**COST Action TU1303 in the domain of Transport and Urban Development 2013-17**
The COST Action Proposal "*Novel structural skins - Improving sustainability and efficiency through new structural textile materials and designs"* has been approved by the COST Committee of Senior Officials on Wednesday 15 May, 2013. COST (European Cooperation in Science and Technology) is one of the longest-running European frameworks supporting cooperation among scientists and researchers across Europe.


**Abstract**
The urban built environment is being transformed by building skins derived from textile architecture. Working from a basis of tensioned membranes, these highly efficient structural forms are now being integrated with multi-disciplinary technologies to form new multi-functional systems that address the needs and global challenges of the urban built environment. The rapid emergence of lightweight building skins is in response to factors associated with climate change, energy, and workplace health and well-being, and is directly linked to advances in material development, analysis tools, and skills in design. These advances, led by European organisations, universities, companies and SMEs have, however, been somewhat fragmented. There is now a need to synthesise the current innovations and technologies from which to establish a platform on which the development of new advancements, products, and applications can be stimulated and produced. The aim of the COST Action is to build a coalition of researchers, academics, architects, engineers, contractors, asset owners, and policy makers that creates this platform. It will be achieved through the sharing of expertise, techniques, facilities and data, by establishing technical consensus, and developing European standardisation for the analysis, design, and realisation of multi-functional building skins.


**Aim**
The aim of the COST Action is to standardise the material and structural testing and analysis approaches within Europe, to inform the design of safer and more efficient structures, to harmonise the research on membrane and foil structural skins, to collate harmonised data and tools on energy performance and Life Cycle Analysis and to stimulate and deliver innovation and development of new structural skin products, adaptable systems and durable applications in the urban environment.
Five Strategic Research Clusters are defined that focus on innovation, sustainability, energy efficiency, material analysis and standardisation of novel structural skins: new applications of structural skins and new concepts, sustainability and Life Cycle Analysis of structural skins, building physics and energy performance of structural skins, materials and analysis and from material to structure and limit states: codes and standardization.
By participating in various scientific conferences and networks, all participants will actively contribute to the awareness of the COST Action and its objectives and goals. The various working groups will interact proactively with their target audience, e.g. partners from the industry or Standardisation Bodies, and disseminate specific research results and reports.


FIG 1


FIG 2


FIG 3




FIG 4


FIG 5

FIG 1: School "De Kraal", Herent, Velum
FIG 2: Zénith de Strasbourg, Massimiliano Fuksas Architetto, Form TL
FIG 3: Funeral Hall, Kagamihara, Toyo Ito & Associates, Architects
FIG 4: Test setup of the 2012 Marrakech Umbrella with bending-active GFRP rods, courtesy Julian Lienhard
FIG 5: Dresden Castle, courtesy formTL, photographer Jürgen Lösel

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