

Technology Offer

Title:

Non-destructive testing of composite materials using X-ray technology (Ref: 10 DE 1486 3GQX)

(Open)

Abstract:

A German research institute develops advanced methods for non-destructive X-ray inspection for novel applications. They cover the whole chain from analysing the requirements up to implementing suitable inspection prototypes including an automatic evaluation. A large variety of industrial products can be analysed, e.g. fiber composite materials. Technical cooperation is offered to industrial manufactureres for product/production process development, improvement or quality control.

Description:

The specialised development center for X-ray technology has four focal points of research: X-ray sensorics, computer tomography, image processing and applications. In the area of nondestructive testing they offer research and development for new demands up to complete prototypes of X-ray inspection systems with fully automated reporting as well as the development of single components.

As a service, they support the international industry by giving product development a nondestructive view to hidden details at early development levels, supporting a qualified end control for products, and by fostering the introduction of new developments.

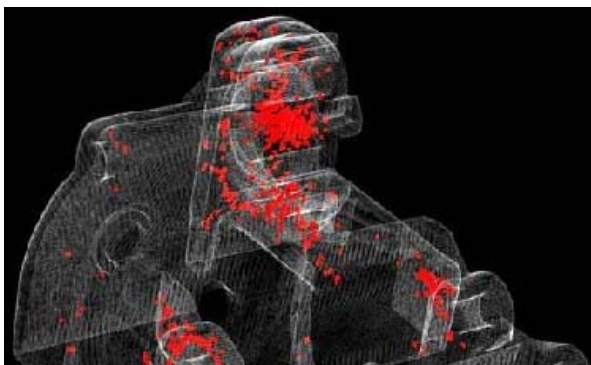
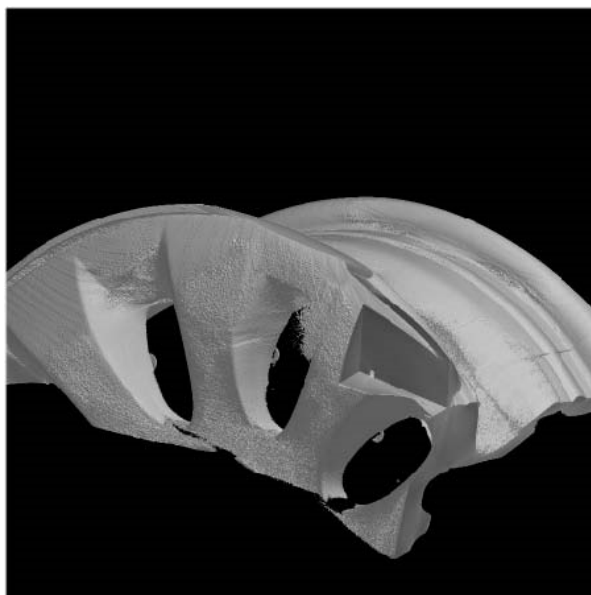
The scope of services ranges from feasibility studies about the determination of material characteristics to the implementation of user-specific 2D- or 3D- inline testing systems. Special focus is put on the detection and quantitative evaluation of all kinds of defects, the differentiation and visualization of material distributions and densities, the surface extraction of complex parts for dimensional measurement and especially on the characterization of fiber composites.

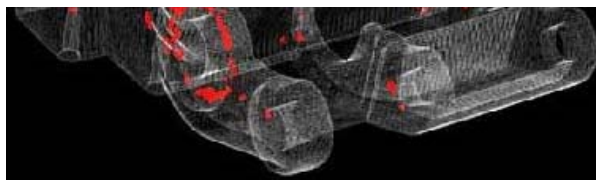
The institute offers concepts for the early detection of material defects during the production process of fiber composite materials using high-resolution computed tomography (CT), tomosynthesis, radioscopy and thermography. Image evaluation for automated defect recognition is part of the scope of services as well. Special attention is given to the inspection of large and hardly accessible components in aerospace applications.

Technical cooperations and knowledge transfer are offered to industrial manufacturers in all sectors and areas where advanced non-destructive X-ray analysis is required for development, improvement or quality control of new products and processes (casting, composite production etc). Cooperatons can range from project oriented measurement service and consultancy, to the development of a complete X-ray testing solution and its implementation at the industrial cooperation partner.

Innovations and advantages of the offer

- Highly advanced X-ray technology, sound scientific background e.g. nanofokus x-ray technology, sub- μ computer tomography (CT), micro volume CT, macro volume CT, high energy CT, inline CT
- tailored implementation to specific industrial needs, making scientific knowledge available for industrial applications
- Valuable input to industrial development departments for process and product development and improvement





Current and Potential Domain of Application

Any sectors and areas where advanced non-destructive X-ray analysis is required, e.g. for development, improvement or quality control of new products and processes

Other Profile Details

Organisation: Bayern Innovativ Bayerische Gesellschaft für Innovation und Wissenstra

Network Partner: Bavaria2Europe

Country: Germany

Entry Date: Wed, March 03, 2010

Validation Date:

Deadline: Thu, January 27, 2011

List of Keywords

Technology

- ✦ Composite materials
- ✦ Metals and Alloys
- ✦ Analyses / Test Facilities and Methods
- ✦ Other Non Destructive Testing

Market

- ✦ Consumer Products
- ✦ Industrial Equipment and Machinery
- ✦ Other Industrial Products (not elsewhere classified)
- ✦ Manufacturing

Current Stage of Development

Available for demonstration

Exploitation of RTD Results

None

Intellectual Property Rights

Comments

Organisation/Company

Type: Research institute/University

Size: 11-50

Collaboration Type

- ✦ License Agreement
- ✦ Joint further development
- ✦ Testing of new applications
- ✦ Adaptation to specific needs
- ✦ Change in the partner sought's currently used technologies (installations, process, facilities)
- ✦ Technical consultancy
- ✦ Quality control

Comments

- Type of partner sought:

Industry

- Specific area of activity of the partner:

Manufacturers of industrial parts, especially from metal or fibre reinforced polymers (but also in other industries like food or wood)

- Task to be performed by the partner sought:

Definition of testing requirements. Delivery of parts to be tested. Joint analysis of testing results. Either using the results for improving the own production process or product development (feedback loops), or directly implementing the developed X-ray testing solution in the own plant.

Targeted Countries

ALL

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