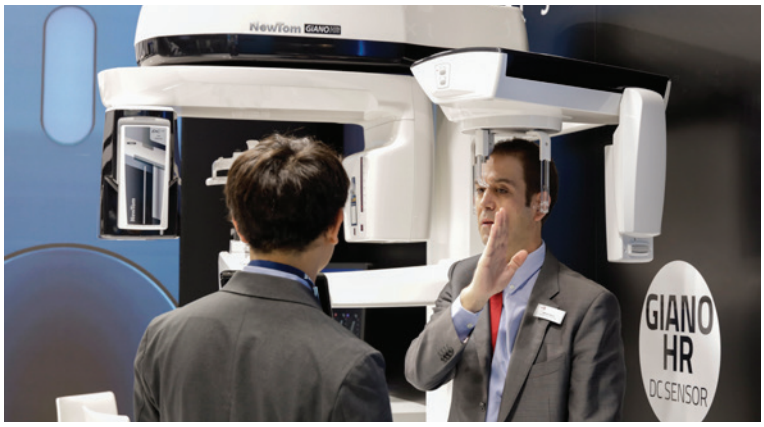
Metal and ceramic, analogue and digital—joint success

Dynamic transition picks up speed

Established and innovative methods—impression material and intra-oral scans—analogue, fully digital and partly digital workflows—from digitally supported to AI-supported orthodontics—metals interesting again due to additive manufacturing—IDS 2025 will be presenting the entire spectrum, says the organiser.

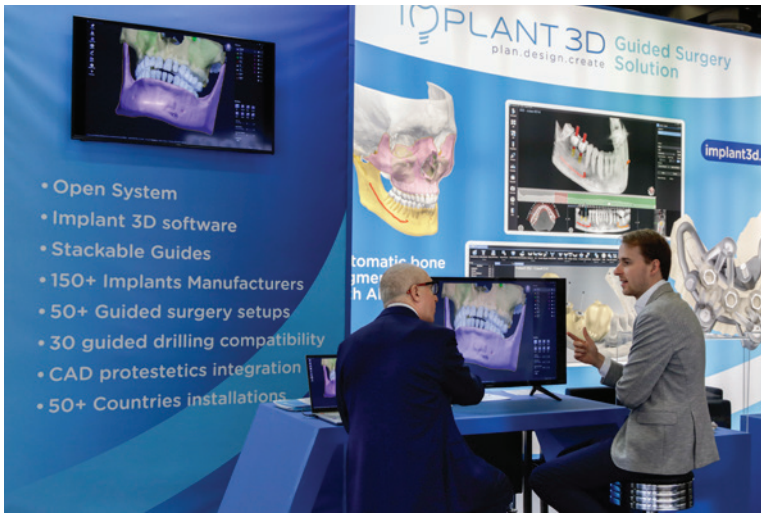
In dentistry and dental technology a new method or material rarely completely replaces an existing one in one fell swoop. It is much more often the case that practices and laboratories offer both the established and innovative methods and those able to combine these optimally in individual cases are the most successful. The International Dental Show (IDS) in Cologne from 25 to 29 March 2025 offers a complete overview of all options to an extent like no other industry event.



Digital impression becoming more precise

For example, in the case of impressions: The digital impression offers sensitive patients the feeling that they can breathe more freely. However, at present the analogue and digital methods exist in parallel. Digital impressions are indeed becoming more and more precise, but in some cases and especially for complex implant prosthetics many people still prefer the classic method. Others don't follow a purely digital workflow after taking a digital impression, but instead switch over to an analogue method in between. For example, a physical model is made using 3D printing and further processed. Which of the very many processes possible is best in each individual case is decided based on the clinical situation, economic considerations and preferences of the dentist and responsible dental technician.

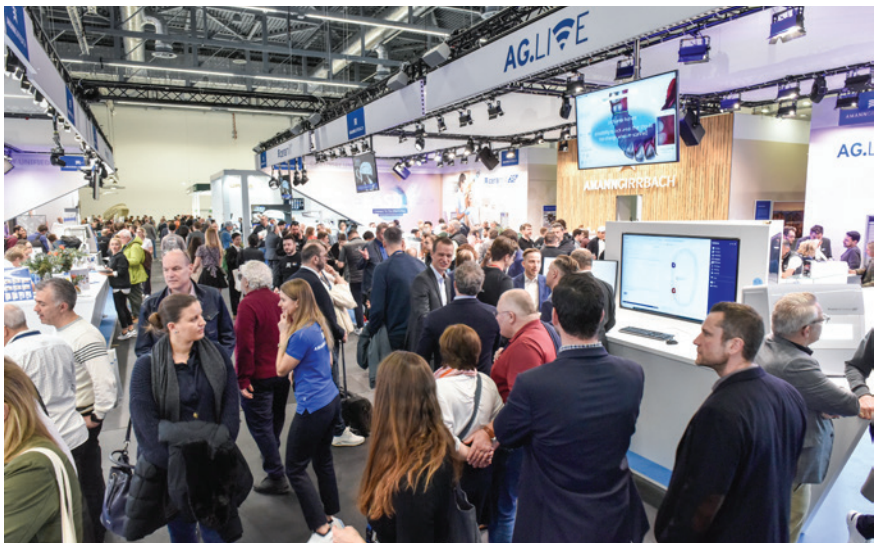
The developments in implantology are at a similar level: intra-oral scans, 3D X-rays, computer tomography and above all the matching together of digital information from different sources create the foundation for today's backward planning. Regarding the implants themselves, one has remained pretty conservative over the past decades—but not completely! For example, research and development departments of the dental industry have continually worked in the direction of retaining bones and soft



tissue in the peri-implant region. This has led to platform switching for instance. Today, the shoulder area of the implant more frequently features a microthread and a special surface design. This all secures long-term success (also aesthetically speaking), reduces adjustments after provision of the respective implant and saves the patient post-treatment. The implant material titanium certainly remained unrivalled for decades. Today, one additionally encounters the option "ceramic implant" and—a current development "plastic implant", for example made of fibre-reinforced polyether ether ketone (PEEK).

The therapy options for orthodontics are on the same wavelength: Metal-based and thus well-visible braces and brackets coexist with "concealed" orthodontic appliances in the sense of the lingual technique and "invisible" aligners made of plastic. Classic methods are being enhanced and partly replaced by digital methods. Today, even people can recognise hidden structures, which for example allows an accurate answer to the following question: Will a certain child develop a class III malocclusion in the course of its development?

Chrome-nickel alloys and also ceramics have established themselves as materials for permanent or removable orthodontic devices, alternatively so have cold-curing resins that are processed in the pressure curing unit, completely light-curing plastics and silicones for removable devices. Functional and aesthetic considerations determine which material and which processing method is applied in a patient's concrete case as well as the special wishes of the patient concerned.



"In dentistry trusted and innovative methods enhance each other in practically all areas," said a delighted Mark Stephen Pace, Chairman of the Executive Board of the Association of the German Dental Industry (VDDI). "For example metallic materials can be processed in different ways today, which means new materials gain high flexibility making classics attractive again in a different way. Substructure ceramics come in many translucencies through to the possibility of implementing them unveneered; on the other hand dental engineers have developed glass ceramics of high mechanical strength and have thus made it possible to produce crowns and bridges out of the material. Dentists, dental technicians and their teams inform themselves about today's possibilities in all areas of dentistry at the International Dental Show (IDS) in Cologne from 25 to 29 March. There are more possibilities than ever before and I am eager to find out which will become more popular among the IDS audience next year."

IDS takes place in Cologne every other year and is organised by the GFDI Gesellschaft zur Förderung der Dental-Industrie mbH, the commercial enterprise of the Association of the German Dental Industry (VDDI). It is staged by Koelnmesse GmbH, Cologne.

Source: VDDI/GFDI