

INTRODUCTION	xxi
STUDY GOALS AND OBJECTIVES.....	xxi
REASONS FOR DOING THIS STUDY	xxi
CONTRIBUTIONS TO THE STUDY AND FOR WHOM.....	xxi
SCOPE AND FORMAT	xxii
METHODOLOGY	xxii
INFORMATION SOURCES.....	xxii
RELATED BCC WORK CREDENTIALS	xxiii
BCC ONLINE SERVICES.....	xxiii
DISCLAIMER	xxiii
 SUMMARY.....	 xxiv
<i>SUMMARY TABLE GLOBAL FORECAST FOR MOBILE COMPUTING,</i>	
<i>THROUGH 2011 (\$ MILLIONS).....</i>	<i>XXV</i>
<i>SUMMARY FIGURE GLOBAL VALUE OF THE MOBILE COMPUTING</i>	
<i>MARKET 2005–2011 (\$ MILLIONS).....</i>	<i>XXV</i>
 OVERVIEW	 1
COMPUTING COMES TO THE MASSES.....	1
THE AGE OF MOBILITY	2
COMPUTING AT YOUR FINGERTIPS	2
<i>TABLE 1 CLASSIFICATION OF MAJOR MOBILE COMPUTING</i>	
<i>DEVICES ANALYZED IN THIS REPORT.....</i>	<i>3</i>
MOBILE TECHNOLOGY AND MARKETS.....	4
<i>TABLE 2 MAJOR MOBILE COMPUTING MARKETS.....</i>	<i>4</i>
 INDUSTRY STRUCTURE	 5
LEADING COMPANIES IN THE MOBILE COMPUTING BUSINESS.....	5
<i>TABLE 3 KEY COMPANIES IN THE MOBILE COMPUTING</i>	
<i>BUSINESS.....</i>	<i>5</i>
<i>TABLE 3 (CONTINUED).....</i>	<i>6</i>
<i>TABLE 3 (CONTINUED).....</i>	<i>7</i>
RECENT INDUSTRY DEVELOPMENTS.....	7
Recent Industry Developments (Continued)	8
MOBILE COMPUTING MANUFACTURING BY REGION	9
<i>TABLE 4 GLOBAL SHARE OF MOBILE COMPUTING</i>	
<i>MANUFACTURING BY REGION, 2005-2011 (%).....</i>	<i>9</i>
<i>FIGURE 1 GLOBAL MOBILE COMPUTING MANUFACTURING BY</i>	
<i>REGION, 2005-2011 (%).....</i>	<i>10</i>
MOBILE COMPUTING CONSUMPTION BY REGION.....	11
<i>TABLE 5 GLOBAL SHARES OF MOBILE COMPUTING REVENUES</i>	
<i>BY REGION, 2005-2011 (%).....</i>	<i>11</i>
<i>FIGURE 2 MOBILE COMPUTING GLOBAL REVENUES, BY REGION,</i>	
<i>2005-2011 (%).....</i>	<i>11</i>

TRADITIONAL MARKETS REMAIN STRONG.....	12
MARKET SHARES	12
LAPTOP/NOTEBOOK PRODUCTS.....	12
<i>TABLE 6 GLOBAL MARKET SHARE BY LAPTOP MAKERS, 2005 (%)</i>	12
<i>TABLE 6 (CONTINUED)</i>	13
TABLET PERSONAL COMPUTERS.....	13
<i>TABLE 7 GLOBAL MARKET SHARE BY TABLET PC MAKERS, 2005</i> <i>(%)</i>	14
HANDHELDS AND MINI COMPUTERS	14
<i>TABLE 8 ESTIMATED GLOBAL MARKET SHARE BY PDA MAKER,</i> <i>2005 (%)</i>	15
3 rd GENERATION PHONES	15
<i>TABLE 9 ESTIMATED GLOBAL MARKET SHARE, BY 3G PHONE</i> <i>MAKERS, 2005 (%)</i>	16
COMPANY PROFILES	16
ACER INC., TAIPEI, TAIWAN	16
DELL INC., ROUND ROCK, TX	17
ELITEGROUP COMPUTER SYSTEMS, TAIPEI, TAIWAN.....	18
FUJITSU LTD., TOKYO, JAPAN	18
GATEWAY, IRVINE, CA	19
HEWLETT-PACKARD, PALO ALTO, CA	20
INTEL CORPORATION, SANTA CLARA, CA.....	20
LENOVO LTD., RALEIGH, NC	21
MITAC COMPANY, TAIPEI, TAIWAN	21
MOTION COMPUTING, AUSTIN, TX	22
MOTOROLA, SCHAUMBURG, IL.....	23
NEC ELECTRONICS CORPORATION, KANAGAWA, JAPAN	23
NOKIA CORPORATION, ESPOO, FINLAND	24
PALM INC., SUNNYVALE, CA	25
QUALCOMM INC., SAN DIEGO, CA.....	25
QUANTA COMPUTER INC., TAOYUAN, TAIWAN	26
RESEARCH IN MOTION, LTD., ONTARIO, CANADA.....	27
SAMSUNG GROUP, SEOUL, KOREA	27
Samsung Group, Seoul, Korea (Continued).....	28
MOBILE COMPUTING TECHNOLOGY	29
MOBILE COMPUTING DEVICES	29
LAPTOPS AND NOTEBOOKS	29
Construction.....	30
<i>TABLE 10 UNIQUE DESIGN REQUIREMENTS FOR LAPTOPS</i>	30
Graphics, Displays, and Batteries	31
<i>TABLE 11 BASIC LAPTOP POWER SUPPLIES</i>	32
Current Features	32
<i>TABLE 12 TECHNICAL FEATURES OF A WIDE-SCREEN NOTEBOOK</i> <i>COMPUTER</i>	33

TABLET PCS.....	33
<i>TABLE 13 OPERATING FEATURES OF A TYPICAL TABLET PC.....</i>	<i>34</i>
Convertible Models.....	34
Hybrids.....	34
Operating System.....	35
Specifications of a Current Tablet PC.....	35
<i>TABLE 14 SAMPLE SPECIFICATIONS OF A CONVERTIBLE TABLET PC.....</i>	<i>35</i>
HANDHELDS AND MINICOMPUTERS.....	36
Personal Digital Assistants (PDAs).....	36
Traditional PDA.....	36
<i>TABLE 15 CHARACTERISTICS OF TRADITIONAL PDAS.....</i>	<i>37</i>
PDA with Cell Phone and Multimedia.....	37
<i>TABLE 16 CHARACTERISTICS OF PDAS WITH CELL PHONE AND MULTIMEDIA CAPABILITY.....</i>	<i>37</i>
PDA Parts.....	38
Ultra-Mobile or Mini PCs.....	38
<i>TABLE 17 SELECTED FEATURES OF THE SONY UX SERIES.....</i>	<i>39</i>
SMARTPHONES.....	39
Hardware and Operating Systems.....	39
<i>TABLE 18 POTENTIAL SMARTPHONE FUNCTIONS.....</i>	<i>40</i>
Product Examples.....	40
Sample Specifications.....	41
<i>TABLE 19 SAMPLE SPECIFICATIONS OF SMARTPHONES.....</i>	<i>41</i>
SUPPORT MECHANISMS FOR MOBILE DEVICES.....	41
INTEL CORE 2 DUO DESKTOP AND MOBILE PROCESSORS.....	42
Features.....	42
<i>TABLE 20 MAJOR FEATURES OF INTEL PREMIUM CORE 2 DUO PROCESSORS.....</i>	<i>42</i>
<i>TABLE 21 ADVANTAGES OF INTEL CORE 2 DUO PROCESSOR IN MOBILE COMPUTERS.....</i>	<i>43</i>
AMD DUAL CORE MOBILE PROCESSOR TECHNOLOGY.....	43
AMD Turion 64 x 2 Dual Core Technology.....	43
<i>TABLE 22 BASIC ARCHITECTURAL FEATURES OF AMD PROCESSOR.....</i>	<i>44</i>
WINDOWS MOBILE OPERATING SYSTEM.....	44
Features.....	44
Advantages.....	45
<i>TABLE 23 KEY ADVANTAGES OF WINDOWS MOBILE OPERATING SYSTEM.....</i>	<i>45</i>
<i>TABLE 24 SPECIFICATIONS OF PALM TREO SMART DEVICE WITH WINDOWS MOBILE.....</i>	<i>46</i>
POWER EXTENDER FOR MOBILE PRODUCTS.....	46
Features.....	47

<i>TABLE 25 KEY FEATURES OF THE POWER EXTENDER</i>	47
TECHNOLOGICAL TRENDS	47
GLOBAL POSITIONING SYSTEMS	47
<i>TABLE 26 MAJOR COMPONENTS OF A GPS SYSTEM</i>	48
GPS Receivers	48
Bluetooth Receivers	48
Compact Flash or SD Receivers	49
Cabled GPS Receivers	49
GPS Navigation Software	49
<i>TABLE 27 STANDARD FEATURES OF MAJOR GPS APPLICATIONS</i>	50
FLASH STORAGE DEVICE FOR MOBILE COMPUTERS	50
HD DVD DRIVE FOR MOBILE PCS	51
PATENT ANALYSIS	52
PATENTS BY SUBJECT	52
<i>TABLE 28 PATENTS BY MOBILE COMPUTING TECHNOLOGY AND FUNCTIONM, 2005–2006</i>	52
PATENTS BY REGION	53
<i>TABLE 29 MOBILE COMPUTING PATENTS BY REGION, 2005–2006</i>	54
PATENTS BY ASSIGNEES	55
<i>TABLE 30 ASSIGNEES WITH THREE OR MORE PATENTS, 2005–2006</i>	55
<i>TABLE 30 (CONTINUED)</i>	56
SAMPLE ABSTRACTS	57
Processing Document Service Requests from a Mobile Computing Device	57
System for Providing Multilevel Information Retrieval with Clarification Dialog	57
On-Site Meter Registration Confirmation Using Portable, Wireless Device	58
Data Storage Device Provides Communication between Processing Units	58
Navigational Interface for Mobile and Wearable Computers	59
Convertible Mobile Computing Device	59
Secure Transaction Management and Electronic Rights Protection	60
Storage Device Using a Flash Memory	60
Storage Device ... (Continued)	61
MOBILE INDUSTRY COMPETITIVENESS	62
MOBILE COMPUTING SECURITY ENVIRONMENT	62
<i>TABLE 31 CURRENT MOBILE COMPUTING ENVIRONMENT</i>	63
GOVERNMENT SUPPORT	63
<i>TABLE 32 NIST UNIFIED SECURITY FRAMEWORK FOR HANDHELD DEVICES</i>	64
INDUSTRY ACTIVITY	64

DEVICE PROLIFERATION, CONVERGENCE, AND UNIT GROWTH	65
<i>TABLE 33 POTENTIAL CONVERSION OF FUNCTIONS INTO A SINGLE CELL PHONE DEVICE</i>	66
GENERAL ECONOMIC ENVIRONMENT	67
UNITED STATES	67
<i>TABLE 34 ECONOMIC LONG-TERM ASSUMPTIONS FOR THE U.S. ECONOMY</i>	68
EUROPE.....	68
ASIA PACIFIC	68
<i>TABLE 35 ASIA-PACIFIC REGION ECONOMIC IMPACT ON MOBILE COMPUTING</i>	69
CHINA	69
TECHNOLOGY AND MOBILE COMPUTING.....	70
TECHNICAL PLANS RELATED TO MOBILE COMPUTING	70
PDA With Built-in GPS.....	70
Ultracapacitors Charge Batteries in Minutes	70
Fuel Cell Batteries.....	71
MARKET GROWTH FACTORS.....	71
IMPACT OF THESE GROWTH FACTORS.....	71
<i>TABLE 36 PERCENTAGE IMPACT OF MAJOR COMPETITIVENESS FACTORS ON THE GROWTH OF MOBILE COMPUTING</i>	72
MOBILE COMPUTING MARKETS	73
MARKET ORGANIZATION.....	73
MEASUREMENT OBJECTIVES.....	74
THE LAPTOP/NOTEBOOK MARKET	75
NOTEBOOK HISTORY	76
<i>TABLE 37 A BRIEF HISTORY OF THE NOTEBOOK COMPUTER</i>	76
KEY TECHNICAL ADVANCES IMPACTING MOBILITY.....	77
Intel Centrino Mobile Technology.....	77
Better Performance.....	77
Better Wireless Access.....	78
Bluetooth Technology	78
A New Standard plus Broadband for Notebooks.....	79
<i>TABLE 38 RECENT ADVANCES IN MOBILE TECHNOLOGY FOR NOTEBOOK COMPUTERS</i>	79
NOTEBOOKS AND THEIR USERS.....	80
<i>TABLE 39 COMPARISON OF LEADING CATEGORIES OF NOTEBOOKS AND THEIR BASIC FEATURES</i>	80
NOTEBOOK USERS.....	80
Desktop Replacement	81
Mainstream Model.....	81
Thin and Light Models	81
The Ultra-Portable Model	81

A MULTIFACETED MARKET	82
<i>TABLE 40 PROFILE OF CURRENT NOTEBOOK USERS</i>	83
NOTEBOOK APPLICATIONS.....	83
BUSINESS APPLICATIONS	84
Office-Related	84
Industrial	84
Presentations and Graphics	84
Communications	84
ENTERTAINMENT APPLICATIONS	85
Gaming.....	85
Media Center	85
<i>TABLE 41 TYPICAL APPLICATIONS OF A MOBILE NOTEBOOK</i>	
<i>COMPUTER</i>	86
NOTEBOOK MARKET ASSESSMENT	86
RECENT NOTEBOOK DEMAND	86
<i>TABLE 42 GLOBAL SHIPMENTS OF NOTEBOOKS COMPARED WITH</i>	
<i>DESKTOP COMPUTERS, THROUGH 2005 (MILLION UNITS)</i>	87
MARKET DRIVERS.....	87
Future Drivers	88
THE NOTEBOOK MOBILE COMPUTING MARKET BY USER.....	89
<i>TABLE 43 PROFILE OF THE GLOBAL MOBILE COMPUTER</i>	
<i>NOTEBOOK MARKET, BY USER, 2005 (MILLION UNITS)</i>	89
FORECAST ASSUMPTIONS	90
<i>TABLE 44 FORECAST ASSUMPTIONS—NOTEBOOK COMPUTERS IN</i>	
<i>THE GLOBAL MOBILE COMPUTING MARKET</i>	91
<i>TABLE 45 GLOBAL PROJECTIONS OF NOTEBOOK COMPUTERS</i>	
<i>COMPARED WITH DESKTOP COMPUTERS, THROUGH 2011</i>	
<i>(MILLION UNITS)</i>	92
FORECAST—SHIPMENTS OF NOTEBOOKS FOR MOBILE	
COMPUTING.....	92
<i>TABLE 46 FORECAST—GLOBAL SHIPMENTS OF NOTEBOOK</i>	
<i>COMPUTERS FOR MOBILE COMPUTING, THROUGH 2011</i>	
<i>(MILLION UNITS)</i>	92
FORECAST—VALUE OF NOTEBOOK SHIPMENTS.....	93
<i>TABLE 47 FORECAST—VALUE OF GLOBAL NOTEBOOK</i>	
<i>SHIPMENTS FOR MOBILE COMPUTING, THROUGH 2011</i>	
<i>(MILLION UNITS)</i>	93
<i>FIGURE 3 VALUE OF GLOBAL NOTEBOOK SHIPMENTS FOR</i>	
<i>MOBILE COMPUTING, 2005-2011 (MILLION UNITS)</i>	94
FORECAST—SHIPMENTS BY USER.....	94
<i>TABLE 48 FORECAST—GLOBAL SHIPMENTS OF NOTEBOOKS FOR</i>	
<i>MOBILE COMPUTING BY TYPE OF USER, THROUGH 2011</i>	
<i>(MILLION UNITS)</i>	95

<i>FIGURE 4 GLOBAL NOTEBOOK SHIPMENTS BY TYPE OF USER, 2005-2011 (MILLION UNITS)</i>	96
FORECAST—SHIPMENTS BY APPLICATION	96
<i>TABLE 49 GLOBAL NOTEBOOK SHIPMENTS BY APPLICATION (MILLION UNITS)</i>	97
PERSPECTIVE: THE NOTEBOOK IN MOBILE COMPUTING	97
Perspective: The Notebook ... (Continued)	98
THE TABLET PC MARKET	99
TABLET PC HISTORY	100
<i>TABLE 50 A BRIEF HISTORY OF THE TABLET PC</i>	100
KEY ADVANCES IMPACTING THE TABLET'S MOBILITY	101
Windows XP Tablet PC Edition Improves Performance	101
Pen Input and Gestures	101
Improved Input Panel	101
Integrate Ink and Microsoft Office Programs	102
Speech Recognition	102
Intel Centrino Duo Mobile Technology	102
<i>TABLE 51 KEY BENEFITS OF INTEL MOBILE TECHNOLOGY IN A TABLET PC</i>	103
TABLET PCS AND THEIR USERS	103
<i>TABLE 52 COMPARISON OF LEADING TABLET PCS AND THEIR BASIC FEATURES</i>	104
TABLET PC USERS	104
Slate Technology	104
Convertible Technology	105
Hybrid Technology	105
A DIVERSE MARKET	105
<i>TABLE 53 PROFILE OF CURRENT TABLET PC USERS</i>	106
TABLET PC APPLICATIONS	106
PATIENT CARE	106
A Mobile Decision Support System	107
FIELD SALES AND SERVICE	107
MANUFACTURING	108
GOVERNMENT FUNCTIONS	108
RETAILING	109
<i>TABLE 54 TYPICAL APPLICATIONS OF A TABLET PC COMPUTER</i>	109
DIFFERENT FORMATS EXPAND APPLICATIONS	109
Consumer Entertainment	110
TABLET PC MARKET ASSESSMENT	110
RECENT TABLET DEMAND	110
<i>TABLE 55 GLOBAL SHIPMENTS OF TABLET PC COMPUTERS, THROUGH 2005 (MILLION UNITS)</i>	110
MARKET DRIVERS	111
Some Limitations	112

THE TABLET PC MOBILE COMPUTING MARKET BY USER.....	112
TABLE 56 PROFILE OF THE GLOBAL TABLET PC MARKET BY USER, 2005 (MILLION UNITS).....	113
FORECAST ASSUMPTIONS	113
TABLE 57 FORECAST ASSUMPTIONS—TABLET PCS IN THE GLOBAL MOBILE COMPUTING MARKET	114
TABLE 58 GLOBAL PROJECTIONS OF TABLET PCS, THROUGH 2011 (MILLION UNITS)	115
FORECAST—SHIPMENTS OF TABLETS FOR MOBILE COMPUTING.....	115
TABLE 59 FORECAST—GLOBAL SHIPMENTS OF TABLET PCS BY TYPE FOR MOBILE COMPUTING, THROUGH 2011 (MILLION UNITS).....	115
FORECAST—VALUE OF TABLET PC SHIPMENTS	116
TABLE 60 FORECAST—VALUE OF GLOBAL TABLET PC SHIPMENTS FOR MOBILE COMPUTING, THROUGH 2011 (MILLION UNITS)	117
FIGURE 5 VALUE OF GLOBAL TABLET PC SHIPMENTS, 2005-2011 (MILLION UNITS).....	117
FORECAST—SHIPMENTS BY USER	118
TABLE 61 FORECAST—GLOBAL SHIPMENTS OF TABLET PCS FOR MOBILE COMPUTING BY TYPE OF USER, THROUGH 2011 (MILLION UNITS).....	119
FIGURE 6 GLOBAL TABLET PC SHIPMENTS BY TYPE OF USER, 2005-2011 (MILLION UNITS).....	119
FORECAST—SHIPMENTS BY APPLICATION	120
TABLE 62 GLOBAL TABLET PC SHIPMENTS BY APPLICATION, THROUGH 2011 (MILLION UNITS).....	120
PERSPECTIVE: THE TABLET PC IN MOBILE COMPUTING.....	121
THE HANDHELD MOBILE MARKET.....	122
THE HANDHELD MOBILE MARKET	122
HANDHELD COMPUTER HISTORY	123
TABLE 63 A BRIEF HISTORY OF HANDHELD COMPUTERS.....	123
TABLE 63 (CONTINUED).....	124
KEY TECHNICAL ADVANCES SUPPORTING HANDHELD MOBILITY	124
Microsoft Windows Mobile Plays a Key Role	125
Supports New Generation of Products.....	125
Direct “Push” Technology	125
TABLE 64 SPECIFIC BUSINESS FEATURES OF WINDOWS MOBILE FOR HANDHELD DEVICES.....	126
Improved Displays.....	126
TABLE 65 COMPARISON OF PEN TILE RGBW BRIGHTNESS WITH RGB STRIPE DISPLAY	127

Significance for Mobile Computing	128
HANDHELD DEVICES AND THEIR USERS	128
PRODUCT DEFINITION	128
PDAs.....	128
Ultra-Mobile PCs	129
<i>TABLE 66 COMPARISON OF LEADING HANDHELD DEVICES AND THEIR BASIC FEATURES</i>	<i>129</i>
HANDHELD USERS	130
Tethered to the Office for Mail and Messaging	130
Computing Away from the Desktop.....	130
Consumer Handheld Activity.....	131
A GROWING MARKET	131
<i>TABLE 67 PROFILE OF CURRENT HANDHELD USERS</i>	<i>132</i>
HANDHELD APPLICATIONS	132
BUSINESS APPLICATIONS	133
Office-Related	133
Industrial.....	133
Communications	133
CONSUMER/BUSINESS APPLICATIONS	134
Global Positioning (GPS).....	134
<i>TABLE 68 TYPICAL APPLICATIONS OF A HANDHELD COMPUTER.....</i>	<i>134</i>
DIFFERENT GOALS EXPAND APPLICATIONS	135
Handhelds Get a Different Look	135
Consumer Entertainment.....	135
HANDHELD MARKET ASSESSMENT.....	135
RECENT HANDHELD DEMAND	136
<i>TABLE 69 GLOBAL SHIPMENTS OF HANDHELD COMPUTERS, THROUGH 2005 (MILLION UNITS).....</i>	<i>136</i>
Ultra-Mobile PC Demand.....	136
MARKET DRIVERS.....	137
Future Drivers	137
An Unusual Application Fuels Growth	138
THE HANDHELD MOBILE COMPUTING MARKET BY USER	139
<i>TABLE 70 PROFILE OF THE GLOBAL MOBILE HANDHELD MARKET BY USER, 2005 (MILLION UNITS).....</i>	<i>139</i>
FORECAST ASSUMPTIONS	140
<i>TABLE 71 FORECAST ASSUMPTIONS—HANDHELD COMPUTERS IN THE GLOBAL MOBILE COMPUTING MARKET.....</i>	<i>141</i>
<i>TABLE 72 GLOBAL SHIPMENTS OF HANDHELD COMPUTERS, 2005–2011 (MILLION UNITS).....</i>	<i>142</i>
Ultra-Mobile PC Growth	142
FORECAST—SHIPMENTS OF HANDHELD MOBILE COMPUTERS	142

TABLE 73 FORECAST—GLOBAL SHIPMENTS OF HANDHELD DEVICES FOR MOBILE COMPUTING, THROUGH 2011 (MILLION UNITS).....	143
FORECAST—VALUE OF HANDHELD SHIPMENTS	144
TABLE 74 FORECAST—VALUE OF GLOBAL HANDHELD SHIPMENTS FOR MOBILE COMPUTING, THROUGH 2011 (\$ MILLIONS).....	144
FIGURE 7 VALUE OF HANDHELD COMPUTER SHIPMENTS, 2005-2011 (\$ MILLIONS).....	145
FORECAST—SHIPMENTS OF HANDHELD COMPUTER BY USER.....	145
TABLE 75 FORECAST—GLOBAL SHIPMENTS OF HANDHELDS FOR MOBILE COMPUTING BY TYPE OF USER, THROUGH 2011 (MILLION UNITS).....	146
FIGURE 8 GLOBAL HANDHELD COMPUTER SHIPMENTS BY TYPE OF USER, 2005-2011 (MILLION UNITS).....	147
FORECAST—SHIPMENTS BY APPLICATION	148
TABLE 76 HANDHELD COMPUTER SHIPMENTS BY TYPE OF APPLICATION THROUGH 2011 (MILLION UNITS).....	148
PERSPECTIVE: THE HANDHELD DEVICE IN MOBILE COMPUTING.....	149
THE SMARTPHONE MARKET	150
SMARTPHONE HISTORY.....	151
TABLE 77 HISTORY OF THE SMARTPHONE.....	151
KEY TECHNICAL ADVANCES SUPPORTING SMARTPHONE MOBILITY	152
WiFi for Smartphones	152
WiMAX for Smartphones	152
Expansion of 3 rd Generation Technology.....	153
TABLE 78 ADVANTAGES OF 3G TECHNOLOGY FOR MOBILE COMPUTING.....	153
3G Poised to Enter Growth Markets.....	153
Specialized Software for Smartphones	154
TABLE 79 BENEFITS OF SPECIALIZED TRAFFIC APPLICATION PROGRAM ON A SMARTPHONE	155
SMARTPHONES AND THEIR USERS.....	155
TABLE 80 COMPARISON OF LEADING SMARTPHONES AND THEIR BASIC FEATURES	156
SMARTPHONE USERS.....	156
Using a Multifunctional Device	156
Using Redundant Devices	157
Looking for Multimedia Applications	158
SMARTPHONES REPRESENT A GROWING MARKET	158
TABLE 81 PROFILE OF CURRENT SMARTPHONE USERS	159

SMARTPHONE APPLICATIONS	159
BASIC COMMUNICATIONS	159
BUSINESS RELATED.....	160
A Mobile Office.....	160
Industrial Monitoring.....	160
MULTIMEDIA	160
Gaming.....	160
Digital Photography	161
CONSUMER/BUSINESS APPLICATIONS	161
Global Positioning (GPS).....	161
Home Office Applications.....	161
<i>TABLE 82 TYPICAL APPLICATIONS OF A SMARTPHONE MOBILE</i>	
<i>COMPUTER</i>	162
PLANS TO EXPAND APPLICATIONS	162
Security Getting Attention.....	162
Portable, Wireless Keyboards Improve Productivity	163
SMARTPHONE MARKET ASSESSMENT	163
RECENT SMARTPHONE DEMAND	163
<i>TABLE 83 GLOBAL SHIPMENTS OF CELL PHONES AND</i>	
<i>SMARTPHONES THROUGH 2005 (MILLION UNITS)</i>	164
MARKET DRIVERS.....	164
Is a Market Slowdown Coming?.....	165
The Search for Expanding Markets	166
The Replacement Market	166
3G Projections Separate from All Mobile Phones.....	167
<i>TABLE 84 MITIGATING FACTORS IN LEVELING OF THE MOBILE</i>	
<i>MARKET</i>	167
THE SMARTPHONE MARKET BY USER	167
<i>TABLE 85 PROFILE OF THE GLOBAL SMARTPHONE MARKET, BY</i>	
<i>USER, 2005 (MILLION UNITS)</i>	168
FORECAST ASSUMPTIONS	168
<i>TABLE 86 FORECAST ASSUMPTIONS—SMARTPHONES IN THE</i>	
<i>GLOBAL MOBILE COMPUTING MARKET</i>	169
<i>TABLE 87 GLOBAL SHIPMENTS OF CELL PHONES AND</i>	
<i>SMARTPHONES, THROUGH 2011 (MILLION UNITS)</i>	170
FORECAST—SHIPMENTS OF SMARTPHONES	170
<i>TABLE 88 FORECAST—GLOBAL SHIPMENTS OF SMARTPHONES</i>	
<i>FOR MOBILE COMPUTING, THROUGH 2011 (MILLION UNITS)</i>	170
FORECAST—VALUE OF SMARTPHONE SHIPMENTS	171
<i>TABLE 89 FORECAST—VALUE OF GLOBAL SMARTPHONE</i>	
<i>SHIPMENTS FOR MOBILE COMPUTING, THROUGH 2011 (\$</i>	
<i>MILLIONS)</i>	172
<i>FIGURE 9 VALUE OF GLOBAL SHIPMENTS OF SMARTPHONES</i>	
<i>FOR MOBILE COMPUTING (\$ MILLIONS)</i>	172

FORECAST—SHIPMENTS OF SMARTPHONES BY USER.....	173
<i>TABLE 90 FORECAST—GLOBAL SHIPMENTS OF SMARTPHONES FOR MOBILE COMPUTING BY TYPE OF USER, THROUGH 2011 (MILLION UNITS)</i>	<i>173</i>
<i>FIGURE 10 GLOBAL SMARTPHONE COMPUTER SHIPMENTS BY TYPE OF USER 2005-2011 (MILLION UNITS)</i>	<i>174</i>
FORECAST—SHIPMENTS BY APPLICATION	175
<i>TABLE 91 SMARTPHONE SHIPMENTS BY TYPE OF APPLICATION, THROUGH 2011, (MILLION UNITS)</i>	<i>175</i>
PERSPECTIVE: THE SMARTPHONE IN MOBILE COMPUTING.....	176