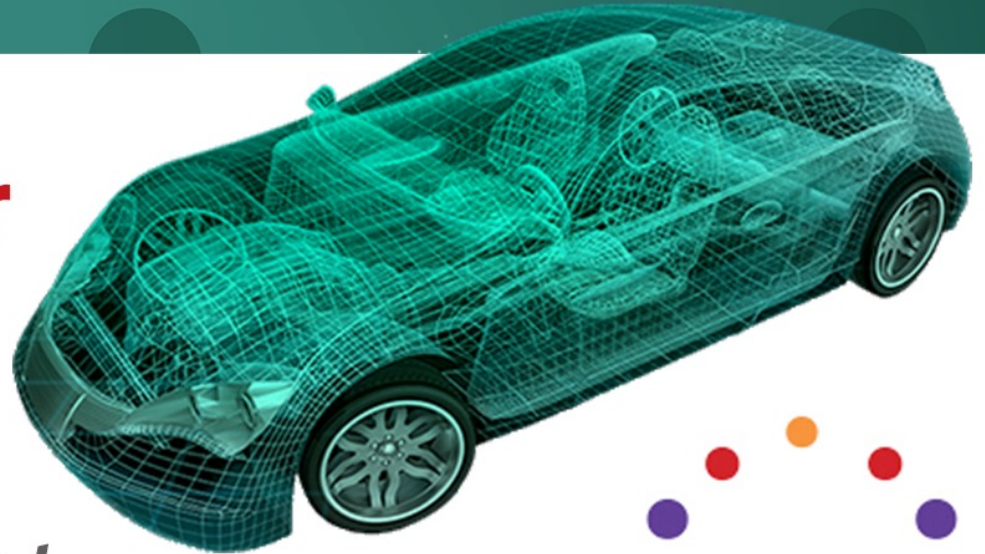


MIPI Automotive Workshop

**15 November
2022**

Live Virtual Event



Welcome and Introduction to MIPI Alliance

Peter Lefkin
MIPI Alliance Executive Director



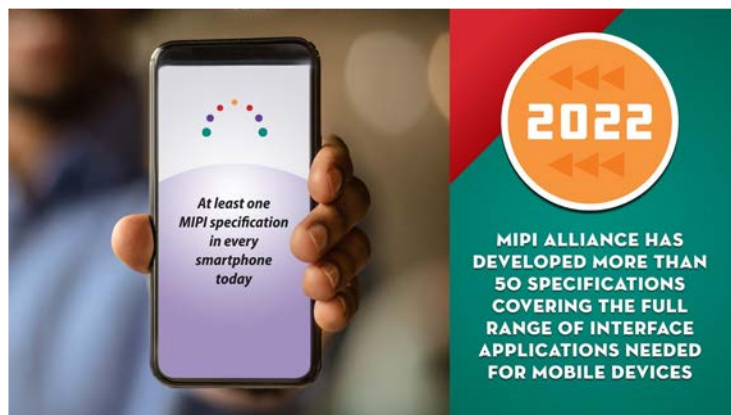
About MIPI Alliance



2003
THE CELL PHONE MARKET

IN 2003 MIPI ALLIANCE WAS FORMED TO STANDARDIZE CAMERA AND DISPLAY INTERFACES

This section features a collage of various mobile phones from the early 2000s, including Nokia and other brands, set against a purple and blue background. A hand is shown holding a silver flip phone in the upper right corner.



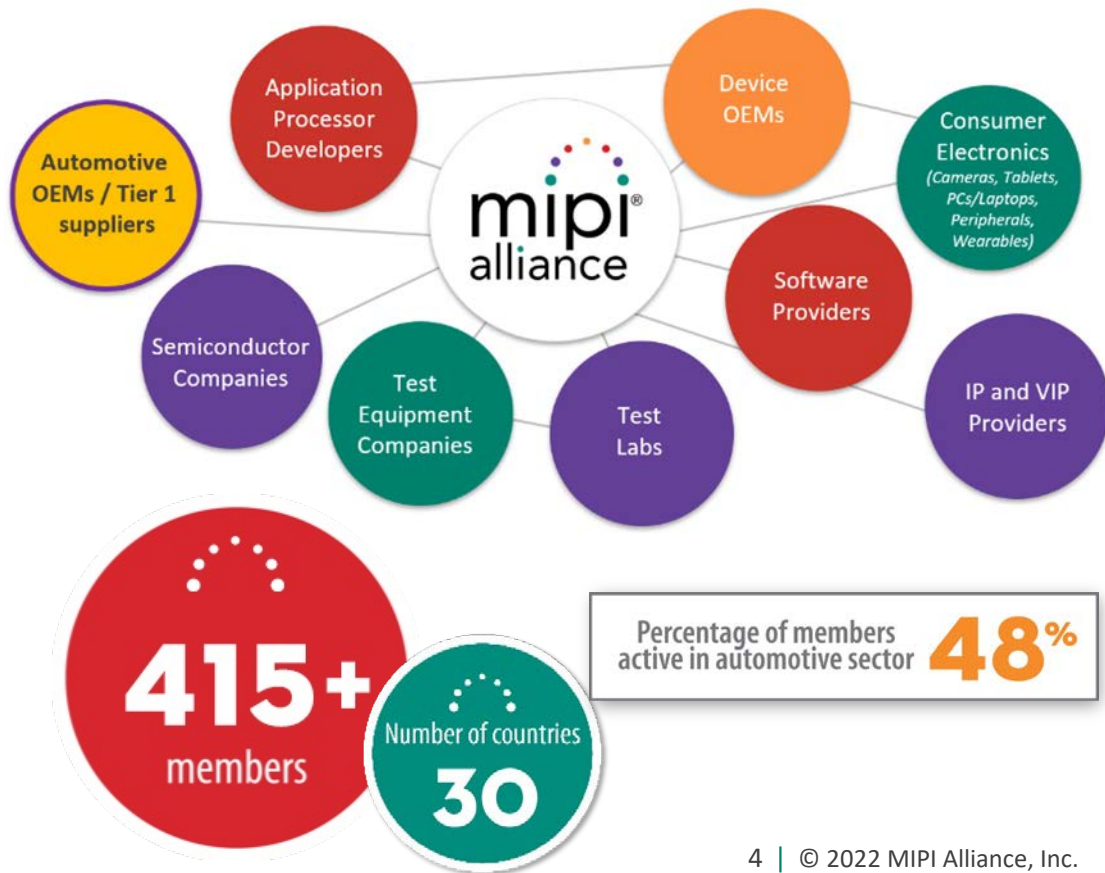
2022

MIPI ALLIANCE HAS DEVELOPED MORE THAN 50 SPECIFICATIONS COVERING THE FULL RANGE OF INTERFACE APPLICATIONS NEEDED FOR MOBILE DEVICES

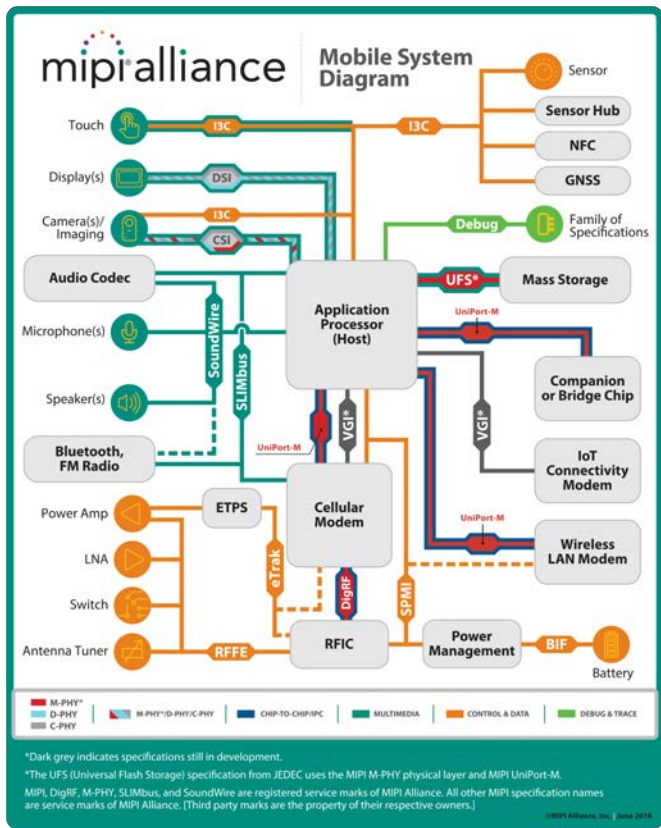
At least one MIPI specification in every smartphone today

This section shows a hand holding a modern smartphone with the MIPI Alliance logo on the screen. The background is a mix of green and blue.

TODAY'S MIPI MEMBER ECOSYSTEM



MIPI Specifications Leveraged Beyond Mobile

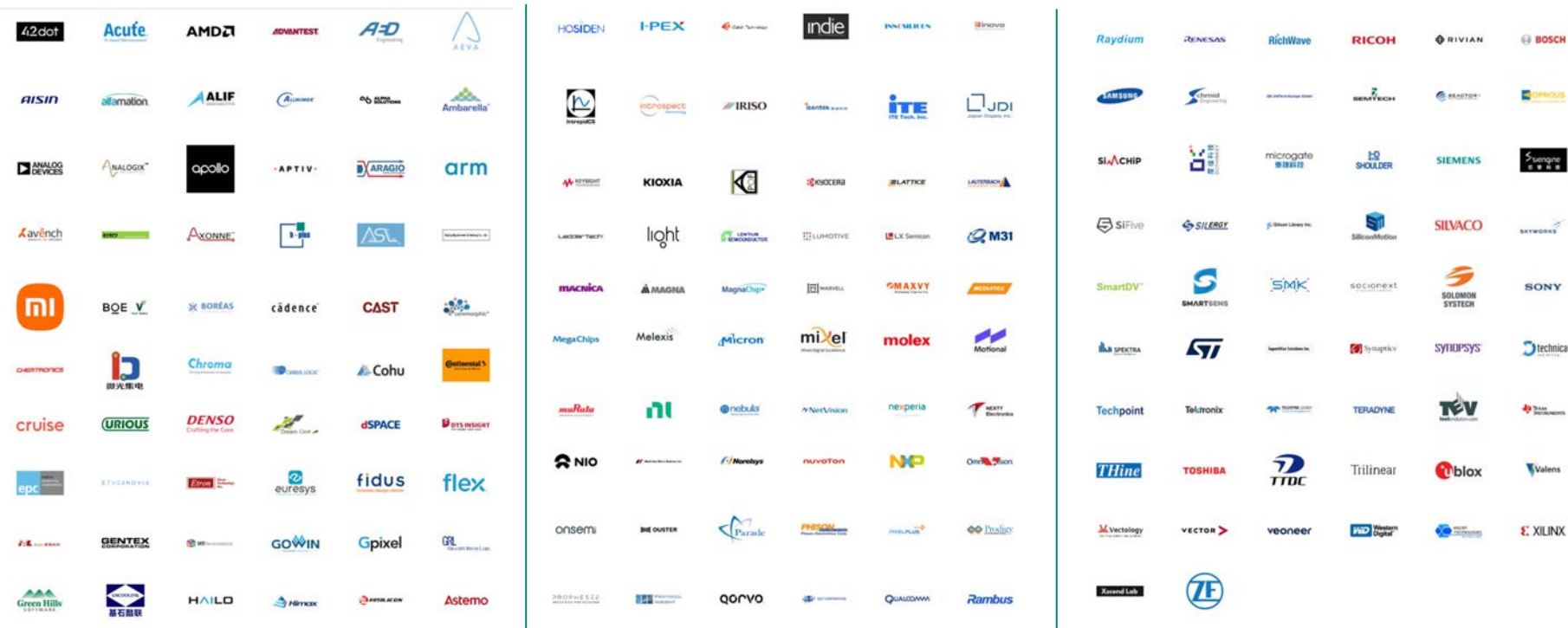


50+
Current specifications

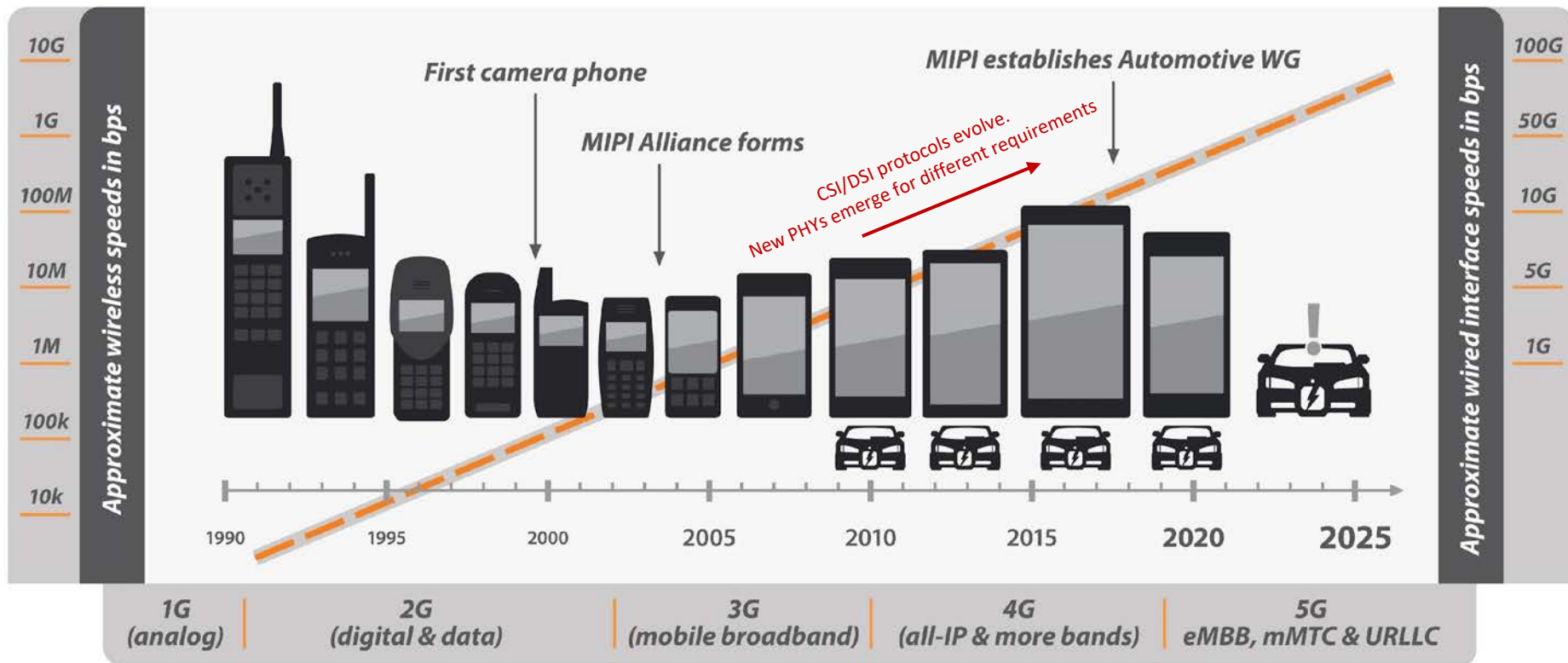
Fundamentally, usage rights are granted to members royalty free for implementation of MIPI specifications from all MIPI members

MIPI Members in Automotive

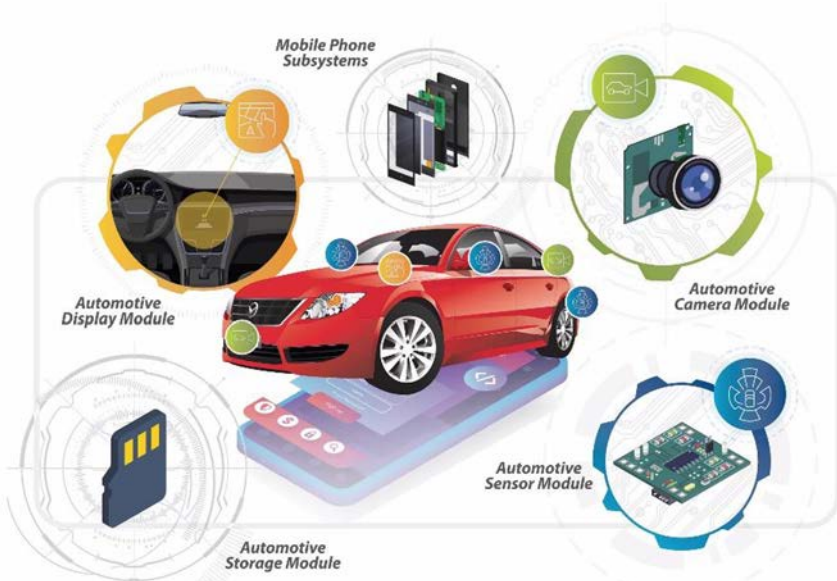
<https://www.mipi.org/members-in-automotive>



MIPI and the Mobile Gs . . . Including Automotive



MIPI in Automotive



Cameras, displays, audio, sensors, storage, RFFE for 5G, Wi-Fi, Bluetooth, NFC

Reuse & extend well-proven protocols == reduced NRE/cost

Intra-box usage has been limited due to lack of native long-reach PHY

SPECIFICATIONS IN AUTOMOTIVE

Most MIPI interfaces are implemented as "short reach" (~15 to ~30cm+)

CSI-2

Camera Serial Interface protocol
Protocol for cameras, lidar, radar sensors

DSI-2

Display Serial Interface protocol
Protocol for smartphone, IoT and automotive displays

C-PHY SerDes

3-phase physical layer for CSI-2 & DSI-2
Short-reach physical layer for cameras and displays

D-PHY SerDes

Differential physical layer for CSI-2 & DSI-2
Short-reach physical layer for cameras and displays

I3C

Control and data bus protocol and interface
Sensor and general-purpose data and control interface within a module

RFFE

RF control protocol
Front-end control within a wireless module

UniPro for JEDEC UFS

Data transport protocol for UFS over M-PHY
Transport protocol for UFS storage

M-PHY SerDes for JEDEC UFS

Differential physical layer for UFS storage
Short-reach physical transport for UFS storage

A-PHY SerDes

Long-reach (up to 15m) asymmetrical physical layer (released Sep 2020)

Today's Presentations & Speakers

Introductions and Q&A

Moderator

James Goel, Chair of the MIPI Technical Steering Group and Co-Vice Chair of the MIPI Display Working Group



MASS (07:10-08:00)

Session 1 + Q&A

MIPI Automotive SerDes Solutions: What's New in the MASSSM Connectivity Framework

Presented by Ariel Lasry, Vice Chair of the MIPI A-PHY Working Group



A-PHY (08:15-09:30)

Session 2 + Q&A

MIPI A-PHY[®]: Continuing to Drive Innovation for In-Vehicle Connectivity

Presented by Raj Kumar Nagpal, Co-Chair of the MIPI A-PHY Working Group



SECURITY (09:45-10:30)

Session 3 + Q&A

MIPI CSI-2[®] Security Framework: A New Approach for End-to-End Protection of Camera Data Streams

Presented by Rick Wietfeldt, Co-Chair of the MIPI Security Working Group



Many Ways to Learn More . . .

Ask questions



NEW MIPI WHITE PAPER

An Introductory Guide to MIPI Automotive SerDes Solutions (MASS)



<https://www.mipi.org/introductory-guide-to-mass>

Join the Automotive Mailing List

www.mipi.org/automotive-news

Stay up to date on new MASS specifications, automotive resources and educational events.

Reach out to
admin@mipi.org



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Thank you for your time

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