

## Editorial Meeting Minutes/Resolutions - October 18, 2023

### I. Ground rules

1. Never use a metaphor, simile, or other figure of speech which you are used to seeing in print. [E.g., 'throw under the bus,' 'reach out to,' 'patient outcomes,' 'challenges,' 'bounds of what is possible,' etc. 'cuckoo words'].
2. Never use a long word where a short one will do.
3. If it is possible to cut a word out, always cut it out.
4. Never use the passive where you can use the active.
5. Never use a foreign phrase, a scientific word, or a jargon word if you can think of an everyday English equivalent.
6. Break any of these rules sooner than say anything outright barbarous.  
George Orwell, *Politics and the English Language*

### II. Compound verbs

Make a contribution = contribute

Make a decision = decide

Be related to = relate to

Can + help as universal 'helping' verbs, e.g.,

'AI can help to scan images for anomalies faster than a radiologist can do.'

'AI scans images for anomalies faster than a radiologist can.'

### III. Examples

#### 1. Mercedes-Benz illustrates the impact of 5G and B5G on autonomous vehicles

By Purva Joshi

Sep 27, 2023

Standfirst: 5G technology has become ubiquitous in many parts of the world, and its applications extend well beyond mobile networks. Autonomous vehicles are one example of this, and if they ever become mainstream, 5G and its successors will be a big reason why.

PISA, ITALY - **The incorporation** of 5th generation (5G) wireless communication technology into existing technological frameworks can potentially facilitate numerous additional applications, such as the **rolling out** of autonomous vehicles. There are several implications for the use of 5G technology on autonomous vehicles, including the facilitating of the emergence of novel modes of vehicle-to-vehicle (V2V) and vehicle-to-everything (V2X) communications. The integration of 5G technology in advanced driver assistance systems also has the potential to enhance road safety and mitigate the occurrence of accidents. Automated valet parking is another thing

that benefits from the integration of 5G technology, which can streamline and **optimize the parking process** to reduce the time and effort exerted by users.

**The utilization** of 5G technology can also facilitate the implementation of autonomous truck platooning, wherein trucks operate in closely aligned single-file formations. This approach can make fuel consumption more efficient and enhance overall operational effectiveness. Teleoperated driving also stands to **benefit**, with enhanced safety measures that lessen the need for human drivers in specific scenarios.

5G technology undoubtedly delivers huge **benefits**, but one downside is that cyberattacks remain a huge threat. To mitigate the impact of these, the reliability and security of 5G networks is critical. Furthermore, extending the deployment of 5G networks is essential to guarantee their accessibility in all regions where autonomous vehicles may be operational.

5G technology is fast, reliable, and latency-free. Due to its increased spectral efficiency, modern mobile technology, and updated network architecture, 5G can provide a maximum bandwidth of 20 gigabytes per second (Gbps), far surpassing 4G's 0.1 Gbps limit.

**The use** of high-definition maps or a mobile connection is not necessary. According to a Seeking Alpha transcript, during Tesla's most recent quarterly conference call Elon Musk stated that even if one has no connectivity at all and is in a location where no Tesla has ever been before, the system is designed so that the car should still be able to drive, just like a person. "That is the system we are working on, and we hope to release it this year," Musk said.

***Use of high-definition maps or mobile connections is also unnecessary. Elon Musk stated that even if one has no connectivity at all and is in a location where no Tesla has ever been, the system is designed so a Tesla should still be able to drive, just as a person would, per a transcript of Tesla's most recent quarterly conference call obtained by investor news platform Seeking Alpha. "That is the system we are working on, and we hope to release it this year," Musk said.***

The advanced V2V and V2X **capabilities of 5G**

5G will enable new V2V connections, allowing two cars arriving from perpendicular directions to use their onboard computers to determine which vehicle will yield at the intersection. V2X communications will allow cars to talk to objects, pedestrians, and junction traffic management systems. Cars will then be able to recognize risks further in advance and employ automated systems to brake, accelerate, or turn, thus improving safety. Intersection stoplights will also detect the presence of opposing cars and intelligently change their lights in response.

By providing high-bandwidth, low-latency, and dependable communication between vehicles and numerous traffic-related sensors, the advanced V2V and V2X

**capabilities of 5G** are likely to revolutionize the transportation industry. The following sums up five highlights of the sophisticated V2V and V2X **capabilities of 5G**:

- Connectivity: Vehicles will be able to communicate with each other and with infrastructure elements like traffic signals and road sensors thanks to this connectivity.
- Ultra-fast and ultra-reliable: 5G can handle bandwidths of up to 20 Gbps for speeds that are over 100 times faster than 4G.
- **Autonomous driving: Autonomous driving** will become safer and more effective thanks to the ability of vehicles with 5G connectivity to communicate real-time information about their location, speed, and intentions.
- Cellular V2X (C-V2X): Vehicles can speak with each other, with infrastructure elements, with pedestrians and cyclists, and with other vehicles using the bidirectional communication technology known as C-V2X.
- Enhanced vehicle connectivity: The Qualcomm-created 5G NR C-V2X technology improves vehicle communication and advances driverless cars and intelligent transportation systems.

Automobiles employ V2V and V2X communications technology to share real-time information with other vehicles and infrastructure components. Mercedes automobiles are a particularly good example of using sophisticated sensor technology to detect risky road traffic scenarios and react accordingly. The way this works is that Mercedes' electronic stability program and anti-lock brake system sensors detect icy roads, while global positioning system data and corresponding information are supplied to vehicles and infrastructure components to enhance safety and efficiency. Mercedes automobiles employ car-to-X (C2X) communication to talk with other vehicles and infrastructure components using cellular networks. In June 2019, the transport authorities in six European nations - as well as the car manufacturers Daimler, BMW, Ford, and Volvo - tested the transmission of road information using C2X technology.

Mercedes-Benz is one car company that is taking advantage of the latest technology

Mercedes-Benz can now **optimize existing production processes** in its plants with the aid of new features thanks to things like the deployment of cutting-edge 5G network technology, the tracking of products on assembly lines, and data linkage. With a separate, private network, all **processes can be strengthened, optimized**, and - if necessary - quickly modified to meet changing market demands. Additionally, the mobile communications standard intelligently connects production systems and

machines, enhancing the productivity and accuracy of the manufacturing process. Crucially, sensitive production data does not need to be made available to outside parties, which is another significant advantage of employing a local 5G network.

In its 'Factory 56' in Sindelfingen, Germany, Mercedes-Benz Cars is installing the first 5G mobile network for automotive production in collaboration with network provider Ericsson and the telecom company Telefónica Deutschland. In February 2023, Mercedes-Benz also declared its intent to develop its own navigation system by exploiting new in-car geospatial data and navigation functionalities offered by the

Google Maps platform. As a first step, Mercedes-Benz will give customers access to Google Place Details, which will reveal to them extensive information about over 200 million businesses and places worldwide, including business hours, images, ratings, and reviews. Place Details will be available instantly in all vehicles with the newest Mercedes-Benz user experience version in suitable markets.

***According to figures from the Missouri State Highway Patrol in the United States, in that state 47,894 persons suffered injuries in auto accidents in 2020 alone, with 989 deaths.*** Moreover, "We reported the flaws to Mercedes-Benz, and we found about 19 vulnerabilities," stated 360 Group Sky-Go team leader and security research head Yan Minrui alongside researcher Li Jiahao at Black Hat, a conference about cybersecurity and information security.

"We reported the flaws to Mercedes-Benz, and we found about 19 vulnerabilities," said Yan Minrui, team leader and security research head of the Sky-Go car security research team of United Kingdom-based business communication solutions provider 360 Group.

The Sky-Go team's security researchers described how they created an attack chain and took control of a vehicle remotely. According to TechCrunch, a publisher of technology-related news, Yan presented the researchers' findings at this year's Black Hat security conference.

There is great interest in continuing to study how 5G and Beyond 5G (B5G) technologies will affect autonomous vehicles, particularly as they relate to Mercedes-Benz. Mercedes-Benz's autonomous vehicles are expected to profit from 5G and B5G technologies in a way that is consistent with the technology's wider developments and inherent advantages. However, **there are a number of security flaws in Mercedes-Benz automobiles that have been exposed**, and these must be fully addressed. Doing so will require encrypted communication protocols, reliable authentication and authorization systems, frequent software updates, and thorough testing and vulnerability analysis during the development phase. Additionally, other car companies like BMW and Daimler should take their own precautions to improve the security of their connected vehicles by doing things like updating software, creating secure passwords, and being wary of any third-party connections.

References and further reading

12. Chen, Ming, and Minrui Yan. "How to protect smart and autonomous vehicles from stealth viruses and worms." ISA transactions (2023).

### 3. False subjects/objects

The British were landing *what* for that time *was* enormous *quantities of fish*.\*

This instance of FPC stems from the writer's apparent confusion over whether the British were catching '*what*' or whether they were catching '*quantities of fish*.' This is thus as much a problem of faulty logic as FPC. Hopefully, the corrected form illustrates this:

Better: The British were landing what for that time *were* enormous *quantities* of fish.

The structure is nevertheless still flawed. Perhaps the mistake could have been avoided if the writer had not become distracted by the false object 'what':

Even better: The British were landing quantities of fish enormous for the time.

Best: The British were landing enormous quantities of fish by the standards of that time.

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'Things like'

**The Good**



Hinton did say that some of the huge benefits of AI have already been seen in healthcare, with its ability to do **things like** recognize and understand medical images, along with designing drugs. This is one of the main reasons Hinton looks on his work with such a positive light.

### **The Bad**

“We have a very good idea sort of roughly what it’s doing,” Hinton said of how AI systems teach themselves. “But as soon as it gets really complicated, we don’t actually know what’s going on any more than we know what’s going on in your brain.”

That sentiment was just the tip of the iceberg of concerns surrounding AI, with Hinton pointing to one big potential risk as the systems get smarter.

“One of the ways these systems might escape control is by writing their own computer code to modify themselves. And that’s something we need to seriously worry about,” he said.

Hinton added that as AI takes in more and more information from **things like** famous works of fiction, election media cycles and everything in between, AI will just keep getting better at manipulating people.

“I think in five years time it may well be able to reason better than us,” Hinton said.

<https://us.yahoo.com/entertainment/godfather-of-ai-tells-60-minutes-he-fears-the-technology-could-one-day-take-over-humanity-073704724.html>