

# Digitization in Prosthodontics

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Dentistry can be dated back to the eighteenth century when impression meant the use of waxes and plaster of Paris and the dental equipment consisted of hand-driven and later water-driven motors.<sup>1</sup> The conventional techniques in dentistry have worked excellently for decades, for a simpler, faster, more accurate, and more efficient workflow. But, advancement in dental technology has resulted in newer methods of production, and state of the art and prosthodontics are no exception to that. There is a large potential in digital applications in the field of prosthodontics. Digital dentistry refers to the use of dental technologies or devices that incorporates digital or computer-controlled components to carry out dental procedures.<sup>2</sup>

A wide array of digital applications are available for digital radiography, intraoral imaging, shade matching, digital smile designing, virtual articulators, digital face bows, lasers, occlusion and temporomandibular joint (TMJ) analysis, photography, computer-aided designing and computer-aided manufacturing (CAD/CAM), and additive technology.<sup>2</sup>

Many intraoral scanners are available in the market today, these systems allow the dentist to design and mill in the office itself whereas after systems capture the impression which can be transferred to the laboratory for fabrication. Indeed, the use of CAD/CAM in prosthodontics, through directly acquiring intraoral digital impressions, fabricating single crowns and removable partial/complete dentures has become routine practice for many dentists worldwide.<sup>2</sup>

Additive manufacturing (AM) technologies have vastly improved, allowing their integration into the digital workflow for prosthetic applications. Additive manufacturing technologies are CAM technologies that consist of the fabrication of an object in a layer by layer building up process.<sup>3</sup>

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Advances in digital imaging, CAD/CAM, and Internet communication have undoubtedly simplified the diagnostic process and improved treatment outcomes. Several factors influence the adoption of technology like the familiarity of knowledge, education, cost, accuracy, and outcomes. The factors that drive adoption are as important as the factors that drive innovation. Eventually, the technologies should meet today's patient's needs and help to provide better treatment results.

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