

**NON-DESTRUCTIVE
ANALYSIS & CONTROL
INTO THE MATTER**



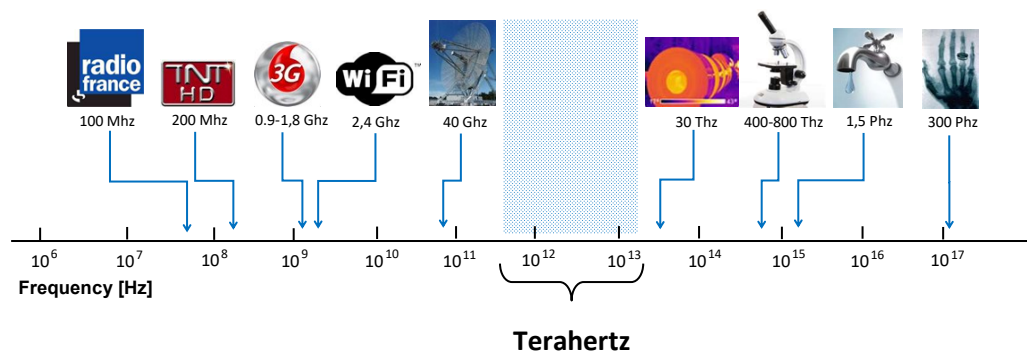
**R&D DEVELOPMENTS
SOLUTIONS
AND SERVICES**

DESIGN & MANUFACTURING—TeraHertz deployable solutions for industry and science

Based upon **10 years of experience in TeraHertz optronic technologies**, our engineers and researchers ensure the design and development of generic or customized systems for the analysis or control of materials. Based on material samples, we demonstrate the feasibility and performance of our solutions on **our technological platform**.

Our partnership with the **CNRS and the University of Montpellier**, combined with our expertise in technology transfer, allows us to propose very innovative solutions while meeting the requirements of industrial and scientific applications.

► A new domain of electromagnetic waves with huge potential of applications



► Disruptive innovations in the field of non destructive analysis and control



PROVIDES DATA

- Inner structural
- 3D + spectral
 - Real-time
- At a macromolecular scale



BY A MEAN

- Contactless
- Non destructive
 - Harmless
- Non invasive



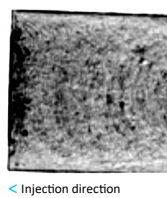
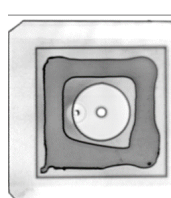
FOR APPLICATIONS

- Content measurement, density
- Thickness measurement
- Imaging, tomography
- Spectrometry

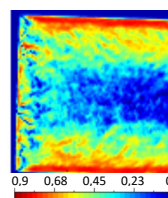
Examples of TeraHertz analysis and control



Control of a polymer-composite adhesive bond



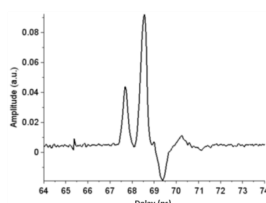
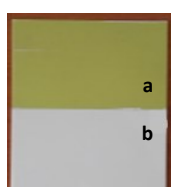
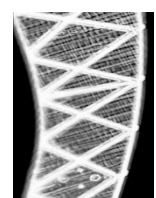
< Injection direction



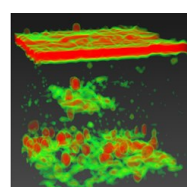
Fibers alignment rate in a composite material



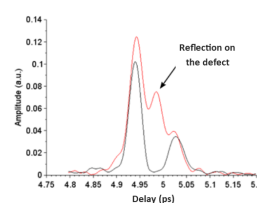
Defect control in composite material with fabrics reinforcements



Thickness measurement of multilayer coating on carbon-epoxy composite

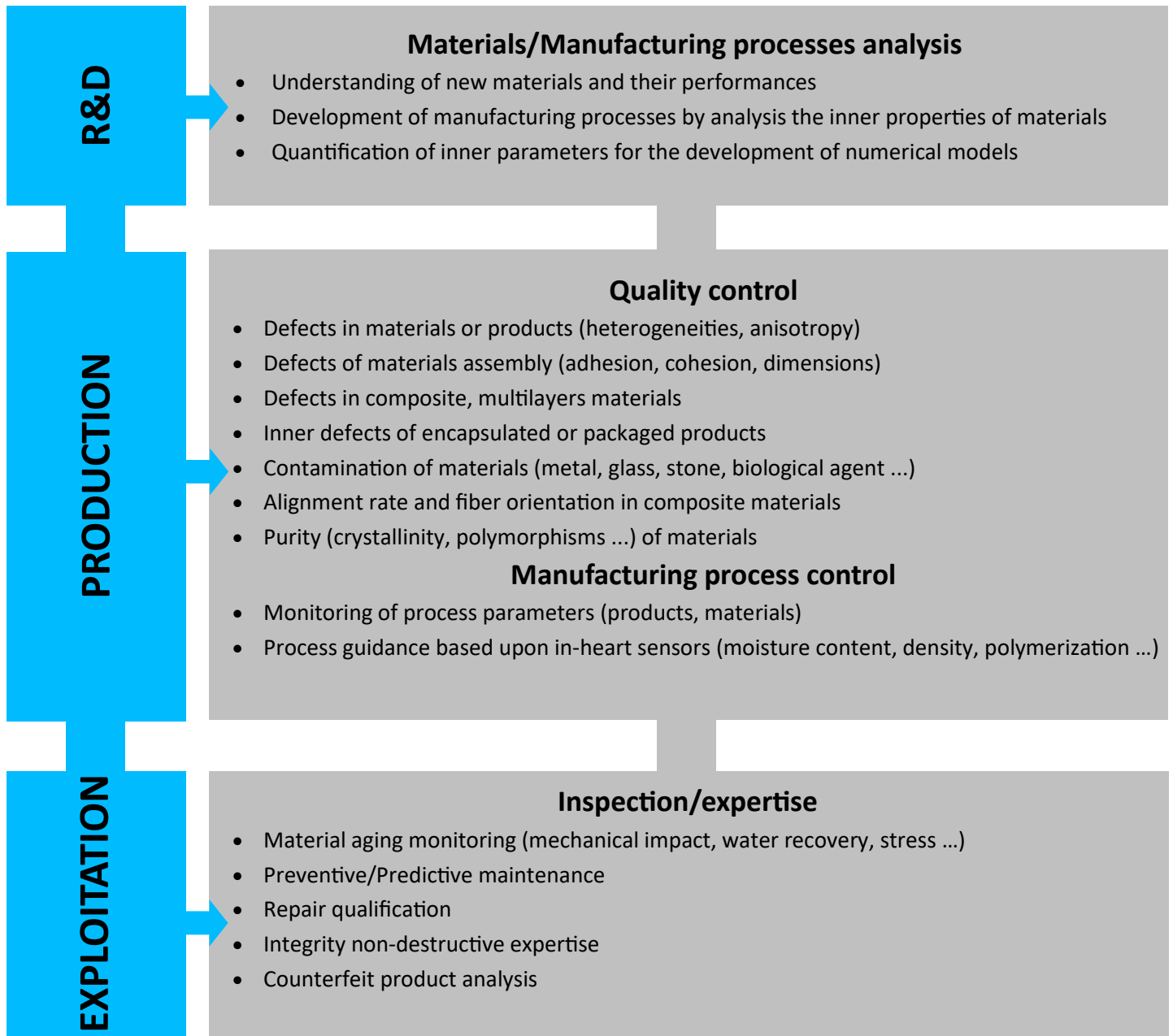


Mapping of delamination in the depth of a composite patch



IMPROVING SCIENTIFIC AND INDUSTRIAL PERFORMANCE

► For automatic applications or providing assistance to operators



► For various applications, matter focused or manufacturing process focused

MATTERS
Polymers, Rubbers, Foams
Ceramics, Glasses
Composites, Honey comb Sandwiches
Wood, Papers, Cardboards
Plasters, Cements
Semi-conductors

PROCESSES
Assembling, Separation
Multi-layer coating
Addition of reinforcement, Fillers
Drying, Hydration, Heating
Welding, Gluing
Coating, Packaging

► OUR COMPETENCIES

- Opto-electronics
- Mechanical
- Physics, chemistry of materials
- Software development
- Signal & image processing
- Systems engineering

► OUR SOLUTIONS

- Measurement of water content
- Measurement of filler content
- Heterogeneity imaging
- Anisotropy imaging
- Thickness measurement
- Spectrometry

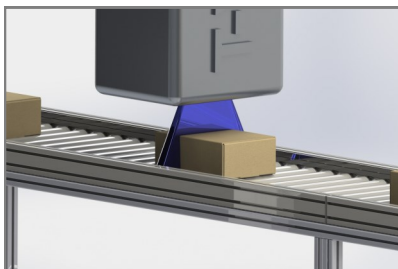
► OUR EQUIPMENT OF ANALYSIS AND CONTROL

IN-DEPTH



TK-LAB RANGE

FAST



TK-LINE RANGE

PORTABLE



TK-FIELD RANGE

► OUR SERVICES

- Feasibility studies - Tests on samples
- Technical specification elaboration
- Prototyping
- Design & development
- Assistance to commissioning
- Training

► OUR TECHNICAL MEANS

- Multidisciplinary team
- Materials characterization platform
- TeraHertz waves simulation software
- TeraHertz multimodal analysis benches
- Oven with controlled temperature and humidity

► CONTACT



TERAKALIS

Montpellier, France

www.terakalis.com

contact@terakalis.com

+33(0)4.11.93.73.67