

ISRAEL'S

DENTAL

INDUSTRY



ISRAEL EXPORT INSTITUTE



ISRAEL'S DENTAL INDUSTRY

A WORLD OF ADVANCED SOLUTION



The Israeli dental device industry includes more than 100 manufacturing firms. Some companies have reached international recognition, and became leaders in their own field. As a result, a few major acquisitions of Israeli companies took place within the last years: the very recent acquisition of **MIS** by Dentsply Sirona for \$375M in 2016, the acquisition of **AlphaBioTec** by Nobel Biocare for \$95M in 2008 or the acquisition of **Cadent 3D Scanner** by Align Technology Inc. for \$190M in 2011. According to the World Economic Forum's Global Competitiveness Report 2016-2017, **Israel is the 2nd most innovative country dental technologies included.**



In addition, there are multiple other companies, who offer a whole gamut of solutions aiming to enhance clinical performance, reduce chair time and increase efficiency and ease of treatment for both dentists and the patients. Thus Israeli dental products are considered value products and are highly competitive in global markets. Some of these companies are already established, while others are at the R&D or at an early revenue stages. And indeed, between 2012-2014, the aggregated exports of Israel's dental industry surpassed 500 million US Dollars.



Europe is the largest Export market for Israel's dental industry, followed by the USA. However, the rapid growth of Asian markets makes these markets a potential growth engine for both established and emerging companies. Israeli dental companies are looking for distributors and/or strategic partnerships to enhance their growth and some offer OEM.

The following categories demonstrate the wide range of the israel's dental industry and some of the most advanced and innovative products.

DENTAL IMPLANTS



Israeli dental implant manufacturers provide solutions to all clinical needs. Established companies offer value products merging high quality and moderate prices. On the other hand, there are multiple ground-breaking innovations, which include: **short, expandable implants** for use in cases where there is lack of bone volume, or implants that simplify **sinus augmentation** ("sinus lift") procedures allowing the graft material to be transferred through them.

Surface Technologies



Based on the logical hypothesis that implants should be 100% clean, Israeli companies started to revise their surface treatment processes, aiming to reduce inorganic contaminations from the surfaces of their implants. In an article published in 2015, it was proven that the surface of one of Israel's leading implant companies is the best among its kind, compared to internationally leading implants.

Examples of Innovative Implant Tools



- + An electric Implant **screw driver** facilitates clinical efficiency by reducing the time needed for screwing and unscrewing implant components, as well as higher safety level.
- + A **device that locates unexposed implants** at the second surgical stage allows minimally invasive exposure, reducing pain and complexity and expedites healing.
- + To **avoid injury of the Mandibular nerve during drilling**, one start-up company develops a device that monitors and provides feedback throughout the surgical procedure.
- + **Implant drills** with a **unique DNT2 coating** create highly resistant drills that allow smooth cutting while preventing corrosion and wear.

Bone Augmentation Products



BONE AUGMENTATION PRODUCTS

- + Although there are many membranes on the market, not all combine ease of use with proven clinical success. An Israeli **membrane** with exceptional track record in clinical studies was launched, with great ease of handling.
- + Based on studies demonstrating that tooth structure can be utilized as a bone augmentation material, an Israeli company developed and markets a system that utilizes extracted teeth, chairside, to create a **self, bioactive, augmentation material**.
- + A different approach utilizes **coral, grown in sterile laboratory** conditions to create a material with superior bioactive properties.
- + For severe cases, a **CAD-CAM technology allows the fabrication of specifically-carved blocks**, made of bone augmentation materials for use in a specific site in a patient's mouth.

New Technologies to Stimulate and Enhance Healing



NEW TECHNOLOGIES

- + In order to avoid the use of systemic antibiotic, which requires a large dose over time to ensure that adequate levels of antibiotics reach a surgical site, innovative, **slow-releasing technology**, allow a better way to ensure appropriate levels of antibiotics, over a prolonged period of time, where they are really needed.
- + Another solution consists of a **miniaturized electromagnetic device inside a healing cap** which stimulates and improves osseogenesis and osseointegration, by using electromagnetic pulses, proven to stimulate bone healing.
- + A home device utilizing **soft laser** was found to be beneficial for patients with periodontitis, chronic and acute pain, and accelerate healing following dental procedures.
- + Bisphosphonate-related osteonecrosis of the jaw (BRONJ) is a severe condition adversely impacting quality of life and producing significant morbidity in afflicted patients. To avoid this condition, the **BRONJ risk can be evaluated** with this **unique test**, and therefore help physicians more efficiently match the appropriate therapy for their patients.

IMAGING AND COMPUTER BASED SYSTEMS



SCANNERS & PRINTING TECHNOLOGIES

- + The **dental CAD CAM revolution** comes with a significant price tag, which prevents many dentists from benefiting from these technologies. A few Israeli companies have developed compact and cost-effective **intra-oral and extra-oral 3D Scanners** for both clinical and laboratory needs, designed to have an open interface that can transfer data to any existing CAD CAM systems.
- + Israeli **3D printing** technologies of both metal and plastic materials found its way to the heart of the CAD CAM revolution by offering solutions for accurate manufacturing of surgical guides (used for the placement of dental implants) to the manufacturing of for dental prostheses.



NAVIGATION
SYSTEM

Guided Surgery

Guided surgery allows accurate placement of dental implants using computer based technology. Among the different options developed in Israel, one company sells a **navigation system** that provides real time data throughout the surgery. Another option is to utilize an international knowledge center that collects and converts patient's data into a specific surgical plan, that later can be printed at the location of the specific dentist or printed and sent out to the dentist.



IMAGING
SYSTEM

Dental CT and Pacs

A new Generation of **CBCT and panoramic x-ray systems used in dentistry**, offers critical advantages: low dose of radiation and quick acquisition of high-resolution images. The use of a **cloud-based dental PACS** allows real time transfer of radiographs between CT centers and doctors. Cloud based storage also allows viewing of the images at anywhere and at any time, even in mobile phones, without the need of sophisticated software.



RESTORATIVE
MATERIALS

RESTORATIVE MATERIALS

Due to extensive R&D, Israeli companies are among the most advanced ones also when it comes to the manufacturing of bonding systems - required for everyday composite restorations, and different dental cements – used with conjunction to old and new dental restorations, would it be gold, metal alloy, zirconia or ceramic materials. These **cements really bond to these materials**, rather than acting as sealers only. Some companies offer OEM, Private Label and out-licensing agreements, with tailored made to suit clients' specifications in strict confidentiality.

An innovative approach to the restoration of anterior teeth, using pre-made shapes, allow dentists to provide patients with **veneers** that are made within 15 minutes in the clinic. A common difficulty in the dental clinic is the need to remove temporary cement from restorations. An **innovative, odorless cleaning agent** allowing easier removal of temporary cement from crowns and bridges speed up the process, minimizing effort and potential breakage of temporary or final restorations.

ENDODONTICS



ENDODONTICS

Endodontists use files to clean the root canals, and need to get to the tip of the root even if it is curved. Two **new types of files** were developed in Israel, one based on a **technology used in flexible stents the other using vibration technology to reach the end of the root**. These files simplify the cleaning process, reaching even into the most curved roots, with minimal risk to the tooth or the patient.

Gutta-percha points are used as root canal filling materials. At the end of the process, the tips of these points are cut using a hot instrument, with all the risks that it may involve. The specially designed device uses a standard battery to generate heat, enabling **safe cutting of the gutta-percha** tips with minimal risk and maximum comfort.

DENTAL EQUIPMENT & INSTRUMENTS



TRADITIONAL DEVELOPMENT

Aiming to streamline dental care, Israeli companies look at traditional dental instruments and tools focusing on modifying them to become more ergonomic, more economical and much more cost effective. Such devices include:

- + A **powerful and light LED lamp** that can be easily adjusted to the loupes of the most popular brands.
- + A **lightweight dental hand-piece** was developed by a company which is focused otherwise on aerospace products to produce an effective, safe, reliable and accurate alternative to currently used hand-pieces.
- + **Diamond drills** of different shapes are used by dentists. With the growing demand for long lasting drills, that can withstand multiple autoclave cycles, several Israeli companies produce a wide range of diamond drills to fit every dental procedure. One company makes drills with more diamond particles while another produces gentle diamond drills to be used for Zirconia
- + Specific **miniature lasers devices** for use in dentistry were developed in Israel. The benefit of laser technology (Erbium Yag laser, and CO2 10.6 and 9.6 micron) is evident in micro surgery, quicker healing, minimal invasive treatments and higher acceptance of patients. **A light portable Soft laser** device can assist in post dental procedures by reducing the intensity and duration of the pain and swelling.

ORAL HYGIENE PRODUCTS/ PERIODONTICS



ORAL HYGIENE PRODUCTS

- + The first biodegradable delivery system that is used for treatment of periodontal disease in adults has been proven to be an effective adjunctive therapy to professional cleaning.
- + **Patented herbal formulations for gingivitis** are available in many different forms (adhesive patches, lozenges, toothpaste, mouthwash or spray) and release the active ingredients all day long. Similar **adhesive patches are available for treatment of aphthous ulcers** (canker sores).
One company produces a range of natural oral hygiene products based on local plants known since Biblical times SLS and Paraben free.
- + **An original product aiming to eliminate bad breath/halitosis** was developed, to relieved patients who suffer from this uncomfortable condition.
- + An Innovative **dental floss** was designed to be used by children, transferring this tedious task into a fun habit.
- + The use of a **water jet** was found to be extremely effective for cleaning, especially under large prostheses. A simple device that connects to a regular faucet was designed as a cost effective and simple alternative to currently available products. A more advanced option can include gel capsules which provides an antiseptic effect.
- + Yet another Israeli company offers a **solution for dry Mouth/ Xerostonia** giving relief and preventing its harmful consequences.

ORTHODONTICS



NO MORE
UNSIGHTLY
METAL BRACES

- + To overcome the inconvenient of regular unsightly metal braces and the difficulty to keep the same level of oral hygiene, an Israeli company has found a way to develop an **effective treatment while sleeping or resting** at home using physiological force that is effective, and suitable for all age, and setting your comfort pace.
- + An innovative approach to **cephalometric analysis** utilizes online and cloud technologies to facilitate computerized analysis. The system allows an orthodontist to outsource the work and receive accurate analyses within 2 business days or faster.

DENTAL ESTHETICS



DEAD SEA
MINERALS

An alternative range of exclusive and patented, professional and affordable teeth **whitening solutions** and address all the safety concerns related to teeth whitening procedures. The patented formula includes Dead Sea minerals; Calcium and Fluoride which helps fortify and protect enamel, dentin and gums.

LABORATORY PRODUCTS



DENTAL CROWN
PRODUCTION

In the last decades, two main trends can be tracked in conjunction to dental labs: the incorporation of CAD/CAM technologies on the one hand, and an evolution of dental materials and techniques on the other hand. Israeli companies are in the front line of developing and manufacturing **advanced laboratory materials**, which are distributed either by the companies themselves, or sold as OEM products to global distributors.

A company raises the bar on the **dental crown production process**, with reliable and effective solutions far beyond the standard practices used today.

An Israeli company has been manufacturing **fully programmable furnaces** with superior level of accuracy, repeatability and reliability for today's newest dental materials – Ceramic, Lithium disilicate and Zirconia.

WIDE RANGE OF COMPETITIVE DENTAL MATERIALS FOR LABS



Among these, due to a strong Israeli industry in plastic and polymers, it is not surprising to find companies manufacturing **dentals biocompatible thermoplastics** for aesthetic partial or full dentures, and implant retained overdentures, and high pressure molding machine to simplify the working process in laboratories.

SOFTWARE FOR DENTAL CLINICS AND LABS



DENTAL IT

Israel is known for its HIT. A pioneering **dental practice management solution for clinics and for labs**, Microsoft windows based has been developed and includes sophisticated technology interfaces to manage the patient's file as well as other management and accounting capacities.

TAILORED SIMULATION FOR DENTAL EDUCATION



IMAGING AND SIMULATION

Using the latest in optic, imaging and simulation technologies to give the dental student the best **training equipment** available today while studies show training twice as efficient.

One of the problems dentist face on a daily basis is the need to explain optional treatment plans to their patients. It is not only a legal must; it is also ethically required. An algorithm which was developed in Israel can allow quick and effective creation of **2D and 3D customized charts and digital models** that can show patients what are their alternative treatment options. An additional service is the **design of websites or any other professional presentations** for the dental industry.

INFECTION CONTROL & MAINTENANCE



PREVENT THE BUILDUP OF BACTERIA

Bacteria build up in dental autoclaves can be controlled only by rigorous maintenance. A company specialized in chemicals has developed a product in pre measured form to be used weekly which **prevents the buildup of dangerous bacteria and scale**, and keeps the autoclave operating at top efficiency for many years.

Similarly, in order to take care of the **cleansing and maintenance of the dental spittoon**, the entire suction system and the Ultrasonic equipment, a company has developed eco-friendly products to prevent the buildup of bio film and bacteria, maintaining its top condition.

ERGONOMIC SOLUTIONS FOR DENTISTS



ERGONOMIC SOLUTIONS

Given that 70% of dental professionals worldwide suffer pain and injuries due to bad posture and inadequate equipment, a group of committed dentists are developing **courses to improve working postures and created a new ergonomic certificate for dental products** that raises the standard for manufacturers.