

Smart holograms – not just pretty pictures



What if we could see the condition of an object just by looking at it? Imagine a room where the colours of the wall change as it 'senses' your mood.

Holograms, currently used for security on bank notes and credit cards, are about to get much smarter.

The 4% annual rise in world demand for architectural paint makes a solid base for applying films containing holographic flakes.

Technology Strategy Board

Driving Innovation

Smart Holograms Ltd is leading an industrial and academic consortium to make paint coatings that contain 'smart holograms'. Unlike ordinary holograms embossed onto the surface of metal foil, these smart holograms will be flakes immersed in a film and applied like paint.

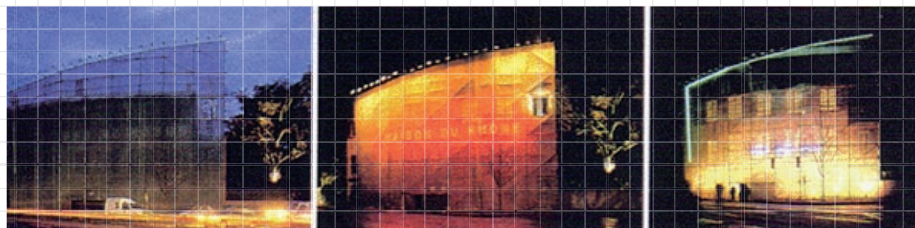
Smart Holograms was already working on generic R&D with the Institute of Biotechnology at University of Cambridge when Barr Architects suggested using holograms in building features such as windows, walls and lighting systems. These holograms would react to changes in temperature, light, chemicals and moisture.

Working alongside ICI Paints, the project is well on the way towards designing holographic flakes that

might tell when a surface needs repainting or warn of rising damp.

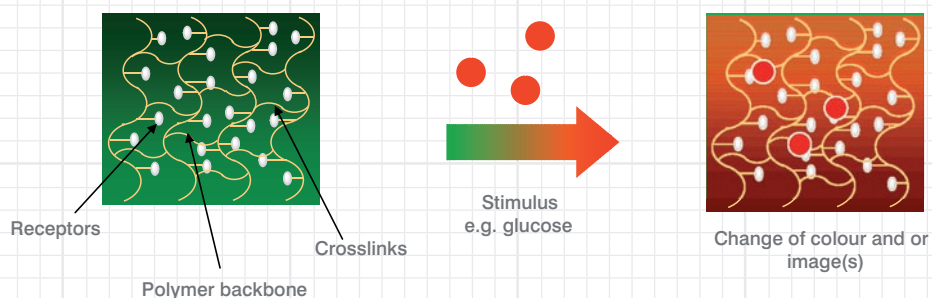
These smart paints will have a dramatic

impact on the architectural coatings industry. Possibilities include colour-changing 'mood' paints, intelligent lighting and shading systems, and diagnostic paints that reveal adverse moisture or chemical build-up.



How the technology works:

Receptors detect environmental change, prompting the hologram to change its appearance.



'Once proven in the building industry, smart holograms could have many spin-off applications such as protecting against counterfeit products, alerting users when a product is contaminated and monitoring medical conditions.'

Smart Holograms

Collaborative research and development projects are one of the tools that the Technology Strategy Board uses to drive innovation in the UK. The Technology Strategy Board is a business-led executive non-departmental public body, established by the Government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve the quality of life. It is sponsored by the Department for Business, Innovation and Skills (BIS).

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Project number

17182

Duration

37 months – ends
November 2009

Technology Strategy Board investment

£500,000

Total project cost

£1m

Current Project Partners

Barr Architects

ICI Paints

Institute of Biotechnology
at University of
Cambridge