

# Welcome To The 2024 Ethernet & IP Automotive Technology Day

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# 14<sup>th</sup> IEEE-SA Ethernet & IP Automotive Technology Day

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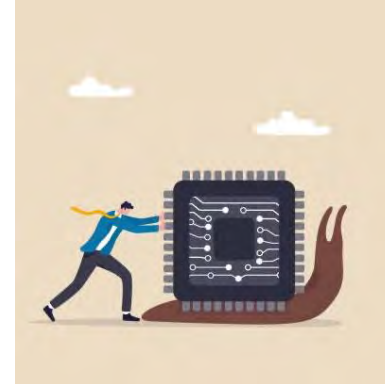
# Since 2019..



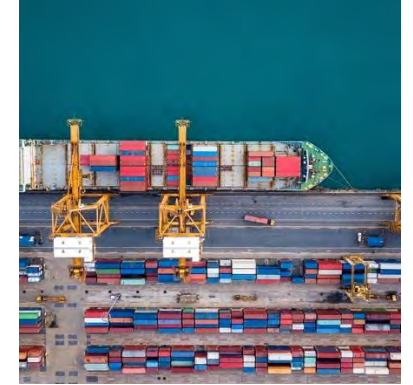
Autonomous Vehicles



COVID-19



Global Chip Shortage



Supply Chain Issues

# Since 2019..



EV Platforms



Digital Experiences



Hands-Free Driving



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# Evolution of Ethernet Standards

IEEE Standard	
802.3u - 1995	100 Mbit/s over two twisted pair (100BASE-TX)
802.3bw - 2015	<b>100 Mbit/s</b> Ethernet over a <b>single twisted pair</b> for <b>automotive</b> applications
802.3bp - 2016	<b>1000 Mbit/s</b> over single twisted pair
802.3cg - 2019	<b>10 Mbit/s</b> over single twisted pair
802.3ch - 2020	<b>2.5, 5, 10 Gbit/s</b> over single twisted pair for <b>automotive</b> applications
802.3cy - 2023	<b>25 Gbit/s</b> for <b>automotive</b> applications
802.3cz - 2023	<b>Multi-gigabit optical</b> for <b>automotive</b> applications
802.3dm - TBD	<b>Asymmetrical Ethernet</b> for <b>automotive</b> applications

“Ethernet has been **evolving** and **re-invented** for some **40 years**, making it so much more than just a networking technology or a means for connecting computers together.

At its heart, **Ethernet is a brand – an innovation brand.**

Ethernet makes the promise of **openness**, **interoperability**, and **higher speeds at lower costs.**

Ethernet’s promises also come in the form of open jure standards; and fierce competition but **interoperability** among competing products. It also means **preservation and backward compatibility** with the installed base and the **rapid evolution of IEEE standards based on market engagement. Long live Ethernet!**”

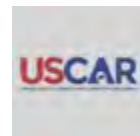
-- **Bob Metcalfe**, Co-inventor of Ethernet (2013 Ethernet Alliance Interview)

“**Ethernet standards achieved a great deal. Standards** are the thing that **allowed** the **market** and individuals to be able **to use Ethernet** at a **very competitive cost**, and the fact is you **plug it in, and it works**. It is **very complicated** to **pass data** from one point to another over Ethernet. Yet because it is a standard and so many people have implemented it and improved it, it just makes it work.

**It is ubiquitous everywhere.”**

-- **Geoff Thompson**, early customer of Ethernet & 802.3 contributor  
(2022 Ethernet Alliance Interview)

Standards are key to lowering costs, improving quality,  
and creating better products





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# Can Automotive Ethernet Scale Infinitely?

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*Ford*