Security ID cards with built-in holograms (w/ Video)

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(PhysOrg.com) -- Plastic cards with security features are ubiquitous these days, having a wide variety of uses such as credit cards, employee cards, licenses, and so on. Many have holographic images, but they are relatively easy to tamper with. Now researchers at SABIC Innovative Plastics and GE Global Research have developed a new class of thermoplastic holographic materials that embed holograms within the plastic of cards, making them virtually impossible to copy or alter.

The new "Secure ID Technology" will be much more secure than current technologies because the holograms are built into the volume of the plastic rather than being stamped on the surface. The system has been developed by General Electric Global Research with SABIC Innovative

Plastics and will have wider applications than just cards, because the new class of holographic materials can be shaped, cast into film, or injection molded into plastics.

Holograms are recorded within the thermo-plastic based holographic material, which can then be processed like a normal plastic and can be laminated within the card itself. A single card can have multiple holograms embedded in the plastic for maximum flexibility, personalization and security.

The GE Global Research blog shows an example of a 3-D image of a face that rotates as the card is tilted. Holograms can also include binary images, images of fingerprints, or even animations, all of which gives the authenticating card an unprecedented level of security.

SABIC's Vice President of Technology, Tom Stanley, said the new technology could be used in the authentication of all kinds of electronic devices, such as cell phones, laptops, and numerous other kinds of consumer goods, apart from ID cards and credit cards.

General Electrics employs over 300,000 people in more than 100 countries. SABIC (Saudi Basic Industries Corporation) Innovative Plastics employs around 9,000 people in 25 countries, and manufactures and supplies thermoplastic coatings, resins and other products around the globe.

SABIC Innovative Plastics and GE Global Research have been working on the system for over six years, and hope to commercialize the new holographic materials within the next two or three years.