



Terahertz Components & Systems : Technology and Market trends UPDATE 2016

Which application(s) will drive the Terahertz market growth ? Which THz technologies for which application?

WHAT HAPPENED IN THE LAST 3 YEARS?

REPORT OUTLINE

- Title: Terahertz Components & Systems : Technology and Market trends UPDATE 2016
- Market & Technology Report
- PDF
- 200+ slides
- € 4 990 - Multi users license

KEY FEATURES OF THE REPORT

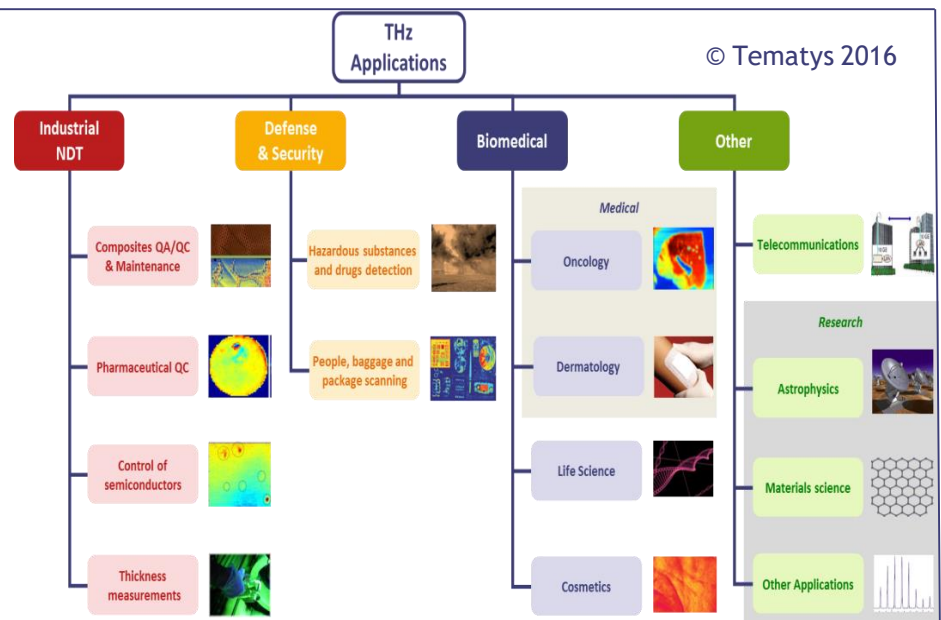
- Exclusive segmentation of THz components and systems
- THz market estimation for 2015 and THz market forecast by Application (2016-2020)
- THz market estimation for 2015 and THz market forecast: components / systems breakdown and imaging / sensing breakdown (2016-2020)
- Main Terahertz technologies manufacturers
- Roadmap 2016-2020 of THz applications and identification of most promising business opportunities

In 2013, Tematys has released a Terahertz studies report on market and technology trends covering the electromagnetic spectrum from 200 GHz to 10 THz.

Since then, Terahertz technologies have been continuously tested on a wide variety of applications outside the historical scientific market: Non-Destructive Testing in Industry, Defense and Security or Biomedical. Thanks to these ongoing feasibility studies, manufacturers and end-users

gained a much deeper knowledge about the abilities and the limitations of the different Terahertz systems and identified the 3 main functions that THz technologies address:

1. **Detection** of objects and defects on large areas
2. **Thickness measurement** on large areas
3. Chemical and Structural **characterization** of small objects and defects on small areas (2D) or volumes (3D).



THREE TRENDS OF TECHNOLOGICAL DEVELOPMENT TO ANSWER THE MARKET NEEDS: COMPACT AND CHEAP, COST-EFFECTIVE AND HIGH QUALITY, ADVANCED AND REAL-TIME

The products developed by manufacturers are made to meet the 3 functions of THz.

Each function leads to a specific type of THz systems with distinct requirements in terms of performance

and cost:

1. **Detection:** building cheap and compact imaging systems able to probe large areas in a limited time. (main systems: terahertz cameras)



WHAT'S NEW ?

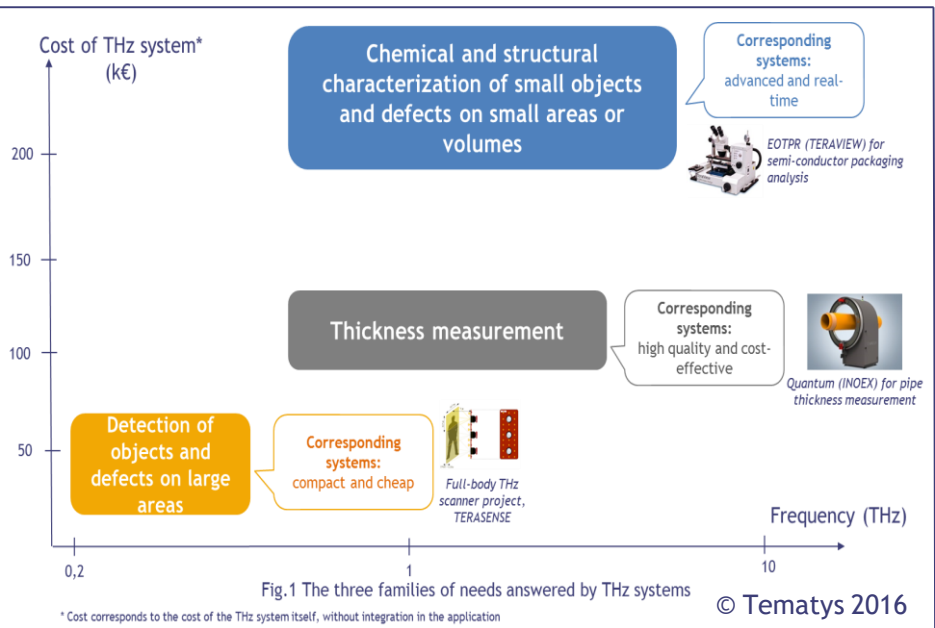
- THz market revenue estimation in 2015 and THz market forecast (2016-2020) : components & systems breakdown and imaging & sensing breakdown
- Terahertz systems volume market in 2015 and THz systems volume market forecast (2016-2020) : imaging & sensing breakdown
- Analysis of components commercial products and distribution of manufacturers by type of THz components
- Update of the roadmap of THz applications and identification of the current and incoming THz systems well-suited for each application
- Market insights on most promising applications in NDT

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- Thickness measurement:** cost-effective and high speed systems with high quality of measurement (main systems: Time-Domain spectroscopy Time-of-Flight (TDS-TOF))
- Characterization:** high resolution and high reliability sensing systems for real-time chemical and structural characterization of the object of interest. (Example of incoming systems: real-time TDS, ...)

For each product family, the report studies the innovative systems developed to answer the end-users needs. It also details current and future trends in component developments as well as perspective on cost decrease.

THE THz MARKET IS EXPECTED TO GROW AT A 16% CAGR

The better understanding of THz technologies abilities together with the evolution of the application markets will drive the growth of the THz market.

This report analyzes the markets of THz technologies (Industrial NDT, Defense and Security, Telecommunications and Biomedical) to identify those where the demand for THz methods is the most mature. For all these markets, the report identifies the most promising THz-based applications.

With the development of new and more complex composite and ceramic materials and coatings, the industrial

NDT market is the major driver of the THz market growth. The terahertz market is expected to grow from € 46 M in 2015 to € 98 M in 2020 with a CAGR₂₀₁₅₋₂₀₂₀ of 16%. The industrial NDT market accounts for 46% of the total THz market revenue in 2015 and is expected to grow at a CAGR₂₀₁₅₋₂₀₂₀ of 19%.

The report includes a detailed market revenue forecast by application from 2015 to 2020. A forecast of components and systems revenue breakdown is also provided as well as a forecast of unit volume of systems with imaging / sensing breakdown.



AUTHORS

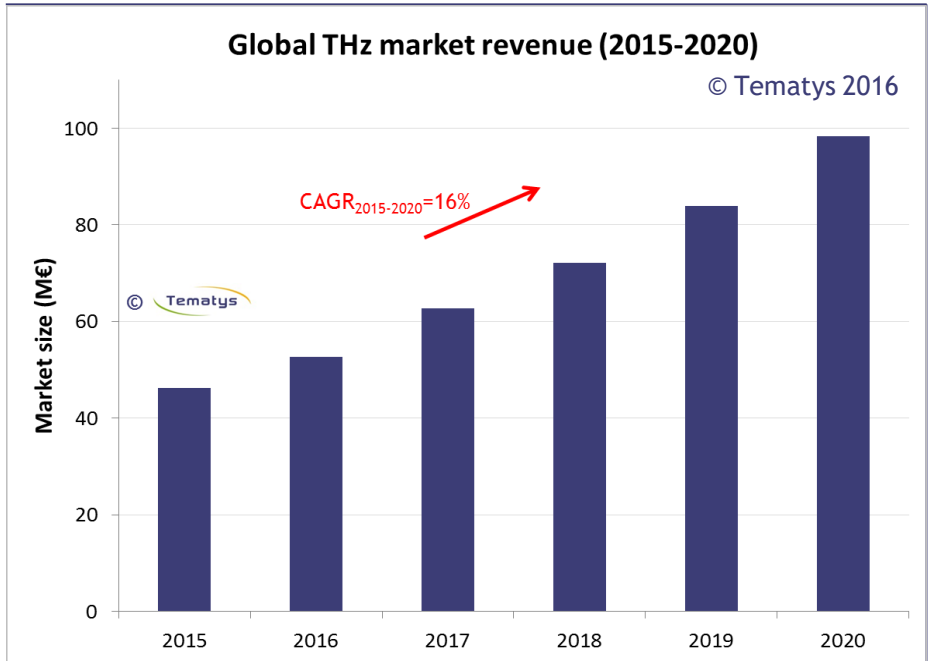


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OBJECTIVES OF THE REPORT

- Identify the applications that will drive the Terahertz market growth and provide a market analysis of these applications
- Underline the THz components and systems commercially available and provide an insight on future developments
- Understand which kind of systems answers which need
- Provide market forecasts by application and insights on investments opportunities in THz technologies

COMPANIES MENTIONED IN THE REPORT

Ab Millimetre, Acreo Ab, Advantest, Alpes Lasers, Bae Systems, Bakman Technologies, Batop, Bridge12, Bruker Optics Inc., Calmar Optcom, Clark-MXR, Covesion, Das Nano, Del Mar Photonics, Desert Beam Technologies, Digital Barriers (Thruvision), Edinburgh Instruments, Eksma Optics, EKSPILA, Electro Optical Components, Hamamatsu Photonics, Hübner, I2S, Inoex, Institut National d'Optique, Lake Shore Cryotonics, Laser Quantum (GigaOptics), Longwave Photonics, Luz Wavelabs, Lytid, M Squared Lasers, Menlo Systems, Microtech Instruments, MolTech, NEC, Novatrans Group, NTT Electronics, Ondax, Ophir Optronics, Luna, Protemics, Radiabeam Technologies, Rainbow Photonics, Sacher Lasertechnik, Sciencetech, Becker Photonik, Teraphysics (Teravac), Terasense Development Labs, Teraview, Teratonics, Teravil, TetechS, Terahertz Waves Technologies, Toptica Photonics, Traycer Diagnostic Systems, Vibratess, Virginia Diodes, ...

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- Terahertz Components & Systems: Technology and Market Trends
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 Account No : 41000001859-92
 SWIFT or BIC code : CCOOPFRPPXXX
 IBAN : FR76 4255 9000 0341 0000 0185 992

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3.5 In the event of termination of the contract, or of misconduct, during the contract, the Seller will have the right to invoice at the stage in progress, and to take legal action for damages.

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