

Short report

The advantages of digital integration for dentists and patients

Morita provides comprehensive solutions for interlinked practices

Today, the integration of digital components is standard in modern dental practices, a benefit for both dentists and patients alike. The Japanese family-owned company Morita foresaw this development at an early time and designed digital system solutions that optimize workflow and ensure significant therapeutic and patient safety. Dentists working in many disciplines – from periodontology, endodontics and implantology to orthodontics – can benefit from this.

Digital workflow begins with the diagnosis because it is the starting point for all following steps of the treatment. Morita has developed multifarious CBCT solutions that ensure sharp and detailed X-rays while keeping the radiation exposure of the patient as low as possible – strictly in line with the ALARA principle: “As Low As Reasonably Achievable”. So, for example, the combination system Veraviewepocs 3D R100 for panoramic, cephalometric and 3D images features a unique field of view in the form of a Reuleaux triangle that emulates the natural dental arch form and shows only those regions that are really relevant for clinical purposes. This also reduces unnecessary radiation exposure. Recently, the system was optimized with intelligent features: two new fields of view (FOV) with the volumes \emptyset R100 x 40 mm and \emptyset 80 x 40 mm allow more individual height adjustments and simplify making a scan of the maxilla and/or mandible. In addition the new generation of sensors (starting from series number #DG in Veraviewepocs 3D R100) features improved panoramic quality, enabling sharper images in the front area as well as a frame backup function that saves all data on an image transmission pcb and automatically adjusts the transmission rate. This can be helpful when the network is overloaded.

Morita's digital CBCT 3D Accuitomo 170 also is specially designed to make high-resolution images on three spatial levels. Thanks to its altogether nine scan volumes with diameters from 40mm to 170mm in resolution steps up to 80 µm voxel, it produces super high-resolution images of skull forms and bone structures. Four different scan modes are available for this purpose: so, for example, the high-speed mode ("Hi-Speed") can produce a 180° scan in just 5.4 seconds – this speed is unique in the world, effectively minimizes movement artifacts and definitely reduces radiation exposure.

In all its digital solutions, Morita pays a lot of attention to enabling comfortable integration: therefore, both diagnostic systems have open-source connections and, for example, are compatible with 3Shape and DentalWings. True to the "best partner principle" embraced by Morita, the image data can be easily combined with the data of an intraoral or model scanner via DICOM and STL. This makes it easy to produce digital impressions for dental laboratories, for example for orthodontic treatments, or to produce surgical templates for implantology procedures. Besides these effectual hardware solutions, Morita's i-Dixel software is an efficient tool for drawing up a complete documentation of the therapy: with the software it is easy to organize the X-rays and it also offers many different image-processing options. Thus, practitioners not only can generate complete documentation of the entire course of treatment, from the diagnosis to the successful end of therapy, they also can explain every step clearly and understandably using the display. Now, a "mobile" version of the proven software, i-Dixel Web, is ready (available for PC models with 64 Bit): Programmed in future-oriented HTML5 Standard, it can be used with customary web browsers and simplifies access to data throughout the whole practice. In addition to a central memory on the practice's own server, users can call up and process all X-ray and CBCT scans via all end devices with network access – secured through an SSL safety protocol. A current upgrade optimizes the software by means of a new software filter (AIE-HD), which shows details more clearly.

Please go to www.morita.com/europe for more information about Morita's solutions for integrating digital systems in a dental practice as well as detailed information on [Veraviewepocs 3D R100](#), [3D Accuitomo 170](#) and [i-Dixel](#).