-0  
F: +49-7229-7772-990

Objet Geometries AP  
Asia Pacific  
Unit28, 10/f, HITEC  
1 Trademart Drive  
Kowloon Bay, Kowloon  
Hong Kong  
T: +852-217-40111  
F: +852-217-40555

Objet Geometries AP  
Limited China Rep Office  
Rm1701, CIMIC Tower,  
1090 Century Blvd,  
Pudong Shanghai  
200120 China  
T: +86-21-5836-2468  
F: +86-21-5836-2469

info@objet.com www.objet.com

© 2010 Objet, Quadra, QuadraTempo, PolyJet, FullCure, SHR, Eden, Eden250, Eden260, Eden260V, Eden330, Eden350, Eden350V, Eden500V, Job Manager, Objet Studio, CADMatrix, Connex, Connex350, Connex500, Alaris, Alaris30, PolyLog, TangoBlack, TangoBlackPlus, TangoGray, TangoPlus, VeroBlue, VeroWhite, VeroBlack, VeroGray, Durus, Digital Materials, PolyJet Matrix and ObjetGreen are trademarks of Objet Geometries Ltd. and may be registered in certain jurisdictions. All other trademarks belong to their respective owners.

