

# Israel's Dental Industry: Crowning Innovation

The Israeli dental device industry includes more than 140 companies. This high-tech sector has more than doubled since the 2000s and many of our companies are at R&D stage or Initial Revenues. And some Israeli companies reached international recognition, and became leaders in their own field. As a result, major acquisitions of Israeli companies took place within the last years: from the recent acquisition of **MIS by Dentsply Sirona** for \$375M in 2016, of **AlphaBioTec by Nobel Biocare** for \$95M in 2008, or the acquisition of **Cadent 3D Scanner by Align Technology Inc.** for \$190M in 2011, to the acquisition in 2005 of **Digident/Orex** Computed Radiography by Kodak, later a part of **Carestream**. As recently as January 2019, a merger agreement has been signed between **Keystone Dental Inc.**, the largest independent implant company operating in North America, and the Israeli company **Paltop Advanced Dental Solutions Ltd.** The "Start-Up Nation" dental sector also raised interest from China. **Light Instruments** and its award Lite-Touch lasers were acquired by **Sino-Lite Ltd.** backed by strong Chinese groups headed by **Sino-Ita International Trading Company**.

In addition, different Israeli companies have won award for their products: from the Periochip by **Dexcel** in 2002, to awards for **Silmet's** Pro-Link Universal Dental Adhesive in 2014 to the Q-Ceram by **BJM Laboratories** in 2017. And this year's **Edison Awards™**, which honor some of the most innovative products in the world, have included **Augma Biomaterials** among their finalists for their invention of Bond Apatite® a new dental material technology that regenerates a patient's own natural bone following implants or other surgery procedures. According to the 2018 World Economic Forum's Global Competitiveness Report Israel has become one of the world's innovation hubs thanks to a very strong innovation ecosystem (10th best in the world). Thus many R&D Centers have been established by worldwide high-tech

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companies such as **Philips, GE**, but also specifically in the dental sector with **Align** and **CareStream Dental**.

This year, 40 Israeli companies will be exhibiting at IDS either at the Israel Pavilion or independently, **bringing with them a multitude of innovations. Many of them are looking for partners to enhance their growth, whether distributors or strategic partners, clinics and labs, KOL, moreover, some companies offer OEM and Private label.**

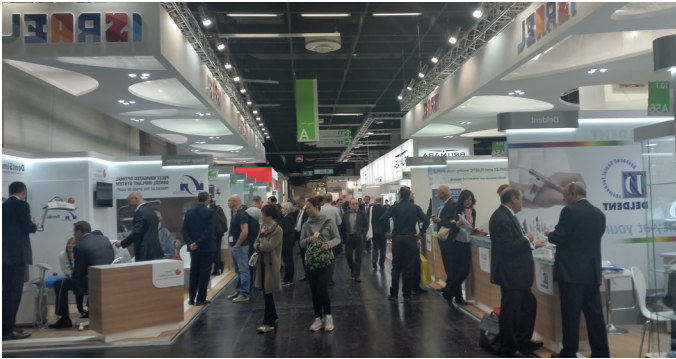
Israel has the highest density of professionally active dentists of the OECD countries (source: OECD stats, 2016). On the manufacturing side, since Israel was very strong in the electronic industry, some of its know-how helped develop the high-tech manufacturing of metal parts for medical, dental or even the space industry, resulting in competitive high quality value products. These factors combined with the "Start-up Nation" creativity contributed to the fact that among all dental sectors, the Implant sector has exponentially grown in Israel. The production of many Israeli implants allows dentists to gain a lot of experience in the implantology field and lead some of them to develop new technologies for easier and faster procedure. Thus, the number of dentists working with implants is growing, as the knowledge, training and technology makes it more accessible even to general practitioners. Furthermore, the Israeli population is keen on trying novelties. Indeed, Israel has one of highest percentage of implant loadings in the world per inhabitant.

Among the many innovative solutions that have been developed connected to implants, some solutions deal with the lack of bone volume by providing a tiny implant that opens up its flaps once loaded like a pyramid increasing its stability. Other innovative solution greatly facilitates the sinus lift, reducing its complications, by a procedure which is almost like a regular implant loading, allowing the graft material to be transferred through them. You'll find also innovative solutions to avoid dealing with dental implants failure due to peri-implantitis, which enables the replacement of an implant's contaminated surface while maintaining the original implant. To resolve the functional and biomechanical drawbacks of current restorative systems, a unique solution has been found with a single system, providing truly telescopic retention, without cement or screws.

Still related to the implant sector, many new tools and technologies were introduced recently. One dentist developed, for example, a unique wireless screwdriver replacing a hand driver. This allows for great improvement in speed, safety and comfort for the manipulation of all other screw-able parts making it an in and out technique of operation. Other tools locates unexposed implants at the second surgical stage allowing minimal invasive exposure, reducing the pain and allowing for faster healing response.

A company has developed a drill with a unique coating that creates a highly resistant drill allowing a smooth cutting while preventing corrosion and wear.

It can be also noted that there are a few companies that have developed different solutions for bone grafting: from the bone graft cement, an extremely easy and efficient solution on the market, to resorbable collagen membrane and other sponge-like matrix of hydroxyapatite and collagen solutions, while another approach utilizes coral grown in sterile lab conditions to create a material with superior bioactive properties. Furthermore, based on studies, a company developed a system that



uses the extracted tooth to create, a self, bioactive, augmentation material.

You will find also an array of solutions to allow a better osseointegration of the implant and the prevention of peri-implantitis. From technologies that are used with the implants such as a miniaturized electromagnetic device inside a healing cap that improve bone quality for smoking or diabetics patients, to soft lasers or technologies using a slow-release system of antibiotic being more efficient than the regular antibiotic use while reducing its side effects.

Among the different options developed in Israel in the Guided Surgery field, allowing accurate placement of dental implants, one company developed a navigation system that provides real time data throughout the surgery, and an augmented-reality dental skills simulator for dental students and dental schools.

Despite the smaller number of Israeli companies active in other sectors, these companies have developed successful innovations (Lasers, 3D Printing, Dental materials, Oral Hygiene and many more...) Among the independent exhibitors, a company is planning the launch of a new unmatched CO2 laser, the first and only with 9.6 µm wavelength.

Indeed, we are also excited that Israel has entered the world of 3D printing through the merging in 2012 of the Israeli company **Object Geometries Ltd.** with **Stratasys**, this development has opened the door to more companies, enabling their successful entry to this market, such as the NanoParticle Jetting technology. At the Israel Pavilion in IDS, we will feature the first 3D Printer which is able to print with multiple high-viscosity materials: polymers, metals, ceramics and bio-materials in combination and multi-color:

As Israel is known as a software development center, we are proud to introduce

dental software such as one using Artificial Intelligence leveraging the experience from thousands of dentists and latest academic knowledge to deliver automatic dental diagnosis and treatment plans. This technology allows, for example, orthodontists to receive, in seconds, information about teeth segmentation. An Imaging center, which has created a Franchise abroad, has developed a cloud based PACs system to allow transfer of high-resolution images between center and doctors.

In our Pavilion, you'll discover innovations for restorative materials, like a new start-up who develops antimicrobial particles that can be permanently embedded in different products and materials to inhibit formation of biofilm on their surface.

In the Endodontics field, you'll find among many innovative products, the state-of-the art Wireless Apex Locator Module (WALM) embedding Bluetooth technology. Some Israeli companies will present new generations of traditional dental instruments, tools and equipment. offering more ergonomic, effective, and economical solutions such as an innovative-patented chair side filtration technology for Amalgam separation, a compact air polishing unit with a patented non-clog nozzle that ensures no damage even during implant maintenance, a fully auto-clavable mini sandblaster cleared for intra-oral use with an index- finger control valve and even an aesthetic compact dust collector for chairside or small dental laboratory.

The Israel Pavilion is organized by the Israel Export Institute (IEI) in cooperation with the Foreign Trade Administration at the Ministry of Economy. The IEI, a non-profit organization supported by the government of Israel and the private sector, advances business relationships between Israeli exporters and overseas businesses and or-

ganizations. By providing a wide range of export-oriented services to Israeli companies and complementary services to the international business community, the Institute helps build successful joint ventures, strategic alliances and trade partnerships.

The IEI Dental Sector is part of the Life Science Department which is the leader in business matching between the more than 1200 companies in the Israeli life science industry and worldwide business partners at all levels. It has proven ability to identify and match suitable potential business partners, organizes one-on-one business meetings, and is a focal point for contacts with the government as well as with the industry. Thus do not hesitate to contact us if you would like to have more information about Israel dental technologies or to visit us at the Israel Pavilion.

At IDS 2019, we invite you to discover a full spectrum of advanced solutions in all sectors of dental industry, developed by Israeli companies. The Israel Pavilion provides focal points for 20 companies and starts up, highlighting innovations diversity. Israel Pavilion is located in Hall 10.1. We are looking forward to your visit!

For more information or for a tour around the Israeli pavilion, contact:  
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