

Terahertz Technologies Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

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Abstracts

The global terahertz technologies market size reached US\$ 548.3 Million in 2022. Looking forward, IMARC Group expects the market to reach US\$ 2,032.2 Million by 2028, exhibiting a growth rate (CAGR) of 24.40% during 2022-2028.

Terahertz (THz) technologies are based on electromagnetic radiation, which lies in the spectrum between infrared radiation (IR) and microwaves. They can penetrate clothing, paper, wood, plastic, ceramics, cardboard, masonry, enclosures, and other opaque materials without causing any damage. They yield high-resolution images and help transfer vast amounts of data quickly. Moreover, their low-energy levels make them non-destructive, non-invasive, and intrinsically safe for humans, animals, and plants compared to X-rays and near-infrared radiation (NIR). As a result, they find extensive applications in the pharmaceutical industry wherein they are utilized to perform non-destructive, internal, chemical analysis of tablets, capsules, and other dosage forms.

Terahertz Technologies Market Trends:

Expanding applications of THz radiation in different sectors across the globe represents one of the major factors contributing to market growth. For instance, it is widely employed in the food and beverage (F&B) sector to conduct non-destructive analysis (NDT) of sealed packages. In addition, stringent regulations adopted by governments of several countries about public safety and product quality is influencing the market positively. Apart from this, the growing awareness about the advantages of early diagnosis is encouraging the adoption of THz tomography to screen tooth decay and cancer at early stages. It is also used to visualize wounds under gypsum or bandage layers. Moreover, due to the rising public security concerns, it is gaining traction at airports for remote screening of people and luggage. It also assists in building a new

generation of high-frequency wireless telecommunication systems that allow high-speed information transmission between electronic devices. Furthermore, the increasing number of investments to create affordable, convenient, and compact THz technologies-based devices is anticipated to provide a favorable market outlook.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global terahertz technologies market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on type, component and end use industry.

Breakup by Type:

Terahertz Imaging Systems

Active System

Passive System

Terahertz Spectroscopy Systems

Time Domain

Frequency Domain

Terahertz Communication Systems

Breakup by Component:

Terahertz Sources

Terahertz Detectors

Breakup by End Use Industry:

Healthcare and Medical

Defense and Security

Telecommunications

Food and Agriculture

Others

Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Advantest Corporation, Bakman Technologies LLC, Batop GmbH, Gentec Electro-Optics Inc., H?BNER GmbH & Co KG, Luna Innovations Inc., Menlo Systems GmbH, Teraprobes Inc, Terasense Group Inc., TeraView Limited and TOPTICA Photonics AG.

Key Questions Answered in This Report:

How has the global terahertz technologies market performed so far and how will it perform in the coming years?

What has been the impact of COVID-19 on the global terahertz technologies market?

What are the key regional markets?

What is the breakup of the market based on the type?

What is the breakup of the market based on the component?

What is the breakup of the market based on the end use industry?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global terahertz technologies market and who are the key players?

What is the degree of competition in the industry?

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