

Terahertz line scanner for industrial applications

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SAN JOSE, CA, USA, November 25, 2015 /EINPresswire.com/ -- TeraSense has recently launched its Ultrafast linear Terahertz imaging camera to meet the increasingly growing demand in industrial solutions for a safe, non-invasive and non-destructive testing (NDT).

High Speed Terahertz line scanner

(TeraFAST-256-HS) is their brand new product, which features both,

unprecedented imaging speed of 5000 fps (5kHz) and ease of integration into industrial process. Its linear sensor array is built to satisfy the needs in NDT and Quality Control for many industrial applications employing high speed conveyors belts. This product fits most conveyors with a belt speed up to 15 meters per second.



The High-Speed Linear Terahertz Imaging System designed and built by TeraSense consists of two parts: A) terahertz imaging camera and B) THz generator. Both elements are optimized to each other. The generator is supplied with a specially configured horn antenna designed to cover the entire inspection area across conveyor belt. The horn spreads THz beam evenly and ensures that the whole THz radiation power is properly delivered from the generator into the camera. The camera's pixel size determines image resolution of 1.5 mm, which is more than ample to support imaging in most industrial applications.

Summing up below are the key attractions of the linear scanner:

- _ Extremely high image acquisition rate up to 5kHz (5000 fps)
- _ High sensitivity (8000 V/W is just an average value, while the actual sensitivity level can be set to be much higher)
- _ Minimal detectable power/pixel: 100 nW (at 5000 fps)
- _ Absence of ionizing radiation (as opposed to X-ray scanners)
- _ Scalable size of sensor imaging area to satisfy other geometry/configuration requirements
- _ Ease of integration into industrial process and Plug-and-play design
- _ Custom-tailored solutions
- _ Software TeraFast® Viewer (Including API in Python and SDK)
- _ LOW COST

Such record-breaking imaging speed in combination with its responsivity opens up doors to many industrial applications associated with safe and effective NDT and quality control.

The list of industrial clients showing interest in Terahertz imaging and purchasing TeraSense line scanners is getting longer each day and now includes:

- People Security Screening & Letter Scanning
- Food industry
- Forestry, Lumbering Wood Processing Industry
- Pharmaceutical & Cosmetics
- FMCG Packaging
- Construction Materials & Building Trades
- Automotive Industry
- Security Screening & Letter Scanning
- Petrochemical industry and Oil & Gas sector
- Agronomy, Agriculture and Livestock Farming

TeraSense has extensive experience in supplying their products internationally to large clients in various industries, and it is truly gratifying to observe increasingly growing interest in T-ray technologies being displayed recently by many researchers, industrial clients and OEM manufactures.

Needless to say, that terahertz linear camera has become TeraSense flagship product. No doubt, it is their most enhanced THz imaging system, which is also scalable in size, just like their other [imaging sensor arrays](#). The company is rapidly evolving and has serious plans to expand its product portfolio by adding tunable THz sources and upgraded version of THz cameras, employing new concept high sensitive pixels to better serve industrial applications.

According to Dr. Viacheslav Muravev, TeraSense VP, TeraFAST-256-HS system has always been viewed as a part of a larger OEM related solution. “This is why we offer software and SDK that essentially expands and facilitate integration capabilities of our product. Our TeraFast® Viewer software is written in Python and has appropriate tools for integration. In addition to API (Application Program Interface) included in supply package, we can now provide SDK (Software Developer’s Kit)” added Dr. Muravev.

It is obvious that [terahertz imagers](#) manufactured by TeraSense have established certain dominance in the frequency range of 50 GHz to 0.7 THz, where most common materials are transparent. Nevertheless, the company is not reaping on laurels! They continue their focused efforts in improving their existing products and launching new ones. Such commitment to continuous improvement is highly essential in high-tech field, where competition is extremely high in a globalized world.

As a responsible customer-centric supplier committed to the highest standards of business ethics TeraSense views their ultimate goal as achieving customer’s satisfaction in every case, rather than simply selling our product once!

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