MAGAZINE_CANADA

DISRUPTION

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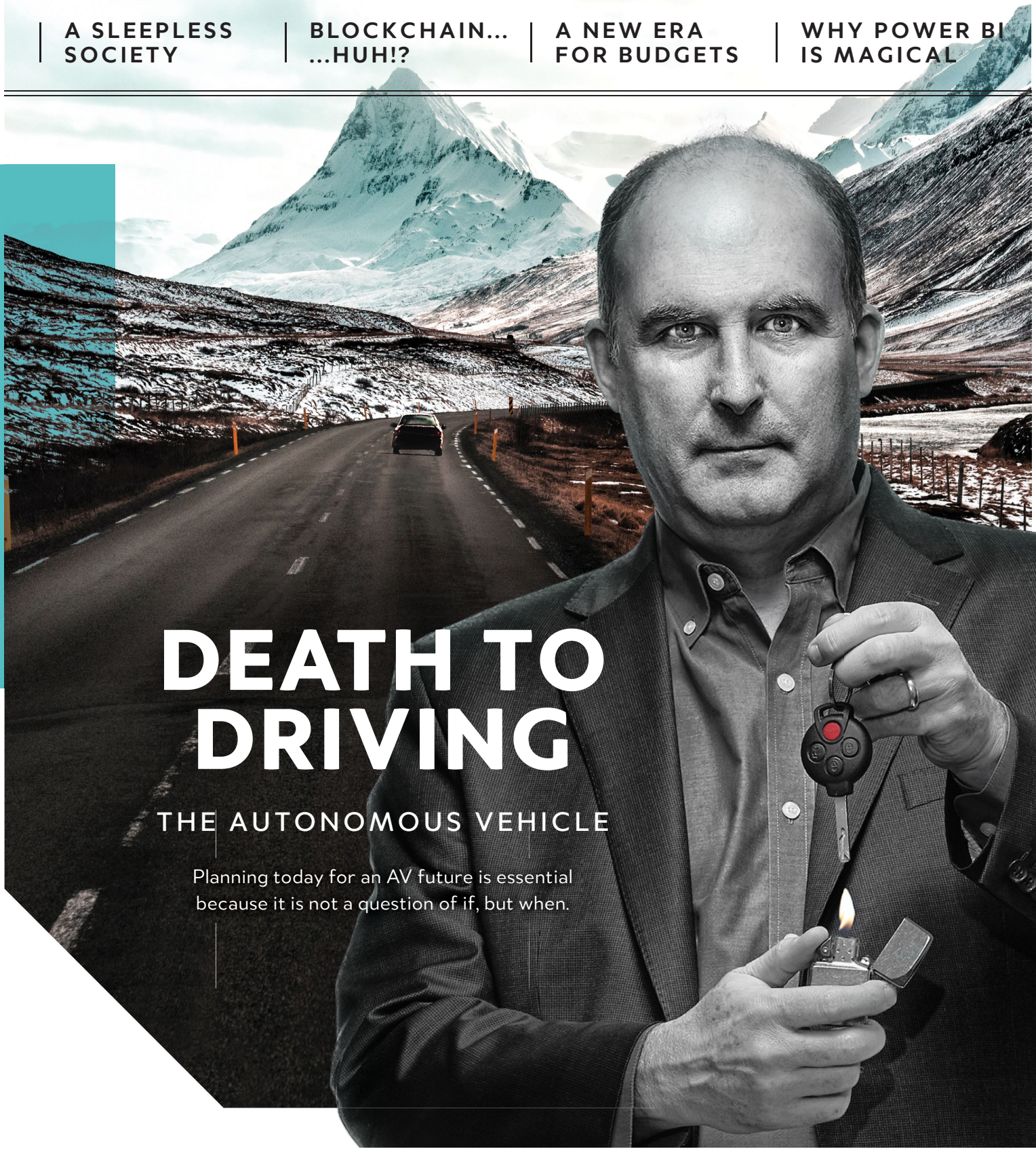


DEATH TO DRIVING

THE AUTONOMOUS VEHICLE

Planning today for an AV future is essential because it is not a question of if, but when.

A STAGGERING 94% OF CAR ACCIDENTS ARE DUE TO DRIVER ERROR. So think about the 40,000 lives that will be saved in North America every year in 2025 when all new cars are autonomous (self-driving) vehicles.

Think of the 2.5 million people who won't be maimed or seriously injured annually. Think of the emotional trauma that families will be spared. That's the GREAT news. There's also $190 billion of savings in health care costs, the value of lost wages and government benefits. (Globally 1.3 million lives will be saved every year and up to 50 million people will be spared serious injuries).

THE BAD NEWS: The bad news is that, if you're an insurance agent selling auto insurance, you'll witness the evaporation of the $500 billion a year global auto insurance market.

Driverless vehicles have a profound and cascading impact for other organizations and industries as well.

What's the implication for hospital emergency rooms and ambulances? When 2.5 million injured people aren't rushed every year to hospitals in North America, do we have an overcapacity of ambulances? Is this bad news for ambulance makers?

IN TORONTO, SIX BILLION DOLLARS ($C) OF TIME IS WASTED EVERY YEAR BY DRIVERS CAUGHT IN TRAFFIC. WHAT IF WE COULD USE THAT TIME MORE PRODUCTIVELY? IN SEVEN YEARS TIME YOUR AUTONOMOUS CAR WILL DRIVE YOU TO WORK.

And what about emergency room capacity? Taking more than 2.5 million people out of ERs every year is a LOT. If you're building a new hospital maybe you should design the ER to be flexible and able to contract when demand drops in 2025.

In Canada reduced deaths and injuries will benefit taxpayers because we have a publicly funded health care system, but in the US where for profit HMOs operate, reducing medical costs by up to $190 billion a year will have a significant impact.

// COMMUTING TRANSFORMED

In Toronto, six billion dollars ($C) of time is wasted every year by drivers caught in traffic. What if we could use that time more productively? In seven years time your autonomous car will drive you to work. What are the implications for radio stations? We listen to radio when we're driving now because we have to keep our eyes on the road. But with a self driving car you'll be in the back seat sleeping, or watching a movie, or writing a work report, or Skyping with your grandchildren. Radio use will decline when we have fully autonomous vehicles unless it ups its game to add more value for listeners.

And when you arrive at work you won't need to park your car – instead you'll tell it to go forth and earn its keep – as part of Uber or Lyft's autonomous vehicle pool. Not only will you be saving $40 a day (if you work, for example, in the downtown financial core); you will also be making money from your car while you work.

Shortly before you want to head back home, you'll signal to your car to stop taking fares and come back to pick you up.

When demand for downtown parking drops dramatically, what happens to the value of parking lots in urban downtowns where a permanent spot used to sell for as much as $100,000?!

Autonomous fleets mean that the US has a staggering excess 61 billion square feet of unnecessary parking spaces, according to management consulting firm McKinsey.

Needing fewer parking lots will also have a cascading implication for paving companies that primarily pave parking lots. If such a paving company doesn't change its focus it will face an inevitable decline.

And think about the impact on municipalities – last year the city of Toronto made $153 million from parking fees – and that doesn't even include parking ticket revenue. What are the implication for municipal finance? (New York City collects $2 billion a year in parking fines.)

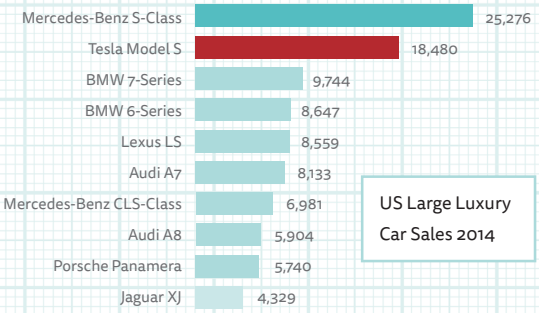
For that matter, what will replace the $14.6 billion in gas taxes, as society moves to electric vehicles?

// THIS VIDEO WILL SHOCK YOU

My favourite video about autonomous cars is a clip from the dash cam in a Tesla on a highway in Scandinavia. The autonomous system sets off an audible alarm (at this point I can't see anything wrong with the situation) and then, two seconds later, one car hits another with such force that the car that's been hit begins doing summersaults on the road. *[On YouTube search for "Tesla Autopilot predicts an accident caught on dashcam a second later"]*. This clip makes the vivid benefit of autonomous systems crystal clear.

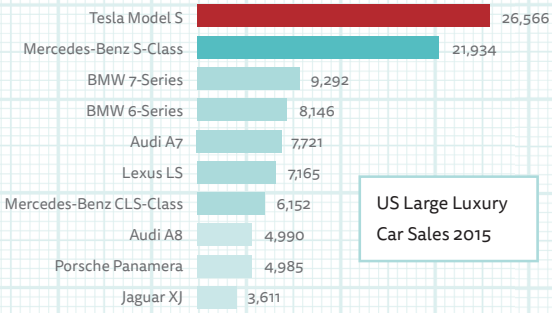
Further, what does the value of used car dealerships fall to when no one wants to buy a used car that doesn't have an autonomous system? After all, what's the value to you of your spouse and children's lives and well being? If you own used car dealerships, now might be a good time to sell or re-think your value proposition – is there some

In 2014 Mercedes Benz dominated the US large car luxury market:



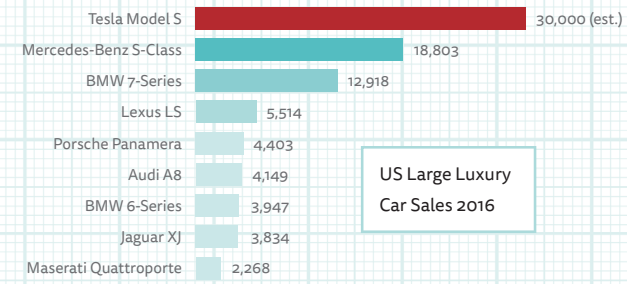
Source https://evobsession.com/top-large-luxury-cars-usa-2014-sales/

But by 2015 Tesla surpassed Mercedes Benz sales had fallen and Tesla led:

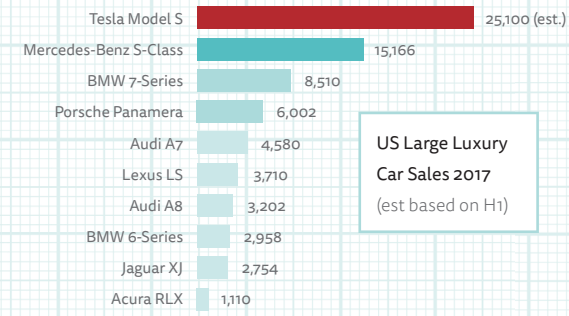


Source https://evobsession.com/tesla-model-s-1-in-large-luxury-car-market-in-us-in-2015/

In 2016 Tesla's sales acceleration was even more pronounced:



In 2017 Tesla Model S sales have been declining with rising Tesla Model X sales which are listed in the SUV category. **Despite this the Tesla Model S still dominated the large luxury car sales:**



device that you can buy to retrofit older vehicles with to give them some autonomous features or accident prevention features that newer cars come with?

I was recently working with an executive who happens to own 16 car lots. He was arguing that electric vehicles and autonomous systems are less than 1% of the market and therefore irrelevant. Jarring new information that threatens our world view and our current business model is rejected by most people.

In the early 2000s Lexus represented less than 3% of Toyota's unit sales, but in some years it was responsible for up to 50% of Toyota's US profits! In other words – the luxury car market represents a disproportionately large share of car companies' profits.

So can you hear the huge sucking sound as Tesla strips profitability from the auto industry?! Realizing this, can you now comfortably say that Tesla with less than 1% of auto sales in North America is irrelevant?

The normal margin on traditional cars sold through a car dealership is 4% to 5%. Tesla by contrast doesn't sell through dealerships. In cities it will have a test driving center or two, where you can custom order your Tesla. By cutting out the dealer, Tesla's margin is 25%. Tesla's direct to consumer distribution model cuts cost and increases profit.

For traditional auto makers, the majority of profit is in ongoing service. But with Tesla there is next to no service required. No oil changes. No engine wear. You will still, of course, have to change your tires every 80,000 kilometers.

In 2017 General Motors (GM) sold 10 million vehicles and as of March 2018 the company was worth $US49 billion. By contrast Tesla sold 100,000 cars in 2017 and on March it was valued at $US51 billion. That means that GM is being valued at $4,900

If you don't think the shift to autonomous vehicles (AVs) and electric vehicles (EVs) can happen quickly, here's a photo of the streets of New York City in 1900 and you can't see a single car.

Source: https://viewing.nyc/vintage-photograph-from-1900-shows-fifth-avenue-bustling-on-easter-morning/

Just a decade later you can't see a single horse on New York Streets.

Source: https://commons.wikimedia.org/wiki/File:Ave_5_NY_2_fl.bus.jpg

for each car it sells, while Tesla is being valued at $510,000 for every vehicle it sells.

When Elon Musk launched the Tesla Model 3 in March 2016 a staggering 275,000 people pre-ordered the car in the first four days, making it the most successful car launch in the world's history. The pre orders have since climbed to more than 500,000 – making it a $20 billion car launch! This $20 billion car launch was a two by four to the heads of traditional car company executives to get serious about electric vehicles. The problem? Their development process takes eight years, meanwhile Tesla received 1,800 new orders every day for the Model 3.

Car makers are one of the largest advertisers in newspapers. What happens to newspapers as car company profitability collapses?

And if there are 80-90% fewer accidents on roads, what happens to the almost $200 billion auto body industry?

// SHARING ECONOMY

Here's a staggering fact: the average car in North America is used less than 4% of the time and only at 20% capacity. For the average family the car is the second largest purchase. This makes the auto industry ripe for disruption.

It's cheaper in Toronto to take Uber or Lyft than to own a car. The Canadian Automobile Association notes that the average cost to own a car is $11,900 a year. But that's the average. If you're a young testosterone-ridden male aged 16-24, insurance alone can set you back $5,000 a year.

And which would you rather have: Fighting to find parking spaces? Changing oil? Switching from winter to summer tires and back again? Or be treated like the President of any small republic – where a car pulls up, you get in. The driver takes you to where you want to go and you get out? As a result many millennials aren't even bothering to get their drivers licence. Driving is so 2016.

When I am working with an audience I will ask how many people have taken an Uber or Lyft. I will then ask them what wowed them the first time they took a Lyft or Uber?

- I knew when the car was going to arrive
- I knew the price of the trip before I agreed
- I knew how long the trip would take.
- I could see the route
- I didn't have to pay when I arrived
- I could rate the driver
- The car was clean.
- I knew the name of the driver

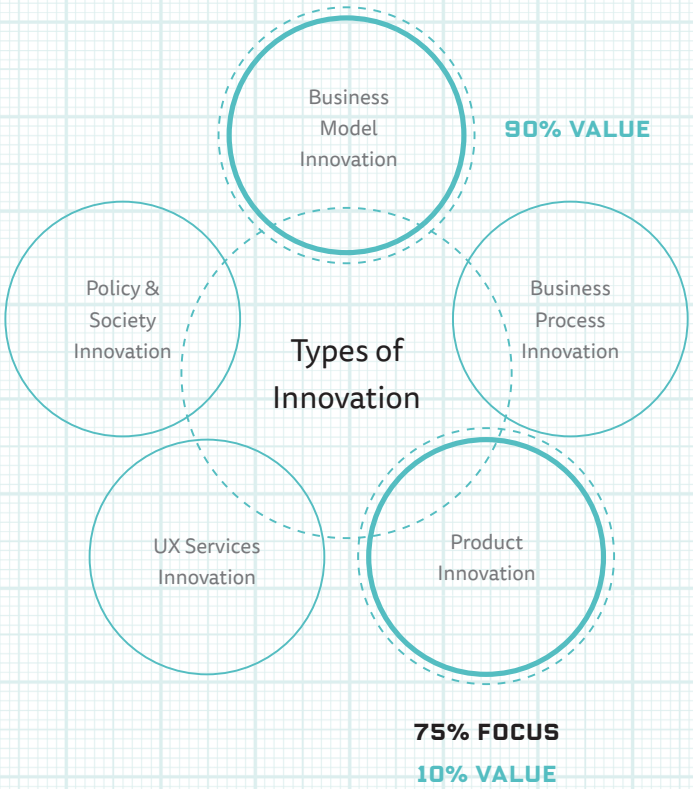
I could call him once it said he had arrived but he wasn't at the front of the hotel

I could conduct this exercise of 20 minutes facilitating out a hundred points. A powerful insight is that these are all speaking to the user experience (UX) and to the customer being in control. With taxis its exactly the opposite.

That's why Uber is worth more than every taxi cab company in North America added together. And yet Uber doesn't own a single car! To me this highlights some critical points for executives: your business model, processes and UX are more important than your product.

In 2007 a taxi license plate in Toronto was worth $400,000. Recently they have traded as low as

WHILE PRODUCT INNOVATION GETS 75% OF THE FOCUS, IT ONLY YIELDS 10-15% OF THE VALUE OF INNOVATION. THE OTHER 90% IS IN BUSINESS MODEL INNOVATION, PROCESS INNOVATION AND USER EXPERIENCE INNOVATION.



$50,000. That's almost a 90% reduction in value.

Once we have autonomous cars, we will have autonomous Lyft and autonomous Uber to access. In an urban centre one autonomous vehicle working in a pooled capacity can replace up to 30 traditionally owned cars. This will spell the end of many auto makers.

If I can get a car anywhere any time via Lyft or Uber, what happens to the $28.6 billion a year car US car rental industry?

// INNOVATION

When you ask people on the street, "What's innovative?"

They will often answer the iPhone is innovative. A staggering 75% of the answers will be about a product. Similarly within organizations product innovation received 75% of the focus.

While product innovation gets 75% of the focus, it only yields 10-15% of the value of innovation. The other 90% is in business model innovation, process innovation and user experience innovation.

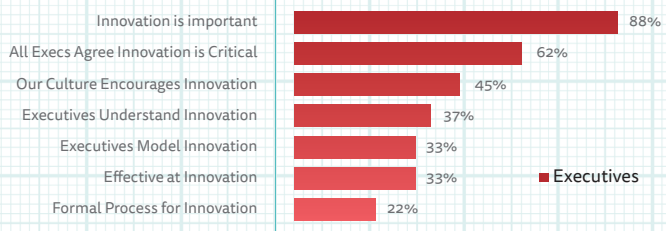
// LOBLAWS & TESLA SEMIS

And it's not just autonomous cars that will disrupt industries, it's also autonomous trucks. In November 2017, Tesla announced its Semi. The Tesla Semi has a 475 kilometer range (there's an 800 km range version too). The truck costs $US190,000 and will save $US200,000 in fuel costs over 1.6 million kilometers. For trucking operations it will save more than the capital cost in fuel savings! Loblaws, the largest grocery retailer in Canada has already ordered 25 Tesla Semis. These 25 trucks will save Loblaws $C6,400,000 over 1.6 million kilometers.

Grocery retailing works on 1% net profit. So for every dollar of sales, grocers typically only make one cent. The $6.4 million that the Tesla Semis will save Loblaws has the same bottom line impact as the company increasing its sales by $640,000,000! Even for the largest retailer in the country driving two-thirds of a billion dollars of additional sales is challenging!

Tesla Semis will have a profound impact on trucking industry. In the US there are 3.1 million truck driving jobs. What will happen to them?

Saying Innovation Is Important, But _Not Doing!_



Source: Leger Marketing Research & Globe and Mail

// DRIVING INNOVATION

"Innovation is essential," say 88% of CEOs to the top and bottom line, according to a Globe and Mail and Leger study. Not surprising. But what is shocking is that only 22% admit to having a formal system of innovation. Imagine that CEOs took the same approach to sales? Yes, 88% say sales are essential but only 22% have sales people, a sales process, sales training, sales systems like a CRM. The other roughly 80% of Canadian company CEOs hope that sales will just magically, organically happen.

// CONCLUSION

In North America our cities, society in general, and our way of living is built around the automobile. The cascading impacts of autonomous vehicles will be profound. We've explored how one disruptive innovation – autonomous vehicles – has huge cascading implications for insurance, health care costs, emergency room capacity, ambulance makers, car dealerships, auto makers, parking lot owners, paving companies, radio stations, newspaper advertising revenue, cab companies, municipal, provincial and federal revenue, city planners, car rental companies, architects designing hospitals – and in turn all of these have implications for investors.

Before you get too stressed about all the change, remember that 150 years ago, 80% of jobs were in agriculture. Today it's less than three per cent – and yet we still have almost full employment despite farm mechanization. And so it is with these disruptions. What is certain is that jobs will have to change, organization will have to change, business models will have to change. How good is your organization at change?

Imagine the impacts of other trends – such as artificial intelligence (AI), the Internet of Things (IoT), 5G wireless and Moore's Law – all compounding one another – amplifying the impact of disruption on companies, industries and society as a whole. Executives must spend more time focusing on the future – focusing on disruptive innovation and its impact on their business model, customers and profitability. Google has spent $1.1 billion on autonomous vehicle research so far. If it wins even a one per cent share of the $10 trillion a year transportation market that will seem like a pittance.

Jim Harris // Disruptive Innovation Speaker
Jim Harris is the author of Blindsided which focuses on disruptive innovation. It is published in 80 countries worldwide and is a #1 international bestseller.
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