ESA Business Incubation Centre in Noordwijk, The Netherlands, was opened in 2004 and is managed by SBIC Noordwijk B.V. The centre offers business start-up support as well as technical expertise in most areas of space technology and know-how. Located at the Space Business Park near to ESTEC, the largest ESA site and the scientific and technical heart of ESA, ESA BIC Noordwijk promotes the exchange of knowledge between advanced technology and space activities, as well as the exchange of technology and expertise between space programmes and terrestrial applications.

Dutch Terahertz

Terahertz Inspection of Aerospace and Marine Composites

Website

Founded in 2015 by

- **Alena Belitskaya**
- **Andrei Barychev**

Incubation period

01-11-2015 to 01-11-2017

About Dutch Terahertz

Dutch Terahertz provides the customized inspection services as well as build the customized THz equipment for non-destructive testing of composite materials often used in marine, aerospace, medical and construction industry.

Contact info

-
  - Kapteynstraat 1
  - 2201 BB
  - Noordwijk
  - Netherlands
- a.belitskaya@dutchterahertz.nl
- -

The challenge

TeraHertz inspection method raised on the technological arena after NASA Columbia Shuttle catastrophe in 2003 caused by detached foam from a fuel tank. To summarize, simply speaking, some class of defects in composite materials are impossible to detect using conventional non-destructing techniques and only visible within THz frequency range.

The solution

The solution that we offer is dedicated to Terahertz inspection of the internal defects, such as porosity, delamination, etc., particular, in non-conducting composite materials, such as glass fiber, epoxy resin, aramid fibre, honeycomb, Rohacell, and poly-urethane foam, that are often used in aerospace, marine, medical and construction industry. This technology will, for instance, enable FMCW radar, time-domain reflectometry, spectroscopic and phase sensitive three-dimensional imaging at THz frequencies.