

# Form and Force

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## Smart Wraps

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Fabric façades are now much more than just a textile wrap for a building. Of course one can still highlight the merits of fabric meshes as lightweight materials: they are apt to wrap buildings at a fraction of the material need for other aesthetical enclosures as stone or aluminum façades. Savings in weight, hence sub construction and material consumption are smart in terms of sustainability. Smartness nowadays has to be much more than that. Today it is more to do with adaptivity. Almost all building types need to provide for a maximum of adaptivity when it comes to their ground floor flexibility. Hence they need to be wrapped into a façade with a maximum of adaptivity – reflecting on the inner flexibility.

About 15 years ago, distinction in textile façades meant for example XXL prints – that was to do with extravagance rather than adaptivity. Actual smartness is only evolving now: at the end of this development the fabric mesh will be the matrix for all sorts of applications – ranging from leading electricity through its veins to supplying lighting as in a vast LED screen.

In its first part the paper will give a brief introductory input regarding the interrelation between material science and design of smart fabrics. Focus of the second part are recent material developments and their input for actual projects. Showing a variety of today's applications will lead to a conclusion where future research in the field of smart composites will be heading.

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