U.S. MARKET FOR DENTAL IMPLANTS, FINAL ABUTMENTS AND COMPUTER GUIDED SURGERY

iDATA_USDI12_RPT

Published in November 2011

By

© iData Research Inc., 2011

iData Research Inc.
Suite 850 – 777 West Broadway
Vancouver, British Columbia,
Canada, V5Z 4J7

Tel: (604) 266-6933
Fax: (604) 266-6934

This report and the information contained therein are believed to be accurate at the time of publishing. The information and data provided is not guaranteed in any way by iData Research, Inc. or its analysts, managers, partners, agents or authors.

iData Research, Inc. offers a corporate license agreement and options for multiple copies of this report. Please contact the sales department for more details.

This report, by default, carries a single license and is copyrighted. It should therefore not be copied or reproduced in any form, by any means, in part or in whole without a written permission from iData Research, Inc.

Reproducing, photocopying or redistributing of this report or other reports from iData Research Inc. to other sites, facilities, units, divisions, affiliates or corporate offices of the purchaser’s organization is prohibited. U.S. and International law strictly forbid the redistribution or resale of illegally obtained copies.
# TABLE OF CONTENTS

## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXECUTIVE SUMMARY</td>
<td>1</td>
</tr>
<tr>
<td>1.1 U.S. DENTAL IMPLANT AND FINAL ABUTMENT MARKET</td>
<td>1</td>
</tr>
<tr>
<td>1.2 DENTAL IMPLANT MARKET</td>
<td>2</td>
</tr>
<tr>
<td>1.3 DENTAL IMPLANT END USERS</td>
<td>3</td>
</tr>
<tr>
<td>1.4 DENTAL IMPLANT PROCEDURE TYPES</td>
<td>3</td>
</tr>
<tr>
<td>1.5 DENTAL IMPLANTS BY SHAPE</td>
<td>3</td>
</tr>
<tr>
<td>1.6 DENTAL IMPLANTS BY CONNECTION TYPE</td>
<td>4</td>
</tr>
<tr>
<td>1.7 COMPUTER GUIDED SURGERY MARKET</td>
<td>5</td>
</tr>
<tr>
<td>1.8 DENTAL IMPLANT INSTRUMENT KIT MARKET</td>
<td>6</td>
</tr>
<tr>
<td>1.9 FINAL ABUTMENT MARKET</td>
<td>7</td>
</tr>
<tr>
<td>1.10 FINAL ABUTMENT MARKET BY FABRICATION PROCESS</td>
<td>8</td>
</tr>
<tr>
<td>1.11 FINAL ABUTMENT MARKET BY MATERIAL</td>
<td>9</td>
</tr>
<tr>
<td>1.12 COMPETITIVE ANALYSIS: CAD/CAM ABUTMENT MARKET</td>
<td>10</td>
</tr>
<tr>
<td>1.13 COMPETITIVE ANALYSIS</td>
<td>11</td>
</tr>
<tr>
<td>RESEARCH METHODOLOGY</td>
<td>12</td>
</tr>
<tr>
<td>2.1 RESEARCH SCOPE</td>
<td>12</td>
</tr>
<tr>
<td>2.2 iData’s 9-STEP METHODOLOGY</td>
<td>12</td>
</tr>
<tr>
<td>Step 1: Project Initiation &amp; Team Selection</td>
<td>13</td>
</tr>
<tr>
<td>Step 2: Prepare Data Systems and Perform Secondary Research</td>
<td>15</td>
</tr>
<tr>
<td>Step 3: Preparation for Interviews &amp; Questionnaire Design</td>
<td>16</td>
</tr>
<tr>
<td>Step 4: Performing Primary Research</td>
<td>17</td>
</tr>
<tr>
<td>Step 5: Research Analysis: Establishing Baseline Estimates</td>
<td>19</td>
</tr>
<tr>
<td>Step 6: Market Forecast and Analysis</td>
<td>20</td>
</tr>
<tr>
<td>Step 7: Identify Strategic Opportunities</td>
<td>22</td>
</tr>
</tbody>
</table>

© iData Research Inc., 2011 www.idatamarketresearch.net
Step 8: Final Review and Market Release ................................................................. 23
Step 9: Customer Feedback and Market Monitoring .................................................. 24

U.S. DENTAL IMPLANT AND FINAL ABUTMENT MARKET ............................... 25

3.1 INTRODUCTION ................................................................................................. 25
  3.1.1 Dental Implants ............................................................................................ 25
    3.1.1.1 Root-Form Dental Implants ..................................................................... 25
    3.1.1.2 Non Root-Form Implants ........................................................................ 26
    3.1.1.3 Dental Implant Applications .................................................................... 26
    3.1.1.4 Mini Implants ......................................................................................... 26
    3.1.1.5 Dental Implant Procedures ...................................................................... 27
    3.1.1.6 Dental Implant Instrument Kits ............................................................... 28
  3.1.2 Introduction to Final Abutments ................................................................... 28
    3.1.2.1 Stock Abutments .................................................................................... 28
    3.1.2.2 Custom Abutments ................................................................................ 28
    3.1.2.3 CAD/CAM Abutments .......................................................................... 29

3.2 END USER ANALYSIS ....................................................................................... 30
  3.2.1 U.S. Population Tooth Loss Statistics ......................................................... 30
  3.2.2 End Users of Dental Implants ....................................................................... 31

3.3 MARKET OVERVIEW ....................................................................................... 36

3.4 MARKET BY SEGMENT .................................................................................... 38

3.5 MARKET DRIVERS AND LIMITERS ................................................................. 40
  3.5.1 Market Drivers ............................................................................................ 40
  3.5.2 Market Limiters ......................................................................................... 42

3.6 COMPETITIVE ANALYSIS .............................................................................. 46

3.7 MERGERS, ACQUISITIONS AND PARTNERSHIPS ........................................... 52

DENTAL IMPLANT MARKET .................................................................................. 55

4.1 INTRODUCTION ................................................................................................. 55
  4.1.1 Causes of Tooth Loss ................................................................................... 55

4.2 MARKET ANALYSIS AND FORECAST ............................................................. 56
  4.2.1 Dental Implant Market ................................................................................ 56
  4.2.2 Mini Implant Market .................................................................................. 59

4.3 AVERAGE SELLING PRICE ANALYSIS ........................................................... 61
## Table of Contents

4.4 UNIT ANALYSIS ........................................................................................................... 65  
4.4.1 Units Sold by Procedure Type ............................................................................... 66  
   4.4.1.1 One-Stage Surgery ............................................................................................. 66  
   4.4.1.2 Two-Stage Surgery ............................................................................................ 67  
   4.4.1.3 Immediate Loading ............................................................................................ 67  
4.4.2 Units Sold by Shape .............................................................................................. 70  
   4.4.2.1 Parallel-Wall Threaded Implants ....................................................................... 70  
   4.4.2.2 Cylindrical Implants .......................................................................................... 71  
4.4.3 Units Sold by Connection Type ............................................................................. 74  
   4.4.3.1 Internal Connection ............................................................................................ 74  
   4.4.3.2 External Connection .......................................................................................... 74  
   4.4.3.3 Single-Unit ......................................................................................................... 74  
4.4.4 Units Sold by Application ..................................................................................... 78  
   4.4.4.1 Single-Tooth Replacement ............................................................................... 78  
   4.4.4.2 Multi-Unit Bridge Securement ......................................................................... 78  
   4.4.4.3 Denture Securement ......................................................................................... 79  
4.5 DENTAL IMPLANT PROCEDURES USING BONE GRAFT MATERIAL ..................... 82  
4.6 MARKET DRIVERS AND LIMITERS ......................................................................... 85  
   4.6.1 Market Drivers ..................................................................................................... 85  
   4.6.2 Market Limiters ................................................................................................... 87  
4.7 COMPETITIVE ANALYSIS ......................................................................................... 89  

### COMPUTER GUIDED SURGERY MARKET ................................................................. 98  
5.1 INTRODUCTION ......................................................................................................... 98  
5.2 MARKET OVERVIEW ................................................................................................. 100  
5.3 MARKET ANALYSIS AND FORECAST ..................................................................... 103  
   5.3.1 Treatment Planning Software Market .................................................................. 103  
      5.3.1.1 Third-Party Treatment Planning ................................................................ 106  
   5.3.2 Surgical Guide Market ........................................................................................ 107  
   5.3.3 Surgical Guide Procedures .................................................................................. 110  
5.4 MARKET DRIVERS AND LIMITERS ......................................................................... 113  
   5.4.1 Market Drivers .................................................................................................... 113  
   5.4.2 Market Limiters ................................................................................................... 114
5.5 COMPETITIVE ANALYSIS .......................................................................................... 116
  5.5.1 Treatment Planning Software Market................................................................. 116
  5.5.2 Surgical Guide Market....................................................................................... 119

DENTAL IMPLANT INSTRUMENT KIT MARKET ................................................. 122

6.1 INTRODUCTION ......................................................................................................... 122
  6.2 MARKET ANALYSIS AND FORECAST ............................................................... 123
  6.3 MARKET DRIVERS AND LIMITERS ................................................................. 125
    6.3.1 Market Drivers............................................................................................... 125
    6.3.2 Market Limiters............................................................................................ 125

6.4 COMPETITIVE ANALYSIS .......................................................................................... 126

FINAL ABUTMENT MARKET ...................................................................................... 129

7.1 INTRODUCTION ......................................................................................................... 129
  7.1.1 The Abutment in the Tooth Replacement Process ........................................... 129
  7.1.2 Healing and Transitional Abutments ................................................................. 130
  7.1.3 Final Abutments ................................................................................................ 130
    7.1.3.1 Implant - Abutment Connection............................................................... 130
    7.1.3.2 Abutment - Prosthetic Connection .......................................................... 130
  7.1.4 Final Abutments by Fabrication Process ........................................................... 131
    7.1.4.1 Stock Abutments ...................................................................................... 131
    7.1.4.2 Custom Abutments ............................................................................... 131
    7.1.4.3 CAD/CAM Abutments ........................................................................... 131
  7.1.5 Final Abutments by Material Type ..................................................................... 132
    7.1.5.1 Titanium .................................................................................................. 132
    7.1.5.2 Ceramic/Zirconia ................................................................................... 132
    7.1.5.3 Gold ........................................................................................................ 132

7.2 MARKET OVERVIEW ................................................................................................. 133
  7.3 MARKET ANALYSIS AND FORECAST ............................................................... 136
    7.3.1 Average Selling Price Analysis ..................................................................... 138
  7.4 MARKET BY FABRICATION PROCESS ................................................................. 139
    7.4.1 Units Sold by Fabrication Process ................................................................. 139
    7.4.2 Stock Abutment Market ................................................................................ 142
    7.4.3 Custom Abutments Market ........................................................................... 144
7.4.4 CAD/CAM Abutments Market................................................................. 146
7.5 MARKET BY TYPE ......................................................................................... 149
  7.5.1 Units Sold by Type...................................................................................... 149
    7.5.1.1 Cement-Retained Abutments................................................................. 149
    7.5.1.2 Screw-Retained Abutments................................................................. 149
    7.5.1.3 Denture Retaining Abutments............................................................. 149
7.6 MARKET BY MATERIAL .................................................................................. 153
  7.6.1 Units Sold by Material............................................................................... 153
7.7 MARKET DRIVERS AND LIMITERS ................................................................. 156
  7.7.1 Final Abutment Market............................................................................. 156
    7.7.1.1 Market Drivers...................................................................................... 156
    7.7.1.2 Market Limiters................................................................................... 156
  7.7.2 CAD/CAM Final Abutment Market......................................................... 158
    7.7.2.1 Market Drivers..................................................................................... 158
    7.7.2.2 Market Limiters................................................................................... 158
7.8 COMPETITIVE ANALYSIS ............................................................................. 159

ABBREVIATIONS...................................................................................................... 169
LIST OF FIGURES

EXECUTIVE SUMMARY .......................................................................................... 1
RESEARCH METHODOLOGY ........................................................................... 12
U.S. DENTAL IMPLANT AND FINAL ABUTMENT MARKET ...................... 25
Figure 3-1: General Practitioner Implant Placement and Restoration Penetration,
U.S., 2008 – 2018 .......................................................................................... 32
Figure 3-2: Dental Implants Placed by End User Specialization, U.S.,
2008 – 2018 ................................................................................................... 34
Figure 3-3: Total Dental Implant and Final Abutment Market, U.S.,
2008 – 2018 ................................................................................................... 36
Figure 3-4: Total Dental Implant and Final Abutment Market by Segment, U.S.,
2008 – 2018 (US$M) ..................................................................................... 39
Figure 3-5: Drivers and Limiters, Dental Implant and Final Abutment Market,
U.S., 2011 ..................................................................................................... 45
Figure 3-6: Leading Competitors, Dental Implant and Abutment Market, U.S.,
2011 .............................................................................................................. 50
DENTAL IMPLANT MARKET .......................................................................... 55
Figure 4-1: Dental Implant Market, U.S., 2008 – 2018 ......................... 57
Figure 4-2: Mini Implant Market, U.S., 2008 – 2018 .............................. 59
Figure 4-3: Units Sold by Procedure Type, Dental Implant Market, U.S.,
2008 – 2018 ............................................................................................... 68
Figure 4-4: Units Sold by Shape, Dental Implant Market, U.S., 2008 – 2018 72
Figure 4-5: Units Sold by Connection Type, Dental Implant Market, U.S.,
2008 – 2018 ............................................................................................... 76
Figure 4-6: Units Sold by Application, Dental Implant Market, U.S.,
2008 – 2018 ............................................................................................... 80
Figure 4-7: Dental Implant Procedures Using Bone Graft Material, U.S.,
2008 – 2018 ............................................................................................... 83
Figure 4-8: Drivers and Limiters, Dental Implant Market, U.S., 2011 .......... 88
Figure 4-9: Leading Competitors, Dental Implant Market, U.S., 2011 ......... 96
COMPUTER GUIDED SURGERY MARKET .......................................................... 98
Figure 5-1: Total Computer Guided Surgery Market by Segment, U.S., 2008 – 2018 (US$M) ................. 101
Figure 5-2: Treatment Planning Software Market, U.S., 2008 – 2018 ................. 104
Figure 5-3: Surgical Guide Market, U.S., 2008 – 2018 ................................. 108
Figure 5-4: Dental Implant Procedures Using Surgical Guides, U.S., 2008 – 2018........................................ 111
Figure 5-5: Drivers and Limiters, Computer Guided Surgery Market, U.S., 2011 ........................................ 115
Figure 5-6: Leading Competitors, Treatment Planning Software Market, U.S., 2011........................................ 117
Figure 5-7: Leading Competitors, Surgical Guide Market, U.S., 2011 ............. 120
DENTAL IMPLANT INSTRUMENT KIT MARKET ........................................ 122
Figure 6-1: Dental Implant Instrument Kit Market, U.S., 2008 – 2018 (US$M) .... 123
Figure 6-2: Drivers and Limiters, Instrument Kit Market, U.S., 2011 ................ 125
Figure 6-3: Leading Competitors, Dental Implant Instrument Kit Market, U.S., 2011 ........................................ 127
FINAL ABUTMENT MARKET ........................................................................ 129
Figure 7-1: Final Abutment Market by Segment, U.S., 2008 – 2018 (US$M) .... 134
Figure 7-2: Final Abutment Market, U.S., 2008 – 2018 ................................. 136
Figure 7-3: Units by Fabrication Process, Final Abutment Market, U.S., 2008 – 2018 ........................................ 140
Figure 7-4: Stock Abutment Market, U.S., 2008 – 2018 ................................. 142
Figure 7-5: Custom Abutment Market, U.S., 2008 – 2018 ................................. 144
Figure 7-6: CAD/CAM Abutment Market, U.S., 2008 – 2018 ....................... 147
Figure 7-7: Units Sold by Type, Final Abutments Market, U.S., 2008 – 2018 .... 151
Figure 7-8: Units Sold by Material, Final Abutment Market, U.S., 2008 – 2018. 154
Figure 7-9: Drivers and Limiters, Final Abutment Market, U.S., 2011 ............. 157
Figure 7-10: Drivers and Limiters, CAD/CAM Final Abutment Market, U.S., 2011 ........................................ 158
Figure 7-11: Leading Competitors, Final Abutment Market, U.S., 2011 ............. 165
Figure 7-12: Leading Competitors, CAD/CAM Final Abutment Market, U.S., 2011 ........................................ 167
ABBREVIATIONS .......................................................................................... 169
LIST OF CHARTS

EXECUTIVE SUMMARY.............................................................................................................. 1
Chart 1-1: Total Dental Implant and Final Abutment Market by Segment, U.S., 2011.......................... 1
Chart 1-3: Dental Implants by Connection Type, U.S., 2008 – 2018 ........................................ 4
Chart 1-10: Leading Competitors, Dental Implant and Final Abutment Market, U.S., 2011 ..... 11

RESEARCH METHODOLOGY..................................................................................................... 12

U.S. DENTAL IMPLANT AND FINAL ABUTMENT MARKET ............................................. 25
Chart 3-3: Total Dental Implant and Final Abutment Market, U.S., 2008 – 2018 ............. 37
Chart 3-4: Total Dental Implant and Final Abutment Market by Segment, U.S., 2011 ....... 38

DENTAL IMPLANT MARKET.................................................................................................. 55
Chart 4-1: Dental Implant Market, U.S., 2008 – 2018......................................................... 58
Chart 4-2: Mini Implant Market, U.S., 2008 – 2018.......................................................... 60
Chart 4-4: Dental Implant Market by Price Range, U.S., 2011 ........................................ 64
List of Charts

Chart 4-6: Units Sold by Procedure Type, Dental Implant Market, U.S.,
2008 – 2018 .................................................................................................. 69
Chart 4-7: Units Sold by Shape, Dental Implant Market, U.S., 2008 – 2018 ...... 73
Chart 4-8: Units Sold by Connection Type, Dental Implant Market, U.S.,
2008 – 2018 .................................................................................................. 77
Chart 4-9: Units Sold by Application, Dental Implant Market, U.S.,
2008 – 2018 .................................................................................................. 81
Chart 4-10: Dental Implant Procedures Using Bone Graft Material, U.S.,
2008 – 2018 .................................................................................................. 84
Chart 4-11: Leading Competitors, Dental Implant Market, U.S., 2011 ............ 97
COMPUTER GUIDED SURGERY MARKET ..................................................... 98
Chart 5-1: Total Computer Guided Surgery Market by Segment, U.S.,
2008 – 2018 ................................................................................................. 102
Chart 5-4: Proportion of Dental Implant Procedures Using Surgical Guides, U.S.,
2008 – 2018 ................................................................................................. 112
Chart 5-5: Leading Competitors, Treatment Planning Software Market, U.S.,
2011 ........................................................................................................... 118
DENTAL IMPLANT INSTRUMENT KIT MARKET ........................................ 122
Chart 6-2: Leading Competitors, Dental Implant Instrument Kit Market, U.S.,
2011 ........................................................................................................... 128
FINAL ABUTMENT MARKET ........................................................................ 129
Chart 7-1: Final Abutment Market by Segment, U.S., 2008 – 2018 ................. 135
Chart 7-2: Final Abutment Market, U.S., 2008 – 2018 .................................... 137
Chart 7-3: Final Abutment Market by Price Range, U.S., 2011 ...................... 138
Chart 7-4: Units by Fabrication Process, Final Abutments Market, U.S.,
2008 – 2018 ................................................................................................. 141
Chart 7-6: Custom Abutment Market, U.S., 2008 – 2018 .............................. 145
Chart 7-8: Units Sold by Type, Final Abutments Market, U.S., 2008 – 2018 ..... 152
Chart 7-10: Leading Competitors, Final Abutment Market, U.S., 2011 ............. 166
Chart 7-11: Leading Competitors, CAD/CAM Final Abutment Market, U.S.,
2011 ............................................................................................................ 168
ABBREVIATIONS .......................................................................................... 169
1

EXECUTIVE SUMMARY

1.1 U.S. Dental Implant and Final Abutment Market

The U.S. market for dental implants and final abutments is expected to exceed $1.54 billion by 2018.

The dental implant and final abutment market includes dental implants, final abutments, instrument kits, computer guided surgery equipment and mini implants. Dental implants represented nearly 60% of the total market value in 2011. The overall market continued to experience growth, as the economic recovery experienced in 2010 carried over into 2011. The instrument kit market comprised only a small fraction of the total market because the majority of kits were given away for free as promotional tools. While the computer guided surgery market comprised a small portion of the total market, it is expected to grow rapidly due to recent technological advancements in digital imaging systems. These systems are becoming a popular tool among dentists and offer enhanced accuracy in placing implants. Mini implants are one of the fastest-growing segments in the total market, and their growth will largely be driven by the increasing popularity of overdentures.

Chart 1-1: Total Dental Implant and Final Abutment Market by Segment, U.S., 2011

Source: iData Research Inc. Note: The full version of this chart can be found in Chapter 3.
1.2 Dental Implant Market

In 2011, the U.S. market for dental implants exhibited an increase of 3.2% over the previous year as the market continued to recover from the decline experienced during the economic recession of 2008 and 2009.

The U.S. market for dental implants has continued to recover from the decline experienced in 2008 and 2009 due to the economic recession. While this growth has yet to return to pre-recession levels, it is expected to approach double-digit rates by the end of the forecast period. Aside from a slowdown in unit sales, the recession also led to a decline in ASP; premium brands introduced heavy discounting to counteract declining sales volume and many general practitioners (GPs) opted for lower priced alternatives. This shift in pricing will result in a gradual decline in the overall ASP for the dental implant market over the forecast period.


Source: iData Research Inc.   Note: The full version of this chart can be found in Chapter 4.
1.3 Dental Implant End Users

By 2018, nearly 24% of dental GPs are expected to place dental implants.

The majority of dental implants in 2011 were placed by a relatively small number of dental specialists and GPs who had implant-oriented practices. In contrast, there is a large number of GPs who either do not place implants or place very few implants. As a result, dental implant companies have made a strong commitment to train GPs on placing implants, offering a broad selection of training courses. This is expected to increase the number of end users, thus driving dental implant sales.

1.4 Dental Implant Procedure Types

By 2018, over 60% of all dental implants are expected to be placed using single-stage procedures.

Technological advances over the past several years have allowed implants that are placed in one-stage procedures to be equally as reliable as two-stage implants. One-stage surgeries are growing in popularity over other procedure types because they require less time for both the patient and dentist. The proportion of procedures utilizing one-stage and immediate loading procedures is expected to rise over the forecast period.

1.5 Dental Implants by Shape

In 2011, tapered-wall implants continued to gain unit share and are expected to comprise the majority of units sold by 2014.

While parallel wall implants have a long history of clinical success, tapered implants have the advantage of having a better fit in the patient’s jaw, particularly when situated between two opposing teeth. Many dental implant companies preferentially utilize one dental implant shape. However, the shape of the dental implant did not have a high impact on average selling price (ASP) in 2011, as many implant models are available in both shapes.
1.6 Dental Implants by Connection Type

In 2011, over 84% of all dental implants placed had internal connections. Over the 2012–2018 forecast period, the popularity of these connections is expected to increase.

Unit sales of implants with external connections are expected to gradually decrease over the forecast period due to the increasing popularity of internal connections. The use of single-unit implants is also expected to grow, but it will remain a niche market primarily dedicated to securing dentures. Preference has shifted heavily towards internal connections, and virtually all new implant designs reflect this trend. Two primary reasons for the popularity of internal connections are that they better facilitate the placement of abutments onto implants, and the connection has greater long-term stability.

Chart 1-3: Dental Implants by Connection Type, U.S., 2008 – 2018

Source: iData Research Inc.  Note: The full version of this chart can be found in Chapter 4.
1.7 Computer Guided Surgery Market

The surgical guide market is expected to grow rapidly over the forecast period, and will be largely driven by general practitioners.

The computer guided surgery market consists of treatment planning software and surgical guides. Surgical guides are a rapidly emerging segment within the dental implant market due to an increasing number of GPs performing implant procedures. Guides are designed to provide greater accuracy when placing implants. Dentists can choose to use treatment planning software or outsource the design to a third-party. Dentists then have the option of ordering a surgical guide, which is a physical template that guides implant placements. This market is driven by the advancing quality of three-dimensional imaging produced by medical computed tomography (CT) and cone beam computed tomography (CBCT) scanners.


Source: iData Research Inc. Note: The full version of this chart can be found in Chapter 6.
1.8 Dental Implant Instrument Kit Market

The market for dental implant instrument kits is expected to increase at a CAGR of 13.7% over the forecast period.

Dental implant instrument kits are required for placing implants. While most of the instruments can be re-used, drills need to be replaced every 10 to 50 procedures. In addition, dentists tend to purchase instrument kits from the same supplier from whom they buy their dental implants. However, the majority of instrument kits are given away by dental implant companies as part of their marketing efforts, thus reducing the potential market by nearly two-thirds in 2011. With the use of implants and the price of instrument kits both on the rise, these two factors will conjunctively lead to double-digit growth for the instrument kit market over the forecast period.


Source: iData Research Inc.
1.9 Final Abutment Market

The U.S. final abutment market, which includes stock abutments, custom abutments and CAD/CAM abutments, is expected to increase at a CAGR of 11.3% over the forecast period.

The final abutment market encompasses stock abutments, custom abutments and CAD/CAM abutments. Aside from the fabrication process, abutments are further segmented by connection type and material. In 2011, this market experienced higher growth than the dental implant market due to inflating ASPs. The ASP for final abutments is expected to continue increasing over the forecast period, which will augment growth. By 2018, there will be an increasing prevalence of CAD/CAM abutments, which will be the primary cause for the higher ASP in the total market.

Chart 1-6: Final Abutment Market, U.S., 2008 – 2018

Source: iData Research Inc.  Note: The full version of this chart can be found in Chapter 7.
1.10 Final Abutment Market by Fabrication Process

*CAD/CAM abutments are expected to be the fastest-growing segment in the total abutment market, increasing at a CAGR of 16.1% over the forecast period.*

Stock abutments represent the bulk of abutments used and are far less expensive than custom or CAD/CAM abutments. Custom and CAD/CAM abutments are manufactured specifically for each patient, thereby minimizing abutment adjustment time and allowing dental implant restorers to create aesthetically favorable results. With prices in the gold market increasing annually, custom abutments cast from gold alloy will no longer be a viable or affordable option for many patients. However, custom abutments made of other materials will enjoy considerable growth as implants become more prevalent and as cases become more complex. Growth in the CAD/CAM abutment market will also be attributed to the increasing CAD/CAM device market, as dental laboratories continue to implement the technology into their practices.

Chart 1-7: Final Abutment Market by Fabrication Process, U.S., 2008 – 2018

Source: iData Research Inc.  Note: The full version of this chart can be found in Chapter 7.
1.11 Final Abutment Market by Material

Of all segments in the dental implant and final abutment market, ceramic/zirconia abutments will experience the highest growth over the forecast period, as a result of the growing CAD/CAM device market.

The vast majority of final abutments are manufactured from titanium because of its strength and biocompatibility. Titanium will continue to be the dominant material used in final abutments due to its proven clinical efficacy. However, more abutments are being manufactured from ceramics, largely due to the increased use of CAD/CAM systems. Titanium abutments can also be milled by CAD/CAM systems; as these systems become more popular, they will drive titanium abutment sales as this material is the preferred choice. Gold alloys are commonly used in customized abutment fabrication because the material is malleable for custom design. However, due to rising gold prices, there will be a shift away from gold alloy material. By 2018, ceramic material is expected to represent more than 12% of all final abutment units sold.

Chart 1-8: Unit Share by Material, Final Abutment Market, U.S., 2008 – 2018

Source: iData Research Inc.  Note: The full version of this chart can be found in Chapter 7.
1.12 Competitive Analysis: CAD/CAM Abutment Market

In 2011, Astra Tech held more than one-third of the CAD/CAM abutment market.

The competitive landscape of the CAD/CAM abutment market is continuously becoming more complex. A large number of dental laboratories, such as Glidewell Dental Labs and U-Best Dental Technology, have begun offering their own brand of CAD/CAM fabricated abutments. As CAD/CAM technology and implantology become increasingly prevalent, additional dental laboratories will begin to produce their own CAD/CAM abutment products. In 2011, four of the five leading dental implant manufacturers offered CAD/CAM abutment solutions. Among these four was Astra Tech, which held over one-third of the CAD/CAM abutment market with its Atlantis™ line of custom abutments. Astra Tech’s position in this segment will be further supported by their recent acquisition by DENTSPLY and their new interfaces, which support Dentsply Friadent and Straumann implant systems. Furthermore, all major CAD/CAM manufacturers are beginning to enter this segment to provide their own CAD/CAM abutment solutions after having witnessed the profitability of this market.


[Chart image]

Source: iData Research Inc.   Note: The full version of this chart can be found in Chapter 8.
1.13 Competitive Analysis

The five largest competitors accounted for 75.7% of the total dental implant market in 2011.

The leading competitors in the dental implant and final abutment market were the five largest dental implant companies; together, these companies accounted for just over three quarters of the overall market in 2011. Among the top five, Straumann maintained its position as the second-leading competitor, with its prominent presence in the dental implant and final abutment segments. In order to remain competitive, companies are expanding their product offerings to cover all stages of the dental implant procedure, including computer guided surgery, regenerative materials and CAD/CAM restorative manufacturing. In addition, aggressive marketing and educational campaigns have been used for creating brand name recognition among the thousands of dental professionals who started to practice implant dentistry in the last few years. Dental implant companies such as Implant Direct and BioHorizons have come to represent an increasing portion of the market due to their lower priced products and promotions. Furthermore, since the economic recession of 2008 and 2009, companies have continued to face pricing pressure in the dental implant market, as competitors offer discounts to maintain sales growth.

Chart 1-10: Leading Competitors, Dental Implant and Final Abutment Market, U.S., 2011

Source: iData Research Inc. Note: The full version of this chart can be found in Chapter 3.