

13/03/15

Future Mobility Newsletter

Issue 15.03



Will Apple revolutionize mobility?

The rumour is deafening. Despite Apple's notorious shroud of secrecy, journalists, automotive manufacturers and financial specialists are speculating on what increasingly appears to be Apple's foray into the world of mobility.



What we have read and heard?

A few weeks ago, the curiosity of journalists, bloggers and analysts was peaked by "mysterious" Apple [vans](#) that were spotted in San Francisco and New York.

Then, more news surfaced about Apple being in talks with [automotive suppliers](#) and that the organization is working on an electric [self-driving](#) vehicle.

Apparently, Apple has been on a hiring spree and [Steve Zadesky](#), a 16-year Apple veteran who was instrumental in the development of the original iPod and iPhone, is leading Apple's automotive research lab, [Project Titan](#), located in Silicon Valley outside the company's Cupertino campus. According to Business Insider, Zadesky "has been given permission to assemble a 1,000 person team to work on Apple's car". Moreover, we learn that Zadesky "has been making trips to Austria" in relation to the project. Several writers have connected these visits with [Magna Steyr](#), a century-old but little-known Austrian brand-independent engineering and manufacturing partner for OEMs, which has produced more than a million vehicles for BMW - including the BMW X3, MINI Countryman and MINI Paceman - and also produces the Mercedes G-Class at its plant in Graz".

And, just in case there was still doubt in the minds of some, the company has officially expanded its corporate

description in several countries and Apple is now an official manufacturer of: "Apparatus for locomotion by land, air or water; electronic hardware components for motor vehicles, rail cars and locomotives, ships and aircraft; Anti-theft devices; Theft alarms for vehicles; Bicycles; Golf carts; Wheelchairs; Air pumps; Motorcycles; Aftermarket parts (aftermarket parts) and accessories for the aforesaid goods".

Will it be a car?

Apple's hiring of [battery experts](#) has led many to believe that Apple is developing an electric vehicle. A [Financial Times](#) article stated that Tim Cook "has made it clear that the automotive industry is an area in which he feels Apple can make a greater impact". According to this same article, at a recent Goldman Sachs technology conference, Cook said "CarPlay was one of three new technology platforms Apple launched last year that are key to [Apple's] future, alongside HealthKit and HomeKit".


With CarPlay, Apple is already involved in the automotive space but the recent attention paid by the heads of some of the world's leading automotive manufacturing companies at the recent [Geneva auto show](#), would lead us to believe that Project Titan is about more than infotainment.

Given that driverless is where Silicon Valley and most auto manufacturers are headed, it would be safe to assume that Apple also sees the writing on the mobility wall. A source familiar with the matter told [Reuters](#) that Apple is "studying the potential for a self-driving" vehicle.

But is Apple designing a driverless electric vehicle to sell to the masses? We think not. Here's why:

- Traditional auto manufacturing generates significantly slimmer margins than what Apple and its shareholders are used to (Apple's gross margin for the fiscal year ending September 2014 was 40%). Even if the driverless electric vehicle is priced at a premium, it may prove difficult to achieve the same level of profitability as Apple has experienced with its current product line. Think Tesla.
- The success and rapid adoption of ride sharing and car sharing are demonstrating that urbanites thirst for a new mobility offering that allows them to avoid car ownership (remember, personal vehicle utilization is only 4%). And, as urbanization continues to grow, so will this trend.
- iPhone sales generate the lion's share of Apple's profit. The large majority of the iPhones in use today have been placed in the hands of consumers through contracts with telecommunications providers that allow them to access the high-margin product through a term contract with monthly payments that bundle telecom services and the product. That's a model that has made Apple billions!

Now, imagine gaining access to mobility on demand, Apple style, where an Apple electric driverless vehicle picks you up when you need one and delivers you to your destination. A term contract provides membership to the service as well as a maximum number of km of travel in an Apple mobile environment, whether

 Apple mobility on demand	
Alone time	200 km / month
Pooling	400 km / month
Transit style	400 km / month

that be solo, in an Apple pool with a couple of other users or in a larger bus-like vehicle. Free WiFi within a user environment designed by Jony Ive, which means that it would be seamless even for a five-year old. You plug in as soon as you get into the vehicle that the creative geniuses at Apple have designed and you work, relax or simply enjoy the carelessness of getting to where you want to go without any of the hassles associated with car ownership.

While some will be able to afford to own such Apple-mobiles, the large majority will use them as a service, paying a monthly fee that will bundle all their transportation needs and possibly more ...much like paying a monthly fee to gain access to the iPhone and the telecom services that accompany it.

Can / Should Apple do it?

Apple is the world's most valuable company. With a market capitalization of \$750 billion, Apple is worth more than Daimler, Volkswagen, Renault, Peugeot, Fiat Chrysler, Ford and General Motors put together. Despite its success, the company needs to continue to generate profits and shareholder value, potentially branching out to new industries. The transportation industry is ripe for change ...change that Apple can benefit from.

Consider the following:

- The company is reported to have \$178 billion in cash – an amount that would allow it to establish itself in the new mobility industry. Apple is already attracting top experts in the field with \$250,000 signing bonuses and significant compensation increases.
- Tesla has certainly proven that a newcomer to this high-barrier-to-entry industry can create superior vehicles that leave most salivating.
- With CarPlay, Apple is already in the automotive space. So, in the short term, the company may continue to improve its CarPlay offering and develop infotainment solutions. Infotainment can spread to other areas within the vehicle: Human Machine Interface (HMI), ergonomics and controls, etc. Leave it to Apple to make a user experience feel seamless and easy.
- As electronics and code become an increasingly important part of the vehicle, particularly with fully driverless technology (it is estimated that software will represent over 60% of the value of the driverless vehicle), Apple's strength in designing electronics that provide a new and unique user experience would provide the company with a strong competitive advantage. As Morgan Stanley's analysts explain, *"Apple has the brand and the design talent to take on the best in the traditional auto industry and it can rely on the existing automotive supply chain for non-critical components"*.

If we are to believe what has been discussed over the last few weeks, by 2020, we should see the fruits of Apple's labours.

Hold on to your seats because Apple will be disrupting mobility.

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Apple va-t-elle révolutionner la mobilité ?

La rumeur est assourdissante. Malgré la culture du secret notoire d'Apple, les journalistes, les constructeurs automobiles et les spécialistes financiers spéculent sur ce qui semble de plus en plus d'être l'incursion probable d'Apple dans le monde de la mobilité.

Qu'avons-nous lu et entendu ?

Il y a quelques semaines, la curiosité des journalistes, blogueurs et analystes a culminé à cause d'une "mystérieuse" [fourgonnette](#) Apple qui aurait été repérée à San Francisco et à New York.

D'autre part, plus de nouvelles ont surgi au sujet d'Apple qui serait en discussion avec des [fournisseurs automobile](#) et qui travaillerait au développement d'un [véhicule autonome électrique](#).

Apple serait animée d'une frénésie d'embauche et [Steve Zadesky](#), un vétérinaire de 16 ans chez Apple, qui a joué un rôle dans le développement de l'iPod original et de l'iPhone, est à la tête du nouveau laboratoire de recherche automobile d'Apple, nommé [projet Titan](#), et situé dans Silicon Valley, à l'extérieur du campus de l'entreprise à Cupertino. Selon Business Insider, on a donné à Zadesky "la permission de réunir une équipe de 1 000 personnes pour travailler sur la voiture d'Apple". En outre, nous apprenons que Zadesky "a fait des voyages en Autriche" dans le cadre du projet. Plusieurs auteurs ont relié ces visites à l'entreprise [Magna Steyr](#), une firme d'ingénierie et

de fabrication partenaire autrichienne peu connue et fournisseur indépendant pour les OEM. Cette dernière a produit plus d'un million de véhicules pour BMW - y compris la BMW X3, MINI Countryman et MINI Paceman - et produit aussi le G-Class Mercedes dans son usine de Graz".

Et, juste au cas où il y avait un doute encore dans l'esprit de certains, Apple a officiellement élargi sa description d'entreprise dans plusieurs pays et est maintenant libellée comme fabricant officiel de : "Appareils de locomotion sur terre, dans les airs ou sur l'eau; composants matériels électroniques pour véhicules automobiles, wagons et locomotives, navires et aéronefs; dispositifs antiviol; alarmes antiviol pour véhicules; bicyclettes; voiturettes de golf; fauteuils roulants; pompes à air; motos; pièces de rechange (pièces après-vente) et accessoires pour les produits précités".

Est-ce que ce sera une voiture ?

L'embauche par Apple [d'experts en batteries](#) porte beaucoup à croire qu'Apple est à développer un véhicule électrique. Un article du [Financial Times](#) rapporte que Tim Cook "a clairement indiqué que l'industrie automobile est un domaine dans lequel il croit qu'Apple peut faire un très grand impact". Selon ce même article, lors d'une récente conférence sur la technologie chez Goldman Sachs, M. Cook a dit que "le CarPlay était l'une des trois nouvelles plateformes technologiques qu'Apple

a lancé l'an dernier essentielles pour l'avenir d'Apple, aux côtés de HealthKit et HomeKit".

Avec, CarPlay, Apple est déjà impliquée dans l'espace automobile, mais l'attention portée récemment par les chefs de certaines des principales sociétés mondiales de fabrication automobiles lors du dernier [salon de l'auto de Genève](#), nous amènerait à croire que le projet Titan promet d'être plus que de l'info-divertissement.

Étant donné que la voiture autonome et la plupart des constructeurs automobiles se tournent résolument vers Silicon Valley, il serait logique de déduire qu'Apple voit aussi l'écriture sur le mur de la mobilité. Une source proche du dossier a déclaré à [Reuters](#) qu'Apple «étudie la possibilité d'un véhicule autonome».

Mais est-ce qu'Apple est à concevoir un véhicule électrique autonome destiné au grand public ? Nous pensons que non. Voici pourquoi :

- La fabrication traditionnelle de l'automobile génère des marges nettement plus faibles auxquelles Apple et ses actionnaires sont habitués (la marge brute d'Apple pour l'exercice se terminant Septembre 2014 était de 40%). Même si le véhicule électrique autonome se vendait avec une prime, il pourrait s'avérer difficile d'atteindre le même niveau de rentabilité qu'Apple a connu avec sa gamme de produits actuelle. Pensez à Tesla.

AT THE FOLLOWING EVENTS / AUX ÉVÉNEMENTS SUIVANTS

P. Ducharme will be presenting a CUTA webinar on Natural Gas for Heavy Vehicles - **Transit Vision 2040: Greening** on March 16 2015

Y. Provencher will be speaking at **Towards Smart Cities and Intelligent Transportation**, Stockholm, Sweden, March 19 2015

C. Kargas et P. Ducharme seront conférenciers au **50e Congrès et Salon des transports : PROCHAIN ARRÊT! de l'Association québécoise des transports (AQTr)**, du 30 mars au 1er avril 2015 au Palais des congrès de Montréal

Y. Provencher will be speaking at Manitoba Trucking Association's event **Transportation 2020 - Driving the Future**, April 10 2015

C. Kargas will be speaking at the **Smart and Healthy Municipal Public Transport International Conference**, April 21-22nd, Pilsen, Czech Republic

C. Kargas will be speaking at **Climate Change Technology Conference**, May 25-27, 2015 in Montreal | C. Kargas sera conférencière à la **Conférence sur les technologies du changement climatique**, à Montréal, du 25-27 mai 2015

C. Kargas will be speaking at Canada's premier electric mobility event, **EV2015VÉ**, May 25-27th, 2015, in Halifax, Nova Scotia | 25 au 27 mai 2015 à Halifax, Nouvelle Écosse

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- Le succès et l'adoption rapide du covoiturage et de l'autopartage démontrent que les citoyens ont soif d'une nouvelle offre de mobilité qui leur permettrait d'éviter l'achat d'un véhicule (rappelez-vous, l'utilisation personnelle d'un véhicule n'est que de 4%). Et, comme l'urbanisation continue de croître, il en sera de même pour cette tendance.
- Les ventes d'iPhone génèrent la part du lion des bénéfices d'Apple. La grande majorité des iPhone en utilisation aujourd'hui ont été placés dans les mains des consommateurs grâce à des contrats avec des fournisseurs de télécommunications qui leur permettent d'accéder au produit à marge élevée par un contrat à long terme avec des paiements mensuels qui regroupent les services de télécommunications et le coût du produit. C'est un modèle d'affaire qui a fait faire des milliards à Apple!

Maintenant, imaginez avoir accès à la mobilité à la demande, style Apple, où un véhicule électrique sans conducteur Apple vient vous chercher lorsque vous en avez besoin et vous conduit à destination. Un contrat à long terme fournit l'adhésion au service ainsi qu'un nombre maximum de km dans un environnement mobile Apple, que ce soit en solo, en groupe avec une couple d'autres utilisateurs

Apple - mobilité à la demande	
Personnel	200 km/mois
Groupe	400 km/mois
Transit	400 km/mois

ou dans un véhicule de plus grande taille de style minibus. L'accès au sans-fil serait gratuit et offert dans un environnement utilisateur conçu par Jony Ive, ce qui signifie qu'il serait transparent même pour un enfant de cinq ans. Vous vous branchez dès que vous entrez dans le véhicule que les génies créatifs d'Apple ont conçu et vous vous mettez à travailler, vous détendre ou tout simplement profiter du temps à vous rendre où vous

voulez aller, sans les tracas associés à la propriété ou à la conduite d'une voiture.

Alors que certains d'entre nous seront en mesure de posséder un "Apple mobile", la grande majorité sera tentée de les utiliser comme un service, en payant une forfait mensuel qui regroupera tous leurs besoins de transport et peut-être plus ... un peu comme payer un forfait mensuel pour accéder à l'iPhone et les services de télécommunications qui l'accompagnent.

Apple peut le faire / devrait le faire ?

Apple est la société qui affiche la plus valeur au monde. Avec une capitalisation boursière de 750 milliards de dollars, Apple vaut plus que Daimler, Volkswagen, Renault, Peugeot, Fiat Chrysler, Ford et General Motors réunis. Malgré son succès, l'entreprise a besoin de continuer à générer des profits et de la valeur actionnariale, potentiellement en se diversifiant vers de nouvelles industries. L'industrie du transport est mûre pour un changement ... changement dont Apple peut profiter.

Considérez ce qui suit :

- La société aurait 178 \$ milliards en espèces - un montant qui lui permettrait de s'établir dans la nouvelle industrie de la mobilité. La société attire déjà les meilleurs experts sur le terrain avec des bonus à la signature de 250 000 \$ et une rémunération assortie d'augmentations significatives.
- Tesla a certainement prouvé qu'un nouveau venu dans cette industrie de haute barrière à l'entrée, peut créer des véhicules de qualité supérieure qui laissent saliver les plus exigeants.
- Avec CarPlay, Apple est déjà dans l'espace automobile. Donc, à court terme, la société peut continuer d'améliorer son offre de CarPlay et développer des solutions d'info-divertissement. L'info-divertissement peut se propager à d'autres zones dans le véhicule : Interface Homme-Machine (IHM), l'ergonomie et les contrôles, etc. Fiez-vous à Apple

de créer une expérience utilisateur transparente et facile à utiliser.



- Comme l'électronique et le code deviennent une partie de plus en plus importante du véhicule, en particulier avec la technologie autonome (il est estimé que les logiciels et l'électronique représenteront plus de 60% de la valeur du véhicule autonome), la force d'Apple dans la conception de produits électroniques offrant une nouvelle et unique expérience d'utilisateur, fournirait à l'entreprise un avantage concurrentiel indéniable. Les analystes de Morgan Stanley expliquent, "Apple possède la marque et le talent de conception à se mesurer au meilleur de l'industrie automobile traditionnelle et elle peut compter sur la chaîne d'approvisionnement automobile existante pour les composants non-critiques".

Si l'on en croit ce qui a été discuté au cours des dernières semaines, d'ici 2020, nous devrions constater les fruits du travail d'Apple.

Accrochez-vous à vos sièges car Apple perturbera la mobilité.



In the news | Les nouvelles

► Driverless tech & insurance implications

This year's Insurance-Canada technology conference was another big success. Congratulations to Patrick Vice and Doug Grant for gathering a fantastic group of speakers.

The word "driverless" was mentioned more times than at any point in the past. At this year's conference, there was no debate about whether driverless will happen. The discussions related to implications for insurance carriers and brokers.

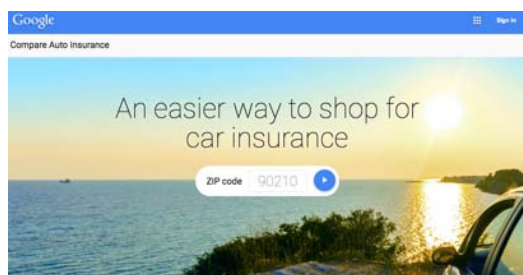
In the US, insurance companies have begun discussing the [competitive threat](#) in the [risk factors](#) of their SEC filings.

► Insurance of drones

Given that Canada is leading the way in permitting [commercial drone](#) usage and mandating that insurance protection be purchased, it is imperative that insurance carriers develop the products/endorsements required for what will likely become a greater part of mobility of goods.

In the US, [State Farm](#) has received exemptions to operate commercial drones for roof inspections to aid in assessments and claims.

► Google's insurance play



To date, 14 insurance companies are working with Google on its recently launched auto insurance [comparison site](#).

Some insurance industry auto

[analysts](#) are suggesting that the comparison site "may not be just about an additional revenue stream [for Google] - it could be about collecting more information on how the different insurance companies price the same risk". This will allow Google to use that information in case it wishes to underwrite auto insurance in a future of shared, driverless vehicles, where some component risk may very well be included with the price of travel.

► Ride sharing insurance

An increasing number of [insurers](#) are rolling out ride sharing policies. With over 160,000 Uber drivers alone in the US, this emerging market presents interesting opportunities for those carriers who are interested in getting involved.

A brief overview of insurers and their offerings to this segment (many focus on Colorado as this state is one of the first to pass a rideshare insurance law):

Metromile: Using a Metronome device, the company tracks mileage and charges for miles driven. The carrier is targeting Uber drivers in California, Illinois and Washington. The Metromile policy is in force until a passenger is assigned and then, Uber coverage takes over.

Farmers: Offering ride sharing insurance in Colorado. "One of the unique benefits of the Farmers Rideshare endorsement is that it provides the same coverages a driver currently has in place and extends those benefits to customers during the Period 1 [seeking passenger]"... Coverage reverts back to ridesharing company when the driver picks up a rider. The endorsement will add, on average, an additional 25% to a customer's premium".

USAA: An endorsement to Colorado customers that covers ridesharing during the period of seeking a passenger. The additional premium: \$6-8 / month.

MetLife: Offering Lyft drivers in Colorado that covers all periods of driving, even when a passenger is in the vehicle.

Geico: Beginning with the state of Virginia, Geico's policy offers coverage during all driving phases. Pricing is expected to be somewhere between a personal and a commercial policy. The plan is to have a national rollout.

Erie: Ridesharing insurance offered to drivers in Illinois and Indiana. Coverage provided to those that have a "business use" endorsement on their personal auto policy. "Business-use policies cover people who use their personal car for things like delivering flowers, but historically it has excluded coverage for people who use their cars as taxis."

► Idaho self-driving bill

A new bill allowing the testing of vehicles on [Idaho's](#) roads would encourage self-driving car developers to invest in R&D activities in the state. Another example of how SDC activity in many jurisdictions is an economic development push.

In the news | Les nouvelles

► Ford vehicle for ride sharing

Earlier this year, Ford announced 25 mobility experiments. Some of these involved ride sharing. More information has been provided about a [dynamic shuttle](#) that is being proposed for the ride sharing market that will be tested with its employees in Michigan. Users would request a ride through an app. A premium mini-bus will collect and drop off passengers with similar routes. So, will Ford be competing with transit in a world where the lines of mobility are increasingly blurry?

► Electric transport

A number of EV projects were discussed over the last few weeks.

[Pacific Gas & Electric](#) have asked California regulators for permission to roll out an unprecedented 25,000 EV charging stations.

While EVs have proven themselves as passenger vehicles, electric propulsion has yet to make significant inroads in the heavy vehicle space. However, numerous investments in battery technology are paying off and this will contribute to electric propulsion in heavier vehicles. One of Tesla's co-founders, Ian Wright, is targeting Class 8 garbage trucks as the benefits are significant for an application that is estimated to do 130 miles with 1,000 hard stops and 1,000 full brakes per day. There are over 110,000 refuse trucks in the US alone. His company, [Wrightspeed](#), has raised \$32 million, and is developing quiet garbage trucks with a strong payback.

► New entrants & alignments

[Mahindra](#), the electric vehicle subsidiary of the Indian UV specialist, has submitted proof of concepts of driverless technology to the UK and Singapore governments, requesting permission to test prototypes on public roads.

Nissan-Renault and Daimler are reportedly eyeing the [codevelopment](#) of self-driving technology.

[Continental's](#) Chief Executive opened the door to Apple for the development of a car.

Baidu's [China's largest Internet search engine] CEO has [teased](#) about an autonomous vehicle release this year. It is rumoured that Baidu is working closely with [BMW](#) on introducing aspects of vehicle automation.

► UK: driverless leader?

British MPs are calling for a [Minister for Driverless Cars](#). The reason: the UK wants to ensure that the country does not miss out on the economic [opportunities](#) presented by new vehicle technologies. Louise Ellman, Labour chair of the Commons transport select committee: "The government should be more active and have a much more holistic strategy to make sure this new technology has the maximum effect... We need someone in charge of this, looking across manufacturing, technology, regulation and testing."

The UK's economic development driverless push is having some excellent results. In [Milton-Keynes](#) alone, one of the areas where testing of driverless technology will be undertaken, it is estimated that 7000 new jobs could be created, 5000 new homes built and a potential of £150m public and private investment.

To ensure that the UK takes and maintains the lead in this area, a comprehensive, multi-ministerial approach working closely with industry is prioritized.

► Highly automated vehicle models abound

[Volvo](#) and [Subaru](#) are just some of the auto manufacturers that are promising the delivery of cars that avoid crashes.

Consequently, even before fully self-driving vehicles are navigating our roads and highways, we will be benefitting from technology intended to compensate for driver error. This will have a tremendous implication on numerous industries, including insurance, car repair, ...

The 2015 [NHTSA](#) Report on Vehicle Crashes estimates that 94% of car accidents are due to driver related issues.

► A sign of the times

Calgary city planners have given their blessing to the city's first [condo](#) tower built with NO parking spaces. Car sharing is a rapidly growing trend around the world, and particularly in Canada. Calgary and Vancouver lead Canada's push to avoid car ownership.

Car sharing users are expected to reach 650 million by 2030. Considering that shared driverless vehicles will certainly be available by then, this number may be underestimated.

Interested in daily updates on future mobility? Check out the following:

Intéressé par des mises à jours quotidiennes sur la mobilité du futur ? Visitez le site suivant :

<http://www.scoop.it/t/evolution-of-transportation>