

Home

Enterprise I.T.

Hardware

Software

Communications

More Topics...



Power, cooling, monitoring and enclosure in an easy-to-deploy solution.

Click here for FREE Cooling Efficiency kit!



**Build Apps 5x Faster**  
For Half the Cost  
Enterprise Cloud Computing  
On Force.com

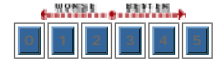
[Hardware](#)

Leader in critical power and cooling.

ARTICLE

Average Rating: ★★★★★

Rate this article:



## Scientists Create Flexible, Inorganic LED Displays

By Barry Levine  
August 21, 2009 9:41AM

[Follow NewsFactor on twitter!](#)
[SHARE](#)

Scientists report a new method has been developed to create microscale inorganic LEDs, with flat or wavy configurations possible. The team wanted to find a way to grow and shape inorganic LEDs because of their brightness and sturdiness. Flexible LED displays will allow business and consumer users to have large-screen displays in their pockets.

### Related Topics

- [Video Displays](#)
- [Science Magazine](#)
- [LED](#)
- [OLED](#)
- [Ford Motor](#)

### Latest News

- [Intel Sees a Tech Recovery Ahead](#)
- [U.S. Broadband Requests Overflow](#)
- [France Looks Into Imploding iPhones](#)
- [Apple Admits Spotify To App Store](#)
- [FCC Will Scrutinize Wireless Industry](#)

advertisement

➤ Cars with video displays on their sides that show up only when the video plays. Pocket-sized video screen roll-ups. Wall-hanging TVs -- across an entire wall -- that are as thin as cardboard. These are only some of the possible uses for a new form of LED display, reported today by a scientific team in Science magazine.

The team of 16 scientists, led by materials scientist John Rogers of the University of Illinois at Urbana-Champaign, report that they have "developed methods for creating microscale inorganic light-emitting diodes (LEDs)," as well as ways to turn the LEDs into "unusual display and lighting systems." Flat or wavy configurations are possible, with dimensions down to the micrometers, and "printing-based assembly methods can deposit these devices" onto glass, plastic or rubber.

### Best Parts of Organic and Inorganic LEDs

This latest type of LED is brighter, more flexible, and can be arranged in more shapes and sizes than current LCD or organic LEDs.

Organic LEDs are used in cell phones and game consoles, while inorganic ones are used in those video billboards that have been sprouting up alongside highways. Organic LEDs, which are called organic because they contain carbon, are not as bright or as sturdy as the billboard kinds, but inorganic LEDs have to be sliced and assembled by robots because of their thickness.

The team of scientists, representing institutions from the U.S., China and Singapore, sought to combine the advantages of each. In order to do that, the team wanted to find a way to grow and shape inorganic LEDs.

They first created what Rogers called a "sacrificial layer" -- an adhesive that holds the inorganic LEDs on a wafer while they are being created, but is partially removed with a liquid later. The layer of LEDs can then be lifted up from the wafer. Then, with a rubber stamping device, the team grabbed the inorganic LED crystals and stamped them onto

advertisement

replay

Powerful. Intelligent.

Systems, software and services for a greener planet.

Take the systems consolidation evaluation

Advertisement

[Salesforce.com](#) is the market and technology leader in Software-as-a-Service. Its award-winning CRM solution helps 43,600 customers worldwide manage and share business information over the Internet. Experience CRM success. [Click here for a FREE 30-day trial.](#)

### Hardware

1. [Intel Raises Its Forecast for Sales](#)
2. [Sony Challenges Amazon's Kindle](#)
3. [Accenture Goes the Tailor-Made Route](#)
4. [New Wi-Fi Standards Nearly Complete](#)
5. [Netbook Partner: External Burners](#)

advertisement

**CRYSTAL REPORTS® SOFTWARE AND DASHBOARD SOLUTIONS.**  
**EVEN THE FREE TRIAL EASES YOUR STRESS.**

[LEARN MORE](#)




bendable sheets.

The sheets, made of rubber, plastic or glass, are connected to the conductors and insulators that the LEDs need, and -- voilà! -- you have a flexible, bright LED membrane. Because they're brighter than organic LEDs, fewer are needed to create the same level of display.

**'Cool' To Live in the 21st Century**

Spacing the LEDs out even more allows the surface to become essentially transparent, except when the LEDs are turned on. Some observers are suggesting that the technology could be used, for instance, to put flexible, transparent-when-off video displays into textiles.

The study was initiated by the Ford Motor Co., which wanted to develop a third brake light that could be a strip of LEDs along a car bumper.

This research "shows once again how cool it is to live in the 21st century," said Michael Gartenberg, vice president at industry research firm Interval Research.

New, flexible LED displays would meet the demands of consumers and businesses, he said, who would love to have "large-screen displays in their pockets." With processor performance and transmission speeds for [mobile](#) devices having increased dramatically over the last few years, display size is a key bottleneck.


And, with all the advances on the LED display front, Gartenberg said, "it certainly seems like we're moving toward having LED displays" becoming much more prominent than they are now.


**CRYSTAL REPORTS® SOFTWARE AND DASHBOARD SOLUTIONS.**  
**EVEN THE FREE TRIAL EASES YOUR STRESS.**


[LEARN MORE](#)




TOP-RATED BY READERS

- 

**Accenture Goes the Tailor-Made Route**  
 Offers plug-and-play custom hardware.  
**Average Rating:** ★★★★★
- 

**New Wi-Fi Standards Nearly Complete**  
 The 802.11n standard is much faster.  
**Average Rating:** ★★★★★
- 

**Scientists Create Bendy LED Displays**  
 Allow brighter, more flexible screens.  
**Average Rating:** ★★★★★

**accenture**  
*High performance. Delivered.*

IT Consulting for High Performance

Click here to see how we align strategy and technology to drive high performance.

- Consulting
- **Technology**
- Outsourcing

advertisement



**APC**  
 by Schneider Electric

BUYER'S GUIDE

Product Information and Resources for Technology You Can Use To Boost Your Business

**CRM Systems**

- ▶ Experience CRM—and Business—Success today with Salesforce.com.
- ▶ Experience CRM—and Business—Success today with Salesforce.com.

**Enterprise I.T.**

- ▶ Go Green with IBM Blade Center
- ▶ Power, cooling, monitoring, & management in one easy solution!

**Data Management**

- ▶ Power, cooling, monitoring, & management in one easy solution!

**Security Products**

- ▶ Get security your customers can see from VeriSign.

**E-Commerce**

- ▶ Get security your customers can see from VeriSign.

**Enterprise Hardware**

- ▶ Go Green with IBM Blade Center

**Navigation****NewsFactor Network**

[Home/Top News](#) | [Enterprise I.T.](#) | [Hardware](#) | [Software](#) | [Communications](#) | [Network Security](#) | [Wireless Tech](#) | [Linux/Open Source](#)  
[Apple/Macintosh](#) | [Microsoft/Windows](#) | [World Wide Web](#) | [Data Storage](#) | [E-Commerce](#) | [Personal Tech](#) | [Tech Trends](#) | [Press Releases](#)

**NewsFactor Network Enterprise I.T. Sites**

[NewsFactor Technology News](#) | [Enterprise Security Today](#) | [CRM Daily](#)

**NewsFactor Business and Innovation Sites**

[Sci-Tech Today](#) | [NewsFactor Business Report](#)

**NewsFactor Services**

[FreeNewsFeed](#) | [Free Newsletters](#) | [Free Whitepapers](#) | [XML/RSS](#)

[About NewsFactor Network](#) | [How To Contact Us](#) | [Article Reprints](#) | [Careers @ NewsFactor](#) | [Services for PR Pros](#) | [How To Advertise](#)

[Privacy Policy](#) | [Terms of Service](#)

© Copyright 2000-2009 NewsFactor Network. All rights reserved. Article rating technology by Blogowoqo.