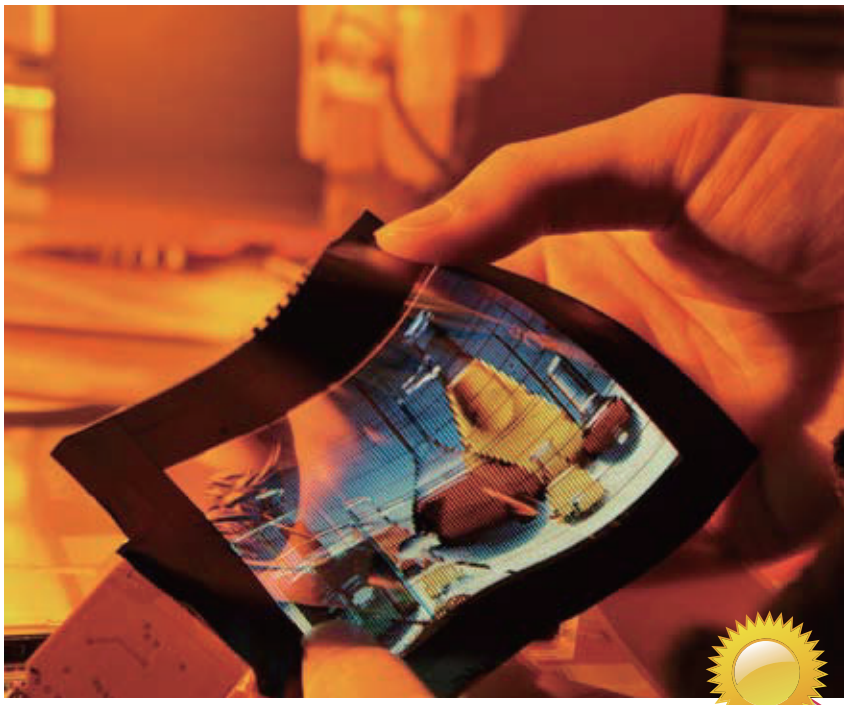
ITRI Receives R&D 100 Award Honors for Third Straight Year

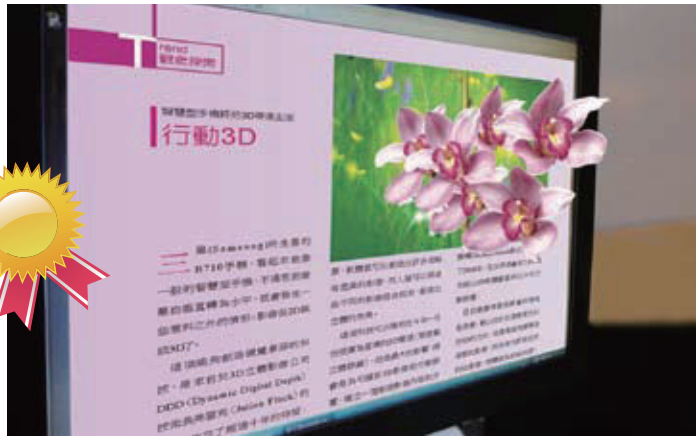


FlexUPD is a technology that allows for the commercialization of the first quality flexible displays. Source: ITRI

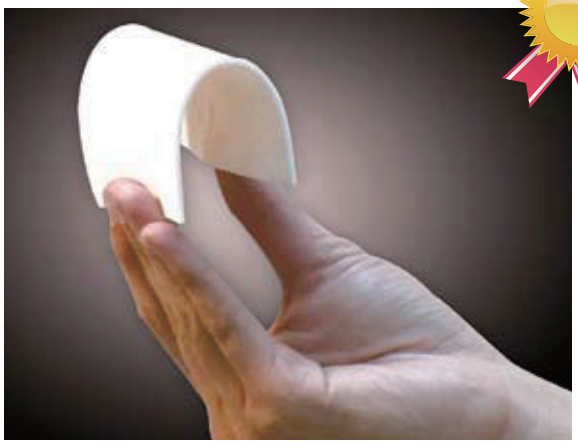
For the third consecutive year, ITRI has been honored by the R&D 100 Awards, this year receiving a total of three awards for its fire-resistant material REDDEX, 3D display technology with integral 2D and 3D i2/3DW, and Flexible Universal Plane for Displays FlexUPD. The R&D 100 Award is a highly coveted award in international R&D circles. Each year, one hundred items of commercial technology that represent a major innovation are selected from thousands of new technologies developed around the world. A judging panel comprised of scientists, experts and scholars from R&D institutes and influential companies selects the winners based on the unique innovativeness of the technology, the magnitude of scientific breakthrough, and future real-life applications. "The R&D 100 Awards have always represented some of the most innovative concepts to reach the marketplace in the past year," said Rita Peters, editorial director of R&D Magazine.

REDDEX is a non-toxic fire resistant material that effectively reduces fire spread and will not drip melt. After exposure to high temperatures of 1000 degrees Celsius, the back side material can be effectively protected by maintaining the temperature at 300 degrees Celsius or less for over 60 minutes. Due to its high level of adhesion to various types of substrate, structures will stay strong even after exposure to a fire. Even when steel has been in contact with flame for a long period of time, REDDEX will stay closely adhered to the main structure to ensure that the building will be protected from exposure and damage by the high flame temperatures. There is a broad range of product applications for this material due to its low density, flexibility, low smoke toxicity and high durability. It conforms to new environment regulations of EU and is expected to have a revolutionary impact on transportation, building and everyday industrial goods.

3D stereoscopic applications are the latest trend in consumer electronics. i2/3DW not only breaks through the current 3D display application restriction to small fixed areas on mobile phones but also allows the insertion of different sized 3D images on static text page. The 3D image location can be dragged to any location and reduced or enlarged as desired. The 2D text is clearly legible and has the same high resolution as the display. This solution is a significant improvement over regular stereoscopic dis-



i2/3DW is the next-generation 3D display technology with integral 2D and 3D for the naked eye. Source: ITRI



REDDEX is a green, environmentally friendly fire resistant material that can effectively inhibit rising backing temperatures. Source: ITRI

plays with full screen 3D images. This technology can be applied to moving internet ads, internet games, 3D video games, product advertisement and other areas that use 3D media images.

FlexUPD introduces a layer of de-bonding material between a polyimide (PI) layer and glass carrier, allowing flexible displays to be produced using existing processes and equipment for producing TFT on glass. The thin film transistor array that is used now for panel displays can be made on this soft PI film, which can be smoothly cut away without damaging the transistors. One of the first applications for this technology is a 6-inch color flexible AMOLED featuring a bending radius below 5 cm, and brightness up to 150 nits, with the capability of continuously playing color movies and animations. This technology will help manufacturers take advantage of their existing superiority in glass processes to cross over into flexible display production and provide new opportunities to produce high value flexible displays with small-to-medium sized processes that are facing obsolescence, not to mention providing a timely solution for the problem of high expense of building new flat panel manufacturing plants.

In recent years, ITRI has won many international awards for its R&D efforts. Over the past two years, ITRI has been honored with R&D 100 awards for On-Chip AC LED lighting technology and STOBA. Last year, FleXpeaker won the Technology Innovation Award from Wall Street Journal. The awards received this year display once again that ITRI's innovative capabilities are recognized internationally.

ITRI's five R&D innovations are honored with R&D 100 Awards in three consecutive years from 2008-2010.

2010	**REDDEX**	The fire-resistant material that effectively reduces fire spread and will not drip melt. Due to its high level of adhesion to various types of substrates, structures will stay strong even after exposure to a fire.
	i2/3DW	It's a 3D display technology with integral 2D and 3D. This technology can be applied to moving internet ads, internet games, product advertisement and other areas that use 3D media games.
	FlexUPD	Flexible Universal Plane for Displays with a special material is also called a de-bonding layer that lets the PI film to easily separate from the glass. It is currently being used in the liquid crystal display industry. In the future, this material may be broadly applied to OLED, EPD and TFT-LCD products.
2009	**STOBA**	The ***STOBA*** material technology allows the lithium batteries have important redundancy time and reached 12 sigma so that when the lithium battery shorts and generates high temperature, it also generates the locking response mechanism and avoids subsequent heat explosion problem to ensure consumer safety.
2008	**On-Chip ACLED**	The lighting technology allows AC to directly drive LED chip for lighting without the need for an DC to AC adaptor, thus saving the 15~30% power consumption. Benefits include energy savings, carbon reduction and improved overall LED illumination efficiency.