

## North America Medical Terahertz Technology Market Forecast to 2028 – COVID-19 Impact and Regional Analysis – by Type (Terahertz Imaging and Terahertz Spectroscopy) and Application (Oncology, Dentistry, Dermatology, Tomography, Biochemistry, and Others)

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### **Abstracts**

The North America medical terahertz technology market is expected to grow from US\$ 54.65 million in 2022 to US\$ 142.26 million by 2028. It is estimated to grow at a CAGR of 17.3% from 2022 to 2028.

Rising Demand for Non-Invasive Technique for Early Detection of Cancer is Driving the North America Medical Terahertz Technology Market

In many regions, cancer is the second greatest cause of death, and current projections indicate that the trend is likely to grow. Digestive malignancies account for a significant fraction of all tumors, and their occurrence is predicted to rise faster than other tumor types due to bad lifestyle habits. The information obtained by THz-based scanning could have multiple advantages in the care of cancer patients and, more crucially, in the early diagnosis of various solid tumors because it can correctly differentiate between different types of molecules depending on water content. Recent advances in medical imaging substantially improved the early detection and treatment of various clinical disorders. THz imaging devices can aid in detecting early cancer before it becomes apparent or detectable by other means. The refractive index and absorption coefficient of tumor tissue are higher than normal tissue, according to terahertz properties on skin, breast, and colon cancer tissues. Such differentiation is possible because of the greater water content and structural alterations in carcinoma. For instance, the terahertz pulse imaging approach is particularly sensitive to water content (due to attenuation), water absorption can be noticed in the terahertz characteristics obtained for soft tissues; this



explains the contrast found between muscle and adipose tissue. As a result, T-ray pictures can discriminate between healthy tissue and basal cell carcinoma, assisting in mapping early-stage tumor edges.

Medical Terahertz Technology Market Overview

The North America medical terahertz technology market has been segmented into the US, Canada, and Mexico. The US held the largest share of the North America medical terahertz technology market in 2022. The technological advancements across North America have led to a highly competitive market. The regional companies are continuously enhancing the overall business processes to meet customers' demand for high-quality products and services in the best possible way. The presence of major market players, high R&D spending, and government grants for research institutes to develop new technological equipment are prominent factors that propel market growth. Moreover, the presence of large healthcare businesses and the growing adoption of advanced technologies propel the market's expansion in this region.

The presence of major market players in the US offering medical terahertz systems is likely to favor market growth. For instance, Terasense Group Inc. is a leading manufacturer of innovative portable terahertz (THz) imaging systems, Terahertz imaging cameras, THz sources, and THz detectors. It offers a cutting-edge technological product portfolio and several competitive advantages. These factors are anticipated to boost the US medical terahertz technology market growth during the forecast period.

North America Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Million)

North America Medical Terahertz Technology Market Segmentation

The North America medical terahertz technology market is segmented into type, application, and country.

Based on type, the North America medical terahertz technology market is segmented into terahertz imaging and terahertz spectroscopy. The terahertz imaging segment held the largest share of the North America medical terahertz technology market in 2022.

Based on application, the North America medical terahertz technology market is segmented into oncology, dentistry, dermatology, tomography, biochemistry, and



others. In 2022, the oncology segment is likely to hold the largest share of the North America medical terahertz technology market.

Based on country, the North America medical terahertz technology market is segmented into the US, Canada, and Mexico. The US dominated the market share in 2022.

Advantest Corporation; Insight Product Company; Luna Innovations Inc.; Menlo Systems GmbH; Microtech Instrument Inc.; Terasense Group Inc.; Teraview limited; and Toptica Photonics AG are the leading companies operating in the North America medical terahertz technology market.



### **Contents**

#### 1. INTRODUCTION

- 1.1 Study Scope
- 1.2 The Insight Partners Research Report Guidance
- 1.3 Market Segmentation
- 1.3.1 North America Medical Terahertz Technology Market By Type
- 1.3.2 North America Medical Terahertz Technology Market By Application
- 1.3.3 North America Medical Terahertz Technology Market By Country

# 2. NORTH AMERICA MEDICAL TERAHERTZ TECHNOLOGY MARKET – KEY TAKEAWAYS

#### 3. RESEARCH METHODOLOGY

- 3.1 Coverage
- 3.2 Secondary Research
- 3.3 Primary Research

# 4. NORTH AMERICA MEDICAL TERAHERTZ TECHNOLOGY MARKET – MARKET LANDSCAPE

- 4.1 Overview
- 4.2 North America PEST Analysis
- 4.2.1 North America: PEST Analysis
- 4.3 Experts Opinion

# 5. NORTH AMERICA MEDICAL TERAHERTZ TECHNOLOGY MARKET – KEY MARKET DYNAMICS

- 5.1 Key Drivers
- 5.1.1 Rising Demand for Non-Invasive Technique for Early Detection of Cancer
- 5.1.2 Increasing Use of Terahertz Technology in Dental Care
- 5.2 Market Restraints
- 5.2.1 Challenges Related to Imaging Resolution
- 5.3 Market Opportunities
- 5.3.1 Rapid Development of Coherent THz Sources



- 5.4 Future Trends
- 5.4.1 Recent Advances in Terahertz Technology for Biomedical Applications
- 5.5 Impact Analysis

#### 6. MEDICAL TERAHERTZ TECHNOLOGY MARKET - NORTH AMERICA ANALYSIS

6.1 North America Medical Terahertz Technology Market Revenue Forecast and Analysis

# 7. MEDICAL TERAHERTZ TECHNOLOGY MARKET ANALYSIS AND FORECAST TO 2028 – TYPE

- 7.1 Overview
- 7.2 North America Medical Terahertz Technology Market, by Type, 2022 & 2028 (%)
- 7.3 Terahertz Imaging
- 7.3.1 Overview
- 7.3.2 Terahertz Imaging Market Revenue and Forecast to 2028 (USD Thousand)
- 7.4 Terahertz Spectroscopy
- 7.4.1 Overview
- 7.4.2 Terahertz Spectroscopy Market Revenue and Forecast to 2028 (USD Thousand)

# 8. MEDICAL TERAHERTZ TECHNOLOGY MARKET ANALYSIS AND FORECAST TO 2028 – APPLICATION

- 8.1 Overview
- 8.2 North America Medical Terahertz Technology Market, by Application, 2022 & 2028 (%)
- 8.3 Oncology
- 8.3.1 Overview
- 8.3.2 Oncology Market Revenue and Forecast to 2028 (USD Thousand)
- 8.4 Dentistry
- 8.4.1 Overview
- 8.4.2 Dentistry Market Revenue and Forecast to 2028 (USD Thousand)
- 8.5 Dermatology
- 8.5.1 Overview
- 8.5.2 Dermatology Market Revenue and Forecast to 2028 (USD Thousand)
- 8.6 Tomography
- 8.6.1 Overview
- 8.6.2 Tomography Market Revenue and Forecast to 2028 (USD Thousand)



- 8.7 Biochemistry
- 8.7.1 Overview
- 8.7.2 Biochemistry Market Revenue and Forecast to 2028 (USD Thousand)
- 8.8 Others
- 8.8.1 Overview
- 8.8.2 Others Market Revenue and Forecast to 2028 (USD Thousand)

# 9. NORTH AMERICA MEDICAL TERAHERTZ TECHNOLOGY MARKET ANALYSIS AND FORECASTS TO 2028 – COUNTRY ANALYSIS

- 9.1 Overview
- 9.1.1 North America: Medical Terahertz Technology Market, by Country, 2022 & 2028 (%)
- 9.1.1.1 US: Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Thousand)
- 9.1.1.1.1 Overview
- 9.1.1.1.2 US: Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Thousand)
- 9.1.1.1.3 US: Medical Terahertz Technology Market, by Type, 2019–2028 (US\$ Thousand)
- 9.1.1.3.1 US: Medical Terahertz Technology Market, by Terahertz Imaging, 2019–2028 (US\$ Thousand)
- 9.1.1.1.3.2 US: Medical Terahertz Technology Market, by Terahertz Spectroscopy, 2019–2028 (US\$ Thousand)
- 9.1.1.1.4 US: Medical Terahertz Technology Market, by Application, 2019–2028 (US\$ Thousand)
- 9.1.1.2 Canada: Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Thousand)
- 9.1.1.2.1 Overview
- 9.1.1.2.2 Canada: Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Thousand)
- 9.1.1.2.3 Canada: Medical Terahertz Technology Market, by Type, 2019–2028 (US\$ Thousand)
- 9.1.1.2.3.1 Canada: Medical Terahertz Technology Market, by Terahertz Imaging, 2019–2028 (US\$ Thousand)
- 9.1.1.2.3.2 Canada: Medical Terahertz Technology Market, by Terahertz Spectroscopy, 2019–2028 (US\$ Thousand)
- 9.1.1.2.4 Canada: Medical Terahertz Technology Market, by Application, 2019–2028 (US\$ Thousand)



- 9.1.1.3 Mexico: Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Thousand)
- 9.1.1.3.1 Overview
- 9.1.1.3.2 Mexico: Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Thousand)
- 9.1.1.3.3 Mexico: Medical Terahertz Technology Market, by Type, 2019–2028 (US\$ Thousand)
- 9.1.1.3.3.1 Mexico: Medical Terahertz Technology Market, by Terahertz Imaging, 2019–2028 (US\$ Thousand)
- 9.1.1.3.3.2 Mexico: Medical Terahertz Technology Market, by Terahertz Spectroscopy, 2019–2028 (US\$ Thousand)
- 9.1.1.3.4 Mexico: Medical Terahertz Technology Market, by Application, 2019–2028 (US\$ Thousand)

#### 10. MEDICAL TERAHERTZ TECHNOLOGY MARKET-INDUSTRY LANDSCAPE

- 10.1 Overview
- 10.2 Growth Strategies in The Medical Terahertz Technology Market, 2018-2022
- 10.3 Organic Developments
- 10.3.1 Overview
- 10.3.2 Organic Growth Strategies in The Medical Terahertz Technology Market, 2018-2022
- 10.4 Inorganic Developments
- 10.4.1 Overview
- 10.4.2 Inorganic Growth Strategies in Terahertz Technology Market, 2018-2022

### 11. MEDICAL TERAHERTZ TECHNOLOGY MARKET-KEY COMPANY PROFILES

- 11.1 Advantest Corporation
- 11.1.1 Key Facts
- 11.1.2 Business Description
- 11.1.3 Products and Services
- 11.1.4 Financial Overview
- 11.1.5 SWOT Analysis
- 11.1.6 Key Developments
- 11.2 Teraview limited
- 11.2.1 Key Facts
- 11.2.2 Business Description
- 11.2.3 Products and Services



- 11.2.4 Financial Overview
- 11.2.5 SWOT Analysis
- 11.2.6 Key Developments
- 11.3 Toptica Photonics AG
- 11.3.1 Key Facts
- 11.3.2 Business Description
- 11.3.3 Products and Services
- 11.3.4 Financial Overview
- 11.3.5 SWOT Analysis
- 11.3.6 Key Developments
- 11.4 Terasense Group Inc.
- 11.4.1 Key Facts
- 11.4.2 Business Description
- 11.4.3 Products and Services
- 11.4.4 Financial Overview
- 11.4.5 SWOT Analysis
- 11.4.6 Key Developments
- 11.5 Microtech Instrument Inc.
- 11.5.1 Key Facts
- 11.5.2 Business Description
- 11.5.3 Products and Services
- 11.5.4 Financial Overview
- 11.5.5 SWOT Analysis
- 11.5.6 Key Developments
- 11.6 Menlo Systems GmbH
- 11.6.1 Key Facts
- 11.6.2 Business Description
- 11.6.3 Products and Services
- 11.6.4 Financial Overview
- 11.6.5 SWOT Analysis
- 11.6.6 Key Developments
- 11.7 Luna Innovations Inc.
- 11.7.1 Key Facts
- 11.7.2 Business Description
- 11.7.3 Products and Services
- 11.7.4 Financial Overview
- 11.7.5 SWOT Analysis
- 11.7.6 Key Developments
- 11.8 Insight Product Company



- 11.8.1 Key Facts
- 11.8.2 Business Description
- 11.8.3 Products and Services
- 11.8.4 Financial Overview
- 11.8.5 SWOT Analysis
- 11.8.6 Key Developments

### 12. APPENDIX

- 12.1 About The Insight Partners
- 12.2 Glossary of Terms



### **List Of Tables**

#### LIST OF TABLES

Table 1. US Medical Terahertz Technology Market, by Type – Revenue and Forecast to 2028 (US\$ Thousand)

Table 2. US Medical Terahertz Technology Market, by Terahertz Imaging – Revenue and Forecast to 2028 (US\$ Thousand)

Table 3. US Medical Terahertz Technology Market, by Terahertz Spectroscopy – Revenue and Forecast to 2028 (US\$ Thousand)

Table 4. US Medical Terahertz Technology Market, by Application – Revenue and Forecast to 2028 (US\$ Thousand)

Table 5. Canada Medical Terahertz Technology Market, by Type – Revenue and Forecast to 2028 (US\$ Thousand)

Table 6. Canada Medical Terahertz Technology Market, by Terahertz Imaging – Revenue and Forecast to 2028 (US\$ Thousand)

Table 7. Canada Medical Terahertz Technology Market, by Terahertz Spectroscopy – Revenue and Forecast to 2028 (US\$ Thousand)

Table 8. Canada Medical Terahertz Technology Market, by Application – Revenue and Forecast to 2028 (US\$ Thousand)

Table 9. Mexico Medical Terahertz Technology Market, by Type – Revenue and Forecast to 2028 (US\$ Thousand)

Table 10. Mexico Medical Terahertz Technology Market, by Terahertz Imaging – Revenue and Forecast to 2028 (US\$ Thousand)

Table 11. Mexico Medical Terahertz Technology Market, by Terahertz Spectroscopy – Revenue and Forecast to 2028 (US\$ Thousand)

Table 12. Mexico Medical Terahertz Technology Market, by Application – Revenue and Forecast to 2028 (US\$ Thousand)

Table 13. Recent Organic Growth Strategies in The Medical Terahertz Technology Market

Table 14. Recent Inorganic Growth Strategies in The Medical Terahertz Technology Market

Table 15. Glossary of Terms, North America Medical Terahertz Technology Market



## **List Of Figures**

#### LIST OF FIGURES

- Figure 1. North America Medical Terahertz Technology Market Segmentation
- Figure 2. North America Medical Terahertz Technology Segmentation, by Country
- Figure 3. North America Medical Terahertz Technology Market Overview
- Figure 4. Terahertz Imaging Segment Held Largest Share of Product Segment in North America Medical Terahertz Technology Market
- Figure 5. US is Expected to Show Remarkable Growth During the Forecast Period
- Figure 6. Experts Opinion
- Figure 7. North America Medical Terahertz Technology Market Impact Analysis of Drivers and Restraints
- Figure 8. North America Medical Terahertz Technology Market– Revenue Forecast and Analysis 2019 2028
- Figure 9. North America Medical Terahertz Technology Market, by Type, 2022 & 2028 (%)
- Figure 10. Terahertz Imaging Market Revenue and Forecast to 2028 (USD Thousand)
- Figure 11. Terahertz Spectroscopy Market Revenue and Forecast to 2028 (USD Thousand)
- Figure 12. North America Medical Terahertz Technology Market, by Application, 2022 & 2028 (%)
- Figure 13. Oncology Market Revenue and Forecast to 2028 (USD Thousand)
- Figure 14. Dentistry Market Revenue and Forecast to 2028 (USD Thousand)
- Figure 15. Dermatology Market Revenue and Forecast to 2028 (USD Thousand)
- Figure 16. Tomography Market Revenue and Forecast to 2028 (USD Thousand)
- Figure 17. Biochemistry Market Revenue and Forecast to 2028 (USD Thousand)
- Figure 18. Others Market Revenue and Forecast to 2028 (USD Thousand)
- Figure 19. North America: Medical Terahertz Technology Market, by Key Country Revenue (2022) (US\$ Thousand)
- Figure 20. North America: Medical Terahertz Technology Market, by Country, 2022 & 2028 (%)
- Figure 21. US: Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Thousand)
- Figure 22. Canada: Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Thousand)
- Figure 23. Mexico: Medical Terahertz Technology Market Revenue and Forecast to 2028 (US\$ Thousand)
- Figure 24. Growth Strategies in The Medical Terahertz Technology Market, 2018-2022



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