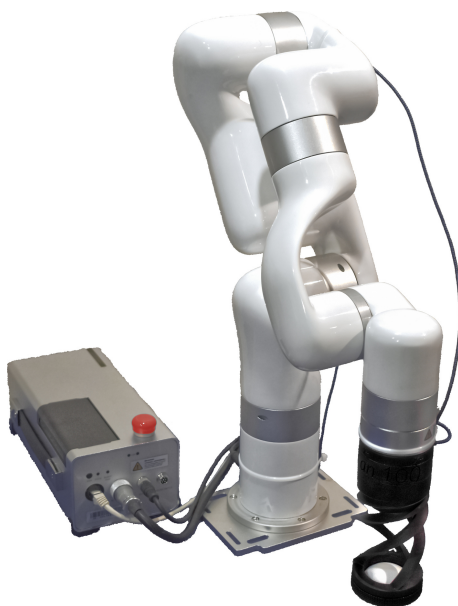




Inspection Product Line

TeraScan

The non-contact, non-invasive, in-depth 3D scanner



TeraScan Arm Long Range



TeraScan Frame



TeraScan Arm



Empower your application

TeraScan: an all-included solution

For an optimal user experience



Sensors : Radar

120 GHz, 240 GHz & 300 GHz
interchangeable FMCW radar sensor
for optimized imaging

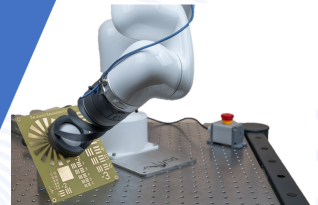


X-Y-Z Plotter or 6 Axis

Fast and precise automated scanner for
enhanced sample inspection

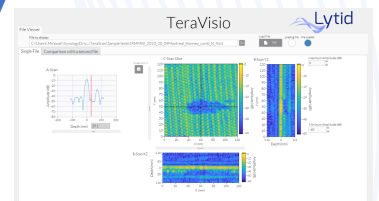
Software : TeraVisio ® 3D

The only dedicated FMCW radar data explorer and
visualization software suite on the market



Algorithms : High-End Signal Processing

High reliability radar signals processing algorithms for an enhances and
simplified user experience

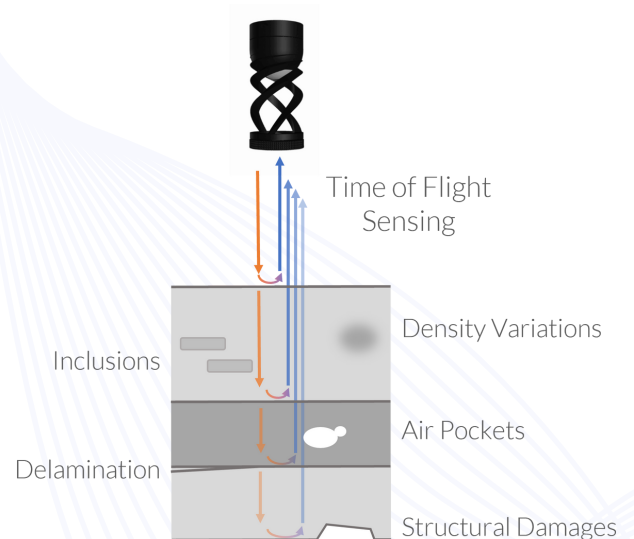


Non-Destructive Testing with Terahertz

Using our expertise in THz, we have pushed the boundaries of Non-Destructive Testing (NDT), a groundbreaking technology that redefines material inspection without compromise. With benefits inherited from IR and millimeter-waves, THz electromagnetic waves can provide in-depth inspection in a non destructive manner of a wide range of materials ranging from polymers and ceramics, to fibered-based composites featuring complexes geometries such as honeycomb structures.

The advantages of THz combined with the capabilities of Frequency Modulation Continuous Wave (FMCW) radar sensors enable 3D inspection and sensing capabilities.

The principle is based on time of flight (ToF) sensing: the emitted THz waves from radar are directed at the materials being inspected, these waves interact with the material. By measuring the time it takes for the reflected waves and echoes, a 3D image of the material's internal structure is created. This image is then analyzed to detect a wide variety of defects such as density variations, inclusions, delaminations, air pockets and structural damages.



Highly suitable materials

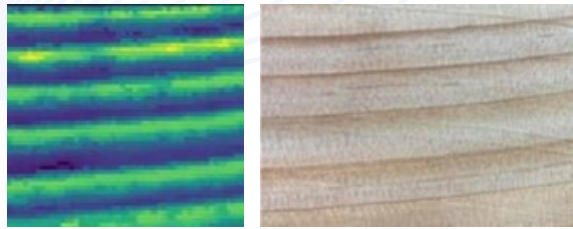
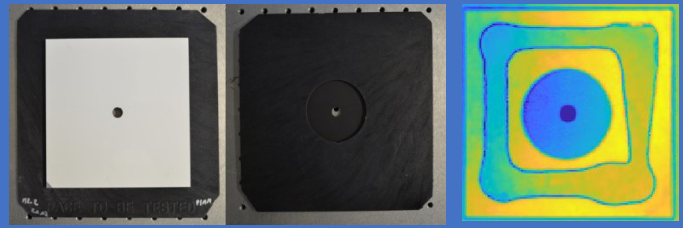
Polymers - Composites -Foams - Ceramics -Elastomers - Woods...

Typical samples and applications fields

Complex Polymer Structures

Type of defects: Watertightness of a glue seal & defects within polymer plates structure.

Additional: Sample integrity, defect detection, health monitoring & volumetric metrology.



Wooden Materials and Composites

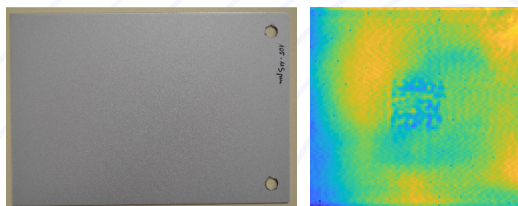
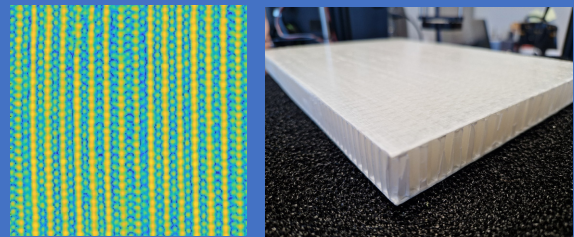
Sensing capability: Density mapping, water content & structural inspection.

Additional: Inhomogeneities detection, fieldbus node dimensioning & inner structure inspection.

Honeycomb GFRP Composite Structures

Sensing capability: Honeycomb structural integrity & GFRP delamination.

Additional: Internal water content, foreign bodies detection & alveoli inspection.



Corroded Protected Metallic Plate

Type of defects: Corrosion marks under protective coating

Additional: Coatings delamination, impacts marks & metallic surface quality through protective layers

TeraScan: your solution for Non-Destructive Testing



THz Radar
trceiver system



Fully Automated



3D THz scanning
property



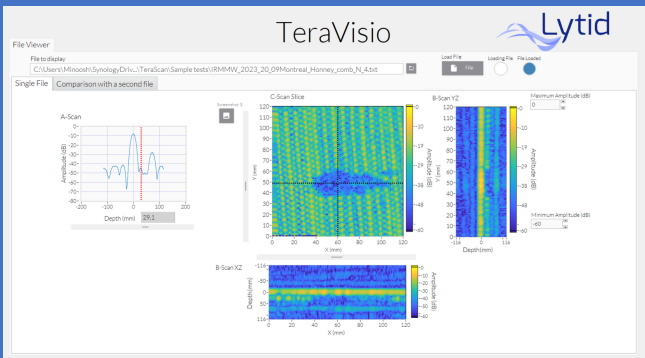
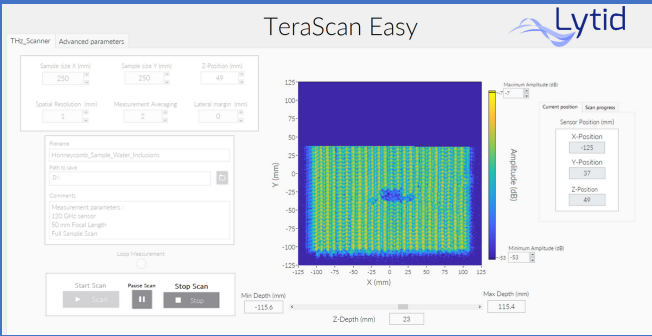
User-friendly

Plug and play with dedicated software suite

TeraScan Easy is a dedicated control software for an optimized TeraScan unit handling and configuration. Its simplified interface ensures a quick evaluation of test samples.

Features:

Scan size, spatial resolution, sensor automated detection, images pre-visualization, positioning.



TeraVisio 3D is design as an intuitive tool to explore, visualize and exploit your 3D THz Radar data in order to perfect new evaluation methods and test procedures.

Features:

Real time 3D data visualization, A, B and C-scans display, integrated data pre-processing, contrast adjustment.

Technical specifications

| Models/Specs | TeraScan Frame | TeraScan Arm | TeraScan Arm Long Range |
|--------------------------------|----------------|--------------------------------------------------|--------------------------------------------------|
| Type | x-y-z plotter | Automated 6-axis robotic arm max reach 400 mm | Automated 6-axis robotic arm max reach 700 mm |
| Imaging area (mm) | Max 300x300 | Typ 400x400 | Typ 600x600 |
| Minimal step (mm) | 0.5 | 0.25 | 0.25 |
| Max footprint (H x W x L) (mm) | 650x650x650 | 500x800x800 | 800x1500x1500 |

| Models/Specs | TeraScan 100 | TeraScan 200 | TeraScan 300 |
|---------------------------------|------------------|------------------|------------------|
| Frequency (THz) | 0.12 | 0.24 | 0.3 |
| Minimal lateral resolution (mm) | 1.8 | 0.9 | 0.7 |
| Working distance (mm) | 50, 75, 100, 150 | 50, 75, 100, 150 | 50, 75, 100, 150 |
| Acquisition rate (Pixels/s) | 40 | 12.5 | 12.5 |
| Typ. dynamic range (dB) | >50 | >50 | >40 |