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CAROCP Market Watch

A Trends & Forecasting Report

“CAROCP is Mission Driven - Market Smart!”

R.I.P. for the SUV

Transportation Sectors

Stick a fork in them, they’re done. SUVs once ruled the Earth, but like the dinosaurs, they may have outlived their time as manufacturers rewrite their new model plans to cope with the eventual tightening of fuel economy standards.

The latest victim is Volvo. According to a report in a Swedish auto magazine, Volvo is performing euthanasia on its popular sport-utility, the XC90. A revamped XC90 that was due to hit the market in 2010 has been cancelled because Volvo has no hybrid powertrain to put in it. So, after a facelift that will keep it on the market until 2012, the popular and highly-profitable XC90 will go wheels-up.

Volvo wouldn’t be the first SUV headed off to the automobile graveyard. General Motors has decided not to replace the old Chevy Trail-Blazer and GMC Envoy when they expire in 2010. In addition,

Lexus has designated no successor to the FX 470 when it goes away at the end of the 2009 model year.

Other manufacturers are moving old SUV nameplates over to new-style SUVs, known as crossovers, that weigh less, deliver better fuel-economy, and are less in-your-face than the old trucky ones.

Not more than 15 years ago, SUVs ruled the automotive landscape and produced record profits during Detroit’s last golden age. Now, the most popular SUV of that era, the Ford Explorer, is headed to the scrap heap, done in by fuel economy and the lingering effects of tire-shredding and rollover issues from several years ago.

The Explorer has been a shadow of its former self, selling at less than half of what it did during its glory years. The name will continue on but the vehicle is moving onto

the passenger car platform used by the Ford Taurus around 2011. Likewise, the Chrysler Aspen and Dodge Durango, latecomers to the SUV party, will shift onto the unibody platform used by the Jeep Grand Cherokee.

Consumers get more from crossovers because they combine the functionality of the old truck-based SUVs with the ride and handling of a passenger car. Lower weight, along with improved aerodynamics that comes from sitting closer to the ground, will boost gas mileage.

Serious off-roaders, though, will want to stick with their Jeep Wranglers and Hummers, which will stay true to their rugged truck roots. Likewise, drivers who tow trailers will also want to keep their Chevy Tahoes *Continued on page 4*

What Happens When Manufacturing Collides with Nanotechnology?

Manufacturing and Product Development Sector

More than 60% of *all* U.S. research is estimated to be aimed at the Manufacturing and Product Development industry sector according to the National Association of Manufacturers, and nanotechnology is the reason. Nanotechnology is the ability to “tinker with materials at the molecular level,” and it is driving materials science. The term “nano” as used with

“nanometer” is one-billionth of a meter. Imagine that one strand of hair is the distance between Maine and California. A nanometer, in comparison, would be shorter than one football field. Researchers and product developers are applying nanotechnology to plastics and extraordinary things are happening. Ordinary plastics act as insulators, which is why *Continued on page 4*

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ROCP IS THE HEART OF CTE

Wanted: English as a Second Language Teachers

Education, Child Development, and Family Services Industry Sectors

The shortage of teachers in the pipeline, particularly in the public K-12 sector, is well documented. Another less publicized segment of the education system where the teacher supply is inadequate is in the area of English instruction. According to the nonpartisan Migration Policy Institute, "spending on English instructors must be quadrupled to more than \$4 billion a year for the next six years to make legal and illegal adult immigrants proficient in skills crucial to their assimilation to the economic future of a country whose population is increasingly foreign born." Currently, states spend approximately \$1 billion per year on English as a Second language instruction with limited federal support. The need for more English as a Second Language instructors may even grow stronger as some immigration reform proposals would require illegal immigrants to demonstrate strong English skills to gain legal status.

The Migration Policy Institute's report uses census data along with data on how many hours of instruction are typically required to pass the citizenship test and to participate in civic life. The report concludes that it will take

277 million hours of English instruction a year for the next six years to assimilate the 5.8 million permanent limited English speaking residents. Some states are having a hard time meeting the demand for English instructors. For example, school districts in the state of Oklahoma recently conducted bilingual English instructor recruitment activities in Puerto Rico in order to boost their ranks of English as a Second Language instructors.

The demand for English instructors, particularly those with bilingual abilities, far outweighs the supply and is expected to remain strong for quite some time to come. The report calls English acquisition by immigrants the "most important integration challenge" facing the country.

Brulliard, Karin. *The Washington Post*. August 2007 <<http://edd.ca.gov>>

Not Lost in Translation

Public Services Sectors

The LAPD recently began outfitting several all-terrain vehicles with speakers designed to work with the Phraselator, a portable device that can translate up to 1,000 words or phrases in almost any language. Now the police can quickly broadcast basic crowd control messages - "We are here to support your First Amendment rights," or "This has been determined an unlawful assembly," or "We need you to move away" - and potentially prevent the chaos caused by miscommunication.

As any fan of "Star Trek" will tell you, universal language translators aren't exactly a new idea. Tech-savvy tourists have been downloading phrase translation into the PDAs for years. The Phraselator is the first aimed at law enforcement agencies around the country that are struggling to serve increasingly multilingual communities.

An early version of the handheld device was introduced in 2002, when U.S. troops in Afghanistan began using them to better

communicate with the locals there. Currently, law enforcement agencies in L.A., Ohio, and Miami, among other places, have begun using the Phraselator. The need is clear. Police departments, particularly in Middle America, don't always have access to Spanish speakers. Unlike consumers, law enforcement personnel need industrial-strength units that can stand up to inclement weather and harsh handling. They also must translate clearly. For example, the police are required to make sure that everyone they arrest understands their Miranda rights: the right to remain silent, right to speak to an attorney, etc. Failure to properly inform someone of those rights can mean the difference between conviction and acquittal. The legal language the police use must be precise - not necessarily what you'd find on the handheld translator your mother took on her trip to Paris last summer.

Newsweek May 2007

Retail Careers Need Marketing Plan

Marketing, Sales and Service Sectors

According to a National Retail Federation study, less than a third of college graduates think that retailing has a good enough reputation to be taken seriously as a career option. "There's a dearth of qualified and experienced retail executives," says NRF President Tracy Mullin. Few jobs in the retail sector are as crucial to a business's success as the store manager. Retailers who have to work to attract and keep good managers acknowledge that it takes a special kind of person to be successful in the retail environment. Individuals who like to keep busy, multi-task, and motivate others are in high demand in the retail sector. These individuals should also possess good communication skills and have a desire to treat customers well, not to mention the ability to sell.

Working in retail management

can have its rewards too. Salaries for managers at department and big-box stores are reported to be \$200,000 a year or more. The median salary for specialty retailers averages around \$42,000 per year according to the study. Company discounts and perks are also an advantage. The disadvantages to retail management careers are the long hours, dealing with high turnover and inventory issues just to name a few. Some leave the industry for related positions in other industry sectors that allow a better work/life balance. According to Mullin, college graduates do not see retail management as a fulfilling career option because many of their first working experiences were as high school or college student part-time or seasonal associates. "That's a perception retailers want to change. The retail

industry has done a pretty rotten job of positioning our companies as great places to start a career," says Mullin. Perhaps the retail industry should practice marketing skills on itself to improve its image.

O'Donnell, Jayne. USA Today. 23 December 2007

<<http://usatoday.com>>

"In this bill, we ban by 2012 the famously inefficient 100-watt incandescent bulb."

Canning the Incandescents

Agriculture and Natural Resources; Energy and Utilities; Transportation, Marketing, Sales and Service Sectors

A newly signed energy bill will affect everyday life. Soon, you won't find those old-fashioned, 100-watt incandescent light bulbs in stores. You will be able to buy more energy-efficient appliances and you will see labels on TVs and computers that tell you how much energy they consume. There will be stickers on new cars that specify not only how many miles they get per gallon, but how much greenhouse gas emissions they produce. When you pull up to the pump, you will fill your car with a mixture of gasoline

and made-in-the-USA biofuel. In addition to the 40% increase in fuel efficiency for new cars and light trucks by 2020, for a fleetwide average of 35 mpg, the bill requires a fivefold increase in the amount of alternative home-grown fuels, such as ethanol, that must be added to the nation's gasoline supply by 2022. The bill is intended to improve the energy efficiency of almost every significant product, tool, and appliance that we use - from light bulbs to light trucks. "In this bill, we ban by 2012 the famously inef-

ficient 100-watt incandescent bulb," said Rep. Jane Harman. The American Council for an Energy-Efficient Economy has projected that the bill will reduce energy use by 7% and carbon dioxide emissions by 9% in 2030. It is estimated this reduction will save consumers and businesses more than \$400 billion between now and 2030, "accounting for both energy cost savings and the moderately higher price of energy-efficient products." Energy analysts project that, although the tougher miles-per-gallon *Continued on page 4*

Trends & Forecasting

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Incandescents

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rules will increase the price of a vehicle an estimated \$1,500, consumers will save \$5,000 in fuel costs over the life of the vehicle. Not everyone agrees about the benefits to consumers.

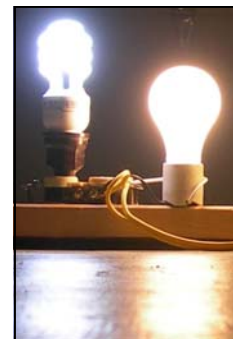
According to Rep. Joe L. Barton of Texas, "The vehicles that are going to be made to meet this 35 mile-per-gallon standard are probably going to cost \$10,000 to \$15,000 more than they do today." Barton also complained the bill would raise the cost of homes, appliances and even light bulbs.

Food industry groups warn that the mandate for increased production of homegrown fuel, including corn-based ethanol, "won't give us cheaper gas, but it will give us costlier meat, milk and eggs."

Some experts believe more energy-efficient light bulbs will be more expensive, but consumers will, over the long run, save money

on their utility bills. Consumers spend far more to run their light bulbs than they do to buy them. If you replace an incandescent bulb with a compact fluorescent, it pays for itself in a few months.

We will also be able to learn more about the energy use of products. The bill requires labels on televisions and computers that show how much energy they use as well as a rating system that will make it easy to compare the fuel economy, greenhouse gas, and other emissions of automobiles at the point of purchase.



A photograph of various lamps illustrates the effect of color temperature differences (left to right): (1) Compact Fluorescent: General Electric, 13 watt, 6500 K (2) Incandescent: Sylvania 60-Watt Extra Soft White

SUVs

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and Suburbans, or Ford Expeditions, which will soldier on with their historic parts in place.

GM though, has found a way to have its cake and eat it too. It has designed a hybrid, gasoline-electric drive system for the Tahoe that gives the big SUV the same mileage as some passenger cars: 21 mpg in the city, 22 mpg on the highway.

It all comes at a price. A two-wheel drive Tahoe hybrid costs \$50,090, about \$4,000 more than a comparably equipped conventional one, to pay for the electric powertrain and all those batteries. Progress in automobiles doesn't come cheap.

Taylor III, Alex. "RIP for the SUV." Fortune. 21 December 2007

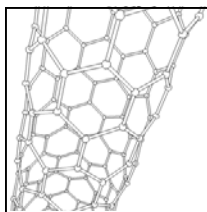
<<http://money.cnn.com>>

Nanotechnology

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electrical cords are coated in them. While tinkering with plastics at the molecular level, scientists are able to change the non-conductive properties of plastics into conductive properties. In other words, conductive-plastic coatings could turn roofs into solar powered generators; clothing with conductive textile fibers could power cell phones, iPods, and other similar gadgets. "The promise is so huge that researchers and scientists at most major chemical companies are racing to develop conductive plastics."

As nanotechnology moves from a research phase into a manufacturing phase, it will uncork a plethora of astounding products. One east-coast firm has developed and produced prototype roofing fabric for Army tents that will make



A carbon nanotube shows its 3D structure.

electricity from sunlight. Automobile engines, bodies and tires can be made from nanotube mixtures that might be so light that they could go 400 miles on a gallon of fuel. Drug makers will be mar-

keting medications that can hunt down and attack specific cells that cause viruses or diseases through the use of nanosized sensors. Carbon can be altered into nanosized straws that become 100 times stronger than steel, yet weigh only a sixth as much; and gold changes color and turns red when shrunk to 30 nanometer particles. A wire made from nanonuggets of gold is 20 times stronger than gold found in a typical wedding band. The computer we know today will soon be replaced by materials with phenomenal properties that can shrink a supercomputer to the size of an iPod.

While shaking the throes of a less than glittery self-image, the manufacturing and product development industry is in transition and poised to unleash some of the biggest advances known to mankind.

"In Demand: Careers in Advanced Manufacturing." Issue 3.

<<http://www.careervoyages.gov>>