



Within the framework of international cooperation VUB is involved in solution of project **MeTexCom - The development of hybrid structures based on metal textile composites.**

MetexCom project has been considered for funding within 13th Call for Transnational Collective Research CORNET. [Project team](#) consists of Czech and German research partners with active support of associations Clutex - cluster technical textiles Czech Republic and FK Textil - Forschungskuratorium e.V. Germany.

The partners in the consortium are combining the expertise in fibres, yarn spinning, weaving (VUB a.s. - Czech Rep.), in non-wovens (STFI e.V - Germany), in thermoplastic polymer development and composite materials (SVUM a.s. - Czech Rep.) required for the research. Important subcontractor in the field of plasma treatment of metal sheets is Technical University Dresden, Germany.

#### ***Goal of the project:***

Innovative metaltexile hybrid structures with an extreme adhesion between the different material layers, which are to be developed, have to fulfil 3 basic functions resulting from light weight construction requirements:

- mass reduction in comparison with present used structures and/or
- improved acoustic behaviour
- improved insulation and damping behaviour.

The processing of voluminous textiles produced by different non-woven technologies as well as high-tenacity woven textiles in combinations with different sheet metal materials will be in the focus of the project.

Replacing the gluing or any other connecting materials completely in the manufacture of hybrid structures is a real technical challenging task of project solution.

One of the main tasks is to select suitable textile materials and metal sheets within the project. In many cases it means to arrange special production or treatment of individual layers with respect to final hybrid structure forming using mechanical/thermal process.

The specific plasma pre-treatment of the metal surface is very important and demanding part of project solution. Such treatment creates a micro/nano structure on the surface of metal sheets, which contributes to significant improvement of the adhesion between the different function layers.

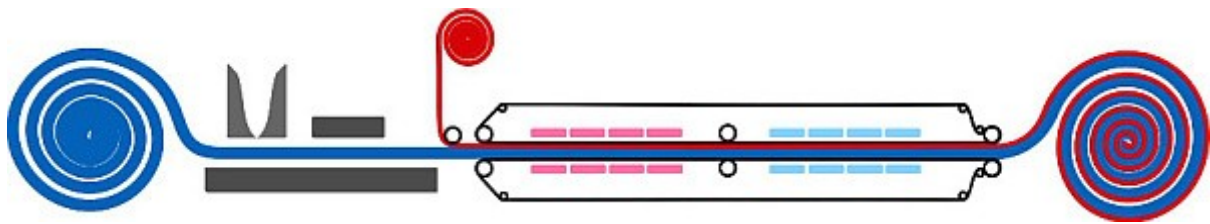
The fibre material selection within the project considers this aspect as well. Of course the emphasis is given to thermoplastic polymer fibre materials.

#### ***Potential applications***

of the developments are seen in the:

- automotive sector (insulation materials),
- mechanical engineering industry (acoustic and vibration damping) and
- light weight building constructions

[Official flyer MeTexCom project](#)



## international award

Representatives of VÚB attended the award ceremony on 27th March 2014 in Chemnitz.

Four most successful examples of cross-border projects of "[Cross-border cooperation of SMEs in the areas of research, development and qualification: Germany - Poland - Czech Republic](#)" have been selected by the jury from all applications and awarded within the competition initiated by Federal Government Commissioner for the New Federal States at Federal Ministry of Economy and Energy and organized by Fraunhofer Centre for Central and Eastern Europe (MOEZ).

The project "[Bilateral Research in the field of technical textiles](#)" covering mutual cooperation of our direct R+D cooperation partner STFI e.V. Chemnitz and Cluster Technical Textiles CLUTEX and its membership SMEs has been selected and awarded as one of four most fruitful projects of transnational cooperation.

( Galerie )

Presentation of selected results of the MeTexCom project at the 8th Aachen-Dresden International Textile Conference as poster (27. - 28.November 2014 in Dresden). [more detail see here...](#)