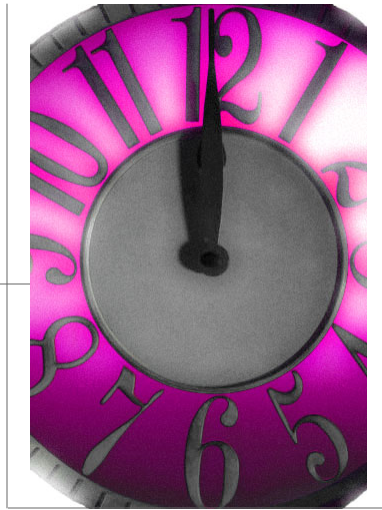


Special points of interest:

- <http://www.carocp.org>
- <http://www.cryrop.org>
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CAROCP Market Watch

A Trends & Forecasting Report

Thumbs UP!

All Sectors

Body language has the ability to convey strong messages; in fact, body language frequently trumps verbal language in conveying a message. Lately, we’ve been seeing a lot of thumbs-up, regardless of the circumstances. The political campaign season brings about lots of “thumbs-up” opportunities. For example, Hilary Clinton gave thumbs-up at her “we’re not mathematically defeated yet” speech. Watch Senator John McCain, he is a steady thumbs-up kind of candidate. He was photographed giving someone a thumbs-up while drinking coffee at a café in Versailles last month. Senator Edward Kennedy gave the media a big thumbs-up when he recently left the hospital following the discovery of a brain tumor. According to Jeanna Bryner, senior writer for Live Science, “the gesture, for better or worse, has long breathed life

or death into major events.” So, what’s the history of the thumbs-up gesture? The practice comes from ancient Roman times where gladiators would live or die by the hand gesture. In Latin, the term “pollice verso” means to gesture, “with a turned thumb.” A crowd’s use of the thumbs-up or down hand gesture would signal to the officials to let the gladiator live or die after a fight. For a gladiator fighting in the Roman Coliseum, a thumbs-up signal wasn’t a welcome sight. While it has a positive connotation today, back then it meant death, or “get him out of here.” A concealed thumb (considered a thumbs-down) meant that the gladiator got to live to see another day.

The thumbs-up gesture took on new meaning and popularity with the advent of World War II. American

pilots can be credited for bringing the thumbs-up gesture to the forefront of common, modern body language. Pilots used the thumbs-up gesture to indicate that they were ready for take-off. To the crew it meant that everything was good and that they were ready to go. The hand motion subsequently spread across Europe and even to parts of South America during the war as a result of American pilot usage and exposure from the media. Pictures of pilots giving a thumbs-up sign were a positive image from a war situation that could be brought home and published.

In the 1960’s, as anti-war sentiments took center stage in our country, the use of the *Continued on page 4*

Trekkie Device, One Step Closer to Reality?

Engineering & Design Sector

Were cloaking devices first introduced in the Star Trek series by the Romulans or the Klingons? True Trekkies will know that cloaking devices were first introduced in the *Star Trek: Original Series*, episode “Balance of Terror,” though the device was only referred to as “a practical invisibility screen.” The invisibility came as a surprise to the crew of the USS Enterprise,

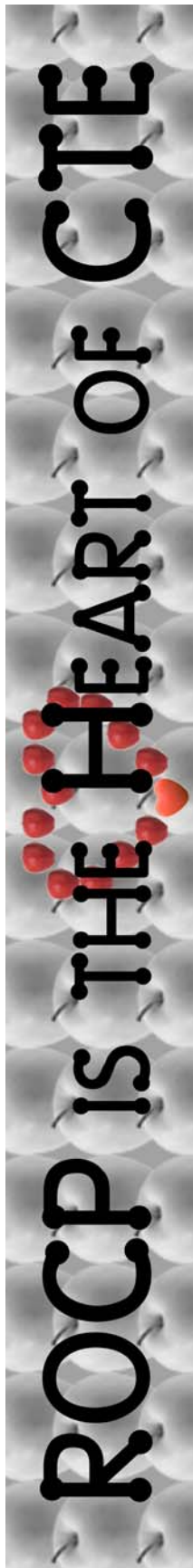
who considered it only a theoretical possibility. Today, through the efforts of applied mathematician Graeme Milton, the concept of a cloaking device is coming one step closer to reality.

Milton’s research on a superlens that has the ability to cloak an object is very similar to the cloaking devices portrayed in *Continued on page 4*

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Drivers Get Your Sewing Kits

Transportation and Engineering & Design Sectors

BMW has just made a prototype vehicle that is covered in fabric rather than metal. The GINA LIGHT is a roadster concept. The usual body sheet metal found on production vehicles such as the hood, side panels and doors have been all replaced with a special, flexible, highly durable and extremely expansion-resistant fabric material that stretches across a metal wire structure. The GINA (Geometry and Functions in “N” Adaptations) cloth-covered car is like a living animal in that its skin moves and wrinkles when a door is opened or closed. The fabric is a silver expansion resistant textile that is form fitted to the car’s structure. The skin is stretched across flexible metal wires attached to the frame and it can be moved with hydraulics.

A number of elements of the substructure are actually movable and the driver can shift them by means of electric and electric-hydraulic controls resulting to a change the shape of the outer skin. For example, when the headlights are not active they are hidden

under the special fabric cover. As soon as the driver turns on the lights, the contour of the front ends changes revealing the twin-headlights –just like a human being opens his eyes.

According to Chris Bangle, Head of BMW Group Design, the GINA philosophy considers individual customer requirements as a part of any car’s development at BMW. The customer “broadens the context of our products and change the core values that define our industry along the way,” said Bangle. The context and change have resulted in innovations such as the GINA LIGHT.

“BMW GINA Light Visionary Model Concept Revealed.” [eGMCARTECH](#). 10 June 2008. 16 June 2008.

Alternative Fuel Source: Junk Computers

Information Technology and Transportation Sectors

E-waste is one of the fastest growing segments of our waste stream. Arsenic, mercury, lead, and flame retardants are just some of the toxic materials used in electronic goods, making them more hazardous than normal household trash. In 2005, the United States alone was responsible for generating some 2.63 million tons of electronic garbage and the amount continues to increase.

Scientists all over the world are seeking ways to safely remove toxic substances from electronic waste products to avoid environmental catastrophe, and to recycle and reuse these valuable materials. Researchers have discovered that a special combination of catalysts, high temperatures and chemical filtration can be used to destroy the flame retardant additives in plastics. This process removes nearly all of the toxic substances from the scraps, resulting in oils, called “feedstocks,” which have the potential to be safely used in a wide range of consumer products and goods, including fuel for automobiles. “The recycling of scrap printed circuit boards is becoming increasingly important because some of the metals they contain are becoming increasingly

scarce” says William Hall, a chemical engineer at Coventry University in England. This new process has an advantage over the existing smelting process because it not only recovers the precious metal content from printed circuit boards; it also recovers valuable organic chemicals. As with other new technologies, it will need investment and scaling-up in order to become effective.

Choi, Charles Q. [LiveScience](#). 14 May 2008. 16 June 2008.

Green Collar Jobs

Energy & Utilities, Agriculture & Natural Resources, Engineering & Design Sectors

Forget white-collar and blue-collar jobs. Today's hot jobs are green-collar, particularly for career changers and those thinking about growth and advancement potential. Braken Hendricks, a senior fellow at the Center for American Progress predicts that "the growth in green careers will be like the Internet boom, which not only created new jobs, but also significantly impacted the overall economy." Some are predicting that up to a half a million new jobs in ecologically responsible trades will blossom within the next three years. Jobs will be at every rung of the ladder from chief sustainability officer to green maintenance supervisor. Part of the growth in green collar jobs will come from government initiatives. For example, the Green Jobs Act of 2007, passed by the US House of Representatives, provides millions of dollars to train people for green

collar employment. The private sector has added money to the pot by supporting environmentally sustainable business activities and addressing climate conditions. Renewable energy employers are scrambling for qualified, trained employees.

Job titles poised for growth include:

- Green Product Designer - designs products that use less energy and raw materials to produce and consume less energy and resources.
- Energy Rating Auditor - performs comprehensive analysis of a building's energy efficiency.
- Energy Retrofitter - uses an auditor's recommendations to create more efficient heating and cooling systems.
- Environmental Manager - coordinates management of

organizations' environmental performance to protect and conserve natural resources.

- Biological Systems Engineer - designs manages and develops systems and equipment that produce, package, process, and distribute the world's food and fiber supplies.
- Permaculture Specialist - analyzes land use and community building to create a harmonious blend of buildings, microclimate, plants, animals, soils, and water.
- Urban Arborist - a landscaper or greens keeper with an understanding of conservation and renewable resources.

Buhl, Larry. "Green Collar Jobs Are Poised for Growth." *Yahoo! HotJobs*. 27 May 2008. 16 June 2008.

Fe-eLine Harmony

Agriculture & Natural Resources Sector

Like nationally advertised "e-Harmony," an online dating service that matches individuals' profiles for compatibility and suitability, finding the right pet is also going online. Behaviorist Dr. Emily Weiss, who works for the American Society for the Prevention of Cruelty to Animals (ASPCA) developed the "Feline-ality" program to match cats to perspective owners. "People come in and say, I had a black and white tuxedo cat before, so that's what I want," says Jim Monsma of the Washington Animal Rescue League. "But cats are not all the same. They have widely divergent personalities." The goal of the computer program is to end animal-human mismatches that contribute to

overcrowding in shelters and/or leads to abuse, abandonment, or neglect.

Feline-ality assesses a variety of behaviors in individual cats and rates the animals on confidence and sociability. Confidence and sociability are two traits that are independent of each other and go into determining a cat's personality type. The program tallies up assessment results and places the cat into one of nine different personality categories that can then be matched to a family's situation and desires. The Feline-ality program incorporates a questionnaire for the perspective owner and results are given using a color code, telling them which set of feline personality types would be the

best match.

Unique names have been created to describe the nine cat personality types. For example, the cat who is comfortable with people and likes to help his owner press the keys on a computer keyboard or hold down the reader's newspaper is dubbed the "personal assistant." Those cats are here to lend a helping paw. Cats that are highly social and highly confident fall into the category of "leader of the band," and cats that score the opposite are known as "private investigators."

Pet adoptions have increased in facilities that use the Feline-ality program. Cats are considered complicated and harder to figure out than *Continued on Page 4*

"Cats that are highly social and highly confident fall into the category of leader of the band"

Trends & Forecasting

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Gone to the Cats

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dogs. Animal behaviorist Patricia McConnell says, “cats are interesting animals with rich emotional lives that deserve to be treated well. Any kind of test is somewhat limited, but it’s an excellent idea to be thinking as much as we can about what’s the right cat for the right home, and whether we can do some matchmaking.”

For those prone to the canine-way, don’t worry, “Canine-ality” has also been developed and is currently in use by the ASPCA’s “Meet your Match” program.

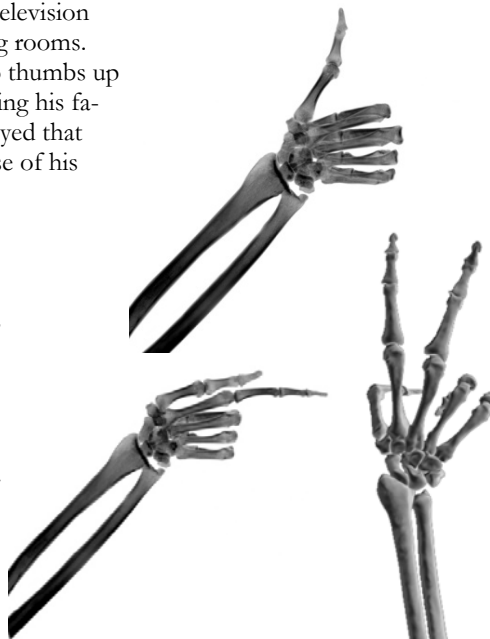
Lombardi, Linda. “Pick Your Pet: Program Evaluates Animal Personalities.” [LiveScience](#). 15 May 2008. 29 May 2008.

Thumbs-UP!

continued from page 1

thumbs-up gesture was overtaken by the ever popular peace sign adapted from the “V” for victory sign. The popularity of the thumbs-up gesture was brought back in 1974 when a certain Mr. Arthur Fonzairelli, aka “the Fonz,” filled the television screens in millions of Americans living rooms. Weekly, he could be seen flipping two thumbs up and flashing a rakish smile while uttering his famous “aaaaaaaay.” The Fonz, conveyed that “everything was good” through the use of his thumbs for a decade.

Today, in our country, it is widely accepted that the thumbs-up sign conveys “good job” and/or “I agree.” In our culture the thumbs-up gesture has become a fundamental element in our arsenal of body language. But travelers beware; the thumbs-up gesture can have other meanings in other parts of the world. Think twice before you give a thumbs-up in Iran and Greece. In those two countries, a thumbs-up signal is equivalent to “flipping someone off.”



Bryner, Jeanna. “From Kennedy to Clinton: Why Everyone Is Thumbs-Up.” [LiveScience](#). 22 May 2008. 29 May 2008.

Trekkie Device

continued from page 1

science fiction and fantasy pop culture. Devices that have the ability to hide objects can be found in books, television and movie blockbusters like Harry Potter, Star Wars, and Star Trek. Even our favorite 007 agent’s Aston Martin is equipped with a form of active camouflage, which worked by having embedded cameras capture the view from one side of the car and projecting that same view onto the other side of the car in the film, *Die Another Day*.

Milton, a professor at the University of Utah loves to dream up new materials and develop mathematical formulas to describe them. While working in his home country of Australia on a composite materials problem, Milton realized that cylinders could focus light in unusual ways and that discovery led him to create the mathematical model for a cloaking superlens. He works with other scientists and mathematicians to study the mathematics of new materials and he lets others construct and demonstrate his unique concepts in the laboratory. While the Star Trek style cloaking device isn’t reality yet, the experimental results achieved thus far are considered to be surprising and exciting.

The uses of cloaking devices vary from the obvious militaristic and medical uses to the study of earthquakes. There are some who speculate that Milton’s applications might prove capable of guiding the elastic nature of shock waves around buildings during earthquakes. Milton believes that his research and mathematical equations may lead to a better understanding of the propagation of sound, light, fluid, and turbulence. Also, Milton’s research is leading to new mathematical concepts and a better understanding of the field of “metamaterials” a family of materials with properties that don’t exist in naturally occurring materials. So, what’s next?

“Beam-me up Scottie!”

Banegas, Diane. “Behind the Scenes: Cloaking Device Concept Moves Beyond Theory.” [LiveScience](#). 6 June 2008. 16 June 2008.