

Terahertz Radiation Systems: Technologies and Global Markets

Market Research Report | 2023-06-27 | 236 pages | BCC Research

AVAILABLE LICENSES:

- Single User License \$5500.00
- 2-5 Users License \$6600.00
- Site License \$7920.00
- Enterprise License \$9504.00

Report description:

Description

Report Scope:

In this report, the market has been segmented based on type, application, and geography. The report provides an overview of the global THz radiation systems market and analyzes market trends. Using 2022 as the base year, the report provides estimated market data for 2023-2028. Market values have been estimated based on the triangulation method using parameters such as total revenue of THz radiation systems providers, primary interview results, and secondary white paper information.

The report covers the market for THz radiation systems with regard to the end-user base across different regions. It also highlights major trends and challenges that affect the market and the vendor landscape. The report estimates the global market for THz radiation systems in 2022 and provides projections for the expected market size through 2028.

Report Includes:

- 55 tables and 80 additional tables
- Detailed overview and an up-to-date analysis of the global markets for terahertz (THz) radiation systems and related technologies
- Analyses of the global market trends, with market revenue data (sales figures) for 2022, estimates for 2023, forecasts for 2024 and 2026, and projections of compound annual growth rates (CAGRs) through 2028
- Discussion of the major growth drivers, industry-specific challenges, regulatory aspects, and technology advancements that will shape the market for terahertz radiation systems as a basis for projecting demand in the next few years (2023-2028)
- Estimation of the actual market size and revenue forecast for global THz radiation systems market, and corresponding market share analysis based on the type of technology, application, and region

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- Assessment of the technological process that has been made toward bridging the terahertz gap and assessing the commercial potential of THz radiation devices over the analysis period
- Characterization and quantification of the market potential for each short-listed THz technology, by application, and identifying the main prerequisites (that are still under development) for commercial success
- Identification of THz applications that are most likely to achieve significant commercial sales by 2028
- Review of key patent grants on terahertz radiation systems and related technologies by each major category, and new and emerging developments in the global market
- Descriptive company profiles of the leading global players of the industry, including Advantest Corp., Bruker Corp., EMCORE Corp., Northrop Grumman Corp. and Thruvision Ltd.

Executive Summary

Summary:

BCC Research examines the way in which the THz radiation systems market is changing and how it has evolved. This analysis includes a detailed survey of new organizations in the market as well as existing organizations. At the industry level, BCC Research identifies, examines, describes, and provides global and regional market sizes for 2022 and forecasts demand from 2023 through 2028.

Terahertz (THz) radiation is a class of electromagnetic waves with frequencies between 0.3 and 3 THz, although some sources place the upper limit at 30 THz. THz radiation is also known as submillimeter radiation, THz waves, tremendously high frequency (THF), T-rays, T-waves, T-light, or simply THz. One THz is equivalent to 1,000 GHz or 1,012 Hz. The wavelengths of radiation in the THz range are 1 mm to 0.1 mm = 100 microns. THz technology is a young and developing field that has experienced significant scientific advancements and has the potential to develop applications ranging from airport passenger scanning to huge digital data transfers.

THz radiation devices for biomedical spectroscopy and imaging can produce and detect electromagnetic waves in pulsed or continuous wave (CW) forms. Numerous opportunities are presented by advancements in THz device technology, including the creation of THz pulse for spectroscopy applications using a NIR laser, submicron scale lithography, low loss waveguide circuits, and silicon micromachining, which is used for compact and integrated packing.

THz devices and systems can speed up the development of in vitro diagnostic medical devices (IVDs), which enable quick disease detection from sample specimens like body fluid, blood, or breath and are capable of quickly differentiating minute amounts of specimen, such as proteins, nucleic acids, or different metabolites, at the molecular level. THz radiation equipment is also widely utilized for imaging cancer tissues, since early cancer detection increases survival rates and lowers the dangers associated with difficult surgery combined with more advanced-stage cancer treatments.

Table of Contents:

- Table of Contents
- Chapter 1 Introduction
- Overview
- Study Goals and Objectives
- Reasons for Doing the Study
- What's New in This Update?
- Scope of Report
- Intended Audiences
- Information Sources

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Methodology
Geographic Breakdown
Analyst's Credentials
BCC Custom Research
Related BCC Research Reports
Chapter 2 Summary and Highlights
Chapter 3 Terahertz Radiation Systems: Market Overview
Introduction to Terahertz Radiation
Properties of Terahertz Radiation
History of Terahertz Radiation
THz Enabling Technologies
THz Sources
THz Detectors
THz Waveguides
THz Switches, Regulators, Lenses, and Other Devices
New Materials and Technologies
Value Chain Analysis
Market Ecosystem
Porter's Five Forces Analysis
Bargaining Power of Buyers
Bargaining Power of Suppliers
Threat of New Entrants
Threat of Substitutes
Degree of Competition
Impact of COVID-19 on the Market for THz Radiation Systems
Overview
Impact of COVID-19 on the THz Radiation Systems in Healthcare Market
Impact of COVID-19 on the THz Radiation Systems in Security Applications
Conclusion
Chapter 4 Market Dynamic
Market Dynamics
Market Drivers
Market Restraints
Market Opportunities
Chapter 5 Market Breakdown by Type
Introduction
THz Imaging Systems
Passive Imaging Systems
Active Imaging Systems
THz Spectroscopes
THz Sensors
THz Biochips
Moisture Detectors
Radar Sensors
THz Communication Systems
Antennas
Emitters

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Modulators
Filters
THz Computing
Waveguides
Interconnects
Transistors
Therapeutic Devices
THz Accelerators
Chapter 6 Market Breakdown by Application
Introduction
Security and Public Safety
Healthcare
Cancer Therapy
Manufacturing
Scientific Research
Military
Material Characterization
Automotive
Civilian Communications
THz High-Performance Computing Interconnects
Chapter 7 Market Breakdown by Region
Total Global Value by Region
North America
U.S.
Canada
Mexico
Europe
U.K.
Germany
France
Rest of Europe
Asia-Pacific
China
Japan
India
Rest of Asia-Pacific
South America
Rest of the World
Chapter 8 Funding Outlook
Small Firms Funding THz Radiation Systems
Chapter 9 Patent Analysis
Patent Analysis
Recent Key Granted Patents
Chapter 10 Competitive Landscape
Top Companies
Strategic Analysis
Product Launches and Developments

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Acquisitions and Mergers
Expansions and Investments
Collaborations and Partnerships
Annual Sales
Chapter 11 Company Profiles
AB MILLIMETRE
ADVANTEST CORP.
AGILTRON INC.
ALPES LASERS SA
APPLIED RESEARCH AND PHOTONICS INC.
BECKER PHOTONIK GMBH
BRIDGE12 TECHNOLOGIES INC.
BROADBAND INC.
BRUKER CORP.
CANON INC.
COHERENT INC.
EMCORE CORP.
GENTEC ELECTRO-OPTICS INC.
INNOVATIVE PHOTONIC SOLUTIONS INC.
INSIGHT PRODUCT CO.
LONGWAVE PHOTONICS LLC
M SQUARED LASERS LTD.
MACOM TECHNOLOGY SOLUTIONS HOLDINGS INC.
MENLO SYSTEMS GMBH
MICROTECH INSTRUMENTS INC.
NORTHROP GRUMMAN CORP.
NP PHOTONICS
OPHIR OPTRONICS SOLUTIONS LTD.
QMC INSTRUMENTS LTD.
SCIENCETECH INC.
TELEDYNE TECHNOLOGIES INC.
TERA
TERAPHYSICS CORP.
TERASENSE GROUP INC.
TERAVIEW, LTD.
THRUVISION LTD.
TOPTICA PHOTONICS AG
VIRGINIA DIODES INC.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Terahertz Radiation Systems: Technologies and Global Markets

Market Research Report | 2023-06-27 | 236 pages | BCC Research

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$5500.00
	2-5 Users License	\$6600.00
	Site License	\$7920.00
	Enterprise License	\$9504.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-03-11"/>
		Signature	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com



Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com