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THE OCTOBER 2024 ISSUE IN BRIEF

I REMEMBER VISITING GM’s *OnStar* office in Detroit in 1996. It was just prior to *OnStar*’s official start of what was the first – and is the longest-running – mobile communications-based automotive customer assistance services program. I was working for VOLVO at the time, and I was there with the manager of my department, Jan Hellåker. We talked with them about using their platform, which was built for them by ELECTRONIC DATA SYSTEMS and HUGHES ELECTRONICS CORPORATION, but the price tag was out of our reach. Just before I left VOLVO as a full-time employee at the end of ’96, the company’s management approved the development of what would become *Volvo On Call*, and three years later Jan founded WIRELESSCAR to serve as the telematics service provider for the *Volvo On Call* systems. I worked in a consulting project management role for all of the *Volvo On Call* roll-outs between 1997 and 2015, with the exception of Brazil.

There were two guiding principles for the *Volvo On Call* program that were established right from the start and applied as long as I had involvement in the program: 1) There should be no way to access the vehicle from an unsecured source; and 2) The customer’s data would not be used for any purpose that was not part of the *Volvo On Call* service and authorized by the customer. Having WIRELESSCAR as the single data access point for all vehicles, both from and to the vehicles, went a long way to ensuring adherence to the first principle, and having a management team at VOLVO CARS that respected the customer’s privacy and integrity safeguarded the second. It is when management becomes detached from the business, the nitty gritty details, that things start to slide and principles are compromised. This is what appears to have happened at *OnStar* with customer data being shared with data aggregators and used for rating the driving performance for insurance purposes.

Automotive companies used to pride themselves on having management and directors who knew the business. Now they pride themselves on having people who know nothing about the business. It’s time for the pendulum to swing back.

THE DISPATCHER

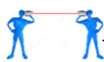
Mobility Industry Insights by Michael L. Sena
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Feature: Vehicle-related telecommunications

Feature Articles



The real case for driverless mobility



Vehicle-related telecommunications



Automotive artificial intelligence



The business of delivering transport systems



People and transport – the effects of how and where we live, work, and recreate on our requirements for transport



Standardization and regulation of transport systems

Privacy, security, and vehicular technology

WHEN WE GAVE our cars the possibility to hear and be heard at the end of the 1990s, we opened up the possibility that their security could be breached. When we gave our cars the possibility to see in the 2010s, we opened up the possibility that the privacy of others could be breached. When automotive companies opened their their vehicles to third-party system and service providers in the 2010s and 2020s, which included systems that both hear and see and return the data they capture to those third parties, customers lost control over how that data would be used and who would use it. These problems occurred because we think first about all the benefits that will be derived from our technological breakthroughs and open markets without anyone worrying about the negative repercussions. Now (finally?) these issues have found their way to the courts where they will be adjudicated. On what basis will judges decide what or who is right or wrong?

There were two triggers for taking up this topic as the lead article:

- Texas is suing GENERAL MOTORS for allegedly violating drivers' privacy; and
- The SWEDISH AUTHORITY FOR PRIVACY PROTECTION (IMY) claims that at least 100,000 vehicles currently on the roads in Sweden are violating the provisions of the EU's *General Data Protection Regulation* with their so-called "security cameras".

GM could not possibly have done this for the money

Texas Attorney General, Ken Paxton, said in mid-August of this year that the lawsuit filed against GM is the result of an investigation in June into whether automakers were selling customers' data without drivers' knowledge and consent. Their investigation determined that GM was doing so through the GM OnStar

diagnostics option. Apparently, dealers told customers that the diagnostics option was mandatory. What they did not tell the customers was that the data collected by OnStar would then be sold to data analytics companies who would compile “Driving Scores” which would be used to assess whether the drivers had bad driving habits, such as speeding, braking too fast, steering too sharply into turns, not using seatbelts, and driving late at night. These scores would then be re-sold to insurers who would use the scores to decide whether to raise premiums, cancel policies, or simply deny coverage, claimed Paxton.

“Companies are using invasive technology to violate the rights of our citizens in unthinkable ways,” said Paxton in a public statement. *“Our investigation revealed that General Motors has engaged in egregious business practices that violated Texans’ privacy and broke the law. We will hold them accountable.”*

Harsh words. Texas has company in suing GM. Here are two examples:

- A new class action lawsuit has been brought to U.S. District Court in Georgia, and is being led by plaintiffs Barbara Figlio and Morris D. Gordin. They allege that their driving data was collected against their will, and that it caused their insurance rates to increase.¹
- A lawsuit by Romeo Chicco alleges that information from the GM OnStar Smart Driver program was shared with LEXISNEXIS, although Chicco deliberately did not activate the OnStar services in his 2021 Cadillac XT6 crossover. Though he never pressed the blue button, the lawsuit says, his driving was nevertheless tracked in detail and shared with LEXISNEXIS and VERISK.²

You might think the first thing that GM management would do when these accusations were made was to either deny them rigorously or claim that they were unaware that this was occurring and would do all in their power to find the culprits and punish them severely. It did neither. It announced that it was ending its business relationship with two data analytics firms, LEXISNEXIS and VERISK ANALYTICS.

¹ <https://www.carscoops.com/2024/05/gms-onstar-accused-of-spying-on-drivers-selling-data-to-insurers/>

² <https://gmauthority.com/blog/2024/03/gm-ends-business-with-data-collection-firms-following-onstar-driving-data-lawsuit/>

There was no information about why it was terminating its relationships to these two firms. Kevin Kelly, GM's public affairs spokesman, stated that "OnStar customer data is no longer being shared with LEXISNEXIS or VERISK". Customer trust is a priority for us, and we are actively evaluating our privacy processes and policies." These are throwaway words. The real question is how far up the chain of command this practice was known.

LEXISNEXIS is an American data analytics company headquartered in New York, New York. It was founded in 1970 as LEXIS. According to Trudi Bellardo Hahn and Charles P. Bourne, LEXISNEXIS is "historically significant because it was the first of the early information services to both envision and actually bring about a future in which large populations of end users would directly interact with computer databases, rather than going through professional intermediaries like librarians".³ LEXISNEXIS is owned by RELX (formerly known as REED ELSEVIER), which purchased the company in 1994 for \$1.5 billion.⁴ The name LEXIS is derived from *lex*, the Latin word for law, and 'IS' for 'information service'.

In the fifty years since its founding, through organic growth and acquisitions, LEXISNEXIS became a powerhouse of data processing and data analytics. It also became a company that has found a way of collecting massive amounts of personal data and processing and packaging that data into sellable products. There have been many lawsuits against the company along the way, including in Europe where it has been charged with violating the *General Data Protection Regulation* for processing personal data of European citizens without their explicit consent.

VERISK ANALYTICS, INC. is an American data analytics and risk assessment firm based in Jersey City, New Jersey. It was founded in 1971 as Insurance Services Offices (ISO). VERISK ANALYTICS was established in 2008 to serve as the parent of ISO. It has customers in insurance, natural resources, financial services, government, and risk management (and,

³ Bourne, Charles P.; Hahn, Trudi Bellardo (2003). *A History of Online Information Services, 1963-1976*. Cambridge, Massachusetts: The MIT Press. pp. 302-303.

⁴ RELX is parent of ELSEVIER, which is the publisher of *The Real Case for Driverless Mobility* written by Michael L. Sena and Alain L. Kornhauser.

apparently, automotive) sectors. The company provides predictive analytics and decision support services in fraud prevention, actuarial science, insurance coverage, fire protection, catastrophe and weather risk, and data management.

A short article in the *NEW YORK TIMES* (Kashmir Hill, March 2024) stated that an internal GM document, reviewed by *THE TIMES*, showed that as of 2022, more than eight million vehicles were included in the OnStar Smart Driver program. “An employee familiar with the program said the company’s annual revenue from Smart Driver was in the low millions of dollars”, according to this article. GM probably paid much, much more to LEXISNEXIS and VERISK to process the data than they earned from their customers. Why on earth would it risk its reputation on such questionable practices? Market capitalization is the answer.

GM wants so very much to be like Tesla—or to be Tesla.

It’s CEO dresses up like a hip Silicon Valley CEO, which, until 2021, included TESLA’s CEO Elon Musk. That is when he moved the company’s headquarters to Austin, Texas in a huff. GM’s board of directors believes it has to do something else than build and sell cars, hence its investment in CRUISE and its attempts to be a data processor. It seems to have the firm belief that the company’s stock price will never move out of the \$30-50 per share rut that it has been in forever, except for January 2022 when it hit an all-time high of \$64.57 (and then sank back to \$30 during the year), unless it is perceived as tech company. What better way to do that than collect customer data and sell it to anyone who wants to buy it.

OnStar is an excellent platform for collecting data about the vehicle that can be used for predictive maintenance and onboard software and hardware improvements. There is absolutely no need to turn over customer data to third parties, whether those parties are private insurance companies or public authorities. The fact that companies like Alphabet and META do this and have enriched their owners by doing it does not mean that car companies that have spent decades earning the trust of customers should do it as well.

If GM employees are talking to *NEW YORK TIMES* reporters there is probably an active and widespread attempt by people inside the company to cover their behinds. If it is proven that GM has encouraged dealers to participate in convincing

customers to sign up for services knowing that their personal data would be shared without the customers' knowledge, this could become a very sticky situation for GM. I have a very hard time believing that Mary Barra, who graduated from the GENERAL MOTORS INSTITUTE and worked her way through GM starting as a co-op student when she was 18, would risk the company's reputation by selling out its customers. The board of directors is high on diversity but has zero automotive experience other than what Barra brings to the table. The others are from VISA, WALMART, there is a former Navy admiral, a former NBA (National Basketball Association) executive, someone from HP, a fashion industry exec (!?), and two former aerospace industry figures. The responsibility for authorizing the data-selling practices has to rest with the board, and even it wasn't Barra's idea, she is the one who communicates decisions down the line.

If the OnStar service were sold in EU countries, which it no longer is following the acquisition of GM OPEL/VAUXHALL in 2017 by PSA (now part of STELANCIS), GM would be subject to heavy fines for stepping over the line on personal privacy. There are no similar laws covering all fifty states in the U.S. California has its *Consumer Privacy Act*, which was passed in 2018 and amended in 2020 as the *Privacy Rights Act*, but it's a patchwork quilt in the rest of the country. We shall see how this evolves.

One person's violated privacy is another person's ticket to jail

TESLA led the way with the security camera trend when it introduced *Sentry Mode* in 2019, which stored camera footage on board the vehicle.⁵ Here is what Tesla said at the time:

"Sentry Mode adds a unique layer of protection to Tesla vehicles by continuously monitoring the environment around a car when it's left unattended. When enabled, Sentry Mode enters a "Standby" state, like many home alarm systems, which uses the car's external cameras to detect potential threats. If a minimal threat is detected, such as someone leaning on a car, Sentry Mode switches to an "Alert" state and displays a message on the touchscreen warning that its cameras are recording. If a more severe threat is detected, such as someone breaking a window, Sentry Mode switches to an "Alarm" state, which activates the car alarm,

⁵ https://www.tesla.com/sv_se/blog/sentry-mode-guarding-your-tesla

increases the brightness of the center display, and plays music at maximum volume from the car's audio system."

Owners were then able to download the video recording to a USB drive and do with it what they pleased, including handing it over to the police.

Sentry Mode Live Camera Access arrived in 2021. When it first hit the market, a headline in *THE VERGE*, a tech industry online magazine, announced: "Tesla owners can now remotely stream live footage from their car's cameras". The article says that in TESLA's release notes it states that "owners can remotely view your car's surroundings when parked to confirm the safety of your environment before returning to your car". It was a significant upgrade to the original Sentry Mode, but it also meant that the viewer of the video was now the direct witness to possible crimes, with all the associated negative implications.

So, what do you do if you see clearly in the video footage, whether it is real-time or after-the-fact, that it was your neighbor's kid who has scratched your brand new Model X with a screw driver while it was sitting in your driveway? What do you do if you learn that your cameras have captured the face of a person who has robbed someone within a few feet of your car?

What does GDPR say

The EU's *General Data Protection Regulation* is very straightforward with respect to camera systems in vehicles. *GDPR* is the EU-wide data privacy law that came into force on the 25th of May 2018, and superseded the *Data Protection Act*. Compliance centers upon respecting privacy, protecting data, and making sure those being recorded are aware that they are being recorded. Here are the key compliance issues that I wrote about in the April 2023 issue of *THE DISPATCHER*:⁶

1. Are those being recorded fully aware of the system's presence?
2. Is the footage and data the system captures truly necessary to the business?
3. Is all footage stored securely and only for as long as needed?

⁶ https://www.michaellsena.com/wp-content/uploads/2023/03/The-Dispatcher_April_2023.pdf



The screen shows the text Sentry Mode Activated

4. Does the system respect the right to privacy of the individuals?

Even at the low level, the person violating the car's personal space would have to look inside the vehicle to see the display screen, which does not comply with the EU's "fully aware" requirement. TESLA had to modify its system to comply with *GDPR*. TESLA activates the display screen inside the vehicle before it begins recording, and if the level of alarm moves from low to high, it starts beeping the alarm, the screen inside the car flashes, and it sends a message to the owner. The owner must confirm that the video can begin recording.⁷

This is a clear case of something being potentially very good but which is considered very bad by a regulating authority. Here is a concrete example of how it could be used for good. A young woman was killed by a bomb exploding in an adjoining row house in a city north of Stockholm. Her neighbor was a member of a drug gang, and a rival gang member planted a bomb in the house. The bomb went off when the gang member was not at home, but the young woman was killed while she was in her bed sleeping on the other side of the wall from where the bomb was placed. As it turned out, a car parked outside the gang member's home recorded the forced entry, and with the recording, it was possible to arrest the culprit. Were the culprit's privacy rights transgressed? The case is working its way through the courts.

I spy with my little eye

In 2021, China started banning TESLA's cars from driving into and parking in or in the vicinity of government compounds. Over the years, venues where *Teslas* are not welcome have been expanded to local authority agencies, highway operators' offices, exhibition and cultural centers – even airports. The Chinese Communist Party is concerned that *Tesla's* cameras, microphones and other sensors will be used to gather sensitive information about Chinese citizens and activities within the country and pass this information on to the country's enemies. Elon Musk told an audience at the China Development Forum in 2021 that if TESLA spied on

⁷ For an easy-to-understand description of how Sentry Mode is activated and operates, have a look at this video. Note: Using Sentry Mode on Tesla reduces the car's battery by about 1 mile per hour. <https://tesletter.com/sentry-mode-tesla-all-you-need-to-know/>

drivers in China or anywhere else in the world, it “would be shut down”. His pleas do not seem to have reached the ears of the CCP big wigs.

In March 2024, the U.S. opened an investigation into whether cars built in China pose a security risk to the U.S. The *U.S. COMMERCE DEPARTMENT* is leading the investigation to determine if these vehicles which are equipped with sensors and communications technology installed in China could collect personal data about drivers and the infrastructure in the U.S. and send the data to China.⁸ Is the U.S. simply extending its restrictions of Chinese imports of technology from HUAWEI’s phones to BYD’s cars? President Biden was quoted in the same ABC article that the investigation is “an unprecedented action to ensure that cars on U.S. roads from countries of concern like China do not undermine our national security”.

Note: There are no laws in the U.S. prohibiting connected devices operating within its borders from sending data to cloud-based servers located in other countries. Such laws do exist in China.

Like many invasive personal data collection techniques, spying from a vehicle was popularized by Google. It started with a Google-sponsored project at Stanford University called CityBlock. When it ended in 2006, the car-based systems were incorporated into Google’s StreetView and launched in 2007. These cars vacuum up whatever is in sight, and although faces are blurred in the StreetView images, they are all there in the raw data. You can deny that your cars, which are armed to the teeth with cameras, are not collecting personal data, but when the cameras start rolling, whether the car is stationary or moving, those cameras are recording what they see.

One might think that after over fifteen years with cars from Google and the other mapping companies on the roads with cameras operating all over the world, there would be clear regulations for how the systems should operate, or even whether they should be allowed to operate. Why are these companies allowed to walk or drive around photographing



A Google Maps Street View car. The first Google Maps cars with sensors were on the roads starting in 2007.

⁸ ABC News. (29 February 2021). <https://www.abc.net.au/news/2024-03-01/us-says-to-investigate-national-security-data-risks-from-chi/103531412>

everything and anything when movie companies have to apply for and receive a filming permit for filming on both public and private property, and obtain signed forms from those individuals who appear in the film, whether those persons are paid for being there or just passing by. Some countries actually require Google and the other mapping companies to obtain permits, but there are no clear regulations that cover this obvious violation of personal privacy in every jurisdiction in every country.

Everyone wins when rules are followed, except poor losers

I'm thinking about how companies decided they could get around the diesel emissions tests. In September 2015, the U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) issued a notice of violation of the *Clean Air Act* to Volkswagen Group. VW was accused of intentionally programming its turbo-charged direct injection (TDI) diesel engines to activate their emissions controls only during laboratory emissions testing, and to turn off the controls when the cars were running outside of the test labs. In the lab, the vehicles met the EPA requirements, but outside the lab the nitric oxide (NO) and nitrogen dioxide (NO₂) emissions emitted by the vehicles were 40 times higher. VW had installed the 'defeat devices' on 11 million vehicles. Heads rolled, including that of the VW CEO, Martin Winterkorn, who resigned and is now going on trial nine years after the so-called 'dieselgate' scandal. VW took the largest amount of heat, but it was acknowledged that other companies had either considered or actually implemented something similar in their vehicles.

The emissions violations was a case in which the rules governing the automobile industry existed, the consequences of not following the rules were well established, and there were watchdogs policing the participants. Personal privacy does not appear to have the same level of interest among the powers setting standards, and, so far, it appears that when rules are set, all the consequences of those rules are not thoroughly thought out.

I wrote about the "Dieselgate" emissions scandal in *THE DISPATCHER*.⁹ I said that the governments who established the specifications should bear some of the responsibility for the

⁹ *THE DISPATCHER*. (March 2020). p. 3.

industry actions because the requirements were too strict and were put into law before the industry was ready to implement them. When the systems were active, fuel economy suffered, and lower fuel economy affected the economies of people purchasing the vehicles. More expensive systems would somewhat improve fuel economy and meet the emissions standards, but then the cost of the vehicle would have to be raised or the margin on each vehicle reduced. This is called being caught between a rock and a hard place.¹⁰

The rules have to exist, and everyone must know what they are. However, before the rules are made, all parties must be consulted and their views taken into consideration. There is no point in having government agencies with staff who have axes to grind against the automobile or telecommunications industries promulgating laws that set requirements that are either unattainable or which unwittingly advantage players who are provided with undetectable support and subsidies, as is the case in the EU. There is also no point in leaving the flood gates open to a surge of lawsuits by not setting clear rules, which is the case today with selling customer data and taking photos and filming from vehicles, as is the case in the U.S.

The U.S. and the EU (except for a few countries with Putin-lovers as their leaders) have done a very good job of coordinating their response to Russia's unprovoked and brutal aggression against its neighbor, Ukraine. This is due to the existence of NATO and its exceptional leadership by the former prime minister of Norway, Jens Stoltenberg. Perhaps it is time to consider something similar to NATO for ensuring a coordinated effort on data privacy, artificial general intelligence, and cybersecurity. Just a thought.



¹⁰ The European Commission did not learn from this mistake, or even acknowledge their culpability. It went ahead and set another unrealistic CO2 emissions of 95 grams/kilometer by 2025, which will force the car producers to halt production on about 2 million cars or be exposed to fines that would total €13 billion for passenger cars and €2 billion for vans, according to ACEA. ACEA is asking for a two-year delay in meeting this target.

The topics covered in Dispatch Central are newsworthy, but I leave it to others to deliver them "as they break". I give them a little time to settle in, and try to provide an analysis of their impact.

Sweden's Northvolt versus China, Inc.

NORTHVOLT'S LONG MARCH is reaching its end. It is not over yet, but the end is nigh. The question is: What will NORTHVOLT's fate be when the long march is over? Will it survive in spite of being severely weakened, or will it fall, out of money, out of arguments to keep going, and defeated by its major rival, China, Inc.?

NORTHVOLT AB was started in 2015 by two men who worked together at TESLA, Peter Carlsson, a Swede, and Paolo Cerruti, an Italian. Their business idea was to build a lithium-ion battery production company that would be a supplier to the western automotive industry as an alternative to the Asian battery giants in South Korea, Japan, and especially in China, and help the European and U.S. automobile industry challenge TESLA and the Asian companies in developing battery electric vehicles. In May 2019 it received a €350 million loan from the EUROPEAN INVESTMENT BANK which gave it the credibility it needed to receive investments that same year from BMW GROUP, VOLKSWAGEN GROUP, GOLDMAN SACHS, and FOLKSAM (a Swedish insurance company). Total investments were around €1 billion.

NORTHVOLT decided to build its own gigafactory¹¹ in the northern city of Skellefteå employing over 5000 people, starting a building boom in a part of the country that had experienced a long period of negative growth. Also in 2019, NORTHVOLT and VW announced they would build a second gigafactory in Salzgitter, Germany with a production start in 2023-24. BMW signed an order in 2020 for NORTHVOLT to start delivering batteries to BMW starting in 2024. A plan to build a third gigafactory in Canada was announced in 2023. Both Canada and Germany offered significant financial incentives to NORTHVOLT for building its facilities in their countries.

¹¹ Gigafactory is a generic term that refers to a manufacturing facility where components and products associated with electrification and decarbonization technologies are produced. It was Tesla who used the term for the first time in 2013 as the name for their new factory. It used the term to refer to the large size of the facility.

NORTHVOLT became a national champion, and Carlsson became a national hero in the spirit of Lars Magnus Ericsson (ERICSSON), Gustaf de Laval (ALFA LAVAL), and Baltzar von Platen and Carl Munters (ELECTROLUX). Then, in 2023, things started going wrong. In December 2023, the Swedish business newspaper, *DAGENS INDUSTRI*, published a classified report that showed the company had a loss of \$1 billion during the first nine months of 2023. The loss for the entire year was \$1.2 billion, up from \$285 million for 2022. BMW cancelled its €2 billion order for battery cells due to NORTHVOLT's inability to deliver the order on time. VW said in 2023 it would move forward with the German factory on its own under the direction of its POWERCO subsidiary and with the help of a new partner, Chinese company GOTION HIGH-TECH.¹²

Mysterious deaths and an undisclosed Chinese partner

On top of the production start-up problems, four employees have died of causes that have yet to be identified. In December 2023, a man in his 60s was found dead on his balcony after his work shift. In January and February 2024, a 33-year-old and a 19-year-old were found dead in their beds, the former after a day shift and the latter after a night shift. Then, in August, a fourth employee died. Autopsies were performed, but the cause or causes of death could not be determined, casting a shadow over the company's safety practices which are so important when working with the highly toxic materials used to produce lithium-ion batteries.

During this past summer, NORTHVOLT sold a site in the Swedish city of Borlänge that it had purchased in 2022 and had been earmarked as the location of a production facility for cathode material. Carlsson said in an interview with *DAGENS INDUSTRI* that it was reviewing plans for building the German and Canadian factories while conducting a "strategic review" of the company's timeline of expansion and capital allocation. A study is underway that is scheduled for completion in the autumn.

A bombshell exploded in September when *DAGENS NYHETER* revealed that since 2020, NORTHVOLT has had a Chinese

¹² In September 2024, VW's PowerCo announced that it would build only one production line at its Salzgitter plant instead of the planned two because of slowing demand for electric vehicles.

Pilgrim's Progress

When Northvolt was founded in March 2017, according to its press release its ambition was to build a factory with a capacity of more than 32 GWh. Production was planned to begin in the second half of 2018 and attain volume production during 2020.

Its factory in Skellefteå, Sweden has today an installed capacity of 16 GWh. The first battery cell was produced in December 2021, and at that time the company revised its estimate for full production to the end of 2023.

This summer, Peter Carlsson, Northvolt's founder and CEO, said that the company's new ambition for full capacity was during 2026.

In the middle of September, Northvolt announced that it had reached a production level of 60,000 cells per week, equivalent to 5% of capacity. On the 23rd of September, Carlsson announced that 1,600 workers would be laid off, representing 15% of its total staff. 1,000 of those laid off are in Skellefteå. Peter Carlsson said after the announcement of the layoffs that he would remain in his position of CEO "as long as the board wanted him to stay".

Source: DAGENS INDUSTRI. 24 September 2024

partner, WUXI LEAD INTELLIGENT EQUIPMENT, which has strong links to the Chinese Communist Party, and has had 574 WUXI staff working at its factory in Skellefteå. It turns out that instead of challenging the dominance of China, it has become dependent on Chinese technology and manpower. There is nothing on the company's website about any cooperation with WUXI or the engagement of WUXI staff in spite of the fact that there have been Chinese staff on site since 2020, according to documents obtained from filings with the Swedish authorities obtained by DN.

DN has tried to obtain a statement from Peter Carlsson, but he has not agreed to be interviewed. NORTHVOLT's communications chief, Matti Kataja, said to DN: *"It has not been possible to maintain independence from Chinese companies because of the country's leading position in the electric battery industry. They sit on a considerable amount of expertise. Without a partnership with the leading actors in the branch it would not be possible for us to establish battery production in Europe. That's how it is."*

There are quite a large number of people who knew "that's how it is," but who thought NORTHVOLT was the "White Knight" who would rescue the European automotive industry. What this all means for NOVO, the joint venture between Chinese GEELY's majority-owned VOLVO CARS and NORTHVOLT is not clear at this point. In June 2021, VOLVO CARS and NORTHVOLT announced they would establish a 50/50 joint venture to produce batteries for VOLVO and POLESTAR cars. They agreed to build a factory near VOLVO's production facilities in Torslanda, Sweden. Construction of the facility began in March 2024 when Volvo was still committed to selling only battery electric cars (no hybrids) by 2030. That goal has since been abandoned, but there has been no word so far from VOLVO about the potential impact of that decision on the NOVO JV.¹³

On the 9th of September, NORTHVOLT announced that it was closing part of its factory in Skellefteå and laying off three hundred workers as part of its attempt to reduce costs. More

¹³ Volvo announced on Wednesday, the 4th of September that it is now aiming for 90-100% of its global sales to be either pure electric or plug-in hybrid at that point.

such announcements are expected in the coming weeks and months.

Some pundits, like academic Christian Sandström, are already talking about NORTHVOLT declaring bankruptcy within the next six months because it is running out of money. He has been a critic of the amount of financial support and incentives that governments, including Sweden's, have given to NORTHVOLT. He claims that NORTHVOLT has built its business plans around these subsidies and over-extended itself in the pursuit of hand-outs, rather than growing the business based delivering products to customers according to agreed contract terms.

This is when the tough get going

Peter Carlsson was working at TESLA when Musk was sleeping on the floor of its Fremont, California factory pushing himself and all his staff to do what was necessary to meet delivery schedules. This was do or die time for TESLA, when it was either going to make it over the hump and stay in business, or it was going to throw in the towel. Maybe Carlsson learned the lesson from Musk that you can use other people's money, especially the government's, to help you get started, but he should have also learned the lesson that the only thing that keeps you in business is selling products that people want to buy, and those products have to work.

It took TESLA ten years to get to the point of having a product that it could actually sell, and there were times when it looked like the creditors were going to shut it down, but Musk managed to keep it going through sheer force of will. That is what Carlsson is going to have to do if NORTHVOLT is going to survive and all the individuals and groups who have invested money and dreams in NORTHVOLT are going to be rewarded for their faith. I wish him the best.

Europe's BEVs and China's NEVs

IT CONTINUES TO go according to (China, Inc.'s) plan. European and U.S. car manufacturers are hitting the brakes on building battery electric vehicles (BEVs) because customers are not buying them. Knock-on effects include a slow-down on European and U.S. battery production and layoffs of workers in both auto manufacturing and battery production. Why aren't customers buying more BEVs? Because they are too expensive and governments have stopped the incentives

that paid the wealthy early adopters to purchase them. In July, BEV sales in Europe dropped by more than 10%, pushed down by a 37% plunge in Germany.

At the same time in China, sales of BEVs and plug-in hybrid electric vehicles (PHEVs) passed the 50% (50.7%) mark for the first time in history in July, up from 28.6% in June. The increase was about equal between BEVs and PHEVs. China's BUILD YOUR DREAMS (BYD), now China's largest-selling car maker, has announced that it is increasing its estimate of 2024 sales by 11%, putting it on track to sell about the same number as FORD, which is around 4 million annually. There is a special twist to what is happening in China. BEV sales have risen 12% through the first six months of this year, but PHEV sales are up by 85% during the same period. If this trend holds, the ICE portion of cars sold in China will increase in importance even as pure ICE vehicle numbers decrease.

As a clear sign of where this is all going, *LYNK & CO*, a brand owned by VOLVO CARS and GEELY, said in September that it is not planning to increase its prices to cover the increase in EU tariffs.¹⁴ It will bide its time until it can build its cars in VOLVO's factories or build new ones (for example in Poland, where it indicated it was looking in mid-September), which will probably also serve as production facilities for other GEELY brands, like ZEEKER. In China, the move to electric cars has disadvantaged the foreign brands. Domestic brands' market share in China of the passenger car market increased from 83% in the first half of 2023 to 87% in the first half of 2024. This is bad news for U.S. and foreign car makers, who have come to depend on China for most of their growth. This trend is also affecting the Japanese car companies, Toyota, Nissan, and Honda.

European and American car producers are now being criticized by the same experts who told them that electric cars were the future. Wolfgang Bernhart, a senior partner at Roland Berger, a consultancy, claimed that when setting

¹⁴ The proposed final tariffs on electric vehicles of up to 35.3% on top of the EU's current 10% will be subject to a vote by the EU's 27 members. They will be implemented by the end of October unless a qualified majority of 15 EU members representing 65% of the EU population votes against the levies.

electric vehicle goals, “carmakers did not sufficiently consider what prices people would be prepared to pay for EVs and they did not sufficiently ensure they would be profitable.” This is from a person who was a former board member of DAIMLER, and former President and COO of CHRYSLER from 2000 and 2004. He knows that U.S. companies have been losing money on every BEV they sell because they cannot charge the prices that TESLA, BMW, PORSCHE, and MERCEDES-BENZ charge. He knows that the car companies knew exactly what they were stepping into when they decided not to fight the climate activists and governments who blindly followed Musk’s vision of a world with no ICE.

We should also not forget why we are where we are now with consumers being so price-sensitive. It started when Putin invaded Ukraine and sent the prices of energy skyrocketing. Inflation increased, unemployment increased, and uncertainty increased all at the same time. The world slapped sanctions on Russia, but China and India continued to purchase oil from Russia in complete disregard of the sanctions. This shielded Russia from major economic damage—at least for the time being, and allowed it to buy arms from Iran, North Korea, and who knows where else. Both countries have benefitted greatly from Russia’s action because both China and India profit from being countries that deliver products and services that compete on price. Is it any wonder why neither China nor India have criticized Russia. If they had, and if they had not bought Russia’s oil, Russia’s bombs would have stopped falling and killing Ukrainian citizens within months after the war started.

China is waiting at the American and European gates with cheap electric cars, and cheap ICE cars as well, using the ICE technology the western car companies decided they no longer needed. Economists (*THE ECONOMIST*, especially) will say that it is only in the best interests of consumers that the gates should be opened wide with tariff barriers torn down. Consumers will be pleased to purchase any vehicle that has a low price no matter where it is made, they claim. This is the end game and it is all going according to (China, Inc.’s) plan.



The Flood Has Already Begun
China’s global exports of BEVs and PHEVs increased by 16% over the period from January-August 2024 compared to a year earlier. That means that it exported 1.12 million vehicles to global markets. In August this year, China delivered 44,226 BEVs and PHEVs to Europe, an increase of over 32% from the previous year.

Musk climbs aboard the Trump train

THE FORMER PRESIDENT says he is going to create a “government efficiency commission” in the event that he is elected to the office he lost in 2020 to President Joe Biden, and which he is now seeking to regain in November against Vice President Kamala Harris.

“At the suggestion of Elon Musk, who has given me his complete and total endorsement ... I will create a government efficiency commission tasked with conducting a complete financial and performance audit of the entire federal government and making recommendations for drastic reforms,” Trump said in remarks at the Economic Club of New York. *“We need to do it. Can’t go on the way we are now.”*¹⁵

This was Musk’s idea. He had a meeting with Trump in which he suggested that he, Trump, should create such a group and appoint him to it. “I’d love it,” replied Trump at the time. Trump said at the Economic Club of New York that the proposed commission would develop an action plan to eliminate fraud and improper payments within six months. It is interesting that the former president chose to highlight just these two issues, fraud and improper payments.

Elon Musk officially endorsed Trump for president on the 13th of July, the day the former president was the object of an apparent assassination attempt. *“I fully endorse President Trump and hope for his rapid recovery,”* Musk posted on his social media platform X (formerly something else). Unless there is a change to the laws governing who may run for the highest post in the land, which currently restricts candidates to only “natural-born United States citizens”,¹⁶ the South African-born Musketeer will not be able to use his commission membership (possibly chairmanship?) as a springboard to the presidency, but with his 189.5 million followers on his X platform (which was called something else until he bought



President Theodore “Teddy” Roosevelt about a campaign train. Elon Musk compared the former president to Teddy Roosevelt for their “toughness”.

¹⁵ CNN Politics. (5 September 2024). <https://edition.cnn.com/2024/09/05/politics/trump-economic-plans-musk-government-commission/index.html>

¹⁶ Natural-born citizens include, subject to exceptions, those born in the United States. As to those born elsewhere who meet the legal requirements for birthright citizenship, the consensus emerging as of 2016 was that they also are natural-born citizens.

it, but more and more people are forgetting about all that, and some of us never bothered to care), he has a lot of people listening to what he says.

We'd rather you take care of your own Volvo

CARE BY VOLVO is history. In 2017, VOLVO initiated what they called *Care by Volvo*. Customers could sign up for a subscription service that would cost €699/month and receive maintenance, insurance, tire changes, and concierge services like fueling, cleaning, and packages delivered to the car. Unlike a lease, there was no down payment and no end of contract payment. When the contract was up, you handed the car in and either signed a new subscription contract or walked home. In 2021, it tied *Care by Volvo* to its decision to focus on online sales and its electric-only future.

According to VOLVO executives up until the time *Care by Volvo* was announced, the program was a success. The head of the program in Germany told *AUTOMOTIVE NEWS EUROPE* that subscriptions accounted for around 10% of Volvo Germany's total volume, and that there were approximately 6,500 German customers who were subscribers.¹⁷ But there were no official statements from Volvo on the overall profitability of the program and the total number of customers who chose it.

On the 12th of September, VOLVO announced that it was closing the program, and no longer expected to get one-half of its global sales via online channels by 2030. *Care by Volvo* was being referred to in these statements as an "in-house lease program", and the company would now move back to "partner-based lease programs". It had been offered in 40 U.S. states as well as in Germany, The Netherlands, Sweden, Norway, and the UK. All of these programs are being closed. Apparently, it was not a hit with customers or the company's number crunchers.

Customers who have signed subscription contracts will be allowed to finish them. Then they will be eligible for a \$1,000 credit toward a new *Volvo* purchase or \$500 toward a lease.



¹⁷ *AUTOMOTIVE NEWS EUROPE*. (13 September 2024).

Musings of a Dispatcher: The UN's World

SUSTAINABLE DEVELOPMENT GOALS

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth - all while tackling climate change and working to preserve our oceans and forests.

Sustainable Development Goals. United Nations. Department of Economic and Social Affairs. Sustainable Development

Driverless mobility meets the United Nation's Sustainable Development Goals (SDGs)

I RECEIVED A request from ELSEVIER, the publisher of the book which Alain Kornhauser and I wrote, The Real Case for Driverless Mobility, to participate in a web interview that is part of a series called *The World We Want*. It is run by the SDG Resource Centre within the parent company to Elsevier, RELX. Here is what RELX says about its Resource Centre: "*The RELX SDG Resource Centre will aid researchers and the public by giving them access to critical content that informs understanding about the SDGs.*" ELSEVIER wanted me to explain how our book related to the UN's 17 Sustainable Development Goals, and I agreed. Below are the 17 SDG goals. In the sidebar you can read why they were established, that is, the goal for the goals. It is to "provide a shared blueprint for peace and prosperity, now and into the future".



They sent me six questions, and I would like to share my responses to those questions with you. Maybe you can reflect on how you would respond to the questions with reference to the focus of your own work.

Question One: What world should we want and how do we create it?

I want a world in which everyone can earn a decent living and live without fear that someone will take away what we have earned. It's pretty simple. Both my maternal and paternal grandparents left the country where their families had lived for centuries because they could not earn a decent living and they were in constant fear that what they had earned would be taken from them.

How do we create such a world? I think “enable” is a better word than “create”. Founding the UNITED NATIONS was a good start. After World War II, during which 50 million people were killed, the leaders of the countries that declared themselves the winners established the UNITED NATIONS to keep another world war from ever happening again. Its predecessor, the LEAGUE OF NATIONS, had not succeeded, and this time the world seemed determined to do a better job. The UN has done fairly well. Seventy-eight years after it was founded, there are still humans populating the planet. But, in my opinion, the UNITED NATIONS has been wandering off its path and spending less time on actively keeping the peace and too much time telling people how they should live their lives. As I look through the list of the 17 SDG goals, I do not see the UN’s primary goal, except in number 16 as part of Peace, Justice, and Strong Institutions. I would like to see Peace on its own and as number one.

Question Two: How does your work relate to the UN SDGs, and what do the SDGs mean to you personally?

Our book is focused on how to provide everyone equal access to transportation to enable them to have a decent quality of life. A decent quality of life means no poverty, no hunger, good health, and quality education. This is achieved by having decent work, and decent work generates the economic growth (both Goal 8) that results in the money to ensure clean water, affordable energy, and good infrastructure. A nation’s economic strength and its access to clean water and other natural resources directly affects its ability to defend itself against aggression, both from forces outside and inside the country. If there is a large group of people in a country who do not have the possibility to experience a good quality of life because they cannot get to where they need and want to go, in one way or another this will have negative effects on them and on the other members of their community and their nation.

What do the SDGs mean to me personally? I don’t wake up each day and make a list according to the goals to guide my daily actions. Frankly, I do not believe it is a good idea to organize the work that people are doing in the UNITED NATIONS into isolated compartments. It is a formula for wasted time and resources. I also believe that the UNITED NATIONS

should not be taking on a role that is the purview of its members. It was established to keep the peace, and any resources diverted from that goal must be shown to directly support it. If you establish a goal like gender equality, then any member that has gender inequality as a fundamental principal of its existence, like Afghanistan or Iran, should be excluded as members.

Question Three: One of the UN's Sustainability goals is to "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation." What are some of your key concerns about the current state of infrastructure and industry, and how does "driverless mobility" contribute to addressing the challenges?

Two hundred years ago, over 80% of the world's population lived in extreme poverty. Also, two hundred years ago, nearly all people walked to everywhere they had to go. They lived where they worked and built the other places they frequented, like their churches, synagogues, mosques, and temples, within walking distance of the homes. By 2019, the poverty level in the world had sunk to 8.4%, and 80% of the trips taken in industrialized societies were made with private automobiles, with up to one-half of those automobiles having only the driver in them. It is a mistake to believe that the automobile caused this state of affairs, which is the idea that most of the people attending the UN climate meetings promote.

We spend the first chapter of our book explaining how and why this happened. The problem we now have is that if a person cannot afford to own a car, cannot drive a car, or cannot obtain a ride, they are at a major disadvantage to those who can. The alternatives to the car, principally public transport, are not a suitable substitute in most cities and towns, and it is mainly because their operation is too expensive. More than 60% of the costs of running a bus service is the cost of the driver. We believe that the real business and social case for driverless vehicles is to deliver rides to those who need them but cannot afford them, and that is where we are focusing our efforts.

Question Four: There are various ways sustainable, inclusive transportation is being attempted around the world--what policies or technologies do you see moving the needle and what is not?

I assume that “sustainable” means that it does not have negative impacts on the climate and uses resources wisely. I assume that “inclusive” means that people with all levels of income are able to use it. These two objectives have, unfortunately, collided with one another, especially during the UN climate meetings and the proposals that have come out of them. Battery electric vehicles are much more expensive than internal combustion engine vehicles because of the cost of producing the batteries and building the charging infrastructure. If “inclusive” had been given as much weight as “sustainable”, it is unlikely that BEVs would have been prioritized by governments with their tax, purchase, and other incentives.

In order to provide affordable and effective transportation to everyone, both the cost of building the vehicles and the cost of operating them must be low. Cornering the market on the materials required to build the batteries for BEVs, subsidizing the establishment of a domestic BEV industry and creating an oversupply of those vehicles that can then be sold at prices below any other global supplier is not the way to create a “sustainable” industry nor allow opportunities for decent work in other countries. The country behind this practice is a permanent member of the UN Security Council.

Question Five: What can transportation professionals and others in the field do to help drive the SDGs forward?

I do not believe this is a fair question, and I return to my response to the first question to explain why. If we want a world in which everyone can earn a decent living and live without fear, we cannot do this by trying to do something about every one of the 17 topics every day; we just do not have the mental and energy bandwidth to do so. And if we concentrate on only one or a few, we could very well end up doing things that conflict with the others. If I am employed as a civil engineer designing roads and bridges, I don't do myself or my family any favors if I glue myself to a major roadway during rush hour in protest against automobiles. On the other hand, I can donate both free time and money to a soup kitchen for homeless and destitute individuals with the income I earn from doing my job. I can install solar panels on my roof, and purchase more expensive high-energy

light bulbs. Ambulance drivers, bus drivers, police in their patrol cars, and doctors making emergency calls are not able to do their jobs when climate-only activists glue themselves to roadways, encouraged by UN committees on climate action.

In my opinion, neither individual nations nor the UNITED NATIONS should be picking winners and losers in the technology competitions like they have done with battery electric vehicles. They should be developing standards and allowing researchers to come up with the alternative solutions which are then tested in practice. A good example of this is the *UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE (UNECE)* which is responsible for standardizing road safety conventions. The standards developed by the *UNECE* are then incorporated into the laws of each nation that is a signatory to the treaty that established it. Regretably, not all members of the UN are signatories (e.g., the U.S. and China), and this is something the UN should seek to change.

Question Six: What message on the SDGs do you want to leave listeners with?

I will answer that question in relation to our book. The reason for the title, *The Real Case for Driverless Mobility*, is that technology that allows cars to drive themselves is secondary to why driverless mobility is a good idea. It is a book which explains why the best solution for getting people from where they are to where they need or want to be (i.e., cars) is not serving everyone equally. People are excluded from this transportation alternative because of their income or because of physical or mental handicaps. A driverless vehicle reduces the cost of providing rides, thereby enabling service to those who are not served today. It does not matter what powers the cars, but it does matter how much they cost to build and operate. Achieving one goal on its own can make it difficult to achieve another. So the lesson is to not get so tied to one solution for any one group who needs help that you forget that there are others who need a different kind of help. Try with all your might to understand that even if you have done a great job of achieving your special goal, and been awarded the Nobel Peace Prize for your achievement, that you have not saved the planet and all its inhabitants.



Musings of a Dispatcher: The Dispatcher's Muse

My favorite Muse is Clio, the Muse of history



Clio on an antique fresco from Pompeii

By Sailko - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=51027384>

DOES A MUSE or a muse have anything to do with musing? Etymologically speaking, no. In other words, a musing does not need a Muse or a muse. That's a good thing, otherwise, since I am not a Muse and don't have a muse, I would have to call my musings something else, like 'palaverings'. It doesn't have quite the same ring, does it?

A Muse (capitalized), from the Greek *mousa*, meaning 'to think', is one of nine sister goddesses in Greek mythology presiding over song and poetry and the arts and sciences.¹⁸ They were the daughters of Zeus, king of the gods, and Mnemosyne, the goddess of memory. A muse (not capitalized) is a source of inspiration or a guiding genius.¹⁹ Musing means "to ponder, to think about something carefully and thoroughly, or to say something in a thoughtful way".²⁰ I'm not sure that my musings are always 'thoughtful', but that is always my goal. I try to present the other side of the coin, show the other side of the page, clarify the views from inside the baskets where the judges have place the judged (e.g., deplorables, weird people, climate change deniers, and car drivers).



The nine Muses on a Roman sarcophagus from the second century AD in the Louvre, Paris.

Source: Jastrow (2006)

I have chosen one of the Muses to guide my thinking. It is Clio, the Muse of history, who is sometimes referred to as "The Proclaimer". She is often depicted with an open parchment scroll, as in the fresco from Pompeii shown upper left, and in the lower image on a Roman sarcophagus, looking pensive. Although she is purportedly the youngest Muse, she is the celebrator of history, great deeds and accomplishments. She encourages the study of the past as a way of understanding ourselves and how what happened in the past can affect the future. My own musings attempt to connect what we are doing today with what we have done in the past, not

¹⁸ Merriam-Webster.com (2024)

¹⁹ Ibid.

²⁰ <https://www.etymonline.com/word/muse>

only so that we avoid our past mistakes, but to counterbalance the claims by many that they have invented the future.

It must have been Clio who put the idea into my head to read old books as a way to think about the present. I don't mean reading books about history, which I have been doing quite a bit lately; I mean reading books written at times in the past describing what was going on when the books were written. One of them that I just finished is [The Internet is Not the Answer](#) by Andrew Keen (*ATLANTIC BOOKS*. 2015). As the "Not" in the title implies, this book is critical of the Internet. It is especially critical of all the individuals who, up to the point when the book was written in 2014, had become enormously wealthy as a result of forming the Internet into a money-generating force that advantaged them and disadvantaged everyone else. However, like all of the people Andrew Keen criticizes, he has forgotten history. Bear with me as I provide a brief background on Andrew, because what he says and doesn't say in his book are a part of the problem he attempts, but fails, to explain.

Keen was born in London in 1960. He earned a bachelor's degree in history from the University of London, and a master's degree in political science from the University of California, Berkeley located in Oakland, across the bay from San Francisco. He taught modern history and politics at three Massachusetts universities during a period of ten years after he earned his master's degree. And then he had his first epiphany. He changed careers.

Keen returned to the San Francisco Bay area in 1995, which by then was being called "Silicon Valley". He founded a company called AUDIOCAFE.COM. This was the beginning of the "dot.com revolution", and he was going to be part of it. His company was called a first generation Internet music company (whatever that means). It closed its digital doors in 2000. He worked for a variety of Silicon Valley companies, mostly, according to himself, selling software that didn't work.²¹ In 2005, he was at his peak of being a pro-Internet neoconservative (neocon). He wrote in *THE WEEKLY*

²¹ Interview in ideamensch on July 18, 2012, responding to question: What was the worst job you ever had and what did you learn from it.

STANDARD²²: "Web 2.0 empowers our creativity, it democratizes media, it levels the playing field between experts and amateurs. The enemy of Web 2.0 is elitist traditional media."


In 2007, Keen became an author with the publication of his first book, The Cult of the Amateur. He must have had a major change of heart (a second epiphany) between 2005 and 2006 when he wrote the book because the book is exceptionally critical of free, user-generated content websites such as Wikipedia, YouTube, Digg, Reddit and many others. He claimed in this book that user-generated blogs, wikis and other "democratized" media, cannot match the resources of mainstream (i.e., "elitist traditional") media outlets. Keen predicted that if the current Web 2.0 mentality, in which content is either given away or stolen, continues, in 25 years there would not exist a professional music business, newspaper industry or publishing business.

The Cult of the Amateur was Keen's springboard into a new career as an author, lecturer, and online interviewer, bidding good-bye to the bros wearing their "Failure is the first step to riches" badges. By the time 2014 arrives, when he wrote The Internet Is Not the Answer, Keen had become hypercritical of the Internet. "We see many of the worst developments of modern cultural life, in particular digital narcissism, the embrace of the self," he said. "Social networks sacrifice vitally important parts of the human experience, like privacy and solitude." He calls APPLE, Google, and AMAZON "leviathan-like monopolists" who "impede economic competition and economic justice between rich and poor." "Rather than fostering a cultural renaissance, it has created a selfie-centered culture of voyeurism and narcissism." He saves his worst criticisms for the one-percenters who have enriched themselves beyond even their own wildest imaginations.

What's the question?

I remind you, this was ten years ago. 2014. Barack Obama was President of the United States, but he has no presence in the book. There is not a single mention of The Donald, as he was called back then. There is nothing about climate

²² THE WEEKLY STANDARD was an American neoconservative political magazine of news, analysis, and commentary. It was established by NEWS CORPORATION, and was described as a "redoubt of neoconservatism" and as "the neocon bible".



change or battery electric vehicles. Elon Musk has one, brief mention in the book as the CEO of TESLA and SPACEX with plans to colonize Mars. AI is not mentioned. There is nothing about Russia's takeover of Crimea in March, a month after it hosted the Winter Olympics. There is nothing about the Islamic militant group ISIS cutting off the heads of Americans and circulating videos of the acts. Nothing was said about the yellow umbrella protest movement in Hong Kong. There is nothing whatsoever about smart weapons used ten years earlier in Iraq, nothing about what was happening twenty years previous, just before public access to the Internet became widespread, nothing about deregulation during the Reagan and Thatcher '80s. In short, there is nothing in the book to explain what the question the Internet was supposed to answer to which it is not the answer. Something like: "We invented rat traps because rats carried the plague." There was no adult in the room during the twenty years previous to 2014 who said "Let's make a plan." There were just a lot of people, including former Vice President Al Gore, taking credit for inventing the Internet. Keen spends a good deal of time debunking all of their claims.

Ten years have passed since Keen wrote this book . Much has happened during that time. For example, on the 6th of January 2020, the United States Capitol Building in Washington, D.C. was attacked by a mob of supporters of then-President Donald Trump attempting to overturn the election results. Could anyone have imagined that such a thing would ever occur? Ever! Someone with university degrees in history and political science might have given it some thought. Has anything changed with the Internet? Has any heed been taken of Andrew Keen's criticisms? I see no indications that concerns voiced about the Internet have been truly addressed, except that the EU's DGPR²³ has forced users of the Internet to go through a clicking ritual to access any web site. The Leviathans have gotten bigger and fatter and richer and there are more of them. Criminal gangs in Sweden are using the Internet to recruit minors to kill rivals and bomb their homes, and there seems to be no way to stop them. Privacy and Freedom to be Forgotten take precedence. Online banking has opened up an entirely new line of attack

²³ GDPR - General Data Protection Regulation.

for thieves, one in which all they need to do is make a phone call to an elderly person and tell them they will help them keep their money safe. AI, which exists only because there is an Internet, is causing angst about the jobs that will be lost, and the impact that it will have on humanity in general as we approach the artificial general intelligence singularity, which has been written about by Ray Kurzweil.²⁴

What if the Internet had not been invented

The Internet Is Not the Answer is not really about the Internet; it is about the World Wide Web. The Internet is simply the infrastructure for connecting computers. It existed for thirty years before the WWW came onto the scene and normal people could start to use the Internet. If we were only interested in sending emails, we could have stopped with the Internet and used the Simple Mail Transfer Protocol built into the Internet infrastructure.²⁵ But we weren't, and so we created browsers, and we even access email through them. So, there are really two questions that could be asked: What if the Internet had not been invented; and What if the World Wide Web had not been invented? Then we could ask ourselves what we really need each of them for, and what we would be doing today if we didn't have them.

When I looked at the title of Andrew Keen's book and decided to read it, I believed he would address the second question because there are plenty of books about why the Internet became a necessity. We invented books because there was too much information for us to remember. We invented the polio vaccine because we wanted to stop the virus from killing and maiming us. We invented cars because there was too much manure piling up in the streets. We invented the World Wide Web because (reason), and if we did not (something would or would not have happened), and now we have what (author) has described in his/her latest book, The World Wide Web Did Not Solve the Problem of (whatever it is that it was supposed to solve). Both Clio and I would be happy to read that book.



²⁴ Kurzweil, Ray. *The Singularity is Nearer* (2024). Penguin RH.

²⁵ It was Ray Tomlinson of Bolt, Beranek, and Newman, an engineer firm who is credited with inventing email in 1971 and sending the first mail on ARPANET. SMTP was implemented on the ARPANET in 1983.

About Michael L. Sena

Through my writing, speaking and client work, I have attempted to bring clarity to an often-opaque world of highly automated and connected vehicles. I have not just studied the technologies and analyzed the services. I have developed and implemented them and have worked to shape visions and followed through to delivering them. What drives me – why do what I do – is my 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. Most importantly, I put vehicles into their context. It's not just roads; it's communities, large and small. Vehicles are tools, and people use these tools to make their lives and the lives of their family members easier, more enjoyable, and safer. Businesses and services use these tools to deliver what people need. Transport is intertwined with the environment in which it operates, and the two must be developed in concert.



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