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Telematics Industry Insights by Michael L. Sena

The Dispatcher

In This Issue

The Dispatcher's Manifesto

Transport cannot be viewed in isolation. Traffic congestion is not caused by cars. It is an effect of policy decisions about where people live, work, shop and recreate. Most people live where they can afford to live and work where they get a job; everything else follows. The numbers and types of cars and trucks that are sold are the results of political and business decisions that are made locally, nationally and globally. Most people don't buy cars and trucks to just drive around. They buy them to take them where they need to go and to make their lives easier to live. Changes to the transport network that affect driving and owning cars and trucks motivated by environmental considerations should only be made after full consideration is given to all potential societal impacts and after evaluating all alternatives, including possible future technological breakthroughs. If actions we take make life for humans not worth living, then what's the point?

Are you a model railroader?

Stating that you still play with trains may not be something you put on your resume or admit to in a job interview, but you might tick a box in the hobby category labelled Model Railroading. My sister and I shared an O-gauge Lionel train, and I bought my own HO-gauge set when I was ten. Thirty years ago, when I was living part-time in the Orlando, FL area while consulting to AAA, I started collecting N-gauge. That hobby continues to this day.

THE DISPATCHER

Telematics Industry Insights by Michael L. Sena
October 2020 – Volume 7, Issue 12

Dealers are the Present and Future of Automobility

The Dealership of Tomorrow 2.0:
America's Car Dealers Prepare for Change

February 2020

An independent study by Glenn Mercer
Prepared for the National Automobile Dealers Association

"The franchise system is at its peak. Still, the two questions I hear most from dealers here and at home are: What's my future? And how can our business model thrive into the future?"

Outgoing National Automobile Dealers Association Chairman Charlie Gilchrist during his keynote address at NADA 2020 Show.

An excellent report that was sent to me by its author, Glenn Mercer, addresses these two issues. It was presented to the NADA members at the 2020 Show held in February. ***The Dealership of Tomorrow 2.0: America's Car Dealers Prepare for Change*** *was commissioned by NADA as a follow-up to a report it commissioned from Glenn Mercer four years earlier.*

I highly recommend reading this report. Its thoroughly researched contents deliver keen insights in a well-organized and clearly written manner.

https://blog.nada.org/2020/03/02/tuning-up-the-dealership-of-tomorrow-insights/

New and used car dealers deliver what car buyers want and need

THE CURRENT NARRATIVE in the pundit press is that car dealerships are being intermediated by OEMs who have started selling their cars online and offering subscription services directly to customers. That same narrative claims that car dealerships will not be needed because people either won't be buying cars since we will all live in cities where other transport options will eclipse the private automobile, or cars will be delivered to large fleet owners who will provide mobility as a service, with or without drivers. This narrative itself is flawed, as the report referenced in the sidebar shows, but it also ignores an important truth: two-and-a-half times as many used cars are sold in the U.S. each year than new cars, and they are sold through dealerships (B2C). The ratio of used-to-new car sales is lower in Europe, but it is still greater than 1.5.

COVID-19 brought a fear of riding public transit and a switch to driving, and buying an extra family car became an obvious option. At the same time, during the past six months with the two-month halt on building new cars and with new car prices at sky high levels, sales of used cars have set records everywhere. According to EDMUNDS, in June 2020, U.S. franchised car dealers, who sell both new and used cars, sold 1.2 million used cars and trucks, up 22% from the year earlier, while these same dealers sold only 1.1 million new cars during the same period. These franchised car dealers have had problems filling demand for used cars.

Why should people working in and with the new car industry care about the used (also known as 'pre-owned' or 'second-hand') car market? Because the new and used car markets are inextricably linked. Because existing car OEMs and new entries into the new car market are trying to decide which busines model will make them successful, and false prophets are leading them astray by downplaying the importance of car dealerships. They say:

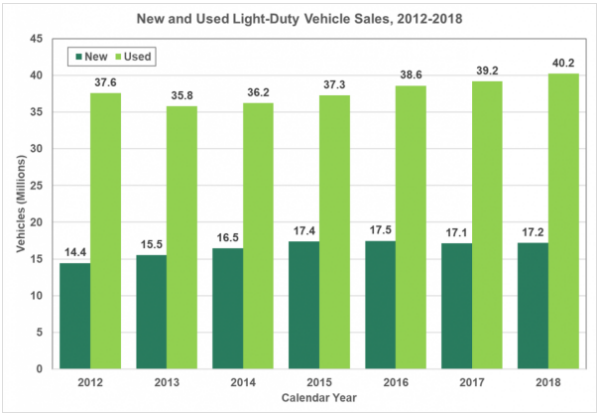
"Look at TESLA. Follow the online sales model and you will succeed." Or they say: "Look at NETFLIX. Follow the subscription model and your future will be secured." TESLA is where it is because it built its own charging network, initially offered top-ups along the road for free, and it convinced governments to subsidize one-half of the price of its very expensive vehicles. NETFLIX is renting a non-depletable product: watching movies is not comparable to having access to a car, which the car companies offering car subscriptions have learned.

Cars on the Roads

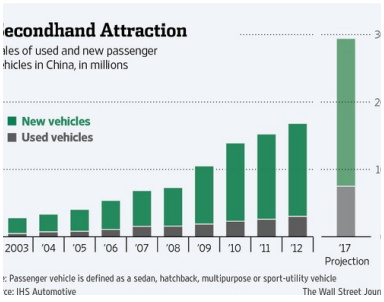
In 2018, there were 1.42 billion vehicles on the world's roads, of which 1.06 billion were passenger cars and 363 million were commercial vehicles. In the U.S., in the fourth quarter of 2019, there were 279.6 vehicles in operation. The number is 312.7 million for Europe and 340 million for China. Sources for this information are ACEA for Europe, RFD Tires for China and NADA for the U.S.

Why is the first car we buy mostly always used?

Used cars are the chief competition to new cars. They start competing in a market as soon as the number of cars on the roads is sufficient to allow people to begin trading them. Henry Ford sold his **new *MODEL T*s** because there weren't enough **old *MODEL T*s**—or old anything else—on the roads for people to buy instead. As the graph shows, there has been a relatively steady relationship between the numbers of used to new cars sold in the U.S. for the past ten years, in the range of 2.5-to-1, but it was only 1.5 in 1965. Used cars are usually the entry point for new car buyers, both because you can find one to fit your budget and because you can get more for less. As new car prices increase, more lower-income buyers give up the dream of a new car, but they can still keep part of their dream alive by buying an older model of the car they would most like to drive.



In China, used car buying is happening only now, as the chart to the right shows. For the past twenty years, demand for cars exceeded the availability of used cars, and prices for domestic new cars were low enough to allow even a lower tier of buyer to afford one. In 2017, the ratio of used to new car sales in China was 0.26 compared to 2.5 in the U.S., but it has been rising since then.



I believe there are important lessons about how to sell new cars that are being unlearned by those experienced veterans who have worked in the car industry, and purposely ignored by those who believe they will win through disruption. New entries, especially the Chinese battery electric car makers, are itching to

attack the U.S. and European markets. They are hoping to leap frog the entire dealer and workshop service approach and do what they have done with their electric scooters, deliving them to companies like LIME who offer them to customers for a per-minute fee on a 'use it and lose it basis'. While you can drop an electric scooter anywhere—and most users do, as we can see in the cities where they are tolerated, like Stockholm (ugh!)—you cannot simply drop a car wherever you please. While it may be possible for the scooter renters to pick up their scooters every night to charge them and maintain them, that model will not work for cars.

Dealer and Deal

A 'dealer' is a person or a company that buys or sells something. In business, a 'deal' is an arrangement for mutual advantage between the selling and buying parties. You might find a bargain, but you will negotiate a deal.

There's a reason they're called car dealers—they deal

Let's take a step back and look at the car dealership business. It can be divided into new car dealerships and used car dealerships. New car dealerships, which also sell used cars, can be owned by an OEM, often called factory-owned. This ownership can be direct or through a subsidiary, like a national sales company or a company-owned distributor. New car dealerships can also be owned by a franchisee who runs one or a few dealerships selling a single brand (e.g., TOYOTA OF SCRANTON) or a single brand's models (e.g., PORTER CHEVROLET AND BUICK), or one that has a chain of stores across a state or a country that sells one or more brands (e.g., HEDIN BIL in Sweden that sells *MERCEDES-BENZ, CITROËN, KIA* among others, or AUTONATION, the largest U.S. new and used chain that sells over 30 brands).

In the U.S., 95% of new car dealerships are franchised. This is so in part because of state franchise laws that prohibit direct manufacturer auto sales, requiring that new cars be sold only by independent dealers. This is the reason TESLA cannot sell cars in certain states. However, in Canada, where there are no such bans on direct manufacturer sales, still less than 1% of new vehicle sales are through factory stores.[1] Laws aside, the main reason that car OEMs don't own their own dealer network is that they don't have to. The OEMs already have control over what the dealers do because they make compliance with their requirements, such as store layout, pricing terms, inventory levels, promotions and more, part of the franchise agreement, so they do not need to incur the expense of building and running their own dealerships.

1. Mercer, Glenn, op. cit. Page 10.

According to the NATIONAL AUTOMOBILE DEALER'S ASSOCIATION (NADA), which was founded in 1917 and represents the interests of new car and truck dealers in the United States to the public, the media, Congress and vehicle manufacturers, there were

16,692 franchised dealerships in the U.S. in 2019. In that year, 17.1 new light vehicles were sold (cars, SUVs and light trucks), around 14 million through stores and the remainder to fleets. There were 1.1 million employees in those dealerships. There were 7,700 owners of those stores. While the number of owners is slowly decreasing, it is because of consolidation of ownership not because dealers are closing. The number of 'rooftops' is staying stable. Earlier attempts to bypass the dealer model and sell direct to customers, such as the one by FORD with its *Ford Retail Network*,[2] have not proven to be successful, so there has been no rush to copy TESLA. In fact, if one looks closely at what TESLA is actually doing, rather than what it says it is doing, in the states and countries where it has been able to skirt the franchise laws, it has facilities that look very much like dealerships. Also, as I pointed out in the September issue of The Dispatcher, TESLA employs sales personnel at those stores who are paid commissions for the cars they sell.

There are approximately 130,000 independent automobile dealers in the U.S. that buy and sell used light vehicles.[3] They are represented by the NATIONAL INDEPENDENT AUTOMOBILE DEALERS ASSOCIATION (NIADA), which was founded in 1946 (when there were enough used cars to make it worthwhile). There is a nationwide group of federated state associations that operate independently of each other. When you join a state association, you automatically become a member of NIADA. Those 130,000 independent dealers are responsible for selling 63% of the 40,000,000 used cars sold through retail in the U.S., with new car dealers selling the remainder.

I do not have access to NADA's or NIADA's statistics, but I found an article by a former new car dealer who does, and the statistics are truly eye-opening.[4] Here is a sample from 2016:

- New car dealerships in the U.S. sold 14.97 million used and factory certified vehicles in that year. That's about the same number of new vehicles they sold at retail. ("Factory Certified" refers to used cars that are offered for sale by your local dealer with the support of the vehicle's original manufacturer, with warranties that extend beyond the initial coverage. The original manufacturer of the vehicle is using their dealer network to inspect the car, determine if it is worth certifying, then offering support for the vehicle for a period of time beyond the original warranty.)
- 37% of all used vehicles purchased in 2016 were sold by new car dealerships.
- The average selling price of all new vehicles was $34,449 and the average selling price of used vehicles sold at new car dealerships

2. In 1997, FORD decided to merge dealerships in a few markets by operating them as joint ventures with local dealers. The plan was to experiment with some of the same retail concepts that AUTONATION USA initiated, such as huge inventories, salaried salespeople and no-haggle pricing. The experiment evolved into the Ford Retail Network. Eventually, FORD wanted to consolidate its dealerships in 130 markets, with the automaker being a minority shareholder in the businesses.
In 1998, Ford established a subsidiary, FORD INVESTMENT ENTERPRISE CORP., to invest in dealerships. Ross Roberts, former general manager of Ford Division, headed it. "We simply aren't going to be able to do business as we did in the past," Roberts told the Automotive News World Congress in 1999.
The Ford Retail Network, later named the Auto Collection, infuriated dealers, who feared factory-owned stores would get special treatment. At the 1999 NADA convention in San Francisco, the son of a Ford dealer stood up and said, "I thought we were your Ford Re-tail Network." The comment drew hearty applause.
State dealer associations lobbied state legislatures for restrictions on factory-owned dealerships. By 2000, most states barred manufacturers from owning dealerships. Ford abandoned its retail initiative in 2001, selling off the dealerships.

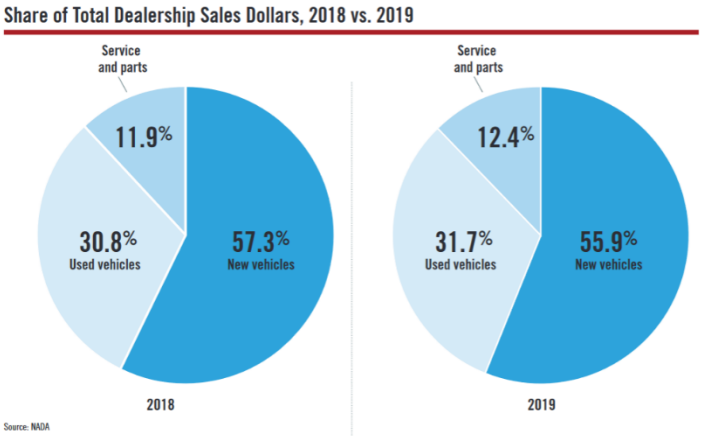
3. https://www.ibisworld.com/united-states/market-research-reports/used-car-dealers-industry/

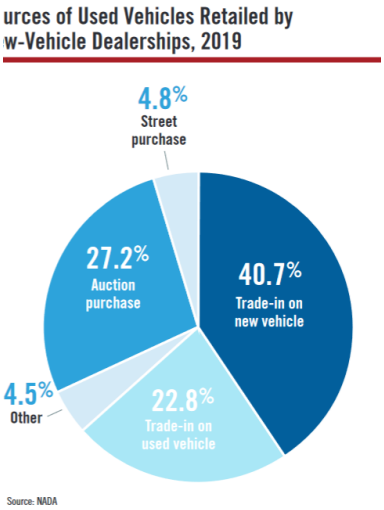
4. https://www.carprousa.com/Car-Dealerships-Behind-the-Numbers/a/53

was $19,866.

- The total of all new dealership revenue was $995 billion, and the average dealership revenue was $59.6 million.

The principal reason new car dealers have used cars to sell is that most people who come in to buy a new car already have a car and they want to trade it in to get a better deal on the price of the new car. Your uncle Tony might tell you that you'll get more for your car if you sell it yourself, but if you have gone through that process once, you think twice about doing it again. Take a look at this chart which shows where U.S. new car dealers are receiving their revenue. Used car sales and service and parts sales increased 0.9% and 0.5% respectively between 2018 and 2019, while revenue for new cars decreased by 1.4%.





According to NADA (see chart in sidebar), new car dealers are obtaining 63.5% of the used cars they sell through trade-ins on new and used vehicles, but they are going out to purchase an additional 27.2% at auction sites. Why are they going to this trouble? Because they want to sell used cars, and the reason for that is that they make more money doing so than selling new cars. Here's what Glenn Mercer has to say about dealer profits (see page 16 of *The Dealership of Tomorrow 2.0*):

As dealers saw new-car margins erode over the past years, they sensibly did what they have done before: rebalanced their portfolio of business lines to recover lost profits. One area they went after aggressively was used cars. Previously thought of as a sideline (mostly to support new-car sales by accepting used cars in trade), the used shop is now a major focus for active dealers. …And used sales tend to be less cyclical than new sales, growing at a slow but steady pace of about 1% annually since 1975. Finally, a used car is increasingly the first choice of most Americans, as the average age of a new-car buyer is well over 50. Many, if not most, 20-, 30- and 40-year-olds are buying used. It doesn't hurt that used-car profits are strong. They offer higher percentage grosses than new, though lower prices mean lower dollar grosses. Overall, the used-car department kicked in on average about 15% of the store's total

profits in the 1980s, but about 25% today.

The facts on the ground are clear: New and used car dealerships are not dwindling in numbers. Car OEMs have not rushed to sell online, and even if they want to sell cars or subscriptions directly to customers, they still need the workshop network for repairs and service and they still need the customer contact point for all the administrative activities involved in a sale, including financing, insurance and provisioning connected services. Customers still want to trade in their vehicles for new and used cars, and a dealership is an ideal place to conduct transactions and make deals.

A few words on the anti-dealership narrative

Those who claim that "people don't like to interact with car dealers" have ulterior motives. They would like this to be true because they don't want to invest in dealerships, either because they can't afford to give up any of the margin from a sale of their vehicles (which was and still is the case with TESLA), or they do not believe that they will be able to convince reputable dealers to carry their products. The reality of the new car customer tells quite a different story. According to Glenn Mercer:

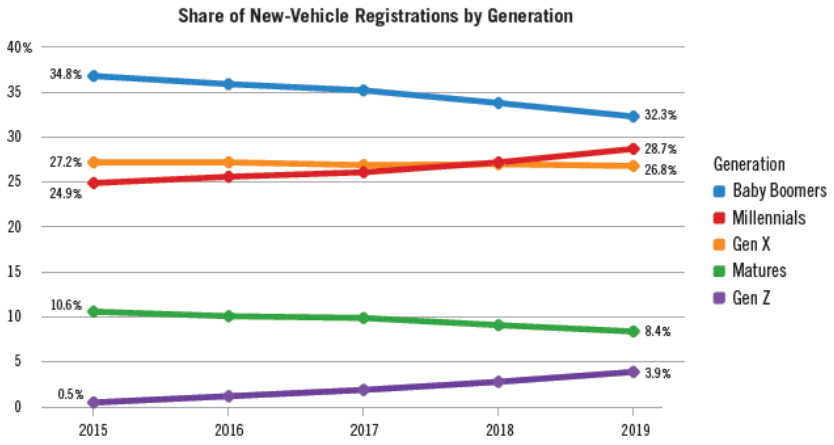
"Most of (the new car dealer) customers are pretty satisfied, and most Americans are more satisfied with car dealers than they are with many other types of retailers. This perspective suggests that steady ongoing incremental improvements must be made—but that there is not much case for any kind of panicked raze-and-rebuild. Assertions that "the system is broken" are just that, assertions—and are not made more accurate either by being repeated or by being shouted more loudly."

Here are the results of his research:

- DealerRater survey 1: "What part of the dealership sales experience could be improved the most?" Price negotiation 8%; salespeople 5%; delivery process 3%; F&I 3%; online responsiveness 2%; test drive 1%; none of the above 79%
- DealerRater survey 2: "What part of the dealership service experience could be improved the most?" Service advisor 8%; online responsiveness 5%; price negotiation 4%; service explanation 3%; F&I 1%; none of the above 79%
- Reputation.com survey of online reputation and responsiveness score (higher is better): banks 367, health care 401, retail 552, real estate 571, restaurants 584, hotels 605, car dealers 607
- Autotrader survey of new-car customers of dealers, percent satisfied with: length of process (time) 56%; F&I 69%; salespeople 81%; test drive 82%; dealership overall 79%

The other parts of the anti-dealership narrative don't hold up either. I wrote about the urbanization myth in the August 2018

issue of The Dispatcher. It is the rural areas that are (unfortunately) losing population, at least until the effects of COVID-19 begin to take hold. Growth is still fastest in suburban areas, not in urban cores. Another myth is that people are giving up driving. The evidence used for this claim was that there has been a decline in the percentage of younger adults holding driver's licenses during the past thirty years. What the numbers actually show is that the youngest group, in the 16-to-18-year-old age group show a decline of around 30%, but as they grow older, the percentage increases, so that when they reach 20, the percentage taking driver's licenses increases. This indicates that younger adults are delaying purchases of cars, either because they cannot afford to drive a car or because they are living at home and being chauffeured, just as they were when they were younger.



Source: Mercer (Op Cit)

It is not a matter of what the OEMs will do

Single-brand franchise car dealerships are definitely vulnerable to the fancies and fortunes of the OEM they represent, even though an increasing amount of their profit is being derived from the sale of used cars. Volvo Cars dealers in California sued Volvo Cars for the company's attempt to intermediate them by going directly to customers with their *Care by Volvo* program, and their case was held up in the California courts. The Volvo dealers felt threatened by Volvo's heavy-handed approach to use them as a pick-up and drop-off point. This setback in the largest car market in the U.S., along with the fact that its subscription program has had a hard time taking flight, may well be behind Volvo's decision to take more control of the point of sale (see sidebar, *OEM Buys Dealer*).

Multi-brand franchise and independent dealerships, which control the large majority of car sale transactions, are not, however,

OEM Buys Dealer

It was BIG NEWS—at least in Sweden. Volvo Cars purchased a franchise dealer in the Stockholm area, Upplands Motor, the second largest in Sweden with 20% market share of Volvo new cars sold. The major newspaper journalists wrote that Volvo was now making a significant statement that it was serious about online sales and Care by Volvo subscriptions, and it was fed up with the franchise dealerships not treating those customers as special instead of treating them like they had just walked in to use their toilets. As employees of Volvo know well, Volvo has owned dealerships for many years. When I worked for Volvo in the early '90s, I picked up my company cars at one of five that are owned by Volvo Bil, its wholly-owned subsidiary, and had them serviced at several others.

There are some interesting footnotes on this story. First, Volvo used an EU regulation to block a competitor to Upplands Motor, Bilia, from purchasing it on the grounds that with its own 30% of the Volvo sales, it would be too large. Second, Upplands Motor is a multi-brand dealer. In addition to Volvo it sells Renault, Dacia, Ford and Mercedes-Benz. Ford would not allow Upplands Motor to transfer its franchise to Volvo, so it is not part of the deal, and the M-B franchise is in a subsidiary company and will be sold separately.

The owner of Bilia is quoted in the articles as saying that Volvo is "shooting itself in the foot" by competing with the franchise dealers. Maybe. Volvo doesn't have enough money to buy up all of the Volvo dealerships in Sweden, even if the laws allowed them to do so—which they don't. Look it as an experiment, like its Zenuity JV with Veoneer (Autoliv). That lasted two years.

at the mercy of the whims of OEMs. When it comes to selling cars, it is they, not the OEMs, that are in control, and their position is strengthening.

The question car manufacturers and those who work primarily with new cars should be asking themselves is what will the dealer industry do in the future. Independent dealerships and multi-brand franchise dealerships have new options that can change the entire nature of the car buying and selling landscape. In the U.S., there are six powerhouse publicly-listed franchise dealers.[5] LITHIA has been around the longest, founded in 1946. Two of them PENSKE and AUTONATION, have annual revenues and gross profits in the same range as that of TESLA. Together, they have a market capitalization of around $20 billion, peanuts compared to TESLA's steroid-driven $347 billion on 11 September 2020 (It was $465 billion on 31 August!), but not shabby compared to FORD's $27 billion. LITHIA's stock price grew from a low in March of $67 at the deepest trough of the COVID-19-affected market to $243 on 10 September. TESLA went from $72 to $372 during the same period.

5. LITHIA MOTORS, GROUP 1 AUTOMOTIVE, PENSKE AUTOMOTIVE GROUP, AUTONATION, SONIC AUTOMOTIVE, ASBURY AUTOMOTIVE GROUP

What if these dealership companies decided to start intermediating the car OEMs? The thought popped into Roger Penske's head back in June 2009 when the then-bankrupt GM decided it would close down its *SATURN* brand. He proposed that PENSKE AUTOMOTIVE acquire the brand and its assets. The deal didn't go through, and since then there has not been anything similar that has occurred, but with all of the new pop-up car companies, like LUCID, RIVIAN and NIKOLA, there is plenty of scope for any one of the dealership companies to decide that they can do what most large chain super markets like WALMART have done: put up their own-brand products on the shelves alongside the name brands. This started to be possible when the name brands started selling their excess capacity and also sourcing from multi-brand producers. There is no reason today why the dealers cannot do the same.

Great Value is WALMART's brand

Then there is the opportunity to bypass the new car start-ups that have gotten overpriced due to the market's penchant for pushing up their stock prices because of their 'disrupter' positioning.[6] There is nothing preventing the big franchise dealers from getting into the business directly by buying electric skateboards and putting their own bodies over them. PENSKE was not planning to enter the car manufacturing business. The deal with GM reportedly fell through because he could not find a company that was already in the car-making business to take over production.

6. NIKOLA was introduced to the NASDAQ index in June 2020 and is now valued at $12 billion. It has not made a single sale. When Steve Dirsky, for Vice Chairman of GM became a NIKOLA board member, talks started with OEMs about investments and partnerships. On the 8th of September, GM announced that it was investing $2 billion in NIKOLA, taking an 11% stake in the company.

RENAULT SAMSUNG MOTORS was his option, but for some reason it did not work out. It is a different situation today with BEV technology. Any Tom, Dick or Henry-wannabe (Trevor Milton of NIKOLA comes to mind) can get into the car-making business, but the dealerships have major advantages over the car-making start-ups as well as over the OEMs and the on-line used car dealers like CARMAX, VROOM and CARVANA (who have seen their fortunes rise recently).[7] They have everything from A-to-Z to make it work. BEL AIR PARTNERS' Sheldon Sandler sums up the situation nicely:

Not only can new car dealers also deliver a used car, or new car for that matter, door-to-door, but they have numerous natural advantages. New car dealers, not necessarily dependent on auctions like our online wunderkinds, have access to the best inventory and can offer factory certifications as well. They don't have to incur the extra costs of shipping out reconditioning to a third party. Should the buyer want to make certain his or her rear end fits comfortably in the driver's seat, a test drive is easily arranged. Let's say the buyer can't figure out how to pair a cell phone or experiences a balky door lock malfunction. Those are quick and easy fixes at the local dealer. How about the online dealer? Forgetting the irritation, who you gonna call?[8]

Is it time for an ironic twist of the plot?

TESLA has had many problems with building its cars, but it has managed to overcome most of them. It seems to have done fairly well selling its cars, in spite of the fact that Elon Musk has eschewed advertising of any kind. The main problems that it has not solved are those related to scaling up its sales and delivering and maintaining its cars. When you have to enlist factory workers to drive cars to customers in order to fill orders and get paid, as it did in March 2019,[9] you are not running a serious business. One day, the smartest car OEM CEO in the world is going to figure that out. The ironic twist in the story will be when TESLA buys one of the car dealerships so that it can do what other other car companies have been doing very well in the past one hundred years. Or, after TESLA's stock tanks because the market analysts no longer believe it has a unique selling position compared to the traditional OEMs or its competitors, one of the car dealerships buys it.

I know that the dealership where my wife and I bought our cars will have a smile waiting for us when we take our cars in for their next service, and they will be giving us a good deal on our trade-ins when we are ready to buy or lease the next ones. If they didn't do both, I'd find a dealership that did, but I definitely wouldn't turn to the alternative of buying a *pig in a poke*.[10]

7. CARMAX, VROOM and CARVANA are used car dealerships that sell online. Together they have a market value that is three times that of the six largest publicly-owned franchise dealers in the U.S. CARVANA and VROOM have never been profitable.

8. Sheldon Sandler, Founder and CEO of Bel Air Partners. *Industry News.* https://www.belairpartners.com/Industry-News/Vroom-Today-Gone-Tomorrow-2/

9. CEO Elon Musk on Thursday (21 March 2019) sent an all-hands email telling employees it was their "primary priority" to help deliver tens of thousands of cars to customers before the end of the month.

10. A 'pig in a poke' is a thing that is bought without first being inspected, and thus of unknown authenticity or quality.

Dispatch Central

***Northvolt Ett**, NORTHVOLT's first battery production factory under construction in Skellefteå, Sweden*

Rare Earth Metals

Rare earth metals are 17 obscure elements at the bottom of the Periodic Table that show up in a variety of industrial, military, and technology applications. Rare earths include elements with strange names such as cerium, praseodymium, and neodymium, as well as superconductor component yttrium.

According to the United States Geological Survey, as of 2018, China produced around 80% of world demand for rare earth metals (down from 95% in 2010). Their ores are rich in yttrium, lanthanum, and neodymium.

Great quantities of rare earth ores were found in California in 1949, and more are being sought throughout North America, but current mining is not significant enough to strategically control any portion of the global rare earths market (the Mountain Pass mine in California still has to ship its minerals to China to be processed).

Sweden has been called the "home of the rare earth elements", due to the fact that both the first light and the first heavy rare earth elements (LREE and HREE, respectively) were discovered here during the late 18th and early 19th centuries. In the Bastnäs mines near Riddarhyttan in the Bergslagen province, cerium (Ce) was discovered and described in 1804, followed by several other LREE.

Battery Electric Vehicle News

Europe is not going gentle into that good BEV night

IT MAY LOOK like China has won the jousting match in the electric vehicle battery tournament, from cornering the rare earth raw materials needed to make them, to creating an unbeatable production ecosystem needed to produce them, to now developing the full battery electric vehicle platforms (skateboards). Nevertheless, Europe is not ready to dismount its jousting horse, lay down its lance and leave the field just yet.

Two former TESLA executives, Peter Carlsson and Paolo Cerruti, formed **NORTHVOLT** in 2016. It's a long way from TESLA's Palo Alto, California headquarters to Skellefteå (pronounced shell-ef-tea-oh), Sweden. To be exact, 27 degrees of latitude, about where Fairbanks, Alaska is situated, two degrees south of the Arctic Circle. Skellefteå is where the company is building its first factory, *Northvolt Ett* ('ett' is one in Swedish) to produce lithium ion batteries for electric vehicles. A second factory, *Northvolt Zwei* (two in German) is due to start. *Zwei* is a joint venture with Volkswagen Group. NORTHVOLT partners include ABB, BMW GROUP, SCANIA, SIEMENS, VW GROUP and VATTENFALL, among others. VOLVO and GEELY are noteworthy for their absence, but as I wrote in the March issue of The Dispatcher (see page 13), Chinese companies have no need or desire to invest in battery production outside of the China. NORTHVOLT's headquarters office is in Stockholm and its R&D facility is in Västerås, the former home of ASEA, now part of Swiss ABB.

Peter Carlsson, CEO of NORTHVOLT, was responsible for sourcing and supply chain management during four-and-a-half years at TESLA MOTORS, from 2011 to 2015. He joined TESLA from NXP SEMICONDUCTORS where he was responsible for purchasing and outsourcing working in Singapore. Before NXP he was in purchasing at SONY ERICSSON. He has a Master's degree with specialization in Production and Quality Control from LULEÅ TECHNICAL UNIVERSITY in Sweden. Paolo Cerruti is the COO at NORTHVOLT, which he joined after four years at TESLA, where he was VP Global Supply Chain and Operations Planning from 2015 to 2016, as well

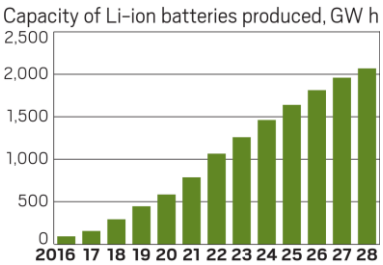
as Director of Purchasing Core Technologies and Director of Supplier Development from 2012 to 2014. Originally from Torino, Italy where he obtained a first degree in Aerospace engineering at the POLITECNICO DI TORINO, he also earned a degree in Engineering from Paris' ECOLE CENTRALE. Paolo spent his first fifteen working years at RENAULT-NISSAN.

These guys have the creds for doing what they are doing. They have put together more than $3 billion in debt and equity to finance production in the Sweden facility that will have an output of about 40 gigawatt-hours.[11] NORTHVOLT announced that it had raised $1.6 billion in debt financing from a group of banks, pension funds and other public institutions. It raised $1 billion in equity capital in 2019 from investors including BMW GROUP and VOLKSWAGEN GROUP. It has now secured a $525 loan guarantee from the German government for a plant in Salzgitter, Germany, *Northvolt Zwei,* that will be operational in 2024.

NORTHVOLT is looking to take at least a 25% share of the European battery market, which has been dominated by Asian companies, including South Korean LG CHEM and SAMSUNG SDI, Chinese CONTEMPORARY AMPEREX TECHNOLOGY CO. LTD. (CATL) and Japanese PANASONIC. NORTHVOLT signed a $2.3 billion battery order with BMW last month, becoming its third major supplier along with CATL and SDI.

NORTHVOLT was founded with the mission "to build the world's greenest battery to enable the European transition to renewable energy". What does that mean? First, it says intends to use 100% renewable electricity for production. Sweden gets 40% of its electric energy from hydroelectric sources, equal to the amount it generates with nuclear energy. Wind accounts for 12%. Because of the significant negative environmental impacts of hydroelectric power generation, it is not always classified as a renewable energy source in the same category as wind and solar, but compared to producing batteries in China where 60% of the electricity comes from coal, hydro is a better choice. Second, it intends to minimize energy use by using variable frequency pumps and motors. It is also looking at the possibility of feeding excess heat from the plant into the district heating system. Lastly, NORTHVOLT intends to set up a recycling facility for its batteries for the recovery of the raw materials in the battery cells for re-use in production. The program is called *Revolt* and it has been established with CHALMERS TECHNICAL UNIVERSITY in Göteborg along with others, and

11. Tesla's Gigafactory 1 in Nevada has a capacity of 35 GWh. It will be boosted to 39 GWh with the addition of another production line financed by a $100 million investment by Panasonic. Gigawatt hours, abbreviated as GWh, is a unit of energy representing one billion (1 000 000 000) watt hours. In practical terms for battery electric cars, Tesla's 35 GWh facility produces enough batteries in a year to build 500,000 Tesla vehicles. A Tesla Model 3 has a battery capacity of 54-75 kWh. (35 GWh/500,000 cars = 70 kWh/car).



Source: Benchmark Mineral Intelligence, Megafactory Assessment, December 2019.

it has the goal of using 50% of recycled material in production by 2030.

Emma Nehrenheim, NORTHVOLT's Chief Environmental Officer, says that the measures the company is taking means that it will make cells with 60-70% lower CO_2 emissions than equivalent batteries made in China, currently the world's leader in battery production. So far, dirty production hasn't stopped companies from buying batteries from China. As always, it will come down to cost unless European countries decide otherwise.

Chinese Xpeng raises $2.1 billion with a U.S. IPO

IF TESLA can do it, why can't we? GUANGZHOU XIAOPENG MOTORS TECHNOLOGY CO LTD (Did I miss anything?) is the official name of XPENG, which is also known as XIAOPENG MOTORS. It is headquartered in Guangzhou, China. It was founded in 2014 by Xia Heng and He Tao, who had both worked at GUANGZHOU AUTOMOBILE GROUP CO. (GAC), a joint venture partner with FCA, HONDA, MITSUBISHI and TOYOTA. XPENG announced in early August that it had filed a SEC F-1 form to sell 85 million American depositary shares, each representing two class-A ordinary shares, priced between $11 and $13 per share on the New York Stock Exchange. Just as a point of reference, FORD MOTOR CO. shares sold for $6.99 on the New York Stock Exchange on the 24th of August, and BMW was at €58.80 on Frankfurt's exchange at the opening on the 25th of August.

What's different about XPENG compared to other Chinese BEV start-ups that have gone bust, other than the fact that its cars try hard to look like TESLAS inside and out? Its website has also been said to be a copy of TESLA's 'configurator'. Last year, TESLA alleged that XPENG stole *Autopilot* source code, claiming that a former employee at TESLA downloaded all of it just before leaving and then going to work for XPENG, supplying the company with a starting point for semi-autonomous driving that XPENG now uses it in its vehicles. The suit is working its way through the U.S. justice system.

One difference is that the XPENG has a popup camera on the roof. Apparently, it can show you the scenery around the vehicle as you move at speeds under 60 kph (37 mph). ALIBABA invested in the company in an early round. It had bought one of the founder's companies. XPENG advertise its new model, the P7, as a (TESLA) Model S for a Model 3 price.

You can bet that I will be watching what happens with the company in the following months after its IPO. On the 28th of August

it completed its IPO on an American exchange, becoming the third Chinese automobile company to do so. NIO listed on the New York Stock Exchange in September, 2018. The other is LI AUTO, which raised $1.1 billion in an IPO on NASDAQ in July 2020, valuing the five-year-old electric vehicle maker at around $10 billion.[12] XPENG sold 99.7 million shares at $15 per share, much better than originally planned. When the day was done, the price had risen by over 40%, bringing in almost $2.1 billion instead of the hoped-for $1.1 billion.

XPENG's tenure and that of approximately 200 other Chinese companies listed on U.S stock exchanges may be short-lived. A bill to delist non-U.S. companies that do not meet strict reporting criteria sailed through the U.S. Congress in May.[13]

Self-driving Vehicle News

China's TuSimple wants to mine gold in U.S.

IF XPENG can do it, why can't we? TUSIMPLE wants to get into the IPO act, but it's reaching for $6 billion, not just one like XPENG. It also wants to be the first self-driving company to go public on a major financial market. With headquarters in Beijing and San Diego, TUSIMPLE is planning to file for a U.S. IPO in the first quarter of 2021 at a valuation between $3.5 billion and $7 billion.

The fellow standing in front of a truck in the photo to the right is Xiaodi Hou. He spent the years 2003 to 2008 completing a Bachelor of Engineering degree in computer science at *SHANGHAI JIAO TONG UNIVERSITY*, and the years 2008 to 2014 completing a Ph.D. in computation and neural systems at the *CALIFORNIA INSTITUTE OF TECHNOLOGY*. Then he founded TUSIMPLE, where he is CTO. The company bills itself as "the world's largest and most advanced self-driving truck company." Hmmmm…It has 400 employees split between China and the U.S. It claims to be making real deliveries with self-driving trucks in Arizona with three-to-five deliveries a day. There is a 'human driver' on board the trucks, but TUSIMPLE says it will remove the safety driver by the end of 2020.

Xiaodi Hou must have had one heck of a sales pitch because he managed to rake in $300 million from investors, including UPS, NVIDIA, SINA CORP. and Hong Kong's COMPOSITE CAPITAL. In mid-July it opened a Series E investment round that aims to bring in an additional $250 million, and now it wants to go public. Quite a ride.

What is giving this whole (ad)venture credibility is the support of NAVISTAR INTERNATIONAL CORP. The cooperation began in 2018 with

12. LI AUTO, alternatively known as LIXIANG, was founded in 2015 by its CEO and chairman Li Xiang, for whom it's named. The company is backed by China's largest consumer services app, MEITUAN, as well as BEIJING BYTEDANCE, which owns short-video app ***TIKTOK***.

13. https://www.fool.com/investing/2020/05/21/chinese-companies-delisted-us-stock-what-means.aspx

Xiaodi Hou says on his web page: "After graduating (from Caltech) I moved to San Diego, and co-founded TuSimple, a research oriented AI company. Since then I work closely with my partners Mo Chen, Jianan Hao, Zehua Huang, Naiyan Wang and other colleagues to solve the real world problems, such as autonomous driving."

the objective of having self-driving capability commercially available by 2024. NAVISTAR CEO President and CEO Persio Lisboa says that he looked at the other companies working on the problem and decided that TUSIMPLE had the best approach and made the best fit with NAVISTAR's own team working on the problem.[18]

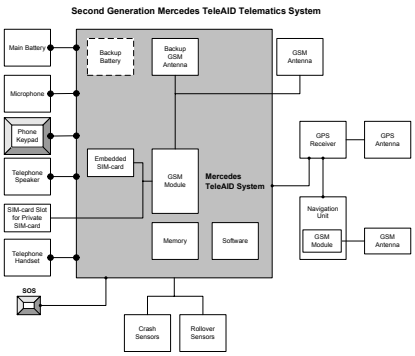
Daimler loses a round on patents to Nokia

YOU REMEMBER **NOKIA**, don't you? In 2007, the year the *APPLE IPHONE* was introduced to the world, NOKIA sold 435.45 million of its mobile phones, garnering 37.8% of the worldwide market. In second place was MOTOROLA with 14.3%, then came SAMSUNG with 13.4% and SONY ERICSSON with 8.8%. LG, with 6.8%, sold 78.6 million. APPLE sold 2.3 million of its newly introduced phone that year. NOKIA got up to 472.3 million in 2008 and 38.6% market share, but then gravity brought it back to earth. Its last year on the list was 2013 when it was second to SAMSUNG with a 13.9% market share, and then its name was replaced by MICROSOFT which acquired the NOKIA phone business in 2013 and then closed it down.

When the telematics/connected car business got started in the mid-90s, MOTOROLA and NOKIA were the two companies vying to deliver automobile-grade integrated telematics units, like the one in the diagram to the right. NOKIA had a chance with VOLVO CARS in 1997, but was not able to produce a system that met the specifications, opening the door to AUTOLIV. MOTOROLA was the early success story, delivering the first systems to GM *OnStar*, MERCEDES-BENZ *TeleAID* and BMW *Assist*. NOKIA, however, did not leave the automobile mobile phone systems arena completely. Every telephone module that is used in telematics systems contains technology developed and patented by NOKIA, as well as others, such as MOTOROLA and QUALCOMM. Companies make a substantial amount of money licensing their patents, and NOKIA is no exception. Even though it couldn't deliver the complete in-car units, it could take part in the action by earning money on its technology.

The dispute NOKIA is having with the automotive OEMs is over how they license NOKIA's technology, not whether they should pay for it. NOKIA has patents for mobile phone standards 3G and 4G/LTE which are needed in connected car applications. They are part of what are called 'standard essential patents' (SEPs), of which there are ten. In March 2019, NOKIA refused to grant a license to DAIMLER's suppliers, CONTINENTAL, ROBERT BOSCH and others for these SEPs. DAIMLER filed an antitrust complaint with the European Commission stating that NOKIA was restraining trade. NOKIA countered by filing a suit against DAIMLER at three German patent

18. https://www.forbes.com/sites/alanohnsman/2020/07/15/navistar-to-build-robot-trucks-with-tusimple-buys-stake-in-the-self-driving-startup/



The Mercedes-Benz TeleAID system was supplied by Motorola, and contained a Motorola GSM module and software for the European market and an AMPS/CDMA module for the US market. The unit was originally sold in both the US and Germany, and the infrastructure was ready to allow the sale of the system in ten European countries in the spring of 2004. The European launch was stopped just before the system was ready for release. The system was only supported in Germany.

The GSM phone module for the European system was connected to an embedded SIM-card reader and an external SIM-card reader for a customer SIM-card. Only the embedded SIM-card was used for TeleAID functions. The embedded SIM-card was delivered by the telematics service provider, T-Mobile Traffic, and sourced from T-Mobile Traffic's owner, Deutsche Telekom. The external SIM-card reader was for the customer phone calls. There is a roof-mounted GSM antenna as well as a back-up antenna that was located in a place so that the unit would function in case the main antenna was damaged or disconnected from the unit.

courts over the ten SEPs. NOKIA wants the OEMs to pay directly for the patents on a use-per-car basis. The OEMs want to be able to buy license-free components from their suppliers in which the cost for the patents is built into the price of the component. The suppliers want to be able to purchase license rights from a patent pool, such as the one provided by AVANCI, which specializes in licensing SEPs, particularly for connected cars.[19]

The European Commission, rather than making its own determination, and wanting to prevent a court case, offered the parties to mediate the dispute. Its mediation efforts failed, at least for now. In August, NOKIA won a court ruling in which a court in Mannheim, Germany stated that DAIMLER's *MERCEDES-BENZ* brand violated NOKIA's mobile technology patents. The ruling stated that it had to side with *NOKIA* "because *DAIMLER* wasn't willing to abide by existing rules for so-called standard essential patents." The ruling could mean that *MERCEDES-BENZ* would have to stop selling its cars in Germany, but in order for that to happen, NOKIA would have to post collateral of €7 billion. That's unlikely. A compromise is waiting to happen. Stay tuned.

19. AVANCI, registered in the United States, offers a license to patented essential wireless technology for your connected car. All in one marketplace, with one conversation, speeding up the process of getting your model to market.

The (Motor) Show Must Go On in China

FRANKFURT AND PARIS motor shows have been cowed into closing by environmental terrorists. *MONDIAL PARIS* was re-planned to be a B2B mobility event, but it is unlikely it will be held in September. *THE GENEVA INTERNATIONAL MOTOR SHOW* (*GIMS*)was cancelled days before it was scheduled to start on the 5th of March, ostensibly because of the COVID-19 outbreak. But now the Committee and Council of the Foundation "Salon International de l'Automobile" has decided that *GIMS* will not be held in 2021 and that it will seek to sell *GIMS* to PALEXPO SA, the owners of the exhibition halls built in 1978 at the Geneva Airport and the venue for *GIMS*. This decision cannot be due only to fear of the virus.

All motor show organizers and automotive OEMs in Europe and the U.S. have been questioning both the usefulness and the relevance of large, public motor shows amidst pressure from the cancel culture[20] and a press that has turned its attention to cars with no drivers and mobility as a service. Who needs to look at cars in big exhibition halls? Indeed, who needs to look at cars at all before buying them? TESLA seems to be doing pretty well with people buying their cars sight unseen. Why should we spend huge sums of money to set up and man exhibit spaces if all we are going to get for it is criticism by protesters and ridicule in the press?

20. CANCEL CULTURE is the practice of withdrawing support for (i.e., cancelling) public figures and companies after they have done or said something considered objectionable or offensive by a person or group who have anointed themselves with the right to determine what is objectionable or offensive.

For those car OEMs that still have the urge to take part in motor shows, there is one place, a safe haven that is not giving in to pandemics or pandering to protesters: China. The *Beijing International Automobile Exhibition* (*AUTO CHINA 2020*) was scheduled to be held in April. It was postponed like all other events in the world, but it was rescheduled at the same time to 26 September-to-5 October 2020. And the organizers have now confirmed that this show will go on. It may be the only auto show to take place until the IAA, tentatively planned for September 2021 and relocated from Frankfurt to Munich.

According to the organizing committee, carmakers such as VOLKSWAGEN GROUP (VW), JAGUAR LAND ROVER (JLR), TOYOTA, DAIMLER, FORD, GENERAL MOTORS (GM), NISSAN, BMW GROUP, PSA GROUP, and VOLVO CARS, will attend the show, together with many of their Chinese joint venture partners. There will also be a special area dedicated to electric vehicles, with TESLA, NIO, *POLESTAR* and others planning to exhibit.

The Chinese government is determined to demonstrate that its economy is strong, that business is back to normal and that the country is capable of doing something that other markets would not even dream of doing, hosting a large gathering of international visitors. Yes, it will demonstrate how to keep COVID-19 from infecting visitors. That will be the other showcase. Everyone will leave dutifully impressed with the organizers and with the Chinese government for showing how things should be done. As I have written, the world would be more impressed if China could have prevented COVID-19 and all the other flus that have regularly emanated from China. Then everyone could be holding their automotive shows without fear of spreading disease.

Subscriptions: When a car rental is not a car rental

PORSCHE DRIVE is the new name for what the company called *Porsche Passport* when it was first introduced in October 2017. It was PORSCHE's answer to subscription services then in vogue, with CADILLAC, BMW, AUDI and VOLVO offering them in various ways to customers. Starting on the 25th of September, PORSCHE is introducing a new one-month or three-month, single-vehicle subscription program in four U.S. cities, as well as expanding its other subscription programs.[21] The four cities for the single-vehicle program are Los Angeles, Atlanta, Phoenix and San Diego. Once you have signed up for the program, you can choose a single PORSCHE model for one or three months. You pay one fee for each option that is

21. https://www.motortrend.com/news/porsche-911-for-a-month-drive-subscription-program-expanded/

all-inclusive except for fuel. After the selected period is up, you can extend for another period with a different vehicle or stay in the same one.

PORSCHE and the dealers offering short-term rentals—that's what they are—are not doing it for the money. Since the program was started in Atlanta in 2017, 325 'members' have signed up, according to information provided by PORSCHE. Most of them stayed with the program for four months, swapping their vehicles ever two weeks. The main learning from this pilot program was that some customers prefer to stay with the same vehicle for a few months, but they don't want to commit to a longer period. Approximately 80% of those who have signed up are new to the brand, are younger than the average PORSCHE customer, and about 10% leave the program to purchase a PORSCHE. That seems very low, so those doing it probably can't really afford to buy a PORSCHE but want to show off for a few months.

For a flat monthly fee, and if you live in the right place, you can sit behind the wheel of a Porsche Boxer for an entire month for a mere $1,950.

The new *PORSCHE DRIVE* program will now have two options, *Drive-Single Vehicle Subscription* and *Drive-Multi-Vehicle Subscription*. The *Multi* option allows unlimited vehicle swaps for a $2,100 monthly fee (not including taxes and 'other charges') or $3,100 for access to a higher performance model like the *911 Carrera*. The *Single* option has a flat monthly fee of $1,500 for a *Macan*, $1,800 for a *Cayman*, $1,950 for a Boxter or *Cayenne*, $2,450 for a *Panamera* and $2,600 for a *911 Carrera*. There is a *PORSCHE DRIVE-RENTAL* program that can be as short as a day and up to a month. Prices range from $245 for a day in a *Porsche Macan* to $2,415 for a week in a *911 Carrera*.

To get into the program, the prospective 'subscriber' needs to apply for membership by downloading the *PORSCHE DRIVE* app. There is a background check made and, if approved, the prospect pays a $595 activation fee (this fee is waived for the three-month single-vehicle options). The prospect is assigned a minimum of one Porsche Dealer where cars will be picked up and dropped off.

'Subscription' sounds better than 'rental', although from a strict definition standpoint, what PORSCHE and other car OEMs are offering is a rental: "The amount paid by a hirer of personal property to the owner for the use thereof".[22] In the end, it doesn't matter what it's called. What matters is that it either earns money for the dealers who are renting out their cars or that it eventually sells more cars, benefitting both the OEM and the dealer.

22. Merriam-Webster

Musings of a Dispatcher: Turn Back the Clock

Fan Club Petitions IH for Scout II Redux

Our cars are more than just transportation. They are also more than an extension of our physical living spaces. We become part of them, and they become part of us, like our pets. They are different from our domiciles because they move with us, taking us to places both familiar and previously unexplored. In one of the chapters in my book **Essays on a Friendship**, I wrote about my friend Andy's car, his *International Harvester Scout II*.[23]

23. Excerpt from **Essays on a Friendship**, Sena, Michael. *Green Horse Publishing Company* (2002).

Andy drove a fire engine red International Harvester Scout II back in 1975. "The Jeep" Andy called it. A leaping trout with Salmo Gairdneri, Trout Hall, Freedom, New Hampshire painted in white would be added to both doors. I don't recall the model year of that first Scout II, 1974 maybe. Andy replaced it in 1980 with an identical model. Trout Hall sign on both doors included. Contents and aromas included.

The Scout's interior had a pervasive smell of pipe tobacco and dog. Lucy, Andy's Black Labrador Retriever, shared the vehicle with her friend and master. The back seat was Lucy's, and her Army-issue blanket marked her territory. On the rare occasion when more than two passengers were invited into the rarefied atmosphere of "The Jeep's" cabin, Lucy and her blanket would be moved to a corner of the cargo area in a little hole created by the provisions needed for the adventure. With four people and Lucy in Andy's Scout, the occupants were surely headed for an adventure.

Pipes littered the top of the dashboard. A clipboard with a legal-sized yellow tablet had a permanent place beside Andy on the bench seat. Andy made lists. He is still making lists. More lists than anyone I have ever known. Useful debris, like snow chains, tow chains, burlap bags, rags and ropes, covered the floor in front of the back seat. A not-so-portable tool chest filled a large part of the small cargo area.

Scouts were small utility vehicles. Before International Harvester stopped producing them in 1981—much to Andy's displeasure—they competed in a limited market with Jeep Cherokees, GMC Jimmys, Ford Broncos and the up-scale Toyota Land Cruisers and Range Rovers. This was before the sport utility vehicle (SUV) craze started in the 1980's, before practically every other vehicle on the road was a pick-up or a SUV, and before the down-sized Cherokee became the transportation of choice for

the upwardly mobile urban "settlers" and the ex-urban "pioneers". "The Jeep" didn't draw stares of envy. It drew question marks. "What sort of person drives one of those things?"

While there are plenty of people who buy a SUV to drive around their city or suburb as a cooler substitute for a van or station wagon (estate), the sort of person like my friend Andy who buys a SUV is one who needs the four-wheel-drive, off-road features and trailer-hauling performance it provides. They either live in rural areas or they spend significant amounts of their free time in them in all seasons. If you have every tried to pull a boat trailer along a muddy logging road up to a mountain pond to fish for brook trout, you know why you would choose to have a real SUV and not a Honda Civic or a two-wheel-drive ersatz SUV.

Andy eventually sold his *SCOUT II* and moved on to *GMC YUKONS* and *TAHOES*. He has fond memories of the old *SCOUT II*, he assures me, but he doesn't dwell on them. However, unlike Andy, there is quite a large group of *SCOUT II* owners who simply refuse to let go of their dream vehicle. They will gladly go on trading and fixing up their originals, but what they really want is a modern version with all the technological bells and whistles of a new *LAND ROVER* or *FORD BRONCO*.

NAVISTAR INTERNATIONAL has thus far poured cold water on the hot fan club flames. NAVISTAR INTERNATIONAL CORPORATION is the successor to INTERNATIONAL HARVESTER (IH). It was created in 1986 when IH was forced to sell off major parts of the company during an especially bad economic spell for the agricultural sector. It sold off its construction equipment division to DRESSER INDUSTRIES, its gas turbine division to CATERPILLAR and its entire agricultural division to TENNECO, who, as those of you have read in the August issue of *THE DISPATCHER*, purchased DAVID BROWN TRACTORS at the same time as David Brown sold ASTON MARTIN. In 1991, the last remaining part of the automotive segment was sold off to SCOUT/LIGHT LINE DISTRIBUTORS, INC. which, with the support and encouragement of NAVISTAR, supplies and manufactures *IH Scout and Light Truck* parts "to preserve the *IH Scout and Light Truck* legacy for today and for future generations".

When the other guy's copy is better than your own

What might an up-dated *SCOUT II* look like? Should it be a complete re-design or simply a copy of the old model inside and out but with new, environmentally friendly materials with all of the latest safety and consumer protection requirements incorporated into

the design? That's a tall order since the look of cars today, the 'bread loaf shape', is the result of safety directives and laws intended to reduce the costs of repairs.

LAND ROVER recently updated its classic *Defender,* and the result is less than stellar. The new *Defender*, in my opinion, looks like a cross between a *Ford Flex* (arguably the least inspired car FORD ever produced) and a *Land Rover Discovery*. *Defender* fans will likely turn to the INEOS unabashed copy, called the *Grenadier* (which means 'a soldier who carries and throws grenades'). JLR has been locked in a legal battle with chemical giant INEOS**,** which built the look-alike SUV after *LAND ROVER* discontinued production of the *Defender* in 2016. JLR's suits have been rebuffed by the courts. The *Grenadier*, which blends a rugged frame with a BMW-sourced six-cylinder petrol or diesel engine, and a cabin that can be cleaned with a hose, is set to go into production in 2021.

Volkswagen Beetle fans begged VW to bring the *Beetle* back after production of the car was finally halted in 2003 at its plant in Mexico. Production of the car in Europe had ended in January 1978 and remaining manufacturing shifted to Brazil and Mexico. The *New Beetle* was shown as a concept at the North American International Auto Show in 1994. It could best be described as 'retro'. When you looked at it, you definitely got the idea that it was supposed to remind you of the real deal, the *VW Beetle*. But it looked more like a loaf of bread than the original. The final edition of the *New Beetle* was for the 2011 model year. Herbert Diess, at the 2019 *GENEVA MOTOR SHOW*, told reporters that VW has no plans to introduce a *New New Beetle*, not even as a battery electric car.

Then there are the dedicated fans of the BRITISH MOTOR CORPORATION *Mini MK II*, made an international icon by its connection with Mr. Bean and his heterodox approach to everyday situations. It saw the first light of day in 1959 and the last in 2000. It looked tiny—and it was—but its transverse engine and front-wheel drive meant that it allowed 80% of the area of the car's floorplan to be used for passengers and luggage. In 1999, the *Mini* was voted the second most influential car of the 20th century, behind the *Ford Model T* and ahead of two cars tied for third, the *Citroën DS* and the *Volkswagen Beetle* (the classic).[24] *Mini* sold 5.3 million units during the course of its 41-year history as a British-owned brand.

BMW acquired the ROVER GROUP in 1994. It sold off *Rover*, but kept the *Mini*. The first redesigned new model hit the streets in 2001. It was priced as a premium car with high quality and drivability,

A 2018 Ford Flex

The 2021 Land Rover Defender

The Classic LR Defender

Ineos Grenadier: "Son of Defender"

24. The Car of the Century (COTC) award was given by the Global Automotive Elections Foundation in 1999. The Foundation was formed in 1995, comprised of more than 100 automotive experts, including journalists, museum curators, historians and knowledgeable observers. The Model T won with 742 points in the final voting. Closest runner-up was the Mini, which got 617 points. Then came the Citroën DS, 567 points; Volkswagen Beetle, 521 points, and Porsche 911, 303 points.

and it had three models, *Cooper*, *S* and *One*. It was bigger outside and in, and totally modernized. The new *Mini* was an immediate success. In 2005, BMW announced that it would invest £100 million in the *Mini* plant in Oxford, increasing capacity by 20%. In 2010, *The Countryman* was launched with four-wheel-drive. By 2007, BMW had sold its one millionth *Mini*. But is it really a *Mini*? Hardly. Can you imagine Mr. Bean steering it from a stuffed chair lashed to its roof? It's another car and more successful because of it.

Cars, like people, have their time. They should be allowed to strut and fret their hour upon the stage, and then be heard from no more (to paraphrase The Bard). The superbly elegant red *1949 Cadillac Series 62 Convertible* shown below was made for the United States in 1949. It cannot be remade for today, just like the *Scout II* cannot be remade for today. Let it be.

About Michael L. Sena

Michael Sena, through his writing, speaking and client work, attempts to bring clarity to an often opaque world of vehicle telematics. He has not just studied the technologies and analyzed the services, he has developed and implemented them. He has shaped visions and followed through to delivering them. What drives him—why he does what he does—is his desire to move the industry forward: to see accident statistics fall because of safety improvements related to advanced driver assistance systems; to see congestion on all roads reduced because of better traffic information and improved route selection; to see global emissions from transport eliminated because of designing the most fuel efficient vehicles.

This newsletter touches on the principal themes of the industry, highlighting what, how and why developments are occurring so that you can develop your own strategies for the future.

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