

RESEARCH REPORT



RESPIRATORY INFECTION DIAGNOSTIC MARKETS

BY TECHNOLOGY, PLEX, PLACE, PRODUCT AND BY REGION WITH
EXECUTIVE AND CONSULTANT GUIDES 2022-2026





Howe Sound Research is a market research and consulting company based in Vancouver, British Columbia, Canada. In our spare time we like to sail in a large body of water nearby called Howe Sound. We publish market research reports that address scientific industries with an emphasis on Biotechnology and Clinical Diagnostic markets. We consider ourselves experts in these areas.

We approach market research differently than other companies. At any one time we have a limited number of reports, and we update them frequently, sometimes several times a year. Our reports are prepared by people who understand the industry and have worked and studied in the area. This contrasts with the many research mills who produce canned reports on the Handbag market one day and the XRay market the next.

Our intellectual property is encryption protected. If you have issues with this or would like to upgrade to a corporate license that is not encrypted, please contact us at the email above.

Please feel free to contact us if you have any questions. We believe in customer service and are more than willing to provide after sales assistance and custom data.

All Rights Reserved. This document contains copyrighted intellectual property. No part of it may be circulated, copied, quoted, or otherwise reproduced without the approval of Howe Sound Research.

Please respect our intellectual property and do not distribute this document beyond the terms of your license.

Table of Contents

| | | |
|-------|---|----|
| 1 | Market Guides | 24 |
| 1.1 | Situation Analysis | 25 |
| 1.2 | Guide for Executives, Marketing, Sales and Business Development Staff | 27 |
| 1.3 | Guide for Management Consultants and Investment Advisors | 28 |
| 2 | Introduction and Market Definition | 29 |
| 2.1 | What are Respiratory Infections?..... | 30 |
| 2.2 | The Role of Diagnosis & Treatment..... | 34 |
| 2.3 | Market Definition | 35 |
| 2.3.1 | Revenue Market Size | 35 |
| 2.4 | Methodology | 37 |
| 2.4.1 | Methodology | 37 |
| 2.4.2 | Sources | 37 |
| 2.4.3 | Authors..... | 38 |
| 2.5 | Perspective: Healthcare and the IVD Industry | 39 |
| 2.5.1 | Global Healthcare Spending | 39 |
| 2.5.2 | Spending on Diagnostics | 41 |
| 2.5.3 | Important Role of Insurance for Diagnostics..... | 42 |
| 3 | Market Overview | 43 |
| 3.1 | Players in a Dynamic Market | 44 |

| | |
|--|----|
| 3.1.1 Academic Research Lab..... | 46 |
| 3.1.2 Diagnostic Test Developer..... | 46 |
| 3.1.3 Instrumentation Supplier | 47 |
| 3.1.4 Distributor and Reagent Supplier | 47 |
| 3.1.5 Independent Testing Lab..... | 48 |
| 3.1.6 Public National/regional lab | 48 |
| 3.1.7 Hospital lab..... | 49 |
| 3.1.8 Physician Office Labs | 49 |
| 3.1.9 Audit Body | 50 |
| 3.1.10 Certification Body | 50 |
| 3.2 Respiratory Infections..... | 52 |
| 3.2.1 Upper vs. Lower - Marketing Implications | 52 |
| 3.2.2 Understanding the Role of Pneumonia | 54 |
| 3.2.3 Bacterial Infections | 56 |
| 3.2.3.1 Streptococcal Infections | 56 |
| 3.2.3.2 Acute Otitis Media | 56 |
| 3.2.3.3 Bacterial Rhinosinusitis | 57 |
| 3.2.3.4 Diphtheria..... | 57 |
| 3.2.3.5 Pneumococcal Pneumonia | 58 |
| 3.2.3.6 Haemophilus Pneumonia | 59 |
| 3.2.3.7 Mycoplasma Pneumonia (Walking Pneumonia) | 60 |
| 3.2.3.8 Chlamydial Pneumonias and Psittacosis | 60 |

| | |
|--|----|
| 3.2.3.9 Health Care-Associated Pneumonia | 61 |
| 3.2.3.10 Pseudomonas Pneumonia..... | 62 |
| 3.2.3.11 Legionnaires Disease | 65 |
| 3.2.4 Tuberculosis – A Special Case | 68 |
| 3.2.5 Viral Infections..... | 72 |
| 3.2.5.1 The Common Cold..... | 72 |
| 3.2.5.2 Influenza | 73 |
| 3.2.5.3 Viral Pneumonia | 79 |
| 3.2.5.4 SARS and MERS | 80 |
| 3.2.5.5 Measles (Rubeola)..... | 81 |
| 3.2.5.6 Rubella (German Measles)..... | 82 |
| 3.2.5.7 Chickenpox and Shingles | 83 |
| 3.2.6 Fungal and Other Pathogens..... | 87 |
| 3.2.6.1 Histoplasmosis | 87 |
| 3.2.6.2 Coccidioidomycosis..... | 88 |
| 3.2.6.3 Blastomycosis | 89 |
| 3.2.6.4 Mucormycosis | 90 |
| 3.2.6.5 Aspergillosis | 91 |
| 3.2.6.6 Pneumocystis Pneumonia | 92 |
| 3.2.6.7 Cryptococcosis..... | 92 |
| 3.3 Diagnostics – A Changing Role | 95 |
| 3.3.1 Historical Practice..... | 95 |

| | |
|--|-----|
| 3.3.2 Current Diagnostics | 96 |
| 3.3.3 The Multiplex Vector..... | 98 |
| 3.3.4 Future Diagnostics – The Question of When and Where | 99 |
| 3.3.5 Respiratory Infection Diagnostics – The Destination..... | 99 |
| 3.3.6 Diagnostics as Defensive Weapons..... | 100 |
| 3.4 COVID-19 | 101 |
| 3.4.1 Signs and symptoms | 103 |
| 3.4.2 Transmission | 105 |
| 3.4.3 Diagnosis..... | 106 |
| 3.4.4 Prevention | 108 |
| 3.4.5 Management..... | 109 |
| 3.4.6 Prognosis..... | 111 |
| 3.5 Pandemic Diagnostics..... | 112 |
| 3.5.1 Risk Management – Spark and Spread..... | 113 |
| 3.5.2 Dx Technology – Nucleic Acid Based..... | 114 |
| 3.5.3 Dx Technology - Immunoassay & Serology..... | 115 |
| 3.5.4 Time to Market and Preparedness Issues | 116 |
| 3.5.5 Unrecognized Role of Multiplex in Pandemic Mangement | 117 |
| 4 Market Trends..... | 119 |
| 4.1 Factors Driving Growth | 120 |
| 4.1.1 Syndromic Multiplexing | 120 |
| 4.1.2 T.A.T..... | 121 |

| | | |
|-------|--|-----|
| 4.1.3 | Antimicrobial Resistance Movement..... | 121 |
| 4.1.4 | Pandemic Mitigation..... | 121 |
| 4.1.5 | An Aging at Risk Population | 121 |
| 4.2 | Factors Limiting Growth | 123 |
| 4.2.1 | The Cost Curve..... | 123 |
| 4.2.2 | Regulation and coverage | 124 |
| 4.2.3 | Laissez Faire | 124 |
| 4.3 | Instrumentation and Automation..... | 125 |
| 4.3.1 | The Shrinking Multiplexing Machine..... | 125 |
| 4.3.2 | Bioinformatics Networking and Anonymous Reporting | 125 |
| 4.4 | Diagnostic Technology Development..... | 127 |
| 4.4.1 | The Key Role of Time to Result | 128 |
| 4.4.2 | Single Cell Genomics Changes the Picture | 128 |
| 4.4.3 | Pharmacogenomics Blurs Diagnosis and Treatment | 129 |
| 4.4.4 | Pathogen Identification – A Projected Timetable of the Future..... | 130 |
| 5 | Respiratory Infection Diagnostics Recent Developments | 131 |
| 5.1 | Recent Developments – Importance and How to Use This Section | 132 |
| 5.1.1 | Importance of These Developments | 132 |
| 5.1.2 | How to Use This Section | 132 |
| 5.2 | Genomtec Gets CE-IVD Mark for POC Respiratory Disease Test | 132 |
| 5.3 | FDA Issues First EUA for Non-Prescription COVID-19/Flu/RSV Test | 133 |
| 5.4 | “Diagnostics for the Real World” Plans Third-Generation POC Platform | 134 |

| | | |
|------|--|-----|
| 5.5 | Cue Health Targets DTC Market | 138 |
| 5.6 | Investors Skeptical of Ortho Clinical Diagnostics Acquisition by Quidel..... | 142 |
| 5.7 | Sense Biodetection to Debut Instrument-Free POC MDx..... | 146 |
| 5.8 | LGC Develops 'Ultra-High-Throughput' COVID Workflow | 150 |
| 5.9 | Cue Health Files for IPO for up to \$100M | 154 |
| 5.10 | QuantuMDx Developing Multiplex System, Syndromic Panels | 156 |
| 5.11 | Bio-Rad Laboratories Gets CE Mark for Respiratory RT-PCR Assay Kit..... | 162 |
| 5.12 | BforCure Preparing Multiple Panels for PoC qPCR Platform | 163 |
| 5.13 | Angstrom Bio Raises \$3M in Private Financing..... | 167 |
| 5.14 | Test for Them All | 169 |
| 5.15 | Hologic Banking on MDx Acquisitions | 169 |
| 5.16 | Pandemic Pushes Handheld qPCR Devices Closer to Commercialization.... | 176 |
| 5.17 | Talis Biomedical 2020 Revenues Rise Sharply | 184 |
| 5.18 | Luminex to Develop Covid/Flu/RSV Test | 185 |
| 5.19 | Becton Dickinson Charts Transition of COVID Diagnostics..... | 187 |
| 5.20 | MiRxes Receives Approval for Multiplex Covid/Flu Test | 190 |
| 5.21 | New Silicon-Based Test for Infectious Disease Screening | 191 |
| 5.22 | GenMark to Meet Demand for Respiratory Panel..... | 197 |
| 5.23 | Tempus Announces COVID-19 Testing, Data Initiative..... | 201 |
| 5.24 | Abacus Diagnostica Readyng Multiplex Respiratory Test | 205 |
| 5.25 | Qiagen Acquires NeuMoDx Molecular..... | 207 |
| 5.26 | Companies Shift to Multiplex Tests for SARS-CoV-2, Influenza | 208 |

| | | |
|------|--|-----|
| 5.27 | Novacyt Gets CE Mark for Coronavirus, Flu, RSV Combo Panel..... | 218 |
| 5.28 | Cepheid Debuts 10-Color Technology With New Tuberculosis Test..... | 218 |
| 5.29 | BioMérieux's Pneumonia Panel Could Improve Care | 223 |
| 5.30 | Mammoth Biosciences Announces CRISPR-Based C19 Diagnostic..... | 229 |
| 5.31 | Genetic Signatures Gets CE Mark for C19 Molecular Test..... | 231 |
| 5.32 | Qiagen Respiratory Panel with C19 Receives CE Mark..... | 232 |
| 5.33 | Lumos Diagnostics Closes \$15M Series A Funding | 234 |
| 5.34 | Fusion Genomics to Assess NGS Respiratory Tract Assay | 234 |
| 5.35 | C19 Test Development by Co-Diagnostics..... | 236 |
| 5.36 | Rapid Diagnostics Completes Purchase of Enigma Diagnostics | 237 |
| 5.37 | Flu-Like Epidemic Could Kill 80 Mn Globally | 239 |
| 5.38 | Startup developing AI for TB detection..... | 242 |
| 5.39 | Nipah Virus a Global Threat | 244 |
| 6 | Profiles of Key Players | 247 |
| 6.1 | Abacus Diagnostica | 248 |
| 6.2 | Abbott Laboratories..... | 249 |
| 6.3 | Accelerate Diagnostics | 251 |
| 6.4 | Access Bio | 252 |
| 6.5 | Ador Diagnostics | 253 |
| 6.6 | ADT Biotech | 254 |
| 6.7 | Akronni Biosystems | 255 |
| 6.8 | Altona Diagnostics | 257 |

| | | |
|------|--|-----|
| 6.9 | Alveo Technologies..... | 258 |
| 6.10 | Anatolia Geneworks | 259 |
| 6.11 | Antelope Dx | 260 |
| 6.12 | Applied BioCode..... | 262 |
| 6.13 | Assurance Scientific Laboratories..... | 264 |
| 6.14 | Aureum Diagnostics | 265 |
| 6.15 | Aus Diagnostics | 266 |
| 6.16 | Beckman Coulter Diagnostics | 267 |
| 6.17 | Becton, Dickinson and Company | 268 |
| 6.18 | Binx Health | 270 |
| 6.19 | Biocartis | 272 |
| 6.20 | BioFire Diagnostics (bioMérieux) | 273 |
| 6.21 | bioMérieux Diagnostics..... | 275 |
| 6.22 | Bio-Rad Laboratories, Inc. | 278 |
| 6.23 | Bosch Healthcare Solutions GmbH..... | 281 |
| 6.24 | Celemics | 282 |
| 6.25 | Cepheid (Danaher) | 283 |
| 6.26 | Chembio | 285 |
| 6.27 | Co Diagnostics | 287 |
| 6.28 | Credo Diagnostics Biomedical | 288 |
| 6.29 | Cue Health..... | 289 |
| 6.30 | Curetis N.V. / Curetis GmbH..... | 291 |

| | | |
|------|-----------------------------|-----|
| 6.31 | Detect | 293 |
| 6.32 | Diagenode Diagnostics..... | 294 |
| 6.33 | Diascopic | 295 |
| 6.34 | Diasorin S.p.A..... | 296 |
| 6.35 | Enzo Biochem | 299 |
| 6.36 | Eurofins Scientific | 301 |
| 6.37 | Fluxergy | 304 |
| 6.38 | Fulgent Genetics | 305 |
| 6.39 | Fusion Genomics..... | 306 |
| 6.40 | Genetic Signatures..... | 308 |
| 6.41 | GenMark Dx (Roche) | 309 |
| 6.42 | Hibergene Diagnostics | 311 |
| 6.43 | Hologic | 312 |
| 6.44 | Immunexpress | 315 |
| 6.45 | Inflamatix | 316 |
| 6.46 | Invetech | 317 |
| 6.47 | Janssen Diagnostics | 318 |
| 6.48 | Karius | 319 |
| 6.49 | Lexagene | 321 |
| 6.50 | LightDeck Diagnostics | 322 |
| 6.51 | Luminex Corp..... | 323 |
| 6.52 | Lumos Diagnostics..... | 325 |

| | | |
|------|------------------------------------|-----|
| 6.53 | Mammoth Biosciences | 326 |
| 6.54 | Maxim Biomedical | 327 |
| 6.55 | Meridian Bioscience..... | 328 |
| 6.56 | Mesa Biotech (Thermo Fisher) | 330 |
| 6.57 | Millipore Sigma | 331 |
| 6.58 | Mindray | 332 |
| 6.59 | Mobidiag (Hologic)..... | 333 |
| 6.60 | Mologic | 334 |
| 6.61 | Nanomix | 335 |
| 6.62 | Operon..... | 336 |
| 6.63 | Oxford Nanopore Technologies | 337 |
| 6.64 | Panagene | 339 |
| 6.65 | Perkin Elmer..... | 340 |
| 6.66 | Prenetics..... | 342 |
| 6.67 | Primerdesign (Novacyt) | 343 |
| 6.68 | Prominex..... | 344 |
| 6.69 | Qiagen | 346 |
| 6.70 | QuantuMDx | 348 |
| 6.71 | Quidel..... | 349 |
| 6.72 | Roche Molecular Diagnostics | 351 |
| 6.73 | Seegene..... | 353 |
| 6.74 | Siemens Healthineers | 355 |

| | | |
|-------|---|-----|
| 6.75 | Sona Nanotech | 358 |
| 6.76 | SpeeDx | 360 |
| 6.77 | T2 Biosystems..... | 361 |
| 6.78 | Talis Biomedical | 363 |
| 6.79 | Thermo Fisher Scientific Inc..... | 364 |
| 6.80 | Veramarx | 367 |
| 6.81 | Veredus Laboratories..... | 368 |
| 6.82 | Visby Medical | 369 |
| 6.84 | XCR Diagnostics | 371 |
| 6.85 | Zhejiang Orient Gene Biotech | 372 |
| 7 | The Global Market for Respiratory Infection Diagnostics | 374 |
| 7.1 | Global Market by Country | 375 |
| 7.1.1 | Table – Global Market by Country..... | 375 |
| 7.1.2 | Chart - Global Market by Country | 376 |
| 7.2 | Global Market by Technology - Overview | 377 |
| 7.2.1 | Table – Global Market by Technology | 377 |
| 7.2.2 | Chart – Global Market by Technology – Base/End Year Comparison..... | 378 |
| 7.2.3 | Chart – Global Market by Technology – Base Year..... | 379 |
| 7.2.4 | Chart – Global Market by Technology – End Year..... | 380 |
| 7.2.5 | Chart – Global Market by Technology – Share by Year | 381 |
| 7.2.6 | Chart – Global Market by Technology – Segment Growth..... | 382 |
| 7.3 | Global Market by Plex - Overview..... | 383 |

| | | |
|-------|---|-----|
| 7.3.1 | Table – Global Market by Plex..... | 383 |
| 7.3.2 | Chart – Global Market by Plex – Base/End Year Comparison | 384 |
| 7.3.3 | Chart – Global Market by Plex – Base Year | 385 |
| 7.3.4 | Chart – Global Market by Plex – End Year..... | 386 |
| 7.3.5 | Chart – Global Market by Plex – Share by Year | 387 |
| 7.3.6 | Chart – Global Market by Plex – Segment Growth..... | 388 |
| 7.4 | Global Market by Place - Overview..... | 389 |
| 7.4.1 | Table – Global Market by Place..... | 389 |
| 7.4.2 | Chart – Global Market by Place – Base/End Year Comparison | 390 |
| 7.4.3 | Chart – Global Market by Place – Base Year | 391 |
| 7.4.4 | Chart – Global Market by Place – End Year..... | 392 |
| 7.4.5 | Chart – Global Market by Place – Share by Year | 393 |
| 7.4.6 | Chart – Global Market by Place – Segments Growth..... | 394 |
| 7.5 | Global Market by Product - Overview..... | 395 |
| 7.5.1 | Table – Global Market by Product..... | 395 |
| 7.5.2 | Chart – Global Market by Product – Base/End Year Comparison | 396 |
| 7.5.3 | Chart – Global Market by Product – Base Year | 397 |
| 7.5.4 | Chart – Global Market by Product – End Year..... | 398 |
| 7.5.5 | Chart – Global Market by Product – Share by Year..... | 399 |
| 7.5.6 | Chart – Global Market by Product – Segments Growth..... | 400 |
| 8 | Global Respiratory Infection Diagnostic Markets – By Technology | 401 |
| 8.1 | Microbiology..... | 402 |

| | | |
|-------|---|-----|
| 8.1.1 | Table Microbiology – by Country | 402 |
| 8.1.2 | Chart - Microbiology Growth | 403 |
| 8.2 | PCR | 404 |
| 8.2.1 | Table PCR – by Country | 404 |
| 8.2.2 | Chart - PCR Growth..... | 405 |
| 8.3 | NGS | 406 |
| 8.3.1 | Table NGS – by Country | 406 |
| 8.3.2 | Chart - NGS Growth | 407 |
| 8.4 | Immunoassay/Other | 408 |
| 8.4.1 | Table Immunoassay – by Country | 408 |
| 8.4.2 | Chart – Immunoassay/Other Growth | 409 |
| 8.5 | C19 Singleplex | 410 |
| 8.5.1 | Table C19splex – by Country | 410 |
| 8.5.2 | Chart – C19splex Growth | 411 |
| 9 | Global Respiratory Infection Diagnostic Markets – by Plex | 412 |
| 9.1 | C19 Single Plex..... | 413 |
| 9.1.1 | Chart – C19 Single Plex Growth..... | 414 |
| 9.2 | Singleplex | 415 |
| 9.2.1 | Table Singleplex – by Country | 415 |
| 9.2.2 | Chart - Singleplex Growth..... | 416 |
| 9.3 | Duplex/Triplex | 417 |
| 9.3.1 | Table Duplex/Triplex – by Country | 417 |

| | | |
|--------|--|-----|
| 9.3.2 | Chart - Duplex/Triplex Growth..... | 418 |
| 9.4 | Multiplex Technology..... | 419 |
| 9.4.1 | Table Multiplex – by Country | 419 |
| 9.4.2 | Chart - Multiplex Growth..... | 420 |
| 10 | Global Respiratory Infection Diagnostic Markets – by Place | 421 |
| 10.1 | Hospital Lab | 422 |
| 10.1.1 | Table Hospital Lab – by Country..... | 422 |
| 10.1.2 | Chart - Hospital Lab Growth | 423 |
| 10.2 | Outpatient Lab | 424 |
| 10.2.1 | Table Outpatient Lab – by Country | 424 |
| 10.2.2 | Chart - Outpatient Lab Growth..... | 425 |
| 10.3 | POC | 426 |
| 10.3.1 | Table POC – by Country | 426 |
| 10.3.2 | Chart - POC Growth | 427 |
| 10.4 | Other Technology | 428 |
| 10.4.1 | Chart - Other Growth | 429 |
| 11 | Global Respiratory Infection Diagnostic Markets – by Product | 430 |
| 11.1 | Instruments | 431 |
| 11.1.1 | Table Instruments – by Country..... | 431 |
| 11.1.2 | Chart - Instruments Growth | 432 |
| 11.2 | Consumables..... | 433 |
| 11.2.1 | Table Consumables – by Country | 433 |

| | | |
|--------|---|-----|
| 11.2.2 | Chart - Consumables Growth..... | 434 |
| 11.3 | Software & Service | 435 |
| 11.3.1 | Table Software & Service – by Country | 435 |
| 11.3.2 | Chart – Software & Service Growth | 436 |
| 12 | Appendices..... | 437 |
| 12.1 | United States Medicare System: January 2022 Clinical Laboratory Fees Schedule | 438 |

Table of Tables

| | |
|--|-----|
| Table 1 Market Players by Type..... | 45 |
| Table 2 Bacterial Causes of Pneumonia | 55 |
| Table 3 List of Influenza Pandemics | 77 |
| Table 4 Viral Infections of the Respiratory Tract | 86 |
| Table 5 Fungal Infections of the Respiratory Tract | 94 |
| Table 6 Characteristics of Coronavirus Pandemic Infections | 102 |
| Table 7 COVID-19 Symptoms | 104 |
| Table 8 Five Factors Driving Growth | 120 |
| Table 9 Three Factors Limiting Growth..... | 123 |
| Table 10 Key Diagnostic Laboratory Technology Trends..... | 127 |
| Table 11 Long Term Pathogen Identification Timetable | 130 |
| Table 12 - Global Market by Region..... | 375 |
| Table 13 Global Market by Technology | 377 |
| Table 14 Global Market by Plex | 383 |
| Table 15 Global Market by Place | 389 |
| Table 16 Global Market by Product | 395 |
| Table 17 Microbiology by Country..... | 402 |
| Table 18 PCR by Country | 404 |
| Table 19 NGS by Country..... | 406 |

| | |
|--|-----|
| Table 20 Immunoassay/Other by Country | 408 |
| Table 21 C19splex by Country | 410 |
| Table 22 C19 Single Plex by Country | 413 |
| Table 23 Singleplex by Country | 415 |
| Table 24 Duplex/Triplex by Country | 417 |
| Table 25 Multiplex by Country | 419 |
| Table 26 Hospital Lab by Country | 422 |
| Table 27 Outpatient Lab by Country | 424 |
| Table 28 POC by Country | 426 |
| Table 29 Other by Country | 428 |
| Table 30 Instruments by Country | 431 |
| Table 31 Consumables by Country | 433 |
| Table 32 Software & Service by Country | 435 |
| Table 33 2022 Laboratory Fee Schedule | 438 |

Table of Figures

| | |
|---|-----|
| Figure 1 Respiratory Tract Infections | 30 |
| Figure 2 The LRI Mortality Rate Globally | 32 |
| Figure 3 Global Pandemic Pathogen Status | 33 |
| Figure 4 Global Healthcare Spending..... | 40 |
| Figure 5 The Lab Test Pie | 42 |
| Figure 6 The BioFire Respiratory Panel | 53 |
| Figure 7 Pneumonia | 54 |
| Figure 8 Bacterial Infections of the Respiratory Tract..... | 67 |
| Figure 9 The Development Cycle of Tuberculosis | 70 |
| Figure 10 A Flu Epidemic in Europe – Historical Pattern | 79 |
| Figure 11 The Single Multiplex Shift..... | 98 |
| Figure 12 Percentage of World Population Over 65 | 122 |
| Figure 13 Global Market Share Chart | 376 |
| Figure 14 Global Market by Technology – Base vs. End Year | 378 |
| Figure 15 Global Market by Technology Base Year..... | 379 |
| Figure 16 Global Market by Technology End Year | 380 |
| Figure 17 Technology Share by Year | 381 |
| Figure 18 Technology Segments Growth | 382 |
| Figure 19 Plex - Base vs. End Year Segment Shift..... | 384 |

| | |
|---|-----|
| Figure 20 Plex Market Base Year | 385 |
| Figure 21 Plex Market End Year..... | 386 |
| Figure 22 Plex Share by Year | 387 |
| Figure 23 Plex Segments Growth..... | 388 |
| Figure 24 Place - Base vs. End Year | 390 |
| Figure 25 Place Market Base Year | 391 |
| Figure 26 Place Market End Year..... | 392 |
| Figure 27 Place Share by Year | 393 |
| Figure 28 Place Segments Growth..... | 394 |
| Figure 29 Product - Base vs. End Year | 396 |
| Figure 30 Product Market Base Year | 397 |
| Figure 31 Product Market End Year..... | 398 |
| Figure 32 Product Share by Year..... | 399 |
| Figure 33 Product Segments Growth..... | 400 |
| Figure 34 Microbiology Growth..... | 403 |
| Figure 35 PCR Diagnostics Growth..... | 405 |
| Figure 36 NGS Growth..... | 407 |
| Figure 37 Immunoassay/Other Growth | 409 |
| Figure 38 C19splex Growth..... | 411 |
| Figure 39 C19 Single Plex Growth..... | 414 |
| Figure 40 Singleplex Growth | 416 |
| Figure 41 Duplex/Triplex Growth | 418 |

| | |
|---|-----|
| Figure 42 Multiplex Growth | 420 |
| Figure 43 Hospital Lab Growth | 423 |
| Figure 44 Outpatient Lab Growth..... | 425 |
| Figure 45 POC Growth | 427 |
| Figure 46 Other Growth..... | 429 |
| Figure 47 Instruments Growth | 432 |
| Figure 48 Consumables Growth..... | 434 |
| Figure 49 Software & Service Growth | 436 |