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The Production and Use of a Novel Smart Material -"Smartform", in Manufacturing Applications

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The interest in the use of the so-called smart materials – materials that respond in a particular way to some external stimulus, has been growing for some time now. However, one area where the use of such technology has not yet significantly penetrated is that of manufacture. The advantage of such materials is that specific shapes and forms may be obtained without the need for subsequent manufacturing stages, which in turn would allow for reduced production costs.

One material - "Smartform" has been developed for this purpose in the Centre for Manufacture at the University of Manchester. The paper describes the technology behind the production of this material, the manufacture of products from it, and some of the possible applications to which it may be put (such as curved forms and springs).