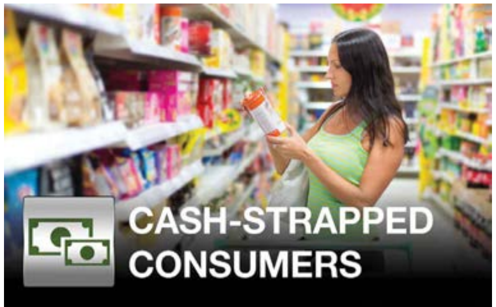
# TEMATICAINSIGHTS

The humid days are getting shorter and even slightly cooler once the sun falls down signaling we are nearing the end of summer. Even though the market and overall business news flow have once again slowed as the summer winds down, we continued to uncover a number of confirming data points for our 17 proprietary investing themes. Over the coming pages, we'll not only share a number of those data points ripped from the world around us but also share our view on what each means as well as which companies are poised to benefit and which ones are staring down a thematic headwind. For example, we dive into the expected surge in repair & remodel spending that is part of our ***Rise & Fall of the Middle-Class*** theme as well as discuss how our Aging of the Population theme creates an opportunity for the burgeoning virtual reality (VR) market. Also inside this issue, we also share our newest investing theme - the ***Emerging Ultra Wealthy***.

As we put this latest edition of Tematica Insights to bed, our proprietary Thematic Index that reflects all of our 17 investment themes, is up just over 14% year-to-date, continuing to outshine all the major market indices. Top performers year-to-date with returns of more than 50 percent include 3D Systems (DDD; ***Disruptive Technologies***), USA Technologies (USAT; ***Cashless Consumption***), Taser International (***Safety & Security***), and Nu-Skin Enterprises (***Fountain of Youth***).

## IN THIS ISSUE




## Grocery prices drop, widening gap with restaurant prices

*Nation's Restaurant News* ..................................August 16, 2016

Led by an intensifying price deflation in meat, the consumer price index for food at home continued to deteriorate during July — and contrast with inflationary conditions at restaurants.

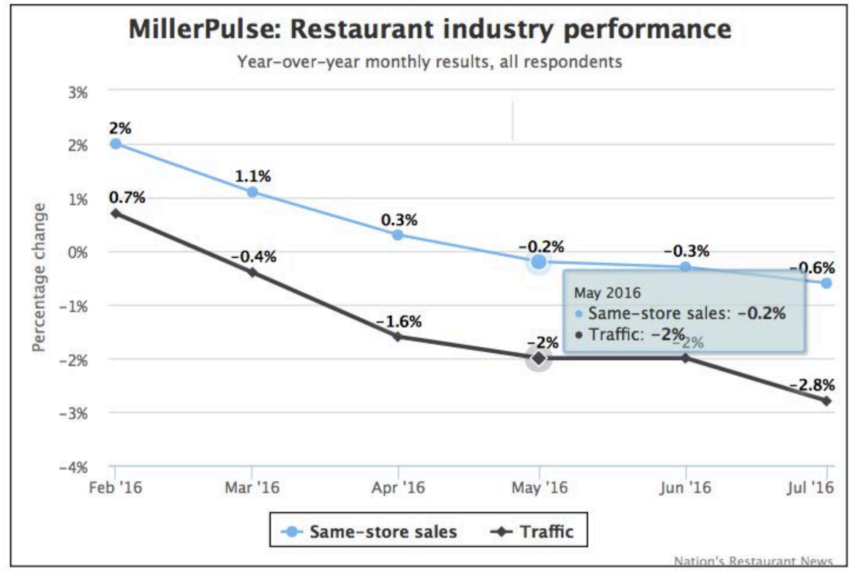
According to the Bureau of Labor Statistics, food-at-home prices declined by 1.6 percent overall during the month, compared with a 1.3 percent decrease in June — the seventh sequential decline over the last nine months, the Bureau said . . .read more>>

# Restaurant Pain is Grocery Gain

## What's going on?

Cash-strapped consumers are feeling some extra change in their pockets following continued price declines at "food-at-home" prices over the last several months. Leave it to the government to come up with such a mouthful of a term.

After several years where it was becoming cheaper to eat out than it was to shop for the groceries and cook dinner yourself, the table have not turned. This lower cost alternative to eating out helps explain the lack of overall growth in restaurant traffic and sales over the last few months.




With minimum wage pressures and healthcare costs, it's hard to see restaurants ranging from **McDonald's (MCD)** to any of **Darden's (DRI)** restaurant chains cutting actual prices as it would mean sacrificing margins. Talk about a tough pickle!

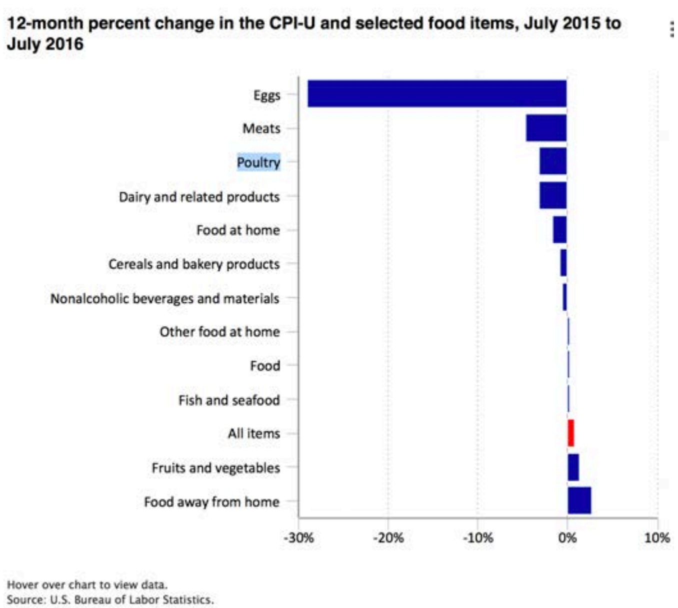
## Why is this important?

Over the last six months, consumers have spent just over $54 billion each month at eating and drinking establishments. It's no secret these businesses have had to grapple with higher costs in the form of rising minimum wages and higher healthcare costs. Even though protein costs and those for other inputs have abated, these rising human capital costs and compliance with other regulations have helped fuel a continued uptick in menu prices year over year.

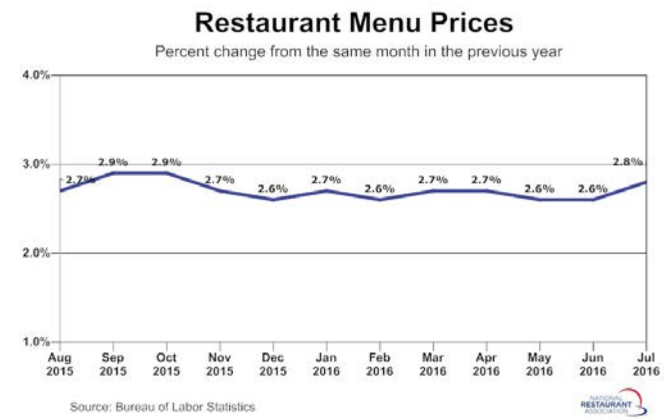
By comparison, according to the Bureau of Labor Statistics (BLS), food-at-home prices declined by 1.6 percent overall in July vs. the 1.3 percent decrease in June.

The July drop marks the seventh sequential decline over the last nine months and confirms the deflationary trend commented by **Costco Wholesale (COST), Kroger (KR)** and others.

> *"We would have expected to start seeing a little bit more inflation right now than when we were sitting here three or four months ago thinking about it. And it just hasn't happened. And as I sit here today, it certainly doesn't feel like we are going to have the pickup in overall food inflation."*
>
> - Mike Schlotman
> EVP and CFO at Kroger's on June 16, 2016.




Digging into the BLS data, we find that over the last 12 months the food-at-home index has decreased by 1.6 percent, with the indexes for meats, poultry, fish, and eggs falling 5.6 percent over that time span. The dairy and related products index fell 3.1 percent, and the indexes for cereals and bakery products, and for nonalcoholic beverages, also declined. By comparison, foodservice prices were up 2.6%.




The restaurant industry has already come under pressure with traffic falling 3.9 percent in July, according to Black Box Intelligence. Other estimates like that from MillerPulse put July restaurant traffic down 2.8 percent — not as bad, but directionally not good given the declining trend over the last several months. This follows a near 2 percentage point drop in same-store sales during the June 2016 quarter according to Nation's Restaurant News research.

As the price gap between food at home and food away from home continues to widen, restaurant sales could come under further pressure as ***Cash-strapped Consumers*** look to pinch more than a few pennies by staying in and focus spending on other areas with better returns.

## Riding the thematic wave

With consumers shifting their food purchases to eat at home, companies poised to benefit include **Kroger (KR)** and **Costco (COST)**, particularly as the latter continues to focus on growing its fresh foods business, and **Wal-Mart (WMT)**, the largest domestic grocer. Other beneficiaries include spice, marinade and pre-packed food company **McCormick & Co (MKC)** as well as **Kraft Heinz (KHC), ConAgra Foods (CAG)** and **JM Smucker (SJM)** among others.

Keeping with our ***Food with Integrity*** investing theme, companies like **Whole Foods (WFM)** and **Sprouts Farmers Market (SFM)** as well as **Natural Grocers by Vitamin Cottage (NGVC)** and **United Natural Foods (UNFI)** stand to benefit from as well.


## Hitting the thematic headwind

Faced with prospects of a more choosy consumer that could pressure restaurant company top lines while higher human capital costs be a drag on margins, the outlook for restaurants companies remains dubious. We suspect we will continue to see fast-casual restaurants like **McDonald's (MCD), Wendy's (WEN), Jack in the Box (JACK)** and others invest in automation and robotics (part of our ***Disruptive Technology*** investing theme) to combat costs, but benefits to be had with those solutions will take time to scale.

Higher end restaurants, such as **Del Frisco's (DFRG)** are likely to keep wooing consumers that fall into our ***The New Wealthy*** investing theme, casual restaurants like **Cheesecake Factory (CAKE), Chipotle Mexican Grill (CMG), Red Robin Gourmet (RRGB), Cracker Barrel (CBRL), Famous Dave's (DAVE)** are likely to feel the brunt of consumers eating more at home.

## Additional Articles

- Wendy's Ponders 'Appropriate' Pricing


## Americans Are in Love With Video Arcades Again

*Bloomberg.com*..................August 12, 2016

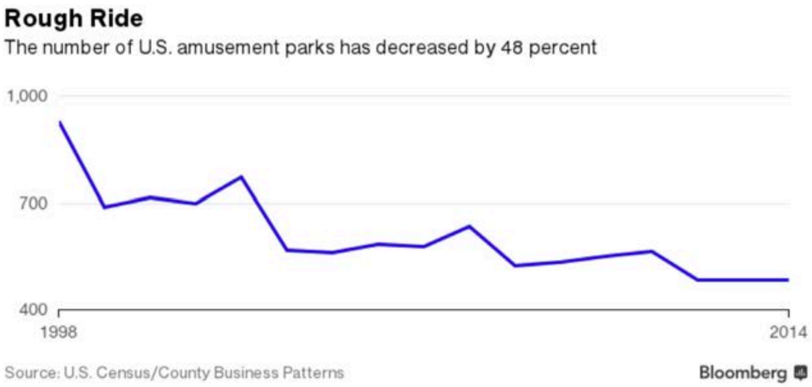
Flip on one of those grainy, black-and-white films of Americans having warm-weather fun at the start of the last century, and you'll see them rushing the gates of an amusement park, or milling around under the lights of a penny arcade. Flash forward 100 years and only one of those businesses is still going strong—and it's not the one you'd expect.

As summer vacations and family trips approach, Americans trying to decide what to do with the kids will discover that some of the local attractions they took for granted are no longer an option. . .read more>>

# VIDEO ARCADES TRUMP MOST AMUSEMENT PARKS, NOT DISNEY OR UNIVERSAL

## What's going on?

The amusement park has been on a roller coaster ride for two decades, one that—as the chart shows—is fundamentally headed downward. In some years, more parks opened than shut, but the small upticks have been wiped out by the near-regularity of a free fall.



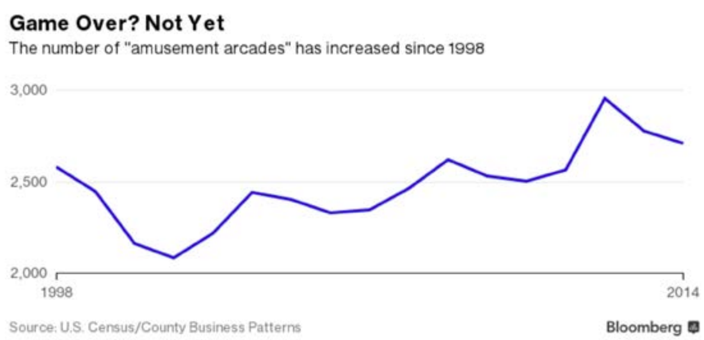

There were 48 percent fewer amusement parks in the U.S. in 2014 than in 1998. Among these, the smaller parks which depend on local or regional customers, and often just during summer, are having the hardest time. Even such a well-loved brand as Lego met industry skepticism as it seeks to build a chain of regional parks.

On the other hand, huge amusement and theme parks that double as vacation destinations are still going strong.

## Why is this important?

Without question, there has been an evolution in gaming, from the original kludgey Atari and Intellivision game consoles to more sophisticated ones from **Sony (SNE)** and **Microsoft (MSFT)**,as well as the transformation from the move to mobile. With far more powerful rendering and speed, the gaming experience has become far richer, but in some respects, it still remains a social experience.

Add in our "Death of the Mall as You Know It" view, and we are not surprised by the return of video arcades and crossover experiences that blend food and drinks with gaming. These 21st-century arcades are filled with high-end 3D games and simulators that are chomping more than just a few quarters. But that's where our ***Cashless Consumption*** theme comes into play as a player uses a topped off game play card that also keeps track of prize tickets. While we still love our roller coasters, we can understand how the quasi-addictive nature of gaming. The same is true for other aspects of the experience economy.




## Riding the thematic wave

As mall-based centric real estate investment trusts like **General Growth Properties (GGP), Simon Property Group (SPG)** and The **Macerich Company (MAC)** look for new attractions to spur consumer traffic, they are turning to the likes of movie theaters, upscale restaurants and companies like **Dave & Buster's Entertainment (PLAY)**. Other alternatives include **EPR Properties (EPR)** that has 20 Top Golf locations that have attracted more than 8 million people and boast an average spend per visit of $47. EPR also has 8 Pinstripes locations that combine bowling, bocce, and a bistro with Italian/American cuisine.

While certainly not mall-based, we continue to see ***Content is King*** company **Disney (DIS)** benefitting from its robust slate of character driven movies (Pixar, Marvel, Star Wars, Disney Animation) that easily translate into new park attractions and profitable merchandise.

## Hitting the thematic headwind

Mall REITs, as well as those that focus on community and neighborhood shopping centers like **Saul Centers (BFS)** that are slower to transition to entertainment-social attractions as brick & mortar retailers, reduce location counts are likely starting to feel the thematic headwind on their business model.

Other amusement parks stocks that could be facing competition from this shift toward social meets ***Connected Society*** and ***Content is King*** include **Cedar Fair LP (FUN)** as well as **Sea World (SEAS)** and **Six Flags Entertainment (SIX)**.


## Chinese 'ultra-rich' hits 89,000: Hurun Report

*China.org* ............................ August 17, 2016

The number of wealthy Chinese with a net worth of 100 million yuan (US$16 million) or more maintained double-digit growth, and healthcare now tops their biggest concern, according to the Hurun Report.

Despite a slowdown in the economy, surging home prices in first-tier cities drove 10.7 percent growth in the number of Chinese high net worth individuals (HNWI). There are now about 89,000 ultra-rich worth 100 million yuan or more in the country, about 11,000 more than last year, a growth rate of 14.1 percent . . .
read more>>

# China's "fuerdai set the tone for the emerging Ultra-Rich

## What's going on?

When most ponder our ***Rise & Fall of the Middle-Class*** theme they tend to think of rising disposable incomes in the emerging markets and especially China. With roughly 1.4 billion people, a rising middle class that is trading in lifestyle is a powerful tailwind. But there is an even smaller and more upwardly mobile group of wealthy Chinese that is driving demand for high-end homes, cars, travel and other services as part of our ***Emerging Ultra Wealth*** investment theme.

## The Emerging Ultra Wealthy

Extravagant lifestyles of the opulent and novo riche make headlines and drive social media traffic, but also serve to anoint the must have luxuries of the day.  Don't feel bad for them, but their life is a complicated mix of spending and saving that includes buying big ticket items like cars, houses, alcohol and handbags, traveling around the world and reinvesting in their businesses to make even more money.

## Why is this important?

Despite a slowdown in the economy, surging home prices in first-tier cities drove 10.7 percent growth in the number of Chinese high net worth individuals (HNWI). There are now about 89,000 ultra-rich worth 100 million yuan or more in the country, about 11,000 more than last year. The Southern province of Guangdong overtook Beijing for the first time as home to the biggest number of wealthy individuals, with 240,000 who have 10 million yuan or more, a growth rate of 17.65 percent. Guangdong, Beijing, Shanghai and Zhejiang had a total of 843,000 individuals with 10 million yuan or more, accounting for 63 percent in the nation.

**About a third of China's wealth belongs to just one per cent of the population.**

A study by the Bank of China and the Hurun Report found that China now has 568 billionaires versus the United States' 535, giving it the largest population of billionaires in the world.

The main source of wealth for China's billionaires is real estate, producing 117 billionaires; manufacturing created 94, while technology created 68.

China has the largest number of billionaires under age 40, with 28. China also has the largest number of self-made women, with 93 of 124 self-made women billionaires worldwide.

Sixty percent of the country's rich people were either in the process of moving abroad or considering doing so. ("Rich" was defined as being worth more than ten million yuan—around $1.5 million, a considerable fortune in China, though not stratospheric.)

> *"What is happening in China constitutes one of the most rapid emergences of wealth stratification in human history"*

Jeffrey Winters
a politics professor at Northwestern University

## Riding the thematic wave

The children of wealthy Chinese are known as "fuerdai", which means "rich second generation." The young women of the fuerdai have become notorious for their extravagant antics, from crashing sports cars to burning wads of cash.

In a culture where poverty and thrift were long the norm, their extravagances have become notorious. Companies that stand to benefit from this ***Emerging Ultra Wealthy*** tailwind include **Ferrari NV (RACE)**, **Volkswagen's (VLKAY)** Porsche, Bentley, Bugatti and Lamborghini businesses, as well as **Fiat Chrysler's (FCAU)** Maserati business.  Other companies poised to benefit from the luxurious spending include **LVMH Moet Hennessy Louis Vuitton SE (LVMUY), L'Oreal (LRLCY), Coty (COTY), Inter Parfums (IPAR), Jimmy Choo (JYMHF)** and **Hermes International (HESAF)** among others.

## Hitting the thematic headwind

With the fu er dai receiving increasing attention, not only with articles and documentaries but with the Ultra Rich Asian Girls reality show, much like the Kardashian kids, the fuerdai will drive awareness for products and brands. Flipping this around, products and services that are looked down upon by the fuerdai, such as a lower end cars from **Hyundai (HYMLF)**, "cheap" smartphones from the likes of HTC, Huawei or **Lenovo (LNVGY)**, or low to middle apparel brands could be dubbed "uncool" and see demand slacken in the process.

## Additional Articles

- Lamborghini sees worldwide sales doubling by 2019 after SUV launch


### Home remodeling expected to hit new highs

*CNBC.com* ........................ Augsut 22, 2016

Spending on home remodeling is expected to hit new highs this year, and according to RBC Capital Markets analyst Bob Wetenhall there's still time for investors to capitalize on it.

Stocks that are a play on the theme are already up this year, with names like Masco seeing gains of almost 25 percent and Fortune Brands Home & Security up 13 percent

. . .read more>>

## REPAIR AND REMODEL SPENDING CONTINUES TO BE BIG BUSINESS

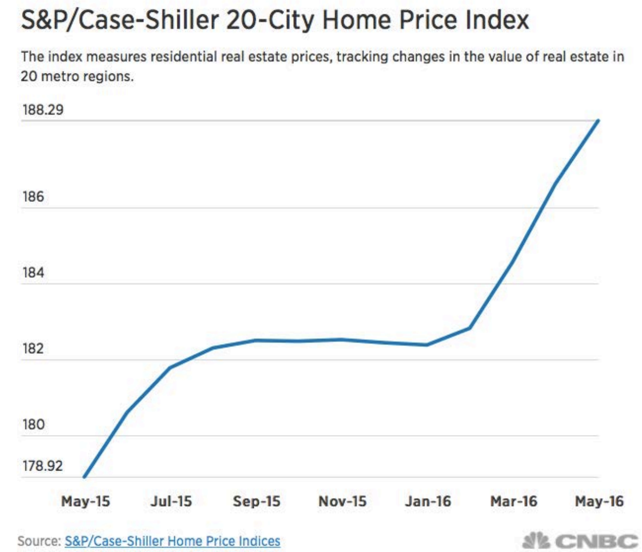
### What's going on?

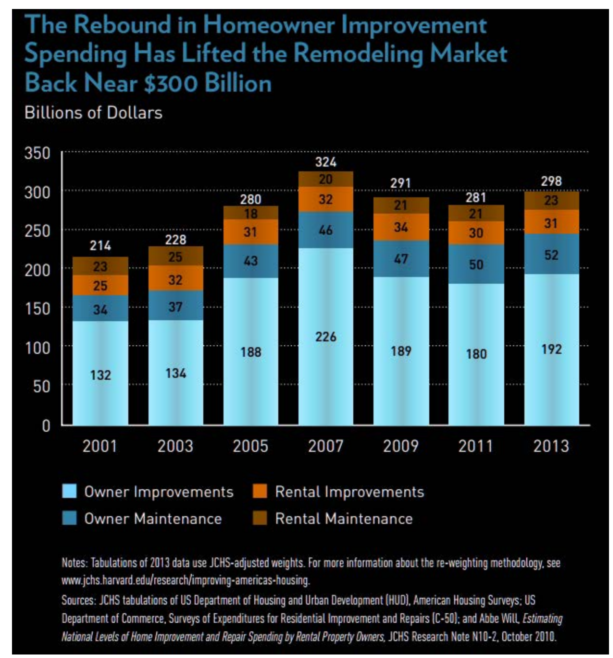
While the US housing market continues to improve, it's prospects are held in check at least in the near term by the historically low level of new homes for sale and high housing prices. This combination continues to make the US housing market a "sellers market."

While the publicly traded homebuilders, such as **Toll Brothers (TOL), DR Horton (DHI), KB Home (KBH), Lennar Corp. (LEN)** and others look to bring more product to market, homeowners have focused on remodeling, improving and updating their existing domiciles, and it's creating significant demand for companies that serve that market.

### Why is this important?

According to Metrostudy's latest Residential Remodeling Index (RRI), US remodeling activity nationwide accelerated in the second quarter and is expected to pick up further in the back half of 2016, with additional gains in 2017. This is corroborated by John Burns Real Estate Consulting, which expects spending on home remodeling is expected to hit $304 billion in 2016, marking, an all-time high. Of that, owner remodeling will be $220 billion and rental remodeling will be $84 billion. Big project renovations of $5,000 or more will total $133 billion and $159 billion will be spent on smaller project remodels, the



firm predicts.

> *"Remodeling spending is expected to grow faster than new home construction."*
>
> *"For the next three years, there will be a 26 percent growth in remodeling compared to only 4 percent in new construction."*

Todd Tomalak
VP, John Burns Real Estate Consulting.

## Riding the thematic wave

There is no shortage of companies that will benefit from the uptick in repair and remodel spending. From paint and coatings companies like **Sherwin Williams (SHW)** and **PPG Industries (PPG)** to flooring company **Armstrong World (AWI)** as well as cabinet and faucet company **Masco Corp. (MAS)**. Other contenders include wood alternative company **Trex (TREX)** and wallboard company **USG Corp. (USG)** as well as **Fortune Brands Home & Security (FBHS)**. This demand also bodes well for **Home Depot (HD), Lowe's (LOW), Restoration Hardware (RH)** and private companies such as Ace Hardware Corp.

Among home remodeling projects, kitchen remodeling tends to have one of the highest cost-to-value dynamics. According to U.S. News & World Report, "a minor kitchen remodel adds an average of 82.7% of the project's cost back to the home's value."

This makes market share leading appliance maker **Whirlpool Corp. (WHR)** well positioned for incremental remodel spending. Key appliance markets for the company include laundry appliances (29% of 2015 revenue), refrigerators and freezers (28%), cooking appliances (18%) and other appliances (25%) such as air purifiers, dehumidifiers, compactors and water filtration systems.

While you may be aware of the Whirlpool brand, you may not be aware that it is the company behind other appliance brands, including KitchenAid, Maytag, Jenn-Air, Gladiator, Consul, Brastemp, Amana, Bauknecht, Jenn-Air, Indesit and other major brand names in nearly every country around the world. Across its spectrum of brands, Whirlpool has strong position in premium, mass merchant and value appliance categories.

> *"In appliances, we leveraged our 200 Pacific Kitchen and Home stores within a store and ongoing market share gains to deliver our 23rd consecutive quarter of comp sales growth. We reported 8.2% comparable sales growth this quarter on top of 21% in Q2 of last year."*

Hubert Joly on August 23, 2016
Best Buy (BBY) Chairman & CEO

## Hitting the thematic headwind

As we wait for more homes to come to market while homeowners continue to spend on existing structures, real estate agents could see a bit of a lull in overall demand that could lead to more aggressive pricing tactics to win business in the short-term and pressure profits. Examples of publicly traded real-estate agency businesses include Re/Max Holdings (RMAX), Realogy Holdings and Zillow Group (Z)

## Additional Articles

- Home Depot's Helper: Appliances


### Beyond Uber, Volvo and Ford: Other automakers' plans for self-driving vehicles

*LA Times*............................August 19, 2016

What a big week it was for driverless cars. Ford Motor Co. announced that it would put fully driverless vehicles, without steering wheels or pedals, on the road by 2021. Uber said it would start offering autonomous rides in Pittsburgh – with an Uber employee at the wheel, just in case – by the end of summer.

A new revolution in personal transportation is at hand.

"The world is changing," said Hans-Werner Kaas, senior partner at McKinsey & Co.'s global automotive practice. "In the next few years, there will be a significant injection of technology" in new cars. . .read more>>

# WE CAN FIGHT IT, BUT THE TIPPING POINT FOR SELF-DRIVING CARS IS NEAR

## What's going on?

Those smarty-pants Millenials grew up on the Internet with the answer to any question literally at their fingertips. Now Generation Z — the cohort following the Millennials — are growing up on Uber, and at the click of a button someone will show up at their door and take them wherever they want or need to go.

## Why is this important?

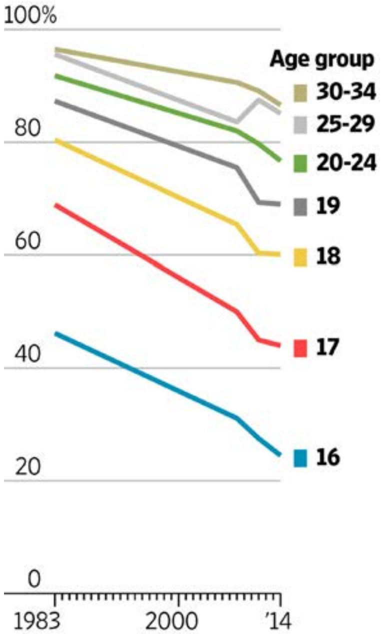
While we've seen the taxi-cab industry come under significant pressure that has been bad for shareholders for **Medallion Financial Corp. (MFIN, formerly TAXI)** and resulted in the use of regulatory reprisals against Uber and others, there is more going on here that potentially harms the addressable market for the domestic automotive industry.

What we're talking about is the push out in ages when teenagers are getting their drivers license. In fact, the data shows that fewer and fewer teens are even getting a license. A University of Michigan study showed that "For 16- through 44-year-olds, there was a continuous decline in the percentage of persons with a driver's license . . ." How much of a decline? In 1983, nearly 92% of 20- to 24-year-olds had their license, while in 2014 only 76.7%, are opting to get what any 1980s teen living in the suburbs viewed as their ticket to freedom.

Now, add in the Baby-Boomers, who will be forced to hand over the keys in larger and larger numbers in the coming years as their motor skills and eyesight inevitably decline (part of our ***Aging of the Population*** theme), and what do you have left? We haven't even touched on the run up in subprime auto loans...

**Drivers Wanted**

Fewer young Americans are getting driver's licenses. Licensed drivers as a percentage of their age group.

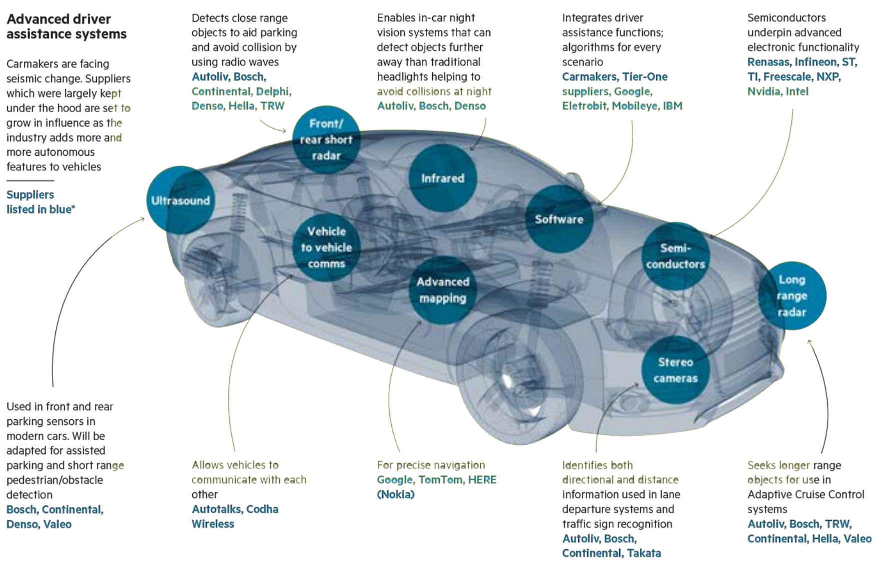



Source: University of Michigan Transportation Research Institute
THE WALL STREET JOURNAL.

## Riding the thematic wave

While the number of potential licensed drivers is shrinking, despite all the success that ***Connected Society*** company **Amazon (AMZN)** is having, people still need to get places. That simple notion, as well as overall safety concerns, is helping shape the emerging market of driver assisted cars and the eventual driverless car market. There are a number of players chasing this and while the ultimate purchasers of cars and trucks are likely to purchase from existing automotive companies, the enabling technology is likely to come from other ones. Breaking down most of the major automotive companies, much like **Apple (AAPL)** they tend to be assemblers of components and parts. Granted they may have a few of their own proprietary puzzle pieces (again, much like Apple), but when it comes to developing new technology that R&D investment tends to be left to its suppliers.

As such, when we look at companies on the road to the driver assisted and driverless car market it means the following supply chain:




Sources: Exane BNP Paribas; Autoliv; Morgan Stanley; FT research   *Lists of suppliers are not exhaustive   Image: Cherezoff/Dreamstime   FT graphic

## Hitting the thematic headwind

If the number of people getting driver's licenses continues to shrink as those same folk favor services from Uber, Lyft and other ride-sharing services, the advent of the driverless car could pose a significant shift in who is buying cars. **Tesla (TSLA)** is already changing the existing business model in which consumers buy cars and trucks through dealerships, but the combination of driverless cars could lead **Ford (F), Fiat Chrysler (FCAU), General Motors (GM), Honda Motor Corp. (HMC)** and others to instead sell cars into third-party ride-sharing fleets or into their own such fleets.

We've seen this before in the railcar industry as companies like **Trinity Industries (TRN)** will sell railcars to railroads like **Union Pacific (UNP) and CSX Corp. (CSX)** as well as **GATX Corp. (GATX)** that will lease its railcars out to railroad, agriculture, manufacturing and other customers. At the same time, Trinity also has its own railcar lease fleet. While this could be a bit of star gazing, we would not be surprised to learn that Ford is more than contemplating its own fleet of driverless cars that would compete with Uber and others as 2021approaches. Not only would that potentially wreak havoc on automotive dealerships themselves, but also automotive dealership focused REITs like **Automotive Properties (TSE:APR.UN)**

## Additional Articles

- Uber Is Positioned To Slingshot Ahead Of Google In Driverless Cars
- Uber's First Self-Driving Fleet Arrives in Pittsburgh This Month
- Uber buys self-driving truck startup Otto; teams with Volvo


## You Can Now Buy Deep-Fried Twinkies in the Frozen Section of the Supermarket

*Time Magazine* ................. August 12, 2016

Attention, fried food lovers and state fair fanatics: that distinctly all-American culinary specialty, the deep-fried Twinkie, is now yours to buy at the grocery store.

The sweet, cream-filled treat is usually relegated to a splurge at your county fairground, but that's all changing as Hostess is introducing its own version of the dessert as a pre-packaged frozen good, AP reports. They're dousing a regular Twinkie in cake funnel batter and oil, then freezing them and delivering them straight to the hands of consumers — no trip to the fair or personal deep-fryer required. . . .read more>>

# ENJOY YOUR CASH WHILE YOU HAVE IT

## What's going on?


Perhaps the biggest question to be asked following the debut of Hostess's Deep Fried Twinkie offering is — Is this necessary?

Surely not, but we have several foodies here at Tematica that are certainly game to sample this summer State Fair staple, but somehow we doubt it will live up to the real deal experience coming out of our own oven.

Some may see the Deep Friend Twinkie as a product extension similar in strategy, but far short of the one that has spun all sorts of Oreo derivatives including Banana Split, Birthday Cake, Candy Cane, Candy Corn, Cookie Dough, and  out from **Mondelez International (MDLZ)**.

We, however, see this as the latest data point for consumer appetites that are on the road to obesity as part of our Fattening of the Population thematic. That's a road paved in high individual medical costs for both men and women.

## Why is this important?

A study conducted by a working group of the International Agency for Research on Cancer, part of the World Health Organization, found solid evidence that being overweight or obese increases the risk for at least 13 types of cancer. Strong evidence was already available to link five cancers to being overweight or obese: adenocarcinoma of the esophagus; colorectal cancer; breast cancer in postmenopausal women; and uterine and kidney cancers.

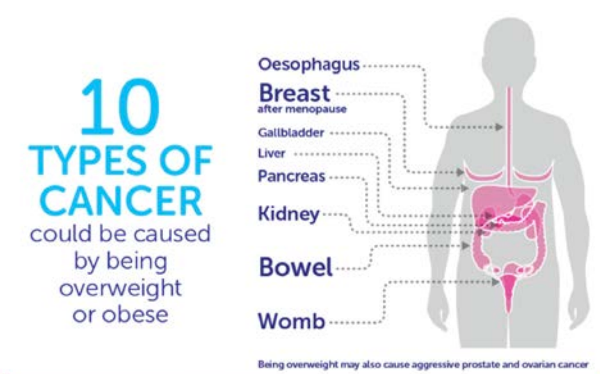
This new review, published in The New England Journal of Medicine, links an additional eight cancers to excess fat: gastric cardia, a cancer of the part of the stomach closest to the esophagus; liver cancer; gallbladder cancer;

pancreatic cancer; thyroid cancer; ovarian cancer; meningioma, a usually benign type of brain cancer; and multiple myeloma, a blood cancer.

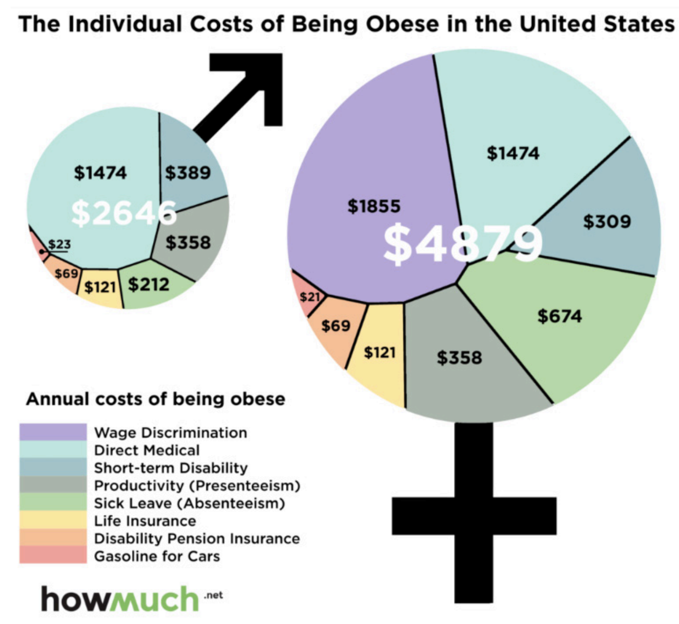
Obesity is associated with significant metabolic and hormone abnormalities, and with chronic inflammation, factors that may help explain its link to cancer.r.

> *"Only smoking comes close" as an environmental factor affecting cancer risk, Dr. Colditz said. "And that's an important message for nonsmokers. Obesity now goes to the top of the list of things to focus on."*
>
> *Does losing weight reduce the risk? Although animal studies suggest that it does, Dr. Colditz said, "it's hard to study in humans because so few people lose weight and keep it off."*

Dr. Graham Colditz
Chairman of the working group and professor of medicine and surgery at Washington University




Source: CRUK/UK Health Forum




## Riding the thematic wave

The global market for anti-obesity drugs has been expanding at a significant pace in recent years reflecting the surge in obesity levels around the US and the globe. Companies from Vivus (VVUS) to Zafgen (ZFGN) are developing drugs to combat obesity, while others such as Insulet (PODD) that offers the OmniPod Insulin Management System (an insulin delivery system for people with insulin-dependent diabetes), look to address conditions arising from obesity.

Lifestyle changes, such as organic, low sugar, low carb, paleo and others that are in line with our Food with Integrity investing theme bode well for companies like United Natural Foods (UNFI). Other lifestyle changes including greater physical activity should help drive incremental demand for Nike (NKE), Under Armour

(UA), Fitbit (FIT) and even Apple's (AAPL) Apple Watch. It was recently revealed that earlier this year Apple purchased Gliimpse, a technology company that would allow people to collect, personalize, and share their health data, according to Fast Company.

## Hitting the thematic headwind

Given Dr. Colditz comments, it seems that even with the support of Oprah Winfrey consumers need to do more to lose weight on a sustained basis than Weight Watchers (WTW). The same can be said for NutriSystem (NTRI), Medifast (MED) and similar programs.

Earlier this month, Britain announced it would tax companies which sell sugary soft drinks and invest that money in health programs for school children. As we pointed out in previous issues of Tematica Insights, studies show that as much as 40 percent of US healthcare expenditures are for diseases directly connected to the overconsumption of sugar. This sugar tax could weigh on consumption of soft drinks by Coca-Cola (KO), PepsiCo (PEP), Dr. Pepper Snapple (DPS) as well as other private label products crafted by Cott Soda (COTS). What's likely to be left untaxed are the sugary coffee based drinks, like a number of souped-up frappuccino drinks from Starbucks (SBUX). We touched on this in the August 12 issue of Tematica Insights.


## Additional Articles

- Britain launches soft drinks sugar tax to fight obesity
- Soda consumption falls in Berkeley after sugar tax
- A New Study has Coke and Pepsi Terrified
- Soda tax passes; Philadelphia is first big city in nation to enact one


## Virtual reality treadmills help prevent falls in elderly

*Reuters* ................................August 18, 2016

Adding a virtual reality obstacle course to treadmill workouts may help prevent more falls among vulnerable adults than using a treadmill on its own, a small study suggests.

Researchers asked about 300 adults aged 60 to 90 who had already experienced at least one prior fall to exercise on a treadmill three times a week for six weeks, randomly assigning half of them to use virtual reality systems during the workouts . . .read more>>

# MORE THAN GAMING TO POTENTIAL DRIVE THE AR/VR MARKET

## What's going on?


As a person ages, hand-eye coordination and other motor skills tend to atrophy. Studies in Europe, the US and Australia show that roughly a third of people aged 65 years or older living outside institutions fall at least once per year, with half of this number having multiple falls in this period. Aside from age and diminished motor skills, other contributing factors include Parkinson's disease and impaired cognitive abilities.

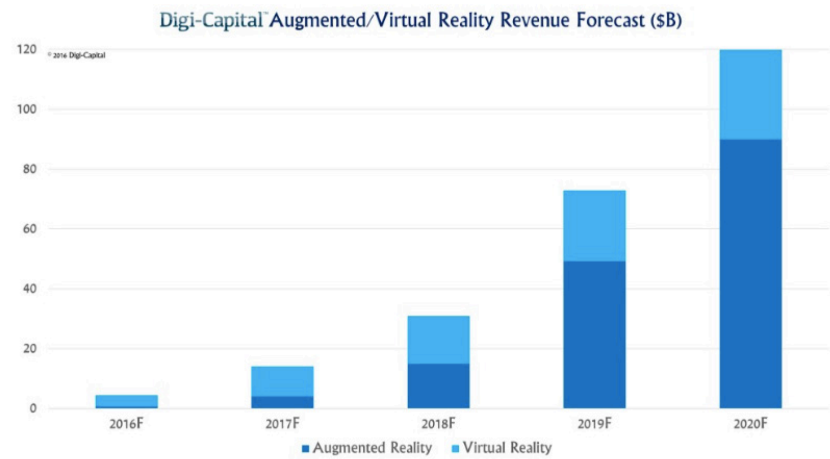
In response, there have been pilot studies using "exergames" and virtual reality to improve cognitive function. The virtual reality experience was designed to lower the risk of falls by improving how well participants could navigate obstacles, multiple pathways and distractions that required a constant adjustment in the way they stepped on the treadmills. After the six weeks of training, participants in both groups had improvements in walking speed in usual situations as well as those with obstacles.

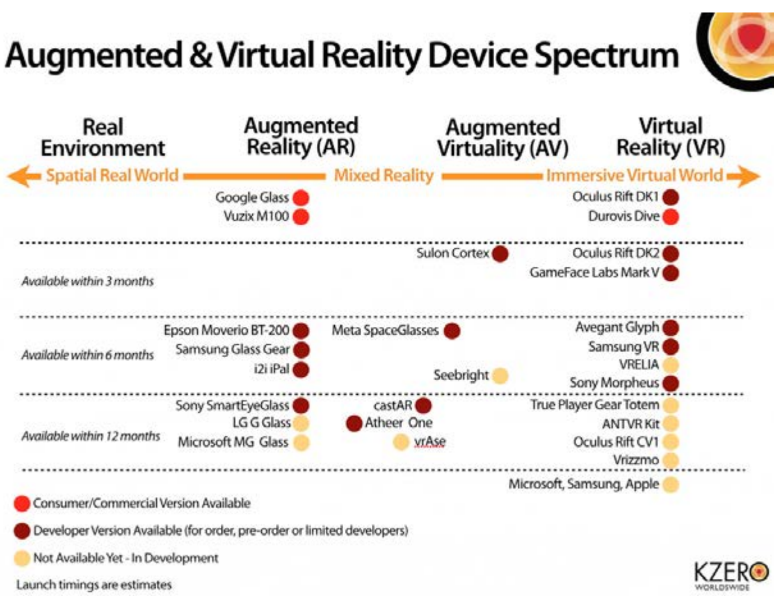
## Why is this important?

As with most new technologies, forecasts are all over the map:

SuperData Research forecasts the total VR market revenue will reach $40B over the next five years (a CAGR of 61.3%). Underlying those forecasts are some rosy assumptions, which include  200 million households worldwide will own at least one VR device by 2020.

Goldman Sachs research report predicts the VR/AR industry, which introduces users to virtual realities and brings digital information to the physical world, may soon become an $80 billion market ($45 billion in hardware and $35 billion in software) by only 2025




More aggressive forecasts put AR/VR revenue at $120 billion by 2020 with AR leading the way until VR takes the lead in 2019 as consumer market applications take hold.

Despite the market still being in its earliest stages, early stage VCs and corporations have invested a record $2 billion in augmented reality (AR) and /VR startups in the last 12 months,

M&A activity has also picked up with $849 million spent over the twelve months ending 2Q 2016 with over $0.5 billion spent in 2Q 2016 alone. The biggest deals were in AR/VR tech, video and solutions/services, as well as advertising/marketing and games.

One of the key tenants of our ***Aging of the Population*** theme is the pronounced acceleration in the number of people across the globe over age 65 in the coming years. In 2010, an estimated 524 million people were aged 65 or older—8 percent of the world's population. By 2050, this number is expected to nearly triple to about 1.5 billion, roughly 16 percent of the world's population according to the National Institute on Aging.

This demographic shift can be a pronounced tailwind for businesses and technologies that can address the needs and pain points of that cohort. Far and away gaming is expected to be the driving force behind virtual reality (VR) claiming roughly three-quarters (77%) of the VR software market, however given the size and needs of the over 65 cohort healthcare related AR/VR applications could be a sleeper demand driver. Already, PlayStation Magic Lab is "targeting a broader audience beyond gamers with 360-degree video environments." Other markets that could foster AR/VR acceleration include education and unsurprisingly porn.

## Riding the thematic wave

With just a small percentage of PCs being VR ready, PC companies such as **Apple (AAPL),** Dell**, Lenovo (LNVGY), Samsung, HP (HPQ)** and others could benefit from an upgrade cycle. The same can be said for mobile device manufacturers ranging from Apple, Samsung, HTC and others. There are also other hardware/software companies that are vying for this market (hence all the investment and M&A activity we touched on above) including **Facebook (FB), Sony (SNE), Alphabet (GOOGL)** and **Microsoft (MSFT)**. Underneath the hood of these devices, chipsets will be needed to power the hardware and enable the software, which means companies like **Intel (INTC), Advanced Micro Devices (AMD), Qualcomm (QCOM)** and graphics processor company **Nvidia Corp. (NVDA)**.

Other technologies that could see a AR/VR demand boost include cameras and camera lenses, which has us watching **Ambarella (AMBA)** and **Largan Precision (TPE:3008)** among others.

## Hitting the thematic headwind

As with any new disruptive technology, odds are expectations are high and that means the tipping point for adoption will be somewhat longer than expected. As we have seen many consumer electronic devices, price points will need to collapse and the technology will need to offer a rich user experience. Initially, there is like to be a "rising tide lifts all boats" effect, however, much like we've seen in the existing gaming industry, hardware will cycle through improvements while the real draw will be the content, gaming or otherwise.

If gaming content companies like **Activision Blizzard (ATVI), Electronic Arts (EA)**, or **Take-Two Interactive (TTWO)** fumble their AR/VR launch or companies like **Gluu Mobile (GLUU)** or **Zynga (ZNGA)** miss the gaming platform transition, we could see Darwinian evolution take hold in our ***Content is King*** investing theme as a new breed of AR/VR content companies emerge. Gaming conference such as E3 and GamesBeat will be events to watch.

## Additional Articles

- Study Shows Oculus HMD Eases Chronic Pain


**German minister wants facial recognition systems at airports, train stations**

*Reuters* ................................ August 21, 2016

Germany's Interior Minister wants to introduce facial recognition software at train stations and airports to help identify terror suspects following two Islamist attacks in the country last month.

Speaking to the Bild am Sonntag newspaper, Thomas de Maiziere said internet software was able to determine whether persons shown in photographs were celebrities or politicians... . .read more>>

# Terror Attacks Face Facial Recognition Security

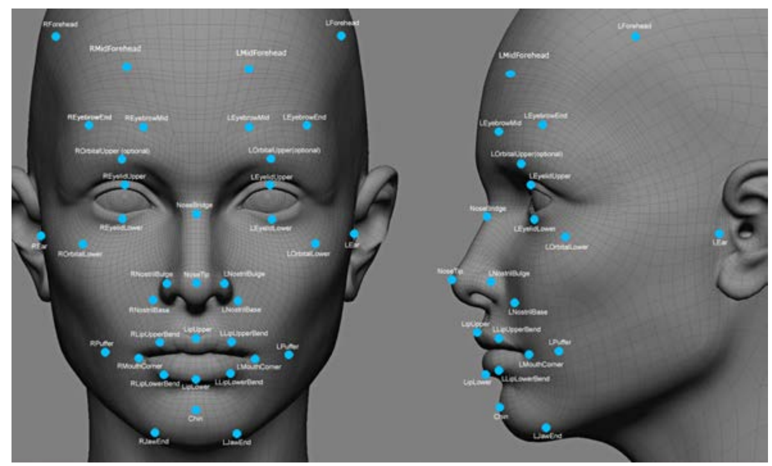
## What's going on?

Following  two Islamist attacks over the last month, security measures have stepped in Germany. Video games trade fair Gamescom opened its doors to fans in Cologne with organizers saying they had stepped up security for this year's event. This heightened state led Germany's Interior Minister to share his desire to introduce facial recognition software at train stations and airports to help identify terror suspects.

As the number of terror attacks has stepped up around the globe, governments are looking to shore up their security protocols and defenses to better protect their citizens. New technologies ranging from facial recognition and other biometric solutions, as well as cyber security, are shifting the tide as to where defense dollars are spent.

## Why is this important?

Facial recognition is a biometric technology primarily used for security purposes, the major ones being homeland security, criminal investigation, ID management, and physical security. The technology captures facial images using a camera and then compares the captured images with an existing database performing identification of facial images on the basis of various facial features, such as the distance between eyes, cheekbones, eyebrows, and others.



In 2015, the US Department of Homeland Security targeted rolling out iris and facial recognition services to the US Border Patrol that would be able to share images with the FBI's multibiometric system.The test was part of a coming overhaul of the department's "IDENT" biometric system, which currently contains more than 170 million foreigner fingerprints and facial images, as well as 600,000 iris templates.

According to a new report published by MarketIntelReports,"World Facial Recognition Market - Opportunities and Forecasts, 2015-2022", the global facial recognition market is expected to generate revenue of $9.6 billion by 2022, growing at a CAGR of 21.3% from 2016 to 2022. The dominant market is expected to be North America, owing to border and security spending by the US federal government.

A new innovation program was revealed during a Menlo Park, California conference. Department of Homeland Security (DHS) officials told technology entrepreneurs that the DHS was seeking for drones small and light enough to launch easily and fly over vast stretches of desert. The drones would look for questionable activity, scan faces of suspects and compare them against a database for prior criminal history. So far, DHS has selected companies for the first phase of a project aimed to strengthen and protect domains for Internet-connected devices, making awards to five of the 45 firms that applied.

## Riding the thematic wave

Companies serving the facial recognition market fall into two buckets - relatively small businesses inside larger industrial conglomerates like 3M (MMM), NEC Corp. (NIPNF) and Honeywell (HON) or small publicly traded companies, like Aware (AWRE) or NXT-ID (NXTD) and private companies such as Cognitec Systems, ZK Software and FaceFirst.

## Hitting the thematic headwind

Defense budgets are not unlimited and a shift in spending toward new technologies means that spending cuts for other programs are likely to pave the way for spending on new solutions. In 2015, the US House and Senate cut the 2016 National Defense Authorization Act by $5 billion with around $2.6 billion slashed acquisitions programs such as the Air Force's Long Range Strike-Bomber and Navy's DDG-51 destroyer program. Rounding out the 2015 budget cuts, roughly $1 billion was from military fuel costs with the remaining $1.4 billion will come from several dozen areas across all military services.

Companies that could see this shift in defense spending move against them include General Dynamics (GD), Boeing (BA), Rockwell Collins (COL), United Technologies (UTX) and Northrop Grumman (NOC) among others.

## STOCKS / FUNDS MENTIONED

3M (MMM)
Activision Blizzard (ATVI)
Advanced Micro Devices (AMD)
Alphabet (GOOGL)
Amazon (AMZN)
Ambarella (AMBA)
Apple (AAPL)
Armstrong World (AWI)
Automotive Properties (TSE:APR.UN)
Aware (AWRE)
Best Buy (BBY)
Boeing (BA)
Cedar Fair LP (FUN)
Cheesecake Factory (CAKE)
Chipotle Mexican Grill (CMG)
Coca-Cola (KO)
ConAgra Foods (CAG)
Costco Wholesale (COST)
Cott Soda (COTS)
Coty (COTY)
Cracker Barrel (CBRL)
CSX Corp. (CSX)
Darden's (DRI)
Dave & Buster's Entertainment (PLAY)
Del Frisco's (DFRG)
Disney (DIS)
DR Horton (DHI)
Dr. Pepper Snapple (DPS)
Electronic Arts (EA)
EPR Properties (EPR)
Facebook (FB)
Famous Dave's (DAVE)
Ferrari NV (RACE)
Fiat Chrysler (FCAU)
Fitbit (FIT)
Ford (F)
Fortune Brands Home & Security (FBHS)
GATX Corp. (GATX)
General Dynamics (GD)
General Growth Properties (GGP)
General Motors (GM)
Gluu Mobile (GLUU)
Hermes International (HESAF)
Home Depot (HD)
Honda Motor Corp. (HMC)
Honeywell (HON)
HP (HPQ)
Hyundai (HYMLF)
Insulet (PODD)
Intel (INTC)
Inter Parfums (IPAR)
Jack in the Box (JACK)
Jimmy Choo (JYMHF)
JM Smucker (SJM)
KB Home (KBH)
Kraft Heinz (KHC)
Kroger (KR)
L'Oreal (LRLCY)
Lennar Corp. (LEN)
Lenovo (LNVGY)
Lowe's (LOW)
LVMH Moet Hennessy Louis Vuitton SE (LVMUY)
Masco Corp. (MAS)
McCormick & Co (MKC)
McDonald's (MCD)
Medallion Financial Corp. (MFIN)
Medifast (MED)
Microsoft (MSFT)
Mondelez International (MDLZ)
Natural Grocers by Vitamin Cottage (NGVC)
NEC Corp. (NIPNF)
Nike (NKE)
Northrop Grumman (NOC)
NutriSystem (NTRI)
Nvidia Corp. (NVDA)
NXT-ID (NXTD)
PepsiCo (PEP)
PPG Industries (PPG)
Qualcomm (QCOM)
Re/Max Holdings (RMAX)
Red Robin Gourmet (RRGB)
Restoration Hardware (RH)
Rockwell Collins (COL)
Saul Centers (BFS)
Sea World (SEAS)
Sherwin Williams (SHW)
Simon Property Group (SPG)
Six Flags Entertainment (SIX)
Sony (SNE)
Sprouts Farmers Market (SFM)
Starbucks (SBUX)
Take-Two Interactive (TTWO)
Tesla (TSLA)
The Macerich Company (MAC)
Toll Brothers (TOL)
Trex (TREX)
Under Armour (UA)
Union Pacific (UNP)
United Natural Foods (UNFI)
United Technologies (UTX)
USG Corp. (USG)
Vivus (VVUS)
Volkswagen's (VLKAY)
Wal-Mart (WMT)
Weight Watchers (WTW)
Wendy's (WEN)
Whirlpool Corp. (WHR)
Whole Foods (WFM)
Zafgen (ZFGN)
Zillow Group (Z)
Zynga (ZNGA)

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At the time of publication, Mr. Versace, Chief Investment Officer of Tematica Research had no positions in the shares of companies mentioned in this issue.