

## Technology Offer

### Title:

Material development for a new generation of composite materials (Ref: 10 DE 1486 3GNW )

(Open)

### Abstract:

**A German university located in Bavaria hosts one of the leading research groups in the field of polymer composite materials in Germany. Their core competence lay on understanding and optimizing the interrelationship among Structure-Processing-Properties, with activities including thermoplastic and thermosetting composites. Joint development is offered to manufacturers of resin systems and composite parts, from chemical characterisation to process optimization to product properties.**

### Description:

The university department combines physical and chemical fundamental knowledge to bring innovative smart materials into real world applications, such as energy efficient out-of-autoclave fast curable matrices and class-A surface composites.

A number of modern industry-relevant manufacturing methods are available, such as injection moulding compounding for novel thermoplastic hybrid composites, and 2K resin transfer moulding or autoclave processing for high performance carbon/glass reinforced thermosets.

The characterization of the large spectrum of properties belongs to their daily work. This includes thermal analyses, morphology investigations, quasi-static mechanical testing and analysis of fatigue behaviour.

By building a bridge between pure science and industrial needs, the department is proud to be a reliable collaborator on the development of the new generation of composite materials with industrial partners.



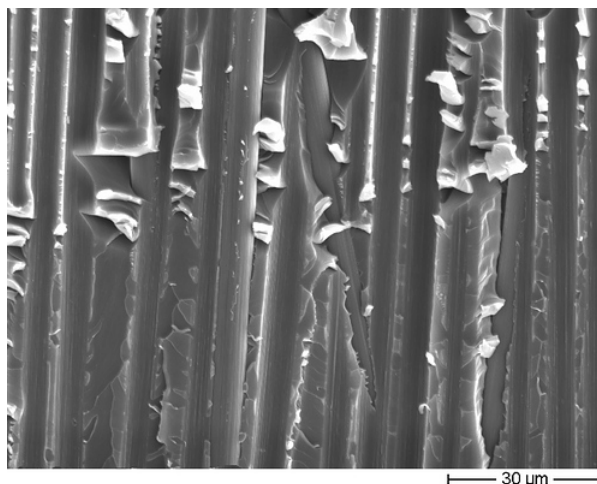
Joint development is offered to

- a) producers of resin systems who want to develop a new or improve an existing resin system
- b) producers of composite parts that need tailored resin systems and/or optimised production processes to meet specific requirements of new products

### Innovations and advantages of the offer

Scientific expertise plus applied research services covering the complete production chain of is offered by one single partner: from chemical characterisation of raw material components, to development of recipes and the related production processes, to physico-chemical characterisation of the final part.

Advanced machinery and instruments are available for joint research and test production, e.g. a 2-Component Resin Transfer Moulding device and a fully equipped chemical and physical analytics including transmission / scanning electron microscopy.



### Current and Potential Domain of Application

Research and Development

### Other Profile Details

Organisation: Bayern Innovativ Bayerische Gesellschaft für Innovation und Wissenstra

Network Partner: Bavaria2Europe

Country: Germany

Entry Date: Wed, February 24, 2010

Validation Date:

Deadline: Tue, February 15, 2011

### List of Keywords

#### Technology

- ✦ Moulding, injection moulding, extrusion, sintering
- ✦ Composite materials
- ✦ Plastics, Polymers
- ✦ Properties of Materials, Corrosion/Degradation

#### Market

- ✦ Wind energy
- ✦ Automobile parts
- ✦ Fibre-reinforced (plastic) composites
- ✦ Polymer (plastics) materials
- ✦ Consulting services

### Current Stage of Development

Available for demonstration

### Exploitation of RTD Results

Private Research

### Intellectual Property Rights

Secret know-how

*Comments*

### Organisation/Company

Type: Research institute/University

Size: 11-50

### Collaboration Type

- ✦ License Agreement
- ✦ Joint further development

#### *Comments*

- Type of partner sought:

#### Industry

- Specific area of activity of the partner:

a) Manufacturer of resin systems

b) Manufacturer of advanced polymer composite parts (e.g. for automotive, aerospace and wind energy)

- Task to be performed by the partner sought:

a) Providing their raw materials and defining the target and the chemical bandwidth for the development of the new resin system

b) Providing specific raw materials (if exisiting) and defining the required final product and material properties

### Targeted Countries

ALL

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