



# Ceramics and digital solutions from a single source: where manual and automated techniques go hand in hand

By Ralf Dahl, Germany



*MDT Ralf Dahl* did his dental technician training from 1981 to 1985. From 1985 to 1988, he intensified his knowledge in a commercial laboratory with a focus on precious metals, ceramics and attachment work.

From 1988 to 1989, he worked as a dental technician in a private practice and then until 1990 as a senior dental technician. In 1991, he successfully completed his master's exam (MDT/ZTM) at the Master School in Düsseldorf.

Since 1994, he is co-owner and managing director of MB Dentaltechnik GmbH. He is a member of the "Dental Excellence International Laboratory Group", the EDA and the DGÄZ. Ralf Dahl is a trainer for hands-on workshops and live patient courses in Germany and abroad. He is a guest lecturer at the Meisterschule Freiburg and the author of numerous specialist articles in *Quintessenz* and *Dental Dialogue*. He is specialized in technical lectures and practical work courses in the field of veneering technology and all-ceramics.

"Is an industrial revolution awaiting us in dental technology?" The author of the article addresses this question and comes to the conclusion that great digital technologies are helpful, but do not replace many of the manual skills of the dental technician. Rather, both go hand in hand. By means of a patient case, he presents the possibilities that result from the interplay of digital technologies, modern materials and dental skills.

## Success can be planned: a patient case

A patient consulted the dental practice with the desire to have nice front teeth. Teeth 12 and 21 were restored with composite restorations and severely discolored (Fig. 1). Together with the prosthetic work team, it was decided to restore both teeth with zirconia-based crowns. There are certain requirements from a

preparatory and material point of view. For a detailed scan, the stumps should have an ideal geometry: that is the basis for an ideally fitting restoration. In order to meet the high aesthetic demands, the crowns had to be veneered manually. An adequate rounded chamfer, soft shapes with rounded angles and sufficient space in the veneering area ceramic offer the best conditions for a functional, aesthetic, long-term stable restoration.



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