



Terahertz Components & Systems: Technology and Market Trends

*Terahertz market: Will it eventually take off?
And for which applications?*

REPORT OUTLINE

- Title: Terahertz Components & Systems: Technology and Market Trends
- Market & Technology Report
- PDF + Excel file
- 200+ slides
- € 3 990 - Multi users license

KEY FEATURES OF THE REPORT

- Overview of Terahertz technologies (sources, detectors, systems ...) and applications
- Main challenges to be addressed both on technology side and application side in the next years
- Market forecasts in revenue and volume by application until 2022
- Market analysis and list of players

RELATED REPORTS

- Photonics in Federal European FP7 R&D Program

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THE TERAHERTZ MARKET WILL REACH AROUND €350M IN 2022 !

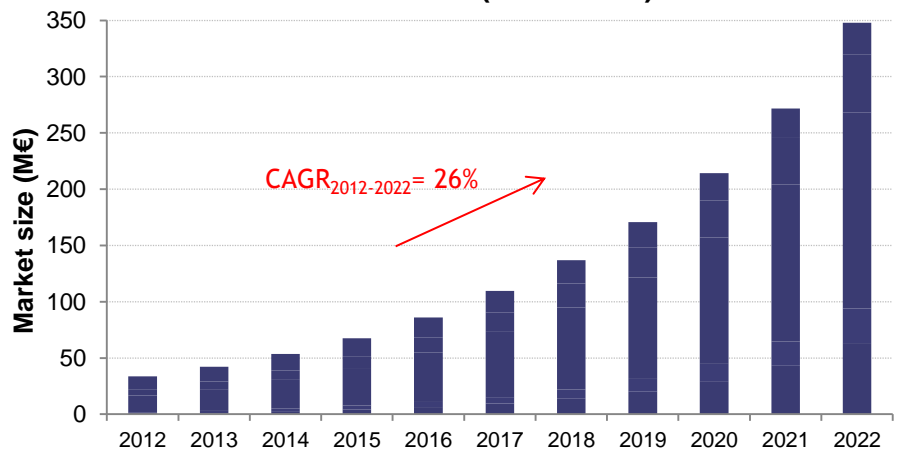
The THz market is expected to grow from €34M in 2012 to €350M in 2022 with a strong CAGR increase due to the maturation of commercial products.

Until now, Terahertz technologies were bulky and expensive systems only used for radio-astronomy and lab applications. Today, the great technical progress achieved of the recent years make it possible for THz technologies to be commercialized in markets such as Non Destructive Testing (NDT),

industrial process monitoring
pharmaceuticals quality control (QC),
weapons detection,...

The present report provides extensive market data in M€ from 2012 to 2022 for different applications: Defense & Security, Biomedical, Industry (including NDT, QC, etc...), Telecommunications, Research (NOT including radio-astronomy nor Astrophysics).

Global THz market (2012-2022)



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TERAHERTZ SYSTEMS ARE NOW MOVING OUT OF LABS

At their beginning in the 80's, THz technologies were developed by researchers for laboratory applications. It was an expensive scientific device that only highly qualified staff could use.

However, for the last 10 years, efforts have been made towards the implementation of easy-to-use and cost-effective systems through the

development of more compact and reliable components.

Thanks to these improvements, THz techniques are now entering the commercial market: the first products for applications like in-line industrial process monitoring have been sold.



AUTHORS

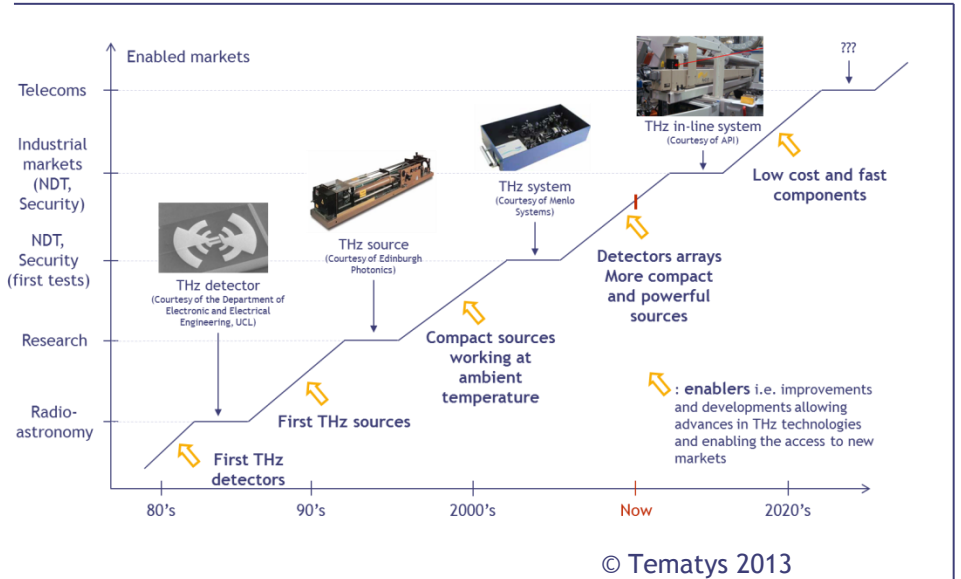


Thierry Robin has run more than 50 projects in Photonics with major players in diverse sectors: defense and security, medical optics, material science, industry... Cofounder of TEMATYS, he is an expert in optical devices, components and systems.



Clementine Bouyé is analyst at Tematys, specialized in Biophotonics technologies and markets. She graduated from Institute of Optics Graduate School (IOGS) and ESPCI Paritech.

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And things won't stop there. In the next decade, systems are expected to get smaller and cheaper, opening new markets for THz devices like Telecommunications.

of THz components as well as a detailed analysis on past and future evolution of THz systems.

This report provides the main features

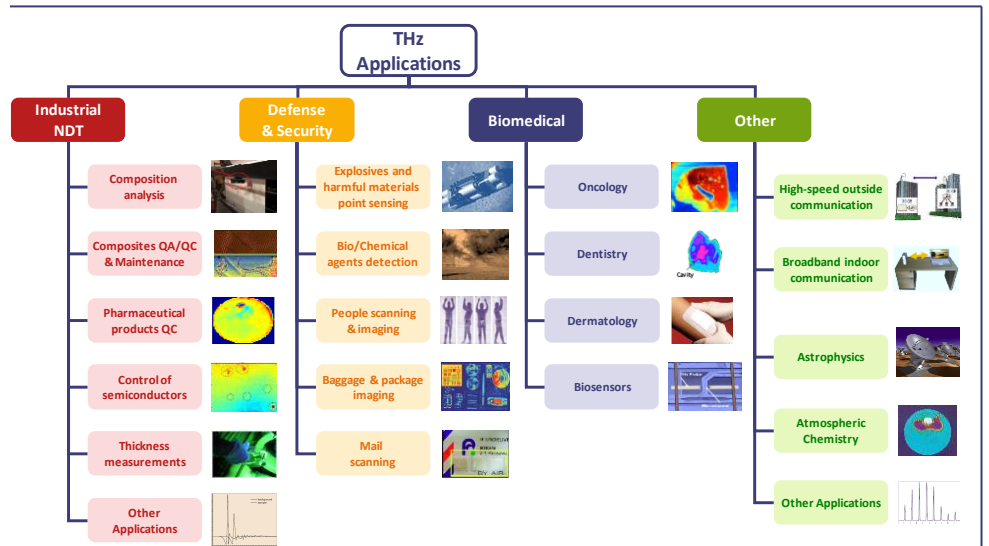
THE NEED OF HIGH PERFORMANCE TOOLS IN MANY FIELDS IS A GREAT OPPORTUNITY FOR THz TECHNOLOGIES

After techniques like ultrasound or IR Terahertz is becoming a new competing technology for inspection, control and monitoring.

open new applications, especially in Biomedical and in Telecommunications, that are going to become the drivers of the THz market growth in 5 to 10 years.

Because of their ability to penetrate through barrier materials (clothes, packaging,...), to perform non-contact and non-ionizing testing, THz systems are starting to compete with less safe technologies like X-rays or nuclear. THz technologies are also expected to

This report provides a study of THz potential and challenges in more than 25 market segments such as mail scanning, oncology, composites NDT, wireless communications, as well as an application roadmap for the next decade.



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OBJECTIVES OF THE REPORT

- To provide an overview of Terahertz components and systems on the market and under development
- To segment the Terahertz market into well-defined applications
- To provide market forecast until 2022 for each application segment
- To underline main challenges to be addressed both on technology side and application side in the next years
- To identify Terahertz main industrial and R&D players worldwide.



COMPANIES MENTIONED IN THE REPORT

Ab Millimetre, Advantest, Agiltron, Alpes Lasers, BAe Systems, Bruker Optics, Coherent, Digital Barriers, Edimbourg Instruments, EKSPILA, Emcore, Hamamatsu, Hübner GmbH, Insight Product Company, Jena Optronik GmbH, Lake Shore Cryotonics, Laser Components GmbH, Laser Quantum GmbH, M Squared Lasers, Menlo Systems, Microtech Instruments, NEC, Northrop Grumman, NTT, Ophir-Spiricon, Picometrix (API), Qinetiq, Radiabeam Technologies, Rainbow Photonics, Raytheon, Sacher Lasertechnik GmbH, Spectrum Detector, Spiricon, Synview GmbH, Teledyne Scientific And Imaging, Teraphysics, Teraview, Thorlabs, Tochigi Nikon, Toptica Photonics, Traycer Diagnostic Systems, UTC Aerospace and Systems, Virginia Diodes, Zomega Terahertz, ...

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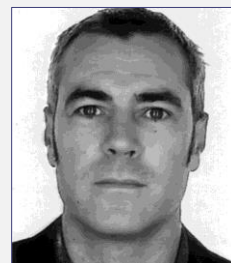
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AUTHORS



Jacques Cochard started his career as a consultant for the European Commission. He is one of the founders of TEMATYS.

Jacques has run more than 40 marketing and technological studies for photonics companies, photonics clusters and R&D laboratories.



Benoît d'Humières is an expert in Optics, Electronics and Instrumentation for industrial and research applications.

He has run many marketing and technological studies for major companies (AREVA, ALCATEL ESPACE, AIR LIQUIDE...) and Research institutions.

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4.2 The Seller shall only be liable for (i) direct and (ii) foreseeable pecuniary loss, caused by the Products or arising from a material breach of this agreement

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