

Process Analytical Technology Market, by Technology (Spectroscopy, Chromatography), Measurement (On-line, In-line, At-line), Product & Service (Analyzers, Probes, Sensors), End User (Pharmaceutical Manufacturers, CROs, CDMO)-Global Forecast to 2027

<https://marketpublishers.com/r/P08FD642941EN.html>

Date: October 2022

Pages: 204

Price: US\$ 4,950.00 (Single User License)

ID: P08FD642941EN

Abstracts

The global process analytical technology market is projected to reach USD 6.1 billion by 2027 from USD 3.2 billion in 2022, at a CAGR of 13.8% during the forecast period of 2022 to 2027. growing number of pharmaceutical & biopharmaceutical R&D activities and technological advancements resulting in process optimization are the key factors driving the growth of the market. However, shortage of skilled professionals and high cost for PAT deployment are hindering the market growth.

“The spectroscopy segment to hold the largest share of the market in 2022”

Based on the type of technology, the global PAT market has been classified into five major segments—spectroscopy, chromatography, particle size analysis, capillary electrophoresis, and other technologies. By technology, spectroscopy to hold major market share in 2022. The higher adoption of molecular spectroscopy technologies such as Near Infrared (NIR) spectroscopy, Fourier Transform Infrared (FTIR) spectroscopy, Raman spectroscopy, and Nuclear Magnetic Resonance (NMR) spectroscopy in the quality assessment of pharmaceutical drugs is a major factor contributing to the growth of this segment.

“The services segment is projected to register the highest CAGR during the forecast period”

Process analytical technology services are offered to end users for better

implementation of the Quality by Design (QbD) framework. These services include consulting on PAT adoption and software services, regulatory framework, and process management. The services segment is expected to grow with the fastest growth rate, owing to the increasing demand for consulting and software services required for developing PAT models and implementing PAT strategies in the pharmaceutical manufacturing process.

“In terms of application, small-molecule segment held the largest share of the market in 2021”

Based on application, the process analytical technology market is broadly segmented into small molecules, large molecules, manufacturing applications, and other applications. The small-molecule segment commanded the largest share of the market in 2021. Stringent drug development and safety guidelines to improve the efficiency and effectiveness of the pharmaceutical manufacturing process, growing pharmaceutical research activities, and growth in pharmaceutical production to meet the rising demand for medicines are the major factors driving the growth of the segment.

“The market in the APAC region is expected to witness the highest growth during the forecast period.”

China, India, and Japan are the key markets in the Asia Pacific. Strategic expansions by key market players in emerging Asian countries; the growing Contract Research and Manufacturing Services (CRAMs) industry in India, Korea, Singapore, and China; the large biopharmaceutical industry in Singapore; and conferences, exhibitions, and meetings on analytical instruments are some key factors fueling the growth of the Asia Pacific market.

A breakdown of the primary participants referred to for this report is provided below:

By Company Type: Tier 1–30%, Tier 2–42%, and Tier 3– 28%

By Designation: C-level–10%, Managers–76%, and Others–14%

By Region: North America–40%, Europe–30%, Asia Pacific–22%, Latin America–6%, and the Middle East & Africa–2%

The prominent players in the process analytical technology market are Thermo Fisher

Scientific, Inc. (US), Danaher Corporation (US), Agilent Technologies, Inc. (US), Shimadzu Corporation (Japan), Waters Corporation (US), Bruker Corporation (US), Emerson Electric Co. (US), ABB Ltd. (Switzerland), PerkinElmer, Inc. (US), Mettler-Toledo International Inc. (US), and Carl Zeiss AG (Germany), among others.

Research Coverage

This report studies the process analytical technology market based on technology, measurement, product & service, application, and region. It also covers the factors affecting market growth, analyzes the various opportunities and challenges in the market, and provides details of the competitive landscape for market leaders. Furthermore, the report analyzes micromarkets with respect to their individual growth trends and forecasts the revenue of the market segments with respect to five main regions (and the respective countries in these regions).

Reasons to Buy the Report

The report will enable established firms as well as entrants/smaller firms to gauge the pulse of the market, which, in turn, would help them to garner a larger market share. Firms purchasing the report could use one or a combination of the below-mentioned strategies for strengthening their market presence.

This report provides insights on the following pointers:

Market Penetration: Comprehensive information on the product portfolios offered by the top players in the process analytical technology market

Product Development/Innovation: Detailed insights on the upcoming trends, R&D activities, and product launches in the process analytical technology market

Market Development: Comprehensive information on lucrative emerging regions

Market Diversification: Exhaustive information about new products, growing geographies, and recent developments in the process analytical technology market

Competitive Assessment: In-depth assessment of market segments, growth strategies, revenue analysis, and products of the leading market players.

Contents

1 INTRODUCTION

- 1.1 STUDY OBJECTIVES
- 1.2 MARKET DEFINITION
 - 1.2.1 INCLUSIONS & EXCLUSIONS
- 1.3 STUDY SCOPE
- FIGURE 1 MARKETS COVERED
- 1.4 YEARS CONSIDERED
- 1.5 CURRENCY CONSIDERED
- 1.6 STAKEHOLDERS
- 1.7 SUMMARY OF CHANGES

2 RESEARCH METHODOLOGY

- 2.1 RESEARCH DATA
 - FIGURE 2 PROCESS ANALYTICAL TECHNOLOGY MARKET: RESEARCH DESIGN METHODOLOGY
 - 2.1.1 SECONDARY DATA
 - 2.1.2 PRIMARY DATA
 - 2.1.2.1 Primary sources
 - FIGURE 3 BREAKDOWN OF PRIMARY INTERVIEWS: SUPPLY-SIDE AND DEMAND-SIDE PARTICIPANTS
 - FIGURE 4 BREAKDOWN OF PRIMARIES: PROCESS ANALYTICAL TECHNOLOGY MARKET
- 2.2 MARKET SIZE ESTIMATION
 - FIGURE 5 RESEARCH METHODOLOGY: HYPOTHESIS BUILDING
 - 2.2.1 BOTTOM-UP APPROACH
 - 2.2.1.1 Approach 1: Company revenue estimation approach
 - 2.2.1.2 Approach 2: Customer-based market estimation
 - FIGURE 6 BOTTOM-UP APPROACH FOR MARKET SIZE ESTIMATION
 - 2.2.1.3 Growth forecast
 - FIGURE 7 CAGR PROJECTIONS: SUPPLY SIDE ANALYSIS
 - 2.2.2 PRIMARY RESEARCH VALIDATION
- 2.3 DATA TRIANGULATION
 - FIGURE 8 DATA TRIANGULATION
- 2.4 RESEARCH ASSUMPTIONS
- 2.5 RISK ASSESSMENT

2.5.1 RISK ASSESSMENT: PROCESS ANALYTICAL TECHNOLOGY MARKET

3 EXECUTIVE SUMMARY

FIGURE 9 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY TECHNOLOGY, 2022 VS. 2027 (USD MILLION)

FIGURE 10 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY PRODUCT & SERVICE, 2022 VS. 2027 (USD MILLION)

FIGURE 11 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY APPLICATION, 2022 VS. 2027 (USD MILLION)

FIGURE 12 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY MEASUREMENT, 2022 VS. 2027 (USD MILLION)

FIGURE 13 PROCESS ANALYTICAL MARKET: GEOGRAPHIC MARKET SNAPSHOT

4 PREMIUM INSIGHTS

4.1 PROCESS ANALYTICAL TECHNOLOGY MARKET OVERVIEW

FIGURE 14 GROWING HEALTHCARE SPENDING BY PHARMACEUTICAL & BIOPHARMACEUTICAL FIRMS TO DRIVE MARKET

4.2 PROCESS ANALYTICAL TECHNOLOGY MARKET SHARE, BY TECHNOLOGY 2022 VS. 2027

FIGURE 15 SPECTROSCOPY SEGMENT TO REGISTER HIGHEST GROWTH RATE DURING FORECAST PERIOD

4.3 PROCESS ANALYTICAL TECHNOLOGY MARKET: BY REGION AND TECHNOLOGY

FIGURE 16 SPECTROSCOPY SEGMENT OF APAC MARKET ACCOUNTED FOR LARGEST SHARE IN 2022

4.4 PROCESS ANALYTICAL TECHNOLOGY MARKET: BY REGION AND APPLICATION

FIGURE 17 SMALL MOLECULES SEGMENT TO ACCOUNT FOR HIGHEST GROWTH RATE IN NORTH AMERICA DURING FORECAST PERIOD

4.5 GEOGRAPHICAL SNAPSHOT OF PROCESS ANALYTICAL TECHNOLOGY MARKET

FIGURE 18 ASIA PACIFIC TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

5 MARKET OVERVIEW

5.1 MARKET DYNAMICS

FIGURE 19 PROCESS ANALYTICAL TECHNOLOGY MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

5.1.1 DRIVERS

5.1.1.1 Growing pharmaceutical industry & increasing R&D investments by biopharmaceutical firms

5.1.1.2 Government regulations on drug safety

5.1.1.3 Rising need for quality improvements in manufacturing processes

5.1.1.4 Technological advancements in analytical devices

TABLE 1 TECHNOLOGICAL ADVANCEMENTS AND PRODUCT LAUNCHES IN PAT MARKET

5.1.2 RESTRAINTS

5.1.2.1 High cost of PAT deployment

5.1.3 OPPORTUNITIES

5.1.3.1 Emerging markets

5.1.3.2 Growing adoption of analytical instruments in biopharmaceutical processes

5.1.4 CHALLENGES

5.1.4.1 Shortage of skilled professionals

5.2 CURRENT TRENDS

5.2.1 OUTSOURCING SERVICES TO CONTRACT MANUFACTURING ORGANIZATIONS

5.2.2 ADOPTION OF QUALITY BY DESIGN (QBD) PRINCIPLES

5.2.3 EMERGENCE OF IOT AND CLOUD-BASED TECHNOLOGY IN PRODUCTION PROCESSES

5.3 REGULATORY LANDSCAPE

5.3.1 US

5.3.2 EUROPE

5.3.3 ASIA PACIFIC

5.3.4 REST OF THE WORLD

5.4 PRICING ANALYSIS

TABLE 2 PRICING TREND ANALYSIS OF MAJOR PAT TECHNOLOGIES, 2020 (USD THOUSAND)

5.5 VALUE CHAIN ANALYSIS

5.5.1 RESEARCH & DEVELOPMENT

5.5.2 PROCUREMENT AND PRODUCT DEVELOPMENT

5.5.3 MARKETING, SALES & DISTRIBUTION, AND POST-SALES SERVICES

FIGURE 20 VALUE CHAIN ANALYSIS: MAXIMUM VALUE ADDED DURING MANUFACTURING PHASE

5.6 SUPPLY CHAIN ANALYSIS

5.6.1 PROMINENT COMPANIES

5.6.2 SMALL & MEDIUM-SIZED ENTERPRISES

5.6.3 END USERS

TABLE 3 SUPPLY CHAIN ECOSYSTEM

FIGURE 21 SUPPLY CHAIN ANALYSIS

5.7 PROCESS ANALYTICAL TECHNOLOGY MARKET: ECOSYSTEM MAP

5.8 PATENT DETAILS

5.8.1 PATENT DETAILS: PROCESS ANALYTICAL TECHNOLOGY

FIGURE 22 PATENT DETAILS FOR PROCESS ANALYTICAL TECHNOLOGY
(JANUARY 2012– SEPTEMBER 2022)

5.8.2 PATENT DETAILS: CHROMATOGRAPHY

FIGURE 23 PATENT DETAILS FOR CHROMATOGRAPHY (JANUARY
2012–SEPTEMBER 2022)

5.8.3 PATENT DETAILS: SPECTROSCOPY

FIGURE 24 PATENT DETAILS FOR SPECTROSCOPY (JANUARY
2012–SEPTEMBER 2022)

5.9 TRADE ANALYSIS

5.9.1 TRADE ANALYSIS: CHROMATOGRAPHY SYSTEMS

TABLE 4 IMPORT DATA FOR CHROMATOGRAPHY SYSTEMS (HS CODE 902720)
BY COUNTRY, 2017–2021 (USD)

TABLE 5 EXPORT DATA FOR CHROMATOGRAPHY SYSTEMS (HS CODE 902720)
BY COUNTRY, 2017–2021 (USD)

5.9.2 TRADE ANALYSIS: SPECTROMETERS & SPECTROPHOTOMETERS

TABLE 6 IMPORT DATA FOR SPECTROMETERS & SPECTROPHOTOMETERS (HS
CODE 902730) BY COUNTRY, 2017–2021 (USD)

TABLE 7 EXPORT DATA FOR SPECTROMETERS & SPECTROPHOTOMETERS (HS
CODE 902730) BY COUNTRY, 2017–2021 (USD)

6 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY TECHNOLOGY

6.1 INTRODUCTION

TABLE 8 PROCESS ANALYTICAL MARKET, BY TECHNOLOGY, 2020–2027 (USD
MILLION)

6.2 SPECTROSCOPY

TABLE 9 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SPECTROSCOPY,
BY TYPE, 2020–2027 (USD MILLION)

TABLE 10 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR
SPECTROSCOPY, BY REGION, 2020–2027 (USD MILLION)

6.2.1 MOLECULAR SPECTROSCOPY

6.2.1.1 Stringent regulatory guidelines for drug development & safety to drive

segment growth

TABLE 11 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 12 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY REGION, 2020–2027 (USD MILLION)

TABLE 13 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 14 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 15 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY APPLICATION, 2020–2027 (USD MILLION)

6.2.1.2 Raman Spectroscopy

6.2.1.2.1 Growing adoption across various industries to drive segment growth

TABLE 16 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR RAMAN SPECTROSCOPY, BY REGION, 2020–2027 (USD MILLION)

6.2.1.3 Infrared Spectroscopy (IR)

6.2.1.3.1 Rising technological advancements to support segment growth

TABLE 17 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR INFRARED SPECTROSCOPY, BY REGION, 2020–2027 (USD MILLION)

6.2.1.4 Other Molecular Spectroscopy

TABLE 18 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER MOLECULAR SPECTROSCOPY, BY REGION, 2020–2027 (USD MILLION)

6.2.2 MASS SPECTROMETRY

6.2.2.1 Growing demand for dual mass analyzers to drive segment growth

TABLE 19 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MASS SPECTROMETRY, BY REGION, 2020–2027 (USD MILLION)

TABLE 20 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MASS SPECTROMETRY, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 21 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MASS SPECTROMETRY, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 22 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MASS SPECTROMETRY, BY APPLICATION, 2020–2027 (USD MILLION)

6.2.3 ATOMIC SPECTROSCOPY

6.2.3.1 Wide applications in drug research to drive market

TABLE 23 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR ATOMIC SPECTROSCOPY, BY REGION, 2020–2027 (USD MILLION)

TABLE 24 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR ATOMIC SPECTROSCOPY, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 25 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR ATOMIC

SPECTROSCOPY, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 26 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR ATOMIC

SPECTROSCOPY, BY APPLICATION, 2020–2027 (USD MILLION)

6.3 CHROMATOGRAPHY

TABLE 27 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR

CHROMATOGRAPHY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 28 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR

CHROMATOGRAPHY, BY REGION, 2020–2027 (USD MILLION)

6.3.1 LIQUID CHROMATOGRAPHY (LC) SYSTEMS

6.3.1.1 High adoption of HPLC systems in analytical & preparative analytical applications to support market growth

TABLE 29 DIFFERENTIATION OF LIQUID CHROMATOGRAPHY SYSTEMS

TABLE 30 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR LIQUID CHROMATOGRAPHY SYSTEMS, BY REGION, 2020–2027 (USD MILLION)

TABLE 31 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR LIQUID CHROMATOGRAPHY SYSTEMS, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 32 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR LIQUID CHROMATOGRAPHY SYSTEMS, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 33 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR LIQUID CHROMATOGRAPHY SYSTEMS, BY APPLICATION, 2020–2027 (USD MILLION)

6.3.2 GAS CHROMATOGRAPHY (GC) SYSTEMS

6.3.2.1 Increasing utilization of miniaturized GC systems in production plants to support segment growth

TABLE 34 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR GAS CHROMATOGRAPHY SYSTEMS, BY REGION, 2020–2027 (USD MILLION)

TABLE 35 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR GAS CHROMATOGRAPHY SYSTEMS, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 36 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR GAS CHROMATOGRAPHY SYSTEMS, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 37 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR GAS CHROMATOGRAPHY SYSTEMS, BY APPLICATION, 2020–2027 (USD MILLION)

6.3.3 OTHER CHROMATOGRAPHY SYSTEMS

TABLE 38 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER CHROMATOGRAPHY SYSTEMS, BY REGION, 2020–2027 (USD MILLION)

TABLE 39 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER CHROMATOGRAPHY SYSTEMS, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 40 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER

CHROMATOGRAPHY SYSTEMS, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 41 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER CHROMATOGRAPHY SYSTEMS, BY APPLICATION, 2020–2027 (USD MILLION)

6.4 PARTICLE SIZE ANALYSIS

6.4.1 RISING NEED FOR QUALITY DRUGS WITH FEWER SIDE EFFECTS TO SUPPORT MARKET ADOPTION

TABLE 42 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR PARTICLE SIZE ANALYSIS, BY REGION, 2020–2027 (USD MILLION)

TABLE 43 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR PARTICLE SIZE ANALYSIS, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 44 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR PARTICLE SIZE ANALYSIS, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 45 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR PARTICLE SIZE ANALYSIS, BY APPLICATION, 2020–2027 (USD MILLION)

6.5 CAPILLARY ELECTROPHORESIS

6.5.1 COMPLETE AUTOMATION AND HIGH EFFICIENCY & RESOLUTION TO DRIVE MARKET

TABLE 46 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR CAPILLARY ELECTROPHORESIS, BY REGION, 2020–2027 (USD MILLION)

TABLE 47 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR CAPILLARY ELECTROPHORESIS, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 48 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR CAPILLARY ELECTROPHORESIS, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 49 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR CAPILLARY ELECTROPHORESIS, BY APPLICATION, 2020–2027 (USD MILLION)

6.6 OTHER TECHNOLOGIES

TABLE 50 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER TECHNOLOGIES, BY REGION, 2020–2027 (USD MILLION)

TABLE 51 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER TECHNOLOGIES, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 52 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER TECHNOLOGIES, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 53 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER TECHNOLOGIES, BY APPLICATION, 2020–2027 (USD MILLION)

7 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY PRODUCT & SERVICE

7.1 INTRODUCTION

TABLE 54 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

7.2 PRODUCT

TABLE 55 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY PRODUCT TYPE, 2020–2027 (USD MILLION)

TABLE 56 PROCESS ANALYTICAL TECHNOLOGY MARKET BY REGION, 2020–2027 (USD MILLION)

7.2.1 ANALYZERS

7.2.1.1 Rising technological advancements to support segment growth

TABLE 57 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR ANALYZERS, BY REGION, 2020–2027 (USD MILLION)

7.2.2 SENSORS AND PROBES

7.2.2.1 Automated and high turnaround time to support market adoption

TABLE 58 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SENSORS AND PROBES, BY REGION, 2020–2027 (USD MILLION)

7.2.3 SAMPLERS

7.2.3.1 Accuracy and high reproducibility to drive market

TABLE 59 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SAMPLERS, BY REGION, 2020–2027 (USD MILLION)

7.3 SERVICES

7.3.1 MANDATORY IMPLEMENTATION OF PAT FRAMEWORK IN PHARMACEUTICAL COMPANIES TO SUPPORT MARKET GROWTH

TABLE 60 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SERVICES, BY REGION, 2020–2027 (USD MILLION)

8 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY APPLICATION

8.1 INTRODUCTION

TABLE 61 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

8.2 SMALL MOLECULES

8.2.1 RISING NUMBER OF STARTUPS FOCUSING ON SMALL-MOLECULE DRUG DEVELOPMENT TO DRIVE MARKET

TABLE 62 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SMALL MOLECULES, BY TYPE, 2020–2027 (USD MILLION)

8.2.2 MANUFACTURING QC/QA

8.2.2.1 API manufacturing process widely utilizes chromatography techniques

TABLE 63 SMALL MOLECULES PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MANUFACTURING QC/QC, BY REGION, 2020–2027 (USD MILLION)

8.2.3 DRUG DISCOVERY & DEVELOPMENT

8.2.3.1 Rising focus of pharma companies on novel API development to support segment growth

TABLE 64 SMALL MOLECULES PROCESS ANALYTICAL TECHNOLOGY MARKET FOR DRUG DISCOVERY & DEVELOPMENT, BY REGION, 2020–2027 (USD MILLION)

8.3 LARGE MOLECULES

8.3.1 INCREASING R&D ACTIVITIES IN PHARMACEUTICAL & BIOPHARMACEUTICAL COMPANIES TO DRIVE MARKET

TABLE 65 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR LARGE MOLECULES, BY TYPE, 2020–2027 (USD MILLION)

8.3.2 MANUFACTURING QC/QA

8.3.2.1 Growing applications of IR spectroscopy in biologics manufacturing to support segment growth

TABLE 66 LARGE MOLECULES PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MANUFACTURING QC/QC, BY REGION, 2020–2027 (USD MILLION)

8.3.3 DRUG DISCOVERY & DEVELOPMENT

8.3.3.1 Rapid growth in biologics to support segment growth

TABLE 67 LARGE MOLECULES PROCESS ANALYTICAL TECHNOLOGY MARKET FOR DRUG DISCOVERY & DEVELOPMENT, BY REGION, 2020–2027 (USD MILLION)

8.4 MANUFACTURING APPLICATIONS

8.4.1 UNTAPPED OPPORTUNITIES IN PETROLEUM & CHEMICAL MANUFACTURING INDUSTRIES TO DRIVE MARKET

TABLE 68 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MANUFACTURING APPLICATIONS, BY REGION, 2020–2027 (USD MILLION)

8.5 OTHER APPLICATIONS

TABLE 69 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OTHER APPLICATIONS, BY REGION, 2020–2027 (USD MILLION)

9 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY MEASUREMENT

9.1 INTRODUCTION

TABLE 70 COMPARISON BETWEEN MEASUREMENT METHODS IN PAT

TABLE 71 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY MEASUREMENT, 2020–2027 (USD MILLION)

9.2 ON-LINE MEASUREMENT

9.2.1 MOST PREFERRED METHOD OWING TO HIGH CONSISTENCY AND ACCURACY

TABLE 72 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR ON-LINE MEASUREMENT, BY REGION, 2020–2027 (USD MILLION)

9.3 IN-LINE MEASUREMENT

9.3.1 SHORTER TURNAROUND TIME TO DRIVE SEGMENT GROWTH

TABLE 73 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR IN-LINE MEASUREMENT, BY REGION, 2020–2027 (USD MILLION)

9.4 AT-LINE MEASUREMENT

9.4.1 DETECTION OF MOISTURE CONTENT IN POWDERED PHARMACEUTICAL FORMULATIONS TO SUPPORT SEGMENT GROWTH

TABLE 74 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR AT-LINE MEASUREMENT, BY REGION, 2020–2027 (USD MILLION)

9.5 OFF-LINE MEASUREMENT

9.5.1 HIGH TURNAROUND TIME TO RESTRAIN SEGMENT GROWTH

TABLE 75 PROCESS ANALYTICAL TECHNOLOGY MARKET FOR OFF-LINE MEASUREMENT, BY REGION, 2020–2027 (USD MILLION)

10 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY REGION

10.1 INTRODUCTION

TABLE 76 PROCESS ANALYTICAL TECHNOLOGY MARKET, BY REGION, 2020–2027 (USD MILLION)

10.2 NORTH AMERICA

10.2.1 STRINGENT DRUG DEVELOPMENT REGULATIONS AND PRESENCE OF PHARMA & BIOPHARMA COMPANIES TO DRIVE MARKET

FIGURE 25 NORTH AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET SNAPSHOT

TABLE 77 NORTH AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

TABLE 78 NORTH AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 79 NORTH AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 80 NORTH AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR CHROMATOGRAPHY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 81 NORTH AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 82 NORTH AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 83 NORTH AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY

APPLICATION, 2020–2027 (USD MILLION)

10.3 EUROPE

10.3.1 SIGNIFICANT INVESTMENTS IN API MANUFACTURING TO FUEL DEMAND FOR PAT INSTRUMENTS

TABLE 84 EUROPE: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

TABLE 85 EUROPE: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 86 EUROPE: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 87 EUROPE: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR CHROMATOGRAPHY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 88 EUROPE: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 89 EUROPE: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 90 EUROPE: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

10.4 ASIA PACIFIC

10.4.1 FAVORABLE GOVERNMENT POLICIES AND INCREASING FOREIGN INVESTMENTS TO DRIVE MARKET

FIGURE 26 ASIA PACIFIC: PROCESS ANALYTICAL TECHNOLOGY MARKET SNAPSHOT

TABLE 91 ASIA PACIFIC: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

TABLE 92 ASIA PACIFIC: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 93 ASIA PACIFIC: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 94 ASIA PACIFIC: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR CHROMATOGRAPHY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 95 ASIA PACIFIC: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 96 ASIA PACIFIC: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 97 ASIA PACIFIC: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

10.5 LATIN AMERICA

10.5.1 GROWING BIOPHARMACEUTICAL & PHARMACEUTICAL INDUSTRY TO

DRIVE MARKET

TABLE 98 LATIN AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

TABLE 99 LATIN AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 100 LATIN AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 101 LATIN AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR CHROMATOGRAPHY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 102 LATIN AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 103 LATIN AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 104 LATIN AMERICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

10.6 MIDDLE EAST & AFRICA

10.6.1 RISING GOVERNMENT HEALTHCARE SPENDING TO DRIVE MARKET

TABLE 105 MIDDLE EAST & AFRICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

TABLE 106 MIDDLE EAST & AFRICA: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 107 MIDDLE EAST & AFRICA: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR MOLECULAR SPECTROSCOPY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 108 MIDDLE EAST & AFRICA: PROCESS ANALYTICAL TECHNOLOGY MARKET FOR CHROMATOGRAPHY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 109 MIDDLE EAST & AFRICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY MEASUREMENT, 2020–2027 (USD MILLION)

TABLE 110 MIDDLE EAST & AFRICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY PRODUCT & SERVICE, 2020–2027 (USD MILLION)

TABLE 111 MIDDLE EAST & AFRICA: PROCESS ANALYTICAL TECHNOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

11 COMPETITIVE LANDSCAPE

11.1 OVERVIEW

11.2 KEY PLAYER STRATEGIES

11.2.1 OVERVIEW OF STRATEGIES DEPLOYED BY PLAYERS IN PAT MARKET

11.3 REVENUE SHARE ANALYSIS

FIGURE 27 REVENUE SHARE ANALYSIS OF TOP PLAYERS IN PAT MARKET**11.4 PROCESS ANALYTICAL TECHNOLOGY MARKET: MARKET SHARE ANALYSIS OF KEY PLAYERS (2021)****TABLE 112 PROCESS ANALYTICAL TECHNOLOGY MARKET: DEGREE OF COMPETITION****11.5 COMPETITIVE LEADERSHIP MAPPING****11.5.1 STARS****11.5.2 EMERGING LEADERS****11.5.3 PERVASIVE PLAYERS****11.5.4 PARTICIPANTS****FIGURE 28 PROCESS ANALYTICAL TECHNOLOGY MARKET: COMPETITIVE LEADERSHIP MAPPING FOR KEY PLAYERS (2021)****11.6 COMPETITIVE LEADERSHIP MAPPING FOR STARTUPS/SMES (2021)****11.6.1 PROGRESSIVE COMPANIES****11.6.2 STARTING BLOCKS****11.6.3 RESPONSIVE COMPANIES****11.6.4 DYNAMIC COMPANIES****FIGURE 29 PROCESS ANALYTICAL TECHNOLOGY MARKET: COMPETITIVE LEADERSHIP MAPPING FOR STARTUPS/SMES (2021)****11.7 COMPETITIVE BENCHMARKING****TABLE 113 PROCESS ANALYTICAL TECHNOLOGY MARKET: PRODUCT & GEOGRAPHIC FOOTPRINT ANALYSIS OF TOP PLAYERS****TABLE 114 COMPANY TECHNOLOGY FOOTPRINT****TABLE 115 COMPANY GEOGRAPHICAL FOOTPRINT****11.8 COMPETITIVE SITUATION AND TRENDS****TABLE 116 PRODUCT LAUNCHES****TABLE 117 DEALS****TABLE 118 OTHER DEVELOPMENTS****12 COMPANY PROFILES****12.1 KEY PLAYERS**

(Business overview, Products offered, Recent Developments, MNM view)*

12.1.1 THERMO FISHER SCIENTIFIC INC.**TABLE 119 THERMO FISHER SCIENTIFIC INC: COMPANY OVERVIEW****FIGURE 30 THERMO FISHER SCIENTIFIC INC: COMPANY SNAPSHOT (2021)****12.1.2 AGILENT TECHNOLOGIES, INC.****TABLE 120 AGILENT TECHNOLOGIES, INC: COMPANY OVERVIEW****FIGURE 31 AGILENT TECHNOLOGIES, INC: COMPANY SNAPSHOT (2021)**

12.1.3 DANAHER CORPORATION (AB SCIEX LLC)

TABLE 121 DANAHER CORPORATION: COMPANY OVERVIEW

FIGURE 32 DANAHER CORPORATION: COMPANY SNAPSHOT (2021)

12.1.4 WATERS CORPORATION

TABLE 122 WATERS CORPORATION: COMPANY OVERVIEW

FIGURE 33 WATERS CORPORATION: COMPANY SNAPSHOT

12.1.5 BRUKER CORPORATION

TABLE 123 BRUKER CORPORATION: COMPANY OVERVIEW

FIGURE 34 BRUKER CORPORATION: COMPANY SNAPSHOT (2021)

12.1.6 PERKINELMER, INC.

TABLE 124 PERKINELMER, INC: COMPANY OVERVIEW

FIGURE 35 PERKINELMER, INC: COMPANY SNAPSHOT (2021)

12.1.7 CARL ZEISS AG (ZEISS GROUP)

TABLE 125 CARL ZEISS AG: COMPANY OVERVIEW

FIGURE 36 CARL ZEISS AG: COMPANY SNAPSHOT (2021)

12.1.8 EMERSON ELECTRIC CO.

TABLE 126 EMERSON ELECTRIC: COMPANY OVERVIEW

FIGURE 37 EMERSON ELECTRIC CO: COMPANY SNAPSHOT (2021)

12.1.9 METTLER-TOLEDO INTERNATIONAL INC.

TABLE 127 METTLER-TOLEDO INTERNATIONAL INC: COMPANY OVERVIEW

FIGURE 38 METTLER-TOLEDO INTERNATIONAL INC: COMPANY SNAPSHOT (2021)

12.1.10 SHIMADZU CORPORATION

TABLE 128 SHIMADZU CORPORATION: COMPANY OVERVIEW

FIGURE 39 SHIMADZU CORPORATION: COMPANY SNAPSHOT (2021)

12.1.11 ABB

TABLE 129 ABB: COMPANY OVERVIEW

FIGURE 40 ABB: COMPANY SNAPSHOT (2021)

12.1.12 SARTORIUS AG

TABLE 130 SARTORIUS AG: COMPANY OVERVIEW

FIGURE 41 SARTORIUS AG: COMPANY SNAPSHOT (2021)

12.1.13 PROCESS INSIGHTS INC.

TABLE 131 PROCESS INSIGHTS INC: COMPANY OVERVIEW

12.1.14 MERCK KGAA

TABLE 132 MERCK KGAA: COMPANY OVERVIEW

FIGURE 42 MERCK: COMPANY SNAPSHOT (2021)

12.1.15 VERUM ANALYTICS, LLC

TABLE 133 VERUM ANALYTICS: COMPANY OVERVIEW

*Details on Business overview, Products offered, Recent Developments, MNM view

might not be captured in case of unlisted companies.

12.2 OTHER PLAYERS

12.2.1 HAMILTON COMPANY: COMPANY OVERVIEW

12.2.2 VIAVI SOLUTIONS: COMPANY OVERVIEW

12.2.3 ENDRESS+HAUSER: COMPANY OVERVIEW

12.2.4 METROHM: COMPANY OVERVIEW

12.2.5 CONTROL DEVELOPMENT: COMPANY OVERVIEW

13 APPENDIX

13.1 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

13.2 CUSTOMIZATION OPTIONS

13.3 RELATED REPORTS

13.4 AUTHOR DETAILS

I would like to order

Product name: Process Analytical Technology Market, by Technology (Spectroscopy, Chromatography), Measurement (On-line, In-line, At-line), Product & Service (Analyzers, Probes, Sensors), End User (Pharmaceutical Manufacturers, CROs, CDMO)-Global Forecast to 2027

Product link: <https://marketpublishers.com/r/P08FD642941EN.html>

Price: US\$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/P08FD642941EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below

and fax the completed form to +44 20 7900 3970